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***Research Network for the
Evaluation of Carbon Sequestration Capacity
of Pasture, Agropastoral and Silvopastoral Systems
in the American Tropical Forest Ecosystem***

***CIPAV- Universidad de la Amazonia -CIAT-CATIE-
Wageningen University and Research Centre.***

**The Netherlands Cooperation:
Activity CO-010402**

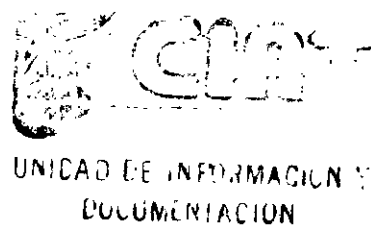
***Project duration: 5 years
December 1, 2001 – November 30, 2006***



***Six-months Technical
Report no. 10***

June 1- November 30, 2006

***Maria Cristina Amézquita
Project Scientific Director***



30 JUNIO 2007

Presented to The Netherlands Cooperation through The Netherlands
Embassy in Bogotá, Colombia. December 15, 2006.

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- Dovio and Dagua Experiments, Andean Hillsides, Colombia. Statistical analysis completed in July 2006.
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Acknowledgements

We express our gratitude to The Netherlands Ministry of Development Cooperation in The Hague, and The Netherlands Embassy in Bogotá, Colombia for making real this important project.

Our project combines efforts from the national research community --represented by CIPAV and Universidad de la Amazonía, Colombia-- and the international research community --represented by CIAT, CATIE and Wageningen University and Research Centre-- to help prepare us and our future generations to mitigate the effects of global warming. Our hope is to achieve relevant high quality research results that will contribute to mitigate the adverse effects of global warming in vulnerable ecosystems of the developing world, as the American Tropical Forest Ecosystem.

The present document "*Six-months Technical Report No.10: June 1 – November 30, 2006*" describes project advances during the last semester of the project, in agreement with our Annual Plan 2006. The most important research activities during this semester were: (a) Analysis of the five experiments established on degraded land – all ecosystems, to evaluate C sequestration capacity of improved systems; (b) Organization of final Project Databases on newly-established systems from these five experiments – all ecosystems; c) Results from ISRIC's work on extrapolation of project results to similar regions in Tropical America; and d) Carbon isotope analysis.

Project members have actively participated in policy-oriented congresses, workshops and other events on carbon sequestration and related topics, at national and international level.

We are pleased to inform that activities conducted and completed during this last semester are in full agreement with the project Annual Plan 2006.

We thank project member and consultants for their fruitful discussions, valuable contributions and efficient work done.

With best wishes and gratitude for the success end of our Project.

María Cristina Amézquita
Ph. D. in Production Ecology and Resource Conservation
Project Scientific Director
Cali, Colombia, December 15, 2006.

Participant Institutions

CIPAV: Centre for Research on Sustainable Agricultural Production Systems, Cali, Colombia.
Legal and technical representative: Dr. Enrique Murgueitio, Executive Director.

Universidad de la Amazonia, Florencia, Colombia.
Legal representative: Dr. Luis Eduardo Torres García, Rector.
Technical representative: Dr. Bertha Leonor Ramírez, researcher.

CIAT: International Centre for Tropical Agriculture, Cali, Colombia.
Legal representative: Dr. Joachim Voss, Director General.
Technical representative: Dr. Edgar Amézquita, Soil Scientist.

CATIE: Centro Agronómico Tropical para Capacitación y Enseñanza, Turrialba, Costa Rica.
Legal representative: Dr. Pedro Ferreira Rossi, Director General.
Technical representative: Dr. Muhammad Ibrahim, researcher.
Environmental Economist: Dr. José Gobbi, researcher.

Wageningen University and Research Centre, Wageningen, The Netherlands.
Representatives: Drs. Bram van Putten and Peter Buurman, researchers.

Project Executive Committee

- **Dr. María Cristina Amézquita.**
Project Scientific Director.
Ph.D., Production Ecology and Resource Conservation.
- **Dr. Enrique Murgueitio.**
Project Administrative and Financial Director. CIPAV's Executive Director.
- **Bertha Leonor Ramírez.** Researcher, Universidad de la Amazonía.
Ph.D., Agroforestry Systems.
- **Dr. Edgar Amézquita.** Researcher, CIAT. Ph.D., Soil Sciences.
- **Dr. Muhammad Ibrahim.** Researcher, CATIE. Ph.D., Agronomy.
- **Dr. Bram van Putten.** Ph.D. in Mathematics.
Wageningen University and Research Centre.
- **Dr. Peter Buurman.** Ph.D. in Soil Chemistry and Dynamics.
Wageningen University and Research Centre.

Consultant: Professor Dr. Leendert 't Mannetje.

Ph. D. in Tropical Grasslands. Wageningen University and Research Centre.

Project members

- ***Field research – Hillsides ecosystem (Colombia)***
María Elena Gómez. Agronomist, M.Sc.- CIPAV
Piedad Cuellar. Participatory research, M.Sc.- CIPAV
- ***Field research – Semi-humid Tropical Forest (Costa Rica)***
Tangaxhuan Llanderal (Ph. D. cand), CATIE.
Alexander Navas, Agronomist, CATIE.
- ***Field research – Humid Tropical Forest (Colombian Amazonia)***
Bertha Leonor Ramírez. Agroforestry Systems. Ph.D.
Jaime Enrique Velásquez. Agronomist. Ph.D.
Jader Muñoz, Ph.D. (cand.)
B.Sc. students
Universidad de la Amazonia.
- ***Environmental Economist:***
José Gobbi, Ph. D., Economics. CATIE.
- ***Mathematical modelling***
M.Sc. students under Dr. Bram van Putten. Wageningen University.
- ***DB analyst/statistician***
Héctor Fabio Ramírez. Statistician.
- ***Soil sampling and biomass measurement***
Hernán Giraldo. Agronomist
- ***Executive Assistant***
Francisco Ruiz. Industrial Engineer.
- ***Students***
Octavio Mosquera, CIAT. Ph. D. student at Wageningen University.
Laura Cabrera and Gabriel González, Ecology students U. Javeriana, Bogotá.
Lucero Gómez, Agricultural Administration student, U. Santo Tomás. Cali.

Research Services

- ***Laboratory analyses***
Samples from Colombian ecosystems: contracted with CIAT's Soils Laboratory.
Samples from Costa Rica ecosystem: contracted with CATIE's Soils Laboratory.
- ***GIS (cartography and 3D images)***
Contracted with ISRIC, Wageningen, The Netherlands.

Research Network for the Evaluation of Carbon Sequestration Capacity of Pasture, Agropastoral and Silvopastoral Systems in the American Tropical Forest Ecosystem

**CIPAV- Universidad de la Amazonia -CIAT-CATIE-
Wageningen University and Research Centre**

1. Background

1.1 PROJECT EXECUTIVE SUMMARY

The present multi-institutional research project was presented by a developing country (Colombia) to The Netherlands Ministry of Development Cooperation, through The Netherlands Embassy in Bogotá, Colombia, for financial support consideration. Its broad research topic is Climate Change: mitigation alternatives for vulnerable ecosystems in developing countries. It combines efforts from the national research community, represented by CIPAV and Universidad de la Amazonia, and the international research community, represented by CIAT, CATIE and Wageningen University and Research Centre, to help prepare ourselves and our future generations to mitigate the effects of global warming. This research project responds to the United Nations Framework Convention on Climate Change (UNFCCC, New York, May 9, 1992; last modified on 11 October 2000) Article 3 (numeral 2), Article 4 (numerals d and g), Article 5 (numerals a and b), Article 12 (numeral 4), Kyoto Protocol Article 10 (numeral d), The Bonn Agreement (COP6 - July, 2001), The Marrakesh Conference (COP7 - Nov, 2001) and The Netherlands Implementation of Clean Development Mechanism (CDM) and related research on mitigation alternatives (October 22, 2001). It consulted the 1996 IPCC Guidelines for National Greenhouse Gas Inventories, and Winrock (2000) methodology for monitoring carbon storage in agroforestry projects.

The project main goal is to contribute to sustainable development, poverty alleviation and mitigation of the undesirable effects of climate change, in particular CO₂ emissions, in vulnerable sub-ecosystems of the American Tropical Forest ecosystem. This main goal will be attained through conduction of scientific research and systematic observations on a range of pasture, agropastoral and silvopastoral systems, in small, medium-size and large farms, in three sub-ecosystems of the American Tropical Forest ecosystem vulnerable to climate change: the eroded Andean hillsides of Colombia (densely populated), the semi-humid tropical forest of Costa Rica (densely populated), and the humid tropical forest of the Amazonian region in Colombia (zone of social conflict).

Research aims at identifying improved and sustainable pasture, agropastoral and silvopastoral systems that provide a viable and economically attractive solution to the farmer (alleviating poverty) and offer environmental services, particularly increases in soil organic matter, carbon accumulation and act as carbon sinks. Research will be conducted in Colombia and Costa Rica. Emphasis is given to poverty alleviation; in the sense that this research aims at demonstrating that enhancing C accumulation and protecting carbon sinks is an economically attractive activity for farmers.

Project duration is 5 years (Dec1, 2001 - Nov30, 2006). Project cost is US \$ 3,869.645,88, with a total contribution from The Netherlands Ministry of Development Cooperation, channelled through The Netherlands Embassy in Bogotá, Colombia, of US \$ 1,552.885,88, representing 40.13 % of the project's total cost.

1.2 THE PROJECT: MAIN GOAL, OBJECTIVES, EXPECTED PRODUCTS AND RESEARCH METHODOLOGY.

MAIN GOAL

To contribute to sustainable development, poverty alleviation and mitigation of the undesirable effects of greenhouse gasses on climate change, in particular CO₂, in vulnerable sub-ecosystems of the American Tropical Forest ecosystem.

Sub-ecosystems considered within the American Tropical Forest ecosystem are:

- (a) Eroded Andean hillsides of the semi-evergreen seasonal forest (H)
- (b) Flat and mild-slope areas of the semi-humid tropical forest of low altitude (SHF)
- (c) Flat and mild-slope areas of the humid tropical forest (HF) .

Land managements systems to be monitored and evaluated include: degraded pasture (negative control), native pasture, improved grass-alone pasture, improved grass with herbaceous legume, improved grass with woody legumes, improved grass with other trees (fruit trees, wood trees), forage banks, "barbechos"/"charrales"/"rastrojos" and natural forest (positive control). Table 1 shows the land management systems to be evaluated within each sub-ecosystem.

Table 1: Land Management Systems to be evaluated within each sub-ecosystem		H	SHF	HF
1. Degraded land and degraded pasture	→ - CONTROLS	✓	✓	✓
2. Native pasture			✓	✓
3. Improved grass-alone pasture		✓	✓	✓
4. Improved grass-herbaceous legume			✓	✓
5. Improved grass-woody legumes				✓
6. Grass-other trees (fruit trees, wood trees)			✓	✓
7. Forage banks for "cut and carrying"		✓	✓	✓
8. "Charrales", "barbechos", "rastrojos"			✓	✓
9. Natural Forest	→ + CONTROL	✓	✓	✓

OBJECTIVES

- (1) **Compare** the various land management systems within each sub-ecosystem, in order to **identify** those that are more economically attractive to the farmer (help alleviate poverty) and have higher levels of carbon accumulation and carbon sinks.
- (2) **Perform an economic evaluation** of these land management systems in terms of their benefit associated with carbon accumulation and carbon sinks.
- (3) **Provide recommendations** on appropriate technology and management for these land management systems in order to make them economically attractive to the farmer and beneficial to the environment as contributors to increases in carbon sequestration and carbon sinks.
- (4) **Develop cost-effective methodologies for C monitoring** in these different land management systems.
- (5) **Develop mathematical models to extrapolate carbon sequestration capacity** in similar areas within the American Tropical Forest Ecosystem for future decision-making in research and policy-making.

EXPECTED PRODUCTS

- **Identified** pasture, agropastoral and silvopastoral systems that are viable and economically attractive to the farmer and enhance C accumulation and sinks.
- **Estimated** carbon levels, animal productivity and farmer's economic benefit in the various land management systems studied across sub-ecosystems.
- **Estimated** economic benefit of C accumulation in these land managements systems.
- **Recommended** policy guidelines developed for paying C incentives to farmers in these land management systems in the tropics.
- **Shared new knowledge** with farmers, researchers and policy-makers invited to field days and training events.
- **Better knowledge of C accumulation levels** in these complex pasture, agropastoral and silvopastoral systems in the tropics.
- **Refined criteria, methodology and scientific information** for future research on carbon sequestration in pasture, agropastoral and silvopastoral systems in the tropics.
- **Identified land-use systems and sites for targeting CDM** within the American Tropical Forest Ecosystem.

RESEARCH METHODOLOGY

Research methodology for this 5-year project was discussed in detail and agreed by participant institutions, project members and consultants during the First International Coordination Meeting, held at CIAT, December 17-19, 2001 and improved in subsequent meetings and discussion sessions. Research methodology is common across sub-ecosystems and comprises the four following research strategies:

- A. Evaluation of a range of long-established land management systems of similar age within each sub-ecosystem (11-20 years of age) to quantify and compare the level of C accumulation between them and in comparison with two extreme reference states: degraded pasture (negative control) and native forest (positive control).
- B. Evaluation of new small-plot experiments established on degraded pasture sites, to quantify and compare after 4 years the level of C accumulation newly established improved systems vs. the degraded pasture.
- C. Socio-economic evaluation of research areas, farms and land use systems.
- D. Model building to estimate C accumulation in silvopastoral systems.

2. Activities - Project's last semester (June 1- Nov 30, 2006) according to Annual Plan 2006

The activities described below have been successfully accomplished during this last semester, in accordance with Annual Plan 2006. The Chronogram of Activities 2006 is included as Annex 1 of the present report.

A. Technical and administrative coordination activities: Project's last semester (June 1-Nov 30, 2006)

1. VII Intl Coord Meeting, Punta Leona, Costa Rica, June 28 to July 1, 2006.-

This last internal meeting was attended by all project members from partner institutions and consultants, with exception of José Gobbi, who was presenting his Doctorate Dissertation in the USA, and Manuel Rodríguez, who was attending an important congress in Spain. Key topics discussed during this meeting were:

- a) Project accomplishment of stated objectives
- b) Results of Extrapolation Study made by ISRIC
- c) Analysis of scientific data resulting from the five (5) experiments established on degraded areas in all ecosystems
- d) Results of socio-economic research during the project period (2001-2006) in all ecosystems;
- e) Final Project's databases to be presented in the final report.
- f) Advance in the preparation of the Project Book
- g) Farmers Brochure and Project Video
- h) Analysis of possible policy recommendations.

The group agreed that the stated Project's objectives have been met. Last semester needs to be devoted to final statistical analysis of the 5 experiments established on degraded land – for all ecosystems; to the organisation of final Project's databases, both biophysical and socio-economic; to refine the Extrapolation Study; and to continue with the preparation of

the Project's Scientific Book. It was agreed that presentation of project results to Policy-makers in the last meeting to be held in Irotama Hotel, Santa Marta, Oct 12-13, 2006, needs to be short, clear, with key scientific data and clear policy recommendations. Meeting Program is presented in **Annex 2**

2. Last Project Meeting: Decision-makers, Irotama Hotel, Santa Marta, Oct 12-13, 2006.-

The purpose of this last Project's meeting is to present Project results to Policy-makers at regional, national and international level, to discuss how to link project findings with policy decisions. Invited guests include important government officials from Colombia and Costa Rica, Directors of partner institutions, colleagues from The Netherlands Cooperation, and The Netherlands Ambassador in Colombia. Meeting Program is presented in **Annex 3** of this report.

3. Preparation of Technical & Financial Reports semester 2, year 5

As stated and agreed in the document "Acuerdo de Contribución", of December 2001, the Tenth Six-month Technical and Financial Reports for this period, were prepared and handled to The Netherlands Embassy in Bogotá on December 15, 2006.

4. Preparation of Project's final Technical & Financial Reports

As stated and agreed in the document "Acuerdo de Contribución", of December 2001, the Final Project's Technical and Financial Reports for the 5-year period, were prepared and handled to The Netherlands Embassy in Bogotá on December 15, 2006.

B. Research Activities

Project's last semester (June 1 – Nov 30, 2006)

1. Analysis of C stocks in soil and vegetation – Long-established systems, Esparza and Pocora sites, Costa Rica (2002 and 2005). Results are presented in **Annex 4**.

2. Analysis of Soil C-stock data from the five (5) experiments established on degraded areas to evaluate Carbon sequestration of improved systems when established on degraded pasture land – All Ecosystems. Dovio and Dagua Experiments, Andean Hillsides, Colombia. Statistical analysis completed in July 2006. Flat and Mild-slope topography Experiments, Amazonia, Colombia. Statistical analysis completed in June 2006. Esparza Experiment, Sub-humid Tropical Forest, Costa Rica. Statistical analysis completed in June 2006. Results of the statistical analysis are presented in **Annex 5** (Andean Hillsides Experiments), **Annex 6** (Amazonia Experiments) and **Annex 7** (Esparza, Costa Rica, Experiment).

3. Organization of final Databases on the five Experiments: Newly-established systems on degraded land – Dagua and Dovio, Andean Hillsides ecosystem, Colombia; Amazonia's Flat and Mild-slope topography experiments, Tropical Humid Forest, Amazonia, Colombia; and Esparza, Sub-humid Tropical Forest, Costa Rica (20020-2006).

For each research site, database components include Soil characterization and Soil C-stocks at the beginning and at the end of the experimental period (2002 and 2005). Databases are presented in **Annex 8**.

4. Carbon Isotope Analysis: PhD thesis of Eng. Octavio Mosquera at Wageningen University and Research Centre, under the direct supervision of Dr. Peter Buurman.

5. Extrapolation Study, ISRIC, The Netherlands

The Project signed a contract on April 28, 2005 with the International Soil Reference and Information Centre (ISRIC) to produce: (1) three digital maps and corresponding paper copies (one per ecosystem: Tropical Andean Hillsides, Sub-humid and Humid Tropical Forest of Central America, and Amazonian Tropical Humid Forest) indicating the regions for extrapolation of the Project's research results in each ecosystem; (2) a database accompanying the maps; (3) a report explaining the methods and results.

Presentation of results of this study, together with ISRIC Report, was made by Dr. Vincent van Engelen from ISRIC, Wageningen, The Netherlands, on June 28, 2006, during the Project's VII International Coordination Meeting held at Punta Leona, Costa Rica on June 28 – July 1, 2006. The study produced digital and physical maps showing the extrapolation region of project's results from each research site to Tropical America. Extrapolation criteria were three: a) climate (represented by "length of growing period"; b) topography (expressed by altitude and slope); and soil type (according to FAO).

Soil type names of Project's research sites were given to ISRIC according to USDA Soil Taxonomy classes (1999). However for the present extrapolation study, ISRIC used soil taxonomy names according to FAO classification. Therefore, original soil types names were reclassified according to the "Revised Legend of the Soil Map of the World" (FAO et al., 1988), with no discrepancy, as follows:

Ecosystem	Research site	Soil type name (USDA, 1999)	Soil type name (FAO, 1988)
1. Andean Hillsides, Colombia	Dagua	Inceptisols, Typic Dystropepts	Umbric Andosols
	Dovio	Inceptisols/ Andisols, Typic Dystropepts	Dystric Cambisols
2. Humid Tropical Forest, Amazonia, Colombia	Flat topography	Ultisols, Typic Kandiudults and Typic Paleudults. Also Ultisols, Oxic Dystropepts	Haplic Acrisols
	Mild-slope topography	Ultisols, Typic Paleudults and Typic Hapludults	Haplic Ferrasols
3. Humid Tropical Forest, Costa Rica	Pocora	Inceptisols	Dystric Cambisols
4. Sub-humid Tropical Forest. Costa Rica	Esparza	Inceptisols and Entisols	Cambisols

The extrapolation regions of project results include: (a) Tropical Andean Hillsides in Colombia, extending into similar environments in the neighbouring countries of Ecuador, Peru and Bolivia; (b) Sub-humid and humid tropical forest at the Atlantic and Pacific coasts of Costa Rica, extending into similar environments in the neighbouring countries of Panama, Nicaragua, Honduras, El Salvador and Guatemala; and (c) Humid Tropical Forest, Amazonia in Colombia, extending into similar environments in the neighbouring Amazonian countries (Peru, Brazil, Bolivia and Ecuador).

The table below indicates the extent (in km²) and location (countries) of the extrapolation region of each one of the Project's research sites. (ISRIC Report, 2006)

Ecosystem	Research site	Extrapolation area (km²)	Extrapolation region (countries and extension in km²)
1. Andean Hillsides, Colombia	Dagua	7000	Colombia (6000) Ecuador (1000)
	Dovio	3000	Colombia (2000) Ecuador (60) Peru (400)
2. Humid Tropical Forest, Amazonia, Colombia	Flat topography	288000	Brazil (111000) Colombia (112000) Peru (60000) Ecuador (4000) Venezuela (1000)
	Mild-slope topography	80000	Colombia (60000) Brazil (19000) Guyana (1000)
3. Humid Tropical Forest, Costa Rica	Pocora	750	Costa Rica (700) Guatemala (25) Panama (25)
4. Sub-humid Tropical Forest, Costa Rica	Esparza	1300	Costa Rica (150) Nicaragua (50) Panama (1100)

ISRIC report on the Extrapolation Study is included in our Final Technical Report.

6. Preparation of Project's Scientific Book

The group agreed to publish the results of the project in a scientific book using the format of a recognized publisher. The book will be composed of various chapters to be prepared by project members according to the leadership of the Project Scientific Director. Editor-in-Chief will be Professor Leendert 't Mannetje, from WU. An internal editorial Committee was created, composed by Drs. María Cristina Amézquita, Peter Buurman, Muhammad Ibrahim, Bertha Ramírez and Enrique Murgueitio, to read and perform technical edition of specific chapters. The first draft of the various chapters was ready August 25, 2006, and

final versions to be presented at the Project's last meeting – Irotama Hotel, Santa Marta, Colombia, Oct 12-13, 2006 It was agreed that Prof L.'t Mannelje will perform the English edition, and Dr. Ma. C. Amézquita the final Spanish edition. Additions and modifications to the Book's Contents is presented in **Annex 9**

3. Executed funds during this period (June 1 – Nov 30, 2006) distributed by Activity

To show how executed funds were invested in the various activities conducted during the present reporting period (June 1 – Nov 30, 2006) the next table was prepared, using "Activities" as rows, "Budget Categories" as columns, and % allocated to each activity from the various budget categories as cells.

4. Budget Tables 2001-2006

Budget tables 1-10 are included as **Annex 9** of this report. They show real budget execution for years 1 to 5. The tables show global and per institution budget-- per year and for the total 5-year period, discriminating by donor funds and matching funds.

Annexes

Annex 1: Chronogram of Activities - Annual Plan 2006.

Annex 2: VII Intl Coord Meeting, Punta Leona, Costa Rica, June 28-July 1, 2006

Annex 3: Decision-makers Meeting, Irotama Hotel, Santa Marta, Colombia, Oct 12-13, 2006

Annex 4: Statistical Analysis of Soil C-stocks in Long-established systems, Costa Rica (2002-2006)

Annex 5: Statistical Analysis of the two (2) Experiments, Andean Hillsides, Colombia - to evaluate C sequestration of improved systems established on degraded land

Annex 6: Statistical Analysis of the two (2) Experiments, Amazonia, Colombia – to evaluate C sequestration of improved systems established on degraded land

Annex 7: Statistical Analysis of Esparza Experiment, Sub-humid Tropical Forest Ecosystem, Costa Rica - to evaluate C sequestration of improved systems established on degraded land

Annex 8: Project's final Databases of Newly-established Systems on degraded land. All ecosystems (2002-2006)

Annex 9: Project Book Contents

Annex 10: Budget Tables (10) with executed budget for years 1 to 5.

Annex 1

Chronogram of Activities
Annual Plan 2006

CHRONOGRAM OF ACTIVITIES - ANNUAL PLAN 2006

December 1, 2005 - December 31, 2006

OBJECTIVE	ACTIVITY	INDICATORS	12	1	2	3	4	5	6	7	8	9	10	11	12	Participant Institutions	
1. PROJECT ORGANISATION ACTIVITIES.	Preparation and agreement of annual contracts for project personnel	Signed contract														CIPAV	
	Preparation and agreement of Terms of Reference for Consultants	Accepted TOR's														Project Direction	
																CIAT	
																CATIE	
	Renewal of contracts with farmers for the three sub-ecosystems: Andean Hillside, Amazonia and Costa Rica farms.	Contracts accepted. Farms ready to work.														U.A.-CIPAV	CATIE
2. TECHNICAL AND ADMINISTRATIVE COORDINATION	Preparation of ANNUAL PLAN 2006. October 31, 2005.															Project Direction	
	Preparation of Contributions (first draft) to be included in the Project Scientific Book. Dates: January – June 2006.															All Participant Institutions	
	Preparation of Ninth Six-months Technical and Financial Reports.	Reports handled to The Netherlands Embassy in Bogotá, Colombia. June 15, 2006.														All Participant Institutions	
	VII International Coordination Meeting, CATIE, Costa Rica, June, 2006	Meeting conducted														All Participant Institutions	
	Preparation of final contributions to be included in the Project Scientific Book. Dates. August – November 2006.															All Participant Institutions	
	Policy Makers Meeting, Santa Marta, Colombia, October, 2006															Project Direction and Participant Inst and External Guests.	
	Preparation of Tenth Six-months Technical and Financial Reports.	Reports handled to The Netherlands Embassy in Bogotá, Colombia, Dec 15, 2006.														All Participant Institutions	
	Preparation of final project reports (technical and financial) - 15 November, by institution and 15 December 2006, integrated	Reports handled to The Netherlands Embassy in Bogotá, Colombia, Dec 15, 2006.														All Participant Institutions	

CHRONOGRAM OF ACTIVITIES - ANNUAL PLAN 2006

December 1, 2005- December 31, 2006

CONT. PAG -2

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CONVENTIONS:

EXECUTED BY PROJECT DIRECTORS
HUMID TROPICAL FOREST, COLOMBIA - U. AMAZONIA
ANDEAN HILLSIDES, COLOMBIA - CIPAV
SEMI-HUMID TROPICAL FOREST, COSTA RICA - CATIE
WAGENINGEN UNIVERSITY PARTICIPATION
CIAT PARTICIPATION

Annex 2

Program VII International Coordination Meeting, Punta Leona, Costa Rica June 28-July 1, 2006

The Netherlands Cooperation Activity CO-010402

Research Network for the Evaluation of Carbon Sequestration Capacity of Pasture, Agropastoral and Silvopastoral Systems in the American Tropical Forest Ecosystem

CIPAV- U. Amazonia -CIAT-CATIE-W. University

Project duration: 5 years
December 1, 2001 – November 30, 2006

VII INTERNATIONAL COORDINATION MEETING

**Punta Leona, Costa Rica
June 28 – July 1, 2006**

CIPAV: Centre for Research on Sustainable Agricultural Production Systems, Cali, Colombia.
Universidad de la Amazonia, Florencia, Colombia.
CIAT: International Centre for Tropical Agriculture, Cali, Colombia.
CATIE: Centro Agronómico Tropical para Capacitación y Enseñanza, Turrialba, Costa Rica.
Wageningen University and Research Centre, Wageningen, The Netherlands.

PROGRAM

Tuesday 27 June:

Arrival to San José Airport and transport to Punta Leona's Hotel.

Wednesday 28 June

Moderators: L. 't Mannetje (am session) and P. Buurman (afternoon session)

9:00 – 9:15am	Welcome	M. Ibrahim
9:15-9:45am	Project Achievements (Dec 2001 - June 2006). Issues for discussion during this meeting	M.C. Amézquita
9:45-10:00am	Questions	
10:00-10:30am	Extrapolation Study	V. van Engelen
10:30-10:45am	Questions and Recommendations	
10:45-11:00am	Coffee	
11:00-11:30am	Soil quality analysis of SCS. Case: long-established systems Amazonia and Hillsides. Interpretation	P. Buurman
11:30-11:45pm	Questions and Recommendations	
Humid and Sub-humid Tropical Forest Ecosystems, Costa Rica		
11:45-12:15pm	Soil and vegetation C-stocks in long-established systems, Pocora and Esparza, Costa Rica.	M. Ibrahim
12:15-12:25pm	Questions and Recommendations	
12:25-12:45pm	Results from Esparza Experiment.	M. Ibrahim
12:45-1:00pm	Questions and Recommendations – Costa Rica	
1:00-2:30pm	Lunch	
Humid Tropical Forest, Amazonia, Colombia		
2:30-2:45pm	C Sampling non-intervened Native Forest. Amazonia, flat topography. Area characterization	B. Ramírez, H. Giraldo
2:45-3:15pm	Soil C-stocks in long-established systems including non-intervened Native Forest. Flat topography	M.C. Amézquita H.F. Ramírez
3:15-3:30pm	Questions and Recommendations	
3:30-3:45pm	Association between soil C and fine root's biomass – Long-established systems, Amazonia	B. Ramírez, H. F. Ramírez
3:45-4:00pm	Questions and Recommendations	
4:00-4:15pm	Coffee	
4:15-4:45pm	Ph D. Study with Amazonia data from long-established systems, O. Mosquera CSeq-WUR: Objectives, Benefits to the Project, future plans.	P. Buurman
4:45-5:00pm	Questions and Recommendations	

- Moderators of discussion sessions are asked to prepare a summary report in magnetic media to be presented at the Closing Session and handled to F. Ruiz.

Thursday June 29

Moderators: M. Ibrahim (morning session) and E. Murgueitio (afternoon session)

Humid Tropical Forest, Amazonia, Colombia (cont.)		
9:00-9:45am	Results on SCS from 2 Experiments established on degraded land – Amazonia flat and mild-slope topographies	B. Ramírez, M.C.Amézquita, H.F. Ramírez
9:45-10:00am	Questions and Recommendations – Amazonia	
Andean Hillsides, Colombia		
10:00-10:20am	Project Brochure for Farmers. Project Video	E. Murgueitio, M.E.Gómez, P.Cuellar
10:20-10:30am	Questions and Recommendations	
10:30-10:45am	Coffee	
10:45-11:30am	Results from Dagua and Dovio Experiments established on degraded land.	M.E.Gómez, H. Giraldo M.C.Amézquita, H F. Ramírez
11:30-11:45am	Questions and Recommendations	
11:45-12:00am	Association between soil C and fine root's biomass – Long-established systems, Hillsides, Colombia	H. Giraldo, M.E.Gómez
12:00-12:15am	Questions an Recommendations – Andean Hillsides	
Project's final Databases		
12:15-12:30pm	Final Databases from Long-established systems – Hillsides and Amazonia, Colombia	F.Ruiz, H. F. Ramírez
12:30-12:40pm	Questions	
12:40-12:50pm	Final Databases on Long-established Systems, Esparza and Pocora, Costa Rica	M. Ibrahim, T.Llanderal
12:50-1:00pm	Questions and Recommendations on Databases	
1:00-2:30pm	Lunch	
Socio-economic Research results		
2:30-2:50am	Amazonia results	B. Ramírez, J. Muñoz
2:50-3:10pm	Hillsides Results	P. Cuellar
3:10-3:30pm	Costa Rica Results	J. Gobbi, M. Ibrahim
3:30-3:45pm	Discussion and Recommendations	
3:45-4:00pm	Coffee	
4:00-5:00pm	a) Policy Recommendations. b) How and who will present them to Policy Makers? – Discussion and Recommendations	J. Gobbi , M. Ibrahim
5:00 – 6:00pm	Preparation of a joint summary with "Recommendations and Agreements" from this meeting.	Session Moderators

- Moderators of discussion sessions are asked to prepare a summary report in magnetic media to be presented at the Closing Session and handled to F. Ruiz.

Friday June 30: Field Day

Bus departs from Punta Leona's Hotel Reception at 8am and returns at around 5pm

Saturday July 1

Moderator: B. Ramírez

General Discussion Topics		
9:00-11:00am	Project Book: Work plan with dates, chapters preparation, responsibilities, agreements	L. 't Mannetje, M.C.Amézquita
11:00-11:15m	2 nd Semester 2006 Reports. Final Technical and Financial Reports to be presented to The Netherlands Cooperation – Nov 30, 2006	M.C.Amézquita
11:15-11:30am	Project Proposal 2007: information to date	M.C.Amézquita, P. Buurman
11:30-12:00m	Presentation of "Recommendations and Agreements from this meeting"	A person selected from session moderators M. Ibrahim
12:00-12:30pm	Closing Words	E. Murgueitio M.C.Amézquita
12:30-2:30pm	Lunch	
2:30 -	Beach!	

Thanks very much Muhammad. Thanks to all of you!

Annex 3

Program Decision-makers Meeting Irotama Hotel, Santa Marta, Colombia October 12-13, 2006

Cooperación Holandesa Actividad CO-010402

Red de Investigación para la Evaluación de la Capacidad de Captura de Carbono de Sistemas de Pasturas, Agro-pastoriles y Silvo-pastoriles en Ecosistemas de América Tropical

CIPAV - U. Amazonia – CIAT – CATIE – U. Wageningen

**Duración del Proyecto: 5 años
Diciembre 1, 2001 – Noviembre 30, 2006**

Reunión de “Decisores de Política Ambiental”

**Santa Marta, Colombia
Octubre 12 y 13, 2006**

CIPAV: Centro para la Investigación en Sistemas Sostenibles de Producción Agropecuaria, Cali, Colombia.

Universidad de la Amazonia, Florencia, Colombia.

CIAT: Centro Internacional de Agricultura Tropical, Cali, Colombia.

CATIE: Centro Agronómico Tropical para Capacitación y Enseñanza, Turrialba, Costa Rica.

Wageningen University and Research Centre, Wageningen, The Netherlands.

PROGRAMA

Jueves 12 Octubre: 10am-1pm: Reunión interna de miembros del proyecto y consultores para revisar el avance del libro del proyecto. **Moderador:** Prof. L. 't Mannetje
Tarde: Llegada de invitados al Hotel IROTAMA, Santa Marta

Viernes 13 Octubre: Reunión con invitados externos
Moderadores: L. 't Mannetje (sesión am) y P. Buurman (sesión pm)

8:00 – 8:15 am	Bienvenida a los participantes y objetivos de la reunión	Enrique Murgueitio Ma. Cristina Amézquita
8:15 - 8:30 am	La Cooperación Holandesa y el Desarrollo Sostenible	Jaques Remmerwaal
8:30 – 8:45 am	Importancia del proyecto para la Política de Cambio Climático	Leendert 't Mannetje
8:45 - 9:30 am	Objetivos y logros del Proyecto (2001 – 2006)	Ma. Cristina Amézquita
9:30 - 9:40 am	Preguntas y comentarios	
9:40 - 10:00 am	Logros del Proyecto y recomendaciones de política – Ecosistema de Laderas Andinas, Colombia	Enrique Murgueitio R.
10:00 -10:10 am	Preguntas y comentarios	
10:10 – 10:30 am	Refrigerio	
10:30 - 10:50 am	Logros del Proyecto y recomendaciones de política – Ecosistema Bosque Tropical Húmedo, Amazonía, Colombia	Bertha L. Ramírez
10:50 - 11:00 am	Preguntas y comentarios	
11:00 - 11:20 am	Logros del Proyecto y recomendaciones de política – Ecosistema Bosque Tropical Húmedo y Sub-húmedo, C.Rica	Muhammad Ibrahim
11:20 - 11:30 am	Preguntas y comentarios	
11:30 - 11:45 am	Estrategia Colombiana de adaptación al Cambio Climático	Carlos Costa
11:45 - 12:45 am	Panel del Invitados: “Importancia del proyecto dentro del tema de medio ambiente / políticas de cambio climático y desarrollo sostenible” (10 minutos cada uno). Moderador: Juan Mayr	Manuel Rodríguez Fernando Gast Carlos Costa
12:45 - 1:00 pm	Preguntas y comentarios	
1:00 – 3:00 pm	Almuerzo (precedido de un brindis especial y foto de grupo)	Restaurante “La Pérgola”
3:00 – 3:20 pm	Logros socio-económicos y recomendaciones de política – punto de vista del proyecto	José Gobbi
3:20 – 3:30 pm	Preguntas y comentarios	
3:30 – 3:45 pm	Video del proyecto	Enrique Murgueitio R.
3:45 – 4:45 pm	Panel de Invitados: “Enlace entre logros del proyecto y decisiones de política” (10 minutos cada uno). Moderador: Manuel Rodríguez	Katerina Bach Fernando Casas Douglas White
4:45 – 5:00 pm	Preguntas y comentarios	
5:00 – 5:15 pm	Resumen y recomendaciones de Política	Manuel Rodríguez
5:15-5:30 pm	Palabras de clausura	Enrique Murgueitio, Ma. Cristina Amézquita
7:30 – 8:00pm	Cocktail y cena de despedida	Terraza piso 12, edificio “IROTAMA Siglo XXI”

Participantes

Invitados Externos

Cooperación Holandesa, Bogotá

Sr. Jaques Remmerswaal, Primer Secretario, Embajada de Holanda

Ministerio del Medio Ambiente Vivienda y Desarrollo Territorial, Bogotá

- Dra. Katerina Bach, Directora de Cambio Climático

IDEAM, Bogotá

- Dr. Carlos Costa, Director General
- Dr. Carlos Gómez, Investigador

Instituto von Humboldt, Bogotá

- Dr. Fernando Gast, Director General
- Dr. Fernando Casas, Investigador

CORPOGUAJIRA (Corporación Regional Autónoma de la Guajira), Riohacha

- Dr. Emiro Bohórquez, Coordinador Gestión Ambiental

CIAT

- Dr. Douglas White, Investigador

Participante Externo

- Dr. Juan Mayr, Consultor Internacional (Naciones Unidas), Bogotá.

Instituciones socias del proyecto:

- **CIPAV:** Centro para la Investigación en Sistemas Sostenibles de Producción Agropecuaria, Cali, Colombia.
Representante legal y técnico: Dr. Enrique Murgueitio, Director Ejecutivo
- **Universidad de la Amazonia,** Florencia, Colombia.
Representante legal: Dr. Luis Eduardo Torres García, Rector.
Representante técnica: Dra. Bertha Leonor Ramírez, Investigadora
- **CIAT:** Centro Internacional de Agricultura Tropical, Cali, Colombia.
Representante legal: Dr. Joachim Voss, Director General.
Representante técnico: Dr. Edgar Amézquita, Científico de Suelos.
- **CATIE:** Centro Agronómico Tropical para Capacitación y Enseñanza, Turrialba, Costa Rica.
Representante legal: Dr. Pedro Ferreira Rossi, Director General.
Representante técnico: Dr. Muhammad Ibrahim, Investigador.
- **Wageningen University and Research Centre,** Wageningen, Holanda.
Representante: Dr. Peter Buurman, Investigador .

Comité Ejecutivo del Proyecto

- **Dra. María Cristina Amézquita.**
Ph.D., Producción Ecológica y Conservación de los Recursos.
Directora Científica del Proyecto

- **Dr. Enrique Murgueitio.** Director Ejecutivo de CIPAV
Director Administrativo y Financiero del Proyecto
- **Dra. Bertha Leonor Ramírez.** Ph.D., Sistemas Agroforestales
Universidad de la Amazonía.
- **Dr. Edgar Amézquita.** Ph.D., Ciencias del Suelo. CIAT.
- **Dr. Muhammad Ibrahim.** Ph.D., Agronomía. CATIE.
- **Dr. Bram van Putten.** Ph.D., Matemáticas.
Wageningen University and Research Centre.
- **Dr. Peter Buurman.** Ph.D., Química y Dinámica del Suelo.
Wageningen University and Research Centre.

Consultores:

- **Profesor Dr. Leendert 't Mannetje,** Ph. D. en Pasturas Tropicales.
Wageningen University and Research Centre.
- **Dr. Manuel Rodríguez,** Profesor titular, Universidad de los Andes, Bogotá, y
Consultor Internacional en Temas de Medio Ambiente.

Otros Miembros del Proyecto Participantes:

- ***Economista Ambiental***
Dr. José Gobbi, Ph.D. en Economía
- ***Asistente Ejecutivo***
Ing. Francisco Ruiz, MSc Economía (cand)
- ***Tesorera Fundación CIPAV:***
Mónica Díaz

Annex 4

Statistical Analysis of Soil C-stocks, Humid and Sub-humid Tropical Forest Ecosystems Costa Rica (2002-2006)

Annex 5

Statistical Analysis of Dagua and Dovio Experiments to evaluate C sequestration of improved systems established on degraded land

***Andean Hillsides ecosystem, Colombia
(2002-2006)***

Table 6: Case Study in Colombia

Variable	BL	3 yr-Leucaena
CO ₂ /herd, 10 ³ Kg	152.4	30.4
Total N ₂ O/herd, 10 ³ Kg	509	326
Total CH ₄ /herd, 10 ³ Kg	618	486
Carbon Sequestration, herd, 10 ³ Kg CO ₂ -C	503	416
Total CO ₂ eq. Emissions/herd, 10 ³	1280	843
Net CO ₂	777	427

Land use change result in reduction in emission of 350t CO₂
eq. Value of US3/ton= 1050 US/farm

Carbon and Nitrogen Flow Diagram of Silvopastoral Systems

(Schils *et al.* 2005)

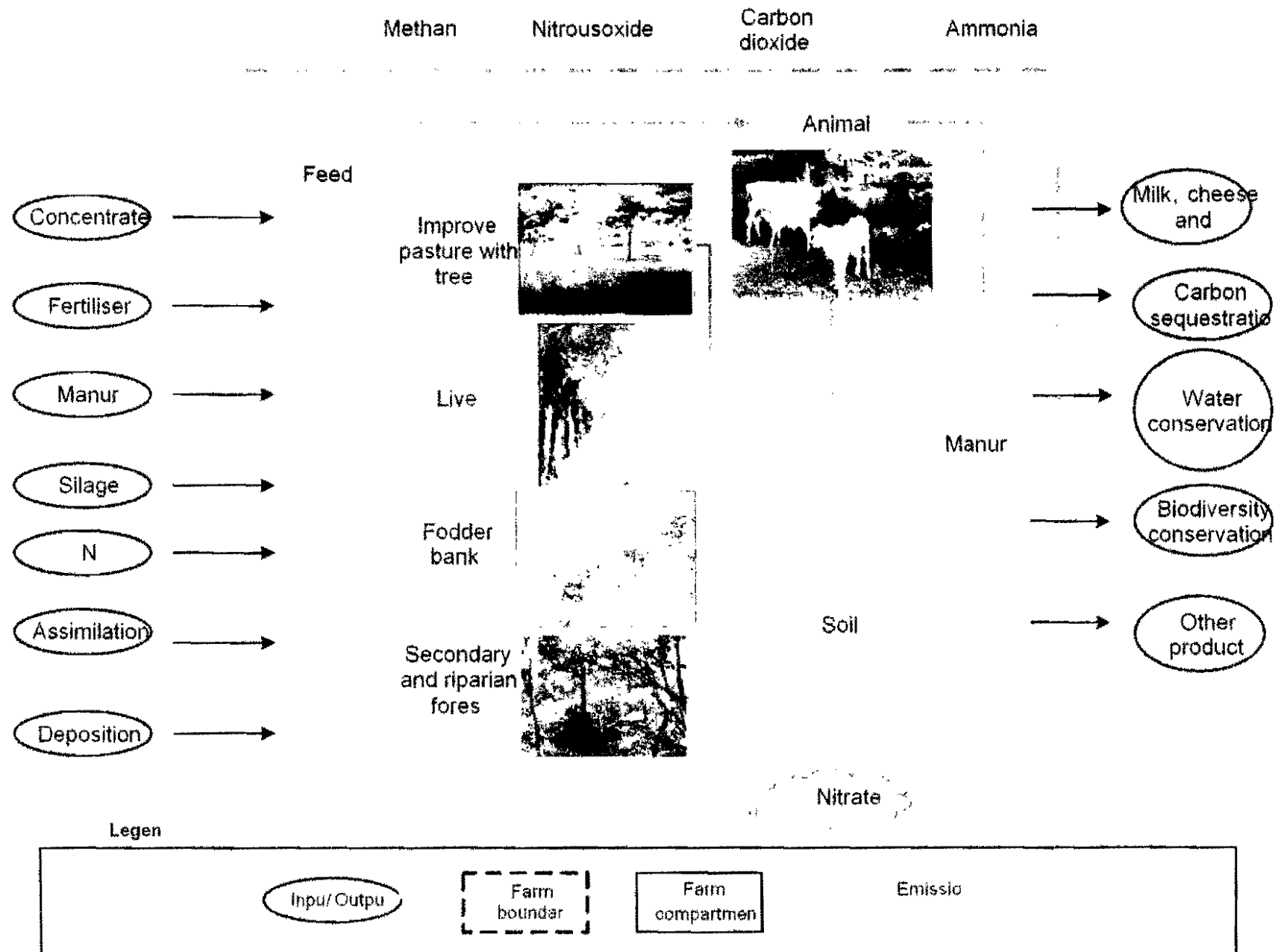


**Table 5: Estudio de Caso sobre Balance de GHG: Colombia
(GEF/SSP)**

	LB	3 años
Sistema de Producción	Doble Propósito	Doble Propósito
Total Unidades Animales	92	94
Usos de la Tierra Predominantes	Pasturas Mejoradas con Fertilizantes (73% del Area) 	SSPi (42%: pasto + Leucaena) 

Lessons - Carbon

- High variability of C-stocks within land uses-history, age, topography, etc. Methodology will be refined to include more replicates
- The amount of C sequestered in silvo-pastoral and forest systems were higher than that sequestered in degraded pastures

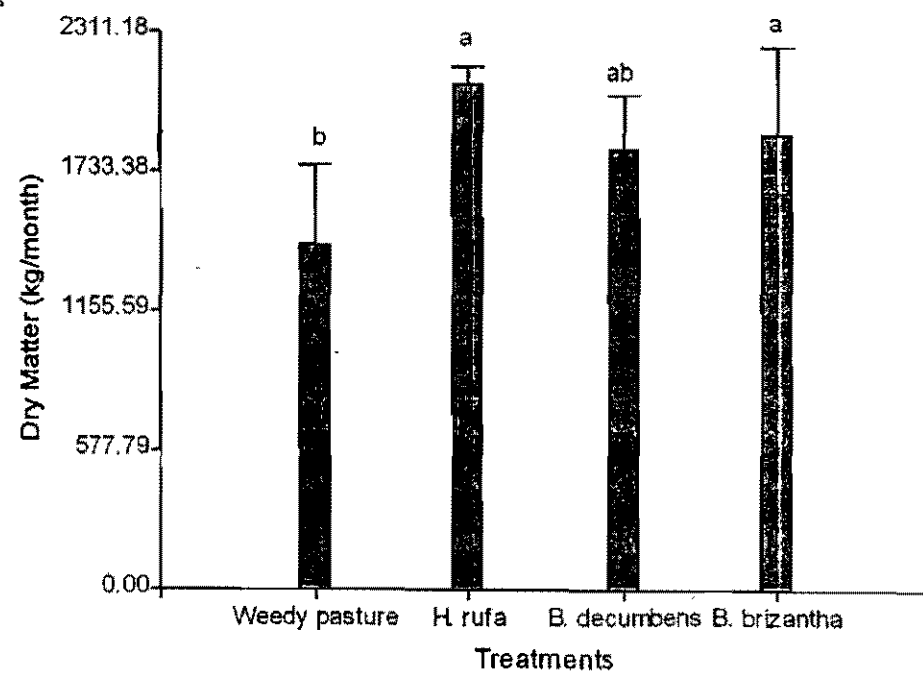
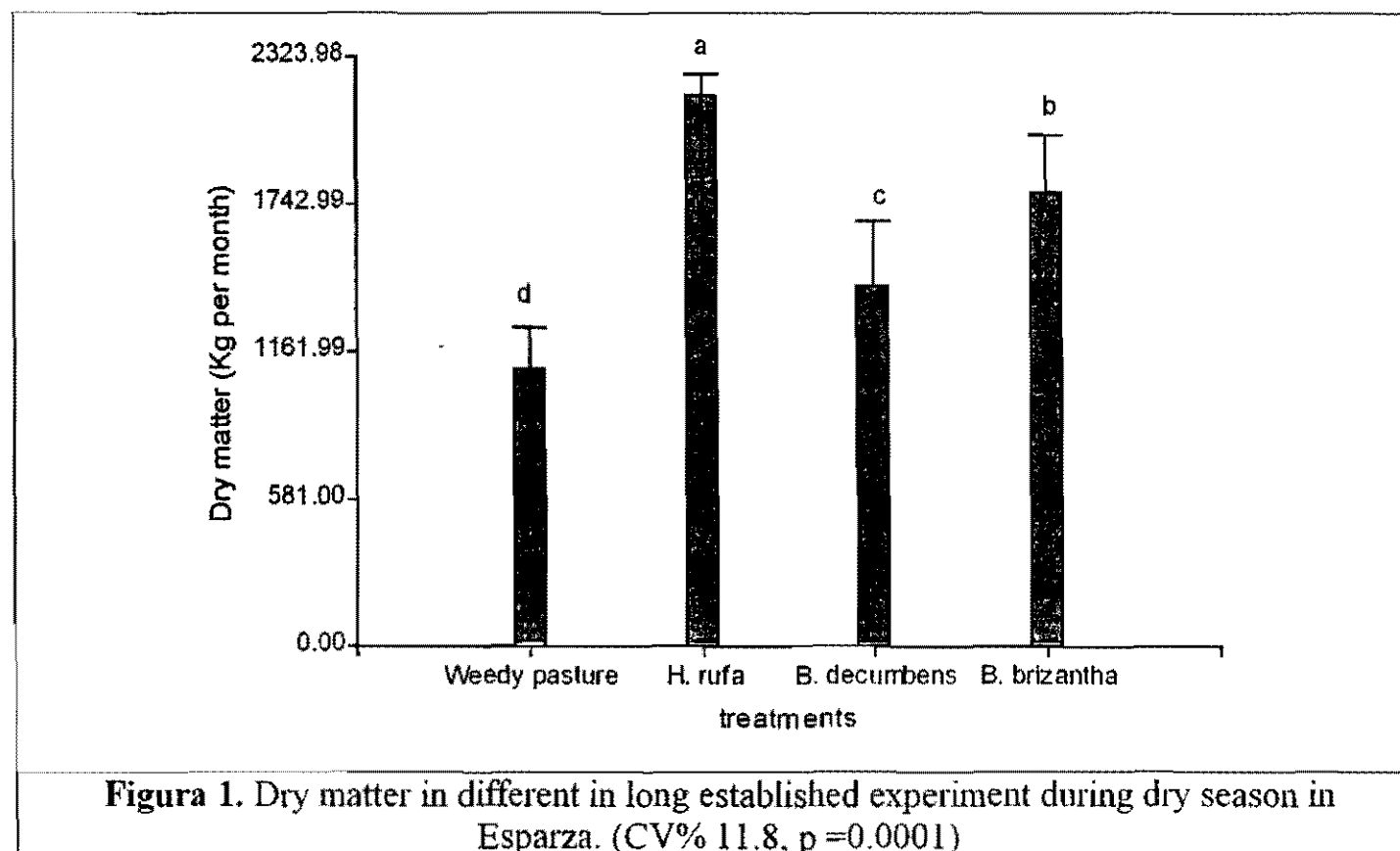
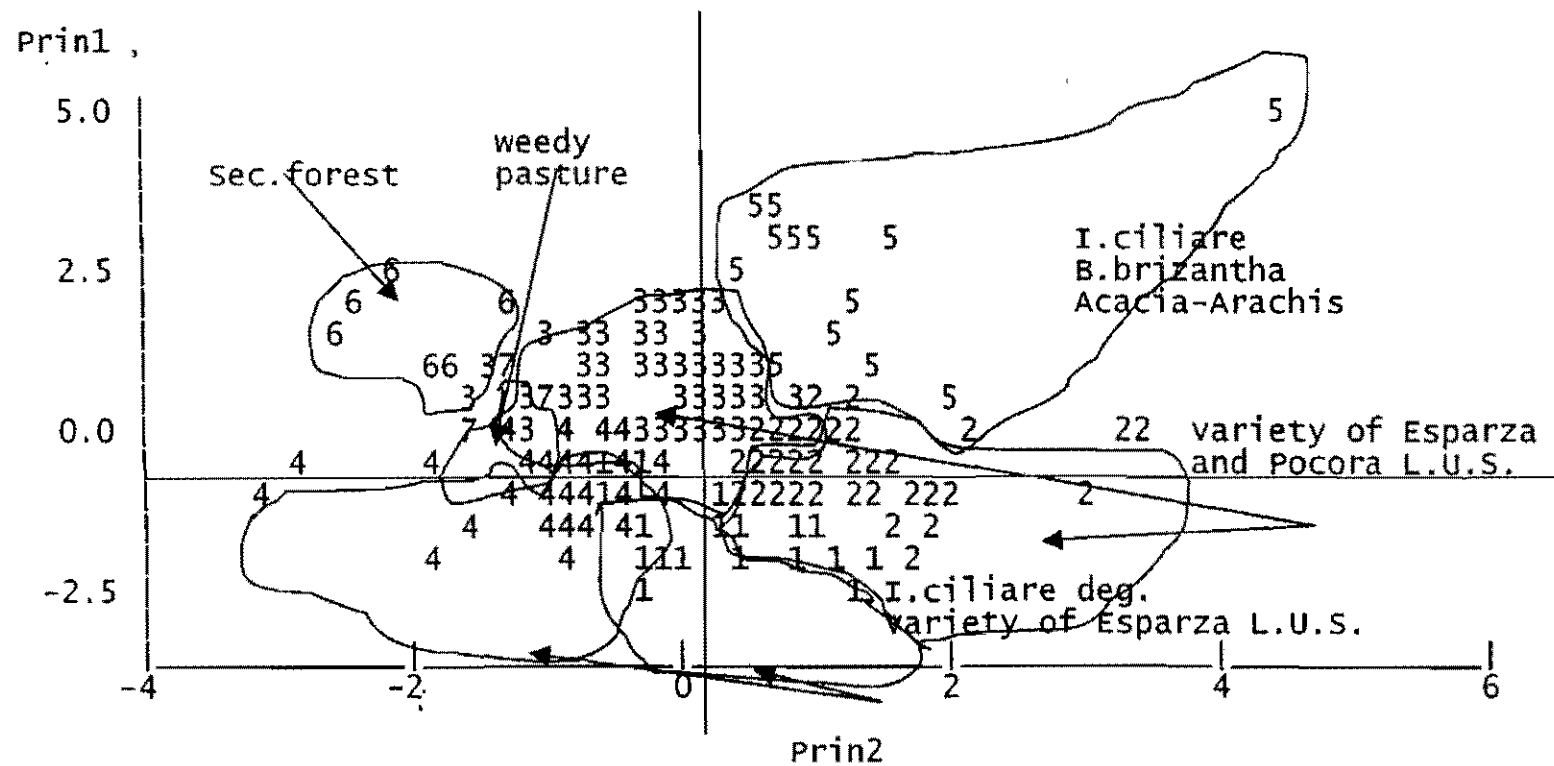


Figura 2. Dry matter in different in long established experiment during rainy season in Esparza. (CV% 15.05, $p = 0.0298$)



Plot of Prin1*Prin2. symbol is value of CLUSTER.



NOTE: 9 obs had missing values. 68 obs hidden.

**Table 4: Cluster Groups based on first two PC
Zones Esparza and Pocora, two C-sampling years.
7 Clusters, N=206 soil pits**

Classification Criteria	CLUSTER NO.						
	1 N=29	2 N=49	3 N=68	4 N=33	5 N=15	6 N=7	7 N=5
Principal Components	Cluster Means						
PC1	-1.54	-0.58	0.75	-0.88	2.55	1.60	0.35
PC2	0.07	1.14	-0.25	-1.11	1.13	-2.15	-1.22
Original Soil parameters	Cluster Means						
Total C (t/ha/1m-equiv)	88	154	141	117	252	209	107
Stable C (t/ha/1m-equiv)	5	10	11	4	27	13	6
Total N (t/ha/1m-equiv)	10	16	15	15	22	20	12
Sand (t/ha/1m-equiv)	372	461	285	349	328	224	349
Clay (t/ha/1m-equiv)	253	312	442	304	440	421	358
CEC (t/ha/1m-equiv)	2	1	4	20	4	3	11

High Value

Medium Value

Low Value

**Table 3 (cont): Factors Affecting SCS (t/ha/1m-equiv)
Site 2: Pocora**

Source	df	Total C			Stable C		
		F	p	SS(%)	F	p	SS(%)
Sampling year (Y)	1	10.0	***	3.0	36.3	***	10.5
Land Use System (S)	5	34.7	***	52.1	19.3	***	27.9
S x Y	5	2.0	*	3.0	26.9	***	39.0
Position (P)	3	9.1	***	8.2	1.3	ns	1.1
Y x P	3	2.7	*	2.4	1.5	ns	1.3
S x P	11	3.8	***	12.4	0.6	ns	2.0
Error	63			18.9			18.2
Total	91						
Mean		158.8			11.5		
$\sqrt{\sigma^2}$		24.2			5.2		
CV (%) adjusted		16.1			45.3		
R ² (%)		82.7			82.3		

*** $p < 0.01$; ** $0.01 \leq p \leq 0.05$; * $0.05 \leq p \leq 0.10$; ns $p \geq 0.10$;
SS(%) = (Source SS/Total SS) x 100

**Table 3: Factors affecting SCS (t/ha/1m-equiv)
Site 1: Esparza**

Source	df	Total C			Stable C		
		F	p	SS(%)	F	p	SS(%)
Sampling year (Y)	1	3.2	*	2.1	0.5	ns	0.5
Land Use System (S)	6	5.3	***	20.6	0.6	ns	3.3
S x Y	6	2.3	**	8.9	0.5	ns	2.8
Position (P)	3	0.3	ns	0.6	0.1	ns	0.3
Y x P	3	0.0	ns	0.0	0.1	ns	0.3
S x P	11	1.1	ns	7.6	0.5	ns	5.3
Error	92			60.1			87.5
Total	122						
Mean		139.6			9.0		
$\sqrt{\sigma^2}$		58.4			7.7		
CV (%) adjusted		41.8			85.5		
R ² (%)		42			13		

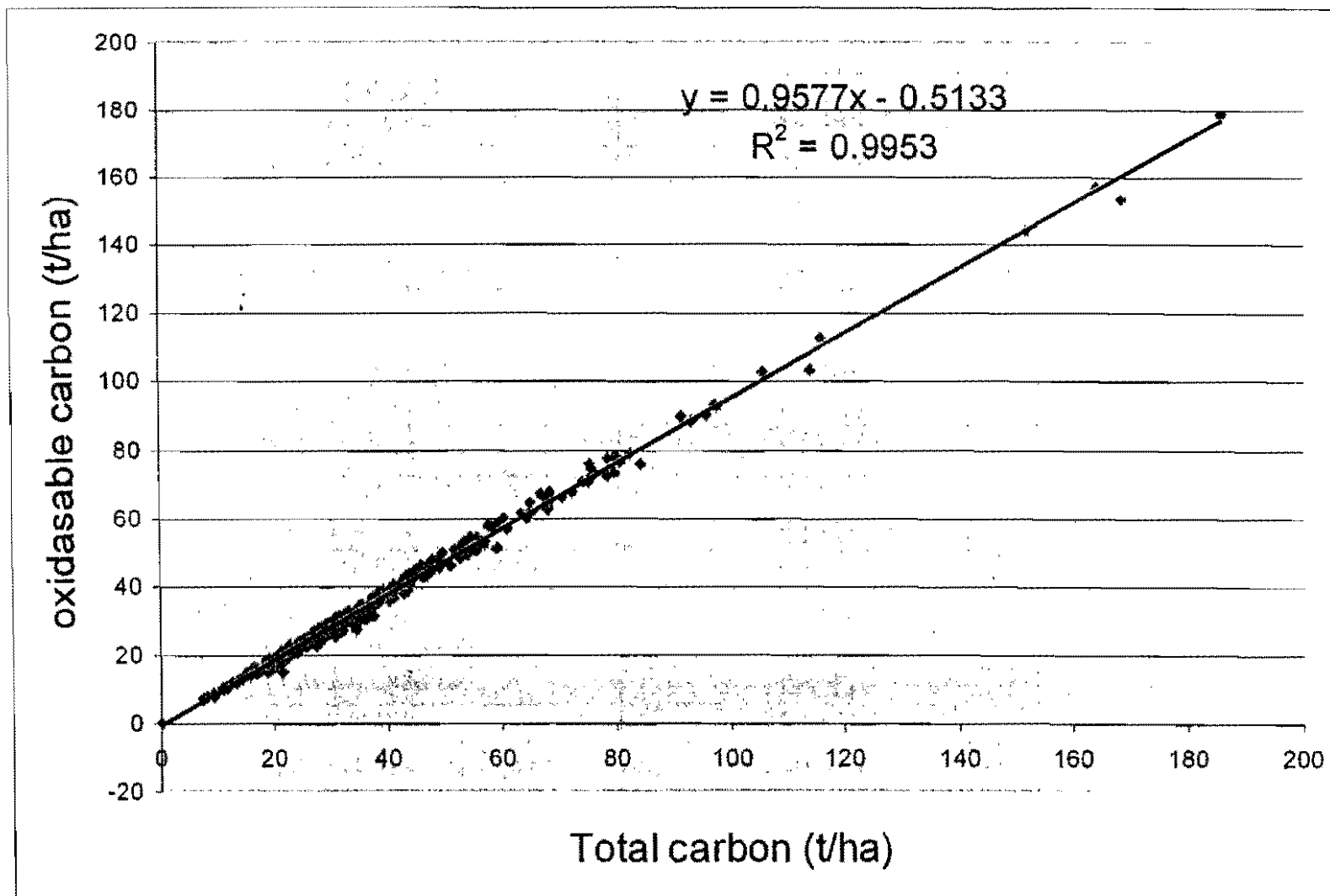
*** $p < 0.01$; ** $0.01 \leq p \leq 0.05$; * $0.05 \leq p \leq 0.10$; ns $p \geq 0.10$;
SS(%) = (Source SS/Total SS) x 100

**Table 2: Soil Carbon Stocks (t/ha/fixed soil mass)
on two C-Sampling years: Esparza**

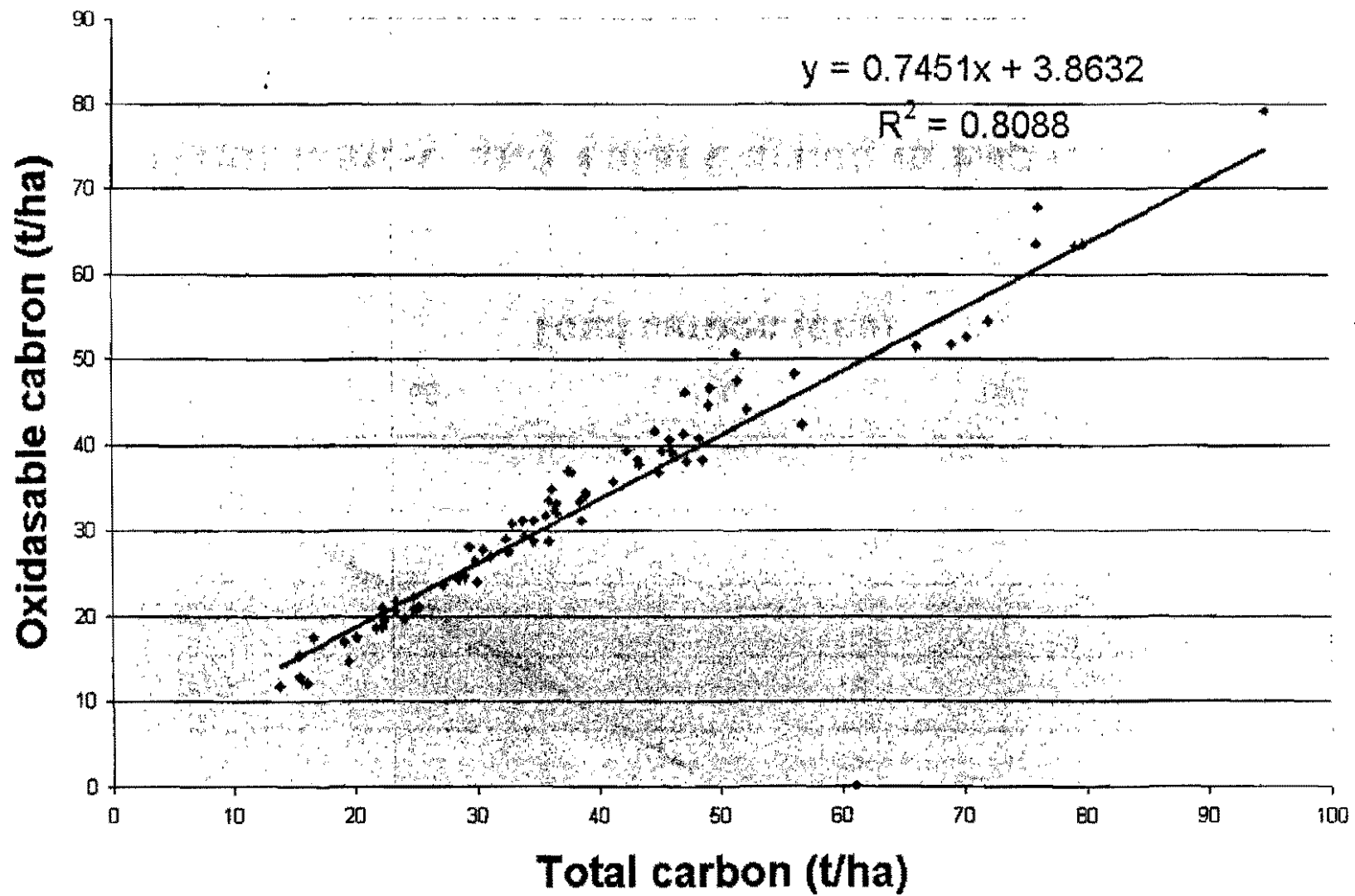
Soil Depth	Land Use System	Total Carbon	Stable Carbon
0-100 (cm)	Fodder Bank	124.26b	6.38a
	Native Forest	94.44b	6.80a
	Secondary Forest	225.99a	9.54a
	Weedy Pasture	220.92a	13.12a
	B. decumbens pasture	109.56b	12.3a
	Silvopastoral System	119.95b	9.94a
	H. rufa pasture	154.84b	7.31a
Mean, CV (%), LSD 5%		149.9, 40.4, 61.2	9.06, 103.0, 9.4
0-40 (cm)	Fodder Bank	103.24dc	4.67a
	Native Forest	76.62d	4.63a
	Secondary Forest	174.78a	7.54a
	Weedy Pasture	158.78ab	10.63a
	B. decumbens pasture	90.79dc	8.15a
	Silvopastoral System	95.82dc	6.82a
	H. rufa pasture	120.53bc	4.47a
Mean, CV (%), LSD 5%		117.2, 34.2, 40.5	6.5, 79.4, 5.2
40-100 (cm)	Fodder Bank	21.02c	5.15a
	Native Forest	17.83c	6.51a
	Secondary Forest	51.21ab	6.00a
	Weedy Pasture	62.14a	7.47a
	B. decumbens pasture	18.77c	12.46a
	Silvopastoral System	24.13c	9.35a
	H. rufa pasture	34.30bc	8.51a
Mean, CV (%), LSD 5%		32.8, 73.8, 24.5	7.8, 62.8, 9.2

**Table 1: Soil Carbon Stocks (t/ha/fixed soil mass)
on two C-Sampling years: Pocora.**

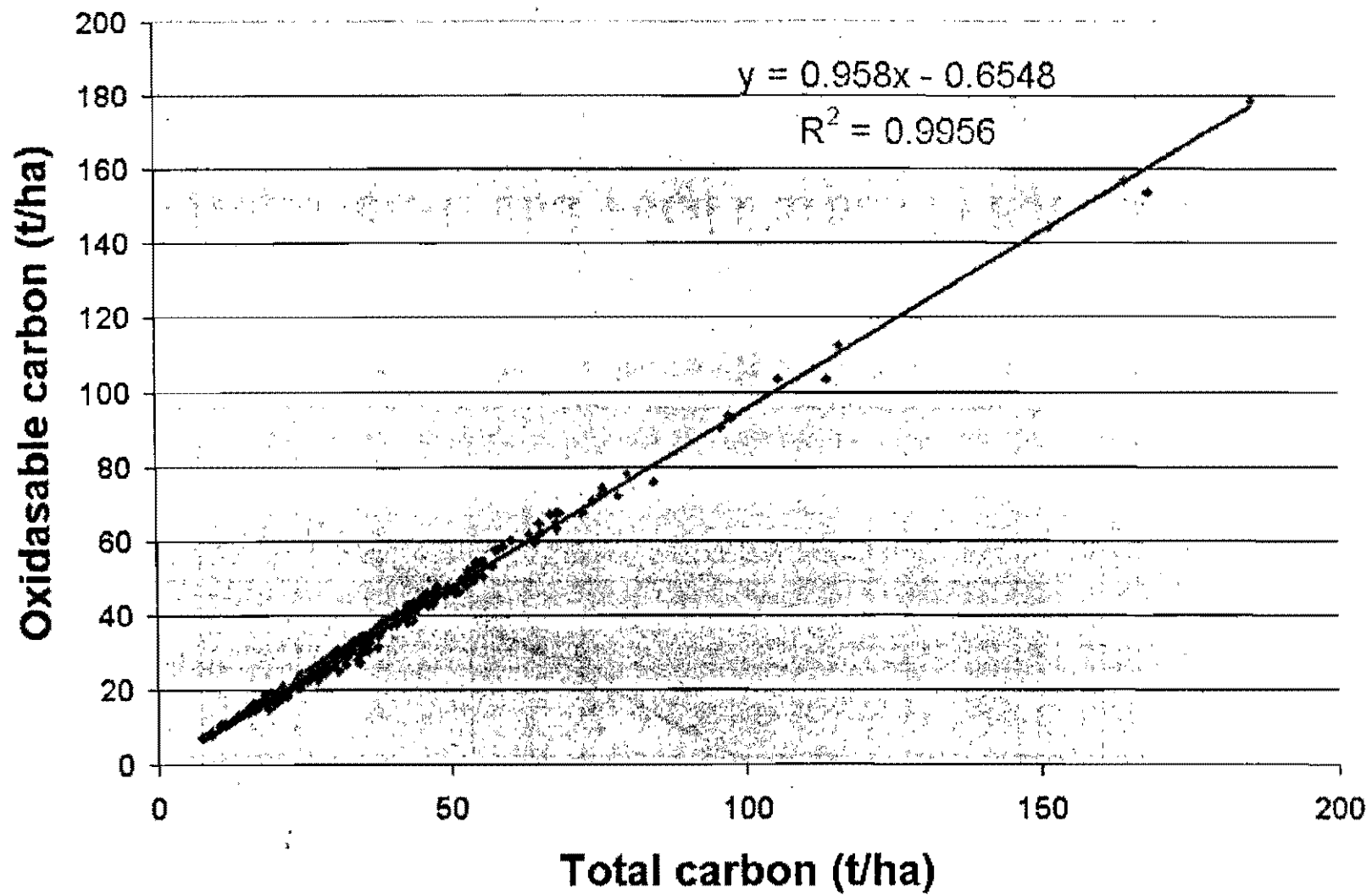
Soil Depth	Land Use System	Total Carbon	Stable Carbon
0-100 (cm)	<i>A. mangium</i> + <i>A. pintoi</i>	160.69bc	39.94a
	Forest	141.32bc	9.28c
	<i>B. brizantha</i> + <i>A. pintoi</i>	186.78b	29.13b
	<i>B. brizantha</i>	153.02bc	7.85c
	<i>I.ciliare</i> pasture	254.42a	30.90ab
	Degraded Pasture	107.88c	5.42c
Mean, CV (%), LSD 5%		151.9, 28.1, 54.3	15.8, 45.4, 9.1
0-40 (cm)	<i>A. mangium</i> + <i>A. pintoi</i>	100.55bc	16.12a
	Forest	88.85c	5.18b
	<i>B. brizantha</i> + <i>A. pintoi</i>	127.87ab	15.51a
	<i>B. brizantha</i>	96.92bc	4.74b
	<i>I.ciliare</i> pasture	160.07a	13.43a
	Degraded Pasture	87.10c	4.33b
Mean, CV (%), LSD 5%		103.2, 25.0, 32.9	8.1, 36.5, 3.8
40-100 (cm)	<i>A. mangium</i> + <i>A. pintoi</i>	60.15b	23.82a
	Forest	52.47b	12.30bc
	<i>B. brizantha</i> + <i>A. pintoi</i>	58.91b	18.16ab
	<i>B. brizantha</i>	56.10b	9.33cd
	<i>I.ciliare</i> pasture	94.35a	17.47abc
	Degraded Pasture	20.78c	3.26d
Mean, CV (%), LSD 5%		48.7, 38.4, 23.9	14.5, 32.2, 8.4



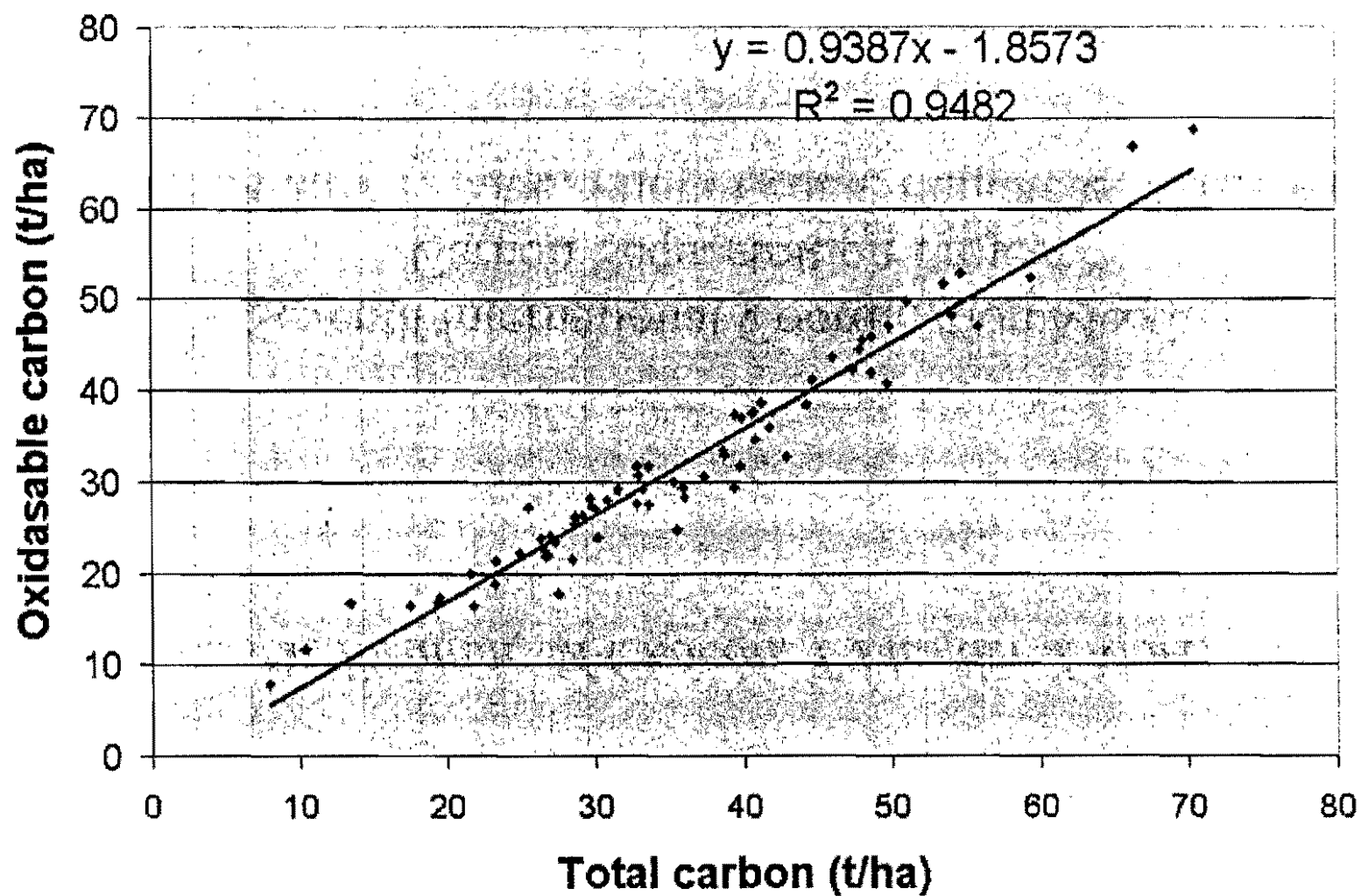
Oxidasable-C and Total Carbon in Pocora. 2003



Oxidizable-C and Total Carbon in Pocora. 2003



Oxidisable-C and Total Carbon in Esparza. 2005



Oxidisable-C and Total Carbon in Esparza. 2003

Carbon Storage in the Long-established Research in Esparza, Costa Rican Project Sites

M Ibrahim, M Chacón, T Llander J Mora

Seventh International Coordination Meeting
Carbon Sequestration Project
June 28-July 1, 2006. Punta Leona, Puntareas, Costa Rica

Fig 4 (cont): Stable C (t/ha/10 cm layers) and C-gain in 3.4 years

tratamiento	profundidad		Muestreo Inicial C_Estable			CV (%)
			N	Mean	Std	
Degraded Pasture	0-10	*****	12	6.18	1.45	23.58
	10-20	*****	12	5.81	1.85	31.87
	20-40	*****	12	4.31	0.79	18.21
	40-100	*****	12	3.79	1.28	33.82

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2 4 6

Muestreo Inicial C_Estable en T_h a 10 cm

tratamiento	profundidad		Muestreo Final C_Estable			CV (%)
			N	Mean	Std	
B. Hybrid (3606	0-10	*****	12	12.59	10.25	81.47
	10-20	*****	12	7.94	6.48	81.50
	20-40	*****	12	5.66	1.52	26.68
	40-100	*****	12	5.28	1.72	32.44
Brachiaria Hybri	0-10	*****	12	5.76	1.95	33.87
	10-20	*****	12	5.36	2.27	42.37
	20-40	*****	12	5.29	1.46	27.51
	40-100	*****	12	5.46	2.55	46.66
For. Bank Improv	0-10	*****	12	6.49	2.85	43.85
	10-20	*****	12	4.32	2.53	58.53
	20-40	*****	12	5.65	2.01	35.55
	40-100	*****	12	4.78	2.50	52.38
Forage Bank Loca	0-10	*****	12	9.44	6.45	68.41
	10-20	*****	12	6.94	3.83	55.13
	20-40	*****	12	5.01	0.91	18.08
	40-100	*****	12	4.22	3.15	74.46
Natural Regenera	0-10	*****	12	8.79	7.42	84.38
	10-20	*****	12	6.29	1.38	21.86
	20-40	*****	12	4.88	1.21	24.82
	40-100	*****	12	4.82	1.83	37.93

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5 10

Muestreo Final C_estable en T_h a 10 cm

tratamiento	profundidad		Incremento en C_Estable		C Gain/System in 3.4 yrs
			Free	Media	
B. Hybrid (3606	0-10	*****	12	6.40	= 20.18
	10-20	****	12	2.13	
	20-40	***	12	1.34	
	40-100	***	12	1.49	
Brachiaria Hybri	0-10	*	12	-0.42	= 10.74
	10-20	*	12	-0.68	
	20-40	**	12	0.90	
	40-100	***	12	1.87	
For. Bank Improv	0-10	*	12	0.30	= 7.06
	10-20	***	12	-1.72	
	20-40	***	12	1.27	
	40-100	**	12	0.98	
Forage Bank Loca	0-10	*****	12	3.25	= 8.01
	10-20	**	12	0.89	
	20-40	*	12	0.63	
	40-100	*	12	0.43	
Natural Regenera	0-10	*****	12	2.60	= 10.01
	10-20		12	0.24	
	20-40	*	12	0.50	
	40-100	**	12	1.02	

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0 2 4 6

Incremento en C_Estable en T_h a 10 cm

Mean gain/3.4 yrs = 11.20 t/ha/1m

Mean gain/year = 3.3 t/ha/1m

Fig 4 (cont): Oxidisable C (t/ha/10 cm layers) and C-gain in 3.4 years

tratamiento	profundidad		Muestreo Inicial Coxid en T_h			
			N	Mean	Std	CV (%)
Degraded Pasture ²	0-10	*****	12	30.81	9.33	30.23
	10-20	*****	12	25.10	5.78	23.03
	20-40	*****	12	15.61	4.90	31.40
	40-100	***	12	6.83	3.23	47.30

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10 20 30

Muestreo Inicial Coxid en T_h a 10 cm

tratamiento	profundidad		Muestreo Final Coxid en T_h			
			N	Mean	Std	CV (%)
B. Hybrid (3806)	0-10	*****	12	28.48	4.70	15.50
	10-20	*****	12	25.30	5.63	22.23
	20-40	*****	12	18.91	5.83	29.77
	40-100	***	12	8.41	3.13	37.16
Brachiaria Hybri	0-10	*****	12	25.51	3.09	12.11
	10-20	*****	12	23.38	2.73	11.85
	20-40	*****	12	19.02	4.09	22.71
	40-100	***	12	7.96	3.68	46.16
For. Bank Improv	0-10	*****	12	26.42	6.50	24.61
	10-20	*****	12	22.95	2.44	10.63
	20-40	*****	12	16.14	3.37	20.84
	40-100	***	12	7.37	2.80	37.94
Forage Bank Loca	0-10	*****	12	27.61	4.99	18.06
	10-20	*****	12	24.39	5.54	22.73
	20-40	*****	12	15.27	4.31	28.24
	40-100	***	12	5.59	2.00	35.65
Natural Regenera	0-10	*****	12	31.15	2.66	8.21
	10-20	*****	12	26.43	3.58	13.54
	20-40	*****	12	14.15	3.32	23.47
	40-100	***	12	6.01	2.60	43.22

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10 20 30

Muestreo Final Coxid en T_h a 10 cm

tratamiento	profundidad		Incremento en Coxid en T_h		C Gain/System in 3.4 yrs
			Frec	Media	
B. Hybrid (3806)	0-10	*****	12	-2.33	= 13.97
	10-20		12	0.20	
	20-40	*****	12	3.30	
	40-100	***	12	1.58	
Brachiaria Hybri	0-10	*****	12	-5.30	= -0.53
	10-20	*****	12	-3.20	
	20-40	*	12	0.59	
	40-100	**	12	1.13	
For. Bank Improv	0-10	*****	12	-4.39	= -7.31
	10-20	*****	12	-3.62	
	20-40	***	12	-1.28	
	40-100	*	12	0.54	
Forage Bank Loca	0-10	*****	12	-3.19	= -17.10
	10-20	****	12	-2.18	
	20-40	****	12	-2.15	
	40-100	**	12	-1.23	
Natural Regenera	0-10	*	12	0.34	= -11.25
	10-20		12	-0.15	
	20-40	*****	12	-3.27	
	40-100	**	12	-0.81	

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-4 -2 0 2

Incremento en Coxid en T_h a 10 cm

Mean gain/3.4 yrs = -4.44 t/ha/1m

Mean gain/year = -1.3 t/ha/1m

Fig 4: Total C (t/ha/10 cm layers) and C-gain in 3.4 years

tratamiento	profundidad		Muestreo Inicial		Std	CV (%)
			N	Mean		
Degraded Pasture	0-10	*****	12	37.00	10.26	27.74
	10-20	*****	12	30.91	7.29	23.57
	20-40	*****	12	19.93	5.39	27.02
	40-100	*****	12	10.63	4.38	41.24

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10 20 30
Muestreo Inicial Ct total en T_h a 10 cm

tratamiento	profundidad		Muestreo Final C		Std	CV (%)
			N	Mean		
B. Hybrid (3606	0-10	*****	12	41.07	13.22	32.19
	10-20	*****	12	33.25	10.58	31.82
	20-40	*****	12	24.58	6.77	27.58
	40-100	*****	12	13.70	6.64	26.56
Brachiaria Hybr1	0-10	*****	12	31.27	2.55	8.17
	10-20	*****	12	28.74	2.99	10.41
	20-40	*****	12	23.31	3.97	17.02
	40-100	*****	12	13.43	3.43	25.55
For. Bank Improv	0-10	*****	12	32.92	8.87	26.93
	10-20	*****	12	27.28	4.03	14.75
	20-40	*****	12	21.80	4.37	20.03
	40-100	*****	12	12.16	4.49	35.88
Forage Bank Loca	0-10	*****	12	37.06	5.22	14.08
	10-20	*****	12	31.34	7.65	24.40
	20-40	*****	12	20.29	4.60	22.66
	40-100	*****	12	9.82	4.08	41.52
Natural Regenera	0-10	*****	12	39.94	8.11	20.31
	10-20	*****	12	32.72	4.25	12.98
	20-40	*****	12	19.04	3.91	20.56
	40-100	*****	12	10.83	1.74	16.08

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10 20 30 40
Muestreo Final Ct total en T_h a 10 cm

tratamiento	profundidad		Incremento en Ct		C Gain/System in 3.4 yrs
			Frec	Media	
B. Hybrid (3606	0-10	*****	12	4.07	= 34.16
	10-20	*****	12	2.34	
	20-40	*****	12	4.65	
	40-100	*****	12	3.07	
Brachiaria Hybr1	0-10	*****	12	-5.73	= 10.21
	10-20	*****	12	-3.88	
	20-40	***	12	1.50	
	40-100	*****	12	2.80	
For. Bank Improv	0-10	*****	12	-4.08	= -0.26
	10-20	*****	12	-5.35	
	20-40		12	-0.00	
	40-100	***	12	1.52	
Forage Bank Loca	0-10		12	0.05	= -9.09
	10-20	***	12	-1.28	
	20-40	***	12	-1.51	
	40-100	**	12	-0.80	
Natural Regenera	0-10	*****	12	2.94	= -1.27
	10-20		12	0.09	
	20-40	*****	12	-2.76	
	40-100		12	0.20	

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-4 -2 0 2 4
Incremento en Ct total en T_h a 10 cm

Mean gain/3.4 yrs = 6.75 t/ha/1m

Main gain/year = 1.99 t/ha/1m

Fig 3 (cont): CIAT's Lab Results

tratamiento	profundidad	coxid en (g/Kg)			
		N	Mean	Std	CV (%)
Degraded Pasture	0-10	12	36.88	9.04	24.50
	10-20	12	29.16	8.23	28.22
	20-40	12	16.31	6.41	39.30
	40-100	12	8.70	2.78	31.90
B. Hybrid (3606	0-10	12	32.53	6.78	20.84
	10-20	12	27.41	6.25	22.81
	20-40	12	17.62	4.43	25.13
	40-100	12	7.81	2.51	32.08
Brachiaria Hybri	0-10	12	24.87	2.96	12.00
	10-20	12	23.06	3.06	13.26
	20-40	12	14.50	2.78	19.18
	40-100	12	6.09	2.65	43.43
For. Bank Improv	0-10	12	28.05	9.45	33.69
	10-20	12	23.80	3.98	16.70
	20-40	12	15.73	3.56	22.61
	40-100	12	7.78	2.32	29.78
Forage Bank Loca	0-10	12	33.82	7.64	22.60
	10-20	12	27.41	6.93	25.26
	20-40	12	15.22	3.93	26.79
	40-100	12	6.84	2.38	34.78
Natural Regenera	0-10	12	34.01	3.53	10.37
	10-20	12	22.16	3.61	16.27
	20-40	12	11.54	2.10	18.16
	40-100	12	5.08	1.81	35.54

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10 20 30
coxid en (g/Kg)

tratamiento	profundidad	cast en (g/Kg)			
		N	Mean	Std	CV (%)
Degraded Pasture	0-10	12	10.19	8.03	78.78
	10-20	12	6.67	2.45	36.68
	20-40	12	5.86	5.17	88.30
	40-100	12	2.63	3.26	124.72
B. Hybrid (3606	0-10	12	15.16	13.37	88.16
	10-20	12	8.80	7.85	89.11
	20-40	12	5.32	1.44	27.02
	40-100	12	4.93	1.47	29.79
Brachiaria Hybri	0-10	12	5.61	2.05	36.47
	10-20	12	5.34	2.46	46.77
	20-40	12	4.26	1.05	24.61
	40-100	12	4.20	1.84	43.71
For. Bank Improv	0-10	12	6.91	3.52	50.91
	10-20	12	4.33	2.60	60.13
	20-40	12	5.33	1.69	31.60
	40-100	12	4.63	1.89	40.90
Forage Bank Loca	0-10	12	11.61	7.79	67.06
	10-20	12	7.78	4.36	56.07
	20-40	12	5.00	0.93	18.63
	40-100	12	5.22	3.70	70.77
Natural Regenera	0-10	12	10.06	9.07	90.11
	10-20	12	5.32	1.43	26.92
	20-40	12	4.03	1.05	26.93
	40-100	12	4.27	1.82	42.56

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5 10 15
cast en (g/Kg)

Dovio, Andean Hillsides

Fig 3: Bulk Density and CIAT's Lab Results

tratamiento	profundidad	Densidad Aparent (gr/cm3)			
		N	Mean	Std	CV (%)
Degraded Pasture	0-10	12	0.89	0.14	15.54
	10-20	12	1.02	0.09	8.43
	20-40	12	1.01	0.19	19.26
	40-100	12	0.90	0.31	34.32
B. Hybrid (3606	0-10	12	0.88	0.11	12.43
	10-20	12	0.92	0.09	9.42
	20-40	12	1.07	0.20	18.80
	40-100	12	1.06	0.12	11.22
Brachiaria Hybri	0-10	12	1.03	0.11	10.70
	10-20	12	1.01	0.09	8.93
	20-40	12	1.23	0.12	9.44
	40-100	12	1.28	0.11	8.69
For. Bank Improv	0-10	12	0.98	0.11	11.58
	10-20	12	0.97	0.13	13.11
	20-40	12	1.04	0.19	18.00
	40-100	12	0.96	0.26	26.98
Forage Bank Loca	0-10	12	0.82	0.09	11.08
	10-20	12	0.89	0.09	9.86
	20-40	12	1.00	0.12	11.92
	40-100	12	0.82	0.13	16.39
Natural Regenera	0-10	12	0.92	0.18	19.34
	10-20	12	1.20	0.11	9.43
	20-40	12	1.21	0.19	10.43
	40-100	12	1.16	0.14	12.12

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Densidad Aparente (gr/cm3)

tratamiento	profundidad	Ctotal en (g/Kg)			
		N	Mean	Std	CV (%)
Degraded Pasture	0-10	12	47.07	12.66	27.32
	10-20	12	35.83	8.61	24.03
	20-40	12	22.17	6.58	29.67
	40-100	12	11.33	3.93	34.62
B. Hybrid (3606	0-10	12	47.69	19.18	40.17
	10-20	12	36.22	12.82	35.38
	20-40	12	22.94	5.44	23.70
	40-100	12	12.74	2.47	19.36
Brachiaria Hybri	0-10	12	30.29	2.91	9.59
	10-20	12	28.41	3.99	14.03
	20-40	12	18.77	2.36	12.58
	40-100	12	10.30	1.94	18.85
For. Bank Improv	0-10	12	34.97	12.49	35.71
	10-20	12	28.13	4.68	16.62
	20-40	12	21.07	3.76	17.86
	40-100	12	12.41	2.32	18.67
Forage Bank Loca	0-10	12	45.43	9.19	20.22
	10-20	12	35.19	9.34	26.64
	20-40	12	20.23	4.15	20.53
	40-100	12	12.07	4.94	40.90
Natural Regenera	0-10	12	44.07	11.76	26.67
	10-20	12	27.48	4.64	16.89
	20-40	12	15.58	2.55	16.36
	40-100	12	9.36	1.70	18.13

10 20 30 40

Ctotal en (g/Kg)

Soil Characterisation before the Experiment was Established Dovio Experiment, Andean Hillsides, Colombia (1900 m.a.s.l.)

Initial C-sampling date: April, 2002

Final C-sampling date: Sep, 2005

Length of the experimental period: 3.4 years

Characteristic	0-10 cm	10-20 cm	20-40 cm	40 –100 cm
Bulk density	0.9	1.0	1.0	0.9
pH	5.8	5.9	5.9	6.0
Sand (%)	46	46	43	41
Clay (%)	23	23	28	33
Silt (%)	31	31	30	26
Total N (mg/kg)	4310	3355	2012	1093
P (mg/kg)	3.8	2.3	1.4	0.9
CEC (cmol/kg)	23.4	22.7	21.6	20.8
Total C (gr/kg)	47.1	35.8	22.2	11.3
Oxid C (gr/kg)	36.9	29.2	16.3	8.7

Common Experimental Design

Dagua (1350 m) and Dovio (1900 m) Experiments

Latin Square (4 x 4) + 2 Controls

4 Blocks

4 Improved Systems/Block

- *Brachiaria* hybrid 36061 (“Mulato” grass) in monoculture
- “Mulato” + *A. pinto*
- Mixed forage bank – Improved management
- Natural regeneration of the degraded pasture

2 Control Systems/Block

- Degraded pasture
- Mixed forage bank – Local management

3 Sampling Points/System/Block

4 Soil depths: 0-10, 10-20, 20-40, 40-100 cm

→ No. of Sampling points/System = 12
No. of observations/System/depth = 12

Results from Newly-established Systems on Degraded Area

**- Andean Hillsides, COLOMBIA –
Site: Dovio (1900m)**

M.E. Gómez, H. Giraldo, H. F. Ramírez, and M. C. Amézquita

**Presented and discussed at the Project's
VII International Coordination Meeting, June 28-July 1, 2006
Punta Leona, Costa Rica.**

Annex 5.2

Results from Newly-established Systems on Degraded Area

-Andean Hillsides Colombia- Sites: Dovio

Carbono Estable Pastura Degradada: 26.609 toneladas/hectárea/1m

Carbono Estable Pastura Degradada: 20.067 toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Stable C (ton/ha/1m)			Stable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 5 (%) (***)
40-100 (cm)	<i>B. mulato + A. pinto</i>	45.151	18.542	69.69	34.129	14.062	70.08	***
	<i>B. mulato</i>	42.112	15.503	58.26	30.358	10.291	51.28	***
	Forage bank local manag	38.477	11.868	44.60	28.704	8.637	43.04	ns
	Natural Reg.	38.147	11.538	43.36	28.370	8.303	41.38	ns
	Forage Bank Imp manag	33.932	7.323	27.52	26.159	6.092	30.36	ns
Mean, CV (%)		37.4, 31.9	12.95	48.69	27.9, 32.4	9.47	47.23	

Summary

**Mean Soil C Stock Gain across all treatments
during the 3.4 years Experimental Period
Dagua, Andean Hillsides, Colombia**

Variable (t/ha, fixed soil mass estimates)	Depth (cm)	Mean gain in 3.4 years	Mean gain/yr
Total C	0-40	12.7	3.7
	40-100	9.2	2.7
	0-100	21.9	6.4
Oxidisable C	0-40	5.44	1.6
	40-100	-0.26	-0.08
	0-100	5.17	1.5
Stable C	0-40	7.21	2.1
	40-100	9.47	2.8
	0-100	16.69	4.9

**Table 3: Statistical Comparison of Initial vs Final SCS from Improved Systems established on degraded land in 3.4 years. Stable Carbon
Dagua - Andean Hillsides**

Carbono Estable Pastura Degradada: 50.104 toneladas/hectárea/1m

Carbono Estable Pastura Degradada: 43.562 toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Stable C (ton/ha/1m)			Stable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 5 (%) (***)
0-100 (cm)	<i>B. mulato</i> + <i>A. pinto</i>	78.440	28.336	56.55	67.418	23.856	54.76	***
	Natural Reg.	72.265	22.161	44.23	62.488	18.926	43.45	***
	<i>B. mulato</i>	71.545	21.441	42.79	59.791	16.229	37.25	***
	Forage bank local manag	69.326	19.222	38.36	59.553	15.991	36.71	***
	Forage Bank Imp manag	59.801	9.697	19.35	52.029	8.467	19.44	ns
Mean, CV (%)		66.91, 22.39	20.17	40.26	57.47, 21.26	16.69	38.32	

Carbono Estable Pastura Degradada: 23.495 toneladas/hectárea/1m

Carbono Estable Pastura Degradada: 23.495 toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Stable C (ton/ha/1m)			Stable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 5 (%) (***)
0-40 (cm)	Natural Reg.	34.118	10.623	45.21	34.118	10.623	45.21	ns
	<i>B. mulato</i> + <i>A. pinto</i>	33.288	9.793	41.68	33.288	9.793	41.68	ns
	Forage bank local manag	30.849	7.354	31.30	30.849	7.354	31.30	ns
	<i>B. mulato</i>	29.433	5.938	25.27	29.433	5.938	25.27	ns
	Forage Bank Imp manag	25.870	2.375	10.11	25.870	2.375	10.10	ns
Mean, CV (%)		29.5, 63.7	7.21	30.72	29.5, 63.7	7.21	30.72	

Carbono Oxidable Pastura Degradada: 82.17 toneladas/hectárea/1m
Carbono Oxidable Pastura Degradada: 82.17 toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Oxidisable C (ton/ha/1m)			Oxidisable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 5 (%) (***)
0-40 (cm)	<i>B. mulato</i>	97.86	15.69	19.09	97.86	15.69	19.09	ns
	Natural Reg.	89.49	7.32	8.91	89.49	7.32	8.91	ns
	Forage bank local manag	85.38	3.21	3.91	85.38	3.21	3.91	ns
	<i>B. mulato</i> + <i>A pinto</i>	83.96	1.79	2.18	83.96	1.79	2.18	ns
	Forage Bank Imp manag	81.36	-0.81	-0.99	81.36	-0.81	-0.99	ns
Mean, CV (%)		86.7, 56.6	5.44	6.62	86.7, 56.6	5.44	6.62	

Carbono Oxidable Pastura Degradada: 30.673 toneladas/hectárea/1m
Carbono Oxidable Pastura Degradada: 23.267 toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Oxidisable C (ton/ha/1m)			Oxidisable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 5 (%) (***)
40-100 (cm)	<i>B. mulato</i>	40.531	9.858	32.14	29.428	6.161	26.48	***
	Natural Reg.	32.357	1.684	5.49	24.541	1.274	5.48	***
	Forage Bank Imp manag	27.466	-3.207	-10.46	21.150	-2.117	-9.10	ns
	<i>B. mulato</i> + <i>A pinto</i>	27.099	-3.574	-11.65	20.713	-2.554	-10.98	ns
	Forage bank local manag	25.771	-4.902	-15.98	19.179	-4.088	-17.57	ns
Mean, CV (%)		30.6, 32.4	-0.028	-0.09	23.0, 32.1	-0.26	-1.14	

Carbono Total Pastura Degradada: 57.282 toneladas/hectárea/1m
Carbono Total Pastura Degradada: 43.334 toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Total C (ton/ha/1m)			Total C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 5 (%) (***)
40-100 (cm)	B. "Mulato"	82.643	25.361	44.27	59.786	16.452	37.97	***
	B. "Mulato" + A pinto	72.250	14.968	26.13	54.842	11.508	26.56	ns
	Natural Regeneration	70.504	13.222	23.08	52.911	9.577	22.10	ns
	Forage bank local manag	64.248	6.966	12.16	47.883	4.549	10.50	ns
	Forage Bank Imp manag	61.398	4.116	7.19	47.310	3.976	9.18	ns
Mean, CV (%)		68.1, 26.1	12.9	22.57	1.0, 26.2	9.2	21.26	

Table 2: Statistical Comparison of Initial vs Final SCS from Improved Systems established on degraded land in 3.4 years. Oxidisable Carbon
Dagua - Andean Hillsides

Carbono Oxidable Pastura Degradada: 112.839 toneladas/hectárea/1m
Carbono Oxidable Pastura Degradada: 105.433 toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Oxidisable C (ton/ha/1m)			Oxidisable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 5 (%) (***)
0-100 (cm)	B. mulato	138.386	25.547	22.64	127.283	21.850	20.72	ns
	Natural Reg.	121.850	9.011	7.99	114.034	8.601	8.16	ns
	Forage bank local manag	111.156	-1.683	-1.49	104.564	-0.869	-0.82	ns
	B. mulato + A pinto	111.055	-1.784	-1.58	104.669	-0.764	-0.72	ns
	Forage Bank Imp manag	108.828	-4.011	-3.55	102.512	-2.921	-2.77	ns
Mean, CV (%)		117.4, 19.4	5.41	4.80	109.7, 18.9	5.17	4.91	

Table 1: Statistical Comparison of Initial vs Final SCS from Improved Systems established on degraded land in 3.4 years. Total Carbon Dagua - Andean Hillsides

Carbono Total Pastura Degradada: 162.94 toneladas/hectárea/lm

Carbono Total Pastura Degradada: 148.99 toneladas/hectárea/lm-meq

Soil Depth	Land Use System	Total C (ton/ha/lm)			Total C (ton/ha/lm-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 5 (%) (***)
0-100 (cm)	B. "Mulato"	209.93	46.99	28.84	187.07	38.08	25.56	***
	Natural Reg.	194.12	31.18	19.14	176.52	27.53	18.48	***
	B. "Mulato" + A pinto	189.49	26.55	16.29	172.09	23.10	15.50	ns
	Forage Bank Local manag	180.48	17.54	10.76	164.12	15.13	10.16	ns
	Forage Bank Imp manag	168.63	5.69	3.49	154.54	5.55	3.73	ns
Mean, CV (%)		184.3, 16.1	25.6	15.71	167.2, 15.5	21.9	14.68	

Carbono Total Pastura Degradada: 105.66 toneladas/hectárea/lm

Carbono Total Pastura Degradada: 105.66 toneladas/hectárea/lm-meq

Soil Depth	Land Use System	Total C (ton/ha/lm)			Total C (ton/ha/lm-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 5 (%) (***)
0-40 (cm)	B. "Mulato"	127.29	21.63	20.47	127.29	21.63	20.47	ns
	Natural Reg.	123.61	17.95	16.99	123.61	17.95	16.99	ns
	B. "Mulato" + A pinto	117.24	11.58	10.96	117.24	11.58	10.96	ns
	Forage bank local manag	116.23	10.57	10.00	116.23	10.57	10.00	ns
	Forage Bank Imp manag	107.23	1.57	1.49	107.23	1.57	1.49	ns
Mean, CV (%)		116.2, 57.4	12.7	11.98	116.2, 57.4	12.7	11.98	

Fig 2 (cont): Stable C (t/ha/10 cm layers) and C-gain in 3.4 years

tratamiento	profundidad	Muestreo Inicial C_Estable				
		N	Mean	Std	CV (%)	
Degraded Pasture	0-10	*****	12	8.45	2.54	30.06
	10-20	*****	12	5.46	2.54	46.64
	20-40	*****	12	4.79	0.36	7.38
	40-100	*****	12	4.43	0.91	20.54
-----+-----+-----+-----+						
2 4 6 8						
Muestreo Inicial C_Estable en T_h a 10 cm						
tratamiento	profundidad	Muestreo Final C_Estable				
		N	Mean	Std	CV (%)	
B. Hybrid (3606)	0-10	*****	12	9.46	3.19	33.69
	10-20	*****	12	7.29	2.99	41.02
	20-40	*****	12	8.26	3.65	44.22
	40-100	*****	12	7.52	3.39	45.03
Brachiaria Hybri	0-10	*****	12	9.31	3.16	33.96
	10-20	*****	12	6.76	2.76	40.73
	20-40	*****	12	6.66	2.34	35.15
	40-100	*****	12	7.01	1.40	19.95
For. Bank Improv	0-10	*****	12	6.79	3.76	55.28
	10-20	*****	12	5.94	2.91	48.89
	20-40	*****	12	6.56	1.17	17.81
	40-100	*****	12	6.65	0.87	15.37
Forage Bank Loca	0-10	*****	12	9.67	4.66	48.08
	10-20	*****	12	8.01	4.11	51.29
	20-40	*****	12	6.57	1.64	23.47
	40-100	*****	12	6.41	0.92	14.42
Natural Regenera	0-10	*****	12	10.56	1.00	9.45
	10-20	*****	12	9.54	3.23	33.81
	20-40	*****	12	6.99	1.17	16.78
	40-100	*****	12	6.35	4.18	65.70
-----+-----+-----+-----+						
2 4 6 8 10						
Muestreo Final C estable en T_h a 10 cm						

tratamiento	profundidad	Incremento en C_Estable		C_Gain/System
		Frec	Media	
B. Hybrid (3606	0-10	12	1.01	= 28.33
	10-20	12	1.83	
	20-40	12	3.47	
	40-100	12	3.09	
Brachiaria Hybri	0-10	12	0.86	= 21.40
	10-20	12	1.15	
	20-40	12	1.94	
	40-100	12	2.58	
For. Bank Improv	0-10	12	-1.65	= 9.66
	10-20	12	0.31	
	20-40	12	1.84	
	40-100	12	1.22	
Forage Bank Loca	0-10	12	1.22	= 19.20
	10-20	12	2.37	
	20-40	12	1.85	
	40-100	12	1.97	
Natural Regenera	0-10	12	2.13	= 22.13
	10-20	12	3.90	
	20-40	12	2.27	
	40-100	12	1.92	

Mean gain/3.4 yrs = 20.14 t/ha/1m

Main gain/year = 5.92 t/ha/1m

Fig 2 (cont): Oxidisable C (t/ha/10 cm layers) and C-gain in 3.4 years

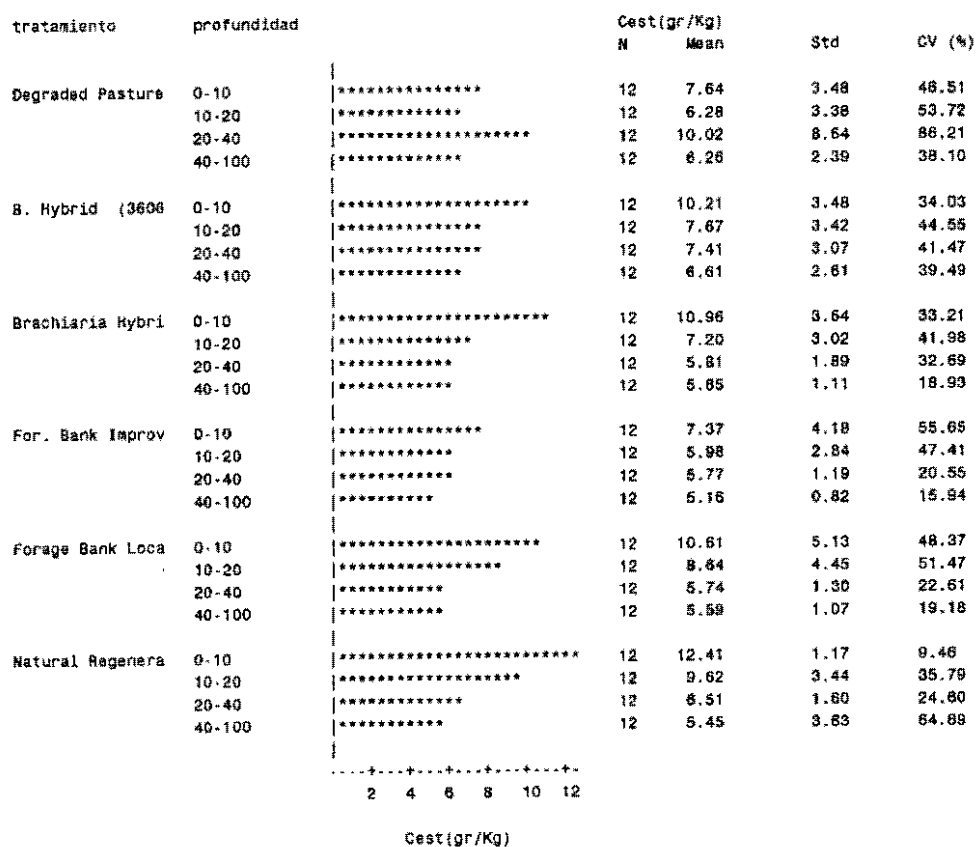
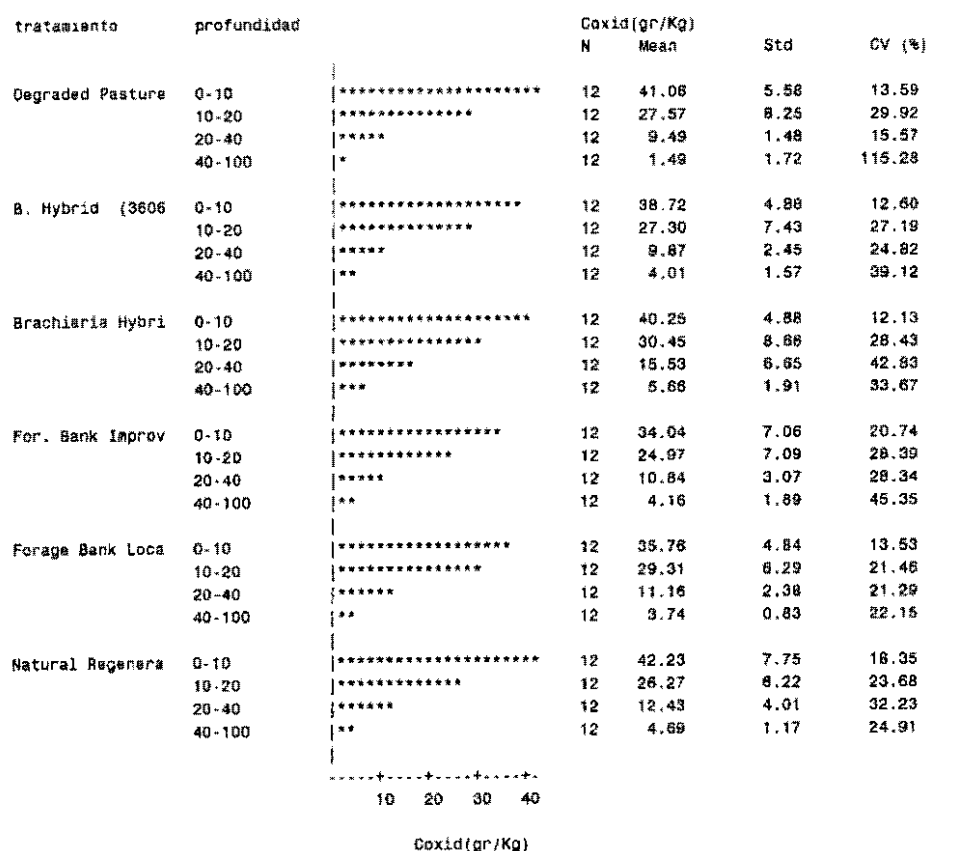
tratamiento	profundidad		Muestreo Inicial Coid en T_h			
			N	Mean	Std	CV (%)
Degraded Pasture *	0-10	*****	12	30.61	3.98	13.01
	10-20	*****	12	24.43	6.19	25.30
	20-40	*****	12	13.55	5.79	42.72
	40-100	***	12	5.11	1.17	22.61
		-----+-----+				
		10 20 30				
Muestreo Inicial Coid en T_h a 10 cm						
tratamiento	profundidad		Muestreo Final Coid en T_h			
			N	Mean	Std	CV (%)
B. Hybrid (3606	0-10	*****	12	35.91	4.60	12.81
	10-20	*****	12	26.00	6.57	25.27
	20-40	*****	12	11.01	3.07	27.82
	40-100	**	12	4.51	1.74	38.47
Brachiaria Hybri	0-10	*****	12	34.28	5.74	15.74
	10-20	*****	12	28.60	7.90	27.54
	20-40	*****	12	17.44	6.91	39.64
	40-100	***	12	6.75	2.21	32.78
For. Bank Improv	0-10	*****	12	31.70	6.71	21.15
	10-20	*****	12	25.07	7.93	31.82
	20-40	*****	12	12.26	3.21	26.14
	40-100	**	12	4.57	2.33	50.98
Forage Bank Loca	0-10	*****	12	32.64	4.26	13.05
	10-20	*****	12	27.23	5.92	21.76
	20-40	*****	12	12.75	2.60	20.38
	40-100	**	12	4.29	0.85	19.82
Natural Regenera	0-10	*****	12	36.05	6.79	18.82
	10-20	*****	12	26.18	5.61	21.42
	20-40	*****	12	13.62	4.67	35.71
	40-100	***	12	5.39	1.52	28.18
		-----+-----+				
		10 20 30				

Muestreo Final Coxid en T _h a 10 cm					
tratamiento	profundidad		Frec	Media	C Gain/System
B. Hybrid (3608	0-10	*****	12	5.29	= -1.78
	10-20	***	12	1.57	
	20-40	*****	12	-2.53	
	40-100	*	12	-0.59	
Brachiaria Hybri	0-10	*****	12	3.66	= 20.97
	10-20	*****	12	2.43	
	20-40	*****	12	2.51	
	40-100	***	12	1.64	
For. Bank Improv	0-10	**	12	1.09	= -8.54
	10-20	**	12	-1.17	
	20-40	*****	12	-2.63	
	40-100	*	12	-0.53	
Forage Bank Loca	0-10	*****	12	2.02	= -6.23
	10-20	**	12	0.98	
	20-40	*****	12	-2.16	
	40-100	**	12	-0.81	
Natural Regenera	0-10	*****	12	5.43	= 4.46
	10-20		12	-0.06	
	20-40	***	12	-1.29	
	40-100	*	12	0.28	

Mean gain/3.4 yrs = 1.78 t/ha/1m
Main gain/year = 0.52 t/ha/1m

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Andean Hillsides, Dagua

Fig 1: Bulk Density and CIAT's Lab Results

tratamiento	profundidad	Densidad Aparente (gr/cm3)				CV (%)
		N	Mean	Std		
Degraded Pasture	0-10	12	0.83	0.07	8.68	
	10-20	12	1.02	0.05	5.09	
	20-40	12	1.12	0.07	6.01	
	40-100	12	1.13	0.11	9.48	
B. Hybrid (3606	0-10	12	0.92	0.05	6.72	
	10-20	12	0.95	0.07	7.75	
	20-40	12	1.10	0.07	6.58	
	40-100	12	1.12	0.09	8.28	
Brachiaria Hybri	0-10	12	0.84	0.09	10.60	
	10-20	12	0.94	0.06	6.54	
	20-40	12	1.13	0.07	6.07	
	40-100	12	1.19	0.06	4.63	
For. Bank Improv	0-10	12	0.93	0.05	5.80	
	10-20	12	0.99	0.07	7.05	
	20-40	12	1.14	0.07	6.91	
	40-100	12	1.10	0.17	15.75	
Forage Bank Loca	0-10	12	0.91	0.05	5.99	
	10-20	12	0.92	0.05	5.40	
	20-40	12	1.14	0.04	3.32	
	40-100	12	1.15	0.11	9.20	
Natural Regenera	0-10	12	0.85	0.04	4.50	
	10-20	12	1.00	0.08	8.19	
	20-40	12	1.08	0.12	10.73	
	40-100	12	1.14	0.10	8.99	

0.2 0.4 0.6 0.8 1 1.2

Densidad Aparente (gr/cm3)

tratamiento	profundidad	Ctotal(gr/Kg)				CV (%)
		N	Mean	Std		
Degraded Pasture	0-10	12	48.71	5.22	10.71	
	10-20	12	33.85	8.79	25.96	
	20-40	12	19.51	7.82	40.06	
	40-100	12	7.75	1.53	19.74	
B. Hybrid (3606	0-10	12	48.93	7.55	15.43	
	10-20	12	34.98	9.31	26.61	
	20-40	12	17.28	3.90	22.56	
	40-100	12	10.63	3.20	30.08	
Brachiaria Hybri	0-10	12	51.21	6.97	13.61	
	10-20	12	37.66	10.78	28.62	
	20-40	12	21.35	6.00	28.11	
	40-100	12	11.51	2.46	21.40	
For. Bank Improv	0-10	12	41.42	10.66	25.49	
	10-20	12	30.96	8.49	27.40	
	20-40	12	16.62	3.71	22.30	
	40-100	12	9.33	2.51	26.88	
Forage Bank Loca	0-10	12	46.38	7.92	17.07	
	10-20	12	37.95	8.56	22.66	
	20-40	12	16.90	2.65	16.69	
	40-100	12	9.33	1.57	15.86	
Natural Regenera	0-10	12	54.64	7.59	13.89	
	10-20	12	35.89	8.18	22.78	
	20-40	12	18.95	3.99	21.04	
	40-100	12	10.15	4.30	42.32	

10 20 30 40 50

Ctotal(gr/Kg)

Soil Characterisation before the Experiment was Established
Dagua Experiment, Andean Hillsides, Colombia (1350 m.a.s.l.)

Initial C-sampling date: May, 2002

Final C-sampling date: Oct, 2005

Length of the experimental period: 3.4 years

Characteristic	0-10 cm	10-20 cm	20-40 cm	40 –100 cm
Bulk density	0.8	1.0	1.1	1.1
pH	5.3	5.3	5.4	5.2
Sand (%)	35	24	14	11
Clay (%)	38	48	60	63
Silt (%)	27	28	26	26
Total N (mg/kg)	3743	2550	1186	500
P (mg/kg)	0.4	0.3	0.2	0.2
CEC (cmol/kg)	23.7	17.1	13.7	11.0
Total C (gr/kg)	48.1	33.9	19.5	7.7
Oxid C (gr/kg)	41.1	27.6	9.5	1.5

Common Experimental Design

Dagua (1350 m) and Dovio (1900 m) Experiments

Latin Square (4 x 4) + 2 Controls

4 Blocks

4 Improved Systems/Block

- *Brachiaria* hybrid 36061 (“Mulato” grass) in monoculture
- “Mulato” + *A. pinto*
- Mixed forage bank – Improved management
- Natural regeneration of the degraded pasture

2 Control Systems/Block

- Degraded pasture
- Mixed forage bank – Local management

3 Sampling Points/System/Block

4 Soil depths: 0-10, 10-20, 20-40, 40-100 cm

→ No. of Sampling points/System = 12
No. of observations/System/depth = 12

Results from Newly-established Systems on Degraded Area

**- Andean Hillsides, COLOMBIA –
Site: Dagua (1350m)**

M.E. Gómez, H. Giraldo, H. F. Ramírez, and M. C. Amézquita

**Presented and discussed at the Project's
VII International Coordination Meeting, June 28-July 1, 2006
Punta Leona, Costa Rica.**

Annex 5.1

Results from Newly-established Systems on Degraded Area

-Andean Hillsides Colombia- Sites: Dagua

Carbono Estable Pastura Degradada: 22.779 Toneladas/hectárea/1m
Carbono Estable Pastura Degradada: 12.528 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Stable C (ton/ha/1m)			Stable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 5 (%) (***)
40-100 (cm)	<i>B. (Mulato)</i>	32.812	10.033	44.04	9.896	-2.632	-21.01	ns
	<i>B. H + pinto</i>	31.730	8.951	39.29	14.307	1.780	14.20	ns
	Natural Regeneration	28.924	6.145	26.98	10.109	-2.419	-19.31	ns
	F. Bank Improved Management	28.695	5.916	25.97	12.519	-0.009	-0.07	ns
	Forage Bank Local Management	25.362	2.583	11.34	16.404	3.876	30.94	ns
Mean, CV (%)		28.4, 32.4	6.72	29.53	12.6, 37.7	0.12	0.95	

Summary

Mean Soil C Stock Gain across all treatments during the 3.4 year Experimental Period Dovio, Andean Hillsides, Colombia

Variable (t/ha, fixed soil mass estimates)	Depth (cm)	Mean gain in 3.4 years	Mean gain/year
Total C	0-40	2.9	0.9
	40-100	-3.2	-0.9
	0-100	-0.3	-0.09
Oxidisable C	0-40	-1.80	-0.2
	40-100	-3.35	-1.0
	0-100	-5.16	-1.5
Stable C	0-40	4.76	1.4
	40-100	0.12	0.04
	0-100	4.88	1.4

**Table 3: Statistical Comparison of Initial vs Final SCS from Improved Systems
Established on degraded land, in 3.4 years. Stable Carbon
Dovio - Andean Hillsides**

Carbono Estable Pastura Degradada: 43.421 Toneladas/hectárea/1m

Carbono Estable Pastura Degradada: 33.170 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Stable C (ton/ha/1m)			Stable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 5 (%) (***)
0-100 (cm)	<i>B. Humidicola + pinto</i>	63.604	20.183	46.48	46.181	13.011	39.23	***
	<i>B. (Mulato)</i>	54.522	11.101	25.57	31.606	-1.564	-4.72	ns
	Natural Regeneration	53.787	10.366	23.87	34.973	1.803	5.44	ns
	Forage Bank Local Management	51.792	8.371	19.28	42.833	9.663	29.13	***
	F. Bank Improved Management	50.834	7.413	17.07	34.659	1.489	4.49	ns
Mean, CV (%)		52.9, 22.3	11.48	26.45	37.2, 24.1	4.88	14.71	

Carbono Estable Pastura Degradada: 20.642 Toneladas/hectárea/1m

Carbono Estable Pastura Degradada: 20.642 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Stable C (ton/ha/1m)			Stable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 5 (%) (***)
0-40 (cm)	<i>B. H + pinto</i>	31.874	11.232	54.41	31.874	11.232	54.41	ns
	Forage Bank Local Management	26.430	5.788	28.04	26.430	5.788	28.04	ns
	Natural Regeneration	24.864	4.222	20.45	24.864	4.222	20.45	ns
	F. Bank Improved Management	22.140	1.498	7.26	22.140	1.498	7.25	ns
	<i>B. (Mulato)</i>	21.710	1.068	5.17	21.710	1.068	5.17	ns
Mean, CV (%)		24.6, 70.1	4.76	23.07	24.6, 70.1	4.76	23.07	

Carbono Oxidable Pastura Degradada: 87.14 Toneladas/hectárea/lm
Carbono Oxidable Pastura Degradada: 87.14 Toneladas/hectárea/lm-meq

Soil Depth	Land Use System	Total C (ton/ha/lm)			Total C (ton/ha/lm-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 5 (%) (***)
0-40 (cm)	<i>B. H + pinto</i>	91.62	4.483	5.14	91.62	4.483	5.14	ns
	Natural Reg.	85.90	-1.243	-1.42	85.90	-1.243	-1.42	ns
	<i>B. (Mulato)</i>	84.94	-2.198	-2.52	84.94	-2.198	-2.52	ns
	Forage bank local manag	82.56	-4.583	-5.26	82.56	-4.580	-5.26	ns
	F. Bank Improved Management	81.68	-5.464	-6.27	81.68	-5.460	-6.27	ns
Mean, CV (%)		85.6, 62.4	-1.80	-2.07	85.6, 62.4	-1.80	-2.07	

Carbono Oxidable Pastura Degradada: 41.015 Toneladas/hectárea/lm
Carbono Oxidable Pastura Degradada: 21.948 Toneladas/hectárea/lm-meq

Soil Depth	Land Use System	Total C (ton/ha/lm)			Total C (ton/ha/lm-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signific. al 5 (%) (***)
40-100 (cm)	<i>B. H + pinto</i>	50.518	9.503	23.17	22.489	0.541	2.46	ns
	<i>B. (Mulato)</i>	47.800	6.785	16.54	14.246	-7.702	-35.09	***
	F. Bank Improved Management	44.278	3.263	7.96	22.688	0.740	3.37	ns
	Natural Reg.	36.106	-4.909	-11.97	11.706	-10.242	-46.66	***
	Forage bank local manag	33.592	-7.423	-18.10	21.815	-0.133	-0.61	ns
Mean, CV (%)		42.2, 28.9	1.44	3.52	19.1, 33.7	-3.35	-15.31	

Carbono Total Pastura Degradada: 63.793 Toneladas/hectárea/1m
Carbono Total Pastura Degradada: 34.476 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Total C (ton/ha/1m)			Total C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Significance al 5 (%) (***)
40-100 (cm)	B. H + pinto	82.248	18.46	28.93	36.797	2.32	6.73	ns
	B. ("Mulato")	80.611	16.82	26.36	24.142	-10.33	-29.97	***
	F. Bank Improved Management	72.973	9.18	14.39	35.207	0.73	2.12	ns
	Natural Reg.	65.030	1.24	1.94	21.816	-12.66	-36.72	***
	Forage Bank Local Management	58.954	-4.84	-7.59	38.218	3.74	10.85	ns
Mean, CV (%)		70.6, 21.1	8.2	12.81	31.8, 26.9	-3.2	-9.40	

Table 2: Statistical Comparison of Initial vs Final SCS from Improved Systems Established on degraded land, in 3.4 years. Oxidisable Carbon
Dovio - Andean Hillsides

Carbono Oxidable Pastura Degradada: 128.156 Toneladas/hectárea/1m
Carbono Oxidable Pastura Degradada: 109.090 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Oxidisable C (ton/ha/1m)			Oxidisable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 5 (%) (***)
0-100 (cm)	B. H + pinto	142.142	13.986	10.91	114.113	5.023	4.60	ns
	B. (Mulato)	132.743	4.587	3.58	99.189	-9.901	-9.08	ns
	F. Bank Improved Management	125.956	-2.201	-1.72	104.365	-4.725	-4.33	ns
	Natural Reg.	122.005	-6.151	-4.80	97.605	-11.485	-10.53	ns
	Forage bank local manag	116.151	-12.005	-9.37	104.374	-4.716	-4.32	ns
Mean, CV (%)		127.9, 18.3	-0.357	-0.28	104.8, 18.0	-5.16	-4.73	

Table 1: Statistical Comparison of Initial vs Final SCS from Improved Systems Established on degraded land, in 3.4 years. Total Carbon Dovia - Andean Hillsides

Carbono Total Pastura Degradada: 171.58 Toneladas/hectárea/1m

Carbono Total Pastura Degradada: 142.260 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Total C (ton/ha/1m)			Total C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 5 (%) (***)
0-100 (cm)	B. H + pintoí	205.75	34.17	19.91	160.294	18.03	12.68	ns
	B. ("Mulato")	187.26	15.68	9.14	130.795	-11.47	-8.06	ns
	F. Bank Improved Management	176.79	5.21	3.04	139.024	-3.24	-2.27	ns
	Natural Regeneration	175.79	4.21	2.45	132.578	-9.68	-6.81	ns
	Forage Bank Local Management	167.94	-3.64	-2.12	147.207	4.95	3.48	ns
Mean, CV (%)		180.9, 15.8	11.1	6.48	142.0, 16.7	-0.3	-0.20	

Carbono Total Pastura Degradada: 107.78 Toneladas/hectárea/1m

Carbono Total Pastura Degradada: 107.78 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Total C (ton/ha/1m)			Total C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 5 (%) (***)
0-40 (cm)	B. H + pintoí	123.50	15.72	14.59	123.50	15.72	14.59	ns
	Natural Reg.	110.76	2.98	2.76	110.76	2.98	2.76	ns
	Forage Bank Local Management	108.99	1.21	1.12	108.99	1.21	1.12	ns
	B. "Mulato"	106.65	-1.13	-1.05	106.65	-1.13	-1.05	ns
	F. Bank Improved Management	103.82	-3.96	-3.67	103.82	-3.96	-3.67	ns
Mean, CV (%)		110.3, 63.1	2.9	2.8	110.3, 63.1	2.9	2.75	

Carbono Total Pastura Degradada: 111.10 Toneladas/hectárea/lm

Carbono Total Pastura Degradada: 111.10 Toneladas/hectárea/lm-meq

Soil Depth	Land Use System	Total C (ton/ha/lm)			Total C (ton/ha/lm-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 10 (%)
0-40 (cm)	<i>B. Mulato+A. pinto</i>	123.50	12.40	11,16	123.50	12.40	11,16	*
	Natural Reg.	110.76	-0.34	-0,31	110.76	-0.34	-0,31	ns
	Forage Bank Local Management	108.21	-2.89	-2,60	108.21	-2.89	-2,60	ns
	<i>B. (Mulato)</i>	106.65	-4.45	-4,01	106.65	-4.45	-4,01	ns
	F. Bank Improved Management	104.88	-6.23	-5,61	104.88	-6.23	-5,61	ns
Mean, CV (%)		111.8, 16.5	-0.30	-0.27	111.8, 16.5	-0.30	-0.27	

Carbono Total Pastura Degradada: 102.805 Toneladas/hectárea/lm

Carbono Total Pastura Degradada: 53.711 Toneladas/hectárea/lm-meq

Soil Depth	Land Use System	Total C (ton/ha/lm)			Total C (ton/ha/lm-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif al 10 (%)
40-100 (cm)	F. Bank Improved Management	94.440	-8.365	-8,14	61.458	7.747	14,42	ns
	<i>B. Mulato+A. pinto</i>	82.248	-20.556	-20,00	64.981	11.270	20,98	*
	<i>B. (Mulato)</i>	80.611	-22.194	-21,59	46.922	-6.789	-12,64	ns
	Natural Reg.	65.030	-37.775	-36,74	42.519	-11.192	-20,84	ns
	Forage Bank Local Management	64.078	-38.727	-37,67	60.734	7.023	13,08	ns
Mean, CV (%)		78.3, 19.5	-25.63	24.93	53.9, 24.9	1.61	3.00	

Calicata de Peso mínimo en este experimento Banco Forrajero Manejo local, Calicata A.

profundidad	pdensidad	ponder2	pesuelo
(0-10)	0.85935	1	85.935
(10-20)	0.8641	1	86.41
(20-40)	1.12092	2	224.185
(40-100)	0.85823	6	514.938
Peso Total			911.468

Table 1: Statistical Comparison of Initial vs Final SCS from Improved Systems established on degraded land in 3.4 years. Total Carbon Dovia - Andean Hillsides

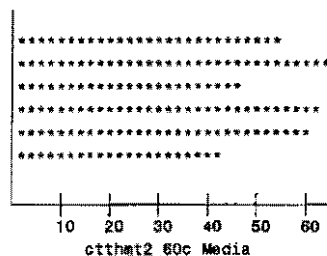
Carbono Total Pastura Degradada: 213.91 Toneladas/hectárea/1m

Carbono Total Pastura Degradada: 164.81 Toneladas/hectárea/1m-eq

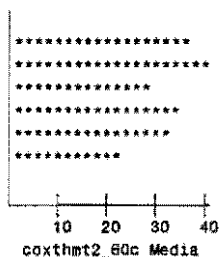
Soil Depth	Land Use System	Total C (ton/ha/1m)			Total C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 10 (%)
0-100 (cm)	<i>B. Mulato + A. pinto</i>	205.75	-8.16	-3.81	188.48	23.67	14,36	*
	F. Bank Improved Management	199.31	-14.59	-6.83	166.33	1.52	0,92	ns
	<i>B. (Mulato)</i>	187.26	-26.64	-12,46	153.57	-11.24	-6,82	ns
	Natural Regeneration	175.79	-38.12	-17.82	153.28	-11.53	-7,00	ns
	Forage Bank Local Management	172.29	-41.62	-19.46	168.95	4.14	2,51	ns
Mean, CV (%)		190.1, 14.6	-25.83	- 12.08	165.7, 15.9	1.31	0.80	

Análisis de Experimentos Establecidos en Áreas Degradadas de Laderas Andinas Dovio **Variables de Carbono Acumulado peso Fijo**

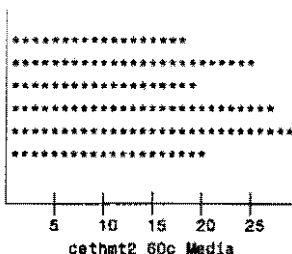
Sitio	tratamiento	ctthmt2_60c	
		Frec	Media
DOVIO	Degraded Pastur	3	53.71
	B. Hybrid + P.	12	64.98
	Brachiaria Mulato	12	48.92
	For. Bank Improv	6	61.45
	Forage Bank Loca	6	60.73
	Natural Regenera	12	42.51



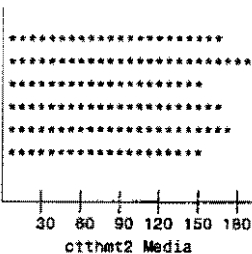
Sitio	tratamiento	coxthmt2_60c	
		Frec	Media
DOVIO	Degraded Pastur	3	35.48
	B. Hybrid + P.	12	39.76
	Brachiaria Mulato	12	27.71
	For. Bank Improv	6	34.93
	Forage Bank Loca	6	32.14
	Natural Regenera	12	22.94



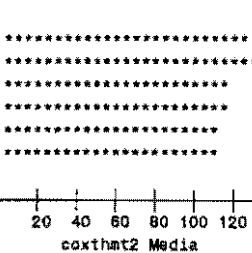
Sitio	tratamiento	cethmt2_60c	
		Frec	Media
DOVIO	Degraded Pastur	3	18.23
	B. Hybrid + P.	12	25.21
	Brachiaria Mulato	12	19.20
	For. Bank Improv	6	26.52
	Forage Bank Loca	6	28.59
	Natural Regenera	12	19.57



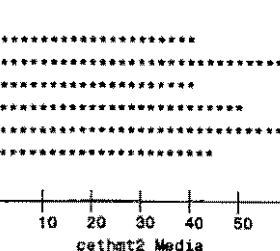
Sitio	tratamiento	ctthmt2	
		Frec	Media
DOVIO	Degraded Pastur	3	184.81
	B. Hybrid + P.	12	188.47
	Brachiaria Mulato	12	153.57
	For. Bank Improv	6	186.33
	Forage Bank Loca	6	188.94
	Natural Regenera	12	153.28



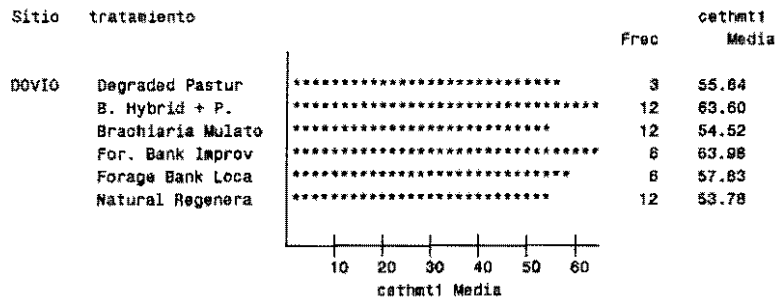
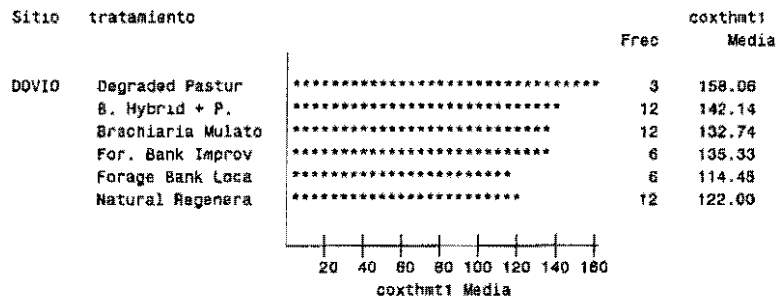
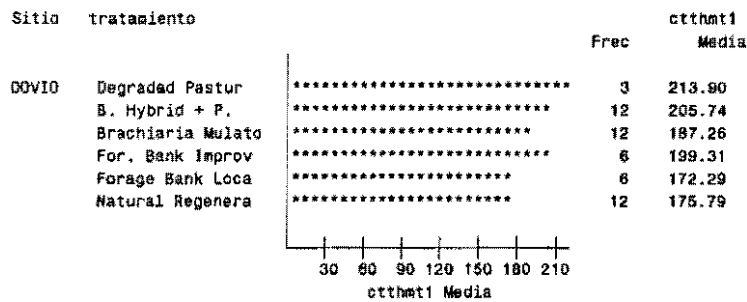
Sitio	tratamiento	coxthmt2	
		Frec	Media
DOVIO	Degraded Pastur	3	125.63
	B. Hybrid + P.	12	131.39
	Brachiaria Mulato	12	112.69
	For. Bank Improv	6	118.28
	Forage Bank Loca	6	111.92
	Natural Regenera	12	108.64



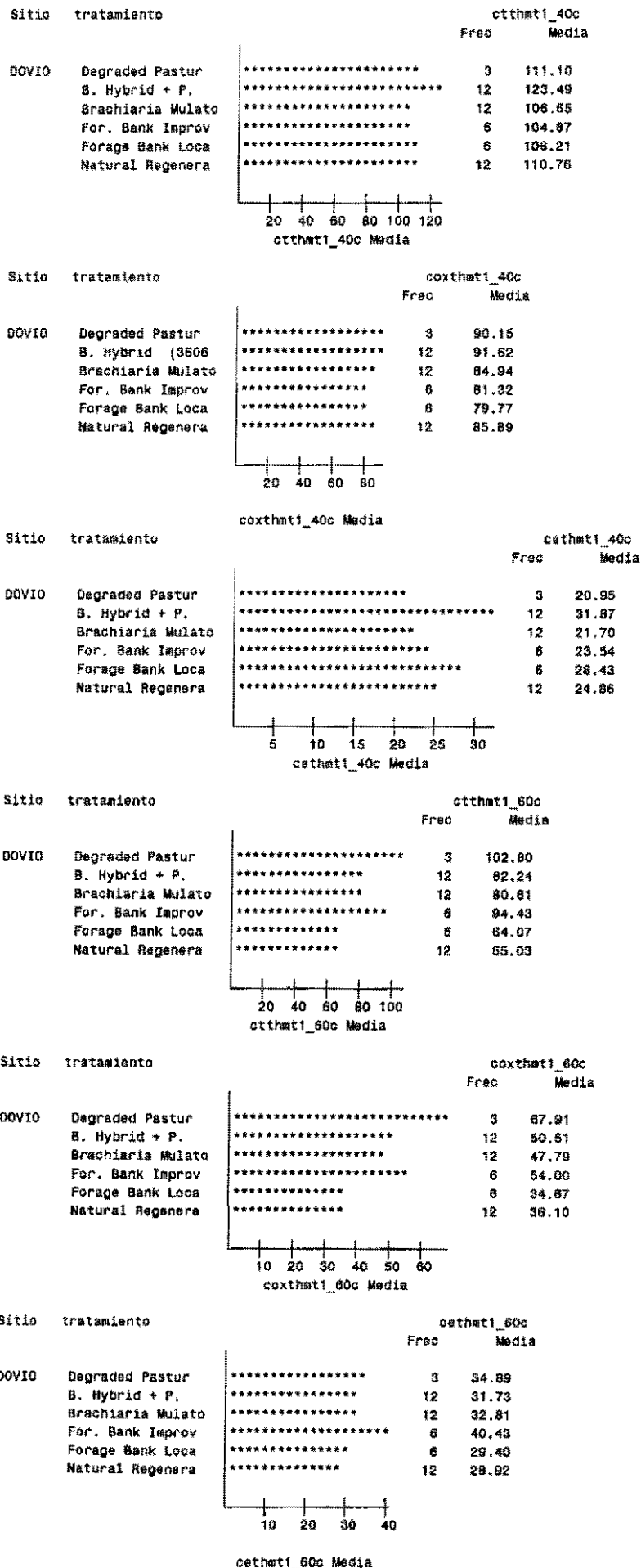
Sitio	tratamiento	cethmt2	
		Frec	Media
DOVIO	Degraded Pastur	3	39.18
	B. Hybrid + P.	12	57.08
	Brachiaria Mulato	12	40.91
	For. Bank Improv	6	50.07
	Forage Bank Loca	6	57.02
	Natural Regenera	12	44.43



Análisis de Experimentos Establecidos en Áreas Degradadas de Laderas Andinas Dovia
Variables de Carbono Acumulado profundidad Fija



Análisis de Experimentos Establecidos en Áreas Degradadas de Laderas Andinas Dovio
Variables de Carbono Acumulado profundidad Fija



Análisis de Experimentos Establecidos en Áreas Degradadas de Laderas Andinas

Sitio = Dovio, Stable C (t/ha/10 cm layers)

tratamiento	profundidad		Frec	Muestreo Inicial C_Estable Media
Degraded Pasture	0-10	*****	12	5.61
	10-20	*****	12	5.40
	20-40	*****	12	4.96
	40-100	*****	12	5.81
		-----+-----+-----+-----+-----+-----		
		1 2 3 4 5		

Muestreo Inicial C_Estable en T_h a 10 cm

tratamiento	profundidad		Frec	Muestreo Final C_Estable Media
B. Hybrid + P.	0-10	*****	12	12.59
	10-20	*****	12	7.94
	20-40	*****	12	5.66
	40-100	*****	12	5.29
Brachiaria Mulato	0-10	*****	12	5.78
	10-20	*****	12	5.36
	20-40	*****	12	5.29
	40-100	*****	12	5.46
For. Bank Improv	0-10	*****	6	5.96
	10-20	*****	6	4.72
	20-40	*****	6	6.42
	40-100	*****	6	6.73
Forage Bank Loca	0-10	*****	6	10.43
	10-20	*****	6	7.20
	20-40	*****	6	5.40
	40-100	*****	6	4.90
Natural Regenera	0-10	*****	12	8.79
	10-20	*****	12	6.29
	20-40	*****	12	4.88
	40-100	*****	12	4.82
		-----+-----+-----+-----+-----+-----		
		2 4 6 8 10 12		

Muestreo Final C_estable en T_h a 10 cm

tratamiento	profundidad		Frec	Incremento en C_Estable Media
B. Hybrid + P.	0-10	*****	12	6.97
	10-20	*****	12	2.53
	20-40	*	12	0.70
	40-100	*	12	-0.52
Brachiaria Mulato	0-10		12	0.14
	10-20		12	-0.04
	20-40	*	12	0.32
	40-100	*	12	-0.34
For. Bank Improv	0-10	*	6	0.35
	10-20	*	6	-0.68
	20-40	***	6	1.46
	40-100	**	6	0.92
Forage Bank Loca	0-10	*****	6	4.81
	10-20	****	6	1.79
	20-40	*	6	0.43
	40-100	**	6	-0.91
Natural Regenera	0-10	*****	12	3.17
	10-20	**	12	0.88
	20-40		12	-0.07
	40-100	**	12	-0.99
		-----+-----+-----+-----+-----		
		0 2 4 6		

Incremento en C_Estable en T_h a 10 cm

Análisis de Experimentos Establecidos en Áreas Degradadas de Laderas Andinas **Sitio = Dovio, Oxidisable C (t/ha/10 cm layers)**

tratamiento	profundidad		Frec	Muestreo Inicial Coid en T_h Media
Degraded Pasture	0-10	*****	12	29.19
	10-20	*****	12	23.82
	20-40	*****	12	18.66
	40-100	*****	12	11.31
		-----+-----+		
		10 20 30		

Muestreo Inicial Coid en T_h a 10 cm

tratamiento	profundidad		Frec	Muestreo Final Coid en T_h Media
B. Hybrid + P.	0-10	*****	12	28.48
	10-20	*****	12	25.30
	20-40	*****	12	18.91
	40-100	****	12	8.41
Brachiaria Mulato	0-10	*****	12	25.51
	10-20	*****	12	23.38
	20-40	*****	12	18.02
	40-100	****	12	7.96
For. Bank Improv	0-10	*****	6	24.69
	10-20	*****	6	22.20
	20-40	*****	6	17.21
	40-100	*****	6	9.00
Forage Bank Loca	0-10	*****	6	26.12
	10-20	*****	6	22.13
	20-40	*****	6	15.76
	40-100	***	6	5.77
Natural Regenera	0-10	*****	12	31.15
	10-20	*****	12	26.43
	20-40	*****	12	14.15
	40-100	***	12	6.01
		-----+-----+		
		10 20 30		

Muestreo Final Coid en T_h a 10 cm

tratamiento	profundidad		Frec	Incremento en Coid en T_h Media
B. Hybrid + P.	0-10	*****	12	-0.71
	10-20	***	12	1.48
	20-40	*	12	0.36
	40-100	*****	12	-2.89
Brachiaria Mulato	0-10	*****	12	-3.68
	10-20	*	12	-0.44
	20-40	*	12	-0.53
	40-100	*****	12	-3.35
For. Bank Improv	0-10	*****	6	-4.50
	10-20	***	6	-1.62
	20-40	***	6	-1.34
	40-100	*****	6	-2.31
Forage Bank Loca	0-10	*****	6	-3.07
	10-20	***	6	-1.68
	20-40	*****	6	-2.89
	40-100	*****	6	-5.53
Natural Regenera	0-10	****	12	1.88
	10-20	*****	12	2.60
	20-40	*****	12	-4.40
	40-100	*****	12	-5.30
		-----+-----+		
		-4 -2 0 2		

Incremento en Coid en T_h a 10 cm

Sitio = Dovio, Total C en (t/ha/10 cm layers)

.....+.....+.....+.....
10 20 30

Muestreo Inicial

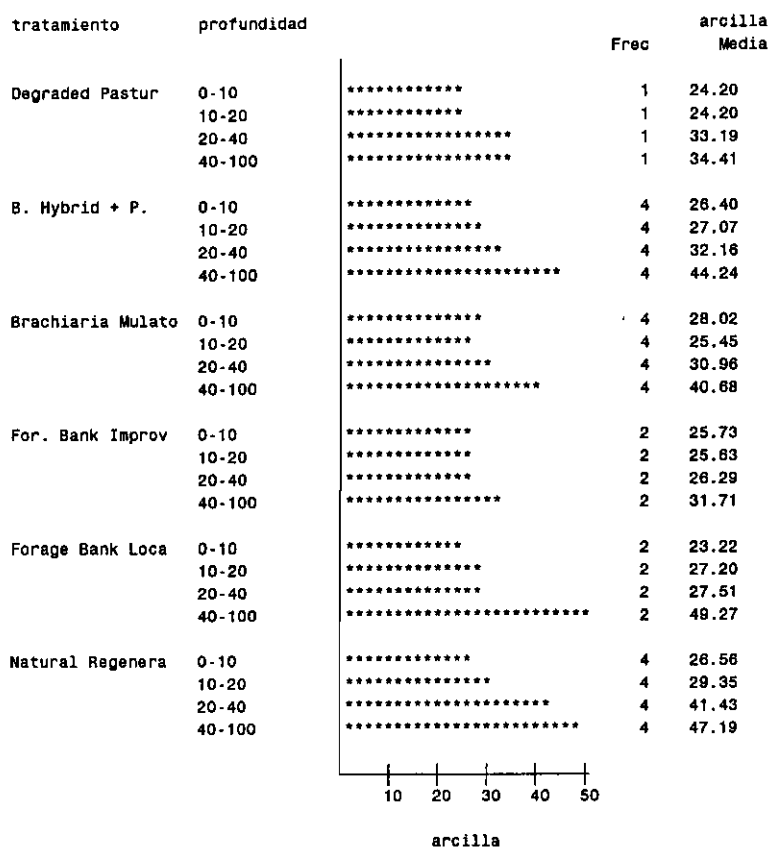
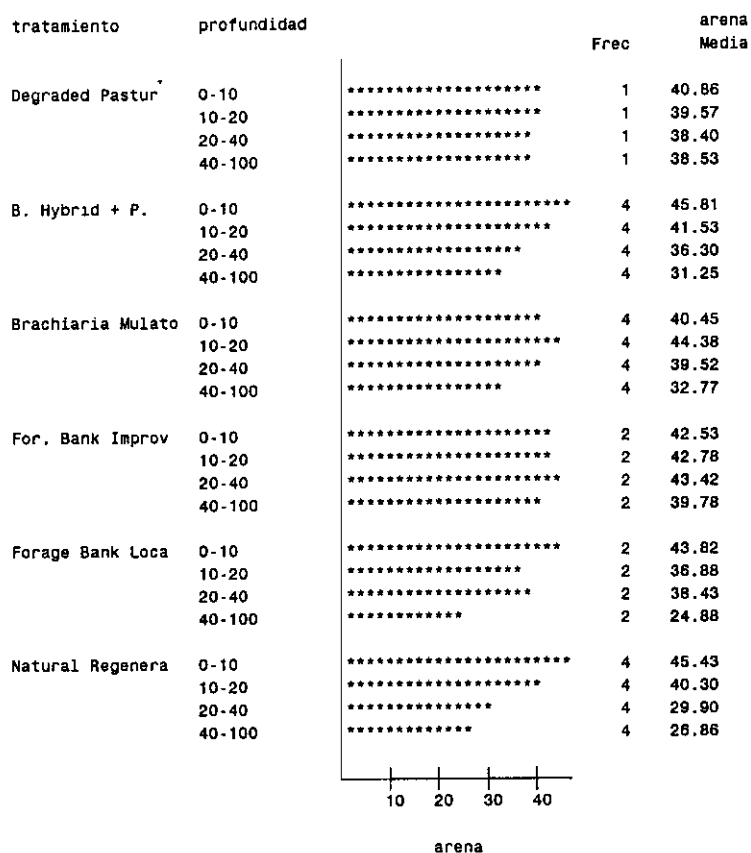
. + ... + ... + ... + .
 10 20 30 40

Muestras Final Ctotal en T_h a 10 cm

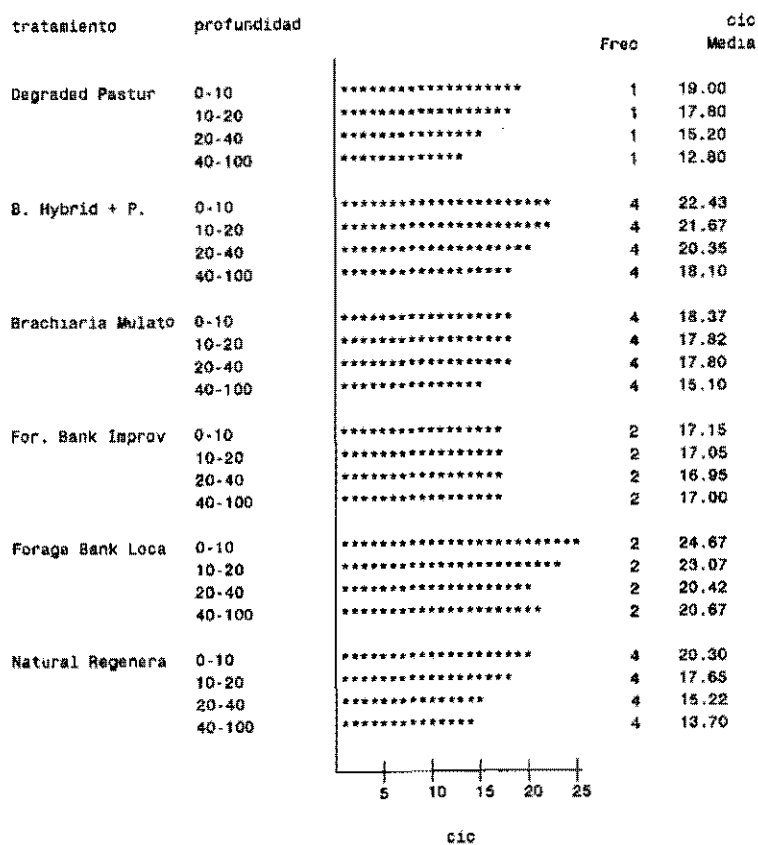
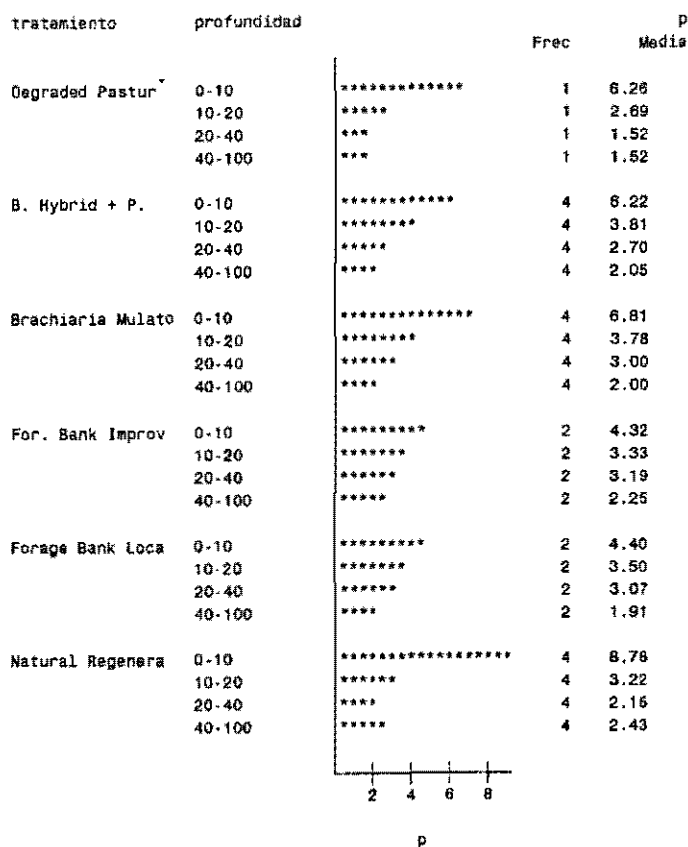
-6 -4 -2 0 2 4 6

Incremento en $\dot{C}_{total}$ en T_n a 10 cm

Análisis de Experimentos Establecidos en Áreas Degradadas de Laderas Andinas **Sitio = Dovio, Variables de Laboratorio**



Análisis de Experimentos Establecidos en Áreas Degradadas de Laderas Andinas **Sitio = Dovio, Variables de Laboratorio**



Análisis de Experimentos Establecidos en Áreas Degradadas de Laderas Andinas **Sitio = Dovio, Variables de Laboratorio**

tratamiento	profundidad		Frec	ntotal Media
Degraded Pastur	0-10	*****	3	3380.2
	10-20	*****	3	2877.7
	20-40	*****	3	1972.7
	40-100	*****	3	1273.5
B. Hybrid + P.	0-10	*****	12	3784.4
	10-20	*****	12	3130.5
	20-40	*****	12	2041.0
	40-100	*****	12	918.1
Brachiaria Mulato	0-10	*****	12	2968.8
	10-20	*****	12	2787.7
	20-40	*****	12	1595.3
	40-100	****	12	718.2
For. Bank Improv	0-10	*****	6	2777.5
	10-20	*****	6	2504.9
	20-40	*****	6	1686.0
	40-100	*****	6	1012.6
Forage Bank Loca	0-10	*****	6	3865.8
	10-20	*****	6	3155.6
	20-40	*****	6	1751.4
	40-100	****	6	743.3
Natural Regenera	0-10	*****	12	3533.4
	10-20	*****	12	2707.5
	20-40	*****	12	1322.6
	40-100	****	12	748.4

1000 2000 3000

ntotal

tratamiento	profundidad		Frec	pH Media
Degraded Pastur	0-10	*****	1	6.06
	10-20	*****	1	5.98
	20-40	*****	1	6.06
	40-100	*****	1	6.02
B. Hybrid + P.	0-10	*****	4	5.73
	10-20	*****	4	5.78
	20-40	*****	4	5.83
	40-100	*****	4	5.82
Brachiaria Mulato	0-10	*****	4	5.80
	10-20	*****	4	5.81
	20-40	*****	4	5.90
	40-100	*****	4	5.90
For. Bank Improv	0-10	*****	2	5.84
	10-20	*****	2	5.83
	20-40	*****	2	5.93
	40-100	*****	2	6.15
Forage Bank Loca	0-10	*****	2	5.95
	10-20	*****	2	5.82
	20-40	*****	2	5.92
	40-100	*****	2	5.75
Natural Regenera	0-10	*****	4	5.85
	10-20	*****	4	5.78
	20-40	*****	4	5.89
	40-100	*****	4	6.00

1 2 3 4 5 6

pH

Análisis de Experimentos Establecidos en Áreas Degradadas de Laderas Andinas **Sitio = Dovio, Variables de Laboratorio**

tratamiento	profundidad		Frec	coxid Media
Degraded Pastur	0-10	*****	3	27.22
	10-20	*****	3	21.13
	20-40	*****	3	14.56
	40-100	****	3	8.12
B. Hybrid + P.	0-10	*****	12	32.53
	10-20	*****	12	27.41
	20-40	*****	12	17.62
	40-100	****	12	7.81
Brachiaria Mulato	0-10	*****	12	24.67
	10-20	*****	12	23.06
	20-40	*****	12	14.50
	40-100	***	12	6.09
For. Bank Improv	0-10	*****	6	23.50
	10-20	*****	6	21.11
	20-40	*****	6	14.53
	40-100	****	6	7.55
Forage Bank Loca	0-10	*****	6	30.47
	10-20	*****	6	24.74
	20-40	*****	6	14.42
	40-100	***	6	6.20
Natural Regenera	0-10	*****	12	34.01
	10-20	*****	12	22.16
	20-40	*****	12	11.54
	40-100	***	12	5.08

coxid

tratamiento	profundidad		Frec	cest Media
Degraded Pastur	0-10	*****	3	5.23
	10-20	*****	3	4.79
	20-40	****	3	3.89
	40-100	****	3	4.17
B. Hybrid + P.	0-10	*****	12	15.16
	10-20	*****	12	8.80
	20-40	*****	12	5.32
	40-100	*****	12	4.93
Brachiaria Mulato	0-10	*****	12	5.61
	10-20	*****	12	5.34
	20-40	****	12	4.26
	40-100	****	12	4.20
For. Bank Improv	0-10	*****	6	5.70
	10-20	*****	6	4.50
	20-40	*****	6	5.41
	40-100	*****	6	5.71
Forage Bank Loca	0-10	*****	6	12.19
	10-20	*****	6	7.91
	20-40	*****	6	4.95
	40-100	*****	6	5.53
Natural Regenera	0-10	*****	12	10.06
	10-20	*****	12	5.32
	20-40	****	12	4.03
	40-100	****	12	4.27

cest Media

Análisis de Experimentos Establecidos en Áreas Degradadas de Laderas Andinas **Sitio = Dovio, Variables de Laboratorio**

tratamiento	profundidad	Densidad Aparente	
		Frec	Media
Degraded Pastur	0-10	***** 3	1.07
	10-20	***** 3	1.12
	20-40	***** 3	1.27
	40-100	***** 3	1.39
B. Hybrid + P.	0-10	***** 12	0.88
	10-20	***** 12	0.92
	20-40	***** 12	1.07
	40-100	***** 12	1.06
Brachiaria Mulato	0-10	***** 12	1.03
	10-20	***** 12	1.01
	20-40	***** 12	1.23
	40-100	***** 12	1.26
For. Bank Improv	0-10	***** 6	1.05
	10-20	***** 6	1.05
	20-40	***** 6	1.18
	40-100	***** 6	1.18
Forage Bank Loca	0-10	***** 6	0.85
	10-20	***** 6	0.89
	20-40	***** 6	1.08
	40-100	***** 6	0.92
Natural Regenera	0-10	***** 12	0.92
	10-20	***** 12	1.20
	20-40	***** 12	1.21
	40-100	***** 12	1.16

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Densidad Aparente

tratamiento	profundidad	Densidad Aparente	
		Frec	Ctotal Media
Degraded Pastur	0-10	***** 3	32.45
	10-20	***** 3	25.93
	20-40	***** 3	18.46
	40-100	***** 3	12.30
B. Hybrid + P.	0-10	***** 12	47.69
	10-20	***** 12	36.22
	20-40	***** 12	22.94
	40-100	***** 12	12.74
Brachiaria Mulato	0-10	***** 12	30.29
	10-20	***** 12	28.41
	20-40	***** 12	18.77
	40-100	***** 12	10.30
For. Bank Improv	0-10	***** 6	29.21
	10-20	***** 6	25.61
	20-40	***** 6	19.95
	40-100	***** 6	13.26
Forage Bank Loca	0-10	***** 6	42.66
	10-20	***** 6	32.55
	20-40	***** 6	19.37
	40-100	***** 6	11.74
Natural Regenera	0-10	***** 12	44.07
	10-20	***** 12	27.48
	20-40	***** 12	15.58
	40-100	***** 12	9.38

10 20 30 40
Ctotal

Statistical Analysis of Dovio Experiment Andean Hillsides, Colombia

excluding some heterogeneous sampling points/system

- Advice from VII Intl. Coord. Meeting, Punta Leona, Costa Rica
Jun 28 – Jul 1, 2006-

Experimental Design: Latin Square (4 x 4) + 2 controls
4 Blocks, 6 Treatments/Block, 3 Sampling Points/Treat/Block

Sampling points retained/Treatment	No.
1. Degraded Pasture: Block no. 4	3
2. <i>B. hybrid</i> "Mulato": all 4 Blocks	12
3. <i>B. hybrid</i> "Mulato" + <i>Arachis pinto</i> i: all 4 Blocks	12
4. Forage Bank - improved managmnt: (Blocks 3,4)	6
5. Forage Bank - local managmnt: (Blocks 1,4)	6
6. Natural Regeneration Degraded Pasture: all 4 Blocks	12
Total No. Sampling points retained	51
No. of observations retained = 51 x 4 soil depths	204

Annex 5.3

New Statistical Analysis of Dovio Experiment, Andean Hillsides, Colombia, excluding heterogeneous sampling points/ system.

[illegible]

10 20

Muestreo Final C			
N	Mean	Std	CV (%)

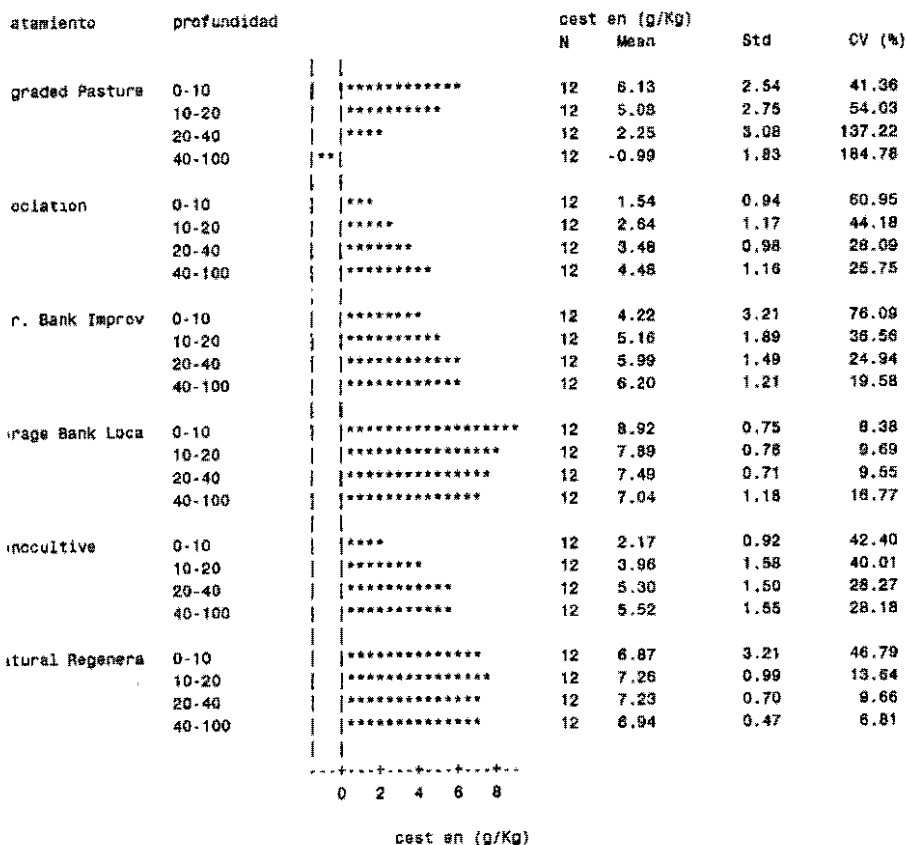
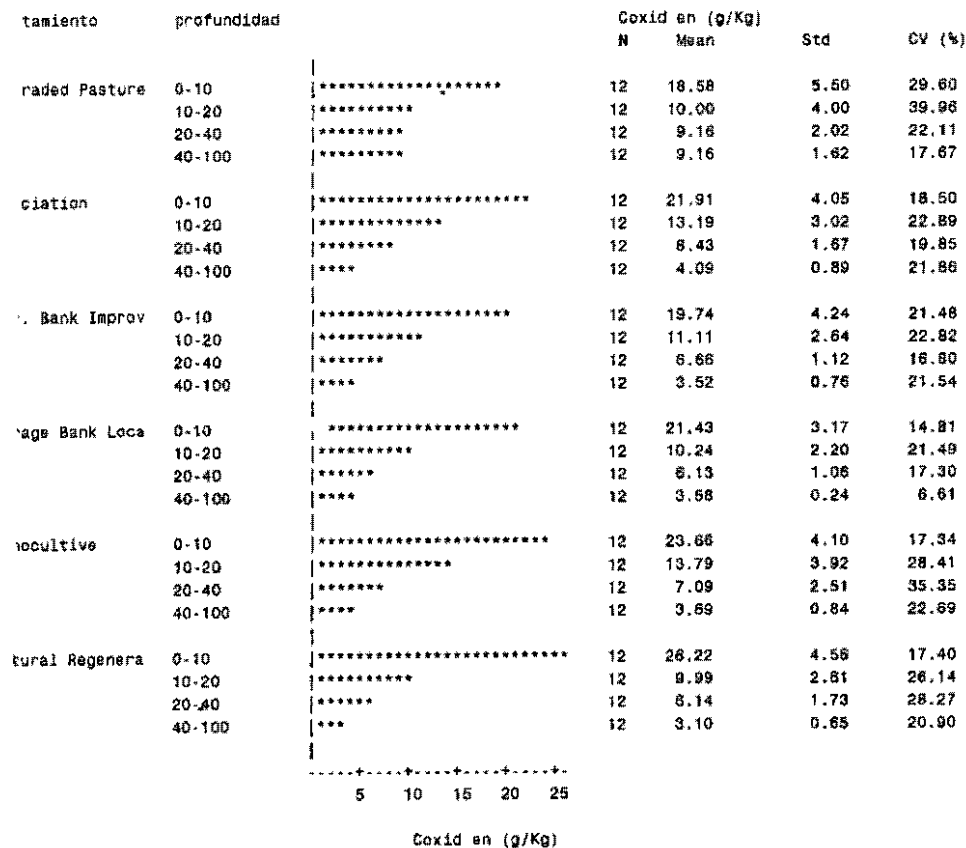
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tratamiento	profundidad	Incremento en C			
		Frec	Media	<u>C Gain/System</u>	
Asociation	0-10	*	12	0.97	
	10-20	*	12	1.18	
	20-40	**	12	1.53	= 12.89
	40-100	*	12	1.28	
For. Bank Improv	0-10	***	12	2.90	
	10-20	**	12	1.88	
	20-40	***	12	2.72	= 29.96
	40-100	***	12	3.29	
Forage Bank Loca	0-10	*****	12	8.73	
	10-20	****	12	4.33	
	20-40	***	12	3.22	= 42.84
	40-100	****	12	3.89	
Monocultive	0-10	*****	12	12.01	
	10-20	*****	12	7.65	
	20-40	*****	12	4.51	= 53.28
	40-100	****	12	4.10	
Natural Regenera	0-10	*****	12	7.77	
	10-20	***	12	3.08	
	20-40	***	12	3.26	= 37.11
	40-100	***	12	3.29	

5 10

Mean gain/year = 8.80 t/ha/1m

Fig 3 (cont): CIAT's Lab Results



Amazonia, Mild-slope Topography

Fig 3: Bulk Density and CIAT's Lab Results

tratamiento	profundidad	densidad (gr/cm3)			
		N	Mean	Std	CV (%)
Degraded Pasture	0-10	12	1.08	0.09	8.15
	10-20	12	1.29	0.05	3.56
	20-40	12	1.31	0.05	4.04
	40-100	12	1.28	0.04	2.82
Asociation	0-10	12	1.15	0.09	7.57
	10-20	12	1.30	0.07	5.52
	20-40	12	1.38	0.04	2.97
	40-100	12	1.37	0.05	3.36
For. Bank Improv	0-10	12	1.22	0.09	7.75
	10-20	12	1.31	0.06	4.66
	20-40	12	1.39	0.04	3.06
	40-100	12	1.42	0.06	4.31
Forage Bank Loca	0-10	12	1.15	0.07	5.98
	10-20	12	1.31	0.04	2.69
	20-40	12	1.33	0.06	4.17
	40-100	12	1.36	0.05	3.39
Monocultive	0-10	12	1.48	0.09	5.99
	10-20	12	1.53	0.05	3.60
	20-40	12	1.57	0.07	4.63
	40-100	12	1.59	0.06	4.05
Natural Regenera	0-10	12	1.02	0.07	7.12
	10-20	12	1.31	0.06	4.47
	20-40	12	1.36	0.09	3.35
	40-100	12	1.37	0.06	4.27

1

densidad (gr/cm3)

tratamiento	profundidad	Ctotal en (g/Kg)			
		N	Mean	Std	CV (%)
Degraded Pasture	0-10	12	24.71	4.27	17.28
	10-20	12	15.09	2.47	16.36
	20-40	12	11.40	3.47	30.41
	40-100	12	8.17	2.27	27.83
Asociation	0-10	12	23.45	3.61	15.38
	10-20	12	15.83	3.03	19.16
	20-40	12	11.91	1.70	14.29
	40-100	12	8.58	1.20	13.97
For. Bank Improv	0-10	12	23.96	3.60	15.01
	10-20	12	16.27	1.80	11.06
	20-40	12	12.85	1.19	9.40
	40-100	12	9.72	0.94	9.70
Forage Bank Loca	0-10	12	30.35	3.32	10.95
	10-20	12	18.13	2.59	14.31
	20-40	12	13.61	1.41	10.33
	40-100	12	10.62	1.24	11.66
Monocultive	0-10	12	25.83	4.46	17.28
	10-20	12	17.75	3.08	17.37
	20-40	12	12.40	3.12	25.20
	40-100	12	9.21	1.88	20.37
Natural Regenera	0-10	12	33.08	3.28	9.86
	10-20	12	17.26	2.19	12.70
	20-40	12	13.37	1.66	12.42
	40-100	12	10.04	0.71	7.05

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Ctotal en (g/Kg)

Soil Characterisation before the Experiment was Established
“Balcanes” Farm Experiment, Mild-slope Topography
Amazonia, Colombia (250 m.a.s.l.)

Date: May 2002
Initial sampling date: Aug 2002

Characteristic	0-10 cm	10-20 cm	20-40 cm	40 –100 cm
Bulk density	1.1	1.3	1.3	1.3
pH	4.6	4.9	4.7	4.7
Sand (%)	5	1	1	1
Clay (%)	44	52	57	63
Silt (%)	51	47	42	36
Total N (mg/kg)	2166	1402	1160	913
P (mg/kg)	1.9	0.8	0.6	0.3
CEC (cmol/kg)	13.6	12.6	12.5	13.9
Total C (gr/kg)	24.7	15.1	11.4	8.2
Oxid C (gr/kg)	18.6	10.0	9.2	9.2

Experimental Design

“Balcanes” Farm, Mild-slope Topography

Latin Square (4 x 4) + 2 Controls

4 Blocks

4 Improved Systems/Block

- *Brachiaria* hybrid CIAT 4624 in monoculture
- *Brachiaria* hybrid CIAT 4624 + *A. pintoii* 17434
- Mixed forage bank – Improved management
- Natural regeneration of the degraded pasture

2 Control System/Block

- Degraded pasture

3 Sampling Points/System/Block

4 Soil depths: 0-10, 10-20, 20-40, 40-100 cm



No. of Sampling points/System = 12

No. of observations/System/depth = 12

Results from Newly-established Systems on Degraded Area

- Amazonia, COLOMBIA – Mild-slope Topography

B. Ramírez, H. Giraldo, H. F. Ramírez, and M. C. Amézquita

**To be presented and discussed at the Project's
VII International Coordination Meeting, June 28-July 1, 2006
Punta Leona, Costa Rica.**

Annex 6.2

***Statistical Analysis of Amazonia's
Mild-slope topography Experiments
to evaluate C sequestration of improved systems
established on degraded land***

***Tropical Humid Forest Ecosystem
Amazonia, Colombia (2002-2006)***

Carbono Estable Pastura Degradada: 20.409 Toneladas/hectárea/1m
Carbono Estable Pastura Degradada: 18.409 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Stable C (ton/ha/1m)			Stable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.3 años	% incremento	Means	Diferencia respecto al control en 3.3 años	% incremento	Signific. al 5 (%) (***)
40-100 (cm)	Monoculture	43.916	23.507	115.18	35.295	16.886	91.73	***
	Asociation	43.517	23.108	113.22	35.700	17.291	93.93	***
	For. Bank Improved Management	37.568	17.159	84.08	30.679	12.269	66.65	***
	Natural Regeneration	36.056	15.647	76.67	28.345	9.935	53.97	***
Mean, CV (%)		36.3, 18.2	19.86	97.29	29.7, 17.8	14.09	76.57	

Summary

Mean Soil C Stock Gain across all treatments during the 3.3 year Experimental Period Flat Topography, Amazonia, Colombia

Variable (t/ha, fixed soil mass estimates)	Depth (cm)	Mean Gain in 3.3 years	Mean Gain/year
Total C	0-40	10.1	3.06
	40-100	4.1	1.24
	0-100	14.2	4.30
Oxidisable C	0-40	6.20	1.88
	40-100	-9.97	-3.02
	0-100	-3.76	-1.14
Stable C	0-40	3.88	1.18
	40-100	14.09	4.27
	0-100	17.98	5.45

**Table 3: Statistical Comparison of Initial vs Final SCS from Improved Systems
Established on degraded land in 3.3 year period. Stable C
"Santo Domingo" Farm
Amazonia - Flat Topography**

Carbono Estable Pastura Degradada: 42.542 Toneladas/hectárea/lm
Carbono Estable Pastura Degradada: 40.543 Toneladas/hectárea/lm-meq

Soil Depth	Land Use System	Stable C (ton/ha/lm)			Stable C (ton/ha/lm-meq)			
		Means	Diferencia respecto al control en 3.3 años	% incremento	Means	Diferencia respecto al control en 3.3 años	% incremento	Signif. Dunnet 5 (%) (***)
0-100 (cm)	Monocultive	77.275	34.733	81.64	68.655	28.112	69.34	***
	Asociation	74.149	31.606	74.29	66.332	25.789	63.61	***
	For. Bank Improved Management	61.027	18.485	43.45	54.139	13.596	33.53	***
	Natural Regeneration	52.681	10.138	23.83	44.970	4.427	10.92	ns
Mean, CV (%)		61.5, 15.2	23.74	55.81	54.9, 14.9	17.98	44.35	

Carbono Estable Pastura Degradada: 22.133 Toneladas/hectárea/lm
Carbono Estable Pastura Degradada: 22.133 Toneladas/hectárea/lm-meq

Soil Depth	Land Use System	Stable C (ton/ha/lm)			Stable C (ton/ha/lm-meq)			
		Means	Diferencia respecto al control en 3.3 años	% incremento	Means	Diferencia respecto al control en 3.3 años	% incremento	Signif. Dunnet 5 (%) (***)
0-40 (cm)	Monocultive	33.360	11.226	50.72	33.360	11.226	50.72	***
	Asociation	30.632	8.498	38.40	30.632	8.498	38.40	***
	For. Bank Improved Management	23.460	1.326	5.99	23.460	1.326	5.99	ns
	Natural Regeneration	16.625	-5.509	-24.89	16.625	-5.509	-24.89	***
Mean, CV (%)		25.2, 18.9	3.88	17.56	25.2, 18.9	3.88	15.34	

Carbono Oxidable Pastura Degradada: 52.182 Toneladas/hectárea/1m

Carbono Oxidable Pastura Degradada: 52.182 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Oxidisable C (ton/ha/1m)			Oxidisable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.3 años	% incremento	Means	Diferencia respecto al control en 3.3 años	% incremento	Signif. Dunnet 5 (%) (***)
0-40 (cm)	Natural Regeneration	64.484	12.302	23.58	64.484	12.302	23.58	***
	Asociation	60.558	8.376	16.05	60.558	8.376	16.05	***
	For. Bank Improved Management	58.338	6.156	11.80	58.338	6.156	11.80	ns
	Monocultive	50.181	-2.001	-1.92	50.181	-2.001	-3.84	ns
Mean, CV (%)		57.1, 13.3	6.21	11.90	57.1, 13.3	6.21	11.90	

Carbono Oxidable Pastura Degradada: 48.352 Toneladas/hectárea/1m

Carbono Oxidable Pastura Degradada: 42.931 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Oxidisable C (ton/ha/1m)			Oxidisable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.3 años	% incremento	Means	Diferencia respecto al control en 3.3 años	% incremento	Signific. al 5 (%) (***)
40-100 (cm)	Natural Regeneration	46.643	-1.708	-3.53	36.644	-6.287	-14.64	***
	For. Bank Improved Management	42.257	-6.095	-12.61	34.355	-8.577	-19.98	***
	Asociation	39.586	-8.765	-18.13	32.362	-10.569	-24.62	***
	Monocultive	35.359	-12.993	-26.87	28.451	-14.480	-33.73	***
Mean, CV (%)		42.4, 17.4	-7.39	-15.28	34.9, 16.6	-9.97	-23.24	

Carbono Total Pastura Degradada: 68.760 Toneladas/hectárea/1m
Carbono Total Pastura Degradada: 61.341 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Total C (ton/ha/1m)			Total C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.3 años	% incremento	Means	Diferencia respecto al control en 3.3 años	% incremento	Significance al 5 (%) (***)
40-100 (cm)	Asociation	83.103	14.343	20.85	68.063	6.722	10.95	***
	Natural Regeneration	82.699	13.939	20.27	64.989	3.648	5.94	ns
	For. Bank Improved Management	79.824	11.064	16.09	65.034	3.693	6.02	ns
	Monocultive	79.274	10.514	15.29	63.746	2.406	3.92	ns
Mean, CV (%)		78.7, 8.22	12.5	18.13	65.5, 8.17	4.1	6.7	

Table 2: Statistical Comparison of Initial vs Final SCS from Improved Systems Established on degraded land in 3.3 year period. Oxidisable C
“Santo Domingo” Farm
Amazonia - Flat Topography

Carbono Oxidable Pastura Degradada: 100.534 Toneladas/hectárea/1m
Carbono Oxidable Pastura Degradada: 95.113 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Oxidisable C (ton/ha/1m)			Oxidisable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.3 años	% incremento	Means	Diferencia respecto al control en 3.3 años	% incremento	Signif. Dunnett 5 (%) (***)
0-100 (cm)	Natural Regeneration	111.127	10.594	10.54	101.129	6.015	6.32	ns
	For. Bank Improved Management	100.595	0.061	0.06	92.693	-2.420	-2.54	ns
	Asociation	100.144	-0.389	-0.39	92.920	-2.193	-2.31	ns
	Monocultive	85.539	-14.994	-14.91	78.632	-16.481	-17.33	***
Mean, CV (%)		99.6, 12.1	-1.18	-1.18	92.1, 11.8	-3.76	-3.96	

**Table 1: Statistical Comparison of Initial vs Final SCS from Improved Systems
Established on degraded land in 3.3 year period. Total C
"Santo Domingo" Farm
Amazonia - Flat Topography**

Carbono Total Pastura Degradada: 143.076 Toneladas/hectárea/1m

Carbono Total Pastura Degradada: 135.656 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Total C (ton/ha/1m)			Total C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.3 años	% incremento	Means	Diferencia respecto al control en 3.3 años	% incremento	Signif. Dunnet 5 (%) (***)
0-100 (cm)	Asociation	174.293	31.217	21.81	159.252	23.596	17.39	***
	Natural Regeneration	163.808	20.732	14.49	146.098	10.442	7.69	***
	Monocultive	162.815	19.739	13.79	147.287	11.631	8.57	***
	For. Bank Improved Management	161.622	18.546	12.96	146.832	11.175	8.23	***
Mean, CV (%)		161.12, 6.0	22.56	15.77	147.02, 6.0	14.21	10.48	

Carbono Total Pastura Degradada: 74.315 Toneladas/hectárea/1m

Carbono Total Pastura Degradada: 74.315 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Total C (ton/ha/1m)			Total C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.3 años	% incremento	Means	Diferencia respecto al control en 3.3 años	% incremento	Signif. Dunnet 5 (%) (***)
0-40 (cm)	Asociation	91.190	16.874	22.70	91.190	16.874	22.70	***
	Monocultive	83.541	9.225	12.41	83.541	9.225	12.41	***
	For. Bank Improved Management	81.798	7.483	10.06	81.798	7.483	10.06	***
	Natural Regeneration	81.109	6.794	9.14	81.109	6.794	9.14	***
Mean, CV (%)		82.4, 8.4	10.1	13.58	82.4, 8.4	10.1	13.58	

Fig 2 (cont): Stable C (t/ha/10 cm layers) and C-gain in 3.3 years

tratamiento	profundidad	Muestreo Inicial			
		N	Mean	Std	CV (%)
Degraded Pasture	0-10	12	6.43	1.27	19.80
	10-20	12	6.90	1.99	28.90
	20-40	12	4.39	1.47	33.50
	40-100	12	3.40	1.30	38.09

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Muestreo Inicial C_Estable a 10 cm

tratamiento	profundidad	Muestreo Final C			
		N	Mean	Std	CV (%)
Asociation	0-10	12	6.62	2.69	40.63
	10-20	12	8.59	2.78	32.38
	20-40	12	7.70	0.97	12.53
	40-100	12	7.25	1.03	14.21
For. Bank Improv	0-10	12	5.34	2.32	43.41
	10-20	12	5.76	1.53	26.48
	20-40	12	6.17	0.73	11.77
	40-100	12	6.26	0.51	8.21
Monocultive	0-10	12	8.29	3.61	43.49
	10-20	12	8.24	1.80	21.82
	20-40	12	8.40	1.40	15.88
	40-100	12	7.31	1.02	13.91
Natural Regenera	0-10	12	1.68	4.07	240.75
	10-20	12	5.10	2.20	43.13
	20-40	12	4.91	0.59	12.03
	40-100	12	6.00	1.67	27.67

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Muestreo Final C_Estable a 10 cm

tratamiento	profundidad	Incremento en C		C Gain/System in 3.3 yrs
		Frec	Media	
Asociation	0-10	12	0.18	= 31.57
	10-20	12	1.69	
	20-40	12	3.30	
	40-100	12	3.85	
For. Bank Improv	0-10	12	-1.09	= 18.42
	10-20	12	-1.13	
	20-40	12	1.77	
	40-100	12	2.85	
Monocultive	0-10	12	1.85	= 34.67
	10-20	12	1.34	
	20-40	12	4.01	
	40-100	12	3.91	
Natural Regenera	0-10	12	-4.74	= 10.09
	10-20	12	-1.79	
	20-40	12	0.51	
	40-100	12	2.60	

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-4 -2 0 2 4

Incremento en C_Estable a 10 cm

Mean gain/3.3 yrs = 23.69 t/ha/1m

Mean gain/year = 7.18 t/ha/1m

Fig 2 (cont): Oxidisable C (t/ha/10 cm layers) and C-gain in 3.3 years

tratamiento	profundidad		Muestreo Inicial			
			N	Mean	Std	CV (%)
Degraded Pasture	0-10	*****	12	18.19	2.13	11.70
	10-20	*****	12	12.65	1.99	16.71
	20-40	*****	12	10.66	1.72	16.15
	40-100	*****	12	8.05	1.69	20.97

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Muestreo Inicial C_Oxidable a 10 cm

tratamiento	profundidad		Muestreo Final C			
			N	Mean	Std	CV (%)
Asociation	0-10	*****	12	23.60	5.70	24.15
	10-20	*****	12	16.57	3.48	22.34
	20-40	*****	12	10.68	3.36	31.47
	40-100	***	12	6.59	1.74	26.43
For. Bank Improv	0-10	*****	12	23.71	3.51	14.79
	10-20	*****	12	14.52	2.90	19.95
	20-40	*****	12	10.04	1.45	14.44
	40-100	****	12	7.04	1.28	18.14
Monocultive	0-10	*****	12	20.51	5.14	25.07
	10-20	*****	12	13.46	2.66	18.90
	20-40	*****	12	8.09	1.21	14.93
	40-100	***	12	5.89	0.77	13.07
Natural Regenera	0-10	*****	12	24.40	2.81	11.52
	10-20	*****	12	16.80	2.71	16.13
	20-40	*****	12	11.63	1.08	9.29
	40-100	****	12	7.77	1.74	22.35

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10 20

Muestreo Final C_Oxidable a 10 cm

tratamiento	profundidad		Incremento en C		C Gain/System 3.3 yrs
			Frec	Media	
Asociation	0-10	*****	12	5.41	= -0.40
	10-20	*****	12	2.91	
	20-40		12	0.02	
	40-100	***	12	-1.46	
For. Bank Improv	0-10	*****	12	5.52	= 0.10
	10-20	****	12	1.86	
	20-40	*	12	-0.61	
	40-100	**	12	-1.01	
Monocultive	0-10	*****	12	2.32	= -14.95
	10-20	**	12	0.81	
	20-40	*****	12	-2.56	
	40-100	****	12	-2.16	
Natural Regenera	0-10	*****	12	6.21	= 10.60
	10-20	*****	12	4.15	
	20-40	**	12	0.96	
	40-100	*	12	-0.28	

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-2 0 2 4 6

Incremento en C_Oxidable a 10 cm

Mean gain/3.3 yrs = -1.16 t/ha/1m

Mean gain/year = -0.35t/ha/1m

Fig 2: Total C (t/ha/10 cm layers) and C-gain in 3.3 years

tratamiento	profundidad		Muestreo Inicial		Std	CV (%)
			N	Mean		
Degraded Pasture	0-10	*****	12	24.62	2.09	8.50
	10-20	*****	12	19.55	1.88	9.63
	20-40	*****	12	15.06	1.55	10.32
	40-100	*****	12	11.46	1.32	11.53

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10 20

Muestreo Inicial Ctotal a 10 cm

tratamiento	profundidad		Muestreo Final C		Std	CV (%)
			N	Mean		
Asociation	0-10	*****	12	30.23	4.82	16.96
	10-20	*****	12	24.17	4.91	20.31
	20-40	*****	12	18.39	3.36	18.28
	40-100	*****	12	13.85	1.57	11.32
For. Bank Improv	0-10	*****	12	29.06	2.01	5.92
	10-20	*****	12	20.28	1.95	9.62
	20-40	*****	12	16.22	1.25	7.72
	40-100	*****	12	13.30	1.34	10.09
Monocultive	0-10	*****	12	28.81	2.66	8.88
	10-20	*****	12	21.71	1.43	6.60
	20-40	*****	12	16.50	1.18	7.15
	40-100	*****	12	13.21	1.04	7.90
Natural Regenera	0-10	*****	12	26.09	4.32	15.56
	10-20	*****	12	21.91	1.73	7.92
	20-40	*****	12	16.54	0.94	6.69
	40-100	*****	12	13.78	1.29	9.37

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10 20 30

Muestreo Final Ctotal a 10 cm

tratamiento	profundidad		Incremento en C		C Gain/System 3,3 yrs
			Frec	Media	
Asociation	0-10	*****	12	5.60	= 31.19
	10-20	*****	12	4.61	
	20-40	*****	12	3.32	
	40-100	*****	12	2.39	
For. Bank Improv	0-10	*****	12	4.43	= 18.49
	10-20	***	12	0.72	
	20-40	*****	12	1.15	
	40-100	*****	12	1.84	
Monocultive	0-10	*****	12	4.18	= 19.71
	10-20	*****	12	2.15	
	20-40	*****	12	1.44	
	40-100	*****	12	1.75	
Natural Regenera	0-10	*****	12	1.46	= 20.70
	10-20	*****	12	2.36	
	20-40	*****	12	1.48	
	40-100	*****	12	2.32	

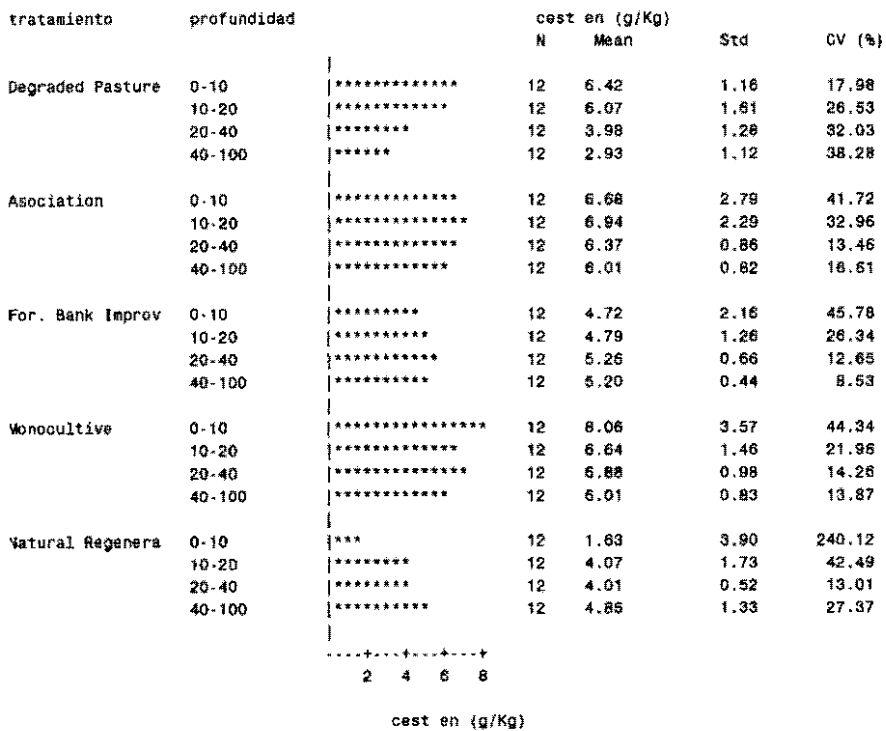
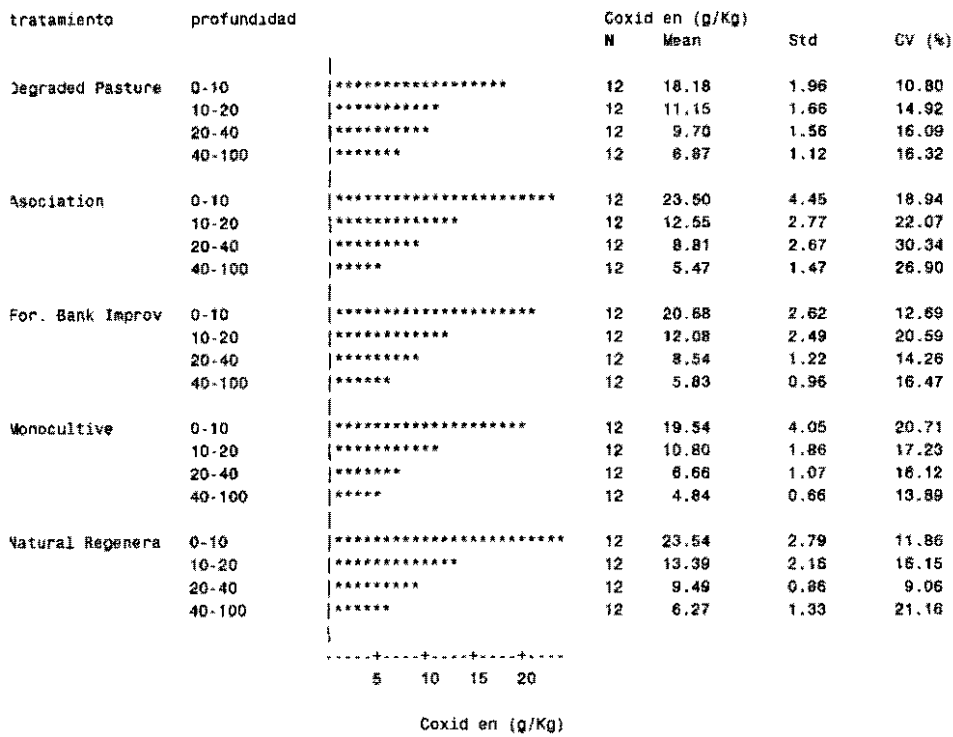
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1 2 3 4 5

Incremento en Ctotal a 10 cm

Mean gain/3.3 yrs = 22.5 t/ha/1m

Mean gain/year = 6.8 t/ha/1m

Fig 1 (cont): CIAT's Lab Results



Amazonia, Flat Topography

Fig 1: Bulk Density and CIAT's Lab Results

tratamiento	profundidad	densidad (gr/cm3)			
		N	Mean	Std	CV (%)
Degraded Pasture	0-10	12	1.00	0.08	8.35
	10-20	12	1.14	0.08	7.43
	20-40	12	1.10	0.08	7.17
	40-100	12	1.17	0.08	7.22
Asociation	0-10	12	0.99	0.10	10.27
	10-20	12	1.24	0.04	3.16
	20-40	12	1.21	0.04	3.11
	40-100	12	1.21	0.04	3.27
For. Bank Improv	0-10	12	1.14	0.08	6.65
	10-20	12	1.20	0.05	4.47
	20-40	12	1.17	0.05	3.95
	40-100	12	1.20	0.04	3.57
Monocultive	0-10	12	1.04	0.13	12.80
	10-20	12	1.25	0.07	5.84
	20-40	12	1.22	0.08	6.70
	40-100	12	1.22	0.08	6.49
Natural Regenera	0-10	12	1.04	0.07	6.32
	10-20	12	1.26	0.05	4.25
	20-40	12	1.23	0.07	6.09
	40-100	12	1.24	0.05	4.16

0.2 0.4 0.6 0.8 1 1.2

densidad (gr/cm3)

tratamiento	profundidad	Ctotal en (g/Kg)			
		N	Mean	Std	CV (%)
Degraded Pasture	0-10	12	24.61	1.61	6.53
	10-20	12	17.22	1.27	7.40
	20-40	12	13.69	1.33	9.72
	40-100	12	9.80	0.80	8.12
Asociation	0-10	12	30.18	3.09	10.25
	10-20	12	19.48	3.97	20.38
	20-40	12	15.18	2.65	17.43
	40-100	12	11.48	1.31	11.39
For. Bank Improv	0-10	12	25.40	1.59	6.25
	10-20	12	16.87	1.70	10.08
	20-40	12	13.80	1.08	7.90
	40-100	12	11.03	0.94	8.52
Monocultive	0-10	12	27.59	1.30	4.70
	10-20	12	17.44	0.88	5.07
	20-40	12	13.53	0.77	5.68
	40-100	12	10.85	0.93	8.57
Natural Regenera	0-10	12	25.16	4.19	16.66
	10-20	12	17.46	1.34	7.68
	20-40	12	13.50	0.85	6.27
	40-100	12	11.12	0.85	7.61

10 20 30

Ctotal en (g/Kg)

Soil Characterisation before the Experiment was Established
“Santo Domingo” Farm Experiment, Flat Topography
Amazonia, Colombia (250 m.a.s.l.)

Initial C-sampling date: Aug, 2002

Final C-sampling date: Nov, 2005

Length of the experimental period: 3.3 years

Characteristic	0-10 cm	10-20 cm	20-40 cm	40 –100 cm
Bulk density	1.0	1.1	1.1	1.2
pH	4.4	4.4	4.5	4.9
Sand (%)	35	28	25	22
Clay (%)	44	52	60	66
Silt (%)	21	20	16	12
Total N (mg/kg)	2194	1621	1328	1021
P (mg/kg)	1.6	0.6	0.4	0.2
CEC (cmol/kg)	10.7	10.3	10.0	8.6
Total C (gr/kg)	24.6	17.2	13.7	9.8
Oxid C (gr/kg)	18.2	11.2	9.7	6.9

Experimental Design

“ Santo Domingo” Farm, Flat Topography

Latin Square (4 x 4) + 1 Control

4 Blocks

4 Improved Systems/Block

- *Brachiaria* hybrid CIAT 4624 in monoculture
- *Brachiaria* hybrid CIAT 4624 + *A. pintoii* 17434
- Improved forage Bank
- Natural regeneration of the degraded pasture

1 Control System/Block

- Degraded pasture

3 Sampling Points/System/Block

4 Soil depths: 0-10, 10-20, 20-40, 40-100 cm

→ No. of Sampling points/System = 12
No. of observations/System/depth = 12

Results from Newly-established Systems on Degraded Area

- Amazonia, COLOMBIA – Flat Topography

B. Ramírez, H. Giraldo, H. F. Ramírez, and M. C. Amézquita

**Presented and discussed at the Project's
VII International Coordination Meeting, June 28-July 1, 2006
Punta Leona, Costa Rica.**

Annex 6.1

***Statistical Analysis of Amazonia's Flat topography
Experiments to evaluate C sequestration of improved systems
established on degraded land***

***Tropical Humid Forest Ecosystem
Amazonia, Colombia (2002-2006)***

Annex 6

***Statistical Analysis of Amazonia's Flat and Mild-slope
topography Experiments
to evaluate C sequestration of improved systems
established on degraded land***

***Tropical Humid Forest Ecosystem
Amazonia, Colombia (2002-2006)***

Summary

**Mean Soil C Stock Gain across all treatments
during the 3.4 year Experimental Period
excluding some heterogeneous sampling points/system
Dovio, Andean Hillsides, Colombia**

Variable (t/ha, fixed soil mass estimates)	Depth (cm)	Mean gain in 3.4 years	Mean gain/yr
Total C	0-40	-0.30	-0.09
	40-100	1.61	0.47
	0-100	1.31	0.39
Oxidisable C	0-40	-5.44	-1.6
	40-100	-3.97	-1.17
	0-100	-9.41	-2.77
Stable C	0-40	5.13	1.51
	40-100	5.59	1.64
	0-100	10.72	3.15

Carbono Estable Pastura Degradada: 20.95 Toneladas/hectárea/1m
Carbono Estable Pastura Degradada: 20.95 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Stable C (ton/ha/1m)			Stable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 10 (%)
0-40 (cm)	<i>B. Mulato</i> + <i>A. pinto</i>	31.87	10.920	52.12	31.87	10.920	52.12	ns
	Forage Bank Local Management	28.43	7.480	35.70	28.43	7.480	35.70	ns
	Natural Regeneration	24.86	3.910	18.66	24.86	3.910	18.66	ns
	F. Bank Improved Management	23.55	2.595	12.41	23.55	2.595	12.41	ns
	<i>B. (Mulato)</i>	21.71	0.760	3.63	21.71	0.760	3.63	ns
Mean, CV (%)		25.8, 31.5	5.13	24.51	25.8, 31.5	5.13	24.51	

Carbono Estable Pastura Degradada: 34.894 Toneladas/hectárea/1m
Carbono Estable Pastura Degradada: 18.231 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Stable C (ton/ha/1m)			Stable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signific. al 10 (%)
40-100 (cm)	F. Bank Improved Management	40.437	5.543	15.89	26.525	8.294	45.49	ns
	<i>B. (Mulato)</i>	32.812	-2.082	-5.97	19.204	0.973	5.34	ns
	<i>B. Mulato</i> + <i>A. pinto</i>	31.730	-3.164	-9.07	25.213	6.982	38.30	ns
	Forage Bank Local Management	29.401	-5.493	-15.74	28.592	10.361	56.83	ns
	Natural Regeneration	28.924	-5.970	-17.11	19.572	1.341	7.36	ns
Mean, CV (%)		32.3, 32.2	-2.23	-6.40	22.6, 40.2	5.59	30.66	

Carbono Oxidable Pastura Degradada: 67.911 Toneladas/hectárea/1m
Carbono Oxidable Pastura Degradada: 35.481 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Oxidisable C (ton/ha/1m)			Oxidisable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signific. al 10 (%)
40-100 (cm)	F. Bank Improved Management	54.002	-13.909	-20.48	34.934	-0.547	-1.54	ns
	<i>B. Mulato</i> + <i>A. pinto</i>	50.518	-17.393	-25.61	39.768	4.287	4.29	ns
	<i>B. (Mulato)</i>	47.800	-20.111	-29.61	27.718	-7.763	-7.76	ns
	Natural Reg.	36.106	-31.805	-46.83	22.947	-12.534	-12.53	ns
	Forage bank local manag	34.677	-33.234	-48.94	32.141	-3.340	-3.34	ns
Mean, CV (%)		46.1, 27.6	-23.29	-34.30	31.3, 31.0	-3.97	-11.22	

Table 3: Statistical Comparison of Initial vs Final SCS from Improved Systems established on degraded land in 3.4 years. Stable Carbon
Dovio - Andean Hillsides

Carbono Estable Pastura Degradada: 55.85 Toneladas/hectárea/1m
Carbono Estable Pastura Degradada: 39.182 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Stable C (ton/ha/1m)			Stable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 10 (%)
0-100 (cm)	F. Bank Improved Management	63.98	7.830	14.02	50.072	10.890	27.79	ns
	<i>B. Mulato</i> + <i>A. pinto</i>	63.60	7.750	13.88	57.086	17.904	45.69	***
	Forage Bank Local Management	57.83	1.980	3.55	57.026	17.844	45.54	ns
	<i>B. (Mulato)</i>	54.52	-1.330	-2.38	40.913	1.731	4.42	ns
	Natural Regeneration	53.79	-2.060	-3.69	44.435	5.253	13.41	ns
Mean, CV (%)		58.1, 21.9	2.834	5.07	48.4, 24.1	10.72	27.37	

Table 2: Statistical Comparison of Initial vs Final SCS from Improved Systems established on degraded land in 3.4 years. Oxidisable Carbon

Dovio - Andean Hillsides

Carbono Oxidable Pastura Degradada: 158.06 Toneladas/hectárea/1m

Carbono Oxidable Pastura Degradada: 125.63 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Oxidisable C (ton/ha/1m)			Oxidisable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 10 (%)
0-100 (cm)	<i>B. Mulato+A. pintoí</i>	142.14	-15.92	-13,98	131.39	5.761	4,59	ns
	F. Bank Improved Management	135.33	-22.73	-19,95	116.26	-9.369	-8,43	ns
	<i>B. (Mulato)</i>	132.74	-25.32	-22,23	112.66	-12.970	-11,67	ns
	Natural Reg.	122.00	-36.06	-31,66	108.85	-16.785	-15,11	ns
	Forage bank local manag	114.46	-43.61	-38,28	111.92	-13.711	-12,34	ns
Mean, CV (%)		32.1, 16.9	-28.73	-25.22	117.3, 17.2	-9.41	-8.59	

Carbono Oxidable Pastura Degradada: 90.15 Toneladas/hectárea/1m

Carbono Oxidable Pastura Degradada: 90.15 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Oxidisable C (ton/ha/1m)			Oxidisable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.4 años	% incremento	Means	Diferencia respecto al control en 3.4 años	% incremento	Signif. Dunnet 10 (%)
0-40 (cm)	<i>B. Mulato+A. pintoí</i>	91.62	1.47	1,29	91.62	1.47	1,29	ns
	Natural Reg.	85.90	-4.25	-3,73	85.90	-4.25	-3,73	ns
	<i>B. (Mulato)</i>	84.94	-5.21	-4,57	84.94	-5.21	-4,57	ns
	F. Bank Improved Management	81.33	-8.82	-7,74	81.33	-8.82	-7,74	ns
	Forage bank local manag	79.78	-10.37	-9,10	79.78	-10.37	-9,10	ns
Mean, CV (%)		86.0, 15.9	-5.44	-4.77	86.0, 62.5	-5.44	-4.77	

Block	Treatment	Soil pit (calicata)	Soil Depth	Cylin. No.	Bulk density calicata side 1	Cylin. No.	Bulk density calicata side 2	Cylin. No.	Bulk density calicata side 3	Bulk density mean per calicata
4	B. Hybrid (36061)+ A. pintoi (18744)	A	0-10	457	0,87	461	0,98	465	0,93	0,93
4	B. Hybrid (36061)+ A. pintoi (18744)	A	10-20	458	0,96	462	0,99	466	0,96	0,97
4	B. Hybrid (36061)+ A. pintoi (18744)	A	20-40	459	1,10	463	1,14	467	1,17	1,14
4	B. Hybrid (36061)+ A. pintoi (18744)	A	40-100	460	1,25	464	1,10	468	1,09	1,14
4	B. Hybrid (36061)+ A. pintoi (18744)	B	0-10							
4	B. Hybrid (36061)+ A. pintoi (18744)	B	10-20							
4	B. Hybrid (36061)+ A. pintoi (18744)	B	20-40							
4	B. Hybrid (36061)+ A. pintoi (18744)	B	40-100							
4	B. Hybrid (36061)+ A. pintoi (18744)	C	0-10							
4	B. Hybrid (36061)+ A. pintoi (18744)	C	10-20							
4	B. Hybrid (36061)+ A. pintoi (18744)	C	20-40							
4	B. Hybrid (36061)+ A. pintoi (18744)	C	40-100							
4	Brachiaria Hybrid (Mulato 36061)	A	0-10	421	0,91	425	0,90	429	0,89	0,90
4	Brachiaria Hybrid (Mulato 36061)	A	10-20	422	0,97	426	0,99	430	1,07	1,01
4	Brachiaria Hybrid (Mulato 36061)	A	20-40	423	1,15	427	1,18	431	1,15	1,16
4	Brachiaria Hybrid (Mulato 36061)	A	40-100	424	1,20	428	1,21	432	1,21	1,21
4	Brachiaria Hybrid (Mulato 36061)	B	0-10							
4	Brachiaria Hybrid (Mulato 36061)	B	10-20							
4	Brachiaria Hybrid (Mulato 36061)	B	20-40							
4	Brachiaria Hybrid (Mulato 36061)	B	40-100							
4	Brachiaria Hybrid (Mulato 36061)	C	0-10							
4	Brachiaria Hybrid (Mulato 36061)	C	10-20							
4	Brachiaria Hybrid (Mulato 36061)	C	20-40							
4	Brachiaria Hybrid (Mulato 36061)	C	40-100							
4	For. Bank Improved Management	A	0-10	445	1,08	449	0,92	453	0,89	0,96
4	For. Bank Improved Management	A	10-20	446	0,99	450	1,02	454	0,96	0,99
4	For. Bank Improved Management	A	20-40	447	1,12	451	1,05	455	1,12	1,10
4	For. Bank Improved Management	A	40-100	448	1,07	452	1,05	456	1,09	1,07
4	For. Bank Improved Management	B	0-10							
4	For. Bank Improved Management	B	10-20							
4	For. Bank Improved Management	B	20-40							
4	For. Bank Improved Management	B	40-100							
4	For. Bank Improved Management	C	0-10							
4	For. Bank Improved Management	C	10-20							
4	For. Bank Improved Management	C	20-40							
4	For. Bank Improved Management	C	40-100							
4	Forage Bank Local Management	A	0-10	469	0,89	473	0,91	477	0,93	0,91
4	Forage Bank Local Management	A	10-20	470	0,95	474	1,02	478	0,82	0,93
4	Forage Bank Local Management	A	20-40	471	1,15	475	1,16	479	1,20	1,17
4	Forage Bank Local Management	A	40-100	472	1,23	476	1,19	480	1,20	1,21
4	Forage Bank Local Management	B	0-10							
4	Forage Bank Local Management	B	10-20							
4	Forage Bank Local Management	B	20-40							
4	Forage Bank Local Management	B	40-100							
4	Forage Bank Local Management	C	0-10							
4	Forage Bank Local Management	C	10-20							
4	Forage Bank Local Management	C	20-40							
4	Forage Bank Local Management	C	40-100							
4	Natural Regeneration	A	0-10	433	0,82	437	0,85	441	0,84	0,84
4	Natural Regeneration	A	10-20	434	0,93	438	1,02	442	0,98	0,98
4	Natural Regeneration	A	20-40	435	0,98	439	1,11	443	0,79	0,96
4	Natural Regeneration	A	40-100	436	1,07	440	1,11	444	1,09	1,09
4	Natural Regeneration	B	0-10							
4	Natural Regeneration	B	10-20							
4	Natural Regeneration	B	20-40							
4	Natural Regeneration	B	40-100							
4	Natural Regeneration	C	0-10							
4	Natural Regeneration	C	10-20							
4	Natural Regeneration	C	20-40							
4	Natural Regeneration	C	40-100							

Block	Treatment	Soil pit (calicata)	Soil Depth	Cylin. No.	Bulk density calicata side 1	Cylin. No.	Bulk density calicata side 2	Cylin. No.	Bulk density calicata side 3	Bulk density mean per calicata
3	B. Hybrid (36061)+ A. pintoi (18744)	A	0-10	361	0,94	363	0,96	369	0,93	0,95
3	B. Hybrid (36061)+ A. pintoi (18744)	A	10-20	362	1,10	366	1,03	370	0,98	1,04
3	B. Hybrid (36061)+ A. pintoi (18744)	A	20-40	363	1,06	367	0,99	371	0,97	1,01
3	B. Hybrid (36061)+ A. pintoi (18744)	A	40-100	364	0,99	368	1,01	372	1,02	1,01
3	B. Hybrid (36061)+ A. pintoi (18744)	B	0-10							
3	B. Hybrid (36061)+ A. pintoi (18744)	B	10-20							
3	B. Hybrid (36061)+ A. pintoi (18744)	B	20-40							
3	B. Hybrid (36061)+ A. pintoi (18744)	B	40-100							
3	B. Hybrid (36061)+ A. pintoi (18744)	C	0-10							
3	B. Hybrid (36061)+ A. pintoi (18744)	C	10-20							
3	B. Hybrid (36061)+ A. pintoi (18744)	C	20-40							
3	B. Hybrid (36061)+ A. pintoi (18744)	C	40-100							
3	Brachiaria Hybrid (Mulato 36061)	A	0-10	385	0,80	389	0,76	393	0,93	0,83
3	Brachiaria Hybrid (Mulato 36061)	A	10-20	386	0,93	390	0,87	394	0,94	0,91
3	Brachiaria Hybrid (Mulato 36061)	A	20-40	387	1,18	391	1,15	395	1,21	1,18
3	Brachiaria Hybrid (Mulato 36061)	A	40-100	388	1,21	392	1,15	396	1,18	1,18
3	Brachiaria Hybrid (Mulato 36061)	B	0-10							
3	Brachiaria Hybrid (Mulato 36061)	B	10-20							
3	Brachiaria Hybrid (Mulato 36061)	B	20-40							
3	Brachiaria Hybrid (Mulato 36061)	B	40-100							
3	Brachiaria Hybrid (Mulato 36061)	C	0-10							
3	Brachiaria Hybrid (Mulato 36061)	C	10-20							
3	Brachiaria Hybrid (Mulato 36061)	C	20-40							
3	Brachiaria Hybrid (Mulato 36061)	C	40-100							
3	For. Bank Improved Management	A	0-10	373	0,89	377	0,85	381	0,87	0,87
3	For. Bank Improved Management	A	10-20	374	0,91	378	0,86	382	0,93	0,90
3	For. Bank Improved Management	A	20-40	375	1,11	379	1,22	383	1,12	1,15
3	For. Bank Improved Management	A	40-100	376	1,27	380	1,25	384	1,26	1,26
3	For. Bank Improved Management	B	0-10							
3	For. Bank Improved Management	B	10-20							
3	For. Bank Improved Management	B	20-40							
3	For. Bank Improved Management	B	40-100							
3	For. Bank Improved Management	C	0-10							
3	For. Bank Improved Management	C	10-20							
3	For. Bank Improved Management	C	20-40							
3	For. Bank Improved Management	C	40-100							
3	Forage Bank Local Management	A	0-10	409	1,00	413	0,84	417	1,00	0,95
3	Forage Bank Local Management	A	10-20	410	0,94	414	0,91	418	0,94	0,93
3	Forage Bank Local Management	A	20-40	411	1,18	415	1,15	419	1,12	1,15
3	Forage Bank Local Management	A	40-100	412	1,08	416	1,12	420	1,10	1,10
3	Forage Bank Local Management	B	0-10							
3	Forage Bank Local Management	B	10-20							
3	Forage Bank Local Management	B	20-40							
3	Forage Bank Local Management	B	40-100							
3	Forage Bank Local Management	C	0-10							
3	Forage Bank Local Management	C	10-20							
3	Forage Bank Local Management	C	20-40							
3	Forage Bank Local Management	C	40-100							
3	Natural Regeneration	A	0-10	397	0,86	401	0,82	405	0,86	0,85
3	Natural Regeneration	A	10-20	398	1,10	402	1,04	406	0,92	1,02
3	Natural Regeneration	A	20-40	399	1,15	403	1,05	407	1,08	1,09
3	Natural Regeneration	A	40-100	400	1,07	404	1,10	408	0,92	1,03
3	Natural Regeneration	B	0-10							
3	Natural Regeneration	B	10-20							
3	Natural Regeneration	B	20-40							
3	Natural Regeneration	B	40-100							
3	Natural Regeneration	C	0-10							
3	Natural Regeneration	C	10-20							
3	Natural Regeneration	C	20-40							
3	Natural Regeneration	C	40-100							

Block	Treatment	Soil pit (calicata)	Soil Depth	Cylin. No.	Bulk density calicata side 1	Cylin. No.	Bulk density calicata side 2	Cylin. No.	Bulk density calicata side 3	Bulk density mean per calicata
2	B. Hybrid (36061)+ A. pinto (18744)	A	0-10	337	0,85	341	1,06	345	0,89	0,94
2	B. Hybrid (36061)+ A. pinto (18744)	A	10-20	338	0,98	342	0,91	346	0,89	0,93
2	B. Hybrid (36061)+ A. pinto (18744)	A	20-40	339	1,13	343	1,14	347	1,15	1,14
2	B. Hybrid (36061)+ A. pinto (18744)	A	40-100	340	1,18	344	1,04	348	1,15	1,12
2	B. Hybrid (36061)+ A. pinto (18744)	B	0-10							
2	B. Hybrid (36061)+ A. pinto (18744)	B	10-20							
2	B. Hybrid (36061)+ A. pinto (18744)	B	20-40							
2	B. Hybrid (36061)+ A. pinto (18744)	B	40-100							
2	B. Hybrid (36061)+ A. pinto (18744)	C	0-10							
2	B. Hybrid (36061)+ A. pinto (18744)	C	10-20							
2	B. Hybrid (36061)+ A. pinto (18744)	C	20-40							
2	B. Hybrid (36061)+ A. pinto (18744)	C	40-100							
2	Brachiaria Hybrid (Mulato 36061)	A	0-10	301	0,83	305	0,92	309	0,97	0,91
2	Brachiaria Hybrid (Mulato 36061)	A	10-20	302	0,91	306	0,93	310	0,95	0,93
2	Brachiaria Hybrid (Mulato 36061)	A	20-40	303	1,07	307	1,09	311	0,99	1,05
2	Brachiaria Hybrid (Mulato 36061)	A	40-100	304	1,09	308	1,22	312	1,13	1,14
2	Brachiaria Hybrid (Mulato 36061)	B	0-10							
2	Brachiaria Hybrid (Mulato 36061)	B	10-20							
2	Brachiaria Hybrid (Mulato 36061)	B	20-40							
2	Brachiaria Hybrid (Mulato 36061)	B	40-100							
2	Brachiaria Hybrid (Mulato 36061)	C	0-10							
2	Brachiaria Hybrid (Mulato 36061)	C	10-20							
2	Brachiaria Hybrid (Mulato 36061)	C	20-40							
2	Brachiaria Hybrid (Mulato 36061)	C	40-100							
2	For. Bank Improved Management	A	0-10	325	0,96	329	0,88	333	0,94	0,92
2	For. Bank Improved Management	A	10-20	326	1,07	330	1,03	334	1,03	1,04
2	For. Bank Improved Management	A	20-40	327	1,11	331	1,09	335	1,07	1,09
2	For. Bank Improved Management	A	40-100	328	0,89	332	0,85	336	0,82	0,85
2	For. Bank Improved Management	B	0-10							
2	For. Bank Improved Management	B	10-20							
2	For. Bank Improved Management	B	20-40							
2	For. Bank Improved Management	B	40-100							
2	For. Bank Improved Management	C	0-10							
2	For. Bank Improved Management	C	10-20							
2	For. Bank Improved Management	C	20-40							
2	For. Bank Improved Management	C	40-100							
2	Forage Bank Local Management	A	0-10	349	0,86	353	0,88	357	0,99	0,91
2	Forage Bank Local Management	A	10-20	350	0,91	354	0,94	358	0,89	0,92
2	Forage Bank Local Management	A	20-40	351	1,15	355	1,19	359	1,12	1,15
2	Forage Bank Local Management	A	40-100	352	1,17	356	0,87	360	1,18	1,07
2	Forage Bank Local Management	B	0-10							
2	Forage Bank Local Management	B	10-20							
2	Forage Bank Local Management	B	20-40							
2	Forage Bank Local Management	B	40-100							
2	Forage Bank Local Management	C	0-10							
2	Forage Bank Local Management	C	10-20							
2	Forage Bank Local Management	C	20-40							
2	Forage Bank Local Management	C	40-100							
2	Natural Regeneration	A	0-10	313	0,92	317	0,84	321	0,87	0,88
2	Natural Regeneration	A	10-20	314	1,12	318	1,04	322	1,11	1,09
2	Natural Regeneration	A	20-40	315	1,20	319	1,16	323	1,17	1,18
2	Natural Regeneration	A	40-100	316	1,28	320	1,15	324	1,19	1,20
2	Natural Regeneration	B	0-10							
2	Natural Regeneration	B	10-20							
2	Natural Regeneration	B	20-40							
2	Natural Regeneration	B	40-100							
2	Natural Regeneration	C	0-10							
2	Natural Regeneration	C	10-20							
2	Natural Regeneration	C	20-40							
2	Natural Regeneration	C	40-100							

Block	Treatment	Soil pit (calicata)	Soil Depth	Cylin. No.	Bulk density calicata side 1	Cylin. No.	Bulk density calicata side 2	Cylin. No.	Bulk density calicata side 3	Bulk density mean per calicata
1	B. Hybrid (36061)+ A. pintoi (18744)	A	0-10	265	0,94	269	0,93	273	0,83	0,90
1	B. Hybrid (36061)+ A. pintoi (18744)	A	10-20	266	0,96	270	0,79	274	0,94	0,90
1	B. Hybrid (36061)+ A. pintoi (18744)	A	20-40	267	1,08	271	1,20	275	1,18	1,16
1	B. Hybrid (36061)+ A. pintoi (18744)	A	40-100	268	1,16	272	1,21	276	1,26	1,21
1	B. Hybrid (36061)+ A. pintoi (18744)	B	0-10							
1	B. Hybrid (36061)+ A. pintoi (18744)	B	10-20							
1	B. Hybrid (36061)+ A. pintoi (18744)	B	20-40							
1	B. Hybrid (36061)+ A. pintoi (18744)	B	40-100							
1	B. Hybrid (36061)+ A. pintoi (18744)	C	0-10							
1	B. Hybrid (36061)+ A. pintoi (18744)	C	10-20							
1	B. Hybrid (36061)+ A. pintoi (18744)	C	20-40							
1	B. Hybrid (36061)+ A. pintoi (18744)	C	40-100							
1	Brachiaria Hybrid (Mulato 36061)	A	0-10	253	0,65	257	0,82	261	0,80	0,76
1	Brachiaria Hybrid (Mulato 36061)	A	10-20	254	1,00	258	0,82	262	0,95	0,92
1	Brachiaria Hybrid (Mulato 36061)	A	20-40	255	1,21	259	1,04	263	1,16	1,14
1	Brachiaria Hybrid (Mulato 36061)	A	40-100	256	1,30	260	1,24	264	1,24	1,26
1	Brachiaria Hybrid (Mulato 36061)	B	0-10							
1	Brachiaria Hybrid (Mulato 36061)	B	10-20							
1	Brachiaria Hybrid (Mulato 36061)	B	20-40							
1	Brachiaria Hybrid (Mulato 36061)	B	40-100							
1	Brachiaria Hybrid (Mulato 36061)	C	0-10							
1	Brachiaria Hybrid (Mulato 36061)	C	10-20							
1	Brachiaria Hybrid (Mulato 36061)	C	20-40							
1	Brachiaria Hybrid (Mulato 36061)	C	40-100							
1	For. Bank Improved Management	A	0-10	277	0,99	281	0,94	285	0,97	0,97
1	For. Bank Improved Management	A	10-20	278	1,10	282	1,05	286	1,04	1,07
1	For. Bank Improved Management	A	20-40	279	1,24	283	1,23	287	1,24	1,24
1	For. Bank Improved Management	A	40-100	280	1,25	284	1,26	288	1,24	1,25
1	For. Bank Improved Management	B	0-10							
1	For. Bank Improved Management	B	10-20							
1	For. Bank Improved Management	B	20-40							
1	For. Bank Improved Management	B	40-100							
1	For. Bank Improved Management	C	0-10							
1	For. Bank Improved Management	C	10-20							
1	For. Bank Improved Management	C	20-40							
1	For. Bank Improved Management	C	40-100							
1	Forage Bank Local Management	A	0-10	289	0,89	293	0,88	297	0,91	0,89
1	Forage Bank Local Management	A	10-20	290	0,98	294	0,90	298	0,94	0,94
1	Forage Bank Local Management	A	20-40	291	1,13	295	1,08	299	1,09	1,10
1	Forage Bank Local Management	A	40-100	292	1,25	296	1,25	300	1,23	1,24
1	Forage Bank Local Management	B	0-10							
1	Forage Bank Local Management	B	10-20							
1	Forage Bank Local Management	B	20-40							
1	Forage Bank Local Management	B	40-100							
1	Forage Bank Local Management	C	0-10							
1	Forage Bank Local Management	C	10-20							
1	Forage Bank Local Management	C	20-40							
1	Forage Bank Local Management	C	40-100							
1	Natural Regeneration	A	0-10	241	0,92	245	0,85	249	0,79	0,85
1	Natural Regeneration	A	10-20	242	0,94	246	0,95	250	0,88	0,92
1	Natural Regeneration	A	20-40	243	1,05	247	1,11	251	1,22	1,13
1	Natural Regeneration	A	40-100	244	1,25	248	1,24	252	1,25	1,24
1	Natural Regeneration	B	0-10							
1	Natural Regeneration	B	10-20							
1	Natural Regeneration	B	20-40							
1	Natural Regeneration	B	40-100							
1	Natural Regeneration	C	0-10							
1	Natural Regeneration	C	10-20							
1	Natural Regeneration	C	20-40							
1	Natural Regeneration	C	40-100							

***Final Database
Dagua Experiment
Andean Hillsides, Colombia***

Annex 8

Final Databases of Newly-established Systems on degraded land. All Ecosystems

Table 5. C Fixation at 0-100 cm Depth in New Experiment, Esparza, 2003 and 2005.

Land use system	Total C		Stable C	
	Different (2003-2005)	Fixation tasa	Different (2003-2005)	Fixation tasa
<i>Brachiaria brizantha</i>	6.45	2.58	2.24	0.896
<i>Cratylia argentea</i>	4.2	1.68	1.6	0.64
<i>Hyparrhenia rufa</i>	4.22	1.688	1	0.4

Table 4. Total C by Land Use in New Experiment, Esparza, Costa Rica.

Land Use System	Soil		Roots		Biomass		Total (t /ha)
	(t /ha)	%	(t /ha)	%	(t /ha)	%	
<i>Brachiaria brizantha</i>	150.05	69.2	6	2.77	0.92	0.42	156.0
<i>Brachiaria brizantha</i> + <i>Arachis pinto</i>	149.7	96.6	4.25	2.74	1.01	0.65	154.96
<i>Cratylia argentea</i> fodder bank	127.9	97.4	2.03	1.55	1.35	0.80	131.28
<i>Hyparrhenia rufa</i>	154.12	97.2	3.59	2.26	0.81	0.51	158.52
<i>Natural regeneration</i>	148.42	95.7	4.24	2.73	2.4	1.55	155.06

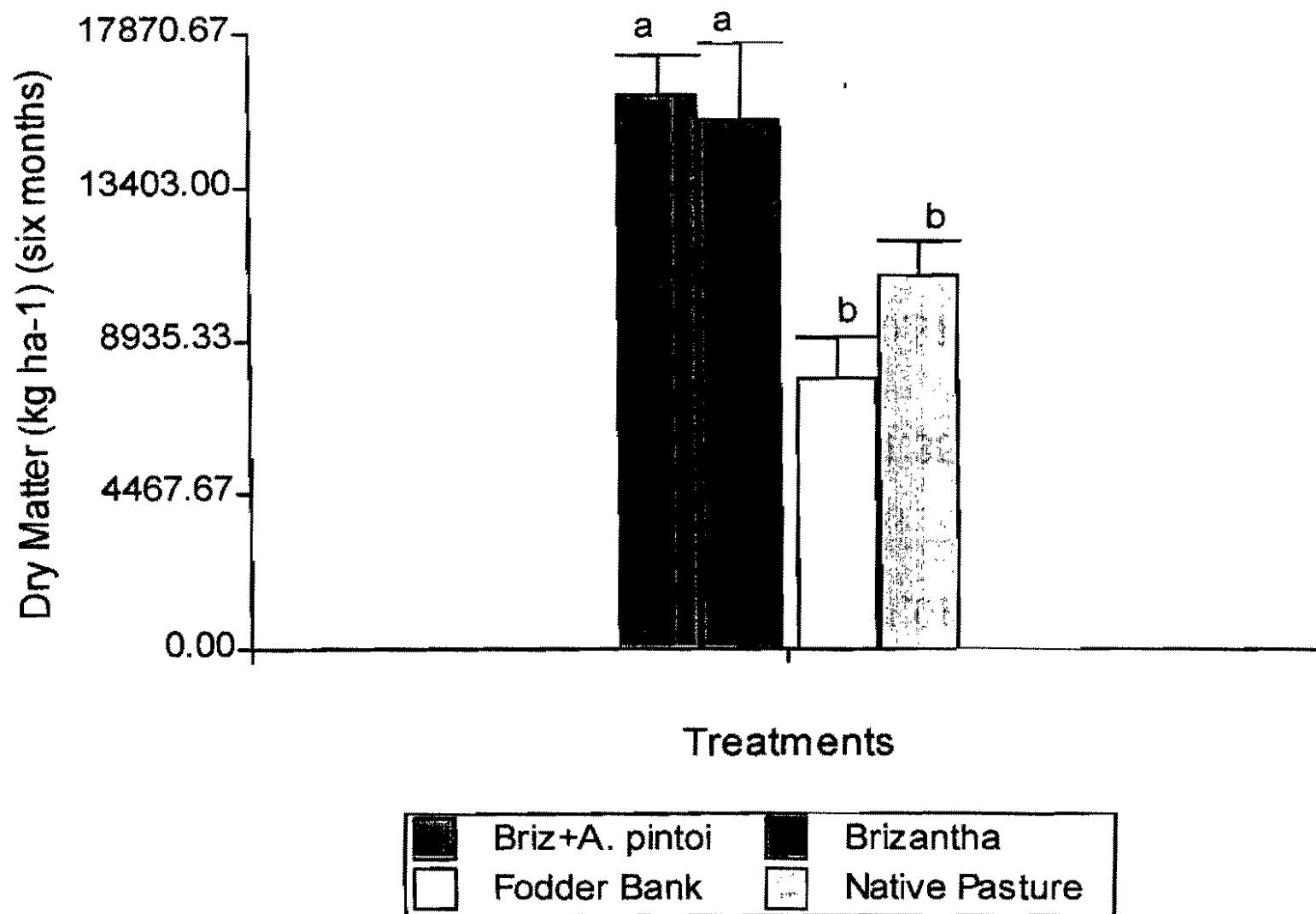


Figure 2. Dry matter in different in the experiment in Esparza during Rainy Season. (CV% 19.94, $p=0.0103$)

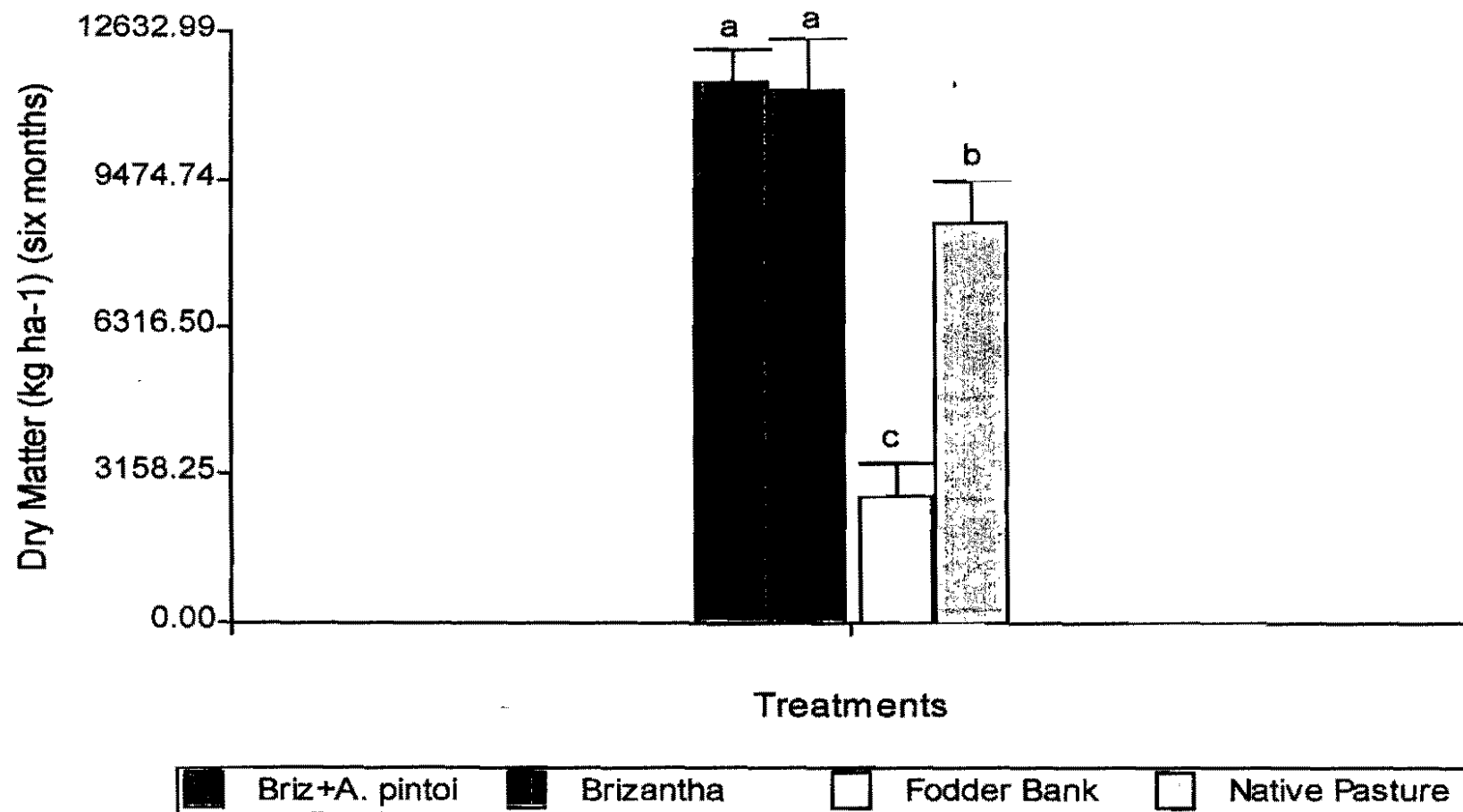


Figure 1. Dry matter in different in the experiment in Esparza during Dry Season. (CV% 10.73, $p < 0.0001$)

**Table 3. Biomass Availability by Cycle in Treatments
in New Experiment, Esparza - Costa Rica.**

Land use system	Month Average (kg ha-1) yr1	Month Average (kg ha-1) yr2	Month Average (kg ha-1) yr3	Month Average (kg ha-1) yr4
<i>H. rufa</i>	1764.7	1640.5	1822.3	
<i>B. Brizantha</i>	2019.8	1754.4	2059.4	
<i>B. Brizantha</i> + <i>A. pintoi</i>	2114.0	1876.8	2264.4	

**Table 2. C in Fine Roots Biomass in New Experiment,
Esparza, Costa Rica, 2005.**

Land use system	Depth cm					
	0-10	10-20	20-40	0-40	40-100	100 cm
<i>Brachiaria brizantha</i>	2.83±0.4	0.81±0.0	0.8±0.3	4.45±0.5	1.55±0.8	6.0±0.9
<i>Brachiaria brizantha</i> + <i>Arachis pintoii</i>	1.08±0.4	1.51±0.8	1.19±0.5	3.77±1.0	0.63±0.5	4.25±0.9
<i>Cratylia argentea</i> fodder bank	1.19±0.3	0.16±0.0	0.23±0.0	1.58±0.3	0.45±0.2	2.03±0.4
<i>Hyparrhenia rufa</i>	1.65±0.8	0.33±0.1	0.23±0.1	2.21±0.6	1.38±0.5	3.59±0.7
CV%	52.81	100.47	118.61	51.67	104.79	47.97
p-value	0.1924	0.1906	0.5902	0.3794	0.5958	0.4207

**Table 1. C at 0-100 cm Depth in New Experiment,
Esparza, 2003 and 2005**

Depth cm	Land use system	Mean total C		Mean oxidisable C		Mean stable C	
		2003	2005	2003	2005	2003	2005
0-100	<i>Brachiaria brizantha</i>	143.6±9.0	150.05±9.2	132.1±13.1	136.7±8.7	11.16±2.38	13.4±1.8
	<i>Brachiaria brizantha</i> + <i>Arachis pinto</i>	141.7±18.9	149.7±20.1	132.7±17.9	138.2±17.9	9.0±1.3	11.5±1.7
	<i>Cratylia argentea</i>	123.7±5.4	127.9±6.1	118.7±5.4	121.4±5.8	4.9±0.41	6.5±0.5
	<i>Hyparrhenia rufa</i>	149.9±16.9	154.12±15.	139.4±16.0	142.06±15.0	10.6±0.7	11.6±0.7
CV%		16.44	18.30	17.69	17.28	38.68	33.25
p-valor			0.6675	0.7308	0.6912	0.5740	0.5438

Latin square design representation

Columna				
Fila	<i>B. brizantha</i> + <i>A. pintoi</i>	<i>Brachiaria brizantha</i>	<i>H. rufa</i>	Fodder bank
	Fodder bank	<i>B. brizantha</i> + <i>A. pintoi</i>	<i>Brachiaria</i> <i>Brizantha</i>	<i>H. rufa</i>
	<i>H. rufa</i>	Fodder bank	<i>B. brizantha</i> + <i>A. pintoi</i>	<i>Brachiaria</i> <i>brizantha</i>
	<i>Brachiaria</i> <i>brizantha</i>	<i>H. rufa</i>	Fodder bank	<i>B. brizantha</i> + <i>A. pintoi</i>
Land use	Natural regeneration	Natural regeneration	Natural regeneration	Natural regeneration

New Experiment of carbon storage data in Esparza, Costa Rican Project sites Preliminary results

M Ibrahim, M Chacón, T Llanderal, J Rojas

Seventh International Coordination Meeting
Carbon Sequestration Project
June 28-July 1, 2006. Punta Leona, Puntareas, Costa Rica

Annex 7

***Statistical Analysis of Esparza Experiment
to evaluate C sequestration of improved systems
established on degraded land***

***Sub-humid Tropical Forest Ecosystem,
Costa Rica (2002-2006)***

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Carbono Estable Pastura Degradada: 1.910 Toneladas/hectárea/1m
Carbono Estable Pastura Degradada: 1.890 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Stable C (ton/ha/1m)			Stable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.3 años	% incremento	Means	Diferencia respecto al control en 3.3 años	% incremento	Signif. Dunnet 5 (%) (***)
40-100 (cm)	Natural Regeneration	57.246	55.336	2897.17	49.940	48.050	2542.33	***
	Forage Bank Local Management	57.209	55.299	2895.24	50.204	48.314	2556.30	***
	For. Bank Improved Management	52.618	50.708	2654.87	43.126	41.236	2181.80	***
	Monocultive	52.398	50.488	2643.35	33.869	31.979	1692.01	***
	Asociation	36.990	35.080	1836.65	31.615	29.725	1572.75	***
Mean, CV (%)		41.5, 18.3	49.38	2585.46	33.6, 20.0	39.86	2109.04	

Nota: En la Pastura Degradada se convirtieron a cero 9 Observaciones del Carbono Estable bajando el promedio de ésta, luego las diferencias son muy grandes.

Summary

**Mean Soil C Stock Gain across all treatments
during the 3.3 year Experimental Period
Mild-slope Topography, Amazonia, Colombia**

Variable (t/ha, fixed soil mass estimates)	Depth (cm)	Mean gain in 3.3 years	Mean gain/year
Total C	0-40	-14.2	-4.30
	40-100	6.9	2.09
	0-100	23.1	7.00
Oxidisable C	0-40	5.91	1.79
	40-100	-41.92	-12.7
	0-100	-36.01	-10.9
Stable C	0-40	10.31	3.12
	40-100	39.86	12.08
	0-100	56.89	17.24

**Table 3: Statistical Comparison of Initial vs Final SCS from Improved Systems
Established on degraded land in 3.3 year period. Stable Carbon
"Balcanes" Farm
Amazonia - Mild-slope Topography**

Carbono Estable Pastura Degradada: 13.762 Toneladas/hectárea/1m

Carbono Estable Pastura Degradada: 14.069 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Stable C (ton/ha/1m)			Stable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.3 años	% incremento	Means	Diferencia respecto al control en 3.3 años	% incremento	Signif. Dunnet 5 (%) (***)
0-100 (cm)	Forage Bank Local Management	97.766	84.004	610.41	90.761	76.692	545.11	***
	Natural Regeneration	93.636	79.874	580.40	86.329	72.260	513.61	***
	For. Bank Improved Management	81.103	67.341	489.33	71.611	57.542	409.00	***
	Monocultive	78.196	64.434	468.20	59.667	45.598	324.10	***
	Asociation	51.785	38.023	276.29	46.411	32.342	229.87	***
Mean, CV (%)		68.9, 13.3	66.73	484.92	61.1, 13.8	56.89	404.34	

Carbono Estable Pastura Degradada: 18.893 Toneladas/hectárea/1m

Carbono Estable Pastura Degradada: 18.893 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Stable C (ton/ha/1m)			Stable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.3 años	% incremento	Means	Diferencia respecto al control en 3.3 años	% incremento	Signif. Dunnet 5 (%) (***)
0-40 (cm)	Forage Bank Local Management	40.557	21.664	114.67	40.557	21.664	114.67	***
	Natural Regeneration	36.390	17.497	92.61	36.390	17.497	92.61	***
	For. Bank Improved Management	28.485	9.592	50.77	28.485	9.592	50.77	***
	Monocultive	25.798	6.905	36.55	25.798	6.905	36.55	***
	Asociation	14.795	-4.098	-21.69	14.795	-4.098	-21.69	ns
Mean, CV (%)		27.48, 14.18	10.31	54.58	27.48, 14.18	10.31	54.58	

Carbono Oxidable Pastura Degradada: 56.368 Toneladas/hectárea/1m

Carbono Oxidable Pastura Degradada: 56.368 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Oxidisable C (ton/ha/1m)			Oxidisable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.3 años	% incremento	Means	Diferencia respecto al control en 3.3 años	% incremento	Signif. Dunnet 5 (%) (***)
0-40 (cm)	Monocultive	78.151	21.783	38.64	78.151	21.783	38.64	***
	Asociation	65.700	9.332	16.56	65.700	9.332	16.56	ns
	For. Bank Improved Management	57.024	0.656	1.16	57.024	0.656	1.16	ns
	Natural Regeneration	56.264	-0.104	-0.18	56.264	-0.104	-0.18	ns
	Forage Bank Local Management	54.237	-2.131	-3.78	54.237	-2.131	-3.78	ns
Mean, CV (%)		61.3, 15.5	5.91	10.48	61.3, 15.5	5.91	10.48	

Carbono Oxidable Pastura Degradada: 70.614 Toneladas/hectárea/1m

Carbono Oxidable Pastura Degradada: 66.701 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Oxidisable C (ton/ha/1m)			Oxidisable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.3 años	% incremento	Means	Diferencia respecto al control en 3.3 años	% incremento	Signif. Dunnet 5 (%) (***)
40-100 (cm)	Monocultive	35.159	-35.455	-50.21	22.610	-44.091	-66.10	***
	Asociation	33.657	-36.957	-52.34	28.857	-37.844	-56.74	***
	For. Bank Improved Management	30.087	-40.527	-57.39	24.435	-42.266	-63.37	***
	Forage Bank Local Management	29.132	-41.482	-58.75	25.578	-41.123	-61.65	***
	Natural Regeneration	25.453	-45.161	-63.96	22.443	-44.258	-66.35	***
Mean, CV (%)		37.4, 14.6	-39.92	-56.53	31.8, 13.4	-41.92	-62.84	

Carbono Total Pastura Degradada: 62.943 Toneladas/hectárea/1m

Carbono Total Pastura Degradada: 59.641 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Total C (ton/ha/1m)			Total C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.3 años	% incremento	Means	Diferencia respecto al control en 3.3 años	% incremento	Signif. Dunnet 5 (%) (***)
40-100 (cm)	Monocultive	87.557	24.615	39.10	56.479	-3.162	-5.30	ns
	Forage Bank Local Management	86.341	23.398	37.17	75.782	16.142	27.06	***
	For. Bank Improved Management	82.705	19.762	31.39	67.561	7.920	13.27	ns
	Natural Regeneration	82.699	19.756	31.38	72.383	12.742	21.36	***
	Asociation	70.647	7.704	12.23	60.472	0.832	1.39	ns
Mean, CV (%)		78.8, 11.8	19.0	30.26	5.4, 12.0	6.9	11.56	

Table 2: Statistical Comparison of Initial vs Final SCS from Improved Systems Established on degraded land in 3.3 year period. Oxidisable Carbon "Balcanes" Farm Amazonia - Mild-slope Topography

Carbono Oxidable Pastura Degradada: 126.982 Toneladas/hectárea/1m

Carbono Oxidable Pastura Degradada: 123.069 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Oxidisable C (ton/ha/1m)			Oxidisable C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.3 años	% incremento	Means	Diferencia respecto al control en 3.3 años	% incremento	Signif. Dunnet 5 (%) (***)
0-100 (cm)	Monocultive	113.310	-13.672	-10.76	100.761	-22.308	-18.13	***
	Asociation	99.357	-27.625	-21.75	94.557	-28.512	-23.16	***
	For. Bank Improved Management	87.111	-39.871	-31.39	81.459	-41.610	-33.81	***
	Forage Bank Local Management	83.369	-43.613	-34.34	79.816	-43.253	-35.14	***
	Natural Regeneration	81.717	-45.265	-35.64	78.707	-44.362	-36.04	***
Mean, CV (%)		98.6, 13.2	-34.0	-26.78	93.1, 13.0	-36.01	-29.26	

**Table 1: Statistical Comparison of Initial vs Final SCS from Improved Systems
Established on degraded land in 3.3 year period. Total Carbon
"Balcanes" Farm
Amazonia - Mild-slope Topography**

Carbono Total Pastura Degradada: 138.20 Toneladas/hectárea/1m

Carbono Total Pastura Degradada: 134.90 Toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Total C (ton/ha/1m)			Total C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.3 años	% incremento	Means	Diferencia respecto al control en 3.3 años	% incremento	Signif. Dunnet 5 (%) (***)
0-100 (cm)	Monoculture	191.507	53.307	38.57	160.428	25.528	18.92	***
	Forage Bank Local Management	181.135	42.935	31.06	170.577	35.677	26.44	***
	Natural Regeneration	175.353	37.153	26.88	165.037	30.137	22.33	***
	For. Bank Improved Management	168.214	30.014	21.71	153.070	18.170	13.46	***
	Asociation	151.142	12.942	9.36	140.968	6.068	4.49	ns
Mean, CV (%)		167.6, 8.7	35.3	25.52	154.2, 8.5	23.1	17.14	

Carbono Total Pastura Degradada: 75.261 Toneladas/hectárea/1m

Carbono Total Pastura Degradada: 105.66 toneladas/hectárea/1m-meq

Soil Depth	Land Use System	Total C (ton/ha/1m)			Total C (ton/ha/1m-eq)			
		Means	Diferencia respecto al control en 3.3 años	% incremento	Means	Diferencia respecto al control en 3.3 años	% incremento	Signif. Dunnet 5 (%) (***)
0-40 (cm)	Monoculture	103.949	28.688	38.11	103.949	-1.71	-1.62	***
	Forage Bank Local Management	94.795	19.533	25.95	94.795	-10.87	-10.28	***
	Natural Regeneration	92.654	17.392	23.10	92.654	-13.01	-12.31	***
	For. Bank Improved Management	85.509	10.248	13.61	85.509	-20.15	-19.07	***
	Asociation	80.495	5.234	6.95	80.495	-25.17	-23.82	ns
Mean, CV (%)		88.8, 9.9	16.2	21.55	88.8, 9.9	-14.18	-13.42	

Fig 4 (cont): Stable C (t/ha/10 cm layers) and C-gain

tratamiento	profundidad	Muestra Inicial			
		N	Mean	Std	CV (%)
Degraded Pasture	0-10	12	6.49	2.68	41.23
	10-20	12	6.54	3.51	53.54
	20-40	12	3.18	3.93	134.17
	40-100	12	0.31	2.34	47777

Muestreo Inicial C Estable a 10 cm

tratamiento	profundidad	Muestreo Final C			
		N	Mean	Std	CV (%)
Asociation	0-10	12	1.76	1.07	60.60
	10-20	12	3.45	1.67	45.68
	20-40	12	4.78	1.34	28.06
	40-100	12	6.16	1.65	26.73
Fer. Bank Improv	0-10	12	5.02	3.69	73.47
	10-20	12	6.78	2.57	37.81
	20-40	12	8.33	2.07	24.80
	40-100	12	8.76	1.62	17.32
Forage Bank Loca	0-10	12	10.26	1.00	9.72
	10-20	12	10.34	1.03	9.97
	20-40	12	9.97	0.99	9.89
	40-100	12	9.53	1.55	16.24
Monocultive	0-10	12	3.19	1.35	42.15
	10-20	12	6.00	2.35	39.15
	20-40	12	8.29	2.29	27.63
	40-100	12	8.73	2.39	27.34
Natural Regenera	0-10	12	7.11	3.45	48.46
	10-20	12	9.50	1.39	14.58
	20-40	12	9.88	1.33	13.46
	40-100	12	9.54	0.84	8.80

2 4 6 8 10

Muestreo Final C Estable a 10 cm

tratamiento	profundidad	Incremento en C		C Gain/System
		Frec	Media	
Asociation	0-10	12	-4.72	= 40.55
	10-20	12	-3.09	
	20-40	12	1.86	
	40-100	12	7.44	
For. Bank Improv	0-10	12	-1.46	= 69.83
	10-20	12	0.23	
	20-40	12	5.41	
	40-100	12	10.04	
Forage Bank Loca	0-10	12	3.77	= 86.51
	10-20	12	3.80	
	20-40	12	7.04	
	40-100	12	10.81	
Monocultive	0-10	12	-3.29	= 66.96
	10-20	12	-0.53	
	20-40	12	5.36	
	40-100	12	10.01	
Natural Regenera	0-10	12	0.62	= 82.33
	10-20	12	2.95	
	20-40	12	6.95	
	40-100	12	10.81	

Incremento en C Estable a 10 cm

Mean gain/4yrs = 69.24 t/ha/1m

Mean gain/year = 17.31 t/ha/1m

Fig 4 (cont): Oxidisable C (t/ha/10 cm layers) and C-gain

tratamiento	profundidad	Muestreo Inicial			
		N	Mean	Std	CV (%)
Degraded Pasture	0-10	12	19.59	6.91	30.13
	10-20	12	12.87	6.00	38.83
	20-40	12	11.94	2.31	19.35
	40-100	12	11.76	2.11	17.90

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5 10 15 20
Muestreo Inicial C_Oxidable a 10 cm

tratamiento	profundidad	Muestreo Final C			
		N	Mean	Std	CV (%)
Association	0-10	12	25.29	5.55	21.80
	10-20	12	17.15	3.88	22.61
	20-40	12	11.62	2.35	20.31
	40-100	12	5.60	1.24	22.03
For. Bank Improv	0-10	12	23.97	6.14	21.44
	10-20	12	14.52	3.05	21.02
	20-40	12	9.26	1.48	15.97
	40-100	12	5.01	1.16	23.13
Forage Bank Loca	0-10	12	24.56	3.02	12.28
	10-20	12	13.40	2.83	21.14
	20-40	12	8.13	1.22	15.02
	40-100	12	4.85	0.30	6.18
Monocultive	0-10	12	34.90	5.96	17.09
	10-20	12	21.06	6.09	28.93
	20-40	12	11.09	3.77	33.99
	40-100	12	5.85	1.31	22.40
Natural Regenera	0-10	12	26.74	4.16	18.57
	10-20	12	13.00	3.19	24.52
	20-40	12	8.26	1.91	23.08
	40-100	12	4.24	0.75	17.94

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10 20 30
Muestreo Final C_Oxidable a 10 cm

tratamiento	profundidad	Incremento en C		<u>C Gain/System</u>
		Frec	Media	
Asociation	0-10	12	5.69	= -27.57
	10-20	12	4.28	
	20-40	12	-0.32	
	40-100	12	-6.15	
For. Bank Improv	0-10	12	4.37	= -39.85
	10-20	12	1.64	
	20-40	12	-2.88	
	40-100	12	-6.75	
Forage Bank Loca	0-10	12	4.96	= -43.59
	10-20	12	0.53	
	20-40	12	-3.61	
	40-100	12	-6.91	
Monocultive	0-10	12	15.30	= -13.61
	10-20	12	8.19	
	20-40	12	-0.85	
	40-100	12	-5.90	
Natural Regenera	0-10	12	7.14	= -45.22
	10-20	12	0.12	
	20-40	12	-3.68	
	40-100	12	-7.52	

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0 10
Incremento en C_Oxidable a 10 cm

Mean gain/4yrs = -33.97 t/ha/1m

Mean gain/year = -8.49 t/ha/1m

Experimento Dagua, Laderas Andinas, Colombia
Listado de Variables de Carbono Acumulado a 1 m metodos 1 y 2

BLOQUE = 1									
tratamiento	Calicata	ctthmt1	coxthmt1	cethmt1	ntthmt1	ctthmt2	coxthmt2	cethmt2	ntthmt2
B, Hybrid (36061)+ A, pinto (18744)	A	258,51	115,29	143,22	10,80	224,53	106,08	118,45	9,73
B, Hybrid (36061)+ A, pinto (18744)	B	260,08	117,47	142,60	10,36	227,11	110,13	116,97	9,62
B, Hybrid (36061)+ A, pinto (18744)	C	186,27	125,12	61,16	10,11	168,18	117,46	50,72	9,54
Brachiaria Hybrid (Mulato 36061)	A	145,37	86,79	58,58	7,99	127,04	79,44	47,60	7,22
Brachiaria Hybrid (Mulato 36061)	B	203,21	127,87	75,34	14,05	174,79	113,64	61,15	12,03
Brachiaria Hybrid (Mulato 36061)	C	193,69	126,77	66,92	10,15	175,55	120,32	55,22	9,71
Degraded Pasture	A	139,11	88,99	50,12	9,93	122,37	81,30	41,07	8,48
Degraded Pasture	B	213,62	150,09	63,53	14,44	184,28	135,26	49,02	13,11
Degraded Pasture	C	227,45	164,96	62,49	11,85	201,45	149,89	51,56	11,41
For, Bank Improved Management	A	149,41	99,24	50,17	8,21	129,84	91,58	38,26	7,52
For, Bank Improved Management	B	176,95	126,28	50,67	9,46	152,60	114,38	38,21	8,62
For, Bank Improved Management	C	102,26	51,64	50,61	3,75	87,41	48,11	39,30	3,50
Forage Bank Local Management	A	190,05	118,30	71,76	9,15	174,25	112,57	61,69	8,64
Forage Bank Local Management	B	205,33	134,29	71,04	9,84	187,71	127,19	60,53	9,52
Forage Bank Local Management	C	152,47	92,39	60,07	6,85	137,00	87,35	49,65	6,62
Natural Regeneration	A	250,25	171,82	78,43	15,71	222,95	157,50	65,45	14,20
Natural Regeneration	B	212,64	138,69	73,95	11,48	188,64	127,34	61,31	10,24
Natural Regeneration	C	198,71	120,77	77,94	9,62	179,16	113,51	65,65	9,11
BLOQUE = 2									
tratamiento	calicata	ctthmt1	coxthmt1	cethmt1	ntthmt1	ctthmt2	coxthmt2	cethmt2	ntthmt2
B, Hybrid (36061)+ A, pinto (18744)	A	195,27	123,25	72,02	11,95	177,45	115,94	61,51	11,18
B, Hybrid (36061)+ A, pinto (18744)	B	199,74	133,24	66,50	11,68	181,35	123,64	57,71	10,75
B, Hybrid (36061)+ A, pinto (18744)	C	212,37	137,27	75,10	13,15	194,22	128,74	65,48	12,16
Brachiaria Hybrid (Mulato 36061)	A	240,18	187,12	53,06	16,84	223,02	175,94	47,08	15,65
Brachiaria Hybrid (Mulato 36061)	B	139,45	95,23	44,22	8,67	126,78	89,26	37,52	8,03
Brachiaria Hybrid (Mulato 36061)	C	265,83	206,33	59,50	18,28	244,33	193,09	51,23	16,78
Degraded Pasture	A	133,60	90,61	42,99	6,65	129,51	88,42	41,08	6,62
Degraded Pasture	B	151,31	110,07	41,25	8,36	145,66	106,68	38,98	8,21
Degraded Pasture	C	176,93	129,61	47,31	9,50	171,67	126,75	44,92	9,41
For, Bank Improved Management	A	179,45	119,88	59,58	10,96	179,45	119,88	59,58	10,96
For, Bank Improved Management	B	191,04	131,69	59,35	11,91	191,04	131,69	59,35	11,91
For, Bank Improved Management	C	187,00	123,61	63,39	10,37	187,00	123,61	63,39	10,37
Forage Bank Local Management	A	195,02	115,63	79,39	11,14	180,57	111,63	68,94	10,47
Forage Bank Local Management	B	172,65	95,24	77,40	10,54	160,37	90,07	70,30	9,91
Forage Bank Local Management	C	182,07	111,82	70,25	9,89	167,92	105,93	61,99	9,17
Natural Regeneration	A	208,07	135,35	72,72	12,71	182,59	123,50	59,09	11,44
Natural Regeneration	B	281,72	150,53	131,19	14,88	238,59	136,89	101,69	13,27
Natural Regeneration	C	195,02	123,29	71,73	10,88	173,07	113,72	59,35	9,95

Experimento Dagua, Laderas Andinas, Colombia

Listado de Calicata con peso Mínimo

BLOQUE = 2						
tratamiento	calicata	profundidad	pdensidad	ponder2	pesuelo	pesomin
For, Bank Improved Management	A	(0-10)	0,92	1	92,36	926,48
For, Bank Improved Management	A	(10-20)	1,04	1	104,06	926,48
For, Bank Improved Management	A	(20-40)	1,09	2	218,13	926,48
For, Bank Improved Management	A	(40-100)	0,85	6	511,94	926,48

BLOQUE = 4								
tratamiento	calicata	profundidad	pdensidad	ponder2	ctthmt2	coxthmt2	cethmt2	ntthmt2
B, Hybrid (36061)+ A, pinto (18744)	A	(0-10)	0,93	1,00	35,24	31,82	3,42	3,20
B, Hybrid (36061)+ A, pinto (18744)	A	(10-20)	0,97	1,00	23,24	17,02	6,22	1,76
B, Hybrid (36061)+ A, pinto (18744)	A	(20-40)	1,14	2,00	38,41	19,22	19,19	2,02
B, Hybrid (36061)+ A, pinto (18744)	A	(40-100)	1,14	4,45	53,51	17,97	35,54	1,72
B, Hybrid (36061)+ A, pinto (18744)	B	(0-10)	0,93	1,00	33,95	28,29	5,65	2,76
B, Hybrid (36061)+ A, pinto (18744)	B	(10-20)	0,97	1,00	18,36	11,44	6,92	1,06
B, Hybrid (36061)+ A, pinto (18744)	B	(20-40)	1,14	2,00	25,02	11,49	13,53	1,03
B, Hybrid (36061)+ A, pinto (18744)	B	(40-100)	1,14	4,45	32,58	8,81	23,78	0,90
B, Hybrid (36061)+ A, pinto (18744)	C	(0-10)	0,93	1,00	35,11	30,66	4,45	3,39
B, Hybrid (36061)+ A, pinto (18744)	C	(10-20)	0,97	1,00	31,74	25,88	5,86	2,84
B, Hybrid (36061)+ A, pinto (18744)	C	(20-40)	1,14	2,00	37,33	27,07	10,26	3,29
B, Hybrid (36061)+ A, pinto (18744)	C	(40-100)	1,14	4,45	54,66	27,19	27,47	3,41
Brachiaria Hybrid (Mulato 36061)	A	(0-10)	0,90	1,00	46,12	33,76	12,36	3,65
Brachiaria Hybrid (Mulato 36061)	A	(10-20)	1,01	1,00	32,19	25,36	6,82	2,38
Brachiaria Hybrid (Mulato 36061)	A	(20-40)	1,16	2,00	57,82	40,85	16,97	3,18
Brachiaria Hybrid (Mulato 36061)	A	(40-100)	1,21	4,17	67,96	33,23	34,73	4,54
Brachiaria Hybrid (Mulato 36061)	B	(0-10)	0,90	1,00	52,73	40,21	12,52	3,74
Brachiaria Hybrid (Mulato 36061)	B	(10-20)	1,01	1,00	37,70	31,99	5,71	3,09
Brachiaria Hybrid (Mulato 36061)	B	(20-40)	1,16	2,00	57,44	40,87	16,56	3,72
Brachiaria Hybrid (Mulato 36061)	B	(40-100)	1,21	4,17	77,32	41,64	35,68	5,20
Brachiaria Hybrid (Mulato 36061)	C	(0-10)	0,90	1,00	45,11	33,84	11,27	3,34
Brachiaria Hybrid (Mulato 36061)	C	(10-20)	1,01	1,00	28,05	21,01	7,04	1,88
Brachiaria Hybrid (Mulato 36061)	C	(20-40)	1,16	2,00	54,66	37,02	17,64	2,82
Brachiaria Hybrid (Mulato 36061)	C	(40-100)	1,21	4,17	70,49	33,74	36,75	4,56
Degraded Pasture	A	(0-10)	0,84	1,00	31,71	26,83	4,87	3,26
Degraded Pasture	A	(10-20)	1,05	1,00	23,64	19,63	4,02	2,31
Degraded Pasture	A	(20-40)	1,12	2,00	30,49	21,04	9,44	3,37
Degraded Pasture	A	(40-100)	1,10	4,69	40,12	19,80	20,32	5,16
Degraded Pasture	B	(0-10)	0,84	1,00	38,64	28,42	10,22	3,50
Degraded Pasture	B	(10-20)	1,05	1,00	23,78	19,61	4,17	2,73
Degraded Pasture	B	(20-40)	1,12	2,00	32,78	22,76	10,02	2,94
Degraded Pasture	B	(40-100)	1,10	4,69	47,56	26,78	20,78	4,73
Degraded Pasture	C	(0-10)	0,84	1,00	43,09	32,75	10,33	3,44
Degraded Pasture	C	(10-20)	1,05	1,00	30,97	25,23	5,73	3,15
Degraded Pasture	C	(20-40)	1,12	2,00	29,04	18,89	10,15	3,24
Degraded Pasture	C	(40-100)	1,10	4,69	37,81	17,08	20,73	1,75
For, Bank Improved Management	A	(0-10)	0,96	1,00	38,04	33,27	4,77	3,37
For, Bank Improved Management	A	(10-20)	0,99	1,00	32,56	25,73	6,83	2,71
For, Bank Improved Management	A	(20-40)	1,10	2,00	47,33	32,17	15,16	4,08
For, Bank Improved Management	A	(40-100)	1,07	4,79	53,89	22,34	31,55	3,06
For, Bank Improved Management	B	(0-10)	0,96	1,00	37,45	33,28	4,17	3,36
For, Bank Improved Management	B	(10-20)	0,99	1,00	28,98	22,58	6,39	2,23
For, Bank Improved Management	B	(20-40)	1,10	2,00	41,66	24,37	17,30	3,09
For, Bank Improved Management	B	(40-100)	1,07	4,79	59,83	26,38	33,45	4,25
For, Bank Improved Management	C	(0-10)	0,96	1,00	34,60	29,27	5,33	3,12
For, Bank Improved Management	C	(10-20)	0,99	1,00	26,83	20,36	6,47	2,40
For, Bank Improved Management	C	(20-40)	1,10	2,00	46,06	31,18	14,88	0,36
For, Bank Improved Management	C	(40-100)	1,07	4,79	38,55	15,59	22,96	1,41
Forage Bank Local Management	A	(0-10)	0,91	1,00	34,81	30,26	4,55	2,94
Forage Bank Local Management	A	(10-20)	0,93	1,00	32,72	28,63	4,10	2,87
Forage Bank Local Management	A	(20-40)	1,17	2,00	39,28	25,19	14,09	2,66
Forage Bank Local Management	A	(40-100)	1,21	4,21	38,08	16,38	21,70	2,01
Forage Bank Local Management	B	(0-10)	0,91	1,00	31,97	27,81	4,16	2,81
Forage Bank Local Management	B	(10-20)	0,93	1,00	24,97	18,68	6,29	1,94
Forage Bank Local Management	B	(20-40)	1,17	2,00	38,98	23,67	15,31	2,84
Forage Bank Local Management	B	(40-100)	1,21	4,21	48,52	21,67	26,86	2,95
Forage Bank Local Management	C	(0-10)	0,91	1,00	33,65	28,57	5,08	2,75
Forage Bank Local Management	C	(10-20)	0,93	1,00	31,73	26,10	5,62	2,44
Forage Bank Local Management	C	(20-40)	1,17	2,00	42,23	26,55	15,68	2,95
Forage Bank Local Management	C	(40-100)	1,21	4,21	50,17	22,38	27,80	2,88
Natural Regeneration	A	(0-10)	0,84	1,00	38,98	27,69	11,29	2,59
Natural Regeneration	A	(10-20)	0,98	1,00	28,55	21,02	7,53	2,19
Natural Regeneration	A	(20-40)	0,96	2,00	35,27	19,72	15,55	2,28
Natural Regeneration	A	(40-100)	1,09	5,08	52,22	18,38	33,85	2,43
Natural Regeneration	B	(0-10)	0,84	1,00	44,72	35,03	9,69	3,20
Natural Regeneration	B	(10-20)	0,98	1,00	32,00	23,09	8,91	2,31
Natural Regeneration	B	(20-40)	0,96	2,00	39,56	22,31	17,25	2,90
Natural Regeneration	B	(40-100)	1,09	5,08	28,57	23,14	5,43	3,91
Natural Regeneration	C	(0-10)	0,84	1,00	42,71	32,49	10,23	2,92
Natural Regeneration	C	(10-20)	0,98	1,00	35,84	25,16	10,69	2,61
Natural Regeneration	C	(20-40)	0,96	2,00	43,87	24,90	18,97	3,06
Natural Regeneration	C	(40-100)	1,09	5,08	84,39	34,27	50,13	4,77

BLOQUE = 3

tratamiento	calicata	profundidad	pdensidad	ponder2	ctthmt2	coxtthmt2	cethmt2	ntthmt2
B, Hybrid (36061)+ A, pinto (18744)	A	(0-10)	0,95	1,00	47,54	36,61	10,93	3,15
B, Hybrid (36061)+ A, pinto (18744)	A	(10-20)	1,04	1,00	28,63	21,77	6,86	2,25
B, Hybrid (36061)+ A, pinto (18744)	A	(20-40)	1,01	2,00	30,87	15,79	15,09	1,61
B, Hybrid (36061)+ A, pinto (18744)	A	(40-100)	1,01	5,22	48,67	19,07	29,60	1,35
B, Hybrid (36061)+ A, pinto (18744)	B	(0-10)	0,95	1,00	51,57	39,08	12,48	3,55
B, Hybrid (36061)+ A, pinto (18744)	B	(10-20)	1,04	1,00	33,57	26,38	7,19	2,34
B, Hybrid (36061)+ A, pinto (18744)	B	(20-40)	1,01	2,00	30,84	18,34	12,50	1,85
B, Hybrid (36061)+ A, pinto (18744)	B	(40-100)	1,01	5,22	61,07	31,19	29,88	3,04
B, Hybrid (36061)+ A, pinto (18744)	C	(0-10)	0,95	1,00	47,38	37,47	9,91	3,35
B, Hybrid (36061)+ A, pinto (18744)	C	(10-20)	1,04	1,00	38,30	32,16	6,14	2,94
B, Hybrid (36061)+ A, pinto (18744)	C	(20-40)	1,01	2,00	27,70	14,92	12,78	1,17
B, Hybrid (36061)+ A, pinto (18744)	C	(40-100)	1,01	5,22	26,92	4,39	22,53	0,35
Bracharia Hybrid (Mulato 36061)	A	(0-10)	0,83	1,00	42,12	33,19	8,93	2,90
Bracharia Hybrid (Mulato 36061)	A	(10-20)	0,91	1,00	39,49	29,46	10,03	2,63
Bracharia Hybrid (Mulato 36061)	A	(20-40)	1,18	2,00	43,68	28,40	15,28	2,91
Bracharia Hybrid (Mulato 36061)	A	(40-100)	1,18	4,37	57,07	25,70	31,38	2,86
Bracharia Hybrid (Mulato 36061)	B	(0-10)	0,83	1,00	43,06	32,71	10,35	2,83
Bracharia Hybrid (Mulato 36061)	B	(10-20)	0,91	1,00	30,68	25,42	5,27	2,19
Bracharia Hybrid (Mulato 36061)	B	(20-40)	1,18	2,00	32,71	17,30	15,40	1,93
Bracharia Hybrid (Mulato 36061)	B	(40-100)	1,18	4,37	56,70	21,98	34,72	3,26
Bracharia Hybrid (Mulato 36061)	C	(0-10)	0,83	1,00	46,07	34,60	11,47	3,25
Bracharia Hybrid (Mulato 36061)	C	(10-20)	0,91	1,00	41,81	30,91	10,91	2,87
Bracharia Hybrid (Mulato 36061)	C	(20-40)	1,18	2,00	55,60	37,06	18,53	3,92
Bracharia Hybrid (Mulato 36061)	C	(40-100)	1,18	4,37	56,81	25,44	31,37	2,96
Degraded Pasture	A	(0-10)	0,83	1,00	40,06	30,92	9,14	3,23
Degraded Pasture	A	(10-20)	1,02	1,00	24,11	19,12	4,98	2,35
Degraded Pasture	A	(20-40)	1,17	2,00	34,58	25,00	9,58	2,49
Degraded Pasture	A	(40-100)	1,16	4,38	42,56	21,80	20,75	1,85
Degraded Pasture	B	(0-10)	0,83	1,00	39,50	30,16	9,34	2,97
Degraded Pasture	B	(10-20)	1,02	1,00	28,41	24,30	4,11	2,50
Degraded Pasture	B	(20-40)	1,17	2,00	34,79	24,96	9,83	2,91
Degraded Pasture	B	(40-100)	1,16	4,38	36,12	22,34	13,78	3,71
Degraded Pasture	C	(0-10)	0,83	1,00	44,32	34,02	10,29	3,40
Degraded Pasture	C	(10-20)	1,02	1,00	29,96	26,03	3,93	2,88
Degraded Pasture	C	(20-40)	1,17	2,00	25,67	15,97	9,71	1,35
Degraded Pasture	C	(40-100)	1,16	4,38	43,30	23,44	19,87	4,99
For, Bank Improved Management	A	(0-10)	0,87	1,00	39,27	29,16	10,11	2,95
For, Bank Improved Management	A	(10-20)	0,90	1,00	26,59	20,05	6,55	2,31
For, Bank Improved Management	A	(20-40)	1,15	2,00	35,41	18,76	16,64	2,24
For, Bank Improved Management	A	(40-100)	1,26	4,12	32,25	9,61	22,64	6,42
For, Bank Improved Management	B	(0-10)	0,87	1,00	31,62	25,51	6,11	2,55
For, Bank Improved Management	B	(10-20)	0,90	1,00	25,41	20,27	5,14	2,05
For, Bank Improved Management	B	(20-40)	1,15	2,00	34,35	21,91	12,44	1,70
For, Bank Improved Management	B	(40-100)	1,26	4,12	53,79	27,75	26,04	1,97
For, Bank Improved Management	C	(0-10)	0,87	1,00	26,14	22,03	4,11	2,14
For, Bank Improved Management	C	(10-20)	0,90	1,00	24,14	18,89	5,25	1,95
For, Bank Improved Management	C	(20-40)	1,15	2,00	41,13	27,92	13,21	2,79
For, Bank Improved Management	C	(40-100)	1,26	4,12	71,26	42,50	28,76	4,20
Forage Bank Local Management	A	(0-10)	0,95	1,00	48,04	37,04	10,99	3,65
Forage Bank Local Management	A	(10-20)	0,93	1,00	46,92	36,01	10,91	3,60
Forage Bank Local Management	A	(20-40)	1,15	2,00	40,73	25,82	14,91	3,03
Forage Bank Local Management	A	(40-100)	1,10	4,62	52,29	23,26	29,03	2,84
Forage Bank Local Management	B	(0-10)	0,95	1,00	45,38	33,37	12,01	3,28
Forage Bank Local Management	B	(10-20)	0,93	1,00	25,32	20,75	4,57	2,09
Forage Bank Local Management	B	(20-40)	1,15	2,00	34,13	17,91	16,22	2,25
Forage Bank Local Management	B	(40-100)	1,10	4,62	52,11	22,55	29,56	3,73
Forage Bank Local Management	C	(0-10)	0,95	1,00	36,67	32,31	4,36	3,19
Forage Bank Local Management	C	(10-20)	0,93	1,00	34,21	29,27	4,94	2,96
Forage Bank Local Management	C	(20-40)	1,15	2,00	41,23	23,31	17,91	2,76
Forage Bank Local Management	C	(40-100)	1,10	4,62	57,44	22,55	34,90	2,80
Natural Regeneration	A	(0-10)	0,85	1,00	50,53	40,04	10,49	3,57
Natural Regeneration	A	(10-20)	1,02	1,00	33,80	28,13	5,68	2,60
Natural Regeneration	A	(20-40)	1,09	2,00	32,43	21,36	11,07	2,49
Natural Regeneration	A	(40-100)	1,03	5,07	25,25	24,34	0,91	2,27
Natural Regeneration	B	(0-10)	0,85	1,00	30,27	20,16	10,11	1,48
Natural Regeneration	B	(10-20)	1,02	1,00	28,22	15,84	12,38	1,49
Natural Regeneration	B	(20-40)	1,09	2,00	33,55	20,88	12,67	2,05
Natural Regeneration	B	(40-100)	1,03	5,07	21,33	15,06	6,26	1,43
Natural Regeneration	C	(0-10)	0,85	1,00	48,81	36,48	12,32	3,47
Natural Regeneration	C	(10-20)	1,02	1,00	26,73	19,91	6,82	2,03
Natural Regeneration	C	(20-40)	1,09	2,00	34,68	20,42	14,26	2,84
Natural Regeneration	C	(40-100)	1,03	5,07	60,97	26,17	34,81	3,82

BLOQUE = 2								
tratamiento	calicata	profundidad	pdensidad	ponder2	ctthm2	corthm2	cethm2	nithm2
B, Hybrid (36061)+ A, pinto (18744)	A	(0-10)	0,94	1,00	44,17	34,49	9,69	3,46
B, Hybrid (36061)+ A, pinto (18744)	A	(10-20)	0,93	1,00	34,98	29,91	4,17	2,51
B, Hybrid (36061)+ A, pinto (18744)	A	(20-40)	1,14	2,00	42,77	28,39	14,37	2,78
B, Hybrid (36061)+ A, pinto (18744)	A	(40-100)	1,12	4,56	56,43	23,15	33,28	2,42
B, Hybrid (36061)+ A, pinto (18744)	B	(0-10)	0,94	1,00	51,59	41,22	10,38	3,28
B, Hybrid (36061)+ A, pinto (18744)	B	(10-20)	0,93	1,00	30,85	25,65	5,20	2,20
B, Hybrid (36061)+ A, pinto (18744)	B	(20-40)	1,14	2,00	40,68	26,38	14,30	2,33
B, Hybrid (36061)+ A, pinto (18744)	B	(40-100)	1,12	4,56	58,22	30,39	27,83	2,94
B, Hybrid (36061)+ A, pinto (18744)	C	(0-10)	0,94	1,00	54,13	42,54	11,59	3,52
B, Hybrid (36061)+ A, pinto (18744)	C	(10-20)	0,93	1,00	46,72	35,12	11,60	3,13
B, Hybrid (36061)+ A, pinto (18744)	C	(20-40)	1,14	2,00	35,89	24,04	11,85	2,38
B, Hybrid (36061)+ A, pinto (18744)	C	(40-100)	1,12	4,56	57,47	27,03	30,44	3,13
Brachiaria Hybrid (Mulato 36061)	A	(0-10)	0,91	1,00	52,15	42,02	10,13	3,54
Brachiaria Hybrid (Mulato 36061)	A	(10-20)	0,93	1,00	51,68	41,84	9,84	3,86
Brachiaria Hybrid (Mulato 36061)	A	(20-40)	1,05	2,00	59,85	53,41	6,44	4,13
Brachiaria Hybrid (Mulato 36061)	A	(40-100)	1,14	4,65	59,34	38,67	20,68	4,12
Brachiaria Hybrid (Mulato 36061)	B	(0-10)	0,91	1,00	35,38	32,30	3,08	2,68
Brachiaria Hybrid (Mulato 36061)	B	(10-20)	0,93	1,00	21,19	18,27	2,92	1,47
Brachiaria Hybrid (Mulato 36061)	B	(20-40)	1,05	2,00	26,39	18,05	8,34	1,69
Brachiaria Hybrid (Mulato 36061)	B	(40-100)	1,14	4,65	43,81	20,64	23,17	2,19
Brachiaria Hybrid (Mulato 36061)	C	(0-10)	0,91	1,00	53,93	44,91	9,02	3,60
Brachiaria Hybrid (Mulato 36061)	C	(10-20)	0,93	1,00	52,61	42,79	9,81	3,55
Brachiaria Hybrid (Mulato 36061)	C	(20-40)	1,05	2,00	63,44	59,62	3,82	4,46
Brachiaria Hybrid (Mulato 36061)	C	(40-100)	1,14	4,65	74,35	45,77	28,58	5,17
Degraded Pasture	A	(0-10)	0,76	1,00	37,97	28,80	9,17	2,85
Degraded Pasture	A	(10-20)	0,96	1,00	23,53	18,75	4,78	1,90
Degraded Pasture	A	(20-40)	1,03	2,00	28,99	20,03	8,96	1,54
Degraded Pasture	A	(40-100)	1,01	5,43	39,02	20,84	18,18	0,33
Degraded Pasture	B	(0-10)	0,76	1,00	29,48	26,22	3,26	2,46
Degraded Pasture	B	(10-20)	0,96	1,00	28,44	23,78	4,66	2,31
Degraded Pasture	B	(20-40)	1,03	2,00	33,85	24,37	9,49	2,02
Degraded Pasture	B	(40-100)	1,01	5,43	53,89	32,32	21,58	1,42
Degraded Pasture	C	(0-10)	0,76	1,00	40,83	31,38	9,44	2,95
Degraded Pasture	C	(10-20)	0,96	1,00	34,61	30,28	4,34	2,59
Degraded Pasture	C	(20-40)	1,03	2,00	46,12	37,83	8,29	3,04
Degraded Pasture	C	(40-100)	1,01	5,43	50,11	27,26	22,85	0,83
For, Bank Improved Management	A	(0-10)	0,92	1,00	48,64	36,85	11,79	3,07
For, Bank Improved Management	A	(10-20)	1,04	1,00	35,77	31,00	4,77	2,78
For, Bank Improved Management	A	(20-40)	1,09	2,00	34,28	22,57	11,71	2,34
For, Bank Improved Management	A	(40-100)	0,85	6,00	60,75	29,45	31,30	2,77
For, Bank Improved Management	B	(0-10)	0,92	1,00	57,74	44,26	13,47	3,91
For, Bank Improved Management	B	(10-20)	1,04	1,00	39,00	34,53	4,47	3,20
For, Bank Improved Management	B	(20-40)	1,09	2,00	41,49	28,82	12,67	2,52
For, Bank Improved Management	B	(40-100)	0,85	6,00	52,81	24,08	28,73	2,28
For, Bank Improved Management	C	(0-10)	0,92	1,00	51,01	39,73	11,29	3,13
For, Bank Improved Management	C	(10-20)	1,04	1,00	53,27	38,99	14,28	3,21
For, Bank Improved Management	C	(20-40)	1,09	2,00	39,91	28,79	11,13	2,61
For, Bank Improved Management	C	(40-100)	0,85	6,00	42,80	16,11	26,69	1,42
Forage Bank Local Management	A	(0-10)	0,91	1,00	44,84	33,60	11,23	2,62
Forage Bank Local Management	A	(10-20)	0,92	1,00	33,27	29,50	3,78	2,44
Forage Bank Local Management	A	(20-40)	1,07	4,78	56,88	15,74	41,14	2,67
Forage Bank Local Management	B	(40-100)	0,91	1,00	48,71	28,64	20,06	3,17
Forage Bank Local Management	B	(0-10)	0,92	1,00	33,24	18,99	14,24	2,47
Forage Bank Local Management	B	(10-20)	1,15	2,00	30,11	22,09	8,03	1,78
Forage Bank Local Management	B	(20-40)	1,07	4,78	48,31	20,35	27,96	2,49
Forage Bank Local Management	C	(40-100)	0,91	1,00	38,34	29,82	8,52	2,06
Forage Bank Local Management	C	(0-10)	0,92	1,00	37,86	26,15	11,71	2,08
Forage Bank Local Management	C	(10-20)	1,15	2,00	45,58	32,79	12,79	2,74
Forage Bank Local Management	C	(20-40)	1,15	2,00	36,01	26,74	9,27	2,22
Forage Bank Local Management	C	(40-100)	1,07	4,78	55,71	23,21	32,50	2,81
Natural Regeneration	A	(0-10)	0,88	1,00	48,74	39,28	9,46	3,44
Natural Regeneration	A	(10-20)	1,09	1,00	30,98	23,90	6,18	2,24
Natural Regeneration	A	(20-40)	1,18	2,00	48,59	34,66	13,93	3,04
Natural Regeneration	A	(40-100)	1,20	4,10	55,18	25,66	29,52	2,73
Natural Regeneration	B	(0-10)	0,88	1,00	47,74	37,07	10,67	3,30
Natural Regeneration	B	(10-20)	1,09	1,00	45,72	31,13	14,58	3,00
Natural Regeneration	B	(20-40)	1,18	2,00	51,72	39,15	12,57	3,49
Natural Regeneration	B	(40-100)	1,20	4,10	93,41	29,54	63,87	3,49
Natural Regeneration	C	(0-10)	0,88	1,00	50,49	38,37	12,12	3,25
Natural Regeneration	C	(10-20)	1,09	1,00	37,31	31,50	5,81	2,57
Natural Regeneration	C	(20-40)	1,18	2,00	37,74	23,13	14,62	2,12
Natural Regeneration	C	(40-100)	1,20	4,10	47,53	20,72	26,81	2,01

Experimento Dagua, Laderas Andinas, Colombia
Listado de Variables Calculadas Método 2 (peso suelo fijo)

BLOQUE = 1								
tratamiento	calicata	profundidad	pdensidad	ponder2	ctthmt2	coxthmt2	cethmt2	atthmt2
B. Hybrid (36061)+ A. pintoi (18744)	A	(0-10)	0,90	1,00	45,92	33,22	12,70	2,67
B. Hybrid (36061)+ A. pintoi (18744)	A	(10-20)	0,90	1,00	42,44	29,67	12,77	2,54
B. Hybrid (36061)+ A. pintoi (18744)	A	(20-40)	1,16	2,00	52,83	20,59	32,24	1,89
B. Hybrid (36061)+ A. pintoi (18744)	A	(40-100)	1,21	4,26	83,34	22,59	60,75	2,63
B. Hybrid (36061)+ A. pintoi (18744)	B	(0-10)	0,90	1,00	46,22	33,93	12,28	2,93
B. Hybrid (36061)+ A. pintoi (18744)	B	(10-20)	0,90	1,00	40,69	29,46	11,24	2,40
B. Hybrid (36061)+ A. pintoi (18744)	B	(20-40)	1,16	2,00	59,33	28,73	30,59	2,48
B. Hybrid (36061)+ A. pintoi (18744)	B	(40-100)	1,21	4,26	80,87	18,01	62,86	1,81
B. Hybrid (36061)+ A. pintoi (18744)	C	(0-10)	0,90	1,00	51,69	41,60	10,09	3,07
B. Hybrid (36061)+ A. pintoi (18744)	C	(10-20)	0,90	1,00	30,98	27,61	3,37	2,76
B. Hybrid (36061)+ A. pintoi (18744)	C	(20-40)	1,16	2,00	41,14	29,49	11,66	2,32
B. Hybrid (36061)+ A. pintoi (18744)	C	(40-100)	1,21	4,26	44,37	18,77	25,60	1,39
Brachiaria Hybrid (Mulato 36061)	A	(0-10)	0,76	1,00	28,55	25,56	2,99	2,03
Brachiaria Hybrid (Mulato 36061)	A	(10-20)	0,92	1,00	23,93	18,37	5,55	1,58
Brachiaria Hybrid (Mulato 36061)	A	(20-40)	1,14	2,00	31,17	18,11	13,06	1,79
Brachiaria Hybrid (Mulato 36061)	A	(40-100)	1,26	4,22	43,39	17,39	26,00	1,82
Brachiaria Hybrid (Mulato 36061)	B	(0-10)	0,76	1,00	36,59	26,17	10,42	2,36
Brachiaria Hybrid (Mulato 36061)	B	(10-20)	0,92	1,00	32,17	28,50	3,68	2,16
Brachiaria Hybrid (Mulato 36061)	B	(20-40)	1,14	2,00	38,77	25,27	13,50	2,74
Brachiaria Hybrid (Mulato 36061)	B	(40-100)	1,26	4,22	67,25	33,69	33,56	4,78
Brachiaria Hybrid (Mulato 36061)	C	(0-10)	0,76	1,00	41,42	32,17	9,25	2,42
Brachiaria Hybrid (Mulato 36061)	C	(10-20)	0,92	1,00	34,19	30,32	3,88	2,50
Brachiaria Hybrid (Mulato 36061)	C	(20-40)	1,14	2,00	57,02	42,59	14,43	3,77
Brachiaria Hybrid (Mulato 36061)	C	(40-100)	1,26	4,22	42,92	15,25	27,67	1,02
Degraded Pasture	A	(0-10)	0,90	1,00	41,79	31,89	9,90	3,16
Degraded Pasture	A	(10-20)	1,05	1,00	22,48	18,01	4,47	1,63
Degraded Pasture	A	(20-40)	1,18	2,00	28,03	17,58	10,45	1,08
Degraded Pasture	A	(40-100)	1,28	3,85	30,07	13,82	16,26	2,61
Degraded Pasture	B	(0-10)	0,90	1,00	30,81	25,84	4,97	2,48
Degraded Pasture	B	(10-20)	1,05	1,00	37,03	29,60	7,43	3,25
Degraded Pasture	B	(20-40)	1,18	2,00	63,72	53,17	10,55	4,97
Degraded Pasture	B	(40-100)	1,28	3,85	52,72	26,65	26,08	2,40
Degraded Pasture	C	(0-10)	0,90	1,00	50,67	40,18	10,49	3,75
Degraded Pasture	C	(10-20)	1,05	1,00	51,80	38,89	12,92	3,71
Degraded Pasture	C	(20-40)	1,18	2,00	52,26	43,74	8,51	3,15
Degraded Pasture	C	(40-100)	1,28	3,85	46,72	27,08	19,64	0,79
For. Bank Improved Management	A	(0-10)	0,97	1,00	35,20	31,68	3,52	2,73
For. Bank Improved Management	A	(10-20)	1,07	1,00	29,26	26,07	3,19	1,98
For. Bank Improved Management	A	(20-40)	1,24	2,00	31,49	20,56	10,93	1,61
For. Bank Improved Management	A	(40-100)	1,25	3,80	33,89	13,27	20,62	1,20
For. Bank Improved Management	B	(0-10)	0,97	1,00	36,44	33,45	2,99	2,78
For. Bank Improved Management	B	(10-20)	1,07	1,00	34,85	31,90	2,94	2,49
For. Bank Improved Management	B	(20-40)	1,24	2,00	39,13	28,43	10,71	1,91
For. Bank Improved Management	B	(40-100)	1,25	3,80	42,18	20,60	21,58	1,45
For. Bank Improved Management	C	(0-10)	0,97	1,00	25,89	22,02	3,88	1,65
For. Bank Improved Management	C	(10-20)	1,07	1,00	15,66	10,56	5,10	0,78
For. Bank Improved Management	C	(20-40)	1,24	2,00	20,14	9,42	10,72	0,65
For. Bank Improved Management	C	(40-100)	1,25	3,80	25,71	6,12	19,59	0,42
Forage Bank Local Management	A	(0-10)	0,89	1,00	45,51	33,11	12,40	2,51
Forage Bank Local Management	A	(10-20)	0,94	1,00	47,39	33,94	13,45	2,56
Forage Bank Local Management	A	(20-40)	1,10	2,00	44,15	32,03	12,12	2,37
Forage Bank Local Management	A	(40-100)	1,24	4,21	37,20	13,49	23,71	1,19
Forage Bank Local Management	B	(0-10)	0,89	1,00	54,27	42,96	11,32	3,41
Forage Bank Local Management	B	(10-20)	0,94	1,00	47,06	34,75	12,31	2,84
Forage Bank Local Management	B	(20-40)	1,10	2,00	44,91	32,75	12,15	2,51
Forage Bank Local Management	B	(40-100)	1,24	4,21	41,47	16,73	24,75	0,76
Forage Bank Local Management	C	(0-10)	0,89	1,00	45,74	34,29	11,44	2,79
Forage Bank Local Management	C	(10-20)	0,94	1,00	28,27	23,99	4,29	1,97
Forage Bank Local Management	C	(20-40)	1,10	2,00	26,58	17,21	9,37	1,32
Forage Bank Local Management	C	(40-100)	1,24	4,21	36,41	11,87	24,54	0,53
Natural Regeneration	A	(0-10)	0,85	1,00	49,31	37,92	11,39	3,31
Natural Regeneration	A	(10-20)	0,92	1,00	46,64	34,69	11,95	2,90
Natural Regeneration	A	(20-40)	1,13	2,00	63,00	51,33	11,67	4,46
Natural Regeneration	A	(40-100)	1,24	4,21	63,99	33,56	30,43	3,54
Natural Regeneration	B	(0-10)	0,85	1,00	52,44	42,49	9,95	3,22
Natural Regeneration	B	(10-20)	0,92	1,00	39,89	30,12	9,77	2,09
Natural Regeneration	B	(20-40)	1,13	2,00	40,06	28,11	11,95	2,04
Natural Regeneration	B	(40-100)	1,24	4,21	56,25	26,61	29,64	2,89
Natural Regeneration	C	(0-10)	0,85	1,00	54,96	45,66	9,30	3,85
Natural Regeneration	C	(10-20)	0,92	1,00	44,02	29,80	14,22	2,41
Natural Regeneration	C	(20-40)	1,13	2,00	34,35	21,02	13,34	1,65
Natural Regeneration	C	(40-100)	1,24	4,21	45,83	17,04	28,79	1,19

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tratamiento	Calicata	profundidad	potencialidad	pH	P (mg/d)	CIC (mmol/kg)	Dical (g/kg)	Cuad (g/kg)	seed (g/kg)	Nitro (mg/kg)	Area (%)	Avalea (%)	Limo (%)	clifhant (%)	actihant (%)	coarhant (%)	cecihant (%)
B. Hybrid (36061) + A. pinto (18744)	A	(0-10)	0.93	5.14	1.10	21.9	38.04	34.35	3.69	3458.43	29.68	47.38	22.94	35.24	3.20	31.82	3.42
B. Hybrid (36061) + A. pinto (18744)	A	(10-20)	0.97	5.29	1.03	16.4	23.91	17.51	6.40	1813.49	19.62	48.47	31.91	29.24	1.76	17.02	6.22
B. Hybrid (36061) + A. pinto (18744)	A	(20-40)	1.14	5.19	1.03	13.8	16.88	8.45	8.43	886.90	13.11	57.18	31.71	38.41	2.02	19.22	19.19
B. Hybrid (36061) + A. pinto (18744)	A	(40-100)	1.14	5.30	0.61	12.8	10.51	3.53	6.98	338.04	3.59	66.04	30.37	72.19	2.32	24.25	47.94
B. Hybrid (36061) + A. pinto (18744)	B	(0-10)	0.93	5.10	1.16	1.4	36.64	30.54	6.10	2982.13	6.10	66.04	33.93	2.76	28.29	5.65	
B. Hybrid (36061) + A. pinto (18744)	B	(10-20)	0.97	5.21	1.16	1.4	18.89	11.77	7.12	1095.40	6.10	66.04	33.93	2.76	28.29	5.65	
B. Hybrid (36061) + A. pinto (18744)	B	(20-40)	1.14	5.10	0.55	1.4	11.00	5.05	5.95	452.81	6.10	66.04	33.93	2.76	28.29	5.65	
B. Hybrid (36061) + A. pinto (18744)	B	(40-100)	1.14	5.29	0.73	1.4	6.40	1.73	4.67	176.87	6.10	66.04	33.93	2.76	28.29	5.65	
B. Hybrid (36061) + A. pinto (18744)	C	(0-10)	0.93	5.29	1.03	1.4	37.89	33.09	4.80	3657.16	33.09	48.47	31.91	29.24	1.76	17.02	6.22
B. Hybrid (36061) + A. pinto (18744)	C	(10-20)	0.97	5.19	1.03	1.4	32.65	28.62	6.03	2917.02	33.09	48.47	31.91	29.24	1.76	17.02	6.22
B. Hybrid (36061) + A. pinto (18744)	C	(20-40)	1.14	5.10	0.55	1.4	16.41	11.90	4.51	1448.24	33.09	48.47	31.91	29.24	1.76	17.02	6.22
B. Hybrid (36061) + A. pinto (18744)	C	(40-100)	1.14	5.29	0.73	1.4	10.74	5.34	5.40	669.76	33.09	48.47	31.91	29.24	1.76	17.02	6.22
Brachiaria Hybrid (Molito 36061)	A	(0-10)	0.90	5.49	0.73	23.9	51.16	37.45	13.71	4643.85	35.77	40.59	23.64	45.12	3.65	33.76	12.36
Brachiaria Hybrid (Molito 36061)	A	(10-20)	1.01	5.46	0.72	19.0	31.93	23.16	6.77	2362.50	25.78	49.43	24.79	32.19	2.38	25.36	6.82
Brachiaria Hybrid (Molito 36061)	A	(20-40)	1.16	5.23	1.16	17.2	24.92	17.61	7.31	1370.65	15.43	58.95	25.62	37.82	3.18	40.85	16.97
Brachiaria Hybrid (Molito 36061)	A	(40-100)	1.21	5.21	1.70	14.9	13.30	6.60	6.90	901.24	14.31	60.12	25.57	97.78	6.53	47.82	49.97
Brachiaria Hybrid (Molito 36061)	B	(0-10)	0.90	5.49	0.73	23.9	51.16	37.45	13.71	4643.85	35.77	40.59	23.64	45.12	3.65	33.76	12.36
Brachiaria Hybrid (Molito 36061)	B	(10-20)	1.01	5.46	0.72	19.0	31.93	23.16	6.77	2362.50	25.78	49.43	24.79	32.19	2.38	25.36	6.82
Brachiaria Hybrid (Molito 36061)	B	(20-40)	1.16	5.23	1.16	17.2	24.92	17.61	7.31	1370.65	15.43	58.95	25.62	37.82	3.18	40.85	16.97
Brachiaria Hybrid (Molito 36061)	B	(40-100)	1.21	5.21	1.70	14.9	13.30	6.60	6.90	901.24	14.31	60.12	25.57	97.78	6.53	47.82	49.97
Brachiaria Hybrid (Molito 36061)	C	(0-10)	0.90	5.49	0.73	23.9	51.16	37.45	13.71	4643.85	35.77	40.59	23.64	45.12	3.65	33.76	12.36
Brachiaria Hybrid (Molito 36061)	C	(10-20)	1.01	5.46	0.72	19.0	31.93	23.16	6.77	2362.50	25.78	49.43	24.79	32.19	2.38	25.36	6.82
Brachiaria Hybrid (Molito 36061)	C	(20-40)	1.16	5.23	1.16	17.2	24.92	17.61	7.31	1370.65	15.43	58.95	25.62	37.82	3.18	40.85	16.97
Brachiaria Hybrid (Molito 36061)	C	(40-100)	1.21	5.21	1.70	14.9	13.30	6.60	6.90	901.24	14.31	60.12	25.57	97.78	6.53	47.82	49.97
Degraded Pasture	A	(0-10)	0.84	5.11	0.25	33.4	37.82	32.00	5.81	3891.40	41.52	32.29	25.09	31.71	3.26	26.83	4.87
Degraded Pasture	A	(10-20)	1.05	5.27	0.50	18.4	22.49	18.67	3.82	2195.90	27.62	46.45	23.93	23.64	2.31	19.63	4.02
Degraded Pasture	A	(20-40)	1.12	5.30	0.16	14.6	13.80	9.38	4.21	1503.36	18.54	55.52	25.94	30.49	3.37	21.04	9.44
Degraded Pasture	A	(40-100)	1.10	5.35	0.12	12.0	7.81	3.86	3.86	1005.10	15.93	63.30	20.75	51.35	6.61	25.24	26.91
Degraded Pasture	B	(0-10)	0.84	5.11	0.25	33.4	37.82	32.00	5.81	3891.40	41.52	32.29	25.09	31.71	3.26	26.83	4.87
Degraded Pasture	B	(10-20)	1.05	5.27	0.50	18.4	22.49	18.67	3.82	2195.90	27.62	46.45	23.93	23.64	2.31	19.63	4.02
Degraded Pasture	B	(20-40)	1.12	5.30	0.16	14.6	13.80	9.38	4.21	1503.36	18.54	55.52	25.94	30.49	3.37	21.04	9.44
Degraded Pasture	B	(40-100)	1.10	5.35	0.12	12.0	7.81	3.86	3.86	1005.10	15.93	63.30	20.75	51.35	6.61	25.24	26.91
Degraded Pasture	C	(0-10)	0.84	5.11	0.25	33.4	37.82	32.00	5.81	3891.40	41.52	32.29	25.09	31.71	3.26	26.83	4.87
Degraded Pasture	C	(10-20)	1.05	5.27	0.50	18.4	22.49	18.67	3.82	2195.90	27.62	46.45	23.93	23.64	2.31	19.63	4.02
Degraded Pasture	C	(20-40)	1.12	5.30	0.16	14.6	13.80	9.38	4.21	1503.36	18.54	55.52	25.94	30.49	3.37	21.04	9.44
Degraded Pasture	C	(40-100)	1.10	5.35	0.12	12.0	7.81	3.86	3.86	1005.10	15.93	63.30	20.75	51.35	6.61	25.24	26.91
For. Bank Improved Management	A	(0-10)	0.96	5.20	3.15	23.9	39.47	34.32	4.95	3493.64	35.10	43.39	21.31	38.04	3.37	33.27	4.77
For. Bank Improved Management	A	(10-20)	0.99	5.15	1.90	20.5	32.85	24.96	6.89	2735.57	32.59	43.30	24.11	32.56	2.71	25.73	6.83
For. Bank Improved Management	A	(20-40)	1.10	5.19	0.87	17.2	21.54	14.64	6.90	1855.64	28.64	44.62	26.74	47.23	4.08	32.17	15.16
For. Bank Improved Management	A	(40-100)	1.07	5.47	0.59	12.2	10.54	4.37	6.17	598.95	11.50	62.29	25.41	67.54	3.84	28.00	39.54
For. Bank Improved Management	B	(0-10)	0.96	5.20	3.15	23.9	39.47	34.32	4.95	3493.64	35.10	43.39	21.31	38.04	3.37	33.27	4.77
For. Bank Improved Management	B	(10-20)	0.99	5.15	1.90	20.5	32.85	24.96	6.89	2735.57	32.59	43.30	24.11	32.56	2.71	25.73	6.83
For. Bank Improved Management	B	(20-40)	1.10	5.19	0.87	17.2	21.54	14.64	6.90	1855.64	28.64	44.62	26.74	47.23	4.08	32.17	15.16
For. Bank Improved Management	B	(40-100)	1.07	5.47	0.59	12.2	10.54	4.37	6.17	598.95	11.50	62.29	25.41	67.54	3.84	28.00	39.54
For. Bank Improved Management	C	(0-10)	0.96	5.20	3.15	23.9	39.47	34.32	4.95	3493.64	35.10	43.39	21.31	38.04	3.37	33.27	4.77
For. Bank Improved Management	C	(10-20)	0.99	5.15	1.90	20.5	32.85	24.96	6.89	2735.57	32.59	43.30	24.11	32.56	2.71	25.73	6.83
For. Bank Improved Management	C	(20-40)	1.10	5.19	0.87	17.2	21.54	14.64	6.90	1855.64	28.64	44.62	26.74	47.23	4.08	32.17	15.16
For. Bank Improved Management	C	(40-100)	1.07	5.47	0.59	12.2	10.54	4.37	6.17	598.95	11.50	62.29	25.41	67.54	3.84	28.00	39.54
For. Bank Improved Management	C	(0-10)	0.96	5.20	3.15	23.9	39.47	34.32	4.95	3493.64	35.10	43.39	21.31	38.04	3.37	33.27	4.77
For. Bank Improved Management	C	(10-20)	0.99	5.15	1.90	20.5	32.85	24.96	6.89	2735.57	32.59	43.30	24.11	32.56	2.71	25.73	6.83
For. Bank Improved Management	C	(20-40)	1.10	5.19	0.87	17.2	21.54	14.64	6.90	1855.64	28.64	44.62	26.74	47.23	4.08	32.17	15.16
For. Bank Improved Management	C	(40-100)	1.07	5.47	0.59	12.2	10.54	4.37	6.17	598.95	11.50	62.29	25.41	67.54	3.84	28.00	39.54
For. Bank Improved Management	C	(0-10)	0.96	5.20	3.15	23.9	39.47	34.32	4.95	3493.64	35.10	43.39	21.31	38.04	3.37	33.27	4.77
For. Bank Improved Management	C	(10-20)	0.99	5.15	1.90	20.5	32.85	24.96	6.89	2735.57	32.59	43.30	24.11	32.56	2.71	25.73	6.83
For. Bank Improved Management	C	(20-40)	1.10	5.19	0.87	17.2	21.54	14.64	6.90	1855.64	28.64	44.62	26.74	47.23	4.08	32.17	15.16
For. Bank Improved Management	C	(40-100)	1.07	5.47	0.59	12.2	10.54	4.37	6.17	598.95	11.50	62.29	25.41	67.54	3.84	28.00	39.54
For. Bank Improved Management	C	(0-10)	0.96	5.20	3.15	23.9	39.47	34.32	4.95	3493.64	35.10	43.39	21.31	38.04	3.37	33.27	4.77
For. Bank Improved Management	C	(10-20)	0.99	5.15	1.90	20.5	32.85	24.96	6.89	2735.57	32.59	43.30	24.11	32.56	2.71	25.73	6.83
For. Bank Improved Management	C	(20-40)	1.10	5.19	0.87	17.2	21.54	14.64	6.90	1855.64	28.64	44.62	26.74	47.23	4.08	32.17	15.16
For. Bank Improved Management	C	(40-100)	1.07	5.47	0.59	12.2	10.54	4.37	6.17	598.95	11.50	62.29	25.41	67.54	3.84	28.00	39.54
For. Bank Improved Management	C	(0-10)	0.96	5.20	3.15	23.9	39.47	34.32	4.95	3493.64	35.10	43.39	21.31	38.04	3.37	33.27	4.77
For. Bank Improved Management	C	(10-20)	0.99	5.15	1.90	20.5	32.85	24.96	6.89	2735.57	32.59	43.30	24.11	32.56	2.71	25.73	6.83
For. Bank Improved Management	C	(20-40)	1.10	5.19	0.87	17.2	21.54	14.64	6.90	1855.64	28.64	44.62	26.74	47.23	4.08	32.17	15.16
For. Bank Improved Management	C	(40-100)	1.07	5.47	0.59	12.2	10.54	4.37	6.17	598.95	11.50	62.29	25.41	67.54	3.84	28.00	39.54
For. Bank Improved Management	C	(0-10)	0.96	5.20	3.15	23.9	39.47	34.32	4.95	3493.64	35.10	43.39	21.31	38.04	3.37	33.27	4.77
For. Bank Improved Management	C	(10-20)	0.99	5.15	1.90	20.5	32.85	24.96	6.89	2735.57	32.59	43.30	24.11	32.56	2.71	25.73	6.83
For. Bank Improved Management	C	(20-40)	1.10	5.19	0.87	17.2	21.54	14.64	6.90	1855.64	28.64	44.62	26.74	47.23	4.08	32.17	15.16
For. Bank Improved Management	C	(40-100)	1.07	5.47	0.59	12.2	10.54	4.37	6.17	598.95	11.50	62.29	25.41	67.54	3.84	28.00	39.54
For. Bank Improved Management	C	(0-10)	0.9														

BLOQUE = 3

Tratamiento	Calicata	profundidad	densidad	pH	P (mg/Kg)	CK (mmol/Kg)	Clotal (g/Kg)	Cuotal (g/Kg)	Caot (g/Kg)	Metal (mg/Kg)	Acena (%)	Arota (%)	Line (%)	cithotl	nithotl	coithotl	ceithotl
B Hybrid (36061)+ A. pintoi (18744)	A	(0-10)	0,95	5,27	1,34	21,9	50,27	38,71	11,56	3330,72	39,95	40,96	19,09	47,54	3,15	36,61	10,93
B Hybrid (36061)+ A. pintoi (18744)	A	(10-20)	1,04	5,46	0,99	17,6	27,59	20,98	5,61	2171,49	31,12	44,68	24,20	28,63	2,25	21,77	6,86
B Hybrid (36061)+ A. pintoi (18744)	A	(20-40)	1,01	5,43	0,73	11,9	15,33	7,84	7,49	801,84	25,10	50,85	24,05	30,87	1,61	15,79	15,09
B Hybrid (36061)+ A. pintoi (18744)	A	(40-100)	1,01	5,47	0,69	10,3	9,24	3,82	5,62	256,87	3,59	69,89	26,52	55,92	1,55	21,91	34,01
B Hybrid (36061)+ A. pintoi (18744)	B	(0-10)	0,95				54,53	41,33	13,20	3756,82				51,57	3,55	39,08	12,48
B Hybrid (36061)+ A. pintoi (18744)	B	(10-20)	1,04				32,35	25,42	6,93	2251,54				33,57	2,34	26,38	7,19
B Hybrid (36061)+ A. pintoi (18744)	B	(20-40)	1,01				15,32	9,11	6,21	916,70				30,84	1,85	18,34	12,50
B Hybrid (36061)+ A. pintoi (18744)	B	(40-100)	1,01				11,59	5,92	5,67	577,30				70,16	3,49	35,83	34,33
B Hybrid (36061)+ A. pintoi (18744)	C	(0-10)	0,95				50,11	39,62	10,49	3542,78				47,38	3,35	37,47	9,91
B Hybrid (36061)+ A. pintoi (18744)	C	(10-20)	1,04				36,91	30,99	5,92	2834,76				38,30	2,94	32,16	6,14
B Hybrid (36061)+ A. pintoi (18744)	C	(20-40)	1,01				13,76	7,41	6,35	579,55				27,70	1,17	14,92	12,78
B Hybrid (36061)+ A. pintoi (18744)	C	(40-100)	1,01				5,11	0,83	4,28	65,49				30,93	0,40	5,05	25,89
Bracharia Hybrid (Mulato 36061)	A	(0-10)	0,83	5,41	0,94	22,5	50,79	40,03	10,76	3491,38	26,14	46,57	27,29	42,12	2,90	33,19	8,93
Bracharia Hybrid (Mulato 36061)	A	(10-20)	0,91	5,32	0,81	19,3	43,16	32,20	10,96	2871,83	27,29	47,97	24,74	39,49	2,63	29,46	10,05
Bracharia Hybrid (Mulato 36061)	A	(20-40)	1,18	5,43	0,68	15,2	18,50	12,03	6,47	1231,69	21,27	50,26	28,47	43,68	2,91	28,40	15,28
Bracharia Hybrid (Mulato 36061)	A	(40-100)	1,18	5,35	0,45	11,4	11,08	4,98	6,08	553,45	4,45	89,67	25,88	78,28	3,92	35,24	43,04
Bracharia Hybrid (Mulato 36061)	B	(0-10)	0,83				51,93	39,45	12,48	3413,33				43,06	2,83	32,71	10,35
Bracharia Hybrid (Mulato 36061)	B	(10-20)	0,91				33,54	27,78	5,76	2391,25				30,68	2,19	23,42	5,27
Bracharia Hybrid (Mulato 36061)	B	(20-40)	1,18				13,85	7,33	6,52	819,36				32,71	1,93	17,30	15,40
Bracharia Hybrid (Mulato 36061)	B	(40-100)	1,18				10,99	4,26	6,73	631,34				77,77	4,47	30,15	47,62
Bracharia Hybrid (Mulato 36061)	C	(0-10)	0,83				55,55	41,72	13,83	3916,47				46,07	3,25	34,60	11,47
Bracharia Hybrid (Mulato 36061)	C	(10-20)	0,91				45,70	33,78	11,92	3137,47				41,81	2,87	30,91	10,91
Bracharia Hybrid (Mulato 36061)	C	(20-40)	1,18				23,55	15,70	7,85	1659,03				55,60	3,92	37,06	18,53
Bracharia Hybrid (Mulato 36061)	C	(40-100)	1,18				11,01	4,93	6,08	573,51				77,92	4,06	34,89	43,03
Degraded Pasture	A	(0-10)	0,83	5,33	0,20	25,2	48,09	37,12	10,97	3875,40	36,43	36,91	26,66	40,06	3,23	30,92	9,14
Degraded Pasture	A	(10-20)	1,02	5,56	0,12	17,8	23,59	18,72	4,88	2300,60	25,64	46,01	28,35	24,11	2,35	19,12	4,98
Degraded Pasture	A	(20-40)	1,17	5,58	0,27	14,0	14,73	10,65	4,08	1062,30	18,36	54,30	27,34	34,58	2,49	23,00	9,58
Degraded Pasture	A	(40-100)	1,16	5,36	0,38	9,4	8,41	4,31	4,10	365,10	12,63	59,91	27,46	58,31	2,53	29,87	28,44
Degraded Pasture	B	(0-10)	0,83				47,42	36,20	11,21	3570,10				39,50	2,97	30,16	9,34
Degraded Pasture	B	(10-20)	1,02				27,80	23,78	4,02	2444,50				28,41	2,50	24,30	4,11
Degraded Pasture	B	(20-40)	1,17				14,82	10,63	4,19	1240,90				34,79	2,91	24,96	9,83
Degraded Pasture	B	(40-100)	1,16				7,14	4,41	2,72	732,70				49,49	3,08	30,61	18,88
Degraded Pasture	C	(0-10)	0,83				53,20	40,84	12,36	4080,00				44,32	3,40	34,02	10,29
Degraded Pasture	C	(10-20)	1,02				29,32	25,47	3,85	2820,90				29,96	2,88	26,03	3,93
Degraded Pasture	C	(20-40)	1,17				10,93	6,80	4,13	576,60				25,67	1,35	15,97	9,71
Degraded Pasture	C	(40-100)	1,16				8,55	4,63	3,92	983,20				59,33	6,83	32,11	27,22
For. Bank Improved Management	A	(0-10)	0,87	5,32	1,03	20,1	45,21	33,57	11,64	3396,92	39,95	44,87	15,18	39,27	2,95	29,16	10,11
For. Bank Improved Management	A	(10-20)	0,90	5,45	0,98	18,2	29,52	22,25	7,27	2569,42	36,44	42,00	21,56	26,59	2,31	20,05	6,55
For. Bank Improved Management	A	(20-40)	1,15	5,63	1,03	12,0	15,40	8,16	7,24	973,88	17,37	53,43	29,20	35,41	2,24	18,76	16,64
For. Bank Improved Management	A	(40-100)	1,26	5,69	1,27	11,6	6,21	1,85	4,36	1236,41	3,56	64,23	32,21	46,95	9,25	13,99	32,95
For. Bank Improved Management	B	(0-10)	0,87				36,41	29,37	7,04	2940,56				31,62	2,55	25,51	6,11
For. Bank Improved Management	B	(10-20)	0,90				28,21	22,50	5,71	2278,00				23,41	2,05	20,27	5,14
For. Bank Improved Management	B	(20-40)	1,15				14,94	9,53	5,41	737,14				34,35	1,70	21,91	12,44
For. Bank Improved Management	B	(40-100)	1,26				10,33	5,34	5,01	379,87				78,31	2,87	40,39	37,91
For. Bank Improved Management	C	(0-10)	0,87				30,10	25,36	4,74	2462,52				26,14	2,14	22,03	4,11
For. Bank Improved Management	C	(10-20)	0,90				26,80	20,97	5,83	2165,52				24,14	1,95	18,89	5,25
For. Bank Improved Management	C	(20-40)	1,15				17,89	12,14	5,75	1213,55				41,13	2,79	27,92	13,21
For. Bank Improved Management	C	(40-100)	1,26				13,72	8,18	5,54	809,03				103,74	6,12	61,87	41,87
Forage Bank Local Management	A	(0-10)	0,95	5,28	1,12	22,2	50,74	39,13	11,61	3855,02	31,26	47,22	21,52	48,04	3,65	37,04	10,99
Forage Bank Local Management	A	(10-20)	0,93	5,25	0,96	21,9	50,48	38,74	11,74	3869,89	34,47	44,31	21,62	46,92	3,60	36,01	10,91
Forage Bank Local Management	A	(20-40)	1,15	5,35	0,70	12,3	17,72	11,23	6,49	1319,31	22,20	50,52	27,28	40,73	3,03	25,82	14,91
Forage Bank Local Management	A	(40-100)	1,10	5,37	0,55	11,3	10,27	4,57	3,70	558,61	5,58	71,07	23,35	67,89	3,69	30,20	37,69
Forage Bank Local Management	B	(0-10)	0,95				47,94	35,25	12,69	3466,54				45,38	3,28	33,37	12,91
Forage Bank Local Management	B	(10-20)	0,93				27,24	22,32	4,92	2253,65				25,32	2,69	20,75	4,57
Forage Bank Local Management	B	(20-40)	1,15				14,84	7,79	7,05	979,63				34,13	2,25	17,91	16,22
Forage Bank Local Management	B	(40-100)	1,10				10,24	4,43	5,81	732,23				67,66	4,84	29,27	38,38
Forage Bank Local Management	C	(0-10)	0,95				38,73	34,13	4,60	3374,72				36,67	3,19	32,31	4,36
Forage Bank Local Management	C	(10-20)	0,93				36,81	31,49	5,32	3182,44				34,21	2,96	29,27	4,94
Forage Bank Local Management	C	(20-40)	1,15				17,93	10,14	7,79	1201,52				41,23	2,76	23,31	17,91
Forage Bank Local Management	C	(40-100)	1,10				11,29	4,43	6,86	550,32				74,59	3,64	29,27	45,31
Natural Regeneration	A	(0-10)	0,85	5,51	1,39	25,0	59,80	47,38	12,42	4224,01	48,60	43,11	12,29	50,53	3,57	40,04	10,49
Natural Regeneration	A	(10-20)	1,02	5,35	1,14	19,4	33,18	27,61	5,57	2548,19	39,63	49,43	10,94	33,80	2,60	28,13	5,68
Natural Regeneration	A	(20-40)	1,09	5,39	0,75	12,7	14,82	9,76	5,06	1137,99	14,18	58,16	27,66	32,43	2,49	21,36	11,07
Natural Regeneration	A	(40-100)	1,03	5,49	0,66	12,3	4,84	4,67	0,17	435,02	3,45	68,78	27,77	29,91	2,69	28,83	1,67
Natural Regeneration	B	(0-10)	0,85				35,82	23,85	11,96	1755,59				30,27	1,48	20,16	10,11
Natural Regeneration	B	(10-20)	1,02				27,70	15,55	12,15	1461,05				28,22	1,49	15,84	12,38
Natural Regeneration	B	(20-40)	1,09				15,33	9,54	5,79	935,00				33,55	2,95	20,88	12,67
Natural Regeneration	B	(40-100)	1,03				4,09	2,89	1,20	274,96				25,26	1,70	17,84	7,42
Natural Regeneration	C	(0-10)	0,83				37,75	43,17	14,58	4106,14				48,81	3,47	36,48	12,33
Natural Regeneration	C	(10-20)	1,02				26,23	19,54	6,69	1988,17				26,73	2,03	19,91	6,82
Natural Regeneration	C	(20-40)	1,09				15,85	9,33	6,52	1296,25				34,68	2,84	20,42	14,26
Natural Regeneration	C	(40-100)	1,03				11,70	5,02	6,68	732,01				72,22	4,52	30,96	41,23

Experimento Dagua, Laderas Andinas, Colombia
Listado de Variables de laboratorio y calculadas método 1 (profundidad fija)

BLOQUE = 1															
Treatmento	Calicata	profundidad	densidad	pH	P (mg/Kg)	GC (cmol/Kg)	Celul (gr/Kg)	Codo (gr/Kg)	ceat (gr/Kg)	Molde (mg/Kg)	Acme (%)	Acilla (%)	Line (%)	cthm1	cthm2
B Hybrid (36061)+ A. pinto (18744)	A	(0-10)	0,90	5,21	0,99	19,3	51,03	36,91	14,11	2968,16	22,48	53,07	24,45	45,92	2,67
B Hybrid (36061)+ A. pinto (18744)	A	(10-20)	0,90	5,21	0,87	17,9	47,23	33,02	14,20	2820,77	21,51	51,55	26,94	42,44	2,54
B Hybrid (36061)+ A. pinto (18744)	A	(20-40)	1,16	5,30	0,68	10,7	22,86	8,91	13,95	818,95	8,27	61,90	28,43	52,83	1,89
B Hybrid (36061)+ A. pinto (18744)	A	(40-100)	1,21	5,70	0,53	11,2	16,17	4,38	11,78	510,48	8,38	67,22	24,40	117,32	3,70
B Hybrid (36061)+ A. pinto (18744)	B	(0-10)	0,90				51,35	37,20	13,65	3259,32				46,22	2,93
B Hybrid (36061)+ A. pinto (18744)	B	(10-20)	0,90				45,27	32,77	12,50	2671,56				40,69	2,40
B Hybrid (36061)+ A. pinto (18744)	B	(20-40)	1,16				25,68	12,43	13,24	1072,62				39,33	2,48
B Hybrid (36061)+ A. pinto (18744)	B	(40-100)	1,21				15,69	5,49	12,19	350,47				113,84	2,54
B Hybrid (36061)+ A. pinto (18744)	C	(0-10)	0,90				57,44	46,22	11,22	3410,79				51,69	3,07
B Hybrid (36061)+ A. pinto (18744)	C	(10-20)	0,90				34,47	30,72	3,75	3066,71				30,98	2,76
B Hybrid (36061)+ A. pinto (18744)	C	(20-40)	1,16				17,81	12,76	5,05	1004,91				41,14	2,32
B Hybrid (36061)+ A. pinto (18744)	C	(40-100)	1,21				8,61	3,64	4,97	269,97				62,46	1,96
Brachiaria Hybrid (Mulato 36061)	A	(0-10)	0,76	4,85	0,92	20,7	37,67	33,72	3,94	2682,69	22,24	51,81	25,95	28,55	2,03
Brachiaria Hybrid (Mulato 36061)	A	(10-20)	0,92	4,93	1,43	16,4	25,93	19,91	6,02	1709,57	12,66	55,17	32,17	23,93	1,58
Brachiaria Hybrid (Mulato 36061)	A	(20-40)	1,14	5,13	1,24	13,4	13,69	7,96	5,74	786,14	4,66	63,10	32,24	31,17	1,79
Brachiaria Hybrid (Mulato 36061)	A	(40-100)	1,26	5,46	0,46	12,8	8,17	3,28	4,90	342,39	7,27	58,32	33,41	61,73	2,59
Brachiaria Hybrid (Mulato 36061)	B	(0-10)	0,76				48,27	34,53	13,75	3107,98				36,39	2,36
Brachiaria Hybrid (Mulato 36061)	B	(10-20)	0,92				34,87	30,88	3,98	2335,68				32,17	2,16
Brachiaria Hybrid (Mulato 36061)	B	(20-40)	1,14				17,03	11,10	5,93	1204,31				38,77	2,74
Brachiaria Hybrid (Mulato 36061)	B	(40-100)	1,26				12,67	6,33	6,32	899,84				95,67	6,79
Brachiaria Hybrid (Mulato 36061)	C	(0-10)	0,76				54,64	42,44	12,20	3191,14				41,42	2,42
Brachiaria Hybrid (Mulato 36061)	C	(10-20)	0,92				37,05	32,85	4,20	2711,16				34,19	2,50
Brachiaria Hybrid (Mulato 36061)	C	(20-40)	1,14				25,05	18,71	6,34	1654,86				57,02	3,77
Brachiaria Hybrid (Mulato 36061)	C	(40-100)	1,26				8,09	2,87	5,21	193,08				81,06	1,46
Degraded Pasture	A	(0-10)	0,90	5,33	0,47	21,4	46,31	35,34	10,97	3502,50	29,64	42,27	28,69	41,79	3,16
Degraded Pasture	A	(10-20)	1,05	5,33	0,25	13,0	21,35	17,10	4,25	1549,60	20,23	51,12	28,65	22,48	1,63
Degraded Pasture	A	(20-40)	1,18	5,37	0,22	11,6	11,87	7,45	4,42	457,00	9,63	62,97	27,40	28,03	1,08
Degraded Pasture	A	(40-100)	1,28	5,32	0,49	11,8	6,08	2,79	3,29	527,40	5,56	64,97	29,57	46,81	4,06
Degraded Pasture	B	(0-10)	0,90				34,14	28,64	5,51	2749,80				30,81	2,48
Degraded Pasture	B	(10-20)	1,05				35,17	28,11	7,06	3088,00				37,03	3,25
Degraded Pasture	B	(20-40)	1,18				26,98	22,52	4,47	2106,30				63,72	4,97
Degraded Pasture	B	(40-100)	1,28				10,66	5,39	5,27	484,70				82,06	3,73
Degraded Pasture	C	(0-10)	0,90				36,15	44,52	11,63	4158,10				50,67	3,75
Degraded Pasture	C	(10-20)	1,05				49,20	36,93	12,27	3525,00				51,80	3,71
Degraded Pasture	C	(20-40)	1,18				22,13	18,32	3,61	1332,80				52,26	3,15
Degraded Pasture	C	(40-100)	1,28				9,44	5,47	3,97	160,40				72,72	1,24
For. Bank Improved Management	A	(0-10)	0,97	5,14	0,94	17,1	36,36	32,73	3,63	2821,76	21,11	50,62	28,27	35,20	2,73
For. Bank Improved Management	A	(10-20)	1,07	5,09	0,65	14,7	27,45	24,46	2,99	1854,98	16,27	55,58	28,15	29,26	1,98
For. Bank Improved Management	A	(20-40)	1,24	5,15	1,69	10,8	12,75	8,32	4,42	653,09	11,11	56,87	32,02	31,49	1,61
For. Bank Improved Management	A	(40-100)	1,25	5,51	1,33	10,3	7,12	2,79	4,33	251,30	6,33	63,07	30,60	53,47	1,89
For. Bank Improved Management	B	(0-10)	0,97				37,64	34,56	3,09	2873,83				36,44	2,78
For. Bank Improved Management	B	(10-20)	1,07				32,69	29,93	2,76	2334,93				34,85	2,49
For. Bank Improved Management	B	(20-40)	1,24				15,84	11,51	4,33	772,39				39,13	1,91
For. Bank Improved Management	B	(40-100)	1,25				8,86	4,33	4,53	303,77				66,54	2,28
For. Bank Improved Management	C	(0-10)	0,97				26,75	22,74	4,01	1707,82				25,89	1,65
For. Bank Improved Management	C	(10-20)	1,07				14,69	9,91	4,78	735,54				15,66	0,78
For. Bank Improved Management	C	(20-40)	1,24				8,15	3,81	4,34	263,13				20,14	0,65
For. Bank Improved Management	C	(40-100)	1,25				5,40	1,28	4,12	87,59				40,56	0,66
Forage Bank Local Management	A	(0-10)	0,89	5,07	1,51	19,5	51,10	37,18	13,92	2822,45	18,35	55,93	25,72	45,51	2,51
Forage Bank Local Management	A	(10-20)	0,94	5,14	0,80	19,1	50,54	36,20	14,34	2730,83	15,25	55,93	28,82	47,39	2,56
Forage Bank Local Management	A	(20-40)	1,10	5,12	0,98	12,9	20,05	14,55	5,51	1078,22	7,84	68,63	23,53	44,13	2,37
Forage Bank Local Management	A	(40-100)	1,24	5,68	1,06	9,0	7,11	2,58	4,53	228,06	9,51	64,48	26,01	51,00	1,70
Forage Bank Local Management	B	(0-10)	0,89				60,95	48,24	12,71	3829,04				54,27	3,41
Forage Bank Local Management	B	(10-20)	0,94				50,19	37,06	13,12	3030,69				47,06	2,84
Forage Bank Local Management	B	(20-40)	1,10				20,40	14,88	5,52	1138,33				44,91	2,51
Forage Bank Local Management	B	(40-100)	1,24				7,92	3,20	4,73	145,74				59,09	1,09
Forage Bank Local Management	C	(0-10)	0,89				51,36	38,51	12,85	3137,93				45,74	2,79
Forage Bank Local Management	C	(10-20)	0,94				30,15	25,58	4,57	2098,50				28,27	1,97
Forage Bank Local Management	C	(20-40)	1,10				12,07	7,82	4,26	601,35				26,58	1,32
Forage Bank Local Management	C	(40-100)	1,24				6,96	2,27	4,69	102,00				51,87	0,76
Natural Regeneration	A	(0-10)	0,85	5,23	1,92	24,1	27,87	44,80	13,37	3878,88	33,71	48,57	17,72	49,31	3,31
Natural Regeneration	A	(10-20)	0,92	5,32	1,01	21,2	50,50	37,56	12,94	3141,65	28,53	52,46	19,01	46,64	2,90
Natural Regeneration	A	(20-40)	1,13	5,19	1,22	15,7	27,94	22,77	5,17	1976,80	15,78	58,70	25,52	63,00	4,46
Natural Regeneration	A	(40-100)	1,24	5,36	0,49	12,1	12,23	6,41	5,81	675,43	10,98	62,32	26,70	91,29	5,04
Natural Regeneration	B	(0-10)	0,85				61,55	49,87	11,68	3784,47				52,44	3,22
Natural Regeneration	B	(10-20)	0,92				43,19	32,61	10,38	2261,65				39,89	2,09
Natural Regeneration	B	(20-40)	1,13				17,77	12,47	5,30	903,15				40,06	2,04
Natural Regeneration	B	(40-100)	1,24				10,75	5,08	5,66	552,91				80,25	4,13
Natural Regeneration	C	(0-10)	0,85				64,50	53,58	10,91	4523,27				54,96	3,85
Natural Regeneration	C	(10-20)	0,92				47,67	32,76	15,40	2606,38				44,02	2,41
Natural Regeneration	C	(20-40)	1,13				15,24	9,32	5,92	733,86				34,35	1,65
Natural Regeneration	C	(40-100)	1,24				8,76	3,23	5,50	227,82				65,38	1,70

Block	Treatment	Soil pit (calicata)	Soil Depth	Cylin. No.	Bulk density calicata side 1	Cylin. No.	Bulk density calicata side 2	Cylin. No.	Bulk density calicata side 3	Bulk density mean per calicata
1	Degraded Pasture	A	0-10	193	0,78	197	0,91	201	1,01	133,57
1	Degraded Pasture	A	10-20	194	1,03	198	1,03	202	1,09	134,39
1	Degraded Pasture	A	20-40	195	1,22	199	1,14	203	1,18	135,18
1	Degraded Pasture	A	40-100	196	1,24	200	1,32	204	1,29	135,95
1	Degraded Pasture	B	0-10							
1	Degraded Pasture	B	10-20							
1	Degraded Pasture	B	20-40							
1	Degraded Pasture	B	40-100							
1	Degraded Pasture	C	0-10							
1	Degraded Pasture	C	10-20							
1	Degraded Pasture	C	20-40							
1	Degraded Pasture	C	40-100							
2	Degraded Pasture	A	0-10	205	0,75	209	0,79	213	0,76	141,43
2	Degraded Pasture	A	10-20	206	1,01	210	0,94	214	0,94	142,29
2	Degraded Pasture	A	20-40	207	0,98	211	1,06	215	1,06	143,03
2	Degraded Pasture	A	40-100	208	1,03	212	1,01	216	0,98	143,67
2	Degraded Pasture	B	0-10							
2	Degraded Pasture	B	10-20							
2	Degraded Pasture	B	20-40							
2	Degraded Pasture	B	40-100							
2	Degraded Pasture	C	0-10							
2	Degraded Pasture	C	10-20							
2	Degraded Pasture	C	20-40							
2	Degraded Pasture	C	40-100							
3	Degraded Pasture	A	0-10	217	0,86	221	0,81	225	0,84	149,50
3	Degraded Pasture	A	10-20	218	0,98	222	1,07	226	1,01	150,36
3	Degraded Pasture	A	20-40	219	1,15	223	1,20	227	1,17	151,17
3	Degraded Pasture	A	40-100	220	1,18	224	1,15	228	1,15	151,82
3	Degraded Pasture	B	0-10							
3	Degraded Pasture	B	10-20							
3	Degraded Pasture	B	20-40							
3	Degraded Pasture	B	40-100							
3	Degraded Pasture	C	0-10							
3	Degraded Pasture	C	10-20							
3	Degraded Pasture	C	20-40							
3	Degraded Pasture	C	40-100	220	0,85	233	0,85	237	0,82	157,51
4	Degraded Pasture	A	0-10	230	1,03	234	1,03	238	1,10	158,38
4	Degraded Pasture	A	10-20	231	1,13	235	1,11	239	1,12	159,12
4	Degraded Pasture	A	20-40	232	1,12	236	1,08	240	1,08	159,76
4	Degraded Pasture	A	40-100							
4	Degraded Pasture	B	0-10							
4	Degraded Pasture	B	10-20							
4	Degraded Pasture	B	20-40							
4	Degraded Pasture	B	40-100							
4	Degraded Pasture	C	0-10							
4	Degraded Pasture	C	10-20							
4	Degraded Pasture	C	20-40							
4	Degraded Pasture	C	40-100							

Block	Treatment	Soil pit (calicata)	Soil Depth	Cylin. No.	Bulk density calicata side 1	Cylin. No.	Bulk density calicata side 2	Cylin. No.	Bulk density calicata side 3	Bulk density mean per calicata
1	Degraded Pasture	A	0-10	1	0,84	5	0,62	9	0,79	0,75
1	Degraded Pasture	A	10-20	2	0,98	6	0,93	10	0,96	0,96
1	Degraded Pasture	A	20-40	3	1,06	7	1,04	11	1,12	1,07
1	Degraded Pasture	A	40-100	4	0,68	8	0,65	12	0,66	0,66
1	Degraded Pasture	B	0-10							
1	Degraded Pasture	B	10-20							
1	Degraded Pasture	B	20-40							
1	Degraded Pasture	B	40-100							
1	Degraded Pasture	C	0-10							
1	Degraded Pasture	C	10-20							
1	Degraded Pasture	C	20-40							
1	Degraded Pasture	C	40-100							
2	Degraded Pasture	A	10-20	13	0,86	17	0,89	21	0,96	0,90
2	Degraded Pasture	A	20-40	14	0,95	18	1,02	22	0,90	0,96
2	Degraded Pasture	A	40-100	15	0,85	19	0,88	23	0,73	0,82
2	Degraded Pasture	B	0-10	16	0,84	20	0,87	24	0,88	0,86
2	Degraded Pasture	B	10-20							
2	Degraded Pasture	B	20-40							
2	Degraded Pasture	B	40-100							
2	Degraded Pasture	C	0-10							
2	Degraded Pasture	C	10-20							
2	Degraded Pasture	C	20-40							
2	Degraded Pasture	C	40-100							
3	Degraded Pasture	A	0-10	25	0,91	29	0,83	33	0,83	0,86
3	Degraded Pasture	A	10-20	26	1,11	30	1,01	34	1,01	1,04
3	Degraded Pasture	A	20-40	27	0,83	31	0,98	35	0,81	0,87
3	Degraded Pasture	A	40-100	28	0,65	32	0,61	36	0,81	0,69
3	Degraded Pasture	B	0-10							
3	Degraded Pasture	B	10-20							
3	Degraded Pasture	B	20-40							
3	Degraded Pasture	B	40-100							
3	Degraded Pasture	C	0-10							
3	Degraded Pasture	C	10-20							
3	Degraded Pasture	C	20-40							
3	Degraded Pasture	C	40-100							
4	Degraded Pasture	A	0-10	37	1,03	41	1,02	45	1,17	1,07
4	Degraded Pasture	A	10-20	38	1,06	42	1,14	46	1,19	1,13
4	Degraded Pasture	A	20-40	39	1,27	43	1,27	47	1,28	1,27
4	Degraded Pasture	A	40-100	40	1,36	44	1,39	48	1,43	1,39
4	Degraded Pasture	B	0-10							
4	Degraded Pasture	B	10-20							
4	Degraded Pasture	B	20-40							
4	Degraded Pasture	B	40-100							
4	Degraded Pasture	C	0-10							
4	Degraded Pasture	C	10-20							
4	Degraded Pasture	C	20-40							
4	Degraded Pasture	C	40-100							

Block	Treatment	Soil pit (calicata)	Soil Depth	Cylin. No.	Bulk density calicata side 1	Cylin. No.	Bulk density calicata side 2	Cylin. No.	Bulk density calicata side 3	Bulk density mean per calicata
4	Improved Mix For. Bank	A	0-10	205	1,14	209	1,07	213	1,02	1,08
4	Improved Mix For. Bank	A	10-20	206	1,09	210	1,09	214	1,00	1,06
4	Improved Mix For. Bank	A	20-40	207	1,28	211	1,31	215	1,15	1,24
4	Improved Mix For. Bank	A	40-100	208	1,31	212	1,29	216	1,21	1,27
4	Improved Mix For. Bank	B	0-10							
4	Improved Mix For. Bank	B	10-20							
4	Improved Mix For. Bank	B	20-40							
4	Improved Mix For. Bank	B	40-100							
4	Improved Mix For. Bank	C	0-10							
4	Improved Mix For. Bank	C	10-20							
4	Improved Mix For. Bank	C	20-40							
4	Improved Mix For. Bank	C	40-100							
4	Local Mixed Forrage Bank	A	0-10	229	0,85	233	0,82	237	0,90	0,86
4	Local Mixed Forrage Bank	A	10-20	230	0,98	234	0,76	238	0,85	0,86
4	Local Mixed Forrage Bank	A	20-40	231	1,14	235	1,04	239	1,18	1,12
4	Local Mixed Forrage Bank	A	40-100	232	0,89	236	0,79	240	0,89	0,86
4	Local Mixed Forrage Bank	B	0-10							
4	Local Mixed Forrage Bank	B	10-20							
4	Local Mixed Forrage Bank	B	20-40							
4	Local Mixed Forrage Bank	B	40-100							
4	Local Mixed Forrage Bank	C	0-10							
4	Local Mixed Forrage Bank	C	10-20							
4	Local Mixed Forrage Bank	C	20-40							
4	Local Mixed Forrage Bank	C	40-100							
4	Monocultive	A	0-10	181	1,16	185	1,05	189	0,92	1,05
4	Monocultive	A	10-20	182	1,04	186	1,00	190	0,95	1,00
4	Monocultive	A	20-40	183	0,96	187	1,05	191	1,08	1,03
4	Monocultive	A	40-100	184	1,17	188	1,31	192	1,27	1,25
4	Monocultive	B	0-10							
4	Monocultive	B	10-20							
4	Monocultive	B	20-40							
4	Monocultive	B	40-100							
4	Monocultive	C	0-10							
4	Monocultive	C	10-20							
4	Monocultive	C	20-40							
4	Monocultive	C	40-100							
4	Natural Regeneration	A	0-10	193	1,30	197	1,24	201	0,70	1,08
4	Natural Regeneration	A	10-20	194	1,41	198	1,41	202	1,15	1,33
4	Natural Regeneration	A	20-40	195	0,99	199	1,25	203	1,35	1,19
4	Natural Regeneration	A	40-100	196	0,99	200	0,95	204	1,05	1,00
4	Natural Regeneration	B	0-10							
4	Natural Regeneration	B	10-20							
4	Natural Regeneration	B	20-40							
4	Natural Regeneration	B	40-100							
4	Natural Regeneration	C	0-10							
4	Natural Regeneration	C	10-20							
4	Natural Regeneration	C	20-40							
4	Natural Regeneration	C	40-100							

Block	Treatment	Soil pit (calicata)	Soil Depth	Cylin. No.	Bulk density calicata side 1	Cylin. No.	Bulk density calicata side 2	Cylin. No.	Bulk density calicata side 3	Bulk density mean per calicata
3	Improved Mix For. Bank	A	0-10	133	1,06	137	1,00	141	1,02	1,03
3	Improved Mix For. Bank	A	10-20	134	0,96	138	1,06	142	1,11	1,04
3	Improved Mix For. Bank	A	20-40	135	1,21	139	1,12	143	1,07	1,13
3	Improved Mix For. Bank	A	40-100	136	1,12	140	1,36	144	1,09	1,19
3	Improved Mix For. Bank	B	0-10							
3	Improved Mix For. Bank	B	10-20							
3	Improved Mix For. Bank	B	20-40							
3	Improved Mix For. Bank	B	40-100							
3	Improved Mix For. Bank	C	0-10							
3	Improved Mix For. Bank	C	10-20							
3	Improved Mix For. Bank	C	20-40							
3	Improved Mix For. Bank	C	40-100							
3	Local Mixed Forrage Bank	A	0-10	169	0,87	173	0,89	177	0,90	0,89
3	Local Mixed Forrage Bank	A	10-20	170	1,04	174	0,99	178	0,83	0,95
3	Local Mixed Forrage Bank	A	20-40	171	0,99	175	0,90	179	1,06	0,98
3	Local Mixed Forrage Bank	A	40-100	172	0,72	176	0,77	180	0,77	0,75
3	Local Mixed Forrage Bank	B	0-10							
3	Local Mixed Forrage Bank	B	10-20							
3	Local Mixed Forrage Bank	B	20-40							
3	Local Mixed Forrage Bank	B	40-100							
3	Local Mixed Forrage Bank	C	0-10							
3	Local Mixed Forrage Bank	C	10-20							
3	Local Mixed Forrage Bank	C	20-40							
3	Local Mixed Forrage Bank	C	40-100							
3	Monocultive	A	0-10	145	1,14	149	1,14	153	1,16	1,14
3	Monocultive	A	10-20	146	1,14	150	1,16	154	1,15	1,15
3	Monocultive	A	20-40	147	1,25	151	1,40	155	1,24	1,30
3	Monocultive	A	40-100	148	1,47	152	1,35	156	1,46	1,42
3	Monocultive	B	0-10							
3	Monocultive	B	10-20							
3	Monocultive	B	20-40							
3	Monocultive	B	40-100							
3	Monocultive	C	0-10							
3	Monocultive	C	10-20							
3	Monocultive	C	20-40							
3	Monocultive	C	40-100							
3	Natural Regeneration	A	0-10	157	0,95	161	0,92	165	0,75	0,87
3	Natural Regeneration	A	10-20	158	1,14	162	1,06	166	1,18	1,13
3	Natural Regeneration	A	20-40	159	1,08	163	1,19	167	1,06	1,11
3	Natural Regeneration	A	40-100	160	1,13	164	1,14	168	1,13	1,13
3	Natural Regeneration	B	0-10							
3	Natural Regeneration	B	10-20							
3	Natural Regeneration	B	20-40							
3	Natural Regeneration	B	40-100							
3	Natural Regeneration	C	0-10							
3	Natural Regeneration	C	10-20							
3	Natural Regeneration	C	20-40							
3	Natural Regeneration	C	40-100							
4	Asociation	A	0-10	217	0,79	221	1,00	225	1,05	0,95
4	Asociation	A	10-20	218	0,94	222	1,08	226	1,03	1,02
4	Asociation	A	20-40	219	0,86	223	1,11	227	1,02	1,00
4	Asociation	A	40-100	220	1,18	224	0,93	228	1,03	1,05
4	Asociation	B	0-10							
4	Asociation	B	10-20							
4	Asociation	B	20-40							
4	Asociation	B	40-100							
4	Asociation	C	0-10							
4	Asociation	C	10-20							
4	Asociation	C	20-40							
4	Asociation	C	40-100							

Block	Treatment	Soil pit (calicata)	Soil Depth	Cyl. No.	Bulk density calicata side 1	Cyl. No.	Bulk density calicata side 2	Cyl. No.	Bulk density calicata side 3	Bulk density mean per calicata
2	Improved Mix For. Bank	A	0-10	49	0,87	53	0,88	57	0,73	0,83
2	Improved Mix For. Bank	A	10-20	50	0,74	54	0,90	58	0,77	0,81
2	Improved Mix For. Bank	A	20-40	51	0,72	55	0,78	59	0,84	0,78
2	Improved Mix For. Bank	A	40-100	52	0,60	56	0,61	60	0,65	0,62
2	Improved Mix For. Bank	B	0-10							
2	Improved Mix For. Bank	B	10-20							
2	Improved Mix For. Bank	B	20-40							
2	Improved Mix For. Bank	B	40-100							
2	Improved Mix For. Bank	C	0-10							
2	Improved Mix For. Bank	C	10-20							
2	Improved Mix For. Bank	C	20-40							
2	Improved Mix For. Bank	C	40-100							
2	Local Mixed Forrage Bank	A	0-10	109	0,63	113	0,68	117	0,80	0,71
2	Local Mixed Forrage Bank	A	10-20	110	0,77	114	0,86	118	0,88	0,84
2	Local Mixed Forrage Bank	A	20-40	111	0,80	115	0,85	119	0,94	0,86
2	Local Mixed Forrage Bank	A	40-100	112	0,66	116	0,67	120	0,73	0,69
2	Local Mixed Forrage Bank	B	0-10							
2	Local Mixed Forrage Bank	B	10-20							
2	Local Mixed Forrage Bank	B	20-40							
2	Local Mixed Forrage Bank	B	40-100							
2	Local Mixed Forrage Bank	C	0-10							
2	Local Mixed Forrage Bank	C	10-20							
2	Local Mixed Forrage Bank	C	20-40							
2	Local Mixed Forrage Bank	C	40-100							
2	Monocultive	A	0-10	61	1,01	65	0,99	69	0,93	0,98
2	Monocultive	A	10-20	62	0,93	66	0,95	70	0,96	0,95
2	Monocultive	A	20-40	63	1,33	67	1,27	71	1,29	1,30
2	Monocultive	A	40-100	64	1,42	68	1,33	72	1,36	1,37
2	Monocultive	B	0-10							
2	Monocultive	B	10-20							
2	Monocultive	B	20-40							
2	Monocultive	B	40-100							
2	Monocultive	C	0-10							
2	Monocultive	C	10-20							
2	Monocultive	C	20-40							
2	Monocultive	C	40-100							
2	Natural Regeneration	A	0-10	73	0,93	77	0,88	81	0,89	0,90
2	Natural Regeneration	A	10-20	74	1,22	78	1,23	82	1,20	1,22
2	Natural Regeneration	A	20-40	75	1,21	79	1,20	83	1,22	1,21
2	Natural Regeneration	A	40-100	76	1,24	80	1,18	84	1,15	1,19
2	Natural Regeneration	B	0-10							
2	Natural Regeneration	B	10-20							
2	Natural Regeneration	B	20-40							
2	Natural Regeneration	B	40-100							
2	Natural Regeneration	C	0-10							
2	Natural Regeneration	C	10-20							
2	Natural Regeneration	C	20-40							
2	Natural Regeneration	C	40-100							
3	Asociation	A	0-10	121	0,89	125	0,99	129	0,99	0,96
3	Asociation	A	10-20	122	0,98	126	0,97	130	0,99	0,98
3	Asociation	A	20-40	123	1,38	127	1,36	131	1,34	1,36
3	Asociation	A	40-100	124	1,44	128	1,35	132	1,05	1,28
3	Asociation	B	0-10							
3	Asociation	B	10-20							
3	Asociation	B	20-40							
3	Asociation	B	40-100							
3	Asociation	C	0-10							
3	Asociation	C	10-20							
3	Asociation	C	20-40							
3	Asociation	C	40-100							

Carbon Sequestration Project
 CIPAV - CIAT - CATIE - U. Amazonia - Wageningen University
 The Netherlands Cooperation - Activity CO-010402
 Newly Established Systems Dovia - original bulk density values per cylinder

Block	Treatment	Soil pit (calicata)	Soil Depth	Cylin. No.	Bulk density calcata side 1	Cylin. No.	Bulk density calcata side 2	Cylin. No.	Bulk density calcata side 3	Bulk density mean per calcata
1	Asociation	A	0-10	37	0,82	41	0,92	45	0,88	0,87
1	Asociation	A	10-20	38	0,82	42	0,91	46	0,86	0,86
1	Asociation	A	20-40	39	1,18	43	1,13	47	0,96	1,09
1	Asociation	A	40-100	40	1,01	44	1,01	48	1,04	1,02
1	Asociation	B	0-10							
1	Asociation	B	10-20							
1	Asociation	B	20-40							
1	Asociation	B	40-100							
1	Asociation	C	0-10							
1	Asociation	C	10-20							
1	Asociation	C	20-40							
1	Asociation	C	40-100							
1	Local Mixed Forrage Bank	A	0-10	1	0,77	5	0,92	9	0,87	0,85
1	Local Mixed Forrage Bank	A	10-20	2	0,95	6	0,94	10	0,92	0,93
1	Local Mixed Forrage Bank	A	20-40	3	0,99	7	1,13	11	0,65	0,92
1	Local Mixed Forrage Bank	A	40-100	4	1,12	8	0,86	12	0,99	0,99
1	Local Mixed Forrage Bank	B	0-10							
1	Local Mixed Forrage Bank	B	10-20							
1	Local Mixed Forrage Bank	B	20-40							
1	Local Mixed Forrage Bank	B	40-100							
1	Local Mixed Forrage Bank	C	0-10							
1	Local Mixed Forrage Bank	C	10-20							
1	Local Mixed Forrage Bank	C	20-40							
1	Local Mixed Forrage Bank	C	40-100							
1	Monocultive	A	0-10	25	1,09	29	0,82	33	1,07	0,99
1	Monocultive	A	10-20	26	0,90	30	0,97	34	1,07	0,98
1	Monocultive	A	20-40	27	1,20	31	1,27	35	1,35	1,27
1	Monocultive	A	40-100	28	1,18	32	1,19	36	1,15	1,17
1	Monocultive	B	0-10							
1	Monocultive	B	10-20							
1	Monocultive	B	20-40							
1	Monocultive	B	40-100							
1	Monocultive	C	0-10							
1	Monocultive	C	10-20							
1	Monocultive	C	20-40							
1	Monocultive	C	40-100							
1	Natural Regeneration	A	0-10	13	0,86	17	0,85	21	0,80	0,84
1	Natural Regeneration	A	10-20	14	1,13	18	1,08	22	1,19	1,13
1	Natural Regeneration	A	20-40	15	1,31	19	1,39	23	1,37	1,36
1	Natural Regeneration	A	40-100	16	1,43	20	1,23	24	1,39	1,35
1	Natural Regeneration	B	0-10							
1	Natural Regeneration	B	10-20							
1	Natural Regeneration	B	20-40							
1	Natural Regeneration	B	40-100							
1	Natural Regeneration	C	0-10							
1	Natural Regeneration	C	10-20							
1	Natural Regeneration	C	20-40							
1	Natural Regeneration	C	40-100							
2	Asociation	A	0-10	97	0,69	101	0,81	105	0,79	0,76
2	Asociation	A	10-20	98	0,84	102	0,87	106	0,83	0,84
2	Asociation	A	20-40	99	0,85	103	0,92	107	0,83	0,87
2	Asociation	A	40-100	100	0,97	104	1,03	108	0,97	0,99
2	Asociation	B	0-10							
2	Asociation	B	10-20							
2	Asociation	B	20-40							
2	Asociation	B	40-100							
2	Asociation	C	0-10							
2	Asociation	C	10-20							
2	Asociation	C	20-40							
2	Asociation	C	40-100							

***Final Database
Dovio Experiment
Andean Hillsides, Colombia***

BLOQUE = 3									
tratamiento	calicata	ctthmt1_60c	coxthmt1_60c	cethmt1_60c	ntthmt1_60c	ctthmt2_60c	coxthmt2_60c	cethmt2_60c	ntthmt2_60c
B, Hybrid (36061)+ A, pinto (18744)	A	55,92	21,91	34,01	1,55	48,67	19,07	29,60	1,35
B, Hybrid (36061)+ A, pinto (18744)	B	70,16	35,83	34,33	3,49	61,07	31,19	29,88	3,04
B, Hybrid (36061)+ A, pinto (18744)	C	30,93	5,05	25,89	0,40	26,92	4,39	22,53	0,35
Brachiaria Hybrid (Mulato 36061)	A	78,28	35,24	43,04	3,92	57,07	25,70	31,38	2,86
Brachiaria Hybrid (Mulato 36061)	B	77,77	30,15	47,62	4,47	56,70	21,98	34,72	3,26
Brachiaria Hybrid (Mulato 36061)	C	77,92	34,89	43,03	4,06	56,81	25,44	31,37	2,96
Degraded Pasture	A	58,31	29,87	28,44	2,53	42,56	21,80	20,75	1,85
Degraded Pasture	B	49,49	30,61	18,88	5,08	36,12	22,34	13,78	3,71
Degraded Pasture	C	59,33	32,11	27,22	6,83	43,30	23,44	19,87	4,99
For, Bank Improved Management	A	46,95	13,99	32,95	9,35	32,25	9,61	22,64	6,42
For, Bank Improved Management	B	78,31	40,39	37,91	2,87	53,79	27,75	26,04	1,97
For, Bank Improved Management	C	103,74	61,87	41,87	6,12	71,26	42,50	28,76	4,20
Forage Bank Local Management	A	67,89	30,20	37,69	3,69	52,29	23,26	29,03	2,84
Forage Bank Local Management	B	67,66	29,27	38,38	4,84	52,11	22,55	29,56	3,73
Forage Bank Local Management	C	74,59	29,27	45,31	3,64	57,44	22,55	34,90	2,80
Natural Regeneration	A	29,91	28,83	1,07	2,69	25,25	24,34	0,91	2,27
Natural Regeneration	B	25,26	17,84	7,42	1,70	21,33	15,06	6,26	1,43
Natural Regeneration	C	72,22	30,99	41,23	4,52	60,97	26,17	34,81	3,82

BLOQUE = 4									
tratamiento	calicata	ctthmt1_60c	coxthmt1_60c	cethmt1_60c	ntthmt1_60c	ctthmt2_60c	coxthmt2_60c	cethmt2_60c	ntthmt2_60c
B, Hybrid (36061)+ A, pinto (18744)	A	72,19	24,25	47,94	2,32	53,51	17,97	35,54	1,72
B, Hybrid (36061)+ A, pinto (18744)	B	43,96	11,88	32,08	1,21	32,58	8,81	23,78	0,90
B, Hybrid (36061)+ A, pinto (18744)	C	73,74	36,68	37,06	4,60	54,66	27,19	27,47	3,41
Brachiaria Hybrid (Mulato 36061)	A	97,78	47,82	49,97	6,53	67,96	33,23	34,73	4,54
Brachiaria Hybrid (Mulato 36061)	B	111,25	59,91	51,33	7,48	77,32	41,64	35,68	5,20
Brachiaria Hybrid (Mulato 36061)	C	101,42	48,54	52,88	6,56	70,49	33,74	36,75	4,56
Degraded Pasture	A	51,35	25,34	26,01	6,61	40,12	19,80	20,32	5,16
Degraded Pasture	B	60,88	34,29	26,60	6,06	47,56	26,78	20,78	4,73
Degraded Pasture	C	48,41	21,87	26,54	2,24	37,81	17,08	20,73	1,75
For, Bank Improved Management	A	67,54	28,00	39,54	3,84	53,89	22,34	31,55	3,06
For, Bank Improved Management	B	74,99	33,07	41,92	5,33	59,83	26,38	33,45	4,25
For, Bank Improved Management	C	48,32	19,54	28,78	1,77	38,55	15,59	22,96	1,41
Forage Bank Local Management	A	54,31	23,36	30,95	2,87	38,08	16,38	21,70	2,01
Forage Bank Local Management	B	69,21	30,90	38,31	4,21	48,52	21,67	26,86	2,95
Forage Bank Local Management	C	71,57	31,92	39,65	4,11	50,17	22,38	27,80	2,88
Natural Regeneration	A	61,67	21,70	39,97	2,87	52,22	18,38	33,85	2,43
Natural Regeneration	B	33,74	27,32	6,42	4,62	28,57	23,14	5,43	3,91
Natural Regeneration	C	99,65	40,46	59,19	5,63	84,39	34,27	50,13	4,77

Experimento Dagua, Laderas Andinas, Colombia
Listado de Variables de Carbono Acumulado de 40-100 cm metodos 1 y 2

BLOQUE = 1									
tratamiento	Calicata	cethmt1_60c	coxthmt1_60c	cethmt1_60c	ntthmt1_60c	cethmt2_60c	coxthmt2_60c	cethmt2_60c	ntthmt2_60c
B, Hybrid (36061)+ A, pinto (18744)	A	117,32	31,80	85,52	3,70	83,34	22,59	60,75	2,63
B, Hybrid (36061)+ A, pinto (18744)	B	113,84	25,35	88,49	2,54	80,87	18,01	62,86	1,81
B, Hybrid (36061)+ A, pinto (18744)	C	62,46	26,42	36,03	1,96	44,37	18,77	25,60	1,39
Brachiaria Hybrid (Mulato 36061)	A	61,73	24,74	36,98	2,59	43,39	17,39	26,00	1,82
Brachiaria Hybrid (Mulato 36061)	B	95,67	47,93	47,75	6,79	67,25	33,69	33,56	4,78
Brachiaria Hybrid (Mulato 36061)	C	61,06	21,69	39,37	1,46	42,92	15,25	27,67	1,02
Degraded Pasture	A	46,81	21,50	25,30	4,06	30,07	13,82	16,26	2,61
Degraded Pasture	B	82,06	41,48	40,59	3,73	52,72	26,65	26,08	2,40
Degraded Pasture	C	72,72	42,16	30,56	1,24	46,72	27,08	19,64	0,79
For, Bank Improved Management	A	53,47	20,93	32,53	1,89	33,89	13,27	20,62	1,20
For, Bank Improved Management	B	66,54	32,50	34,04	2,28	42,18	20,60	21,58	1,45
For, Bank Improved Management	C	40,56	9,65	30,91	0,66	25,71	6,12	19,59	0,42
Forage Bank Local Management	A	53,00	19,22	33,79	1,70	37,20	13,49	23,71	1,19
Forage Bank Local Management	B	59,09	23,83	35,26	1,09	41,47	16,73	24,75	0,76
Forage Bank Local Management	C	51,87	16,91	34,97	0,76	36,41	11,87	24,54	0,53
Natural Regeneration	A	91,29	47,87	43,42	5,04	63,99	33,56	30,43	3,54
Natural Regeneration	B	80,25	37,97	42,28	4,13	56,25	26,61	29,64	2,89
Natural Regeneration	C	65,38	24,30	41,08	1,70	45,83	17,04	28,79	1,19

BLOQUE = 2									
tratamiento	calicata	cethmt1_60c	coxthmt1_60c	cethmt1_60c	ntthmt1_60c	cethmt2_60c	coxthmt2_60c	cethmt2_60c	ntthmt2_60c
B, Hybrid (36061)+ A, pinto (18744)	A	74,25	30,46	43,79	3,19	56,43	23,15	33,28	2,42
B, Hybrid (36061)+ A, pinto (18744)	B	76,61	39,99	36,62	3,87	58,22	30,39	27,83	2,94
B, Hybrid (36061)+ A, pinto (18744)	C	75,62	35,36	40,06	4,12	57,47	27,03	30,44	3,13
Brachiaria Hybrid (Mulato 36061)	A	76,50	49,85	26,66	5,31	59,34	38,67	20,68	4,12
Brachiaria Hybrid (Mulato 36061)	B	56,48	26,61	29,87	2,83	43,81	20,64	23,17	2,19
Brachiaria Hybrid (Mulato 36061)	C	95,85	59,01	36,85	6,67	74,35	45,77	28,58	5,17
Degraded Pasture	A	43,11	23,02	20,09	0,36	39,02	20,84	18,18	0,33
Degraded Pasture	B	59,55	35,71	23,84	1,57	53,89	32,32	21,58	1,42
Degraded Pasture	C	55,36	30,12	25,24	0,92	50,11	27,26	22,85	0,83
For, Bank Improved Management	A	60,75	29,45	31,30	2,77	60,75	29,45	31,30	2,77
For, Bank Improved Management	B	52,81	24,08	28,73	2,28	52,81	24,08	28,73	2,28
For, Bank Improved Management	C	42,80	16,11	26,69	1,42	42,80	16,11	26,69	1,42
Forage Bank Local Management	A	71,33	19,74	51,59	3,34	56,88	15,74	41,14	2,67
Forage Bank Local Management	B	60,59	25,52	35,07	3,12	48,31	20,35	27,96	2,49
Forage Bank Local Management	C	69,87	29,11	40,76	3,53	55,71	23,21	32,50	2,81
Natural Regeneration	A	80,66	37,51	43,15	3,99	55,18	25,66	29,52	2,73
Natural Regeneration	B	136,54	43,18	93,36	5,09	93,41	29,54	63,87	3,49
Natural Regeneration	C	69,48	30,29	39,19	2,94	47,53	20,72	26,81	2,01

BLOQUE = 3									
tratamiento	calicata	ctthmt1_40c	coxthmt1_40c	cethmt1_40c	ntthmt1_40c	ctthmt2_40c	coxthmt2_40c	cethmt2_40c	ntthmt2_40c
B, Hybrid (36061)+ A, pintoi (18744)	A	47,54	36,61	10,93	3,15	47,54	36,61	10,93	3,15
B, Hybrid (36061)+ A, pintoi (18744)	B	144,60	105,58	39,03	9,99	144,60	105,58	39,03	9,99
B, Hybrid (36061)+ A, pintoi (18744)	C	144,25	100,33	43,92	9,07	144,25	100,33	43,92	9,07
Brachiaria Hybrid (Mulato 36061)	A	42,12	33,19	8,93	2,90	42,12	33,19	8,93	2,90
Brachiaria Hybrid (Mulato 36061)	B	145,94	104,89	41,05	9,58	145,94	104,89	41,05	9,58
Brachiaria Hybrid (Mulato 36061)	C	187,16	130,97	56,19	12,94	187,16	130,97	56,19	12,94
Degraded Pasture	A	40,06	30,92	9,14	3,23	40,06	30,92	9,14	3,23
Degraded Pasture	B	126,80	98,54	28,26	10,74	126,80	98,54	28,26	10,74
Degraded Pasture	C	134,53	101,02	33,51	10,13	134,53	101,02	33,51	10,13
For, Bank Improved Management	A	39,27	29,16	10,11	2,95	39,27	29,16	10,11	2,95
For, Bank Improved Management	B	117,98	87,74	30,24	8,62	117,98	87,74	30,24	8,62
For, Bank Improved Management	C	126,82	87,60	39,22	9,12	126,82	87,60	39,22	9,12
Forage Bank Local Management	A	48,04	37,04	10,99	3,65	48,04	37,04	10,99	3,65
Forage Bank Local Management	B	151,75	108,04	43,71	11,23	151,75	108,04	43,71	11,23
Forage Bank Local Management	C	152,84	110,72	42,12	11,95	152,84	110,72	42,12	11,95
Natural Regeneration	A	50,53	40,04	10,49	3,57	50,53	40,04	10,49	3,57
Natural Regeneration	B	125,84	85,00	40,84	7,61	125,84	85,00	40,84	7,61
Natural Regeneration	C	142,64	98,17	44,48	10,82	142,64	98,17	44,48	10,82
BLOQUE = 4									
tratamiento	calicata	ctthmt1_40c	coxthmt1_40c	cethmt1_40c	ntthmt1_40c	ctthmt2_40c	coxthmt2_40c	cethmt2_40c	ntthmt2_40c
B, Hybrid (36061)+ A, pintoi (18744)	A	35,24	31,82	3,42	3,20	35,24	31,82	3,42	3,20
B, Hybrid (36061)+ A, pintoi (18744)	B	100,57	68,25	32,32	6,62	100,57	68,25	32,32	6,62
B, Hybrid (36061)+ A, pintoi (18744)	C	142,59	102,83	39,76	11,54	142,59	102,83	39,76	11,54
Brachiaria Hybrid (Mulato 36061)	A	46,12	33,76	12,36	3,65	46,12	33,76	12,36	3,65
Brachiaria Hybrid (Mulato 36061)	B	180,06	138,44	41,62	12,94	180,06	138,44	41,62	12,94
Brachiaria Hybrid (Mulato 36061)	C	185,64	132,72	52,92	11,22	185,64	132,72	52,92	11,22
Degraded Pasture	A	31,71	26,83	4,87	3,26	31,71	26,83	4,87	3,26
Degraded Pasture	B	118,84	90,42	28,42	11,48	118,84	90,42	28,42	11,48
Degraded Pasture	C	133,58	97,92	35,66	13,20	133,58	97,92	35,66	13,20
For, Bank Improved Management	A	38,04	33,27	4,77	3,37	38,04	33,27	4,77	3,37
For, Bank Improved Management	B	140,65	105,96	34,69	11,39	140,65	105,96	34,69	11,39
For, Bank Improved Management	C	154,82	112,98	41,84	9,96	154,82	112,98	41,84	9,96
Forage Bank Local Management	A	34,81	30,26	4,55	2,94	34,81	30,26	4,55	2,94
Forage Bank Local Management	B	128,64	98,79	29,86	10,46	128,64	98,79	29,86	10,46
Forage Bank Local Management	C	146,89	106,42	40,47	10,80	146,89	106,42	40,47	10,80
Natural Regeneration	A	38,98	27,69	11,29	2,59	38,98	27,69	11,29	2,59
Natural Regeneration	B	144,83	101,44	43,39	10,59	144,83	101,44	43,39	10,59
Natural Regeneration	C	157,70	102,26	55,44	10,87	157,70	102,26	55,44	10,87

Experimento Dagua, Laderas Andinas, Colombia
Listado de Variables de Carbono Acumulado a 0-40 cm metodos 1 y 2

BLOQUE = 1

tratamiento	Calicata	ctthmt1_40c	coxthmt1_40c	cethmt1_40c	ntthmt1_40c	ctthmt2_40c	coxthmt2_40c	cethmt2_40c	ntthmt2_40c
B, Hybrid (36061)+ A, pinto (18744)	A	45,92	33,22	12,70	2,67	45,92	33,22	12,70	2,67
B, Hybrid (36061)+ A, pinto (18744)	B	188,67	121,80	66,88	10,35	188,67	121,80	66,88	10,35
B, Hybrid (36061)+ A, pinto (18744)	C	176,65	119,29	57,36	10,04	176,65	119,29	57,36	10,04
Brachiaria Hybrid (Mulato 36061)	A	28,55	25,56	2,99	2,03	28,55	25,56	2,99	2,03
Brachiaria Hybrid (Mulato 36061)	B	131,47	98,32	33,15	8,83	131,47	98,32	33,15	8,83
Brachiaria Hybrid (Mulato 36061)	C	163,79	123,19	40,61	10,48	163,79	123,19	40,61	10,48
Degraded Pasture	A	41,79	31,89	9,90	3,16	41,79	31,89	9,90	3,16
Degraded Pasture	B	154,04	126,62	27,42	12,34	154,04	126,62	27,42	12,34
Degraded Pasture	C	182,76	140,39	42,37	11,69	182,76	140,39	42,37	11,69
For, Bank Improved Management	A	35,20	31,68	3,52	2,73	35,20	31,68	3,52	2,73
For, Bank Improved Management	B	139,68	119,85	19,83	9,16	139,68	119,85	19,83	9,16
For, Bank Improved Management	C	93,18	62,55	30,63	4,70	93,18	62,55	30,63	4,70
Forage Bank Local Management	A	45,51	33,11	12,40	2,51	45,51	33,11	12,40	2,51
Forage Bank Local Management	B	193,63	144,41	49,23	11,32	193,63	144,41	49,23	11,32
Forage Bank Local Management	C	144,74	107,51	37,23	8,46	144,74	107,51	37,23	8,46
Natural Regeneration	A	49,31	37,92	11,39	3,31	49,31	37,92	11,39	3,31
Natural Regeneration	B	179,04	135,41	43,62	10,25	179,04	135,41	43,62	10,25
Natural Regeneration	C	196,33	147,80	48,53	12,37	196,33	147,80	48,53	12,37

BLOQUE = 2

tratamiento	calicata	ctthmt1_40c	coxthmt1_40c	cethmt1_40c	ntthmt1_40c	ctthmt2_40c	coxthmt2_40c	cethmt2_40c	ntthmt2_40c
B, Hybrid (36061)+ A, pinto (18744)	A	44,17	34,49	9,69	3,46	44,17	34,49	9,69	3,46
B, Hybrid (36061)+ A, pinto (18744)	B	157,20	123,16	34,04	10,32	157,20	123,16	34,04	10,32
B, Hybrid (36061)+ A, pinto (18744)	C	179,52	130,10	49,42	11,81	179,52	130,10	49,42	11,81
Brachiaria Hybrid (Mulato 36061)	A	52,15	42,02	10,13	3,54	52,15	42,02	10,13	3,54
Brachiaria Hybrid (Mulato 36061)	B	134,65	110,46	24,18	9,71	134,65	110,46	24,18	9,71
Brachiaria Hybrid (Mulato 36061)	C	229,82	200,73	29,09	15,74	229,82	200,73	29,09	15,74
Degraded Pasture	A	37,97	28,80	9,17	2,85	37,97	28,80	9,17	2,85
Degraded Pasture	B	115,30	93,11	22,19	8,69	115,30	93,11	22,19	8,69
Degraded Pasture	C	150,55	119,53	31,03	10,12	150,55	119,53	31,03	10,12
For, Bank Improved Management	A	48,64	36,85	11,79	3,07	48,64	36,85	11,79	3,07
For, Bank Improved Management	B	174,00	138,61	35,39	12,41	174,00	138,61	35,39	12,41
For, Bank Improved Management	C	178,48	130,07	48,41	11,29	178,48	130,07	48,41	11,29
Forage Bank Local Management	A	44,84	33,60	11,23	2,62	44,84	33,60	11,23	2,62
Forage Bank Local Management	B	145,33	99,22	46,12	9,86	145,33	99,22	46,12	9,86
Forage Bank Local Management	C	157,79	115,51	42,28	9,10	157,79	115,51	42,28	9,10
Natural Regeneration	A	48,74	39,28	9,46	3,44	48,74	39,28	9,46	3,44
Natural Regeneration	B	175,26	131,26	44,00	12,02	175,26	131,26	44,00	12,02
Natural Regeneration	C	174,13	127,65	46,48	10,98	174,13	127,65	46,48	10,98

BLOQUE = 3									
tratamiento	calicata	ctthmt1	coxthmt1	cethmt1	ntthmt1	ctthmt2	coxthmt2	cethmt2	ntthmt2
B, Hybrid (36061)+ A, pinto (18744)	A	162,95	96,07	66,88	8,57	155,70	93,23	62,47	8,37
B, Hybrid (36061)+ A, pinto (18744)	B	186,14	119,64	66,50	11,23	177,04	114,99	62,05	10,78
B, Hybrid (36061)+ A, pinto (18744)	C	144,31	89,59	54,72	7,86	140,30	88,94	51,36	7,80
Brachiaria Hybrid (Mulato 36061)	A	203,57	126,30	77,27	12,35	182,36	116,75	65,61	11,29
Brachiaria Hybrid (Mulato 36061)	B	184,22	105,58	78,64	11,42	163,15	97,41	65,74	10,21
Brachiaria Hybrid (Mulato 36061)	C	221,40	137,45	83,94	14,09	200,29	128,00	72,29	12,99
Degraded Pasture	A	157,06	104,92	52,14	10,61	141,30	96,85	44,46	9,92
Degraded Pasture	B	152,19	110,03	42,16	13,47	138,81	101,76	37,06	12,09
Degraded Pasture	C	159,28	108,13	51,15	14,47	143,25	99,45	43,80	12,62
For, Bank Improved Management	A	148,22	81,96	66,25	16,86	133,52	77,58	55,93	13,93
For, Bank Improved Management	B	169,70	108,09	61,61	9,18	145,18	95,44	49,73	8,28
For, Bank Improved Management	C	195,16	130,71	64,45	13,00	162,68	111,34	51,34	11,08
Forage Bank Local Management	A	203,58	129,07	74,51	13,97	187,98	122,13	65,85	13,12
Forage Bank Local Management	B	172,48	101,30	71,18	12,47	156,93	94,57	62,36	11,36
Forage Bank Local Management	C	186,69	114,17	72,52	12,55	169,55	107,44	62,11	11,72
Natural Regeneration	A	146,68	118,36	28,32	11,34	142,02	113,87	28,15	10,92
Natural Regeneration	B	117,30	74,72	42,58	6,72	113,36	71,94	41,43	6,45
Natural Regeneration	C	182,43	107,80	74,63	12,85	171,18	102,97	68,21	12,15
BLOQUE = 4									
tratamiento	calicata	ctthmt1	coxthmt1	cethmt1	ntthmt1	ctthmt2	coxthmt2	cethmt2	ntthmt2
B, Hybrid (36061)+ A, pinto (18744)	A	169,09	92,32	76,77	9,31	150,41	86,04	64,37	8,71
B, Hybrid (36061)+ A, pinto (18744)	B	121,28	63,11	58,18	6,07	109,91	60,03	49,88	5,76
B, Hybrid (36061)+ A, pinto (18744)	C	177,92	120,29	57,63	14,12	158,84	110,79	48,04	12,93
Brachiaria Hybrid (Mulato 36061)	A	233,91	147,79	86,12	15,74	204,09	133,21	70,88	13,75
Brachiaria Hybrid (Mulato 36061)	B	259,12	172,99	86,13	18,04	225,19	154,72	70,47	15,76
Brachiaria Hybrid (Mulato 36061)	C	229,24	140,41	88,83	14,60	198,31	125,61	72,70	12,60
Degraded Pasture	A	137,19	92,84	44,35	15,55	125,95	87,30	38,66	14,10
Degraded Pasture	B	156,08	105,08	51,00	15,24	142,76	97,58	45,18	13,91
Degraded Pasture	C	151,50	98,75	52,76	12,07	140,91	93,96	46,95	11,58
For, Bank Improved Management	A	185,46	119,17	66,30	13,99	171,81	113,51	58,30	13,22
For, Bank Improved Management	B	183,08	113,30	69,78	14,01	167,92	106,61	61,31	12,93
For, Bank Improved Management	C	155,82	100,36	55,46	7,65	146,05	96,41	49,64	7,30
Forage Bank Local Management	A	161,13	107,44	53,69	11,34	144,89	100,45	44,44	10,48
Forage Bank Local Management	B	165,13	101,06	64,07	11,80	144,44	91,83	52,62	10,54
Forage Bank Local Management	C	179,17	113,14	66,03	12,26	157,78	103,60	54,18	11,03
Natural Regeneration	A	164,47	90,13	74,34	9,92	155,02	86,81	68,22	9,48
Natural Regeneration	B	150,02	107,75	42,27	13,03	144,86	103,56	41,29	12,32
Natural Regeneration	C	222,08	123,00	99,08	14,22	206,82	116,81	90,01	13,35

UNIDAD DE INVESTIGACION
DE LA CALIDAD

Experimento Dovio, Laderas Andinas, Colombia
Listado de Variables de Laboratorio y Calculadas Método 1 (profundidad fija)

BLOQUE = 1																		
tratamiento	Calicata	profundidad	densidad	pH	P (mg/kg)	CC (mg/kg)	Ctotal (g/kg)	Csól (g/kg)	csol (g/kg)	Ntotal (mg/kg)	Nsól (%)	Nsól (%)	Line (%)	ct(hm1)	nt(hm1)	csx(hm1)	coth(hm1)	
B. Hybrid (36061)+ A. pintoi (18744)	A	(0-10)	0,87	5,43	5,25	22,6	33,84	28,15	5,69	3651,80	47,58	28,41	24,01	29,56	3,19	24,59	4,97	
B. Hybrid (36061)+ A. pintoi (18744)	A	(10-20)	0,86	5,31	3,30	21,5	29,03	22,18	6,86	3169,00	38,59	30,95	30,46	25,03	2,73	19,12	5,91	
B. Hybrid (36061)+ A. pintoi (18744)	A	(20-40)	1,09	5,41	3,23	19,5	21,78	16,68	5,10	2591,09	35,86	33,62	30,52	47,39	5,65	36,28	11,10	
B. Hybrid (36061)+ A. pintoi (18744)	A	(40-100)	1,02	5,43	1,72	19,0	9,39	7,43	1,95	877,25	40,57	36,33	22,90	57,57	5,38	45,59	11,98	
B. Hybrid (36061)+ A. pintoi (18744)	B	(0-10)	0,87				26,82	20,66	6,16	2645,91				23,44	2,31	18,05	5,38	
B. Hybrid (36061)+ A. pintoi (18744)	B	(10-20)	0,86				22,92	18,14	4,78	2153,64				19,76	1,86	15,64	4,12	
B. Hybrid (36061)+ A. pintoi (18744)	B	(20-40)	1,09				13,18	11,12	2,06	1448,19				28,68	3,15	24,19	4,49	
B. Hybrid (36061)+ A. pintoi (18744)	B	(40-100)	1,02				9,37	4,24	5,33	648,23				58,69	3,97	25,99	32,69	
B. Hybrid (36061)+ A. pintoi (18744)	C	(0-10)	0,87				71,98	36,81	35,18	5543,86				62,89	4,84	32,16	30,73	
B. Hybrid (36061)+ A. pintoi (18744)	C	(10-20)	0,86				33,39	25,20	8,39	3561,52				28,96	3,07	21,72	7,23	
B. Hybrid (36061)+ A. pintoi (18744)	C	(20-40)	1,09				23,15	17,88	5,27	2167,25				50,37	4,71	38,90	11,47	
B. Hybrid (36061)+ A. pintoi (18744)	C	(40-100)	1,02				12,81	9,72	3,09	972,20				78,55	5,96	59,62	18,92	
Brachiaria Hybrid (Mulato 36061)	A	(0-10)	0,99	5,81	5,91	18,9	33,11	23,24	9,87	4115,95	43,88	27,71	28,41	32,89	4,09	23,09	9,80	
Brachiaria Hybrid (Mulato 36061)	A	(10-20)	0,98	5,71	3,14	18,1	31,30	21,87	9,43	3111,47	45,17	25,13	29,70	30,64	3,05	21,40	9,23	
Brachiaria Hybrid (Mulato 36061)	A	(20-40)	1,27	5,95	1,69	18,0	20,04	14,58	5,46	1794,19	42,11	29,24	28,65	50,98	4,56	37,09	13,89	
Brachiaria Hybrid (Mulato 36061)	A	(40-100)	1,17	5,78	1,19	18,9	7,78	5,95	1,83	444,91	37,94	39,83	22,23	54,61	3,12	41,77	12,84	
Brachiaria Hybrid (Mulato 36061)	B	(0-10)	0,99				30,77	24,28	6,49	3188,78				30,57	3,17	24,12	6,45	
Brachiaria Hybrid (Mulato 36061)	B	(10-20)	0,98				28,75	23,45	5,30	3015,25				28,14	2,95	22,85	5,18	
Brachiaria Hybrid (Mulato 36061)	B	(20-40)	1,27				17,00	12,82	4,19	1524,95				43,25	3,88	32,60	10,65	
Brachiaria Hybrid (Mulato 36061)	B	(40-100)	1,17				10,04	7,66	2,38	972,49				70,48	6,83	53,75	16,73	
Brachiaria Hybrid (Mulato 36061)	C	(0-10)	0,99				27,75	20,21	7,54	2672,18				27,57	2,65	20,08	7,49	
Brachiaria Hybrid (Mulato 36061)	C	(10-20)	0,98				25,63	17,88	7,75	2426,64				25,08	2,38	17,50	7,58	
Brachiaria Hybrid (Mulato 36061)	C	(20-40)	1,27				14,35	10,89	3,46	1287,94				36,50	3,28	27,71	8,79	
Brachiaria Hybrid (Mulato 36061)	C	(40-100)	1,17				7,40	1,99	5,41	213,69				51,94	1,50	13,96	37,99	
Degraded Pasture	A	(0-10)	0,75	5,55	3,90	25,6	53,26	42,09	11,18	4981,80	52,87	21,79	25,34	39,83	3,73	31,47	8,36	
Degraded Pasture	A	(10-20)	0,96	5,79	2,20	24,4	35,74	29,82	5,92	3826,40	52,67	21,88	25,45	34,27	3,67	28,59	5,68	
Degraded Pasture	A	(20-40)	1,07	5,96	1,80	21,2	21,79	17,46	4,33	2210,20	40,76	27,18	32,06	46,82	4,75	37,51	9,31	
Degraded Pasture	A	(40-100)	0,66	6,17	0,70	27,4	15,48	10,24	5,25	1340,30	49,78	21,24	28,98	61,66	5,34	40,76	20,90	
Degraded Pasture	B	(0-10)	0,75				49,17	38,34	10,83	4929,60				36,77	3,69	28,67	8,10	
Degraded Pasture	B	(10-20)	0,96				38,29	31,19	7,10	4357,50				36,72	4,18	29,91	6,81	
Degraded Pasture	B	(20-40)	1,07				19,87	15,00	4,87	1912,10				42,69	4,11	32,23	10,46	
Degraded Pasture	B	(40-100)	0,66				8,88	4,36	4,32	794,40				35,37	3,16	18,17	17,20	
Degraded Pasture	C	(0-10)	0,75				37,54	31,20	6,34	3676,70				28,07	2,75	23,33	4,74	
Degraded Pasture	C	(10-20)	0,96				31,47	25,84	5,63	3569,80				30,18	3,42	24,78	5,40	
Degraded Pasture	C	(20-40)	1,07				21,62	16,68	4,94	2295,30				46,45	4,93	35,84	10,61	
Degraded Pasture	C	(40-100)	0,66				11,47	6,55	4,92	1033,70				45,69	4,12	26,09	19,59	
For. Bank Improved Management	A	(0-10)	0,83	5,62	3,32	25,7	36,93	28,72	8,21	3897,08	43,82	22,90	33,28	30,53	3,22	23,74	6,78	
For. Bank Improved Management	A	(10-20)	0,81	5,78	2,83	27,7	30,02	30,00	0,02	3942,16	52,38	21,14	26,48	24,18	3,17	24,16	9,02	
For. Bank Improved Management	A	(20-40)	0,78	5,55	2,32	28,2	20,69	15,38	5,30	2166,85	37,47	29,94	32,59	32,17	3,37	23,92	8,25	
For. Bank Improved Management	A	(40-100)	0,62	5,62	1,58	26,6	10,31	8,09	2,22	813,98	45,23	20,40	34,37	38,32	3,03	30,05	8,27	
For. Bank Improved Management	B	(0-10)	0,83				38,69	34,66	4,03	4419,03				31,98	3,65	28,65	3,33	
For. Bank Improved Management	B	(10-20)	0,81				25,25	25,00	0,25	3498,74				20,34	2,82	20,13	0,20	
For. Bank Improved Management	B	(20-40)	0,78				22,42	20,61	1,81	1989,65				34,87	3,09	32,06	2,81	
For. Bank Improved Management	B	(40-100)	0,62				14,24	12,75	1,49	1023,78				52,92	3,80	47,37	5,56	
For. Bank Improved Management	C	(0-10)	0,83				71,82	55,48	16,34	6052,36				59,37	5,00	45,86	13,51	
For. Bank Improved Management	C	(10-20)	0,81				37,78	30,65	7,13	3776,52				30,43	3,04	24,69	5,74	
For. Bank Improved Management	C	(20-40)	0,78				26,33	20,73	5,61	2374,23				40,95	3,69	32,23	8,72	
For. Bank Improved Management	C	(40-100)	0,62				9,82	7,61	2,21	725,67				36,50	2,70	28,29	8,20	
Forage Bank Local Management	A	(0-10)	0,85	5,84	5,21	25,2	39,60	32,36	7,24	3608,80	40,76	26,42	32,82	33,83	3,08	27,65	6,19	
Forage Bank Local Management	A	(10-20)	0,93	5,56	3,31	23,8	24,84	15,74	9,11	2768,47	32,74	31,74	35,52	23,21	2,59	14,70	8,51	
Forage Bank Local Management	A	(20-40)	1,06	5,54	3,17	19,7	13,95	10,41	3,54	1364,70	35,97	31,00	33,03	29,53	2,89	22,04	7,49	
Forage Bank Local Management	A	(40-100)	0,99	5,36	1,76	19,7	7,13	5,65	1,48	534,94	28,49	47,87	26,64	42,36	3,18	33,58	8,77	
Forage Bank Local Management	B	(0-10)	0,85				49,03	16,76	32,27	3761,50				41,89	3,21	14,32	27,57	
Forage Bank Local Management	B	(10-20)	0,93				22,00	15,58	6,42	2035,91				20,55	1,90	14,56	6,00	
Forage Bank Local Management	B	(20-40)	1,06				16,06	10,93	5,13	1396,79				34,01	2,96	23,15	10,86	
Forage Bank Local Management	B	(40-100)	0,99				9,26	6,48	2,78	900,06				55,00	3,35	38,19	16,51	
Forage Bank Local Management	C	(0-10)	0,85				50,81	34,53	16,28	5112,89				43,41	4,37	29,50	13,91	
Forage Bank Local Management	C	(10-20)	0,93				48,58	32,82	15,76	4853,24				45,40	4,54	30,67	14,73	
Forage Bank Local Management	C	(20-40)	1,06				23,92	18,04	5,88	2610,00				50,64	5,53	38,20	12,44	
Forage Bank Local Management	C	(40-100)	0,99				11,04	8,66	2,38	936,90				65,57	5,57	51,45	14,12	
Natural Regeneration	A	(0-10)	0,84	5,78	14,24	20,7	49,45	35,20	14,25	4200,07	50,13	22,64	27,23	41,33	3,51	29,42	11,91	
Natural Regeneration	A	(10-20)	1,13	5,73	4,44	17,2	28,24	21,78	6,46	3051,43	41,30	23,84	34,86	31,98	3,46	24,66	7,32	
Natural Regeneration	A	(20-40)	1,36	5,91	3,18	15,0	16,67	13,07	3,60	1750,91	37,55	31,52	30,93	45,22	4,75	35,46	9,76	
Natural Regeneration	A	(40-100)	1,35	5,88	2,55	13,4	9,17	7,17	2,01	928,15	40,13	31,52	28,35	74,32	7,52	58,07	16,25	
N																		

tratamiento	Calles	profundidad	densidad	pH	P (mg/kg)	OC (mmol/kg)	Chlor (g/kg)	Cuad (g/kg)	Cond (g/kg)	end (g/kg)	Ntotal (mg/kg)	Area (%)	Asolia (%)	Urea (%)	etihant	nitrat	corcham	celham
B. Hybrid (36061) A. punio (18744)	A	(10-20)	0.76	5.01	8.04	28.3	69.29	36.49	32.80	363.40	52.80	21.85	25.35	32.69	2.76	27.75	24.94	
B. Hybrid (36061) A. punio (18744)	A	(10-20)	0.84	5.95	2.44	26.5	31.46	29.38	4.08	3042.24	43.51	27.17	29.32	28.19	2.56	24.75	3.44	
B. Hybrid (36061) A. punio (18744)	A	(20-40)	0.87	6.17	1.47	22.4	22.47	17.66	5.81	2203.86	30.99	37.42	31.59	38.94	3.82	30.63	8.33	
B. Hybrid (36061) A. punio (18744)	A	(40-100)	0.99	6.02	0.69	17.8	11.09	4.64	6.46	464.08	18.03	64.73	17.24	65.75	2.75	27.48	38.26	
B. Hybrid (36061) A. punio (18744)	B	(0-10)	0.76	78.29	42.08	36.21	42.08	36.21	42.08	36.21	42.08	36.21	42.08	36.21	35.53	3.22	31.59	27.53
B. Hybrid (36061) A. punio (18744)	B	(10-20)	0.84	70.55	37.62	32.93	37.62	32.93	37.62	32.93	37.62	32.93	37.62	32.93	35.44	3.35	31.70	27.74
B. Hybrid (36061) A. punio (18744)	B	(20-40)	0.87	32.93	24.23	8.70	22.87	8.70	22.87	8.70	22.87	8.70	22.87	8.70	37.10	3.97	42.02	15.08
B. Hybrid (36061) A. punio (18744)	B	(40-100)	0.99	11.38	8.02	4.35	6.22	4.35	6.22	4.35	6.22	4.35	6.22	4.35	87.43	3.89	47.34	19.89
B. Hybrid (36061) A. punio (18744)	C	(0-10)	0.76	71.30	43.51	27.80	47.85	27.80	47.85	27.80	47.85	27.80	47.85	27.80	34.72	3.64	33.08	21.13
B. Hybrid (36061) A. punio (18744)	C	(10-20)	0.84	45.66	35.49	10.17	16.96	35.49	10.17	16.96	35.49	10.17	16.96	35.49	38.47	3.11	29.90	8.57
B. Hybrid (36061) A. punio (18744)	C	(20-40)	0.87	30.49	24.88	5.62	23.17	4.0	23.17	4.0	23.17	4.0	23.17	4.0	31.88	4.37	43.14	9.74
B. Hybrid (36061) A. punio (18744)	C	(40-100)	0.99	14.47	10.47	4.00	11.28	7.8	4.00	11.28	7.8	4.00	11.28	7.8	85.78	6.69	62.04	23.74
Brachiaria Hybrid (Mullato 36061)	A	(0-10)	0.96	5.74	7.89	18.1	31.39	27.21	4.08	3073.66	38.04	25.34	35.62	30.12	2.95	26.21	3.91	
Brachiaria Hybrid (Mullato 36061)	A	(10-20)	0.95	5.75	5.55	17.9	27.15	24.40	5.75	2844.06	43.51	22.88	30.61	25.79	2.70	23.18	7.60	
Brachiaria Hybrid (Mullato 36061)	A	(20-40)	1.30	5.89	3.85	16.3	22.69	19.85	2.85	2000.89	40.94	27.74	31.32	38.82	5.19	51.44	7.38	
Brachiaria Hybrid (Mullato 36061)	A	(40-100)	1.34	6.12	3.27	14.0	10.84	8.71	2.12	788.53	37.29	32.82	29.89	87.21	6.35	70.12	17.10	
Brachiaria Hybrid (Mullato 36061)	B	(0-10)	0.96	34.24	28.10	6.14	34.24	28.10	6.14	34.24	28.10	6.14	34.24	28.10	32.86	3.46	26.97	5.90
Brachiaria Hybrid (Mullato 36061)	B	(10-20)	0.95	34.92	26.51	5.40	34.92	26.51	5.40	34.92	26.51	5.40	34.92	26.51	33.17	3.34	25.19	7.98
Brachiaria Hybrid (Mullato 36061)	B	(20-40)	1.30	22.33	18.84	3.39	19.29	6.0	3.39	19.29	6.0	3.39	19.29	6.0	57.62	5.00	48.84	8.78
Brachiaria Hybrid (Mullato 36061)	B	(40-100)	1.34	12.39	9.91	2.48	12.39	9.91	2.48	12.39	9.91	2.48	12.39	9.91	99.72	8.01	79.78	19.94
Brachiaria Hybrid (Mullato 36061)	C	(0-10)	0.96	30.86	23.48	7.39	30.86	23.48	7.39	30.86	23.48	7.39	30.86	23.48	29.62	2.89	22.53	7.09
Brachiaria Hybrid (Mullato 36061)	C	(10-20)	0.95	34.36	26.58	5.78	34.36	26.58	5.78	34.36	26.58	5.78	34.36	26.58	32.04	2.91	25.23	7.39
Brachiaria Hybrid (Mullato 36061)	C	(20-40)	1.30	19.02	16.18	2.84	19.02	16.18	2.84	19.02	16.18	2.84	19.02	16.18	49.29	4.45	41.93	7.36
Brachiaria Hybrid (Mullato 36061)	C	(40-100)	1.34	12.68	9.57	2.51	12.68	9.57	2.51	12.68	9.57	2.51	12.68	9.57	97.27	7.42	77.05	20.22
Degraded Pasture	A	(0-10)	0.90	5.79	2.65	25.0	32.56	27.25	5.31	3371.50	43.14	25.98	30.88	29.37	3.22	24.58	4.79	
Degraded Pasture	A	(10-20)	0.96	5.85	1.93	24.6	20.81	15.28	5.53	2253.40	43.99	24.87	31.14	19.97	1.16	14.67	5.31	
Degraded Pasture	A	(20-40)	0.82	5.83	1.46	23.2	15.38	10.37	5.01	1506.10	38.34	31.58	29.88	25.23	2.47	17.01	9.22	
Degraded Pasture	B	(0-10)	0.86	5.33	0.47	18.8	10.13	5.55	4.58	741.30	24.64	36.78	19.18	52.53	3.84	28.81	23.74	
Degraded Pasture	B	(10-20)	0.90	33.28	27.44	5.84	33.28	27.44	5.84	33.28	27.44	5.84	33.28	27.44	30.02	3.13	24.75	5.26
Degraded Pasture	B	(20-40)	0.96	28.11	24.33	3.78	28.11	24.33	3.78	28.11	24.33	3.78	28.11	24.33	26.97	2.76	23.35	3.63
Degraded Pasture	B	(40-100)	0.82	18.94	14.43	4.50	18.94	14.43	4.50	18.94	14.43	4.50	18.94	14.43	31.08	2.90	23.68	7.39
Degraded Pasture	C	(0-10)	0.86	7.32	4.13	3.19	7.32	4.13	3.19	7.32	4.13	3.19	7.32	4.13	31.97	3.67	21.41	16.55
Degraded Pasture	C	(10-20)	0.90	69.50	56.38	7.11	69.50	56.38	7.11	69.50	56.38	7.11	69.50	56.38	57.27	3.99	50.86	16.42
Degraded Pasture	C	(20-40)	0.96	45.29	34.68	10.61	45.29	34.68	10.61	45.29	34.68	10.61	45.29	34.68	43.46	4.76	38.28	10.18
Degraded Pasture	C	(40-100)	0.82	28.09	23.63	4.46	28.09	23.63	4.46	28.09	23.63	4.46	28.09	23.63	46.09	5.12	38.77	7.31
Degraded Pasture	C	(10-100)	0.86	14.73	10.81	3.92	14.73	10.81	3.92	14.73	10.81	3.92	14.73	10.81	76.41	5.60	56.06	20.34
For. Bank Improved Management	A	(0-10)	0.92	5.60	5.43	19.7	32.67	27.29	5.59	3383.28	42.08	25.13	31.89	30.08	3.13	25.12	4.96	
For. Bank Improved Management	A	(10-20)	1.00	5.71	3.30	19.6	29.64	23.40	4.24	3214.71	44.17	25.18	30.65	28.63	2.21	25.39	4.24	
For. Bank Improved Management	A	(20-40)	1.03	5.94	3.38	19.4	26.49	18.20	8.29	2296.65	42.62	27.91	29.47	34.76	4.75	37.63	17.13	
For. Bank Improved Management	A	(40-100)	0.86	6.27	2.98	26.4	15.39	8.06	7.33	833.11	41.14	25.94	32.97	29.74	4.32	41.75	37.99	
For. Bank Improved Management	B	(0-10)	0.92	34.07	23.91	8.16	34.07	23.91	8.16	34.07	23.91	8.16	34.07	23.91	31.36	2.97	23.85	7.51
For. Bank Improved Management	B	(10-20)	1.00	34.46	23.46	9.00	34.46	23.46	9.00	34.46	23.46	9.00	34.46	23.46	44.46	3.15	25.46	9.00
For. Bank Improved Management	B	(20-40)	1.03	30.35	13.16	7.39	30.35	13.16	7.39	30.35	13.16	7.39	30.35	13.16	42.49	3.20	27.21	15.28
For. Bank Improved Management	B	(40-100)	0.86	9.81	6.13	3.68	9.81	6.13	3.68	9.81	6.13	3.68	9.81	6.13	50.83	3.10	31.78	19.06
For. Bank Improved Management	C	(0-10)	0.92	30.21	23.60	6.60	30.21	23.60	6.60	30.21	23.60	6.60	30.21	23.60	27.80	2.63	21.73	6.08
For. Bank Improved Management	C	(10-20)	1.00	28.75	22.44	4.32	28.75	22.44	4.32	28.75	22.44	4.32	28.75	22.44	26.75	2.68	22.43	4.32
For. Bank Improved Management	C	(20-40)	1.03	16.95	13.50	3.15	16.95	13.50	3.15	16.95	13.50	3.15	16.95	13.50	34.42	2.64	27.90	6.52
For. Bank Improved Management	C	(40-100)	0.86	9.79	5.42	4.37	9.79	5.42	4.37	9.79	5.42	4.37	9.79	5.42	50.73	4.27	28.09	22.64
Forage Bank Local Management	A	(0-10)	0.71	5.94	8.44	30.3	59.56	44.73	14.83	4820.99	46.01	20.04	33.95	42.02	3.40	31.56	10.46	
Forage Bank Local Management	A	(10-20)	0.84	5.91	1.83	28.9	38.12	35.15	2.46	3918.07	48.09	21.52	30.39	31.86	3.28	29.38	2.48	
Forage Bank Local Management	A	(20-40)	0.86	6.16	1.55	27.4	28.66	16.39	4.27	2096.37	44.92	21.05	34.37	35.62	3.62	28.25	7.36	
Forage Bank Local Management	A	(40-100)	0.69	6.97	1.60	24.7	6.95	4.57	2.38	619.08	49.03	17.31	33.66	28.74	2.56	18.89	9.83	
Forage Bank Local Management	B	(0-10)	0.71	35.77	40.97	14.80	4830.32	14.80	40.97	14.80	4830.32	14.80	40.97	14.80	39.33	3.41	28.91	10.44
Forage Bank Local Management	B	(10-20)	0.84	40.46	36.15	13.31	42.02	35.3	13.31	42.02	35.3	13.31	42.02	35.3	41.34	3.57	30.22	11.13
Forage Bank Local Management	B	(20-40)	0.86	22.44	15.76	6.68	19.29	20.2	6.68	19.29	20.2	6.68	19.29	20.2	38.69	3.34	27.17	11.52
Forage Bank Local Management	B	(40-100)	0.69	12.99	7.27	5.73	12.99	7.27	5.73	12.99	7.27	5.73	12.99	7.27	53.76	4.03	30.08	23.69
Forage Bank Local Management	C	(0-10)	0.71	46.91	42.47	14.31	48.31	42.47	14.31	48.31	42.47	14.31	48.31	42.47	40.06	3.41	29.97	10.09
Forage Bank Local Management	C	(10-20)	0.84	46.91	32.57	14.33	46.91	32.57	14.33	46.91	32.57	14.33	46.91	32.57	39.21	3.02	27.21	11.98
Forage Bank Local Management	C	(20-40)	0.86	21.69	15.50	6.19	18.04	28	6.19	18.04	28	6.19	18.04	28	37.39	3.11	26.72	10.68
Forage Bank Local Management	C	(40-100)	0.69	16.15	10.26	5.90	16.15	10.26	5.90	16.15	10.26	5.90	16.15	10.26	66.83	5.57	42.44	24.39
Natural Regeneration	A	(0-10)	0.90	5.79	3.37	21.5	43.62	34.77	8.85	4015.92	44.86	29.04	26.10	19.29	3.62	31.31	7.97	
Natural Regeneration	A	(10-20)	1.22	5.71	2.38	19.8	28.30	23.43	4.88	3009.41	43.92	29.54	26.34	34.43	3.66	28.50	5.93	
Natural Regeneration	A	(20-40)	1.21	6.19	1.21	17.2	16.13	13.32	2.81	1418.75	29.48	41.39	29.13	19.04	3.43	32.24	6.81	
Natural Regeneration	A	(40-100)	1.19	6.55	0.90	10.7	10.18	4.08	6.09	337.04	12.16	51.88	35.36	71.60	2.55	29.13	43.47	
Natural Regeneration	B	(0-10)	0.90	34.87	30.30	4.57	34.87	30.30	4.57	34.87	30.30	4.57	34.87	30.30	31.41	2.76	27.29	4.12
Natural Regeneration	B	(10-20)	1.22	18.23	3.26	11.22	21.49	18.23	3.26	11.22	21.49	18.23						

tratamiento	Calicata	profundidad	pH	CC (mg/kg)	Clor (g/kg)	Cuad (g/kg)	end (g/kg)	Metal (mg/kg)	arsen (%)	Asido (%)	Urea (%)	celharil	nitrotil	corintil	celharil	
B. Hybrid (36061) + A. parva (18744)	A	(0-10)	5.83	4.53	19.43	32.12	27.68	4.44	42.13	28.86	28.71	30.42	2.68	26.21	4.20	
B. Hybrid (36061) + A. parva (18744)	A	(10-20)	5.92	3.00	20.43	29.76	24.71	5.05	43.74	24.93	31.31	30.32	2.80	25.17	5.13	
B. Hybrid (36061) + A. parva (18744)	A	(20-40)	5.92	2.61	20.05	20.19	14.76	5.43	40.31	20.92	29.77	40.21	3.29	29.39	10.82	
B. Hybrid (36061) + A. parva (18744)	A	(40-100)	5.91	1.64	21.05	12.12	12.12	5.68	32.33	41.37	26.10	76.18	5.82	40.46	35.73	
B. Hybrid (36061) + A. parva (18744)	B	(0-10)	5.95			32.64	27.90	4.74	31.72	36.91	36.91	36.91	3.00	26.42	4.49	
B. Hybrid (36061) + A. parva (18744)	B	(10-20)	6.02			27.65	22.77	4.87	24.73	36.91	36.91	36.91	3.00	26.42	4.49	
B. Hybrid (36061) + A. parva (18744)	B	(20-40)	6.00			18.87	13.66	5.21	15.12	36.91	36.91	36.91	3.00	26.42	4.49	
B. Hybrid (36061) + A. parva (18744)	B	(40-100)	6.03			13.61	7.32	6.28	3.88	36.91	36.91	36.91	3.00	26.42	4.49	
B. Hybrid (36061) + A. parva (18744)	C	(0-10)	6.05			39.66	33.09	6.38	3.88	36.91	36.91	36.91	3.00	26.42	4.49	
B. Hybrid (36061) + A. parva (18744)	C	(10-20)	6.05			36.12	29.51	6.60	3.19	36.91	36.91	36.91	3.00	26.42	4.49	
B. Hybrid (36061) + A. parva (18744)	C	(20-40)	6.00			18.97	13.13	5.84	1.68	36.91	36.91	36.91	3.00	26.42	4.49	
B. Hybrid (36061) + A. parva (18744)	C	(40-100)	6.05			10.57	4.35	6.22	6.87	36.91	36.91	36.91	3.00	26.42	4.49	
Bracharia Hybrid (Molato 36061)	A	(0-10)	5.76	7.99	22.05	31.27	27.33	3.94	26.86	32.73	29.19	32.72	2.81	28.60	4.13	
Bracharia Hybrid (Molato 36061)	A	(10-20)	5.86	3.54	21.25	28.25	23.94	4.32	27.03	41.94	30.13	28.15	2.69	23.84	4.30	
Bracharia Hybrid (Molato 36061)	A	(20-40)	5.71	4.03	22.55	16.41	11.51	4.90	14.18	32.35	43.17	26.48	34.97	10.45	10.45	
Bracharia Hybrid (Molato 36061)	A	(40-100)	5.21	1.33	12.25	7.79	3.08	4.70	5.18	47.12	24.61	57.03	3.80	22.58	34.45	
Bracharia Hybrid (Molato 36061)	B	(0-10)	6.05			34.48	29.46	5.02	3.55	36.91	36.91	36.91	3.00	26.42	4.49	
Bracharia Hybrid (Molato 36061)	B	(10-20)	6.00			32.22	27.20	5.02	3.55	36.91	36.91	36.91	3.00	26.42	4.49	
Bracharia Hybrid (Molato 36061)	B	(20-40)	6.07			18.02	13.84	4.18	1.60	36.91	36.91	36.91	3.00	26.42	4.49	
Bracharia Hybrid (Molato 36061)	B	(40-100)	6.05			8.68	2.51	6.17	4.27	36.91	36.91	36.91	3.00	26.42	4.49	
Bracharia Hybrid (Molato 36061)	C	(0-10)	6.05			26.62	24.36	2.25	24.13	36.91	36.91	36.91	3.00	26.42	4.49	
Bracharia Hybrid (Molato 36061)	C	(10-20)	6.00			24.81	22.40	2.41	22.48	36.91	36.91	36.91	3.00	26.42	4.49	
Bracharia Hybrid (Molato 36061)	C	(20-40)	6.07			19.26	15.51	3.75	15.12	36.91	36.91	36.91	3.00	26.42	4.49	
Bracharia Hybrid (Molato 36061)	C	(40-100)	6.22			10.57	5.34	5.23	7.55	36.91	36.91	36.91	3.00	26.42	4.49	
Degraded Pasture	A	(0-10)	6.03	6.26	19.00	28.12	23.83	4.28	40.33	40.86	24.20	34.94	30.16	3.25	25.56	4.60
Degraded Pasture	A	(10-20)	5.98	2.69	17.80	23.69	19.05	4.63	27.14	40.70	36.23	26.70	3.06	21.48	5.22	
Degraded Pasture	A	(20-40)	6.06	1.52	15.20	13.97	11.97	3.67	16.03	38.40	33.19	28.41	4.09	31.37	9.34	
Degraded Pasture	A	(40-100)	6.02	1.52	12.80	12.05	8.15	3.90	12.24	38.53	34.41	27.06	100.73	10.24	32.62	
Degraded Pasture	B	(0-10)	6.07			31.13	25.57	5.55	32.13	50.12	33.38	34.45	27.43	5.95	5.95	
Degraded Pasture	B	(10-20)	6.13			21.13	17.11	4.02	21.77	50.12	33.38	34.45	27.43	5.95	5.95	
Degraded Pasture	B	(20-40)	6.27			14.17	10.37	3.80	13.10	50.12	33.38	34.45	27.43	5.95	5.95	
Degraded Pasture	B	(40-100)	6.27			11.12	6.90	4.22	12.85	50.12	33.38	34.45	27.43	5.95	5.95	
Degraded Pasture	C	(0-10)	6.07			38.13	32.26	5.87	38.84	50.12	33.38	34.45	27.43	5.95	5.95	
Degraded Pasture	C	(10-20)	6.13			33.99	27.24	5.75	37.40	50.12	33.38	34.45	27.43	5.95	5.95	
Degraded Pasture	C	(20-40)	6.27			23.24	21.03	4.22	23.60	50.12	33.38	34.45	27.43	5.95	5.95	
Degraded Pasture	C	(40-100)	6.27			13.73	9.33	4.40	13.10	50.12	33.38	34.45	27.43	5.95	5.95	
For. Bank Improved Management	A	(0-10)	5.89	5.92	13.95	23.21	21.50	3.20	24.27	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	A	(10-20)	5.92	4.14	14.55	22.84	20.17	2.67	22.91	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	A	(20-40)	5.95	4.23	14.45	22.43	17.31	5.12	19.97	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	A	(40-100)	6.13	2.84	13.33	13.63	8.41	5.22	10.55	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	B	(0-10)	6.08			24.05	19.87	4.18	23.50	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	B	(10-20)	6.06			22.94	19.37	3.37	23.90	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	B	(20-40)	6.24			14.38	9.33	5.05	12.93	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	B	(40-100)	6.27			10.32	4.61	5.70	8.88	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(0-10)	6.08			27.42	21.93	5.49	25.93	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(10-20)	6.06			23.92	19.37	4.35	24.59	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(20-40)	6.24			18.16	13.32	5.24	14.85	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(40-100)	6.27			15.80	10.96	4.84	10.89	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(10-20)	6.06			37.33	31.13	6.38	36.11	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(20-40)	6.08			34.39	29.22	5.17	34.06	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(40-100)	6.12			21.15	16.91	4.88	18.35	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(10-20)	6.13	2.08	21.65	11.63	6.29	5.64	7.66	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(20-40)	6.07	3.59	24.15	37.33	31.13	6.38	36.11	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(40-100)	6.08	3.70	22.35	34.39	29.22	5.17	34.06	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(10-20)	6.12	2.98	21.15	21.79	16.91	4.88	18.35	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(20-40)	6.13	2.08	21.65	11.63	6.29	5.64	7.66	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(40-100)	6.07	3.59	24.15	37.33	31.13	6.38	36.11	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(10-20)	6.08	3.70	22.35	34.39	29.22	5.17	34.06	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(20-40)	6.12	2.98	21.15	21.79	16.91	4.88	18.35	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(40-100)	6.13	2.08	21.65	11.63	6.29	5.64	7.66	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(10-20)	6.07	3.59	24.15	37.33	31.13	6.38	36.11	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(20-40)	6.08	3.70	22.35	34.39	29.22	5.17	34.06	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(40-100)	6.12	2.98	21.15	21.79	16.91	4.88	18.35	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(10-20)	6.13	2.08	21.65	11.63	6.29	5.64	7.66	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(20-40)	6.07	3.59	24.15	37.33	31.13	6.38	36.11	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(40-100)	6.08	3.70	22.35	34.39	29.22	5.17	34.06	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(10-20)	6.12	2.98	21.15	21.79	16.91	4.88	18.35	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(20-40)	6.13	2.08	21.65	11.63	6.29	5.64	7.66	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(40-100)	6.07	3.59	24.15	37.33	31.13	6.38	36.11	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(10-20)	6.08	3.70	22.35	34.39	29.22	5.17	34.06	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(20-40)	6.12	2.98	21.15	21.79	16.91	4.88	18.35	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(40-100)	6.13	2.08	21.65	11.63	6.29	5.64	7.66	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(10-20)	6.07	3.59	24.15	37.33	31.13	6.38	36.11	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(20-40)	6.08	3.70	22.35	34.39	29.22	5.17	34.06	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(40-100)	6.12	2.98	21.15	21.79	16.91	4.88	18.35	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(10-20)	6.13	2.08	21.65	11.63	6.29	5.64	7.66	49.17	24.74	34.09	22.53	2.61	23.15	2.37
For. Bank Improved Management	C	(20-40)	6.07	3.59	24.15	3										

Experimento Dovio, Laderas Andinas, Colombia
Listado de Variables Calculadas Método 2 (peso suelo fijo)

BLOQUE = 1								
tratamiento	calicata	profundidad	pdensidad	ponder2	ctthmt2	coxthmt2	cethmt2	ntthmt2
B, Hybrid (36061)+ A, pinto (18744)	A	(0-10)	0,87	1,00	29,56	24,99	4,97	3,19
B, Hybrid (36061)+ A, pinto (18744)	A	(10-20)	0,86	1,00	25,03	19,12	5,91	2,73
B, Hybrid (36061)+ A, pinto (18744)	A	(20-40)	1,09	2,00	47,39	36,28	11,10	5,65
B, Hybrid (36061)+ A, pinto (18744)	A	(40-100)	1,02	2,93	28,09	22,25	5,85	2,62
B, Hybrid (36061)+ A, pinto (18744)	B	(0-10)	0,87	1,00	23,44	18,05	5,38	2,31
B, Hybrid (36061)+ A, pinto (18744)	B	(10-20)	0,86	1,00	19,76	15,64	4,12	1,86
B, Hybrid (36061)+ A, pinto (18744)	B	(20-40)	1,09	2,00	28,68	24,19	4,49	3,15
B, Hybrid (36061)+ A, pinto (18744)	B	(40-100)	1,02	2,93	28,64	12,68	15,95	1,94
B, Hybrid (36061)+ A, pinto (18744)	C	(0-10)	0,87	1,00	62,89	32,16	30,73	4,84
B, Hybrid (36061)+ A, pinto (18744)	C	(10-20)	0,86	1,00	28,96	21,72	7,23	3,07
B, Hybrid (36061)+ A, pinto (18744)	C	(20-40)	1,09	2,00	50,37	38,90	11,47	4,71
B, Hybrid (36061)+ A, pinto (18744)	C	(40-100)	1,02	2,93	38,33	29,10	9,23	2,91
Brachiaria Hybrid (Mulato 36061)	A	(0-10)	0,99	1,00	32,89	23,09	9,80	4,09
Brachiaria Hybrid (Mulato 36061)	A	(10-20)	0,98	1,00	30,64	21,40	9,23	3,05
Brachiaria Hybrid (Mulato 36061)	A	(20-40)	1,27	2,00	50,98	37,09	13,89	4,56
Brachiaria Hybrid (Mulato 36061)	A	(40-100)	1,17	2,04	18,57	14,30	4,37	1,06
Brachiaria Hybrid (Mulato 36061)	B	(0-10)	0,99	1,00	30,57	24,12	6,45	3,17
Brachiaria Hybrid (Mulato 36061)	B	(10-20)	0,98	1,00	28,14	22,95	5,18	2,95
Brachiaria Hybrid (Mulato 36061)	B	(20-40)	1,27	2,00	43,25	32,60	10,65	3,88
Brachiaria Hybrid (Mulato 36061)	B	(40-100)	1,17	2,04	23,97	18,28	5,69	2,32
Brachiaria Hybrid (Mulato 36061)	C	(0-10)	0,99	1,00	27,57	20,08	7,49	2,65
Brachiaria Hybrid (Mulato 36061)	C	(10-20)	0,98	1,00	25,08	17,50	7,58	2,38
Brachiaria Hybrid (Mulato 36061)	C	(20-40)	1,27	2,00	36,50	27,71	8,79	3,28
Brachiaria Hybrid (Mulato 36061)	C	(40-100)	1,17	2,04	17,66	4,75	12,92	0,51
Degraded Pasture	A	(0-10)	0,75	1,00	39,83	31,47	8,36	3,73
Degraded Pasture	A	(10-20)	0,96	1,00	34,27	28,59	5,68	3,67
Degraded Pasture	A	(20-40)	1,07	2,00	46,82	37,51	9,31	4,75
Degraded Pasture	A	(40-100)	0,66	4,59	47,19	31,20	15,99	4,08
Degraded Pasture	B	(0-10)	0,75	1,00	36,77	28,67	8,10	3,69
Degraded Pasture	B	(10-20)	0,96	1,00	36,72	29,91	6,81	4,18
Degraded Pasture	B	(20-40)	1,07	2,00	42,69	32,23	10,46	4,11
Degraded Pasture	B	(40-100)	0,66	4,59	27,07	13,91	13,17	2,42
Degraded Pasture	C	(0-10)	0,75	1,00	28,07	23,33	4,74	2,75
Degraded Pasture	C	(10-20)	0,96	1,00	30,18	24,78	5,40	3,42
Degraded Pasture	C	(20-40)	1,07	2,00	46,45	35,84	10,61	4,93
Degraded Pasture	C	(40-100)	0,66	4,59	34,97	19,97	15,00	3,15
For, Bank Improved Management	A	(0-10)	0,83	1,00	30,53	23,74	6,78	3,22
For, Bank Improved Management	A	(10-20)	0,81	1,00	24,18	24,16	0,02	3,17
For, Bank Improved Management	A	(20-40)	0,78	2,00	32,17	23,92	8,25	3,37
For, Bank Improved Management	A	(40-100)	0,62	6,00	38,32	30,05	8,27	3,03
For, Bank Improved Management	B	(0-10)	0,83	1,00	31,98	28,65	3,33	3,65
For, Bank Improved Management	B	(10-20)	0,81	1,00	20,34	20,13	0,20	2,82
For, Bank Improved Management	B	(20-40)	0,78	2,00	34,87	32,06	2,81	3,09
For, Bank Improved Management	B	(40-100)	0,62	6,00	52,92	47,37	5,56	3,80
For, Bank Improved Management	C	(0-10)	0,83	1,00	59,37	45,86	13,51	5,00
For, Bank Improved Management	C	(10-20)	0,81	1,00	30,43	24,69	5,74	3,04
For, Bank Improved Management	C	(20-40)	0,78	2,00	40,95	32,23	8,72	3,69
For, Bank Improved Management	C	(40-100)	0,62	6,00	36,50	28,29	8,20	2,70
Forage Bank Local Management	A	(0-10)	0,85	1,00	33,83	27,65	6,19	3,08
Forage Bank Local Management	A	(10-20)	0,93	1,00	23,21	14,70	8,51	2,59
Forage Bank Local Management	A	(20-40)	1,06	2,00	29,53	22,04	7,49	2,89
Forage Bank Local Management	A	(40-100)	0,99	3,03	21,37	16,95	4,43	1,60
Forage Bank Local Management	B	(0-10)	0,85	1,00	41,89	14,32	27,57	3,21
Forage Bank Local Management	B	(10-20)	0,93	1,00	20,55	14,56	6,00	1,90
Forage Bank Local Management	B	(20-40)	1,06	2,00	34,01	23,15	10,86	2,96
Forage Bank Local Management	B	(40-100)	0,99	3,03	27,75	19,42	8,33	2,70
Forage Bank Local Management	C	(0-10)	0,85	1,00	43,41	29,50	13,91	4,37
Forage Bank Local Management	C	(10-20)	0,93	1,00	45,40	30,67	14,73	4,54
Forage Bank Local Management	C	(20-40)	1,06	2,00	50,64	38,20	12,44	5,53
Forage Bank Local Management	C	(40-100)	0,99	3,03	33,08	25,96	7,12	2,81
Natural Regeneration	A	(0-10)	0,84	1,00	41,33	29,42	11,91	3,51
Natural Regeneration	A	(10-20)	1,13	1,00	31,98	24,66	7,32	3,46
Natural Regeneration	A	(20-40)	1,36	2,00	45,22	35,46	9,76	4,75
Natural Regeneration	A	(40-100)	1,35	1,65	20,38	15,93	4,46	2,06
Natural Regeneration	B	(0-10)	0,84	1,00	43,75	30,98	12,77	3,51
Natural Regeneration	B	(10-20)	1,13	1,00	33,91	25,94	7,97	3,23
Natural Regeneration	B	(20-40)	1,36	2,00	47,81	35,61	12,20	4,45
Natural Regeneration	B	(40-100)	1,35	1,65	22,49	17,29	5,21	2,91
Natural Regeneration	C	(0-10)	0,84	1,00	59,54	31,22	28,32	3,52
Natural Regeneration	C	(10-20)	1,13	1,00	38,68	30,00	8,67	4,61
Natural Regeneration	C	(20-40)	1,36	2,00	51,06	40,08	10,99	5,68
Natural Regeneration	C	(40-100)	1,35	1,65	18,53	15,69	2,84	3,10

BLOQUE = 2								
tratamiento	calicata	profundidad	densidad	ponder2	ctthm2	coxthm2	cethm2	nithm2
B, Hybrid (36061)+ A, pinto (18744)	A	(0-10)	0,76	1,00	52,69	27,75	24,94	2,76
B, Hybrid (36061)+ A, pinto (18744)	A	(10-20)	0,84	1,00	28,19	24,75	3,44	2,56
B, Hybrid (36061)+ A, pinto (18744)	A	(20-40)	0,87	2,00	38,96	30,63	8,33	3,82
B, Hybrid (36061)+ A, pinto (18744)	A	(40-100)	0,99	3,61	39,56	16,53	23,02	1,66
B, Hybrid (36061)+ A, pinto (18744)	B	(0-10)	0,76	1,00	59,53	31,99	27,53	3,22
B, Hybrid (36061)+ A, pinto (18744)	B	(10-20)	0,84	1,00	59,44	31,70	27,74	3,35
B, Hybrid (36061)+ A, pinto (18744)	B	(20-40)	0,87	2,00	57,10	42,02	15,08	3,97
B, Hybrid (36061)+ A, pinto (18744)	B	(40-100)	0,99	3,61	40,57	28,61	11,96	2,22
B, Hybrid (36061)+ A, pinto (18744)	C	(0-10)	0,76	1,00	54,22	33,08	21,13	3,64
B, Hybrid (36061)+ A, pinto (18744)	C	(10-20)	0,84	1,00	38,47	29,90	8,57	3,11
B, Hybrid (36061)+ A, pinto (18744)	C	(20-40)	0,87	2,00	52,88	43,14	9,74	4,37
B, Hybrid (36061)+ A, pinto (18744)	C	(40-100)	0,99	3,61	51,61	37,33	14,28	4,03
Bracharia Hybrid (Mulato 36061)	A	(0-10)	0,96	1,00	30,12	26,21	3,91	2,95
Bracharia Hybrid (Mulato 36061)	A	(10-20)	0,95	1,00	25,79	23,18	2,60	2,70
Bracharia Hybrid (Mulato 36061)	A	(20-40)	1,30	2,00	58,82	51,44	7,38	5,19
Bracharia Hybrid (Mulato 36061)	A	(40-100)	1,34	1,79	26,03	20,92	5,10	1,89
Bracharia Hybrid (Mulato 36061)	B	(0-10)	0,96	1,00	32,86	26,97	5,90	3,46
Bracharia Hybrid (Mulato 36061)	B	(10-20)	0,95	1,00	33,17	25,19	7,98	3,34
Bracharia Hybrid (Mulato 36061)	B	(20-40)	1,30	2,00	57,62	48,84	8,78	5,00
Bracharia Hybrid (Mulato 36061)	B	(40-100)	1,34	1,79	29,76	23,81	5,95	2,39
Bracharia Hybrid (Mulato 36061)	C	(0-10)	0,96	1,00	29,62	22,53	7,09	2,89
Bracharia Hybrid (Mulato 36061)	C	(10-20)	0,95	1,00	32,64	25,25	7,39	2,91
Bracharia Hybrid (Mulato 36061)	C	(20-40)	1,30	2,00	49,29	41,93	7,36	4,45
Bracharia Hybrid (Mulato 36061)	C	(40-100)	1,34	1,79	29,03	22,99	6,03	2,21
Degraded Pasture	A	(0-10)	0,90	1,00	29,37	24,58	4,79	3,22
Degraded Pasture	A	(10-20)	0,96	1,00	19,97	14,67	5,31	2,16
Degraded Pasture	A	(20-40)	0,82	2,00	25,23	17,01	8,22	2,47
Degraded Pasture	A	(40-100)	0,86	3,93	34,46	18,89	15,57	2,52
Degraded Pasture	B	(0-10)	0,90	1,00	30,02	24,75	5,26	3,13
Degraded Pasture	B	(10-20)	0,96	1,00	26,97	23,35	3,63	2,76
Degraded Pasture	B	(20-40)	0,82	2,00	31,08	23,68	7,39	2,90
Degraded Pasture	B	(40-100)	0,86	3,93	24,90	14,04	10,85	2,41
Degraded Pasture	C	(0-10)	0,90	1,00	57,27	50,86	6,42	5,99
Degraded Pasture	C	(10-20)	0,96	1,00	43,46	33,28	10,18	4,76
Degraded Pasture	C	(20-40)	0,82	2,00	46,08	38,77	7,31	5,12
Degraded Pasture	C	(40-100)	0,86	3,93	50,10	36,76	13,34	5,12
For, Bank Improved Management	A	(0-10)	0,92	1,00	30,08	25,12	4,96	3,11
For, Bank Improved Management	A	(10-20)	1,00	1,00	29,63	25,39	4,24	3,21
For, Bank Improved Management	A	(20-40)	1,03	2,00	54,76	37,63	17,13	4,75
For, Bank Improved Management	A	(40-100)	0,86	3,38	44,88	23,50	21,38	2,43
For, Bank Improved Management	B	(0-10)	0,92	1,00	31,36	23,85	7,51	2,97
For, Bank Improved Management	B	(10-20)	1,00	1,00	34,46	25,46	9,00	3,15
For, Bank Improved Management	B	(20-40)	1,03	2,00	42,49	27,21	15,28	3,20
For, Bank Improved Management	B	(40-100)	0,86	3,38	28,61	17,88	10,73	1,74
For, Bank Improved Management	C	(0-10)	0,92	1,00	27,80	21,73	6,08	2,63
For, Bank Improved Management	C	(10-20)	1,00	1,00	26,75	22,43	4,32	2,68
For, Bank Improved Management	C	(20-40)	1,03	2,00	34,42	27,90	6,52	2,64
For, Bank Improved Management	C	(40-100)	0,86	3,38	28,55	15,81	12,74	2,41
Forage Bank Local Management	A	(0-10)	0,71	1,00	42,02	31,56	10,46	3,40
Forage Bank Local Management	A	(10-20)	0,84	1,00	31,86	29,38	2,48	3,28
Forage Bank Local Management	A	(20-40)	0,86	2,00	35,62	28,25	7,36	3,62
Forage Bank Local Management	A	(40-100)	0,69	5,28	25,27	16,61	8,66	2,25
Forage Bank Local Management	B	(0-10)	0,71	1,00	39,35	28,91	10,44	3,41
Forage Bank Local Management	B	(10-20)	0,84	1,00	41,34	30,22	11,13	3,57
Forage Bank Local Management	B	(20-40)	0,86	2,00	38,69	27,17	11,52	3,34
Forage Bank Local Management	B	(40-100)	0,69	5,28	47,28	26,45	20,83	3,54
Forage Bank Local Management	C	(0-10)	0,71	1,00	40,06	29,97	10,09	3,41
Forage Bank Local Management	C	(10-20)	0,84	1,00	39,21	27,23	11,98	3,02
Forage Bank Local Management	C	(20-40)	0,86	2,00	37,39	26,72	10,68	3,11
Forage Bank Local Management	C	(40-100)	0,69	5,28	58,77	37,32	21,45	4,90
Natural Regeneration	A	(0-10)	0,90	1,00	39,29	31,31	7,97	3,62
Natural Regeneration	A	(10-20)	1,22	1,00	34,43	28,50	5,93	3,66
Natural Regeneration	A	(20-40)	1,21	2,00	39,04	32,24	6,81	3,43
Natural Regeneration	A	(40-100)	1,19	1,99	24,08	9,66	14,42	0,84
Natural Regeneration	B	(0-10)	0,90	1,00	31,41	27,29	4,12	2,76
Natural Regeneration	B	(10-20)	1,22	1,00	26,15	22,18	3,97	2,57
Natural Regeneration	B	(20-40)	1,21	2,00	28,27	22,65	5,62	2,53
Natural Regeneration	B	(40-100)	1,19	1,99	15,80	11,21	4,59	1,50
Natural Regeneration	C	(0-10)	0,90	1,00	38,35	32,82	5,53	3,36
Natural Regeneration	C	(10-20)	1,22	1,00	35,02	29,55	5,47	3,40
Natural Regeneration	C	(20-40)	1,21	2,00	25,05	19,57	5,48	1,58
Natural Regeneration	C	(40-100)	1,19	1,99	15,81	4,02	11,79	0,16

BLOQUE = 3

tratamiento	calicata	profundidad	pdensidad	ponder2	ctthm2	co xthm2	cethm2	ntthm2
B. Hybrid (36061)+ A. pintoi (18744)	A	(0-10)	0,96	1,00	34,51	27,85	6,66	3,42
B. Hybrid (36061)+ A. pintoi (18744)	A	(10-20)	0,98	1,00	29,72	23,38	6,34	2,76
B. Hybrid (36061)+ A. pintoi (18744)	A	(20-40)	1,36	2,00	63,71	49,66	14,05	6,03
B. Hybrid (36061)+ A. pintoi (18744)	A	(40-100)	1,20	1,87	35,98	24,17	11,81	2,68
B. Hybrid (36061)+ A. pintoi (18744)	B	(0-10)	0,96	1,00	44,55	35,60	8,95	4,14
B. Hybrid (36061)+ A. pintoi (18744)	B	(10-20)	0,98	1,00	45,37	35,66	9,71	3,90
B. Hybrid (36061)+ A. pintoi (18744)	B	(20-40)	1,36	2,00	76,99	62,56	14,42	7,31
B. Hybrid (36061)+ A. pintoi (18744)	B	(40-100)	1,20	1,87	34,51	21,14	13,37	2,67
B. Hybrid (36061)+ A. pintoi (18744)	C	(0-10)	0,96	1,00	32,63	26,75	5,88	3,26
B. Hybrid (36061)+ A. pintoi (18744)	C	(10-20)	0,98	1,00	28,89	23,40	5,49	2,59
B. Hybrid (36061)+ A. pintoi (18744)	C	(20-40)	1,36	2,00	58,31	43,85	14,46	4,46
B. Hybrid (36061)+ A. pintoi (18744)	C	(40-100)	1,20	1,87	37,34	24,73	12,61	2,84
Brachiaria Hybrid (Mulato 36061)	A	(0-10)	1,14	1,00	29,00	23,10	5,91	2,56
Brachiaria Hybrid (Mulato 36061)	A	(10-20)	1,15	1,00	26,36	22,36	4,00	2,50
Brachiaria Hybrid (Mulato 36061)	A	(20-40)	1,32	2,00	52,81	39,95	12,86	4,45
Brachiaria Hybrid (Mulato 36061)	A	(40-100)	1,42	1,38	25,13	11,77	13,36	1,93
Brachiaria Hybrid (Mulato 36061)	B	(0-10)	1,14	1,00	32,60	26,11	6,49	2,88
Brachiaria Hybrid (Mulato 36061)	B	(10-20)	1,15	1,00	27,70	21,89	5,81	2,74
Brachiaria Hybrid (Mulato 36061)	B	(20-40)	1,32	2,00	49,82	33,79	16,03	3,80
Brachiaria Hybrid (Mulato 36061)	B	(40-100)	1,42	1,38	22,92	10,40	12,53	1,23
Brachiaria Hybrid (Mulato 36061)	C	(0-10)	1,14	1,00	33,39	28,99	4,40	3,26
Brachiaria Hybrid (Mulato 36061)	C	(10-20)	1,15	1,00	30,48	27,60	2,88	3,11
Brachiaria Hybrid (Mulato 36061)	C	(20-40)	1,32	2,00	46,09	32,21	13,88	3,74
Brachiaria Hybrid (Mulato 36061)	C	(40-100)	1,42	1,38	22,85	13,98	8,87	1,92
Degraded Pasture	A	(0-10)	0,86	1,00	31,17	25,61	5,56	3,55
Degraded Pasture	A	(10-20)	1,04	1,00	26,20	22,13	4,07	2,77
Degraded Pasture	A	(20-40)	0,87	2,00	28,61	21,87	6,74	2,84
Degraded Pasture	A	(40-100)	0,69	4,70	35,61	23,07	12,54	2,97
Degraded Pasture	B	(0-10)	0,86	1,00	56,94	48,19	8,75	5,75
Degraded Pasture	B	(10-20)	1,04	1,00	40,18	32,09	8,09	4,70
Degraded Pasture	B	(20-40)	0,87	2,00	40,60	33,24	7,35	3,59
Degraded Pasture	B	(40-100)	0,69	4,70	36,17	23,86	12,30	2,94
Degraded Pasture	C	(0-10)	0,86	1,00	30,18	24,74	5,43	3,00
Degraded Pasture	C	(10-20)	1,04	1,00	25,37	20,94	4,43	2,73
Degraded Pasture	C	(20-40)	0,87	2,00	29,60	23,15	6,45	3,05
Degraded Pasture	C	(40-100)	0,69	4,70	43,72	29,14	14,58	4,42
For. Bank Improved Management	A	(0-10)	1,03	1,00	34,23	26,10	8,13	3,16
For. Bank Improved Management	A	(10-20)	1,04	1,00	28,32	21,50	6,82	2,68
For. Bank Improved Management	A	(20-40)	1,13	2,00	48,30	34,04	14,27	4,06
For. Bank Improved Management	A	(40-100)	1,10	2,32	32,29	14,49	17,80	2,49
For. Bank Improved Management	B	(0-10)	1,03	1,00	34,78	26,75	8,03	2,96
For. Bank Improved Management	B	(10-20)	1,04	1,00	26,59	21,07	5,52	2,24
For. Bank Improved Management	B	(20-40)	1,13	2,00	41,03	28,96	12,06	3,28
For. Bank Improved Management	B	(40-100)	1,10	2,32	32,56	18,42	14,15	2,56
For. Bank Improved Management	C	(0-10)	1,03	1,00	34,01	27,15	6,86	3,51
For. Bank Improved Management	C	(10-20)	1,04	1,00	32,74	27,74	5,01	3,31
For. Bank Improved Management	C	(20-40)	1,13	2,00	56,59	44,16	12,43	4,98
For. Bank Improved Management	C	(40-100)	1,10	2,32	37,34	21,82	15,52	2,87
Forage Bank Local Management	A	(0-10)	0,89	1,00	27,03	22,88	4,16	2,57
Forage Bank Local Management	A	(10-20)	0,95	1,00	25,43	22,30	3,13	2,55
Forage Bank Local Management	A	(20-40)	0,98	2,00	42,16	32,49	9,67	3,85
Forage Bank Local Management	A	(40-100)	0,75	4,10	39,91	22,55	17,36	3,10
Forage Bank Local Management	B	(0-10)	0,89	1,00	42,35	33,15	9,21	3,34
Forage Bank Local Management	B	(10-20)	0,95	1,00	26,67	21,79	4,88	2,27
Forage Bank Local Management	B	(20-40)	0,98	2,00	31,53	22,55	8,97	2,23
Forage Bank Local Management	B	(40-100)	0,75	4,10	34,30	18,64	15,66	2,32
Forage Bank Local Management	C	(0-10)	0,89	1,00	34,61	28,20	6,40	3,41
Forage Bank Local Management	C	(10-20)	0,95	1,00	35,58	29,01	6,57	3,55
Forage Bank Local Management	C	(20-40)	0,98	2,00	47,68	40,25	7,43	4,72
Forage Bank Local Management	C	(40-100)	0,75	4,10	44,48	29,65	14,82	3,22
Natural Regeneration	A	(0-10)	0,87	1,00	34,25	28,38	5,87	2,97
Natural Regeneration	A	(10-20)	1,13	1,00	31,68	25,26	6,42	2,90
Natural Regeneration	A	(20-40)	1,11	2,00	31,41	20,45	10,96	2,23
Natural Regeneration	A	(40-100)	1,13	2,37	23,48	10,74	12,73	1,43
Natural Regeneration	B	(0-10)	0,87	1,00	33,13	29,27	3,87	3,01
Natural Regeneration	B	(10-20)	1,13	1,00	30,62	24,15	6,47	2,62
Natural Regeneration	B	(20-40)	1,11	2,00	33,85	23,14	10,72	2,92
Natural Regeneration	B	(40-100)	1,13	2,37	24,54	10,95	13,59	2,07
Natural Regeneration	C	(0-10)	0,87	1,00	50,22	34,99	15,23	3,67
Natural Regeneration	C	(10-20)	1,13	1,00	39,68	32,20	7,49	3,76
Natural Regeneration	C	(20-40)	1,11	2,00	39,41	28,57	10,84	3,01
Natural Regeneration	C	(40-100)	1,13	2,37	24,42	8,91	15,51	1,52

BLOQUE = 4								
tratamiento	calicata	profundidad	pdensidad	ponder2	ctthm2	coxthm2	cethm2	ntthm2
B, Hybrid (36061)+ A, pinto (18744)	A	(0-10)	0,95	1,00	30,42	26,21	4,20	2,68
B, Hybrid (36061)+ A, pinto (18744)	A	(10-20)	1,02	1,00	30,32	25,17	5,15	2,80
B, Hybrid (36061)+ A, pinto (18744)	A	(20-40)	1,00	2,00	40,21	29,39	10,82	3,29
B, Hybrid (36061)+ A, pinto (18744)	A	(40-100)	1,05	2,81	35,71	18,97	16,74	2,73
B, Hybrid (36061)+ A, pinto (18744)	B	(0-10)	0,95	1,00	30,91	26,42	4,49	3,00
B, Hybrid (36061)+ A, pinto (18744)	B	(10-20)	1,02	1,00	28,17	23,20	4,97	2,52
B, Hybrid (36061)+ A, pinto (18744)	B	(20-40)	1,00	2,00	37,58	27,21	10,37	3,09
B, Hybrid (36061)+ A, pinto (18744)	B	(40-100)	1,05	2,81	40,08	21,57	18,51	3,20
B, Hybrid (36061)+ A, pinto (18744)	C	(0-10)	0,95	1,00	37,56	31,33	6,23	3,39
B, Hybrid (36061)+ A, pinto (18744)	C	(10-20)	1,02	1,00	36,79	30,07	6,73	3,38
B, Hybrid (36061)+ A, pinto (18744)	C	(20-40)	1,00	2,00	37,79	26,16	11,63	3,00
B, Hybrid (36061)+ A, pinto (18744)	C	(40-100)	1,05	2,81	31,14	12,81	18,33	1,91
Bracharia Hybrid (Mulato 36061)	A	(0-10)	1,05	1,00	32,72	28,60	4,13	2,81
Bracharia Hybrid (Mulato 36061)	A	(10-20)	1,00	1,00	28,15	23,84	4,30	2,69
Bracharia Hybrid (Mulato 36061)	A	(20-40)	1,07	2,00	34,97	24,52	10,45	3,06
Bracharia Hybrid (Mulato 36061)	A	(40-100)	1,22	2,24	21,25	8,41	12,84	1,42
Bracharia Hybrid (Mulato 36061)	B	(0-10)	1,05	1,00	36,09	30,83	5,25	3,41
Bracharia Hybrid (Mulato 36061)	B	(10-20)	1,00	1,00	32,10	27,10	5,00	3,24
Bracharia Hybrid (Mulato 36061)	B	(20-40)	1,07	2,00	38,40	29,49	8,91	3,00
Bracharia Hybrid (Mulato 36061)	B	(40-100)	1,22	2,24	23,69	6,86	16,83	1,15
Bracharia Hybrid (Mulato 36061)	C	(0-10)	1,05	1,00	27,85	25,50	2,36	2,53
Bracharia Hybrid (Mulato 36061)	C	(10-20)	1,00	1,00	24,71	22,31	2,40	2,24
Bracharia Hybrid (Mulato 36061)	C	(20-40)	1,07	2,00	41,05	33,05	8,00	3,23
Bracharia Hybrid (Mulato 36061)	C	(40-100)	1,22	2,24	28,85	14,58	14,27	2,06
Degraded Pasture	A	(0-10)	1,07	1,00	30,16	25,56	4,60	3,25
Degraded Pasture	A	(10-20)	1,13	1,00	26,70	21,48	5,22	3,06
Degraded Pasture	A	(20-40)	1,27	2,00	40,71	31,37	9,34	4,09
Degraded Pasture	A	(40-100)	1,39	1,55	25,98	17,56	8,41	2,64
Degraded Pasture	B	(0-10)	1,07	1,00	33,38	27,43	5,95	3,45
Degraded Pasture	B	(10-20)	1,13	1,00	23,82	19,29	4,53	2,46
Degraded Pasture	B	(20-40)	1,27	2,00	36,12	26,44	9,68	3,34
Degraded Pasture	B	(40-100)	1,39	1,55	23,96	14,86	9,10	2,77
Degraded Pasture	C	(0-10)	1,07	1,00	40,89	34,60	6,30	4,18
Degraded Pasture	C	(10-20)	1,13	1,00	37,18	30,71	6,48	4,22
Degraded Pasture	C	(20-40)	1,27	2,00	64,34	53,58	10,75	7,66
Degraded Pasture	C	(40-100)	1,39	1,55	29,59	20,11	9,48	2,82
For, Bank Improved Management	A	(0-10)	1,08	1,00	25,52	23,15	2,37	2,61
For, Bank Improved Management	A	(10-20)	1,06	1,00	24,23	21,40	2,83	2,43
For, Bank Improved Management	A	(20-40)	1,24	2,00	55,82	43,08	12,74	4,83
For, Bank Improved Management	A	(40-100)	1,27	1,80	31,04	19,16	11,88	2,40
For, Bank Improved Management	B	(0-10)	1,08	1,00	25,89	21,40	4,50	2,53
For, Bank Improved Management	B	(10-20)	1,06	1,00	24,33	20,76	3,57	2,54
For, Bank Improved Management	B	(20-40)	1,24	2,00	35,77	23,21	12,56	3,13
For, Bank Improved Management	B	(40-100)	1,27	1,80	23,50	10,51	12,99	1,91
For, Bank Improved Management	C	(0-10)	1,08	1,00	29,52	23,61	5,91	2,72
For, Bank Improved Management	C	(10-20)	1,06	1,00	25,37	20,76	4,61	2,61
For, Bank Improved Management	C	(20-40)	1,24	2,00	46,19	33,14	13,05	3,70
For, Bank Improved Management	C	(40-100)	1,27	1,80	35,98	24,96	11,02	2,48
Forage Bank Local Management	A	(0-10)	0,86	1,00	32,25	26,77	5,48	3,10
Forage Bank Local Management	A	(10-20)	0,86	1,00	29,72	25,25	4,47	2,94
Forage Bank Local Management	A	(20-40)	1,12	2,00	48,84	37,90	10,94	4,12
Forage Bank Local Management	A	(40-100)	0,86	3,42	35,06	18,48	16,57	2,25
Forage Bank Local Management	B	(0-10)	0,86	1,00	36,17	31,59	4,58	3,05
Forage Bank Local Management	B	(10-20)	0,86	1,00	26,54	21,90	4,63	2,25
Forage Bank Local Management	B	(20-40)	1,12	2,00	31,77	20,45	11,32	2,19
Forage Bank Local Management	B	(40-100)	0,86	3,42	19,40	4,37	15,02	0,90
Forage Bank Local Management	C	(0-10)	0,86	1,00	31,76	26,91	4,85	3,05
Forage Bank Local Management	C	(10-20)	0,86	1,00	30,62	25,74	4,88	2,82
Forage Bank Local Management	C	(20-40)	1,12	2,00	59,14	47,39	11,75	5,21
Forage Bank Local Management	C	(40-100)	0,86	3,42	71,96	25,38	46,58	2,98
Natural Regeneration	A	(0-10)	1,08	1,00	37,94	33,85	4,10	3,01
Natural Regeneration	A	(10-20)	1,33	1,00	34,23	29,46	4,78	2,99
Natural Regeneration	A	(20-40)	1,19	2,00	42,18	30,01	12,16	3,21
Natural Regeneration	A	(40-100)	1,00	2,11	21,63	10,12	11,52	1,67
Natural Regeneration	B	(0-10)	1,08	1,00	32,61	29,35	3,26	2,43
Natural Regeneration	B	(10-20)	1,33	1,00	25,73	19,90	5,83	2,00
Natural Regeneration	B	(20-40)	1,19	2,00	34,81	23,12	11,69	2,30
Natural Regeneration	B	(40-100)	1,00	2,11	24,73	12,26	12,47	1,58
Natural Regeneration	C	(0-10)	1,08	1,00	37,57	35,00	2,57	3,11
Natural Regeneration	C	(10-20)	1,33	1,00	30,61	25,37	5,24	3,45
Natural Regeneration	C	(20-40)	1,19	2,00	38,92	28,86	10,07	3,07
Natural Regeneration	C	(40-100)	1,00	2,11	25,88	13,69	12,19	1,86

Experimento Dovia, Laderas Andinas, Colombia
Listado de Calicata con peso Mínimo Laderas Andinas método 2

BLOQUE = 1						
tratamiento	calicata	profundidad	pdensidad	ponder2	pesuelo	pesomin
For, Bank Improved Management	A	(0-10)	0,83	1	82,66	690,34
For, Bank Improved Management	A	(10-20)	0,81	1	80,54	690,34
For, Bank Improved Management	A	(20-40)	0,78	2	155,50	690,34
For, Bank Improved Management	A	(40-100)	0,62	6	371,64	690,34

Experimento Dovio, Laderas Andinas, Colombia
Listado de Variables de Carbono Acumulado a 1 m metodos 1 y 2

BLOQUE = 1									
tratamiento	calicata	ctthmt1	coxthmt1	cethmt1	ntthmt1	ctthmt2	coxthmt2	cethmt2	ntthmt2
B, Hybrid (36061)+ A, pinto (18744)	A	159,55	125,58	33,97	16,95	130,07	102,24	27,83	14,19
B, Hybrid (36061)+ A, pinto (18744)	B	130,56	83,88	46,68	11,29	100,51	70,57	29,94	9,26
B, Hybrid (36061)+ A, pinto (18744)	C	220,77	152,40	68,36	18,59	180,55	121,87	58,67	15,54
Brachiaria Hybrid (Mulato 36061)	A	169,12	123,35	45,77	14,82	133,08	95,79	37,29	12,76
Brachiaria Hybrid (Mulato 36061)	B	172,44	133,43	39,01	16,83	125,93	97,96	27,97	12,32
Brachiaria Hybrid (Mulato 36061)	C	141,10	79,25	61,85	9,81	106,81	70,03	36,78	8,82
Degraded Pasture	A	182,58	138,34	44,24	17,48	168,12	128,77	39,34	16,23
Degraded Pasture	B	151,55	108,98	42,57	15,14	143,25	104,72	38,53	14,40
Degraded Pasture	C	150,39	110,05	40,35	15,22	139,68	103,92	35,75	14,26
For, Bank Improved Management	A	125,19	101,87	23,32	12,79	125,19	101,87	23,32	12,79
For, Bank Improved Management	B	140,11	128,21	11,90	13,37	140,11	128,21	11,90	13,37
For, Bank Improved Management	C	167,24	131,07	36,17	14,43	167,24	131,07	36,17	14,43
Forage Bank Local Management	A	128,93	97,97	30,96	11,74	107,95	81,33	26,61	10,16
Forage Bank Local Management	B	151,45	90,51	60,94	13,42	124,20	71,44	52,76	10,77
Forage Bank Local Management	C	205,01	149,82	55,20	20,00	172,53	124,33	48,20	17,24
Natural Regeneration	A	192,85	147,61	45,24	19,24	138,91	105,47	33,45	13,78
Natural Regeneration	B	207,50	155,56	51,94	21,80	147,96	109,81	38,15	14,10
Natural Regeneration	C	216,87	158,54	58,33	25,11	167,82	117,00	50,82	16,91
BLOQUE = 2									
tratamiento	calicata	ctthmt1	coxthmt1	cethmt1	ntthmt1	ctthmt2	coxthmt2	cethmt2	ntthmt2
B, Hybrid (36061)+ A, pinto (18744)	A	185,58	110,61	74,98	11,90	159,40	99,66	59,74	10,80
B, Hybrid (36061)+ A, pinto (18744)	B	243,49	153,25	90,24	14,23	216,63	134,32	82,32	12,76
B, Hybrid (36061)+ A, pinto (18744)	C	231,34	168,16	63,18	17,80	197,17	143,45	53,72	15,14
Brachiaria Hybrid (Mulato 36061)	A	201,94	170,95	30,99	17,18	140,75	121,75	19,00	12,73
Brachiaria Hybrid (Mulato 36061)	B	223,37	180,77	42,60	19,81	153,41	124,80	28,61	14,19
Brachiaria Hybrid (Mulato 36061)	C	208,81	166,76	42,06	17,67	140,57	112,70	27,87	12,47
Degraded Pasture	A	127,12	85,06	42,06	11,70	109,03	75,14	33,89	10,38
Degraded Pasture	B	126,03	93,20	32,84	12,45	112,96	85,83	27,14	11,19
Degraded Pasture	C	223,22	178,97	44,25	23,68	196,92	159,67	37,25	20,99
For, Bank Improved Management	A	194,22	129,89	64,32	15,39	159,36	111,64	47,71	13,51
For, Bank Improved Management	B	159,14	108,29	50,85	12,42	136,91	94,40	42,52	11,07
For, Bank Improved Management	C	139,70	100,15	39,55	12,22	117,53	87,87	29,66	10,35
Forage Bank Local Management	A	138,24	108,09	30,15	12,85	134,78	105,81	28,96	12,55
Forage Bank Local Management	B	173,15	116,37	56,78	14,35	166,66	112,74	53,92	13,86
Forage Bank Local Management	C	183,49	126,35	57,14	15,12	175,43	121,23	54,20	14,44
Natural Regeneration	A	185,36	121,17	64,19	13,26	136,84	101,71	35,14	11,56
Natural Regeneration	B	133,45	105,91	27,54	12,39	101,62	83,33	18,29	9,36
Natural Regeneration	C	146,10	94,06	52,04	8,84	114,24	85,96	28,28	8,51

BLOQUE = 3									
tratamiento	calicata	ctthmt1	coxthmt1	cethmt1	ntthmt1	ctthmt2	coxthmt2	cethmt2	ntthmt2
B, Hybrid (36061)+ A, pinto (18744)	A	243,10	178,23	64,87	20,85	163,92	125,05	38,87	14,95
B, Hybrid (36061)+ A, pinto (18744)	B	277,36	201,49	75,88	23,90	201,42	154,96	46,46	18,02
B, Hybrid (36061)+ A, pinto (18744)	C	239,34	173,15	66,19	19,41	157,17	118,73	38,44	13,16
Brachiaria Hybrid (Mulato 36061)	A	217,37	136,55	80,82	17,91	133,31	97,18	36,13	11,44
Brachiaria Hybrid (Mulato 36061)	B	209,71	126,95	82,76	14,77	133,04	92,18	40,86	10,65
Brachiaria Hybrid (Mulato 36061)	C	209,25	149,54	59,71	18,44	132,81	102,78	30,02	12,02
Degraded Pasture	A	131,45	99,07	32,38	12,95	121,59	92,68	28,91	12,13
Degraded Pasture	B	183,89	143,99	39,90	17,80	173,88	137,38	36,49	16,98
Degraded Pasture	C	140,97	106,04	34,93	14,42	128,87	97,97	30,89	13,20
For, Bank Improved Management	A	194,29	119,07	75,22	16,34	143,14	96,12	47,02	12,39
For, Bank Improved Management	B	186,55	124,38	62,17	15,11	134,96	95,20	39,76	11,05
For, Bank Improved Management	C	219,83	155,44	64,39	19,22	160,68	120,87	39,81	14,67
Forage Bank Local Management	A	153,01	110,65	42,36	13,50	134,53	100,21	34,32	12,07
Forage Bank Local Management	B	150,74	104,76	45,98	11,24	134,85	96,13	38,72	10,17
Forage Bank Local Management	C	182,95	140,85	42,09	16,39	162,35	127,12	35,23	14,90
Natural Regeneration	A	156,82	101,31	55,51	11,73	120,82	84,83	35,98	9,53
Natural Regeneration	B	159,79	104,30	55,49	13,79	122,15	87,51	34,64	10,62
Natural Regeneration	C	191,18	118,34	72,84	14,28	153,73	104,67	49,05	11,95
BLOQUE = 4									
tratamiento	calicata	ctthmt1	coxthmt1	cethmt1	ntthmt1	ctthmt2	coxthmt2	cethmt2	ntthmt2
B, Hybrid (36061)+ A, pinto (18744)	A	177,12	121,24	55,89	14,58	136,66	99,75	36,92	11,49
B, Hybrid (36061)+ A, pinto (18744)	B	182,16	122,84	59,32	15,45	136,74	98,40	38,34	11,82
B, Hybrid (36061)+ A, pinto (18744)	C	178,56	114,87	63,69	13,85	143,28	100,36	42,92	11,68
Brachiaria Hybrid (Mulato 36061)	A	152,87	99,54	53,33	12,37	117,09	85,38	31,72	9,99
Brachiaria Hybrid (Mulato 36061)	B	170,16	105,83	64,33	12,74	130,27	94,28	35,99	10,80
Brachiaria Hybrid (Mulato 36061)	C	171,03	119,99	51,03	13,53	122,46	95,44	27,02	10,06
Degraded Pasture	A	198,30	146,51	51,79	20,63	123,54	95,97	27,57	13,04
Degraded Pasture	B	186,26	130,80	55,46	19,98	117,29	88,02	29,27	12,01
Degraded Pasture	C	257,16	196,87	60,29	27,00	172,00	139,00	33,00	18,88
For, Bank Improved Management	A	209,31	151,66	57,65	17,91	136,61	106,79	29,82	12,27
For, Bank Improved Management	B	164,54	100,48	64,06	14,58	109,49	75,87	33,63	10,11
For, Bank Improved Management	C	221,36	160,96	60,40	17,32	137,07	102,48	34,59	11,51
Forage Bank Local Management	A	172,25	122,31	49,94	14,11	145,87	108,40	37,47	12,42
Forage Bank Local Management	B	128,47	81,61	46,86	9,07	113,87	78,32	35,55	8,40
Forage Bank Local Management	C	247,62	144,52	103,11	16,30	193,47	125,41	68,06	14,06
Natural Regeneration	A	175,73	122,03	53,71	13,96	135,99	103,44	32,55	10,88
Natural Regeneration	B	163,32	107,15	56,18	11,20	117,88	84,62	33,26	8,31
Natural Regeneration	C	180,53	128,07	52,46	14,91	132,98	102,92	30,07	11,49

Experimento Dovio, Laderas Andinas, Colombia
Listado de Variables de Carbono Acumulado a 0-40 cm metodos 1 y 2

BLOQUE = 1									
tratamiento	calicata	ctthmt1_40c	coxthmt1_40c	cethmt1_40c	ntthmt1_40c	ctthmt2_40c	coxthmt2_40c	cethmt2_40c	ntthmt2_40c
B, Hybrid (36061)+ A, pinto (18744)	A	29,56	24,59	4,97	3,19	29,56	24,59	4,97	3,19
B, Hybrid (36061)+ A, pinto (18744)	B	96,90	77,00	19,90	10,05	96,90	77,00	19,90	10,05
B, Hybrid (36061)+ A, pinto (18744)	C	189,60	129,06	60,54	18,27	189,60	129,06	60,54	18,27
Brachiaria Hybrid (Mulato 36061)	A	32,89	23,09	9,80	4,09	32,89	23,09	9,80	4,09
Brachiaria Hybrid (Mulato 36061)	B	132,60	101,08	31,51	13,04	132,60	101,08	31,51	13,04
Brachiaria Hybrid (Mulato 36061)	C	140,14	102,38	37,76	12,87	140,14	102,38	37,76	12,87
Degraded Pasture	A	39,83	31,47	8,36	3,73	39,83	31,47	8,36	3,73
Degraded Pasture	B	150,45	119,41	31,04	15,64	150,45	119,41	31,04	15,64
Degraded Pasture	C	151,53	121,47	30,07	15,85	151,53	121,47	30,07	15,85
For, Bank Improved Management	A	30,53	23,74	6,78	3,22	30,53	23,74	6,78	3,22
For, Bank Improved Management	B	111,36	105,00	6,36	12,74	111,36	105,00	6,36	12,74
For, Bank Improved Management	C	162,91	126,70	36,22	15,11	162,91	126,70	36,22	15,11
Forage Bank Local Management	A	33,83	27,65	6,19	3,08	33,83	27,65	6,19	3,08
Forage Bank Local Management	B	119,67	66,73	52,94	10,66	119,67	66,73	52,94	10,66
Forage Bank Local Management	C	168,98	120,41	48,57	17,32	168,98	120,41	48,57	17,32
Natural Regeneration	A	41,33	29,42	11,91	3,51	41,33	29,42	11,91	3,51
Natural Regeneration	B	157,45	117,19	40,26	14,64	157,45	117,19	40,26	14,64
Natural Regeneration	C	194,50	136,76	57,74	18,57	194,50	136,76	57,74	18,57
BLOQUE = 2									
tratamiento	calicata	ctthmt1_40c	coxthmt1_40c	cethmt1_40c	ntthmt1_40c	ctthmt2_40c	coxthmt2_40c	cethmt2_40c	ntthmt2_40c
B, Hybrid (36061)+ A, pinto (18744)	A	52,69	27,75	24,94	2,76	52,69	27,75	24,94	2,76
B, Hybrid (36061)+ A, pinto (18744)	B	204,26	130,47	73,79	13,11	204,26	130,47	73,79	13,11
B, Hybrid (36061)+ A, pinto (18744)	C	184,52	136,75	47,77	14,93	184,52	136,75	47,77	14,93
Brachiaria Hybrid (Mulato 36061)	A	30,12	26,21	3,91	2,95	30,12	26,21	3,91	2,95
Brachiaria Hybrid (Mulato 36061)	B	149,44	124,17	25,27	14,50	149,44	124,17	25,27	14,50
Brachiaria Hybrid (Mulato 36061)	C	170,36	141,14	29,22	15,44	170,36	141,14	29,22	15,44
Degraded Pasture	A	29,37	24,58	4,79	3,22	29,37	24,58	4,79	3,22
Degraded Pasture	B	108,04	86,45	21,59	10,94	108,04	86,45	21,59	10,94
Degraded Pasture	C	172,04	139,92	32,13	18,35	172,04	139,92	32,13	18,35
For, Bank Improved Management	A	30,08	25,12	4,96	3,11	30,08	25,12	4,96	3,11
For, Bank Improved Management	B	137,94	101,91	36,03	12,54	137,94	101,91	36,03	12,54
For, Bank Improved Management	C	143,74	109,69	34,05	12,70	143,74	109,69	34,05	12,70
Forage Bank Local Management	A	42,02	31,56	10,46	3,40	42,02	31,56	10,46	3,40
Forage Bank Local Management	B	151,24	115,68	35,57	13,60	151,24	115,68	35,57	13,60
Forage Bank Local Management	C	152,28	112,17	40,11	13,16	152,28	112,17	40,11	13,16
Natural Regeneration	A	39,29	31,31	7,97	3,62	39,29	31,31	7,97	3,62
Natural Regeneration	B	120,26	100,62	19,64	11,52	120,26	100,62	19,64	11,52
Natural Regeneration	C	137,47	114,17	23,30	11,78	137,47	114,17	23,30	11,78

BLOQUE - 3									
tratamiento	calicata	ctthmt1_40c	coxthmt1_40c	cethmt1_40c	ntthmt1_40c	ctthmt2_40c	coxthmt2_40c	cethmt2_40c	ntthmt2_40c
B, Hybrid (36061)+ A, pinto (18744)	A	34,51	27,85	6,66	3,47	34,51	27,85	6,66	3,47
B, Hybrid (36061)+ A, pinto (18744)	B	196,63	157,20	39,43	18,11	196,63	157,20	39,43	18,11
B, Hybrid (36061)+ A, pinto (18744)	C	183,54	143,66	39,88	16,36	183,54	143,66	39,88	16,36
Brachiaria Hybrid (Mulato 36061)	A	29,00	23,10	5,91	2,56	29,00	23,10	5,91	2,56
Brachiaria Hybrid (Mulato 36061)	B	136,48	104,14	32,33	11,91	136,48	104,14	32,33	11,91
Brachiaria Hybrid (Mulato 36061)	C	162,76	128,75	34,01	14,55	162,76	128,75	34,01	14,55
Degraded Pasture	A	31,17	25,61	5,56	3,55	31,17	25,61	5,56	3,55
Degraded Pasture	B	163,91	135,64	28,27	16,81	163,91	135,64	28,27	16,81
Degraded Pasture	C	113,76	90,70	23,05	11,62	113,76	90,70	23,05	11,62
For, Bank Improved Management	A	34,23	26,10	8,13	3,16	34,23	26,10	8,13	3,16
For, Bank Improved Management	B	130,72	98,28	32,44	11,17	130,72	98,28	32,44	11,17
For, Bank Improved Management	C	171,65	133,08	38,56	15,86	171,65	133,08	38,56	15,86
Forage Bank Local Management	A	27,03	22,88	4,16	2,57	27,03	22,88	4,16	2,57
Forage Bank Local Management	B	125,98	99,79	26,19	10,39	125,98	99,79	26,19	10,39
Forage Bank Local Management	C	160,03	129,96	30,07	15,53	160,03	129,96	30,07	15,53
Natural Regeneration	A	34,25	28,38	5,87	2,97	34,25	28,38	5,87	2,97
Natural Regeneration	B	129,29	101,82	27,47	11,45	129,29	101,82	27,47	11,45
Natural Regeneration	C	160,72	116,20	44,51	12,66	160,72	116,20	44,51	12,66
BLOQUE - 4									
tratamiento	calicata	ctthmt1_40c	coxthmt1_40c	cethmt1_40c	ntthmt1_40c	ctthmt2_40c	coxthmt2_40c	cethmt2_40c	ntthmt2_40c
B, Hybrid (36061)+ A, pinto (18744)	A	30,42	26,21	4,20	2,68	30,42	26,21	4,20	2,68
B, Hybrid (36061)+ A, pinto (18744)	B	126,98	102,01	24,97	11,41	126,98	102,01	24,97	11,41
B, Hybrid (36061)+ A, pinto (18744)	C	152,36	116,94	35,41	13,06	152,36	116,94	35,41	13,06
Brachiaria Hybrid (Mulato 36061)	A	32,72	28,60	4,13	2,81	32,72	28,60	4,13	2,81
Brachiaria Hybrid (Mulato 36061)	B	134,73	111,27	23,46	12,34	134,73	111,27	23,46	12,34
Brachiaria Hybrid (Mulato 36061)	C	128,58	105,38	23,20	11,06	128,58	105,38	23,20	11,06
Degraded Pasture	A	30,16	25,56	4,60	3,25	30,16	25,56	4,60	3,25
Degraded Pasture	B	120,03	94,64	25,39	12,30	120,03	94,64	25,39	12,30
Degraded Pasture	C	183,12	150,25	32,87	20,14	183,12	150,25	32,87	20,14
For, Bank Improved Management	A	25,52	23,15	2,37	2,61	25,52	23,15	2,37	2,61
For, Bank Improved Management	B	110,22	86,76	23,46	10,63	110,22	86,76	23,46	10,63
For, Bank Improved Management	C	156,91	120,59	36,31	13,85	156,91	120,59	36,31	13,85
Forage Bank Local Management	A	32,25	26,77	5,48	3,10	32,25	26,77	5,48	3,10
Forage Bank Local Management	B	124,20	99,20	25,00	10,44	124,20	99,20	25,00	10,44
Forage Bank Local Management	C	170,35	137,93	32,42	15,20	170,35	137,93	32,42	15,20
Natural Regeneration	A	37,94	33,85	4,10	3,01	37,94	33,85	4,10	3,01
Natural Regeneration	B	127,38	101,82	25,56	9,72	127,38	101,82	25,56	9,72
Natural Regeneration	C	149,28	119,24	30,04	12,84	149,28	119,24	30,04	12,84

Experimento Dovio, Laderas Andinas, Colombia
Listado de Variables de Carbono Acumulado de 40-100 cm metodos 1 y 2

BLOQUE = 1									
tratamiento	calicata	ctthmt1_60c	coxthmt1_60c	cethmt1_60c	ntthmt1_60c	ctthmt2_60c	coxthmt2_60c	cethmt2_60c	ntthmt2_60c
B, Hybrid (36061)+ A, pinto (18744)	A	57,57	45,59	11,98	5,38	28,09	22,25	5,85	2,62
B, Hybrid (36061)+ A, pinto (18744)	B	58,69	25,99	32,69	3,97	28,64	12,68	15,95	1,94
B, Hybrid (36061)+ A, pinto (18744)	C	78,55	59,62	18,92	5,96	38,33	29,10	9,23	2,91
Brachiaria Hybrid (Mulato 36061)	A	54,61	41,77	12,84	3,12	18,57	14,20	4,37	1,06
Brachiaria Hybrid (Mulato 36061)	B	70,48	53,75	16,73	6,83	23,97	18,28	5,69	2,32
Brachiaria Hybrid (Mulato 36061)	C	51,94	13,96	37,99	1,50	17,66	4,75	12,92	0,51
Degraded Pasture	A	61,66	40,76	20,90	5,34	47,19	31,20	15,99	4,08
Degraded Pasture	B	35,37	18,17	17,20	3,16	27,07	13,91	13,17	2,42
Degraded Pasture	C	45,69	26,09	19,59	4,12	34,97	19,97	15,00	3,15
For, Bank Improved Management	A	38,32	30,05	8,27	3,03	38,32	30,05	8,27	3,03
For, Bank Improved Management	B	52,92	47,37	5,56	3,80	52,92	47,37	5,56	3,80
For, Bank Improved Management	C	36,50	28,29	8,20	2,70	36,50	28,29	8,20	2,70
Forage Bank Local Management	A	42,36	33,58	8,77	3,18	21,37	16,95	4,43	1,60
Forage Bank Local Management	B	55,00	38,49	16,51	5,35	27,75	19,42	8,33	2,70
Forage Bank Local Management	C	65,57	51,45	14,12	5,57	33,08	25,96	7,12	2,81
Natural Regeneration	A	74,32	58,07	16,25	7,52	20,38	15,93	4,46	2,06
Natural Regeneration	B	82,03	63,03	19,00	10,62	22,49	17,29	5,21	2,91
Natural Regeneration	C	67,59	57,23	10,36	11,29	18,53	15,69	2,84	3,10

BLOQUE = 2									
tratamiento	calicata	ctthmt1_60c	coxthmt1_60c	cethmt1_60c	ntthmt1_60c	ctthmt2_60c	coxthmt2_60c	cethmt2_60c	ntthmt2_60c
B, Hybrid (36061)+ A, pinto (18744)	A	65,75	27,48	38,26	2,75	39,56	16,53	23,02	1,66
B, Hybrid (36061)+ A, pinto (18744)	B	67,43	47,54	19,89	3,69	40,57	28,61	11,96	2,22
B, Hybrid (36061)+ A, pinto (18744)	C	85,78	62,04	23,74	6,69	51,61	37,33	14,28	4,03
Brachiaria Hybrid (Mulato 36061)	A	87,21	70,12	17,10	6,35	26,03	20,92	5,10	1,89
Brachiaria Hybrid (Mulato 36061)	B	99,72	79,78	19,94	8,01	29,76	23,81	5,95	2,39
Brachiaria Hybrid (Mulato 36061)	C	97,27	77,05	20,22	7,42	29,03	22,99	6,03	2,21
Degraded Pasture	A	52,55	28,81	23,74	3,84	34,46	18,89	15,57	2,52
Degraded Pasture	B	37,97	21,41	16,55	3,67	24,90	14,04	10,85	2,41
Degraded Pasture	C	76,41	56,06	20,34	7,80	50,10	36,76	13,34	5,12
For, Bank Improved Management	A	79,74	41,75	37,99	4,32	44,88	23,50	21,38	2,43
For, Bank Improved Management	B	50,83	31,78	19,06	3,10	28,61	17,88	10,73	1,74
For, Bank Improved Management	C	50,73	28,09	22,64	4,27	28,55	15,81	12,74	2,41
Forage Bank Local Management	A	28,74	18,89	9,85	2,56	25,27	16,61	8,66	2,25
Forage Bank Local Management	B	53,76	30,08	23,69	4,03	47,28	26,45	20,83	3,54
Forage Bank Local Management	C	66,83	42,44	24,39	5,57	58,77	37,32	21,45	4,90
Natural Regeneration	A	72,60	29,13	43,47	2,55	24,08	9,66	14,42	0,84
Natural Regeneration	B	47,63	33,79	13,83	4,53	15,80	11,21	4,59	1,50
Natural Regeneration	C	47,67	12,13	35,55	0,50	15,81	4,02	11,79	0,16

BLOQUE = 3									
tratamiento	calicata	ctthmt1 60c	coxthmt1 60c	cethmt1 60c	ntthmt1 60c	ctthmt2 60c	coxthmt2 60c	cethmt2 60c	ntthmt2 60c
B, Hybrid (36061)+ A, pinto (18744)	A	115,16	77,35	37,82	8,59	35,98	24,17	11,81	2,68
B, Hybrid (36061)+ A, pinto (18744)	B	110,45	67,67	42,79	8,55	34,51	21,14	13,37	2,67
B, Hybrid (36061)+ A, pinto (18744)	C	119,50	79,15	40,35	9,09	37,34	24,73	12,61	2,84
Brachiaria Hybrid (Mulato 36061)	A	109,19	51,14	58,06	8,40	25,13	11,77	13,36	1,93
Brachiaria Hybrid (Mulato 36061)	B	99,60	45,17	54,43	5,35	22,92	10,40	12,53	1,23
Brachiaria Hybrid (Mulato 36061)	C	99,29	60,74	38,56	8,33	22,85	13,98	8,87	1,92
Degraded Pasture	A	45,47	29,46	16,01	3,79	35,61	23,07	12,54	2,97
Degraded Pasture	B	46,18	30,47	15,71	3,75	36,17	23,86	12,30	2,94
Degraded Pasture	C	55,82	37,21	18,62	5,64	43,72	29,14	14,58	4,42
For, Bank Improved Management	A	83,44	37,43	46,00	6,44	32,29	14,49	17,80	2,49
For, Bank Improved Management	B	84,15	47,59	36,55	6,62	32,56	18,42	14,15	2,56
For, Bank Improved Management	C	96,48	56,39	40,10	7,42	37,34	21,82	15,52	2,87
Forage Bank Local Management	A	58,39	32,99	25,40	4,54	39,91	22,55	17,36	3,10
Forage Bank Local Management	B	50,19	27,27	22,92	3,40	34,30	18,64	15,66	2,32
Forage Bank Local Management	C	65,07	43,38	21,69	4,71	44,48	29,65	14,82	3,22
Natural Regeneration	A	59,48	27,22	32,26	3,63	23,48	10,74	12,73	1,43
Natural Regeneration	B	62,18	27,75	34,43	5,23	24,54	10,95	13,59	2,07
Natural Regeneration	C	61,88	22,59	39,29	3,85	24,42	8,91	15,51	1,52

BLOQUE = 4									
tratamiento	calicata	ctthmt1 60c	coxthmt1 60c	cethmt1 60c	ntthmt1 60c	ctthmt2 60c	coxthmt2 60c	cethmt2 60c	ntthmt2 60c
B, Hybrid (36061)+ A, pinto (18744)	A	76,18	40,46	35,71	5,82	35,71	18,97	16,74	2,73
B, Hybrid (36061)+ A, pinto (18744)	B	85,50	46,01	39,49	6,83	40,08	21,57	18,51	3,20
B, Hybrid (36061)+ A, pinto (18744)	C	66,42	27,32	39,10	4,08	31,14	12,81	18,33	1,91
Brachiaria Hybrid (Mulato 36061)	A	57,03	22,58	34,45	3,80	21,25	8,41	12,84	1,42
Brachiaria Hybrid (Mulato 36061)	B	63,57	18,41	45,17	3,09	23,69	6,86	16,83	1,15
Brachiaria Hybrid (Mulato 36061)	C	77,41	39,13	38,28	5,54	28,85	14,58	14,27	2,06
Degraded Pasture	A	100,73	68,11	32,62	10,24	25,98	17,56	8,41	2,64
Degraded Pasture	B	92,93	57,64	35,29	10,74	23,96	14,86	9,10	2,77
Degraded Pasture	C	114,75	77,99	36,77	10,95	29,59	20,11	9,48	2,82
For, Bank Improved Management	A	103,74	64,03	39,71	8,04	31,04	19,16	11,88	2,40
For, Bank Improved Management	B	78,55	35,12	43,43	6,38	23,50	10,51	12,99	1,91
For, Bank Improved Management	C	120,27	83,44	36,83	8,29	35,98	24,96	11,02	2,48
Forage Bank Local Management	A	61,44	32,39	29,05	3,95	35,06	18,48	16,57	2,25
Forage Bank Local Management	B	34,00	7,67	26,33	1,58	19,40	4,37	15,02	0,90
Forage Bank Local Management	C	126,11	44,48	81,63	5,22	71,96	25,38	46,58	2,98
Natural Regeneration	A	61,38	28,71	32,67	4,75	21,63	10,12	11,52	1,67
Natural Regeneration	B	70,17	34,78	35,39	4,47	24,73	12,26	12,47	1,58
Natural Regeneration	C	73,43	38,85	34,58	5,28	25,88	13,69	12,19	1,86

***Final Database
Flat Topography Experiment,
Amazonia, Colombia***

Carbon Sequestration Project

CIPAV - CIAT - CATIE - U. Amazonia - Wageningen University

The Netherlands Cooperation - Activity CO-010402

Experiment Amazonia SANTO DOMINGO Flat Topography - original bulk density values per cylinder

Block	Treatment	Soil plt (calicata)	Soil Depth	Cylin. No.	Bulk density calicata side 1	Cylin. No.	Bulk density calicata side 2	Cylin. No.	Bulk density calicata side 3	Bulk density mean per calicata
1	Monocultive	A	0-10	1669	0.88	1673	0.99	1677	1.07	1117.644
1	Monocultive	A	10-20	1670	1.08	1674	1.18	1678	1.20	1118.489
1	Monocultive	A	20-40	1671	1.04	1675	1.16	1679	1.11	1119.101
1	Monocultive	A	40-100	1672	1.18	1676	1.13	1680	1.09	1119.798
1	Monocultive	B	0-10							
1	Monocultive	B	10-20							
1	Monocultive	B	20-40							
1	Monocultive	B	40-100							
1	Monocultive	C	0-10							
1	Monocultive	C	10-20							
1	Monocultive	C	20-40							
1	Monocultive	C	40-100							
2	Monocultive	A	0-10	1681	1.09	1685	0.80	1689	0.98	1125.623
2	Monocultive	A	10-20	1682	1.30	1686	1.26	1690	1.34	1126.634
2	Monocultive	A	20-40	1683	1.30	1687	1.30	1691	1.27	1127.289
2	Monocultive	A	40-100	1684	1.28	1688	1.22	1692	1.25	1127.920
2	Monocultive	B	0-10							
2	Monocultive	B	10-20							
2	Monocultive	B	20-40							
2	Monocultive	B	40-100							
2	Monocultive	C	0-10							
2	Monocultive	C	10-20							
2	Monocultive	C	20-40							
2	Monocultive	C	40-100							
3	Monocultive	A	0-10	1693	1.00	1697	1.19	1701	0.97	1133.720
3	Monocultive	A	10-20	1694	1.21	1698	1.26	1702	1.22	1134.562
3	Monocultive	A	20-40	1695	1.24	1699	1.29	1703	1.25	1135.260
3	Monocultive	A	40-100	1696	1.24	1700	1.09	1704	1.31	1135.883
3	Monocultive	B	0-10							
3	Monocultive	B	10-20							
3	Monocultive	B	20-40							
3	Monocultive	B	40-100							
3	Monocultive	C	0-10							
3	Monocultive	C	10-20							
3	Monocultive	C	20-40							
3	Monocultive	C	40-100							
4	Monocultive	A	0-10	1705	1.21	1709	1.21	1713	1.17	1141.861
4	Monocultive	A	10-20	1706	1.30	1710	1.34	1714	1.25	1142.631
4	Monocultive	A	20-40	1707	1.27	1711	1.24	1715	1.19	1143.232
4	Monocultive	A	40-100	1708	1.29	1712	1.28	1716	1.27	1143.946
4	Monocultive	B	0-10							
4	Monocultive	B	10-20							
4	Monocultive	B	20-40							
4	Monocultive	B	40-100							
4	Monocultive	C	0-10							
4	Monocultive	C	10-20							
4	Monocultive	C	20-40							
4	Monocultive	C	40-100							

Block	Treatment	Soil pit (calicata)	Soil Depth	Cylin. No.	Bulk density calicata side 1	Cylin. No.	Bulk density calicata side 2	Cylin. No.	Bulk density calicata side 3	Bulk density mean per calicata
1	Asociation	A	0-10	1717	0.94	1721	0.97	1725	0.84	1149.580
1	Asociation	A	10-20	1718	1.22	1722	1.17	1726	1.25	1150.547
1	Asociation	A	20-40	1719	1.21	1723	1.17	1727	1.19	1151.188
1	Asociation	A	40-100	1720	1.18	1724	1.20	1728	1.20	1151.859
1	Asociation	B	0-10							
1	Asociation	B	10-20							
1	Asociation	B	20-40							
1	Asociation	B	40-100							
1	Asociation	C	0-10							
1	Asociation	C	10-20							
1	Asociation	C	20-40							
1	Asociation	C	40-100							
2	Asociation	A	0-10	1729	0.96	1733	0.86	1737	0.90	1157.574
2	Asociation	A	10-20	1730	1.27	1734	1.21	1738	1.27	1158.582
2	Asociation	A	20-40	1731	1.20	1735	1.21	1739	1.14	1159.182
2	Asociation	A	40-100	1732	1.18	1736	1.24	1740	1.23	1159.885
2	Asociation	B	0-10							
2	Asociation	B	10-20							
2	Asociation	B	20-40							
2	Asociation	B	40-100							
2	Asociation	C	0-10							
2	Asociation	C	10-20							
2	Asociation	C	20-40							
2	Asociation	C	40-100							
3	Asociation	A	0-10	1741	1.10	1745	1.12	1749	1.06	1165.759
3	Asociation	A	10-20	1742	1.19	1746	1.20	1750	1.27	1166.556
3	Asociation	A	20-40	1743	1.20	1747	1.26	1751	1.22	1167.228
3	Asociation	A	40-100	1744	1.23	1748	1.24	1752	1.20	1167.891
3	Asociation	B	0-10							
3	Asociation	B	10-20							
3	Asociation	B	20-40							
3	Asociation	B	40-100							
3	Asociation	C	0-10							
3	Asociation	C	10-20							
3	Asociation	C	20-40							
3	Asociation	C	40-100							
4	Asociation	A	0-10	1753	1.13	1757	1.04	1761	1.08	1173.751
4	Asociation	A	10-20	1754	1.30	1758	1.27	1762	1.26	1174.610
4	Asociation	A	20-40	1755	1.21	1759	1.26	1763	1.27	1175.245
4	Asociation	A	40-100	1756	1.25	1760	1.22	1764	1.11	1175.857
4	Asociation	B	0-10							
4	Asociation	B	10-20							
4	Asociation	B	20-40							
4	Asociation	B	40-100							
4	Asociation	C	0-10							
4	Asociation	C	10-20							
4	Asociation	C	20-40							
4	Asociation	C	40-100							

Block	Treatment	Soil pit (calicata)	Soil Depth	Cylin. No.	Bulk density calicata side 1	Cylin. No.	Bulk density calicata side 2	Cylin. No.	Bulk density calicata side 3	Bulk density mean per calicata
1	For. Bank Improved Management	A	0-10	1765	1.12	1769	1.09	1773	1.06	1181.756
1	For. Bank Improved Management	A	10-20	1766	1.21	1770	1.12	1774	1.18	1182.506
1	For. Bank Improved Management	A	20-40	1767	1.15	1771	1.17	1775	1.15	1183.157
1	For. Bank Improved Management	A	40-100	1768	1.20	1772	1.10	1776	1.18	1183.824
1	For. Bank Improved Management	B	0-10							
1	For. Bank Improved Management	B	10-20							
1	For. Bank Improved Management	B	20-40							
1	For. Bank Improved Management	B	40-100							
1	For. Bank Improved Management	C	0-10							
1	For. Bank Improved Management	C	10-20							
1	For. Bank Improved Management	C	20-40							
1	For. Bank Improved Management	C	40-100							
2	For. Bank Improved Management	A	0-10	1777	1.14	1781	1.18	1785	1.07	1189.796
2	For. Bank Improved Management	A	10-20	1778	1.22	1782	1.30	1786	1.26	1190.595
2	For. Bank Improved Management	A	20-40	1779	1.28	1783	1.19	1787	1.17	1191.214
2	For. Bank Improved Management	A	40-100	1780	1.20	1784	1.26	1788	1.17	1191.879
2	For. Bank Improved Management	B	0-10							
2	For. Bank Improved Management	B	10-20							
2	For. Bank Improved Management	B	20-40							
2	For. Bank Improved Management	B	40-100							
2	For. Bank Improved Management	C	0-10							
2	For. Bank Improved Management	C	10-20							
2	For. Bank Improved Management	C	20-40							
2	For. Bank Improved Management	C	40-100							
3	For. Bank Improved Management	A	0-10	1789	1.27	1793	1.04	1797	1.20	1197.837
3	For. Bank Improved Management	A	10-20	1790	1.18	1794	1.24	1798	1.22	1198.542
3	For. Bank Improved Management	A	20-40	1791	1.20	1795	1.22	1799	1.09	1199.171
3	For. Bank Improved Management	A	40-100	1792	1.21	1796	1.23	1800	1.22	1199.886
3	For. Bank Improved Management	B	0-10							
3	For. Bank Improved Management	B	10-20							
3	For. Bank Improved Management	B	20-40							
3	For. Bank Improved Management	B	40-100							
3	For. Bank Improved Management	C	0-10							
3	For. Bank Improved Management	C	10-20							
3	For. Bank Improved Management	C	20-40							
3	For. Bank Improved Management	C	40-100							
4	For. Bank Improved Management	A	0-10	1801	1.24	1805	1.10	1809	1.22	1205.854
4	For. Bank Improved Management	A	10-20	1802	1.21	1806	1.11	1810	1.20	1206.503
4	For. Bank Improved Management	A	20-40	1803	1.12	1807	1.18	1811	1.18	1207.162
4	For. Bank Improved Management	A	40-100	1804	1.23	1808	1.22	1812	1.24	1207.899
4	For. Bank Improved Management	B	0-10							
4	For. Bank Improved Management	B	10-20							
4	For. Bank Improved Management	B	20-40							
4	For. Bank Improved Management	B	40-100							
4	For. Bank Improved Management	C	0-10							
4	For. Bank Improved Management	C	10-20							
4	For. Bank Improved Management	C	20-40							
4	For. Bank Improved Management	C	40-100							

Block	Treatment	Soil pit (calicata)	Soil Depth	Cylin. No.	Bulk density calicata side 1	Cylin. No.	Bulk density calicata side 2	Cylin. No.	Bulk density calicata side 3	Bulk density mean per calicata
1	Natural Regeneration	A	0-10	1813	0.92	1817	1.06	1821	1.07	1213.682
1	Natural Regeneration	A	10-20	1814	1.20	1818	1.24	1822	1.15	1214.531
1	Natural Regeneration	A	20-40	1815	1.08	1819	1.12	1823	1.16	1215.120
1	Natural Regeneration	A	40-100	1816	1.19	1820	1.17	1824	1.20	1215.853
1	Natural Regeneration	B	0-10							
1	Natural Regeneration	B	10-20							
1	Natural Regeneration	B	20-40							
1	Natural Regeneration	B	40-100							
1	Natural Regeneration	C	0-10							
1	Natural Regeneration	C	10-20							
1	Natural Regeneration	C	20-40							
1	Natural Regeneration	C	40-100							
2	Natural Regeneration	A	0-10	1825	1.03	1829	1.01	1833	1.08	1221.706
2	Natural Regeneration	A	10-20	1826	1.31	1830	1.29	1834	1.19	1222.595
2	Natural Regeneration	A	20-40	1827	1.31	1831	1.29	1835	1.17	1223.257
2	Natural Regeneration	A	40-100	1828	1.23	1832	1.20	1836	1.19	1223.872
2	Natural Regeneration	B	0-10							
2	Natural Regeneration	B	10-20							
2	Natural Regeneration	B	20-40							
2	Natural Regeneration	B	40-100							
2	Natural Regeneration	C	0-10							
2	Natural Regeneration	C	10-20							
2	Natural Regeneration	C	20-40							
2	Natural Regeneration	C	40-100							
3	Natural Regeneration	A	0-10	1837	1.13	1841	1.00	1845	1.00	1229.713
3	Natural Regeneration	A	10-20	1838	1.27	1842	1.28	1846	1.29	1230.613
3	Natural Regeneration	A	20-40	1839	1.27	1843	1.24	1847	1.28	1231.265
3	Natural Regeneration	A	40-100	1840	1.27	1844	1.25	1848	1.25	1231.924
3	Natural Regeneration	B	0-10							
3	Natural Regeneration	B	10-20							
3	Natural Regeneration	B	20-40							
3	Natural Regeneration	B	40-100							
3	Natural Regeneration	C	0-10							
3	Natural Regeneration	C	10-20							
3	Natural Regeneration	C	20-40							
3	Natural Regeneration	C	40-100							
4	Natural Regeneration	A	0-10	1849	1.07	1853	1.13	1857	0.94	1237.714
4	Natural Regeneration	A	10-20	1850	1.28	1854	1.33	1858	1.24	1238.617
4	Natural Regeneration	A	20-40	1851	1.28	1855	1.26	1859	1.27	1239.269
4	Natural Regeneration	A	40-100	1852	1.29	1856	1.29	1860	1.34	1239.974
4	Natural Regeneration	B	0-10							
4	Natural Regeneration	B	10-20							
4	Natural Regeneration	B	20-40							
4	Natural Regeneration	B	40-100							
4	Natural Regeneration	C	0-10							
4	Natural Regeneration	C	10-20							
4	Natural Regeneration	C	20-40							
4	Natural Regeneration	C	40-100							

Block	Treatment	Soil pit (calicata)	Soil Depth	Cylin. No.	Bulk density calicata side 1	Cylin. No.	Bulk density calicata side 2	Cylin. No.	Bulk density calicata side 3	Bulk density mean per calicata
1	Degraded Pasture	A	0-10	541	0.80	545	0.92	549	0.87	0.864
1	Degraded Pasture	A	10-20	542	1.10	546	1.11	550	1.09	1.102
1	Degraded Pasture	A	20-40	543	1.05	547	1.09	551	1.05	1.060
1	Degraded Pasture	A	40-100	544	1.21	548	1.17	552	1.18	1.184
1	Degraded Pasture	B	0-10							
1	Degraded Pasture	B	10-20							
1	Degraded Pasture	B	20-40							
1	Degraded Pasture	B	40-100							
1	Degraded Pasture	C	0-10							
1	Degraded Pasture	C	10-20							
1	Degraded Pasture	C	20-40							
1	Degraded Pasture	C	40-100							
2	Degraded Pasture	A	0-10	553	0.97	557	0.93	561	1.16	1.022
2	Degraded Pasture	A	10-20	554	1.19	558	1.18	562	1.21	1.193
2	Degraded Pasture	A	20-40	555	1.22	559	1.16	563	1.15	1.177
2	Degraded Pasture	A	40-100	556	1.18	560	1.18	564	1.16	1.173
2	Degraded Pasture	B	0-10							
2	Degraded Pasture	B	10-20							
2	Degraded Pasture	B	20-40							
2	Degraded Pasture	B	40-100							
2	Degraded Pasture	C	0-10							
2	Degraded Pasture	C	10-20							
2	Degraded Pasture	C	20-40							
2	Degraded Pasture	C	40-100							
3	Degraded Pasture	A	0-10	565	1.02	569	1.04	573	1.05	1.035
3	Degraded Pasture	A	10-20	566	1.13	570	1.21	574	1.25	1.199
3	Degraded Pasture	A	20-40	567	1.24	571	1.13	575	1.19	1.186
3	Degraded Pasture	A	40-100	568	1.22	572	1.20	576	1.20	1.208
3	Degraded Pasture	B	0-10							
3	Degraded Pasture	B	10-20							
3	Degraded Pasture	B	20-40							
3	Degraded Pasture	B	40-100							
3	Degraded Pasture	C	0-10							
3	Degraded Pasture	C	10-20							
3	Degraded Pasture	C	20-40							
3	Degraded Pasture	C	40-100							
4	Degraded Pasture	A	0-10	577	1.00	581	1.07	585	1.06	1.040
4	Degraded Pasture	A	10-20	578	1.21	582	1.20	586	1.19	1.202
4	Degraded Pasture	A	20-40	579	1.17	583	1.06	587	1.12	1.119
4	Degraded Pasture	A	40-100	580	1.31	584	1.22	588	1.23	1.252
4	Degraded Pasture	B	0-10							
4	Degraded Pasture	B	10-20							
4	Degraded Pasture	B	20-40							
4	Degraded Pasture	B	40-100							
4	Degraded Pasture	C	0-10							
4	Degraded Pasture	C	10-20							
4	Degraded Pasture	C	20-40							
4	Degraded Pasture	C	40-100							

Block	Treatment	Soil pit (calicata)	Soil Depth	Cylin. No.	Bulk density calicata side 1	Cylin. No.	Bulk density calicata side 2	Cylin. No.	Bulk density calicata side 3	Bulk density mean per calicata
1	Degraded Pasture	A	0-10	589	0.91	593	0.98	597	0.99	0.961
1	Degraded Pasture	A	10-20	590	0.99	594	1.00	598	0.95	0.980
1	Degraded Pasture	A	20-40	591	0.99	595	1.04	599	1.01	1.015
1	Degraded Pasture	A	40-100	592	1.00	596	1.00	600	1.02	1.006
1	Degraded Pasture	B	0-10							
1	Degraded Pasture	B	10-20							
1	Degraded Pasture	B	20-40							
1	Degraded Pasture	B	40-100							
1	Degraded Pasture	C	0-10							
1	Degraded Pasture	C	10-20							
1	Degraded Pasture	C	20-40							
1	Degraded Pasture	C	40-100							
2	Degraded Pasture	A	0-10	601	0.96	605	0.96	609	1.07	0.997
2	Degraded Pasture	A	10-20	602	1.10	606	1.02	610	1.08	1.064
2	Degraded Pasture	A	20-40	603	1.09	607	1.09	611	0.91	1.029
2	Degraded Pasture	A	40-100	604	1.05	608	1.07	612	1.11	1.076
2	Degraded Pasture	B	0-10							
2	Degraded Pasture	B	10-20							
2	Degraded Pasture	B	20-40							
2	Degraded Pasture	B	40-100							
2	Degraded Pasture	C	0-10							
2	Degraded Pasture	C	10-20							
2	Degraded Pasture	C	20-40							
2	Degraded Pasture	C	40-100							
3	Degraded Pasture	A	0-10	613	1.12	617	1.04	621	0.99	1.048
3	Degraded Pasture	A	10-20	614	1.10	618	1.17	622	1.15	1.139
3	Degraded Pasture	A	20-40	615	1.10	619	1.05	623	1.15	1.100
3	Degraded Pasture	A	40-100	616	1.16	620	1.19	624	1.22	1.189
3	Degraded Pasture	B	0-10							
3	Degraded Pasture	B	10-20							
3	Degraded Pasture	B	20-40							
3	Degraded Pasture	B	40-100							
3	Degraded Pasture	C	0-10							
3	Degraded Pasture	C	10-20							
3	Degraded Pasture	C	20-40							
3	Degraded Pasture	C	40-100							

Experimento Topografía Plana, Amazonía, Colombia
Listado de Variables de Laboratorio y Calculadas Método 1 (profundidad fija)

BLOQUE = 1																	
Tratamiento	Calicata	Profundidad	pdensidad	pH (Uu)	P (mg/Kg)	CIC (cmol/Kg)	Ctotal (gr/Kg)	Coxid (gr/Kg)	Cest (gr/Kg)	Ntotal (mg/Kg)	Arena (%)	Areilla (%)	Limo (%)	ctthmtl	ntthmtl	coxthmtl	cethmtl
Asociacion	A	(0-10)	0,91	4,43	3,37	12,00	29,17	22,97	6,20	2239,94	31,56	47,63	20,81	26,63	2,05	20,97	5,66
Asociacion	A	(10-20)	1,21	4,52	0,85	9,90	18,36	9,46	8,90	1346,77	26,11	56,12	17,77	22,29	1,63	11,48	10,80
Asociacion	A	(20-40)	1,19	4,52	0,48	9,10	12,68	7,50	5,18	945,68	23,69	62,45	13,86	30,12	2,25	17,82	12,30
Asociacion	A	(40-100)	1,19	5,33	0,39	6,80	9,35	4,25	5,10	770,24	19,65	70,33	10,02	66,90	5,51	30,41	36,49
Asociacion	B	(0-10)	0,91				29,19	27,35	1,84	2370,25				26,65	2,16	24,97	1,68
Asociacion	B	(10-20)	1,21				16,40	10,48	5,92	1383,04				19,91	1,68	12,72	7,19
Asociacion	B	(20-40)	1,19				13,07	6,93	6,14	1003,00				31,05	2,38	16,46	14,58
Asociacion	B	(40-100)	1,19				9,81	4,70	5,11	785,20				70,19	5,62	33,63	36,56
Asociacion	C	(0-10)	0,91				30,39	21,79	8,60	2227,04				27,75	2,03	19,89	7,85
Asociacion	C	(10-20)	1,21				16,69	13,27	3,42	1375,89				20,26	1,67	16,11	4,15
Asociacion	C	(20-40)	1,19				14,67	7,76	6,91	1031,96				34,85	2,45	18,43	16,41
Asociacion	C	(40-100)	1,19				12,06	5,34	6,72	746,48				86,28	5,34	38,21	48,08
Degraded Pasture	A	(0-10)	0,91	4,52	1,24	11,80	25,56	20,12	5,45	2118,00	32,82	44,43	22,76	23,33	1,93	18,36	4,97
Degraded Pasture	A	(10-20)	1,04	4,53	0,81	11,10	19,28	13,62	5,66	1784,04	28,26	52,19	19,56	20,07	1,86	14,18	5,89
Degraded Pasture	A	(20-40)	1,04	4,67	0,50	10,70	14,73	9,79	4,94	1306,02	22,23	60,73	17,04	30,57	2,71	20,32	10,25
Degraded Pasture	A	(40-100)	1,09	5,00	0,29	9,20	10,14	6,45	3,69	1259,05	20,86	67,90	11,25	66,60	8,27	42,34	24,27
Degraded Pasture	B	(0-10)	0,91				24,56	17,94	6,62	2112,80				22,42	1,93	16,37	6,05
Degraded Pasture	B	(10-20)	1,04				17,85	11,61	6,25	1613,04				18,59	1,68	12,08	6,50
Degraded Pasture	B	(20-40)	1,04				13,29	9,66	3,64	1282,08				27,58	2,66	20,04	7,54
Degraded Pasture	B	(40-100)	1,09				10,20	6,74	3,47	974,41				67,01	6,40	44,24	22,77
Degraded Pasture	C	(0-10)	0,91				23,45	16,95	6,50	2109,76				21,41	1,93	15,47	5,94
Degraded Pasture	C	(10-20)	1,04				15,56	9,25	6,31	1432,70				16,20	1,49	9,63	6,57
Degraded Pasture	C	(20-40)	1,04				12,17	9,17	3,00	1179,87				25,25	2,45	19,02	6,23
Degraded Pasture	C	(40-100)	1,09				9,32	6,26	3,06	888,60				61,24	3,84	41,12	20,12
For, Bank Improved Management	A	(0-10)	1,09	4,57	4,24	9,20	25,05	15,51	9,54	1770,90	32,19	49,85	17,96	27,29	1,93	16,90	10,39
For, Bank Improved Management	A	(10-20)	1,17	4,45	1,08	8,60	14,09	8,76	5,33	1141,43	24,33	60,24	15,43	16,52	1,34	10,27	6,25
For, Bank Improved Management	A	(20-40)	1,16	4,60	0,43	7,80	12,37	6,66	5,71	872,47	21,60	64,23	14,17	28,62	2,02	15,41	13,21
For, Bank Improved Management	A	(40-100)	1,16	4,87	0,64	8,60	10,61	5,08	5,53	711,04	20,14	68,23	11,63	73,66	4,94	35,27	38,39
For, Bank Improved Management	B	(0-10)	1,09				27,14	21,48	5,66	2275,35				29,57	2,48	23,40	6,17
For, Bank Improved Management	B	(10-20)	1,17				16,95	11,27	5,68	1376,54				19,87	1,61	13,21	6,66
For, Bank Improved Management	B	(20-40)	1,16				13,57	7,22	6,35	1032,46				31,39	2,39	16,70	14,69
For, Bank Improved Management	B	(40-100)	1,16				10,44	4,69	5,75	822,04				72,48	5,71	32,56	39,92
For, Bank Improved Management	C	(0-10)	1,09				26,27	20,17	6,10	2314,62				28,62	2,52	21,98	6,65
For, Bank Improved Management	C	(10-20)	1,17				16,06	10,51	5,55	1355,07				18,83	1,59	12,32	6,51
For, Bank Improved Management	C	(20-40)	1,16				12,26	6,90	5,36	1021,74				28,36	2,36	15,96	12,40
For, Bank Improved Management	C	(40-100)	1,16				9,89	4,85	5,04	835,53				68,66	5,80	33,67	34,99
Monocultivo	A	(0-10)	0,98	4,65	2,58	10,35	29,77	22,01	7,76	2318,81	40,81	42,40	16,79	29,10	2,27	21,52	7,59
Monocultivo	A	(10-20)	1,16	4,79	0,67	8,20	16,83	10,46	6,37	1547,32	25,10	55,46	19,44	19,45	1,79	12,09	7,36
Monocultivo	A	(20-40)	1,10	4,72	0,67	8,00	12,92	6,82	6,10	1389,72	20,80	64,09	15,11	28,46	3,06	15,02	13,44
Monocultivo	A	(40-100)	1,13	5,05	0,60	7,20	10,77	4,85	5,92	1133,28	19,19	69,50	11,31	73,08	7,69	32,91	40,17
Monocultivo	B	(0-10)	0,98				29,41	22,32	7,09	2836,84				28,75	2,77	21,82	6,93
Monocultivo	B	(10-20)	1,16				19,51	12,47	7,04	1621,62				22,54	1,87	14,41	8,13
Monocultivo	B	(20-40)	1,10				15,32	8,45	6,87	1228,39				33,73	2,71	18,61	15,13
Monocultivo	B	(40-100)	1,13				12,03	5,41	6,62	1094,48				81,63	7,43	36,71	44,92
Monocultivo	C	(0-10)	0,98				28,26	18,85	9,41	2470,57				27,63	2,42	18,43	9,20
Monocultivo	C	(10-20)	1,16				16,58	9,52	7,06	1748,55				19,16	2,02	11,00	8,16
Monocultivo	C	(20-40)	1,10				13,80	6,89	6,91	1199,23				30,40	2,64	15,18	15,22
Monocultivo	C	(40-100)	1,13				11,82	5,28	6,54	1130,58				80,21	7,67	35,83	44,38
Natural Regeneration	A	(0-10)	1,02	5,07	2,17	10,50	26,61	23,59	3,02	2100,72	40,81	43,69	15,50	27,02	2,13	23,96	3,07
Natural Regeneration	A	(10-20)	1,20	4,91	0,61	9,20	17,17	13,02	4,15	1450,64	22,84	56,52	20,64	20,56	1,74	15,59	4,97
Natural Regeneration	A	(20-40)	1,12	4,40	0,46	8,70	14,68	10,01	4,67	1080,29	21,56	62,94	15,50	32,88	2,42	22,42	10,46
Natural Regeneration	A	(40-100)	1,19	4,99	0,46	8,40	11,48	6,17	5,31	858,22	20,11	68,21	11,68	81,74	6,11	43,93	37,81
Natural Regeneration	B	(0-10)	1,02				28,50	27,52	0,98	2310,96				28,94	2,35	27,95	1,00
Natural Regeneration	B	(10-20)	1,20				18,04	14,73	3,31	1439,44				21,60	1,72	17,63	3,96
Natural Regeneration	B	(20-40)	1,12				13,26	8,91	4,35	891,00				29,70	2,00	19,95	9,74
Natural Regeneration	B	(40-100)	1,19				11,31	6,23	5,08	949,50				80,53	6,76	44,36	36,17
Natural Regeneration	C	(0-10)	1,02				24,20	22,70	1,50	2147,48				24,58	2,18	23,05	1,52
Natural Regeneration	C	(10-20)	1,20				18,39	14,90	3,49	1398,29				22,02	1,67	17,84	4,18
Natural Regeneration	C	(20-40)	1,12				14,83	10,73	4,10	1213,55				33,21	2,72	24,03	9,18
Natural Regeneration	C	(40-100)	1,19				9,63	6,36	3,27	819,05				68,57	5,83	45,28	23,28

BLOQUE = 2																	
Tratamiento	Calicata	Profundidad	pdensidad	pH (Un)	P (mg/Kg)	CIC (cmol/Kg)	Ctotal (gr/Kg)	Coxid (gr/Kg)	Cest (gr/Kg)	Ntotal (mg/Kg)	Arena (%)	Arcilla (%)	Limo (%)	cethmtl	ntthmtl	coxtthmtl	cethmtl
Asociation	A	(0-10)	0,91	4,88	3,68	12,7	28,82	22,30	6,52	2258,12	40,68	42,94	16,38	26,16	2,05	20,24	5,92
Asociation	A	(10-20)	1,25	4,73	0,54	8,7	17,94	12,27	5,67	1283,72	29,13	53,21	17,66	22,41	1,60	15,33	7,08
Asociation	A	(20-40)	1,18	4,51	0,37	8,6	13,95	5,55	8,40	1035,60	24,97	61,16	13,87	32,98	2,45	13,12	19,86
Asociation	A	(40-100)	1,22	4,84	0,29	8,4	11,68	4,87	6,81	862,15	53,53	66,45	10,02	85,37	6,30	35,60	49,78
Asociation	B	(0-10)	0,91				32,04	21,35	10,69	2198,97				29,08	2,00	19,38	9,70
Asociation	B	(10-20)	1,25				17,26	8,28	8,98	1301,90				21,56	1,63	10,34	11,22
Asociation	B	(20-40)	1,18				13,07	6,94	6,13	918,59				30,90	2,17	16,41	14,49
Asociation	B	(40-100)	1,22				10,99	3,28	7,71	751,90				80,33	5,50	23,97	56,36
Asociation	C	(0-10)	0,91				27,01	17,65	9,36	2096,76				24,51	1,90	16,02	8,49
Asociation	C	(10-20)	1,25				22,67	15,49	7,18	1644,21				28,32	2,05	19,35	8,97
Asociation	C	(20-40)	1,18				19,79	12,50	7,29	1601,02				46,79	3,79	29,56	17,24
Asociation	C	(40-100)	1,22				11,48	5,59	5,89	847,19				83,91	6,19	40,86	43,05
Degraded Pasture	A	(0-10)	1,01	4,42	1,87	10,3	24,22	20,04	4,18	2211,93	36,04	43,01	20,96	24,44	2,23	20,23	4,22
Degraded Pasture	A	(10-20)	1,13	4,35	0,72	10,2	16,80	12,79	4,01	1706,73	28,33	51,36	20,32	18,97	1,93	14,44	4,53
Degraded Pasture	A	(20-40)	1,10	4,53	0,43	9,8	13,48	10,14	3,34	1225,80	24,32	60,48	15,21	29,74	2,70	22,36	7,38
Degraded Pasture	A	(40-100)	1,12	5,04	0,20	8,3	9,71	6,74	2,98	952,14	21,35	67,91	10,75	65,55	6,43	45,45	20,09
Degraded Pasture	B	(0-10)	1,01				26,62	20,20	6,42	2397,16				26,88	2,42	20,39	6,48
Degraded Pasture	B	(10-20)	1,13				16,09	10,64	5,45	1582,17				18,17	1,79	12,01	6,16
Degraded Pasture	B	(20-40)	1,10				17,04	11,81	5,23	1611,19				37,59	3,55	26,06	11,54
Degraded Pasture	B	(40-100)	1,12				8,23	6,61	1,63	906,02				55,57	6,11	44,57	10,99
Degraded Pasture	C	(0-10)	1,01				24,90	16,90	8,00	2235,76				25,14	2,26	17,06	8,08
Degraded Pasture	C	(10-20)	1,13				15,92	9,37	6,56	1454,72				17,98	1,64	10,57	7,40
Degraded Pasture	C	(20-40)	1,10				12,34	8,91	3,43	1125,70				27,24	2,48	19,66	7,58
Degraded Pasture	C	(40-100)	1,12				9,27	5,88	3,39	885,59				62,55	5,98	39,65	22,90
For, Bank Improved Management	A	(0-10)	1,13	4,45	11,16	9,8	24,01	19,56	4,45	2136,21	33,47	44,71	21,82	27,12	2,41	22,10	5,03
For, Bank Improved Management	A	(10-20)	1,26	4,27	1,28	8,9	15,66	11,10	4,56	1405,75	27,68	53,43	18,89	19,76	1,77	14,00	5,75
For, Bank Improved Management	A	(20-40)	1,21	4,47	0,86	8,8	12,03	7,58	4,45	981,76	23,97	61,04	14,99	29,20	2,38	18,40	10,80
For, Bank Improved Management	A	(40-100)	1,21	4,86	0,54	7,9	9,20	4,78	4,42	813,46	21,24	67,60	11,16	66,91	5,92	34,76	32,15
For, Bank Improved Management	B	(0-10)	1,13				22,79	18,96	3,83	2050,55				25,74	2,32	21,42	4,33
For, Bank Improved Management	B	(10-20)	1,26				15,68	10,65	5,03	1319,29				19,78	1,66	13,44	6,35
For, Bank Improved Management	B	(20-40)	1,21				13,43	8,58	4,85	1091,13				32,60	2,65	20,83	11,77
For, Bank Improved Management	B	(40-100)	1,21				10,69	5,91	4,78	847,08				77,75	6,16	42,98	34,76
For, Bank Improved Management	C	(0-10)	1,13				26,68	21,05	5,63	2347,30				30,14	2,65	23,78	6,36
For, Bank Improved Management	C	(10-20)	1,26				17,30	13,13	4,17	1330,48				21,83	1,68	16,57	5,26
For, Bank Improved Management	C	(20-40)	1,21				14,05	9,18	4,87	1071,56				34,11	2,60	22,29	11,82
For, Bank Improved Management	C	(40-100)	1,21				11,68	6,77	4,91	939,19				84,95	6,83	49,24	35,71
Monocultive	A	(0-10)	0,96	4,81	2,92	10,4	26,87	10,80	16,07	2277,86	34,35	43,96	21,69	25,71	2,18	10,33	15,38
Monocultive	A	(10-20)	1,30	4,54	0,91	10,2	16,75	9,83	6,92	1428,09	25,77	55,24	18,99	21,79	1,86	12,79	9,00
Monocultive	A	(20-40)	1,29	4,61	0,57	7,8	13,47	6,45	7,02	1075,35	24,33	63,07	12,60	34,73	2,77	16,63	18,10
Monocultive	A	(40-100)	1,25	4,92	0,58	7,6	10,93	4,29	6,64	891,14	21,93	68,49	9,58	82,19	6,70	32,26	49,93
Monocultive	B	(0-10)	0,96				28,86	20,94	7,92	2463,70				27,61	2,36	20,04	7,58
Monocultive	B	(10-20)	1,30				17,98	10,40	7,58	1438,78				23,39	1,87	13,53	9,86
Monocultive	B	(20-40)	1,29				14,36	6,97	7,39	1163,83				37,03	3,00	17,97	19,05
Monocultive	B	(40-100)	1,25				11,67	4,85	6,82	1183,61				87,75	8,90	36,47	51,28
Monocultive	C	(0-10)	0,96				26,08	18,52	7,56	2862,09				24,95	2,74	17,72	7,23
Monocultive	C	(10-20)	1,30				16,95	9,16	7,79	1315,97				22,05	1,71	11,91	10,13
Monocultive	C	(20-40)	1,29				13,18	6,23	6,95	1499,60				33,98	3,87	16,06	17,92
Monocultive	C	(40-100)	1,25				11,82	4,82	7,00	915,18				88,88	6,88	36,24	52,63
Natural Regeneration	A	(0-10)	1,04	4,80	2,08	9,4	14,66	23,30	-8,64	1990,64	39,40	45,51	15,09	15,24	2,07	24,22	-8,98
Natural Regeneration	A	(10-20)	1,26	4,62	0,62	7,6	17,76	14,93	2,83	1500,68	29,28	50,54	20,18	22,41	1,89	18,84	3,57
Natural Regeneration	A	(20-40)	1,26	4,69	0,53	7,5	13,07	8,70	4,37	828,00	26,41	61,03	12,56	32,87	2,08	21,88	10,99
Natural Regeneration	A	(40-100)	1,21	4,76	0,32	8,4	9,93	5,66	4,27	736,17	24,00	64,76	11,24	71,83	5,33	40,94	30,89
Natural Regeneration	B	(0-10)	1,04				29,91	28,54	1,37	2154,94				31,10	2,24	29,67	1,42
Natural Regeneration	B	(10-20)	1,26				16,33	12,74	3,59	1345,21				20,61	1,70	16,08	4,53
Natural Regeneration	B	(20-40)	1,26				12,95	9,06	3,89	912,42				32,56	2,29	22,78	9,78
Natural Regeneration	B	(40-100)	1,21				11,17	5,72	5,45	830,64				80,80	6,01	41,38	39,43
Natural Regeneration	C	(0-10)	1,04				26,56	23,78	2,78	2182,93				27,61	2,27	24,72	2,89
Natural Regeneration	C	(10-20)	1,26				16,82	8,52	8,30	1509,18				21,23	1,90	10,75	10,47
Natural Regeneration	C	(20-40)	1,26				14,17	9,72	4,45	1230,36				35,63	3,09	24,44	11,19
Natural Regeneration	C	(40-100)	1,21				11,38	5,39	5,99	925,12				82,32	6,69	38,99	43,33

BLOQUE - 3																	
Tratamiento	Calicata	Profundidad	densidad	pH (Un)	P (mg/Kg)	CIC (cmol/Kg)	Ctotal (gr/Kg)	Cozid (gr/Kg)	Cest (gr/Kg)	Ntotal (mg/Kg)	Arena (%)	Ardilla (%)	Limo (%)	ctthmtl	nthmtl	coxtthmtl	cehmtl
Asociation	A	(0-10)	1,09	4,76	1,67	10,4	29,82	19,88	9,94	2463,03	33,99	45,70	20,31	32,58	2,69	21,72	10,86
Asociation	A	(10-20)	1,22	4,71	0,78	8,6	18,91	12,02	6,89	1580,05	28,84	52,14	19,02	23,12	1,93	14,70	8,42
Asociation	A	(20-40)	1,23	4,80	0,37	8,3	14,02	7,55	6,47	1037,71	25,13	62,32	12,55	34,44	2,55	18,54	15,89
Asociation	A	(40-100)	1,22	5,11	0,87	6,6	10,95	4,93	6,02	786,47	22,69	69,24	8,07	80,44	5,78	36,22	44,22
Asociation	B	(0-10)	1,09				27,84	23,96	3,88	2339,52				30,42	2,56	26,18	4,24
Asociation	B	(10-20)	1,22				17,09	11,80	5,29	1847,98				20,90	2,26	14,43	6,47
Asociation	B	(20-40)	1,23				14,29	8,91	5,38	1126,80				35,10	2,77	21,88	13,21
Asociation	B	(40-100)	1,22				12,08	5,76	6,32	865,97				88,74	6,36	42,31	46,43
Asociation	C	(0-10)	1,09				38,05	35,00	3,05	3198,69				41,57	3,49	38,24	3,33
Asociation	C	(10-20)	1,22				30,49	18,08	12,41	1960,87				37,28	2,40	22,11	15,17
Asociation	C	(20-40)	1,23				15,57	9,33	6,24	1370,19				38,24	3,37	22,92	15,33
Asociation	C	(40-100)	1,22				11,70	6,07	5,63	953,09				85,95	7,00	44,59	41,36
Degraded Pasture	A	(0-10)	1,04	4,58	1,52	10,8	23,19	18,30	4,89	2222,49	36,82	42,28	20,91	24,15	2,31	19,06	5,09
Degraded Pasture	A	(10-20)	1,17	4,48	0,56	10,1	17,63	10,71	6,92	1739,82	27,68	51,84	20,49	20,61	2,03	12,52	8,09
Degraded Pasture	A	(20-40)	1,14	4,59	0,55	9,7	13,08	7,88	5,21	1434,76	27,08	58,43	14,49	29,91	3,28	18,00	11,91
Degraded Pasture	A	(40-100)	1,20	4,97	0,26	7,8	9,47	5,92	3,55	909,99	24,93	63,76	11,31	68,09	6,54	42,54	25,56
Degraded Pasture	B	(0-10)	1,04				22,10	15,20	6,91	1889,98				23,02	1,97	15,83	7,20
Degraded Pasture	B	(10-20)	1,17				15,63	9,74	5,90	1459,14				18,28	1,71	11,38	6,90
Degraded Pasture	B	(20-40)	1,14				12,87	7,44	5,43	1097,26				29,41	2,51	17,00	12,40
Degraded Pasture	B	(40-100)	1,20				9,29	6,01	3,28	930,72				66,79	6,69	43,18	23,61
Degraded Pasture	C	(0-10)	1,04				24,53	17,96	6,57	2464,40				25,55	2,57	18,71	6,84
Degraded Pasture	C	(10-20)	1,17				17,29	11,18	6,11	1671,65				20,22	1,95	13,07	7,15
Degraded Pasture	C	(20-40)	1,14				13,31	7,57	5,74	1318,75				30,42	3,01	17,30	13,11
Degraded Pasture	C	(40-100)	1,20				10,98	5,87	5,11	951,03				78,98	6,84	42,21	36,77
For, Bank Improved Management	A	(0-10)	1,17	4,70	4,93	10,9	24,99	17,97	7,02	2242,72	27,98	48,07	23,95	29,26	2,63	21,04	8,22
For, Bank Improved Management	A	(10-20)	1,21	4,29	0,57	9,6	16,10	8,32	7,78	1258,54	25,26	55,89	18,85	19,47	1,52	10,06	9,41
For, Bank Improved Management	A	(20-40)	1,17	4,53	1,03	9,0	14,57	8,04	6,53	1084,58	24,36	61,88	13,76	34,12	2,54	18,83	15,29
For, Bank Improved Management	A	(40-100)	1,22	5,01	0,46	7,1	10,58	4,63	5,95	728,84	21,78	67,03	11,19	77,40	5,33	33,87	43,53
For, Bank Improved Management	B	(0-10)	1,17				26,32	23,34	2,98	2281,72				30,81	2,67	27,32	3,49
For, Bank Improved Management	B	(10-20)	1,21				18,04	13,40	4,64	1704,28				21,81	2,06	16,20	5,61
For, Bank Improved Management	B	(20-40)	1,17				14,26	9,78	4,48	1107,65				33,40	2,59	22,91	10,49
For, Bank Improved Management	B	(40-100)	1,22				11,81	6,38	5,43	849,66				86,40	6,22	46,67	39,72
For, Bank Improved Management	C	(0-10)	1,17				25,12	21,74	3,38	2219,56				29,41	2,60	25,45	3,96
For, Bank Improved Management	C	(10-20)	1,21				16,92	13,05	3,87	1287,25				20,46	1,56	15,78	4,68
For, Bank Improved Management	C	(20-40)	1,17				15,13	9,71	5,42	1075,73				35,44	2,52	22,74	12,69
For, Bank Improved Management	C	(40-100)	1,22				12,32	6,86	5,46	864,86				90,13	6,33	50,18	39,94
Monocultive	A	(0-10)	1,05	4,75	2,68	10,1	26,62	18,31	8,31	2242,44	33,37	43,60	21,03	28,05	2,36	19,29	8,76
Monocultive	A	(10-20)	1,23	4,65	0,80	9,3	17,52	10,81	6,71	1397,13	25,13	56,40	18,47	21,53	1,72	13,29	8,25
Monocultive	A	(20-40)	1,26	4,76	0,66	9,4	14,08	7,16	6,92	1307,37	22,57	61,53	15,90	35,47	3,29	18,04	17,43
Monocultive	A	(40-100)	1,22	5,12	0,54	7,8	10,32	3,91	6,41	852,07	22,41	65,50	12,09	75,29	6,22	28,52	46,76
Monocultive	B	(0-10)	1,05				26,90	18,10	8,80	2173,87				28,34	2,29	19,07	9,27
Monocultive	B	(10-20)	1,23				16,30	7,41	8,89	1901,53				20,03	2,34	9,11	10,93
Monocultive	B	(20-40)	1,26				13,36	5,50	7,86	1104,34				33,66	2,78	13,86	19,80
Monocultive	B	(40-100)	1,22				11,16	5,55	5,61	856,09				81,41	6,25	40,49	40,93
Monocultive	C	(0-10)	1,05				26,92	21,84	5,08	2497,75				28,36	2,63	23,01	5,35
Monocultive	C	(10-20)	1,23				18,10	10,87	7,23	1513,21				22,25	1,86	13,36	8,89
Monocultive	C	(20-40)	1,26				13,13	6,28	6,85	1103,56				33,08	2,78	15,82	17,26
Monocultive	C	(40-100)	1,22				9,60	5,38	4,22	741,60				70,03	5,41	39,25	30,79
Natural Regeneration	A	(0-10)	1,05	5,01	3,36	10,4	25,40	19,42	5,98	2002,42	39,52	42,85	17,63	26,57	2,09	20,32	6,26
Natural Regeneration	A	(10-20)	1,28	4,68	1,33	8,3	19,00	12,18	6,82	1385,75	26,41	55,09	18,50	24,32	1,77	15,59	8,73
Natural Regeneration	A	(20-40)	1,27	4,83	0,53	8,0	11,97	7,82	4,15	972,48	19,98	62,81	17,21	30,29	2,46	19,79	10,50
Natural Regeneration	A	(40-100)	1,26	5,19	0,25	7,4	11,89	4,32	7,57	666,50	19,98	67,95	12,07	89,69	5,03	32,59	57,11
Natural Regeneration	B	(0-10)	1,05				30,02	22,28	7,74	2213,36				31,40	2,32	23,31	8,10
Natural Regeneration	B	(10-20)	1,28				18,75	15,82	2,93	1604,29				24,00	2,05	20,25	3,75
Natural Regeneration	B	(20-40)	1,27				13,58	10,37	3,21	1283,98				34,36	3,25	26,24	8,12
Natural Regeneration	B	(40-100)	1,26				12,44	9,98	2,46	943,75				93,84	7,12	75,29	18,56
Natural Regeneration	C	(0-10)	1,05				24,71	23,19	1,52	2247,60				25,85	2,35	24,26	1,59
Natural Regeneration	C	(10-20)	1,28				16,82	13,23	3,59	1550,76				21,53	1,99	16,93	4,60
Natural Regeneration	C	(20-40)	1,27				13,34	10,37	2,97	1065,02				33,75	2,69	26,24	7,51
Natural Regeneration	C	(40-100)	1,26				10,76	6,36	4,40	702,91				81,17	5,30	47,98	33,19

BLOQUE = 4																	
Tratamiento	Calicata	Profundidad	pdensidad	pH (Un)	P (mg/Kg)	CTC (cmol/Kg)	Ctotal (gr/Kg)	Coaid (gr/Kg)	Cest (gr/Kg)	Ntotal (mg/Kg)	Arena (%)	Arcilla (%)	Limo (%)	ctthmtl	ntthmtl	coxtthmtl	cethmtl
Asociation	A	(0-10)	1,08	4,59	1,58	8,9	26,27	20,47	5,80	2186,79	37,86	50,15	11,99	28,50	2,37	22,21	6,29
Asociation	A	(10-20)	1,28	4,66	0,41	8,0	17,23	10,92	6,31	1339,08	25,26	56,38	18,36	21,99	1,71	13,94	8,05
Asociation	A	(20-40)	1,24	4,79	0,36	7,7	14,24	7,96	6,28	1064,64	22,69	62,81	14,50	35,45	2,65	19,82	15,63
Asociation	A	(40-100)	1,19	5,00	0,25	7,7	14,65	9,40	5,25	1197,60	22,53	62,94	14,53	104,67	8,56	67,16	37,51
Asociation	B	(0-10)	1,08				31,86	25,71	6,15	2883,59				34,56	3,13	27,89	6,67
Asociation	B	(10-20)	1,28				19,06	13,00	6,06	1435,91				24,33	1,83	16,59	7,73
Asociation	B	(20-40)	1,24				15,64	9,50	6,14	1275,39				38,93	3,17	23,65	15,29
Asociation	B	(40-100)	1,19				11,76	5,39	6,37	765,35				84,02	5,47	38,51	45,51
Asociation	C	(0-10)	1,08				31,68	23,56	8,12	2221,14				34,37	2,41	25,56	8,81
Asociation	C	(10-20)	1,28				21,70	15,51	6,19	1872,88				27,70	2,39	19,80	7,90
Asociation	C	(20-40)	1,24				21,13	15,24	5,89	1707,61				52,60	4,25	37,94	14,66
Asociation	C	(40-100)	1,19				11,26	6,10	5,16	906,10				80,45	6,47	43,58	36,87
Degraded Pasture	A	(0-10)	1,04	4,19	1,67	9,8	27,63	21,50	6,13	2497,75	34,32	45,35	20,33	28,75	2,60	22,37	6,38
Degraded Pasture	A	(10-20)	1,20	4,37	0,25	9,6	17,09	14,29	2,80	1486,29	26,25	54,58	19,17	20,55	1,79	17,18	3,37
Degraded Pasture	A	(20-40)	1,12	4,41	0,09	9,6	13,53	11,36	2,17	1529,60	26,25	58,41	15,34	30,28	3,42	25,43	4,85
Degraded Pasture	A	(40-100)	1,25	4,77	0,00	9,0	10,64	8,65	1,99	1290,85	22,26	64,93	12,81	79,95	9,70	64,97	14,98
Degraded Pasture	B	(0-10)	1,04				22,80	15,40	7,40	2242,18				23,72	2,33	16,02	7,70
Degraded Pasture	B	(10-20)	1,20				18,73	9,64	9,09	2013,62				22,51	2,42	11,59	10,92
Degraded Pasture	B	(20-40)	1,12				13,47	11,36	2,11	1403,49				30,14	3,14	25,43	4,71
Degraded Pasture	B	(40-100)	1,25				9,48	8,65	0,83	982,58				71,20	7,38	64,97	6,23
Degraded Pasture	C	(0-10)	1,04				25,71	17,71	8,00	1828,73				26,75	1,90	18,42	8,32
Degraded Pasture	C	(10-20)	1,20				18,75	10,99	7,76	1512,56				22,54	1,82	13,21	9,33
Degraded Pasture	C	(20-40)	1,12				14,93	11,36	3,57	1417,09				33,42	3,17	25,43	8,00
Degraded Pasture	C	(40-100)	1,25				10,86	8,65	2,21	1318,68				81,59	9,90	64,97	16,62
For. Bank Improved Management	A	(0-10)	1,19	4,77	3,81	12,4	23,75	20,27	3,48	1838,96	30,50	51,81	17,69	28,20	2,18	24,07	4,13
For. Bank Improved Management	A	(10-20)	1,17	4,61	2,82	9,9	18,44	13,91	4,53	1304,35	24,04	55,68	20,28	21,57	1,53	16,27	5,30
For. Bank Improved Management	A	(20-40)	1,16	4,47	0,65	9,5	14,06	9,16	4,90	954,12	23,07	63,17	13,76	32,68	2,22	21,29	11,39
For. Bank Improved Management	A	(40-100)	1,23	4,83	0,49	9,3	11,38	6,13	5,25	760,08	21,40	64,35	14,25	84,18	5,62	45,34	38,83
For. Bank Improved Management	B	(0-10)	1,19				28,34	25,67	2,67	2247,63				33,65	2,67	30,48	3,17
For. Bank Improved Management	B	(10-20)	1,17				20,83	17,32	3,51	1652,22				24,36	1,93	20,26	4,11
For. Bank Improved Management	B	(20-40)	1,16				15,09	9,87	5,22	1151,10				35,08	2,68	22,94	12,13
For. Bank Improved Management	B	(40-100)	1,23				11,73	6,90	4,83	809,14				86,77	5,99	51,04	35,73
For. Bank Improved Management	C	(0-10)	1,19				24,39	22,47	1,92	1976,37				28,96	2,35	26,68	2,28
For. Bank Improved Management	C	(10-20)	1,17				16,40	13,57	2,83	1199,83				19,18	1,40	15,87	3,31
For. Bank Improved Management	C	(20-40)	1,16				14,78	9,85	4,93	960,22				34,35	2,23	22,90	11,46
For. Bank Improved Management	C	(40-100)	1,23				11,98	6,96	5,02	933,23				88,62	6,90	51,48	37,13
Monocultive	A	(0-10)	1,19	4,67	2,67	10,8	26,56	23,29	3,27	2164,50	35,42	46,35	18,23	31,72	2,58	27,81	3,90
Monocultive	A	(10-20)	1,30	4,69	0,81	8,9	17,35	13,70	3,65	1467,14	26,26	52,89	20,85	22,51	1,90	17,77	4,74
Monocultive	A	(20-40)	1,23	4,68	0,43	8,4	12,77	8,55	4,22	1039,47	23,84	60,49	15,67	31,48	2,56	21,08	10,40
Monocultive	A	(40-100)	1,28	5,24	0,31	7,4	9,50	4,49	5,01	814,29	19,65	68,49	11,86	72,92	6,25	34,47	38,46
Monocultive	B	(0-10)	1,19				28,58	25,37	3,21	2395,96				34,13	2,86	30,29	3,83
Monocultive	B	(10-20)	1,30				18,09	13,93	4,16	1591,19				23,47	2,06	18,07	5,40
Monocultive	B	(20-40)	1,23				13,47	5,40	8,07	1242,56				33,20	3,06	13,31	19,89
Monocultive	B	(40-100)	1,28				11,04	5,67	5,37	903,08				84,74	6,93	43,52	41,22
Monocultive	C	(0-10)	1,19				26,31	14,11	12,20	2234,44				31,42	2,67	16,85	14,57
Monocultive	C	(10-20)	1,30				17,26	11,02	6,24	1461,71				22,39	1,90	14,30	8,10
Monocultive	C	(20-40)	1,23				12,55	5,19	7,36	1088,06				30,94	2,68	12,79	18,14
Monocultive	C	(40-100)	1,28				9,53	3,60	5,93	672,47				73,15	5,16	27,63	45,52
Natural Regeneration	A	(0-10)	1,05	4,93	2,91	11,2	26,66	25,98	0,68	2092,47	39,40	43,43	17,17	27,93	2,19	27,22	0,71
Natural Regeneration	A	(10-20)	1,28	4,76	0,59	10,0	16,39	13,97	2,42	1398,65	27,85	53,70	18,45	21,05	1,80	17,94	3,11
Natural Regeneration	A	(20-40)	1,27	4,83	0,40	8,4	12,69	9,18	3,51	990,50	24,00	60,91	15,09	32,21	2,51	23,30	8,91
Natural Regeneration	A	(40-100)	1,31	4,89	0,21	7,2	10,12	6,17	3,95	710,00	25,44	62,06	12,50	79,55	5,57	48,38	30,97
Natural Regeneration	B	(0-10)	1,05				23,56	22,98	0,58	1690,14				24,69	1,77	24,08	0,61
Natural Regeneration	B	(10-20)	1,28				19,33	15,89	3,44	1455,07				24,82	1,87	20,40	4,42
Natural Regeneration	B	(20-40)	1,27				14,27	10,08	4,19	1093,11				36,22	2,77	25,59	10,64
Natural Regeneration	B	(40-100)	1,31				11,64	6,75	4,89	794,91				91,27	6,23	52,93	38,34
Natural Regeneration	C	(0-10)	1,05				21,19	19,19	2,00	1613,74				22,20	1,69	20,11	2,10
Natural Regeneration	C	(10-20)	1,28				14,70	10,79	3,91	1042,05				18,88	1,34	13,86	5,02
Natural Regeneration	C	(20-40)	1,27				13,19	8,90	4,29	886,62				33,48	2,25	22,59	10,89
Natural Regeneration	C	(40-100)	1,31				11,64	6,08	5,56	900,19				91,27	7,06	47,67	43,60

· Experimento Topografía Plana, Amazonía, Colombia
Listado de Variables Calculadas Método 2 (peso suelo fijo)

BLOQUE = 1								
tratamiento	calicata	profundidad	pdensidad	ponder2	ctthmt2	coctthmt2	cethmt2	ntthmt2
Asociation	A	(0-10)	0,91	1,00	26,63	20,97	5,66	2,05
Asociation	A	(10-20)	1,21	1,00	22,29	11,48	10,80	1,63
Asociation	A	(20-40)	1,19	2,00	30,12	17,82	12,30	2,25
Asociation	A	(40-100)	1,19	5,11	57,00	25,91	31,09	4,70
Asociation	B	(0-10)	0,91	1,00	26,63	24,97	1,68	2,16
Asociation	B	(10-20)	1,21	1,00	19,91	12,72	7,19	1,68
Asociation	B	(20-40)	1,19	2,00	31,05	16,46	14,58	2,38
Asociation	B	(40-100)	1,19	5,11	59,80	28,65	31,15	4,79
Asociation	C	(0-10)	0,91	1,00	27,75	19,89	7,85	2,03
Asociation	C	(10-20)	1,21	1,00	20,26	16,11	4,15	1,67
Asociation	C	(20-40)	1,19	2,00	34,85	18,43	16,41	2,45
Asociation	C	(40-100)	1,19	5,11	73,52	32,55	40,97	4,55
Degraded Pasture	A	(0-10)	0,91	1,00	23,33	18,36	4,97	1,93
Degraded Pasture	A	(10-20)	1,04	1,00	20,07	14,18	5,89	1,86
Degraded Pasture	A	(20-40)	1,04	2,00	30,57	20,32	10,25	2,71
Degraded Pasture	A	(40-100)	1,09	6,00	66,60	42,34	24,27	8,27
Degraded Pasture	B	(0-10)	0,91	1,00	22,42	16,37	6,05	1,93
Degraded Pasture	B	(10-20)	1,04	1,00	18,59	12,08	6,50	1,68
Degraded Pasture	B	(20-40)	1,04	2,00	27,58	20,04	7,54	2,66
Degraded Pasture	B	(40-100)	1,09	6,00	67,01	44,24	22,77	6,40
Degraded Pasture	C	(0-10)	0,91	1,00	21,41	15,47	5,94	1,93
Degraded Pasture	C	(10-20)	1,04	1,00	16,20	9,63	6,57	1,49
Degraded Pasture	C	(20-40)	1,04	2,00	25,25	19,02	6,23	2,45
Degraded Pasture	C	(40-100)	1,09	6,00	61,24	41,12	20,12	5,84
For, Bank Improved Management	A	(0-10)	1,09	1,00	27,29	16,90	10,39	1,93
For, Bank Improved Management	A	(10-20)	1,17	1,00	16,52	10,27	6,25	1,34
For, Bank Improved Management	A	(20-40)	1,16	2,00	28,62	15,41	13,21	2,02
For, Bank Improved Management	A	(40-100)	1,16	5,21	63,90	30,60	33,31	4,28
For, Bank Improved Management	B	(0-10)	1,09	1,00	29,57	23,40	6,17	2,48
For, Bank Improved Management	B	(10-20)	1,17	1,00	19,87	13,21	6,66	1,61
For, Bank Improved Management	B	(20-40)	1,16	2,00	31,39	16,70	14,69	2,39
For, Bank Improved Management	B	(40-100)	1,16	5,21	62,88	28,25	34,63	4,95
For, Bank Improved Management	C	(0-10)	1,09	1,00	28,62	21,98	6,65	2,52
For, Bank Improved Management	C	(10-20)	1,17	1,00	18,83	12,32	6,51	1,59
For, Bank Improved Management	C	(20-40)	1,16	2,00	28,36	15,96	12,40	2,36
For, Bank Improved Management	C	(40-100)	1,16	5,21	59,57	29,21	30,36	5,03
Monocultive	A	(0-10)	0,98	1,00	29,10	21,52	7,59	2,27
Monocultive	A	(10-20)	1,16	1,00	19,45	12,09	7,36	1,79
Monocultive	A	(20-40)	1,10	2,00	28,46	15,02	13,44	3,06
Monocultive	A	(40-100)	1,13	5,54	67,45	30,37	37,07	7,10
Monocultive	B	(0-10)	0,98	1,00	28,75	21,82	6,93	2,77
Monocultive	B	(10-20)	1,16	1,00	22,54	14,41	8,13	1,87
Monocultive	B	(20-40)	1,10	2,00	33,75	18,61	15,13	2,71
Monocultive	B	(40-100)	1,13	5,54	75,34	33,88	41,46	6,85
Monocultive	C	(0-10)	0,98	1,00	27,63	18,43	9,20	2,42
Monocultive	C	(10-20)	1,16	1,00	19,16	11,00	8,16	2,02
Monocultive	C	(20-40)	1,10	2,00	30,40	15,18	15,22	2,64
Monocultive	C	(40-100)	1,13	5,54	74,02	33,07	40,96	7,08
Natural Regeneration	A	(0-10)	1,02	1,00	27,02	23,96	3,07	2,13
Natural Regeneration	A	(10-20)	1,20	1,00	20,56	15,59	4,97	1,74
Natural Regeneration	A	(20-40)	1,12	2,00	32,88	22,42	10,46	2,42
Natural Regeneration	A	(40-100)	1,19	5,18	70,56	37,92	32,64	5,27
Natural Regeneration	B	(0-10)	1,02	1,00	28,94	27,95	1,00	2,35
Natural Regeneration	B	(10-20)	1,20	1,00	21,60	17,63	3,96	1,72
Natural Regeneration	B	(20-40)	1,12	2,00	29,70	19,95	9,74	2,00
Natural Regeneration	B	(40-100)	1,19	5,18	69,51	38,29	31,22	5,84
Natural Regeneration	C	(0-10)	1,02	1,00	24,58	23,05	1,52	2,18
Natural Regeneration	C	(10-20)	1,20	1,00	22,02	17,84	4,18	1,67
Natural Regeneration	C	(20-40)	1,12	2,00	33,21	24,03	9,18	2,72
Natural Regeneration	C	(40-100)	1,19	5,18	59,19	39,09	20,10	5,03

BLOQUE = 2								
tratamiento	calicata	profundidad	pdensidad	poder2	ctthmt2	coxthmt2	cethmt2	ntthmt2
Asociation	A	(0-10)	0,91	1,00	26,16	20,24	5,92	2,05
Asociation	A	(10-20)	1,25	1,00	22,41	15,33	7,08	1,60
Asociation	A	(20-40)	1,18	2,00	32,98	13,12	19,86	2,45
Asociation	A	(40-100)	1,22	4,99	70,98	29,60	41,39	5,24
Asociation	B	(0-10)	0,91	1,00	29,08	19,38	9,70	2,00
Asociation	B	(10-20)	1,25	1,00	21,56	10,34	11,22	1,63
Asociation	B	(20-40)	1,18	2,00	30,90	16,41	14,49	2,17
Asociation	B	(40-100)	1,22	4,99	66,79	19,93	46,86	4,57
Asociation	C	(0-10)	0,91	1,00	24,51	16,02	8,49	1,90
Asociation	C	(10-20)	1,25	1,00	28,32	19,35	8,97	2,05
Asociation	C	(20-40)	1,18	2,00	46,79	29,56	17,24	3,79
Asociation	C	(40-100)	1,22	4,99	69,77	33,97	35,79	5,15
Degraded Pasture	A	(0-10)	1,01	1,00	24,44	20,23	4,22	2,23
Degraded Pasture	A	(10-20)	1,13	1,00	18,97	14,44	4,53	1,93
Degraded Pasture	A	(20-40)	1,10	2,00	29,74	22,36	7,38	2,70
Degraded Pasture	A	(40-100)	1,12	5,56	60,74	42,12	18,62	5,95
Degraded Pasture	B	(0-10)	1,01	1,00	26,88	20,39	6,48	2,42
Degraded Pasture	B	(10-20)	1,13	1,00	18,17	12,01	6,16	1,79
Degraded Pasture	B	(20-40)	1,10	2,00	37,59	26,06	11,54	3,55
Degraded Pasture	B	(40-100)	1,12	5,56	51,49	41,31	10,19	5,67
Degraded Pasture	C	(0-10)	1,01	1,00	25,14	17,06	8,08	2,26
Degraded Pasture	C	(10-20)	1,13	1,00	17,98	10,57	7,40	1,64
Degraded Pasture	C	(20-40)	1,10	2,00	27,24	19,66	7,58	2,48
Degraded Pasture	C	(40-100)	1,12	5,56	57,96	36,74	21,22	5,54
For, Bank Improved Management	A	(0-10)	1,13	1,00	27,12	22,10	5,03	2,41
For, Bank Improved Management	A	(10-20)	1,26	1,00	19,76	14,00	5,75	1,77
For, Bank Improved Management	A	(20-40)	1,21	2,00	29,20	18,40	10,80	2,38
For, Bank Improved Management	A	(40-100)	1,21	4,77	53,17	27,63	25,55	4,70
For, Bank Improved Management	B	(0-10)	1,13	1,00	25,74	21,42	4,33	2,32
For, Bank Improved Management	B	(10-20)	1,26	1,00	19,78	13,44	6,35	1,66
For, Bank Improved Management	B	(20-40)	1,21	2,00	32,60	20,83	11,77	2,65
For, Bank Improved Management	B	(40-100)	1,21	4,77	61,78	34,16	27,63	4,90
For, Bank Improved Management	C	(0-10)	1,13	1,00	30,14	23,78	6,36	2,65
For, Bank Improved Management	C	(10-20)	1,26	1,00	21,83	16,57	5,26	1,68
For, Bank Improved Management	C	(20-40)	1,21	2,00	34,11	22,29	11,82	2,60
For, Bank Improved Management	C	(40-100)	1,21	4,77	67,50	39,13	28,38	5,43
Monocultive	A	(0-10)	0,96	1,00	25,71	10,33	15,38	2,18
Monocultive	A	(10-20)	1,30	1,00	21,79	12,79	9,00	1,86
Monocultive	A	(20-40)	1,29	2,00	34,73	16,63	18,10	2,77
Monocultive	A	(40-100)	1,25	4,60	62,98	24,72	38,26	5,14
Monocultive	B	(0-10)	0,96	1,00	27,61	20,04	7,58	2,36
Monocultive	B	(10-20)	1,30	1,00	23,39	13,53	9,86	1,87
Monocultive	B	(20-40)	1,29	2,00	37,03	17,97	19,05	3,00
Monocultive	B	(40-100)	1,25	4,60	67,25	27,95	39,30	6,82
Monocultive	C	(0-10)	0,96	1,00	24,95	17,72	7,23	2,74
Monocultive	C	(10-20)	1,30	1,00	22,05	11,91	10,13	1,71
Monocultive	C	(20-40)	1,29	2,00	33,98	16,06	17,92	3,87
Monocultive	C	(40-100)	1,25	4,60	68,11	27,77	40,34	5,27
Natural Regeneration	A	(0-10)	1,04	1,00	15,24	24,22	-8,98	2,07
Natural Regeneration	A	(10-20)	1,26	1,00	22,41	18,84	3,57	1,89
Natural Regeneration	A	(20-40)	1,26	2,00	32,87	21,88	10,99	2,08
Natural Regeneration	A	(40-100)	1,21	4,80	57,42	32,73	24,69	4,26
Natural Regeneration	B	(0-10)	1,04	1,00	31,10	29,67	1,42	2,24
Natural Regeneration	B	(10-20)	1,26	1,00	20,61	16,08	4,53	1,70
Natural Regeneration	B	(20-40)	1,26	2,00	32,56	22,78	9,78	2,29
Natural Regeneration	B	(40-100)	1,21	4,80	64,59	33,07	31,51	4,80
Natural Regeneration	C	(0-10)	1,04	1,00	27,61	24,72	2,89	2,27
Natural Regeneration	C	(10-20)	1,26	1,00	21,23	10,75	10,47	1,90
Natural Regeneration	C	(20-40)	1,26	2,00	35,63	24,44	11,19	3,09
Natural Regeneration	C	(40-100)	1,21	4,80	65,80	31,17	34,64	5,35

BLOQUE = 3

tratamiento	calicata	profundidad	pdensidad	ponder2	ctthmt2	coxthmt2	cethmt2	ntthmt2
Asociation	A	(0-10)	1,09	1,00	32,58	21,72	10,86	2,69
Asociation	A	(10-20)	1,22	1,00	23,12	14,70	8,42	1,93
Asociation	A	(20-40)	1,23	2,00	34,44	18,54	15,89	2,55
Asociation	A	(40-100)	1,22	4,76	63,81	28,73	35,08	4,58
Asociation	B	(0-10)	1,09	1,00	30,42	26,18	4,24	2,56
Asociation	B	(10-20)	1,22	1,00	20,90	14,43	6,47	2,26
Asociation	B	(20-40)	1,23	2,00	35,10	21,88	13,21	2,77
Asociation	B	(40-100)	1,22	4,76	70,39	33,56	36,83	5,05
Asociation	C	(0-10)	1,09	1,00	41,57	38,24	3,33	3,49
Asociation	C	(10-20)	1,22	1,00	37,28	22,11	15,17	2,40
Asociation	C	(20-40)	1,23	2,00	38,24	22,92	15,33	3,37
Asociation	C	(40-100)	1,22	4,76	68,18	35,37	32,81	5,55
Degraded Pasture	A	(0-10)	1,04	1,00	24,15	19,06	5,09	2,31
Degraded Pasture	A	(10-20)	1,17	1,00	20,61	12,52	8,09	2,03
Degraded Pasture	A	(20-40)	1,14	2,00	29,91	18,00	11,91	3,28
Degraded Pasture	A	(40-100)	1,20	5,09	57,78	36,09	21,68	5,55
Degraded Pasture	B	(0-10)	1,04	1,00	23,02	15,83	7,20	1,97
Degraded Pasture	B	(10-20)	1,17	1,00	18,28	11,38	6,90	1,71
Degraded Pasture	B	(20-40)	1,14	2,00	29,41	17,00	12,40	2,51
Degraded Pasture	B	(40-100)	1,20	5,09	56,68	36,64	20,03	5,68
Degraded Pasture	C	(0-10)	1,04	1,00	25,55	18,71	6,84	2,57
Degraded Pasture	C	(10-20)	1,17	1,00	20,22	13,07	7,15	1,95
Degraded Pasture	C	(20-40)	1,14	2,00	30,42	17,30	13,11	3,01
Degraded Pasture	C	(40-100)	1,20	5,09	67,02	35,82	31,20	5,80
For, Bank Improved Management	A	(0-10)	1,17	1,00	29,26	21,04	8,22	2,63
For, Bank Improved Management	A	(10-20)	1,21	1,00	19,47	10,06	9,41	1,52
For, Bank Improved Management	A	(20-40)	1,17	2,00	34,12	18,83	15,29	2,54
For, Bank Improved Management	A	(40-100)	1,22	4,82	62,17	27,21	34,97	4,28
For, Bank Improved Management	B	(0-10)	1,17	1,00	30,81	27,32	3,49	2,67
For, Bank Improved Management	B	(10-20)	1,21	1,00	21,81	16,20	5,61	2,06
For, Bank Improved Management	B	(20-40)	1,17	2,00	33,40	22,91	10,49	2,59
For, Bank Improved Management	B	(40-100)	1,22	4,82	69,40	37,49	31,91	4,99
For, Bank Improved Management	C	(0-10)	1,17	1,00	29,41	25,45	3,96	2,60
For, Bank Improved Management	C	(10-20)	1,21	1,00	20,46	15,78	4,68	1,56
For, Bank Improved Management	C	(20-40)	1,17	2,00	35,44	22,74	12,69	2,52
For, Bank Improved Management	C	(40-100)	1,22	4,82	72,40	40,31	32,09	5,08
Monocultive	A	(0-10)	1,05	1,00	28,05	19,29	8,76	2,36
Monocultive	A	(10-20)	1,23	1,00	21,53	13,29	8,25	1,72
Monocultive	A	(20-40)	1,26	2,00	35,47	18,04	17,43	3,29
Monocultive	A	(40-100)	1,22	4,77	59,82	22,66	37,15	4,94
Monocultive	B	(0-10)	1,05	1,00	28,34	19,07	9,27	2,29
Monocultive	B	(10-20)	1,23	1,00	20,03	9,11	10,93	2,34
Monocultive	B	(20-40)	1,26	2,00	33,66	13,86	19,80	2,78
Monocultive	B	(40-100)	1,22	4,77	64,69	32,17	32,52	4,96
Monocultive	C	(0-10)	1,05	1,00	28,36	23,01	5,35	2,63
Monocultive	C	(10-20)	1,23	1,00	22,25	13,36	8,89	1,86
Monocultive	C	(20-40)	1,26	2,00	33,08	15,82	17,26	2,78
Monocultive	C	(40-100)	1,22	4,77	55,65	31,18	24,46	4,30
Natural Regeneration	A	(0-10)	1,05	1,00	26,57	20,32	6,26	2,09
Natural Regeneration	A	(10-20)	1,28	1,00	24,32	15,59	8,73	1,77
Natural Regeneration	A	(20-40)	1,27	2,00	30,29	19,79	10,50	2,46
Natural Regeneration	A	(40-100)	1,26	4,57	68,27	24,81	43,47	3,83
Natural Regeneration	B	(0-10)	1,05	1,00	31,40	23,31	8,10	2,32
Natural Regeneration	B	(10-20)	1,28	1,00	24,00	20,25	3,75	2,05
Natural Regeneration	B	(20-40)	1,27	2,00	34,36	26,24	8,12	3,25
Natural Regeneration	B	(40-100)	1,26	4,57	71,43	57,31	14,13	5,42
Natural Regeneration	C	(0-10)	1,05	1,00	25,85	24,26	1,59	2,35
Natural Regeneration	C	(10-20)	1,28	1,00	21,53	16,93	4,60	1,99
Natural Regeneration	C	(20-40)	1,27	2,00	33,75	26,24	7,51	2,69
Natural Regeneration	C	(40-100)	1,26	4,57	61,78	36,52	25,27	4,04

BLOQUE = 4								
tratamiento	calicata	profundidad	pdensidad	ponder2	ctthmt2	coxtthmt2	cethmt2	ntthmt2
Asociation	A	(0-10)	1,08	1,00	28,50	22,21	6,29	2,37
Asociation	A	(10-20)	1,28	1,00	21,99	13,94	8,05	1,71
Asociation	A	(20-40)	1,24	2,00	35,45	19,82	15,63	2,65
Asociation	A	(40-100)	1,19	4,83	84,21	54,03	30,18	6,88
Asociation	B	(0-10)	1,08	1,00	34,56	27,89	6,67	3,13
Asociation	B	(10-20)	1,28	1,00	24,33	16,59	7,73	1,83
Asociation	B	(20-40)	1,24	2,00	38,93	23,65	15,29	3,17
Asociation	B	(40-100)	1,19	4,83	67,59	30,98	36,61	4,40
Asociation	C	(0-10)	1,08	1,00	34,37	25,56	8,81	2,41
Asociation	C	(10-20)	1,28	1,00	27,70	19,80	7,90	2,39
Asociation	C	(20-40)	1,24	2,00	52,60	37,94	14,66	4,25
Asociation	C	(40-100)	1,19	4,83	64,72	35,06	29,66	5,21
Degraded Pasture	A	(0-10)	1,04	1,00	28,75	22,37	6,38	2,60
Degraded Pasture	A	(10-20)	1,20	1,00	20,55	17,18	3,37	1,79
Degraded Pasture	A	(20-40)	1,12	2,00	30,28	25,43	4,85	3,42
Degraded Pasture	A	(40-100)	1,25	4,89	65,12	52,92	12,20	7,90
Degraded Pasture	B	(0-10)	1,04	1,00	23,72	16,02	7,70	2,33
Degraded Pasture	B	(10-20)	1,20	1,00	22,51	11,59	10,92	2,42
Degraded Pasture	B	(20-40)	1,12	2,00	30,14	25,43	4,71	3,14
Degraded Pasture	B	(40-100)	1,25	4,89	57,99	52,92	5,07	6,01
Degraded Pasture	C	(0-10)	1,04	1,00	26,75	18,42	8,32	1,90
Degraded Pasture	C	(10-20)	1,20	1,00	22,54	13,21	9,33	1,82
Degraded Pasture	C	(20-40)	1,12	2,00	33,42	25,43	8,00	3,17
Degraded Pasture	C	(40-100)	1,25	4,89	66,46	52,92	13,54	8,07
For, Bank Improved Management	A	(0-10)	1,19	1,00	28,20	24,07	4,13	2,18
For, Bank Improved Management	A	(10-20)	1,17	1,00	21,57	16,27	5,30	1,53
For, Bank Improved Management	A	(20-40)	1,16	2,00	32,68	21,29	11,39	2,22
For, Bank Improved Management	A	(40-100)	1,23	4,80	67,33	36,27	31,06	4,50
For, Bank Improved Management	B	(0-10)	1,19	1,00	33,65	30,48	3,17	2,67
For, Bank Improved Management	B	(10-20)	1,17	1,00	24,36	20,26	4,11	1,93
For, Bank Improved Management	B	(20-40)	1,16	2,00	35,08	22,94	12,13	2,68
For, Bank Improved Management	B	(40-100)	1,23	4,80	69,41	40,83	28,58	4,79
For, Bank Improved Management	C	(0-10)	1,19	1,00	28,96	26,68	2,28	2,35
For, Bank Improved Management	C	(10-20)	1,17	1,00	19,18	15,87	3,31	1,40
For, Bank Improved Management	C	(20-40)	1,16	2,00	34,35	22,90	11,46	2,23
For, Bank Improved Management	C	(40-100)	1,23	4,80	70,88	41,18	29,70	5,52
Monocultive	A	(0-10)	1,19	1,00	31,72	27,81	3,90	2,58
Monocultive	A	(10-20)	1,30	1,00	22,51	17,77	4,74	1,90
Monocultive	A	(20-40)	1,23	2,00	31,48	21,08	10,40	2,56
Monocultive	A	(40-100)	1,28	4,41	53,60	25,33	28,27	4,59
Monocultive	B	(0-10)	1,19	1,00	34,13	30,29	3,83	2,86
Monocultive	B	(10-20)	1,30	1,00	23,47	18,07	5,40	2,06
Monocultive	B	(20-40)	1,23	2,00	33,20	13,31	19,89	3,06
Monocultive	B	(40-100)	1,28	4,41	62,29	31,99	30,30	5,10
Monocultive	C	(0-10)	1,19	1,00	31,42	16,85	14,57	2,67
Monocultive	C	(10-20)	1,30	1,00	22,39	14,30	8,10	1,90
Monocultive	C	(20-40)	1,23	2,00	30,94	12,79	18,14	2,68
Monocultive	C	(40-100)	1,28	4,41	53,77	20,31	33,46	3,79
Natural Regeneration	A	(0-10)	1,05	1,00	27,93	27,22	0,71	2,19
Natural Regeneration	A	(10-20)	1,28	1,00	21,05	17,94	3,11	1,80
Natural Regeneration	A	(20-40)	1,27	2,00	32,21	23,30	8,91	2,51
Natural Regeneration	A	(40-100)	1,31	4,38	57,97	35,34	22,63	4,07
Natural Regeneration	B	(0-10)	1,05	1,00	24,69	24,08	0,61	1,77
Natural Regeneration	B	(10-20)	1,28	1,00	24,82	20,40	4,42	1,87
Natural Regeneration	B	(20-40)	1,27	2,00	36,22	25,59	10,64	2,77
Natural Regeneration	B	(40-100)	1,31	4,38	66,68	38,67	28,01	4,55
Natural Regeneration	C	(0-10)	1,05	1,00	22,20	20,11	2,10	1,69
Natural Regeneration	C	(10-20)	1,28	1,00	18,88	13,86	5,02	1,34
Natural Regeneration	C	(20-40)	1,27	2,00	33,48	22,59	10,89	2,25
Natural Regeneration	C	(40-100)	1,31	4,38	66,68	34,83	31,85	5,16

Listado de Calicata con peso Mínimo Amazonia Plana

topografía = Plano Bloque = 1

tratamiento	calicata	profundidad	pdensidad	ponder2	pesuelo	pesomin
Degraded Pasture	C	(0-10)	0,91	1	91,29	1059,84
Degraded Pasture	C	(10-20)	1,04	1	104,14	1059,84
Degraded Pasture	C	(20-40)	1,04	2	207,54	1059,84
Degraded Pasture	C	(40-100)	1,09	6	656,87	1059,84

Experimento Topografía Plana, Amazonia, Colombia
Listado de Variables de Carbono Acumulado a 1 m metodos 1 y 2

BLOQUE = 1									
tratamiento	calicata	ctthmt1	coxthmt1	cethmt1	ntthmt1	ctthmt2	coxthmt2	cethmt2	ntthmt2
Asociation	A	145,93	80,68	65,26	11,44	136,04	76,18	59,86	10,62
Asociation	B	147,79	87,78	60,01	11,84	137,41	82,80	54,60	11,01
Asociation	C	169,14	92,64	76,50	11,50	156,37	86,99	69,38	10,71
Degraded Pasture	A	140,58	95,20	45,38	14,77	140,58	95,20	45,38	14,77
Degraded Pasture	B	135,60	92,74	42,87	12,67	135,60	92,74	42,87	12,67
Degraded Pasture	C	124,10	85,24	38,86	11,70	124,10	85,24	38,86	11,70
For, Bank Improved Management	A	146,09	77,85	68,25	10,22	136,33	73,17	63,16	9,57
For, Bank Improved Management	B	153,32	85,88	67,44	12,19	143,72	81,57	62,15	11,43
For, Bank Improved Management	C	144,48	83,93	60,54	12,28	135,38	79,47	55,91	11,51
Monocultive	A	150,09	81,54	68,56	14,81	144,46	79,00	65,46	14,21
Monocultive	B	166,67	91,55	75,12	14,78	160,38	88,72	71,66	14,21
Monocultive	C	157,39	80,43	76,96	14,75	151,20	77,67	73,53	14,16
Natural Regeneration	A	162,19	105,89	56,30	12,40	151,01	99,88	51,13	11,56
Natural Regeneration	B	160,76	109,89	50,87	12,83	149,75	103,83	45,92	11,90
Natural Regeneration	C	148,37	110,20	38,17	12,40	138,99	104,01	34,98	11,61
BLOQUE = 2									
tratamiento	calicata	ctthmt1	coxthmt1	cethmt1	ntthmt1	ctthmt2	coxthmt2	cethmt2	ntthmt2
Asociation	A	166,92	84,29	82,64	12,40	152,53	78,28	74,25	11,34
Asociation	B	161,87	70,10	91,77	11,29	148,33	66,06	82,27	10,36
Asociation	C	183,54	105,78	77,75	13,93	169,39	98,90	70,50	12,89
Degraded Pasture	A	138,70	102,48	36,22	13,29	133,89	99,14	34,75	12,82
Degraded Pasture	B	138,20	103,04	35,17	13,88	134,13	99,77	34,36	13,43
Degraded Pasture	C	132,89	86,93	45,96	12,36	128,31	84,03	44,28	11,92
For, Bank Improved Management	A	142,99	89,27	53,73	12,49	129,26	82,13	47,13	11,27
For, Bank Improved Management	B	155,88	98,67	57,21	12,79	139,91	89,84	50,07	11,53
For, Bank Improved Management	C	171,02	111,87	59,15	13,76	153,58	101,76	51,82	12,36
Monocultive	A	164,41	72,01	92,40	13,51	145,21	64,47	80,74	11,94
Monocultive	B	175,78	88,00	87,77	16,13	155,27	79,48	75,79	14,05
Monocultive	C	169,86	81,94	87,92	15,20	149,10	73,47	75,62	13,59
Natural Regeneration	A	142,35	105,89	36,47	11,37	127,94	97,67	30,27	10,30
Natural Regeneration	B	165,07	109,91	55,16	12,24	148,85	101,61	47,25	11,04
Natural Regeneration	C	166,79	98,91	67,89	13,96	150,27	91,08	59,19	12,62

BLOQUE = 3									
tratamiento	calicata	ctthmt1	coxthmt1	cethmt1	ntthmt1	ctthmt2	coxthmt2	cethmt2	ntthmt2
Asociation	A	170,58	91,18	79,40	12,95	153,94	83,69	70,25	11,75
Asociation	B	175,15	104,80	70,35	13,94	156,80	96,05	60,75	12,63
Asociation	C	203,04	127,85	75,19	16,26	185,27	118,63	66,64	14,81
Degraded Pasture	A	142,76	92,12	50,65	14,17	132,45	85,67	46,78	13,18
Degraded Pasture	B	137,50	87,40	50,11	12,88	127,38	80,86	46,53	11,86
Degraded Pasture	C	155,16	91,29	63,87	14,37	143,20	84,90	58,30	13,34
For, Bank Improved Management	A	160,24	83,80	76,45	12,02	145,02	77,14	67,88	10,97
For, Bank Improved Management	B	172,42	113,10	59,31	13,54	155,42	103,92	51,50	12,32
For, Bank Improved Management	C	175,43	114,16	61,27	13,00	157,70	104,28	53,42	11,76
Monocultive	A	160,34	79,14	81,20	13,59	144,87	73,28	71,59	12,31
Monocultive	B	163,45	82,52	80,93	13,65	146,72	74,20	72,52	12,37
Monocultive	C	153,72	91,44	62,28	12,68	139,33	83,38	55,96	11,57
Natural Regeneration	A	170,87	88,28	82,59	11,36	149,45	80,50	68,95	10,16
Natural Regeneration	B	183,61	145,08	38,53	14,74	161,20	127,10	34,09	13,04
Natural Regeneration	C	162,30	115,41	46,89	12,33	142,92	103,95	38,97	11,07
BLOQUE = 4									
tratamiento	calicata	ctthmt1	coxthmt1	cethmt1	ntthmt1	ctthmt2	coxthmt2	cethmt2	ntthmt2
Asociation	A	190,60	123,12	67,49	15,29	170,14	109,99	60,16	13,62
Asociation	B	181,84	106,64	75,20	13,60	165,42	99,11	66,30	12,53
Asociation	C	195,11	126,87	68,24	15,52	179,38	118,35	61,03	14,26
Degraded Pasture	A	159,52	129,94	29,58	17,50	144,69	117,89	26,80	15,71
Degraded Pasture	B	147,57	118,00	29,57	15,27	134,37	105,95	28,42	13,91
Degraded Pasture	C	164,30	122,03	42,27	16,80	149,17	109,98	39,19	14,96
For, Bank Improved Management	A	166,63	106,97	59,65	11,55	149,78	97,90	51,88	10,42
For, Bank Improved Management	B	179,86	124,72	55,14	13,26	162,49	114,51	47,99	12,06
For, Bank Improved Management	C	171,11	116,93	54,18	12,89	153,38	106,63	46,75	11,50
Monocultive	A	158,63	101,13	57,50	13,30	139,30	91,99	47,31	11,64
Monocultive	B	175,54	105,20	70,34	14,92	153,09	93,67	59,42	13,08
Monocultive	C	157,90	71,57	86,33	12,41	138,51	64,25	74,26	11,04
Natural Regeneration	A	160,54	116,84	43,70	12,07	139,16	103,80	35,36	10,57
Natural Regeneration	B	177,00	123,00	54,00	12,65	152,41	108,73	43,67	10,97
Natural Regeneration	C	165,83	104,23	61,60	12,34	141,24	91,38	49,85	10,44

Experimento Topografía Plana, Amazonia, Colombia
Listado de Variables de Carbono Acumulado a 0-40 cm metodos 1 y 2

BLOQUE = 1									
tratamiento	calicata	ctthmt1 40c	cozthmt1 40c	ctthmt1 40c	ntthmt1 40c	ctthmt2 40c	cozthmt2 40c	ctthmt2 40c	ntthmt2 40c
Asociacion	A	79,04	50,27	28,77	5,93	79,04	50,27	28,77	5,93
Asociacion	B	77,60	54,15	23,45	6,23	77,60	54,15	23,45	6,23
Asociacion	C	82,85	54,43	28,42	6,15	82,85	54,43	28,42	6,15
Degraded Pasture	A	73,98	52,86	21,12	6,50	73,98	52,86	21,12	6,50
Degraded Pasture	B	68,59	48,50	20,10	6,27	68,59	48,50	20,10	6,27
Degraded Pasture	C	62,86	44,12	18,74	3,87	62,86	44,12	18,74	5,87
For, Bank Improved Management	A	72,43	42,58	29,85	5,29	72,43	42,58	29,85	5,29
For, Bank Improved Management	B	80,84	53,32	27,52	6,48	80,84	53,32	27,52	6,48
For, Bank Improved Management	C	75,82	50,26	25,55	6,47	75,82	50,26	25,55	6,47
Monocultive	A	77,01	48,62	28,38	7,12	77,01	48,62	28,38	7,12
Monocultive	B	85,04	54,84	30,20	7,35	85,04	54,84	30,20	7,35
Monocultive	C	77,18	44,60	32,58	7,08	77,18	44,60	32,58	7,08
Natural Regeneration	A	80,46	61,96	18,49	6,29	80,46	61,96	18,49	6,29
Natural Regeneration	B	80,24	65,54	14,70	6,07	80,24	65,54	14,70	6,07
Natural Regeneration	C	79,80	64,92	14,88	6,57	79,80	64,92	14,88	6,57

BLOQUE = 2									
tratamiento	calicata	ctthmt1 40c	cozthmt1 40c	ctthmt1 40c	ntthmt1 40c	ctthmt2 40c	cozthmt2 40c	ctthmt2 40c	ntthmt2 40c
Asociacion	A	81,55	48,69	32,86	6,10	81,55	48,69	32,86	6,10
Asociacion	B	81,54	46,13	35,41	5,79	81,54	46,13	35,41	5,79
Asociacion	C	99,62	64,92	34,70	7,74	99,62	64,92	34,70	7,74
Degraded Pasture	A	73,15	57,03	16,13	6,86	73,15	57,03	16,13	6,86
Degraded Pasture	B	82,64	58,46	24,18	7,76	82,64	58,46	24,18	7,76
Degraded Pasture	C	70,35	47,29	23,06	6,38	70,35	47,29	23,06	6,38
For, Bank Improved Management	A	76,08	54,50	21,58	6,57	76,08	54,50	21,58	6,57
For, Bank Improved Management	B	78,13	55,68	22,45	6,63	78,13	55,68	22,45	6,63
For, Bank Improved Management	C	86,07	62,63	23,44	6,93	86,07	62,63	23,44	6,93
Monocultive	A	82,23	39,75	42,48	6,81	82,23	39,75	42,48	6,81
Monocultive	B	88,03	51,53	36,49	7,23	88,03	51,53	36,49	7,23
Monocultive	C	80,98	45,70	35,29	8,32	80,98	45,70	35,29	8,32
Natural Regeneration	A	70,52	64,94	5,58	6,05	70,52	64,94	5,58	6,05
Natural Regeneration	B	84,27	68,53	15,74	6,23	84,27	68,53	15,74	6,23
Natural Regeneration	C	84,47	59,92	24,55	7,27	84,47	59,92	24,55	7,27

BLOQUE = 3									
tratamiento	calicata	ctthmt1 40c	cozthmt1 40c	ctthmt1 40c	ntthmt1 40c	ctthmt2 40c	cozthmt2 40c	ctthmt2 40c	ntthmt2 40c
Asociacion	A	90,14	54,96	35,18	7,17	90,14	54,96	35,18	7,17
Asociacion	B	86,41	62,49	23,92	7,53	86,41	62,49	23,92	7,53
Asociacion	C	117,09	83,26	33,83	9,26	117,09	83,26	33,83	9,26
Degraded Pasture	A	74,67	49,58	25,09	7,63	74,67	49,58	25,09	7,63
Degraded Pasture	B	70,71	44,21	26,49	6,18	70,71	44,21	26,49	6,18
Degraded Pasture	C	76,18	49,08	27,10	7,54	76,18	49,08	27,10	7,54
For, Bank Improved Management	A	82,85	49,93	32,92	6,69	82,85	49,93	32,92	6,69
For, Bank Improved Management	B	86,02	66,43	19,59	7,33	86,02	66,43	19,59	7,33
For, Bank Improved Management	C	85,30	63,97	21,33	6,67	85,30	63,97	21,33	6,67
Monocultive	A	85,05	50,62	34,44	7,37	85,05	50,62	34,44	7,37
Monocultive	B	82,03	42,03	40,00	7,41	82,03	42,03	40,00	7,41
Monocultive	C	83,69	52,19	31,50	7,27	83,69	52,19	31,50	7,27
Natural Regeneration	A	81,18	55,69	25,49	6,33	81,18	55,69	25,49	6,33
Natural Regeneration	B	89,76	69,79	19,97	7,62	89,76	69,79	19,97	7,62
Natural Regeneration	C	81,13	67,43	13,70	7,03	81,13	67,43	13,70	7,03

BLOQUE = 4									
tratamiento	calicata	ctthmt1 40c	cozthmt1 40c	ctthmt1 40c	ntthmt1 40c	ctthmt2 40c	cozthmt2 40c	ctthmt2 40c	ntthmt2 40c
Asociacion	A	85,94	55,96	29,98	6,73	85,94	55,96	29,98	6,73
Asociacion	B	97,82	68,13	29,69	8,14	97,82	68,13	29,69	8,14
Asociacion	C	114,66	83,29	31,37	9,05	114,66	83,29	31,37	9,05
Degraded Pasture	A	79,57	64,97	14,60	7,81	79,57	64,97	14,60	7,81
Degraded Pasture	B	76,38	53,03	23,34	7,89	76,38	53,03	23,34	7,89
Degraded Pasture	C	82,71	57,06	25,65	6,89	82,71	57,06	25,65	6,89
For, Bank Improved Management	A	82,45	61,63	20,82	5,93	82,45	61,63	20,82	5,93
For, Bank Improved Management	B	93,09	73,68	19,41	7,28	93,09	73,68	19,41	7,28
For, Bank Improved Management	C	82,50	65,45	17,05	5,98	82,50	65,45	17,05	5,98
Monocultive	A	85,70	66,66	19,04	7,05	85,70	66,66	19,04	7,05
Monocultive	B	90,80	61,68	29,12	7,99	90,80	61,68	29,12	7,99
Monocultive	C	84,75	43,94	40,81	7,25	84,75	43,94	40,81	7,25
Natural Regeneration	A	81,19	68,46	12,73	6,50	81,19	68,46	12,73	6,50
Natural Regeneration	B	85,73	70,07	15,66	6,41	85,73	70,07	15,66	6,41
Natural Regeneration	C	74,56	56,55	18,01	5,28	74,56	56,55	18,01	5,28

BLOCK 3

Land use	Soil Pit	Depth (cm)	Bulk density	pH	Sand (%)	Clay (%)	Silt (%)	P mg/Kg	Acidez	Ca cmol(+)/l	K cmol(+)/l	Mg cmol(+)/l	Total C (gr/Kg)	Oxid C (gr/Kg)	N (mg/Kg)
H.rufa	3	0-10	1.0988	5.6000	30.0112	32.3948	37.5940	1.0900	1.9336	1.9862	0.0834	0.8192	28.3758	28.3758	2616.76
H.rufa	3	10-20	1.1053	5.4000	24.0106	44.3938	31.5956	0.3700	3.8485	4.1789	0.0275	1.8711	14.7781	14.7781	1374.63
H.rufa	3	20-40	1.1174	5.6000	20.0128	46.3926	33.5946	0.2200	8.0821	4.2799	0.0205	2.5121	8.4627	8.4627	885.40
H.rufa	3	40-100	1.2328	5.6000	30.0112	36.3942	33.5946	0.0300	7.5473	6.2755	0.0137	5.4528	6.2000	6.2000	564.29
b.brizhanta	3	0-10	1.1379	5.6000	38.0136	28.3938	33.5926	1.1400	1.6101	4.0361	0.0756	1.4432	29.8379	29.8379	2534.83
b.brizhanta	3	10-20	1.2557	5.5000	24.0137	42.3924	33.5940	0.5900	2.3605	3.7565	0.0444	1.2215	17.3999	17.3999	1548.69
b.brizhanta	3	20-40	1.2401	5.3000	16.0168	52.3895	31.5937	0.1600	6.4411	1.7628	0.0283	1.0068	6.0000	6.0000	695.71
b.brizhanta	3	40-100	1.2144	5.3000	16.0084	50.3950	33.5966	0.1100	8.0691	1.3470	0.0271	1.4161	5.1000	5.1000	564.43
B.briz+ A.pintoi	3	0-10	1.0174	5.7000	38.0087	26.3963	35.5950	1.6300	0.8565	2.0578	0.0503	0.7536	38.8347	38.8347	3185.38
B.briz+ A.pintoi	3	10-20	1.0726	5.9000	26.0148	38.3923	35.5929	0.9900	1.1052	3.5812	0.0358	2.0262	16.6267	16.6267	1721.92
B.briz+ A.pintoi	3	20-40	1.2566	5.8000	24.0137	44.3920	31.5943	0.7800	2.0589	3.1134	0.0395	2.9466	12.9466	12.9466	1254.18
B.briz+ A.pintoi	3	40-100	1.2600	5.7000	26.4118	46.3926	27.1956	0.1000	3.3866	5.3861	0.0570	3.8532	4.9535	4.9535	715.37
Cratylia	3	0-10	0.9155	5.4000	46.0054	20.3980	33.5966	1.8000	1.2136	1.5243	0.0411	0.4498	39.4992	39.4992	4056.96
Cratylia	3	10-20	0.9788	5.6000	18.0148	42.3924	39.5929	0.8700	2.5544	2.9833	0.0256	1.3168	19.1163	19.1163	1682.17
Cratylia	3	20-40	1.3619	5.4000	18.0082	46.3954	35.5964	0.1400	7.2949	2.7981	0.0182	1.5769	7.6000	7.6000	827.39
Cratylia	3	40-100	1.3532	5.4000	24.0106	40.3943	35.5950	0.1000	8.4823	2.1200	0.0195	1.4568	5.3000	5.3000	587.64
regeneration	3	0-10	1.0855	5.2000	43.6113	24.3951	31.9936	2.2400	1.2915	1.2450	0.0633	0.4047	49.0000	49.0000	4825.21
regeneration	3	10-20	0.9375	5.2000	21.6219	42.3881	35.9899	1.1500	3.9450	1.4789	0.0334	0.5618	21.7214	21.7214	1987.13
regeneration	3	20-40	1.0674	5.1000	9.6072	60.7951	29.5976	0.2800	9.4184	1.8309	0.0216	1.0402	16.7000	16.7000	826.36
regeneration	3	40-100	1.1852	5.2000	19.6193	50.7878	29.5929	0.1200	10.1582	1.0890	0.0145	0.9283	8.5000	8.5000	563.71

BLOCK 4

Land use	Soil Pit	Depth (cm)	Bulk density	pH	Sand (%)	Clay (%)	Silt (%)	P mg/Kg	Acidez	Ca cmol(+)/l	K cmol(+)/l	Mg cmol(+)/l	Total C (gr/Kg)	Oxid C (gr/Kg)	N (mg/Kg)
H.rufa	4	0-10	1.1155	5.7000	54.0064	19.9972	25.9964	2.1600	0.1827	7.1788	0.1770	1.8919	36.5000	36.5000	6341.78
H.rufa	4	10-20	1.1770	5.6000	28.0101	41.9941	29.9958	1.0300	0.5264	3.2148	0.1473	1.5512	22.8980	22.8980	2322.54
H.rufa	4	20-40	1.1444	5.4000	16.0118	52.3927	31.5956	0.3200	1.9191	2.0080	0.1245	1.4344	10.2287	10.2287	914.96
H.rufa	4	40-100	1.1914	5.1000	18.0115	50.3929	31.5956	0.0400	4.1928	0.7896	0.0839	0.8073	4.5000	4.5000	549.48
b.brizhanta	4	0-10	1.1782	5.1000	24.0106	42.3941	33.5953	3.6400	0.8827	3.5419	0.3710	2.3232	39.1689	39.1689	3979.77
b.brizhanta	4	10-20	1.0992	5.2000	16.0202	52.3874	31.5924	1.2100	3.5905	1.9459	0.3138	1.6072	16.3377	16.3377	1568.75
b.brizhanta	4	20-40	1.1065	5.1000	18.0131	50.3919	31.5949	0.4800	5.2546	0.7881	0.2652	0.8272	7.1909	7.1909	896.13
b.brizhanta	4	40-100	1.3803	5.1000	20.0144	44.3920	35.5936	0.2500	6.2675	0.2368	0.2259	0.3295	7.4000	7.4000	549.00
B.briz+ A.pintoi	4	0-10	1.0139	5.1000	42.0151	28.3926	29.5923	3.2100	2.1000	1.6398	0.1396	0.9135	40.0856	40.0856	3757.09
B.briz+ A.pintoi	4	10-20	1.1102	5.1000	28.0101	42.3941	29.5959	1.5900	6.3453	0.5890	0.0749	0.4151	10.8769	10.8769	1043.58
B.briz+ A.pintoi	4	20-40	1.1815	5.1000	24.0137	46.3916	29.5947	1.0500	6.6220	0.3393	0.0401	0.2563	8.7139	8.7139	606.82
B.briz+ A.pintoi	4	40-100	1.3395	5.3000	26.0148	48.3903	25.5949	0.5300	3.2070	0.1480	0.0190	0.0805	6.8872	6.8872	442.51
Cratylia	4	0-10	1.0297	5.5000	30.4084	33.9959	35.5957	2.0300	1.2861	1.5661	0.0924	0.6807	35.0544	35.0544	2918.45
Cratylia	4	10-20	1.0560	5.4000	16.4150	45.9917	37.5932	0.8100	2.7512	1.3716	0.0554	0.6395	15.0079	15.0079	1256.38
Cratylia	4	20-40	1.2741	5.2000	18.4049	47.9971	33.5980	0.4800	4.1476	0.7728	0.0595	0.5104	9.4030	9.4030	870.52
Cratylia	4	40-100	1.3311	5.2000	18.4098	47.9942	33.5960	0.1800	5.2310	0.5376	0.0528	0.5338	5.6937	5.6937	640.24
regeneration	4	0-10	1.1428	5.4000	49.6050	22.7977	27.5972	2.4600	0.7434	1.8116	0.2209	0.6108	44.7968	44.7968	4515.81
regeneration	4	10-20	1.4275	5.1000	25.6119	44.7928	29.5953	1.1700	2.6427	0.4641	0.0581	0.2004	14.7000	14.7000	1225.22
regeneration	4	20-40	1.4431	5.0000	21.6219	50.7858	27.5923	0.3800	4.2706	0.4792	0.0438	0.2728	6.7792	6.7792	785.41
regeneration	4	40-100	1.4398	5.0000	21.6094	52.7937	25.5969	0.2200	5.3559	0.2885	0.0432	0.2962	4.2000	4.2000	574.94

New Experimental Farms, Lab Results - Costa Rica 2003 (initial Carbon sampling)

Carbon Sequestration Project

CIPAV - CIAT - CATIE - U. Amazonia - Wageningen University

The Netherlands Cooperation - Activity CO-010402

BLOCK 1

Land use	Soil Pit	Depth (cm)	Bulk density	pH	Sand (%)	Clay (%)	Silt (%)	P mg/Kg	Acidez	Ca cmol(+)/l	K cmol(+)/l	Mg cmol(+)/l	Total C (gr/Kg)	Oxid C (gr/Kg)	N (mg/Kg)
H.rufa	1	0-10	1.0503	5.5000	34.8169	29.5923	35.5907	1.5600	0.4002	3.6998	0.2414	1.0940	39.9112	39.9112	3224.95
H.rufa	1	10-20	1.1167	5.6000	26.8073	33.5966	39.5960	1.9800	0.8378	2.4249	0.0862	0.7570	27.7630	27.7630	2252.28
H.rufa	1	20-40	1.1805	5.3000	20.8143	43.5922	35.5936	0.0300	2.5956	1.7983	0.0535	0.6702	10.3259	10.3259	935.16
H.rufa	1	40-100	1.2470	5.1000	18.8065	47.5962	33.5973	0.0300	4.3328	0.9099	0.0334	0.5695	6.3000	6.3000	632.96
b.brizhanta	1	0-10	1.1234	5.2000	46.8106	21.5957	31.5937	3.1300	1.4362	1.4236	0.1141	0.5874	44.7909	44.7909	4003.49
b.brizhanta	1	10-20	1.2945	5.2000	30.8111	37.5940	31.5949	1.1100	4.2543	1.2578	0.0534	0.5834	15.8792	15.8792	1786.54
b.brizhanta	1	20-40	1.3152	5.1000	28.8128	39.5929	31.5943	0.4000	8.1551	0.7074	0.0308	0.4437	11.5685	11.5685	700.54
b.brizhanta	1	40-100	1.3838	4.9000	24.8180	45.5891	29.5929	0.1600	8.4393	0.3854	0.0236	0.2901	8.6000	8.6000	432.58
B.briz+ A.pintoi	1	0-10	1.1128	5.1000	28.8142	35.5929	35.5929	1.1900	2.4422	0.6285	0.1128	0.3207	34.6880	34.6880	1974.97
B.briz+ A.pintoi	1	10-20	1.2303	5.0000	18.8227	47.5867	33.5906	0.5400	4.0448	0.5272	0.0976	0.3326	26.7811	26.7811	925.21
B.briz+ A.pintoi	1	20-40	1.2558	5.1000	12.8139	51.5917	35.5943	0.0700	5.2566	0.4367	0.0745	0.3207	18.9887	18.9887	544.29
B.briz+ A.pintoi	1	40-100	1.3632	5.1000	14.8034	49.5980	35.5986	0.0300	6.9396	0.2729	0.1066	0.2118	5.9000	5.9000	397.26
Cratylia	1	0-10	1.0854	5.2000	32.8134	37.5925	29.5941	2.2900	1.3483	0.8475	0.0778	0.3205	43.7944	43.7944	3310.59
Cratylia	1	10-20	1.2812	4.9000	12.8174	59.5881	27.5945	0.8700	4.0785	0.2346	0.0595	0.2521	14.5569	14.5569	1116.24
Cratylia	1	20-40	1.2943	5.1000	14.8102	59.5928	25.5969	0.2300	6.1205	0.2181	0.0705	0.2332	6.6000	6.6000	542.94
Cratylia	1	40-100	1.3200	5.1000	18.8081	51.5948	29.5970	0.2600	5.4062	0.1692	0.0382	0.1780	5.9593	5.9593	463.45
regeneration	1	0-10	1.0686	5.5000	42.8183	29.5905	27.5912	2.5400	0.8116	2.2694	0.1922	0.8428	46.0000	46.0000	3961.30
regeneration	1	10-20	1.2959	5.4000	24.4197	43.5887	31.5917	1.1100	1.7690	1.9125	0.0596	0.7657	27.1365	27.1365	1929.89
regeneration	1	20-40	1.2598	5.1000	16.0118	48.7932	35.1951	0.3400	3.7007	0.8737	0.0144	0.5962	7.5000	7.5000	635.85
regeneration	1	40-100	1.2963	5.1000	16.0185	52.7884	31.1931	0.2900	4.1869	0.6023	0.0125	0.7705	5.0000	5.0000	489.18

BLOCK 2

H.rufa	2	0-10	1.1904	5.3000	34.0066	30.7969	35.1965	2.5600	1.9411	0.6294	0.0678	0.2409	46.6857	46.6857	4289.98
H.rufa	2	10-20	1.1769	5.2000	24.0137	36.7934	39.1929	1.6900	3.4520	0.4956	0.0409	0.2459	34.2127	34.2127	2584.02
H.rufa	2	20-40	1.3201	5.0000	22.0156	44.7910	33.1934	0.4600	6.5375	0.4643	0.0237	0.2619	11.3945	11.3945	977.19
H.rufa	2	40-100	1.2230	5.1000	16.0168	54.7890	29.1942	0.0800	11.8857	0.5430	0.0169	0.4272	5.8000	5.8000	623.49
b.brizhanta	2	0-10	1.1172	5.3000	23.2108	47.5933	29.1959	1.8500	3.1528	1.3167	0.0691	0.5542	35.5001	35.5001	2846.77
b.brizhanta	2	10-20	1.2579	5.4000	21.2158	47.5905	31.1938	1.0100	3.2295	2.0032	0.0346	0.6874	18.6941	18.6941	1630.70
b.brizhanta	2	20-40	1.2642	5.2000	19.2242	47.5857	33.1900	0.6000	5.1911	1.2005	0.0194	0.7099	10.1000	10.1000	952.78
b.brizhanta	2	40-100	1.2911	5.2000	19.2097	51.5938	29.1965	0.4900	5.2753	1.0734	0.0195	0.9520	6.4000	6.4000	681.99
B.briz+ A.pintoi	2	0-10	1.1591	5.7000	31.6137	31.1938	37.1926	1.8100	0.6751	3.2270	0.1692	0.9744	39.0438	39.0438	4146.10
B.briz+ A.pintoi	2	10-20	1.0978	5.8000	25.6074	35.1965	39.1961	1.1200	0.6508	4.0294	0.1141	0.8786	28.1792	28.1792	2475.86
B.briz+ A.pintoi	2	20-40	1.1881	5.7000	19.2097	47.1943	33.5960	0.5900	1.9093	6.9211	0.0831	1.1450	9.9888	9.9888	994.25
B.briz+ A.pintoi	2	40-100	1.2171	5.3000	19.2178	51.1887	29.5935	0.2400	7.4370	3.5117	0.1031	0.9440	5.0674	5.0674	713.19
Cratylia	2	0-10	1.0265	5.4000	38.0161	24.7936	37.1903	1.8900	1.9542	0.9489	0.0787	0.3899	47.3560	47.3560	3834.01
Cratylia	2	10-20	1.2185	5.3000	30.0154	34.7923	35.1923	1.6000	3.4595	0.9048	0.0402	0.4001	21.9309	21.9309	1886.44
Cratylia	2	20-40	1.2134	5.2000	23.6153	43.1914	33.1934	0.7100	6.2589	0.8799	0.0414	0.4842	10.9151	10.9151	1076.80
Cratylia	2	40-100	1.2901	5.2000	17.6165	53.1894	29.1942	0.1100	15.2517	0.7064	0.0319	0.8309	5.0000	5.0000	589.71
regeneration	2	0-10	1.0627	5.0000	26.0074	34.7965	39.1961	1.8400	2.1281	0.3736	0.0261	0.1531	29.2313	29.2313	3036.47
regeneration	2	10-20	1.1616	5.0000	20.0224	44.7875	35.1901	1.2000	5.1631	0.3753	0.0133	0.2005	17.0000	17.0000	1366.41
regeneration	2	20-40	1.2019	4.9000	18.0131	44.7928	37.1940	0.6500	7.1640	0.3779	0.0054	0.2180	8.2000	8.2000	709.30
regeneration	2	40-100	1.2132	5.0000	16.0168	52.7894	31.1938	0.0600	8.0522	0.3217	0.0044	0.2039	3.9000	3.9000	467.20

***Final Database
Esparza Experiment, Costa Rica***

BLOQUE = 3									
tratamiento	calicata	ctthmt1 60c	coxthmt1 60c	cethmt1 60c	ntthmt1 60c	ctthmt2 60c	coxthmt2 60c	cethmt2 60c	ntthmt2 60c
Asociation	A	89,13	48,54	40,59	6,60	75,98	41,38	34,60	5,63
Asociation	B	80,33	35,16	45,17	6,72	68,47	29,97	38,50	5,73
Asociation	C	74,52	25,86	48,66	6,51	63,53	22,04	41,48	5,55
Degraded Pasture	A	64,73	86,79	-22,06	6,57	61,20	82,06	-20,86	6,21
Degraded Pasture	B	61,63	86,79	-25,16	6,50	58,27	82,06	-23,79	6,15
Degraded Pasture	C	91,13	86,79	4,34	8,50	86,16	82,06	4,10	8,04
For, Bank Improved Management	A	88,38	22,17	66,20	5,86	76,55	19,21	57,34	5,07
For, Bank Improved Management	B	89,88	24,08	65,80	5,78	77,85	20,86	57,00	5,00
For, Bank Improved Management	C	75,88	15,88	60,00	4,68	65,73	13,75	51,97	4,05
Forage Bank Local Management	A	91,14	26,25	64,90	8,81	75,99	21,88	54,11	7,35
Forage Bank Local Management	B	91,89	28,92	62,97	9,73	76,61	24,11	52,50	8,11
Forage Bank Local Management	C	84,85	28,36	56,48	9,08	70,74	23,65	47,09	7,57
Monocultive	A	93,08	38,08	54,99	7,41	61,23	25,05	36,17	4,88
Monocultive	B	114,02	52,49	61,53	9,62	75,00	34,53	40,47	6,33
Monocultive	C	68,45	27,72	40,73	6,97	45,03	18,24	26,79	4,58
Natural Regeneration	A	80,82	20,64	60,18	8,73	66,30	16,93	49,37	7,16
Natural Regeneration	B	85,11	20,51	64,60	10,00	69,81	16,82	52,99	8,20
Natural Regeneration	C	83,66	26,25	57,41	11,80	68,63	21,54	47,09	9,68
BLOQUE = 4									
tratamiento	calicata	ctthmt1 60c	coxthmt1 60c	cethmt1 60c	ntthmt1 60c	ctthmt2 60c	coxthmt2 60c	cethmt2 60c	ntthmt2 60c
Asociation	A	78,86	33,95	44,90	8,05	66,06	28,44	37,62	6,74
Asociation	B	72,84	29,70	43,15	6,02	61,02	24,88	36,15	5,04
Asociation	C	71,68	26,47	45,21	6,24	60,05	22,17	37,87	5,22
Degraded Pasture	A	54,57	56,31	-1,73	6,03	50,90	52,52	-1,62	5,62
Degraded Pasture	B	45,52	56,31	-10,78	7,83	42,46	52,52	-10,06	7,30
Degraded Pasture	C	20,20	56,31	-36,11	4,86	18,84	52,52	-33,68	4,53
For, Bank Improved Management	A	90,35	28,19	62,15	5,38	71,01	22,16	48,85	4,23
For, Bank Improved Management	B	94,55	41,71	52,84	5,84	74,31	32,78	41,53	4,59
For, Bank Improved Management	C	87,26	35,90	51,36	4,97	68,59	28,22	40,37	3,90
Forage Bank Local Management	A	80,33	28,80	51,53	8,36	69,81	25,02	44,78	7,27
Forage Bank Local Management	B	73,24	27,81	45,43	8,34	63,65	24,17	39,48	7,25
Forage Bank Local Management	C	81,75	32,57	49,19	9,31	71,05	28,30	42,75	8,09
Monocultive	A	63,52	34,19	29,33	5,72	38,95	20,96	17,99	3,51
Monocultive	B	63,80	30,27	33,53	4,98	39,12	18,56	20,56	3,05
Monocultive	C	70,35	39,36	30,99	5,11	43,14	24,14	19,00	3,13
Natural Regeneration	A	78,90	24,62	54,28	7,77	67,91	21,19	46,72	6,69
Natural Regeneration	B	74,32	23,24	51,08	7,18	63,96	20,00	43,96	6,18
Natural Regeneration	C	83,08	23,77	59,31	8,12	71,50	20,46	51,04	6,99

Experimento Topografía Lomerio, Amazonía, Colombia
Listado de Variables de Carbono Acumulado de 40-100 cm metodos 1 y 2

BLOQUE = 1									
tratamiento	calicata	cethmt1 60c	coxthmt1 60c	cethmt1 60c	ntthmt1 60c	cethmt2 60c	coxthmt2 60c	cethmt2 60c	ntthmt2 60c
Asociation	A	54,45	24,91	29,55	5,22	48,46	22,17	26,30	4,64
Asociation	B	53,97	30,30	23,68	6,07	48,04	26,96	21,07	5,40
Asociation	C	72,13	40,46	31,67	7,44	64,19	36,01	28,19	6,62
Degraded Pasture	A	73,35	62,01	11,34	9,27	73,35	62,01	11,34	9,27
Degraded Pasture	B	61,49	62,01	-0,52	6,57	61,49	62,01	-0,52	6,57
Degraded Pasture	C	69,26	62,01	7,25	6,31	69,26	62,01	7,25	6,31
For, Bank Improved Management	A	80,07	36,24	43,83	7,26	68,46	30,99	37,47	6,21
For, Bank Improved Management	B	76,34	28,49	47,85	6,68	65,27	24,36	40,91	5,71
For, Bank Improved Management	C	74,73	33,11	41,62	6,42	63,89	28,31	35,58	5,49
Forage Bank Local Management	A	87,83	31,78	56,05	9,23	78,97	28,58	50,39	8,30
Forage Bank Local Management	B	86,99	29,79	57,20	9,29	78,21	26,78	51,43	8,35
Forage Bank Local Management	C	87,60	29,19	58,41	8,75	78,76	26,24	52,52	7,86
Monocultive	A	91,73	25,78	65,95	6,30	60,14	16,90	43,24	4,13
Monocultive	B	106,16	42,79	63,38	6,68	69,60	28,05	41,55	4,38
Monocultive	C	96,46	33,33	63,13	5,82	63,24	21,85	41,39	3,81
Natural Regeneration	A	78,92	27,71	51,21	5,15	76,06	26,70	49,35	4,96
Natural Regeneration	B	91,02	37,87	53,15	7,77	87,72	36,50	51,22	7,49
Natural Regeneration	C	77,38	25,96	51,42	6,42	74,58	25,02	49,56	6,18
BLOQUE = 2									
tratamiento	calicata	cethmt1 60c	coxthmt1 60c	cethmt1 60c	ntthmt1 60c	cethmt2 60c	coxthmt2 60c	cethmt2 60c	ntthmt2 60c
Asociation	A	64,36	43,95	20,41	6,58	54,70	37,35	17,35	5,59
Asociation	B	61,19	34,41	26,78	6,37	52,01	29,25	22,76	5,42
Asociation	C	74,31	30,19	44,12	4,72	63,16	25,66	37,50	4,01
Degraded Pasture	A	69,83	77,35	-7,52	6,98	63,39	70,22	-6,83	6,34
Degraded Pasture	B	70,04	77,35	-7,31	7,75	63,59	70,22	-6,63	7,03
Degraded Pasture	C	73,56	77,35	-3,78	7,23	66,78	70,22	-3,44	6,57
For, Bank Improved Management	A	86,32	32,86	53,46	5,42	65,77	25,04	40,73	4,13
For, Bank Improved Management	B	76,48	31,40	45,08	6,91	58,28	23,93	34,35	5,26
For, Bank Improved Management	C	72,22	31,00	41,22	5,31	55,03	23,62	31,41	4,05
Forage Bank Local Management	A	84,41	28,11	56,30	9,73	76,64	25,52	51,12	8,84
Forage Bank Local Management	B	110,72	30,50	80,22	8,89	100,54	27,70	72,84	8,07
Forage Bank Local Management	C	75,34	27,51	47,82	9,09	68,41	24,98	43,43	8,26
Monocultive	A	91,44	30,00	61,44	7,12	58,88	19,32	39,56	4,58
Monocultive	B	101,38	40,91	60,46	9,17	65,27	26,34	38,93	5,90
Monocultive	C	90,30	26,99	63,32	5,96	58,14	17,38	40,77	3,84
Natural Regeneration	A	88,81	27,12	61,70	7,21	76,12	23,24	52,88	6,18
Natural Regeneration	B	80,01	22,26	57,75	9,03	68,58	19,08	49,50	7,74
Natural Regeneration	C	90,35	25,48	64,87	8,51	77,44	21,84	55,60	7,29

BLOQUE = 3									
tratamiento	calicata	ctthmt1_40c	coxthmt1_40c	cethmt1_40c	ntthmt1_40c	ctthmt2_40c	coxthmt2_40c	cethmt2_40c	ntthmt2_40c
Asociation	A	85,08	69,60	15,48	6,42	85,08	69,60	15,48	6,42
Asociation	B	83,12	63,52	19,60	6,66	83,12	63,52	19,60	6,66
Asociation	C	81,76	60,95	20,81	7,16	81,76	60,95	20,81	7,16
Degraded Pasture	A	77,07	61,75	15,32	7,30	77,07	61,75	15,32	7,30
Degraded Pasture	B	77,88	52,73	25,16	6,99	77,88	52,73	25,16	6,99
Degraded Pasture	C	69,45	36,45	33,00	6,12	69,45	36,45	33,00	6,12
For, Bank Improved Management	A	88,07	43,55	44,52	6,57	88,07	43,55	44,52	6,57
For, Bank Improved Management	B	93,32	51,99	41,33	7,41	93,32	51,99	41,33	7,41
For, Bank Improved Management	C	88,35	46,89	41,45	6,37	88,35	46,89	41,45	6,37
Forage Bank Local Management	A	89,96	47,13	42,83	8,23	89,96	47,13	42,83	8,23
Forage Bank Local Management	B	89,75	47,13	42,63	8,10	89,75	47,13	42,63	8,10
Forage Bank Local Management	C	95,01	48,02	46,99	7,88	95,01	48,02	46,99	7,88
Monocultive	A	111,89	83,70	28,19	8,53	111,89	83,70	28,19	8,53
Monocultive	B	131,20	108,29	22,91	10,29	131,20	108,29	22,91	10,29
Monocultive	C	103,08	68,45	34,63	7,58	103,08	68,45	34,63	7,58
Natural Regeneration	A	94,85	50,55	44,30	8,19	94,85	50,55	44,30	8,19
Natural Regeneration	B	95,19	52,10	43,09	8,43	95,19	52,10	43,09	8,43
Natural Regeneration	C	94,83	51,96	42,87	8,49	94,83	51,96	42,87	8,49

BLOQUE = 4									
tratamiento	calicata	ctthmt1_40c	coxthmt1_40c	cethmt1_40c	ntthmt1_40c	ctthmt2_40c	coxthmt2_40c	cethmt2_40c	ntthmt2_40c
Asociation	A	82,63	62,97	19,66	7,16	82,63	62,97	19,66	7,16
Asociation	B	99,25	82,43	16,83	8,59	99,25	82,43	16,83	8,59
Asociation	C	78,48	66,56	11,93	7,37	78,48	66,56	11,93	7,37
Degraded Pasture	A	77,78	69,29	8,49	7,53	77,78	69,29	8,49	7,53
Degraded Pasture	B	59,82	47,74	12,08	6,51	59,82	47,74	12,08	6,51
Degraded Pasture	C	68,68	56,30	12,38	7,25	68,68	56,30	12,38	7,25
For, Bank Improved Management	A	88,21	49,31	38,90	6,25	88,21	49,31	38,90	6,25
For, Bank Improved Management	B	82,97	52,46	30,51	5,93	82,97	52,46	30,51	5,93
For, Bank Improved Management	C	81,84	57,49	24,35	5,41	81,84	57,49	24,35	5,41
Forage Bank Local Management	A	100,55	57,51	43,04	8,12	100,55	57,51	43,04	8,12
Forage Bank Local Management	B	83,77	49,04	34,73	8,04	83,77	49,04	34,73	8,04
Forage Bank Local Management	C	87,26	50,48	36,78	8,02	87,26	50,48	36,78	8,02
Monocultive	A	74,83	60,07	14,77	7,06	74,83	60,07	14,77	7,06
Monocultive	B	72,01	57,20	14,81	6,29	72,01	57,20	14,81	6,29
Monocultive	C	108,40	97,42	10,98	9,26	108,40	97,42	10,98	9,26
Natural Regeneration	A	85,78	48,39	37,40	7,00	85,78	48,39	37,40	7,00
Natural Regeneration	B	95,47	57,37	38,10	7,26	95,47	57,37	38,10	7,26
Natural Regeneration	C	75,02	41,52	33,50	6,78	75,02	41,52	33,50	6,78

Experimento Topografía Lomerío, Amazonía, Colombia
Listado de Variables de Carbono Acumulado a 0-40 cm metodos 1 y 2

BLOQUE = 1									
tratamiento	calicata	ctthmt1 40c	coxthmt1 40c	cethmt1 40c	ntthmt1 40c	ctthmt2 40c	coxthmt2 40c	cethmt2 40c	ntthmt2 40c
Asociation	A	72,03	60,43	11,60	6,70	72,03	60,43	11,60	6,70
Asociation	B	81,50	71,72	9,78	8,05	81,50	71,72	9,78	8,05
Asociation	C	92,03	80,61	11,42	8,94	92,03	80,61	11,42	8,94
Degraded Pasture	A	102,29	74,96	27,33	8,64	102,29	74,96	27,33	8,64
Degraded Pasture	B	71,98	55,85	16,13	6,33	71,98	55,85	16,13	6,33
Degraded Pasture	C	77,04	59,97	17,07	6,66	77,04	59,97	17,07	6,66
For, Bank Improved Management	A	87,41	68,23	19,19	8,07	87,41	68,23	19,19	8,07
For, Bank Improved Management	B	78,39	56,30	22,10	6,89	78,39	56,30	22,10	6,89
For, Bank Improved Management	C	97,18	77,09	20,09	8,77	97,18	77,09	20,09	8,77
Forage Bank Local Management	A	95,60	56,95	38,64	8,57	95,60	56,95	38,64	8,57
Forage Bank Local Management	B	101,23	62,12	39,11	9,24	101,23	62,12	39,11	9,24
Forage Bank Local Management	C	109,63	69,48	40,15	10,48	109,63	69,48	40,15	10,48
Monocultive	A	112,01	82,95	29,06	8,03	112,01	82,95	29,06	8,03
Monocultive	B	120,00	89,74	30,25	9,23	120,00	89,74	30,25	9,23
Monocultive	C	98,22	67,77	30,45	7,53	98,22	67,77	30,45	7,53
Natural Regeneration	A	89,15	66,46	22,68	6,57	89,15	66,46	22,68	6,57
Natural Regeneration	B	102,46	77,21	25,25	7,63	102,46	77,21	25,25	7,63
Natural Regeneration	C	94,98	63,38	31,60	7,71	94,98	63,38	31,60	7,71

BLOQUE = 2									
tratamiento	calicata	ctthmt1 40c	coxthmt1 40c	cethmt1 40c	ntthmt1 40c	ctthmt2 40c	coxthmt2 40c	cethmt2 40c	ntthmt2 40c
Asociation	A	72,85	61,78	11,07	7,50	72,85	61,78	11,07	7,50
Asociation	B	71,30	59,77	11,53	6,36	71,30	59,77	11,53	6,36
Asociation	C	65,92	48,07	17,85	5,32	65,92	48,07	17,85	5,32
Degraded Pasture	A	76,78	63,71	13,08	6,78	76,78	63,71	13,08	6,78
Degraded Pasture	B	74,59	50,25	24,34	7,51	74,59	50,25	24,34	7,51
Degraded Pasture	C	69,77	47,42	22,35	7,94	69,77	47,42	22,35	7,94
For, Bank Improved Management	A	88,20	66,82	21,38	6,62	88,20	66,82	21,38	6,62
For, Bank Improved Management	B	74,92	56,67	18,25	6,59	74,92	56,67	18,25	6,59
For, Bank Improved Management	C	77,26	57,50	19,76	6,51	77,26	57,50	19,76	6,51
Forage Bank Local Management	A	89,74	50,99	38,74	8,68	89,74	50,99	38,74	8,68
Forage Bank Local Management	B	92,82	53,93	38,89	8,10	92,82	53,93	38,89	8,10
Forage Bank Local Management	C	102,21	58,06	44,15	9,50	102,21	58,06	44,15	9,50
Monocultive	A	105,73	75,86	29,87	8,13	105,73	75,86	29,87	8,13
Monocultive	B	104,32	72,62	31,69	8,98	104,32	72,62	31,69	8,98
Monocultive	C	105,71	73,75	31,96	8,25	105,71	73,75	31,96	8,25
Natural Regeneration	A	96,77	59,31	37,47	7,15	96,77	59,31	37,47	7,15
Natural Regeneration	B	91,01	51,73	39,28	7,21	91,01	51,73	39,28	7,21
Natural Regeneration	C	96,34	55,21	41,13	8,45	96,34	55,21	41,13	8,45

BLOQUE = 3

tratamiento	calicata	ctthmt1	coxthmt1	cethmt1	ntthmt1	ctthmt2	coxthmt2	cethmt2	ntthmt2
Asociation	A	174,21	118,14	56,07	13,02	161,06	110,98	50,08	12,04
Asociation	B	163,45	98,68	64,77	13,39	151,59	93,49	58,10	12,39
Asociation	C	156,28	86,81	69,47	13,67	145,29	83,00	62,29	12,71
Degraded Pasture	A	141,80	148,55	-6,74	13,87	138,27	143,81	-5,54	13,51
Degraded Pasture	B	139,51	139,52	0,00	13,49	136,15	134,78	1,37	13,14
Degraded Pasture	C	160,59	123,24	37,34	14,63	155,61	118,51	37,11	14,16
For, Bank Improved Management	A	176,45	65,72	110,73	12,42	164,62	62,75	101,86	11,64
For, Bank Improved Management	B	183,20	76,07	107,13	13,19	171,17	72,85	98,32	12,41
For, Bank Improved Management	C	164,23	62,77	101,45	11,05	154,07	60,65	93,42	10,42
Forage Bank Local Management	A	181,10	73,38	107,72	17,04	165,95	69,01	96,93	15,57
Forage Bank Local Management	B	181,65	76,04	105,60	17,82	166,37	71,24	95,13	16,21
Forage Bank Local Management	C	179,86	76,38	103,48	16,96	165,75	71,67	94,08	15,45
Monocultive	A	204,97	121,78	83,18	15,94	173,12	108,75	64,37	13,41
Monocultive	B	245,22	160,78	84,44	19,90	206,20	142,82	63,39	16,61
Monocultive	C	171,53	96,17	75,36	14,55	148,10	86,68	61,42	12,17
Natural Regeneration	A	175,67	71,19	104,48	16,92	161,14	67,48	93,66	15,35
Natural Regeneration	B	180,30	72,61	107,69	18,43	165,00	68,93	96,08	16,63
Natural Regeneration	C	178,50	78,22	100,28	20,28	163,46	73,50	89,97	18,16

BLOQUE = 4

tratamiento	calicata	ctthmt1	coxthmt1	cethmt1	ntthmt1	ctthmt2	coxthmt2	cethmt2	ntthmt2
Asociation	A	161,48	96,92	64,56	15,21	148,69	91,41	57,27	13,90
Asociation	B	172,10	112,12	59,97	14,61	160,28	107,30	52,97	13,63
Asociation	C	150,16	93,02	57,14	13,61	138,53	88,73	49,80	12,60
Degraded Pasture	A	132,35	125,60	6,76	13,56	128,68	121,81	6,87	13,15
Degraded Pasture	B	105,34	104,05	1,30	14,34	102,28	100,26	2,02	13,81
Degraded Pasture	C	88,88	112,61	-23,73	12,11	87,52	108,82	-21,30	11,78
For, Bank Improved Management	A	178,56	77,51	101,05	11,62	159,22	71,47	87,75	10,47
For, Bank Improved Management	B	177,51	94,17	83,34	11,77	157,28	85,24	72,04	10,52
For, Bank Improved Management	C	169,10	93,39	75,71	10,37	150,42	85,70	64,72	9,31
Forage Bank Local Management	A	180,87	86,30	94,57	16,49	170,35	82,53	87,82	15,39
Forage Bank Local Management	B	157,01	76,85	80,16	16,38	147,42	73,21	74,21	15,29
Forage Bank Local Management	C	169,02	83,05	85,97	17,33	158,31	78,78	79,53	16,11
Monocultive	A	138,35	94,25	44,10	12,78	113,78	81,03	32,75	10,57
Monocultive	B	135,80	87,47	48,33	11,28	111,13	75,76	35,37	9,35
Monocultive	C	178,75	136,78	41,97	14,37	151,54	121,56	29,98	12,39
Natural Regeneration	A	164,69	73,01	91,68	14,78	153,69	69,58	84,12	13,69
Natural Regeneration	B	169,78	80,61	89,18	14,44	159,43	77,37	82,06	13,44
Natural Regeneration	C	158,10	65,29	92,81	14,90	146,52	61,97	84,55	13,77

Experimento Topografía Lomerio, Amazonía, Colombia
Listado de Variables de Carbono Acumulado a 1 m metodos 1 y 2

BLOQUE = 1									
tratamiento	calicata	ctthmt1	coxthmt1	cethmt1	ntthmt1	ctthmt2	coxthmt2	cethmt2	ntthmt2
Asociation	A	126,49	85,34	41,14	11,91	120,49	82,60	37,89	11,34
Asociation	B	135,47	102,02	33,45	14,12	129,53	98,68	30,85	13,45
Asociation	C	164,16	121,07	43,09	16,38	156,23	116,62	39,60	15,57
Degraded Pasture	A	175,64	136,97	38,67	17,91	175,64	136,97	38,67	17,91
Degraded Pasture	B	133,47	117,86	15,61	12,90	133,47	117,86	15,61	12,90
Degraded Pasture	C	146,30	121,98	24,31	12,97	146,30	121,98	24,31	12,97
For, Bank Improved Management	A	167,49	104,47	63,02	15,33	155,88	99,21	56,66	14,28
For, Bank Improved Management	B	154,74	84,79	69,95	13,57	143,67	80,66	63,01	12,60
For, Bank Improved Management	C	171,91	110,20	61,71	15,19	161,08	105,40	55,68	14,26
Forage Bank Local Management	A	183,43	88,74	94,69	17,80	174,57	85,53	89,04	16,87
Forage Bank Local Management	B	188,22	91,91	96,31	18,53	179,44	88,91	90,54	17,59
Forage Bank Local Management	C	197,24	98,67	98,56	19,22	188,40	95,73	92,67	18,34
Monocultive	A	203,74	108,73	95,01	14,33	172,15	99,85	72,30	12,16
Monocultive	B	226,16	132,53	93,63	15,91	189,60	117,79	71,80	13,61
Monocultive	C	194,68	101,09	93,59	13,35	161,46	89,62	71,85	11,34
Natural Regeneration	A	168,07	94,17	73,90	11,72	165,20	93,16	72,04	11,53
Natural Regeneration	B	193,48	115,08	78,40	15,41	190,18	113,71	76,47	15,12
Natural Regeneration	C	172,36	89,34	83,02	14,13	169,55	88,40	81,15	13,90
BLOQUE = 2									
tratamiento	calicata	ctthmt1	coxthmt1	cethmt1	ntthmt1	ctthmt2	coxthmt2	cethmt2	ntthmt2
Asociation	A	137,20	105,72	31,48	14,07	127,55	99,13	28,42	13,09
Asociation	B	132,49	94,18	38,31	12,73	123,31	89,02	34,29	11,77
Asociation	C	140,22	78,25	61,97	10,04	129,07	73,72	55,35	9,33
Degraded Pasture	A	146,61	141,05	5,56	13,76	140,17	133,93	6,25	13,12
Degraded Pasture	B	144,63	127,59	17,03	15,25	138,17	120,46	17,71	14,54
Degraded Pasture	C	143,33	124,76	18,57	15,17	136,55	117,64	18,92	14,50
For, Bank Improved Management	A	174,51	99,68	74,84	12,04	153,97	91,86	62,11	10,75
For, Bank Improved Management	B	151,40	88,07	63,33	13,50	133,19	80,59	52,60	11,86
For, Bank Improved Management	C	149,47	88,50	60,97	11,82	132,28	81,12	51,16	10,55
Forage Bank Local Management	A	174,14	79,10	95,04	18,41	166,38	76,52	89,86	17,51
Forage Bank Local Management	B	203,54	84,43	119,11	16,98	193,36	81,63	111,73	16,16
Forage Bank Local Management	C	177,55	85,57	91,98	18,59	170,62	83,04	87,58	17,76
Monocultive	A	197,17	105,87	91,30	15,25	164,61	95,18	69,43	12,71
Monocultive	B	205,69	113,54	92,16	18,15	169,59	98,97	70,62	14,88
Monocultive	C	196,01	100,73	95,28	14,21	163,85	91,12	72,73	12,09
Natural Regeneration	A	185,59	86,42	99,17	14,36	172,90	82,55	90,35	13,33
Natural Regeneration	B	171,02	73,98	97,03	16,24	159,58	70,80	88,78	14,95
Natural Regeneration	C	186,68	80,69	106,00	16,96	173,78	77,05	96,73	15,74

Listado de Calicata con peso Mínimo Amazonia Lomerio						
topografía = Lomerio Bloque = 1						
tratamiento	calicata	profundidad	pdensidad	ponder2	pesuelo	pesomin
Degraded Pasture	A	(0-10)	0,97	1	96,57	1226,01
Degraded Pasture	A	(10-20)	1,24	1	123,89	1226,01
Degraded Pasture	A	(20-40)	1,25	2	249,33	1226,01
Degraded Pasture	A	(40-100)	1,26	6	756,22	1226,01

BLOQUE = 4								
tratamiento	calicata	profundidad	pdensidad	ponder2	ctthmt2	coxthmt2	certhmt2	ntthmt2
Asociation	A	(0-10)	1,17	1,00	25,80	23,20	2,60	2,11
Asociation	A	(10-20)	1,30	1,00	19,05	13,80	5,25	1,50
Asociation	A	(20-40)	1,40	2,00	37,78	25,98	11,81	3,54
Asociation	A	(40-100)	1,39	5,03	66,06	28,44	37,62	6,74
Asociation	B	(0-10)	1,17	1,00	29,73	26,53	3,20	2,84
Asociation	B	(10-20)	1,30	1,00	30,62	26,96	3,66	2,77
Asociation	B	(20-40)	1,40	2,00	38,91	28,94	9,96	2,99
Asociation	B	(40-100)	1,39	5,03	61,02	24,88	36,15	5,04
Asociation	C	(0-10)	1,17	1,00	21,33	18,14	3,18	1,85
Asociation	C	(10-20)	1,30	1,00	23,85	19,22	4,64	2,17
Asociation	C	(20-40)	1,40	2,00	33,30	29,20	4,10	3,36
Asociation	C	(40-100)	1,39	5,03	60,05	22,17	37,87	5,22
Degraded Pasture	A	(0-10)	1,07	1,00	33,23	29,99	3,24	2,82
Degraded Pasture	A	(10-20)	1,31	1,00	18,22	16,07	2,16	1,58
Degraded Pasture	A	(20-40)	1,34	2,00	26,33	23,23	3,09	3,13
Degraded Pasture	A	(40-100)	1,29	5,60	50,90	52,52	-1,62	5,62
Degraded Pasture	B	(0-10)	1,07	1,00	22,97	15,12	7,85	1,99
Degraded Pasture	B	(10-20)	1,31	1,00	15,75	9,38	6,37	1,75
Degraded Pasture	B	(20-40)	1,34	2,00	21,09	23,23	-2,14	2,77
Degraded Pasture	B	(40-100)	1,29	5,60	42,46	52,52	-10,06	7,30
Degraded Pasture	C	(0-10)	1,07	1,00	26,66	19,81	6,85	2,38
Degraded Pasture	C	(10-20)	1,31	1,00	20,20	13,26	6,94	2,06
Degraded Pasture	C	(20-40)	1,34	2,00	21,81	23,23	-1,42	2,82
Degraded Pasture	C	(40-100)	1,29	5,60	18,84	52,52	-33,68	4,53
For, Bank Improved Management	A	(0-10)	1,28	1,00	28,62	18,26	10,36	2,30
For, Bank Improved Management	A	(10-20)	1,29	1,00	22,28	13,39	8,89	1,47
For, Bank Improved Management	A	(20-40)	1,41	2,00	37,31	17,67	19,65	2,48
For, Bank Improved Management	A	(40-100)	1,46	4,72	71,01	22,16	48,85	4,23
For, Bank Improved Management	B	(0-10)	1,28	1,00	24,78	18,62	6,16	1,95
For, Bank Improved Management	B	(10-20)	1,29	1,00	21,51	14,79	6,72	1,60
For, Bank Improved Management	B	(20-40)	1,41	2,00	36,68	19,05	17,63	2,38
For, Bank Improved Management	B	(40-100)	1,46	4,72	74,31	32,78	41,53	4,59
For, Bank Improved Management	C	(0-10)	1,28	1,00	29,36	26,68	2,68	2,20
For, Bank Improved Management	C	(10-20)	1,29	1,00	18,98	12,72	6,26	1,31
For, Bank Improved Management	C	(20-40)	1,41	2,00	33,49	18,08	15,41	1,90
For, Bank Improved Management	C	(40-100)	1,46	4,72	68,59	28,22	40,37	3,90
Forage Bank Local Management	A	(0-10)	1,11	1,00	35,74	24,07	11,67	2,77
Forage Bank Local Management	A	(10-20)	1,31	1,00	30,76	18,09	12,67	2,40
Forage Bank Local Management	A	(20-40)	1,36	2,00	34,05	15,35	18,71	2,95
Forage Bank Local Management	A	(40-100)	1,37	5,21	69,81	25,02	44,78	7,27
Forage Bank Local Management	B	(0-10)	1,11	1,00	31,40	22,07	9,33	2,69
Forage Bank Local Management	B	(10-20)	1,31	1,00	22,96	13,96	9,00	2,13
Forage Bank Local Management	B	(20-40)	1,36	2,00	29,41	13,02	16,39	3,22
Forage Bank Local Management	B	(40-100)	1,37	5,21	63,65	24,17	39,48	7,25
Forage Bank Local Management	C	(0-10)	1,11	1,00	31,55	21,95	9,60	2,65
Forage Bank Local Management	C	(10-20)	1,31	1,00	21,91	12,15	9,75	2,05
Forage Bank Local Management	C	(20-40)	1,36	2,00	33,80	16,38	17,43	3,32
Forage Bank Local Management	C	(40-100)	1,37	5,21	71,05	28,30	42,75	8,09
Monoculture	A	(0-10)	1,49	1,00	24,76	22,72	2,04	2,16
Monoculture	A	(10-20)	1,57	1,00	24,09	20,76	3,33	2,39
Monoculture	A	(20-40)	1,61	2,00	25,98	16,58	9,39	2,51
Monoculture	A	(40-100)	1,63	3,68	38,95	20,96	17,99	3,51
Monoculture	B	(0-10)	1,49	1,00	26,50	25,62	0,88	2,48
Monoculture	B	(10-20)	1,57	1,00	19,95	16,29	3,66	1,79
Monoculture	B	(20-40)	1,61	2,00	25,56	15,29	10,27	2,02
Monoculture	B	(40-100)	1,63	3,68	39,12	18,56	20,56	3,05
Monoculture	C	(0-10)	1,49	1,00	42,93	42,28	0,65	3,93
Monoculture	C	(10-20)	1,57	1,00	37,22	35,38	1,84	3,26
Monoculture	C	(20-40)	1,61	2,00	28,24	19,76	8,48	2,08
Monoculture	C	(40-100)	1,63	3,68	43,14	24,14	19,00	3,13
Natural Regeneration	A	(0-10)	1,04	1,00	33,06	24,19	8,86	2,59
Natural Regeneration	A	(10-20)	1,29	1,00	20,45	10,85	9,60	1,71
Natural Regeneration	A	(20-40)	1,38	2,00	32,28	13,34	18,94	2,70
Natural Regeneration	A	(40-100)	1,39	5,16	67,91	21,19	46,72	6,69
Natural Regeneration	B	(0-10)	1,04	1,00	35,89	25,85	10,03	2,46
Natural Regeneration	B	(10-20)	1,29	1,00	23,47	14,68	8,79	1,91
Natural Regeneration	B	(20-40)	1,38	2,00	36,11	16,83	19,28	2,89
Natural Regeneration	B	(40-100)	1,39	5,16	63,96	20,00	43,96	6,18
Natural Regeneration	C	(0-10)	1,04	1,00	28,13	20,32	7,81	2,19
Natural Regeneration	C	(10-20)	1,29	1,00	18,63	9,01	9,61	1,59
Natural Regeneration	C	(20-40)	1,38	2,00	28,26	12,18	16,08	2,99
Natural Regeneration	C	(40-100)	1,39	5,16	71,50	20,46	51,04	6,99

BLOQUE = 3								
tratamiento	calicata	profundidad	pdensidad	ponder2	ctthm2	coxthm2	cethm2	ntthm2
Asociation	A	(0-10)	1,13	1,00	27,78	27,17	0,60	2,08
Asociation	A	(10-20)	1,34	1,00	20,29	16,13	4,17	1,41
Asociation	A	(20-40)	1,37	2,00	37,02	26,30	10,71	2,93
Asociation	A	(40-100)	1,38	5,11	75,98	41,38	34,60	5,63
Asociation	B	(0-10)	1,13	1,00	24,21	21,69	2,52	2,10
Asociation	B	(10-20)	1,34	1,00	20,34	14,30	6,04	1,49
Asociation	B	(20-40)	1,37	2,00	38,57	27,53	11,05	3,07
Asociation	B	(40-100)	1,38	5,11	68,47	29,97	38,50	5,73
Asociation	C	(0-10)	1,13	1,00	25,74	23,59	2,14	2,19
Asociation	C	(10-20)	1,34	1,00	21,17	15,88	5,29	1,74
Asociation	C	(20-40)	1,37	2,00	34,85	21,48	13,38	3,22
Asociation	C	(40-100)	1,38	5,11	63,53	22,04	41,48	5,55
Degraded Pasture	A	(0-10)	1,10	1,00	30,86	27,02	3,84	2,60
Degraded Pasture	A	(10-20)	1,28	1,00	18,04	17,15	0,89	1,55
Degraded Pasture	A	(20-40)	1,33	2,00	28,16	17,57	10,59	3,15
Degraded Pasture	A	(40-100)	1,27	5,67	61,20	82,06	-20,86	6,21
Degraded Pasture	B	(0-10)	1,10	1,00	34,38	26,59	7,79	2,82
Degraded Pasture	B	(10-20)	1,28	1,00	17,32	8,56	8,75	1,62
Degraded Pasture	B	(20-40)	1,33	2,00	26,19	17,57	8,62	2,56
Degraded Pasture	B	(40-100)	1,27	5,67	58,27	82,06	-23,79	6,15
Degraded Pasture	C	(0-10)	1,10	1,00	19,68	11,07	8,61	1,63
Degraded Pasture	C	(10-20)	1,28	1,00	16,26	7,81	8,45	1,49
Degraded Pasture	C	(20-40)	1,33	2,00	33,51	17,57	15,94	3,01
Degraded Pasture	C	(40-100)	1,27	5,67	86,16	82,06	4,10	8,04
For, Bank Improved Management	A	(0-10)	1,13	1,00	31,90	21,68	10,23	2,46
For, Bank Improved Management	A	(10-20)	1,34	1,00	20,10	8,97	11,13	1,45
For, Bank Improved Management	A	(20-40)	1,38	2,00	36,06	12,90	23,16	2,66
For, Bank Improved Management	A	(40-100)	1,35	5,20	76,55	19,21	57,34	5,07
For, Bank Improved Management	B	(0-10)	1,13	1,00	26,78	17,83	8,95	2,49
For, Bank Improved Management	B	(10-20)	1,34	1,00	24,55	14,96	9,59	1,99
For, Bank Improved Management	B	(20-40)	1,38	2,00	41,99	19,20	22,79	2,93
For, Bank Improved Management	B	(40-100)	1,35	5,20	77,85	20,86	57,00	5,00
For, Bank Improved Management	C	(0-10)	1,13	1,00	31,42	22,10	9,31	2,55
For, Bank Improved Management	C	(10-20)	1,34	1,00	21,80	11,30	10,50	1,59
For, Bank Improved Management	C	(20-40)	1,38	2,00	35,13	13,49	21,63	2,23
For, Bank Improved Management	C	(40-100)	1,35	5,20	65,73	13,75	51,97	4,05
Forage Bank Local Management	A	(0-10)	1,23	1,00	34,48	23,88	10,60	3,11
Forage Bank Local Management	A	(10-20)	1,34	1,00	20,38	10,11	10,28	1,91
Forage Bank Local Management	A	(20-40)	1,39	2,00	35,09	13,15	21,95	3,21
Forage Bank Local Management	A	(40-100)	1,38	5,00	75,99	21,88	54,11	7,35
Forage Bank Local Management	B	(0-10)	1,23	1,00	32,14	21,46	10,68	2,78
Forage Bank Local Management	B	(10-20)	1,34	1,00	20,75	10,03	10,72	1,92
Forage Bank Local Management	B	(20-40)	1,39	2,00	36,87	15,64	21,23	3,39
Forage Bank Local Management	B	(40-100)	1,38	5,00	76,61	24,11	52,50	8,11
Forage Bank Local Management	C	(0-10)	1,23	1,00	32,49	20,68	11,82	2,64
Forage Bank Local Management	C	(10-20)	1,34	1,00	23,87	12,33	11,54	1,97
Forage Bank Local Management	C	(20-40)	1,39	2,00	38,65	15,02	23,63	3,27
Forage Bank Local Management	C	(40-100)	1,38	5,00	70,74	23,65	47,09	7,57
Monocultive	A	(0-10)	1,49	1,00	43,52	39,62	3,90	3,28
Monocultive	A	(10-20)	1,49	1,00	26,99	21,18	5,81	1,93
Monocultive	A	(20-40)	1,54	2,00	41,38	22,90	18,48	3,32
Monocultive	A	(40-100)	1,57	3,95	61,23	25,05	36,17	4,88
Monocultive	B	(0-10)	1,49	1,00	38,64	35,09	3,54	3,03
Monocultive	B	(10-20)	1,49	1,00	33,55	29,59	3,96	2,72
Monocultive	B	(20-40)	1,54	2,00	59,01	43,60	15,41	4,53
Monocultive	B	(40-100)	1,57	3,95	75,00	34,53	40,47	6,33
Monocultive	C	(0-10)	1,49	1,00	41,11	37,21	3,90	3,09
Monocultive	C	(10-20)	1,49	1,00	23,80	14,05	9,74	1,72
Monocultive	C	(20-40)	1,54	2,00	38,18	17,18	20,99	2,77
Monocultive	C	(40-100)	1,57	3,95	45,03	18,24	26,79	4,58
Natural Regeneration	A	(0-10)	1,08	1,00	40,06	29,58	10,48	2,85
Natural Regeneration	A	(10-20)	1,37	1,00	19,58	8,74	10,84	1,99
Natural Regeneration	A	(20-40)	1,45	2,00	35,21	12,23	22,98	3,35
Natural Regeneration	A	(40-100)	1,40	4,92	66,30	16,93	49,37	7,16
Natural Regeneration	B	(0-10)	1,08	1,00	38,85	28,76	10,09	2,85
Natural Regeneration	B	(10-20)	1,37	1,00	20,68	10,22	10,46	2,16
Natural Regeneration	B	(20-40)	1,45	2,00	35,67	13,12	22,54	3,42
Natural Regeneration	B	(40-100)	1,40	4,92	69,81	16,82	52,99	8,20
Natural Regeneration	C	(0-10)	1,08	1,00	33,22	23,16	10,07	2,58
Natural Regeneration	C	(10-20)	1,37	1,00	20,70	9,67	11,03	1,79
Natural Regeneration	C	(20-40)	1,45	2,00	40,92	19,13	21,78	4,11
Natural Regeneration	C	(40-100)	1,40	4,92	68,63	21,54	47,09	9,68

BLOQUE = 2								
tratamiento	calicata	profundidad	pdensidad	ponder2	ctthmt2	corthmt2	cethmt2	atthmt2
Asociation	A	(0-10)	1,08	1,00	25,39	23,48	1,91	2,52
Asociation	A	(10-20)	1,27	1,00	19,16	17,55	1,60	1,78
Asociation	A	(20-40)	1,38	2,00	28,30	20,74	7,56	3,19
Asociation	A	(40-100)	1,40	5,10	54,70	37,35	17,35	5,59
Asociation	B	(0-10)	1,08	1,00	21,86	21,42	0,44	1,92
Asociation	B	(10-20)	1,27	1,00	20,14	17,69	2,45	1,82
Asociation	B	(20-40)	1,38	2,00	29,30	20,66	8,64	2,61
Asociation	B	(40-100)	1,40	5,10	52,01	29,25	22,76	5,42
Asociation	C	(0-10)	1,08	1,00	24,92	22,45	2,47	2,16
Asociation	C	(10-20)	1,27	1,00	13,23	11,04	2,19	1,29
Asociation	C	(20-40)	1,38	2,00	27,76	14,57	13,19	1,87
Asociation	C	(40-100)	1,40	5,10	63,16	25,66	37,50	4,01
Degraded Pasture	A	(0-10)	1,10	1,00	24,53	20,85	3,68	1,93
Degraded Pasture	A	(10-20)	1,33	1,00	21,17	18,07	3,09	1,74
Degraded Pasture	A	(20-40)	1,33	2,00	31,09	24,78	6,31	3,11
Degraded Pasture	A	(40-100)	1,32	5,45	63,39	70,22	-6,83	6,34
Degraded Pasture	B	(0-10)	1,10	1,00	25,18	15,55	9,63	2,69
Degraded Pasture	B	(10-20)	1,33	1,00	20,05	9,92	10,13	1,80
Degraded Pasture	B	(20-40)	1,33	2,00	29,36	24,78	4,58	3,02
Degraded Pasture	B	(40-100)	1,32	5,45	63,59	70,22	-6,63	7,03
Degraded Pasture	C	(0-10)	1,10	1,00	22,26	13,34	8,92	1,94
Degraded Pasture	C	(10-20)	1,33	1,00	18,76	9,30	9,46	1,78
Degraded Pasture	C	(20-40)	1,33	2,00	28,75	24,78	3,97	4,22
Degraded Pasture	C	(40-100)	1,32	5,45	66,78	70,22	-3,44	6,57
For, Bank Improved Management	A	(0-10)	1,28	1,00	32,21	30,78	1,43	2,68
For, Bank Improved Management	A	(10-20)	1,35	1,00	20,25	14,65	5,59	1,48
For, Bank Improved Management	A	(20-40)	1,43	2,00	35,74	21,39	14,36	2,45
For, Bank Improved Management	A	(40-100)	1,48	4,57	65,77	25,04	40,73	4,13
For, Bank Improved Management	B	(0-10)	1,28	1,00	23,53	21,65	1,88	2,09
For, Bank Improved Management	B	(10-20)	1,35	1,00	20,43	16,18	4,26	1,84
For, Bank Improved Management	B	(20-40)	1,43	2,00	30,95	18,84	12,11	2,67
For, Bank Improved Management	B	(40-100)	1,48	4,57	58,28	23,93	34,35	5,26
For, Bank Improved Management	C	(0-10)	1,28	1,00	27,34	25,18	2,16	2,56
For, Bank Improved Management	C	(10-20)	1,35	1,00	18,71	14,31	4,40	1,48
For, Bank Improved Management	C	(20-40)	1,43	2,00	31,21	18,01	13,20	2,47
For, Bank Improved Management	C	(40-100)	1,48	4,57	55,03	23,62	31,41	4,05
Forage Bank Local Management	A	(0-10)	1,17	1,00	34,24	24,71	9,53	2,89
Forage Bank Local Management	A	(10-20)	1,29	1,00	20,45	11,30	9,15	2,26
Forage Bank Local Management	A	(20-40)	1,29	2,00	35,05	14,98	20,07	3,53
Forage Bank Local Management	A	(40-100)	1,32	5,45	76,64	25,52	51,12	8,84
Forage Bank Local Management	B	(0-10)	1,17	1,00	36,92	27,12	9,80	3,15
Forage Bank Local Management	B	(10-20)	1,29	1,00	21,41	11,62	9,79	2,05
Forage Bank Local Management	B	(20-40)	1,29	2,00	34,49	15,19	19,30	2,89
Forage Bank Local Management	B	(40-100)	1,32	5,45	100,54	27,70	72,84	8,07
Forage Bank Local Management	C	(0-10)	1,17	1,00	38,93	27,35	11,58	3,41
Forage Bank Local Management	C	(10-20)	1,29	1,00	24,66	13,59	11,07	2,39
Forage Bank Local Management	C	(20-40)	1,29	2,00	38,62	17,12	21,50	3,71
Forage Bank Local Management	C	(40-100)	1,32	5,45	68,41	24,98	43,43	8,26
Monocultive	A	(0-10)	1,47	1,00	40,89	37,91	2,98	3,30
Monocultive	A	(10-20)	1,53	1,00	27,04	20,25	6,78	2,13
Monocultive	A	(20-40)	1,61	2,00	37,80	17,70	20,11	2,70
Monocultive	A	(40-100)	1,56	3,86	58,88	19,32	39,56	4,58
Monocultive	B	(0-10)	1,47	1,00	36,56	32,36	4,19	2,86
Monocultive	B	(10-20)	1,53	1,00	25,02	16,88	8,14	2,33
Monocultive	B	(20-40)	1,61	2,00	42,74	23,38	19,36	3,79
Monocultive	B	(40-100)	1,56	3,86	65,27	26,34	38,93	5,90
Monocultive	C	(0-10)	1,47	1,00	37,70	32,85	4,85	3,03
Monocultive	C	(10-20)	1,53	1,00	26,43	19,96	6,47	2,13
Monocultive	C	(20-40)	1,61	2,00	41,57	20,93	20,64	3,10
Monocultive	C	(40-100)	1,56	3,86	58,14	17,38	40,77	3,84
Natural Regeneration	A	(0-10)	0,99	1,00	34,69	28,86	5,84	2,48
Natural Regeneration	A	(10-20)	1,28	1,00	23,83	14,03	9,79	1,73
Natural Regeneration	A	(20-40)	1,39	2,00	38,26	16,42	21,84	2,93
Natural Regeneration	A	(40-100)	1,40	5,14	76,12	23,24	52,88	6,18
Natural Regeneration	B	(0-10)	0,99	1,00	32,66	24,87	7,79	2,09
Natural Regeneration	B	(10-20)	1,28	1,00	22,91	13,02	9,89	1,86
Natural Regeneration	B	(20-40)	1,39	2,00	35,44	13,84	21,60	3,27
Natural Regeneration	B	(40-100)	1,40	5,14	68,58	19,08	49,50	7,74
Natural Regeneration	C	(0-10)	0,99	1,00	30,07	21,63	8,44	2,48
Natural Regeneration	C	(10-20)	1,28	1,00	26,46	15,40	11,06	2,36
Natural Regeneration	C	(20-40)	1,39	2,00	39,81	18,17	21,64	3,61
Natural Regeneration	C	(40-100)	1,40	5,14	77,44	21,84	55,60	7,29

Experimento Topografía Lomerio, Amazonía, Colombia
Listado de Variables Calculadas Método 2 (peso suelo fijo)

BLOQUE = 1									
tratamiento	calicata	profundidad	pdensidad	pender2	cttamt2	costhmt2	cethmt2	ntthmt2	
Asociation	A	(0-10)	1,23	1,00	24,80	24,02	0,77	2,14	
Asociation	A	(10-20)	1,29	1,00	21,17	19,29	1,88	1,98	
Asociation	A	(20-40)	1,36	2,00	26,06	17,12	8,94	2,58	
Asociation	A	(40-100)	1,31	5,34	48,46	22,17	26,30	4,64	
Asociation	B	(0-10)	1,23	1,00	35,18	34,60	0,58	3,11	
Asociation	B	(10-20)	1,29	1,00	18,84	16,48	2,37	1,99	
Asociation	B	(20-40)	1,36	2,00	27,47	20,64	6,83	2,95	
Asociation	B	(40-100)	1,31	5,34	48,04	26,96	21,07	5,40	
Asociation	C	(0-10)	1,23	1,00	37,98	37,27	0,71	3,52	
Asociation	C	(10-20)	1,29	1,00	19,46	17,54	1,92	2,14	
Asociation	C	(20-40)	1,36	2,00	34,59	25,80	8,78	3,29	
Asociation	C	(40-100)	1,31	5,34	64,19	36,01	28,19	6,62	
Degraded Pasture	A	(0-10)	0,97	1,00	22,27	20,76	1,51	2,39	
Degraded Pasture	A	(10-20)	1,24	1,00	26,56	24,21	2,35	2,70	
Degraded Pasture	A	(20-40)	1,25	2,00	53,46	29,99	23,46	3,55	
Degraded Pasture	A	(40-100)	1,26	6,00	73,35	62,01	11,34	9,27	
Degraded Pasture	B	(0-10)	0,97	1,00	23,22	15,10	8,12	2,04	
Degraded Pasture	B	(10-20)	1,24	1,00	21,30	10,75	10,55	1,84	
Degraded Pasture	B	(20-40)	1,25	2,00	27,45	29,99	-2,54	2,44	
Degraded Pasture	B	(40-100)	1,26	6,00	61,49	62,01	-0,52	6,57	
Degraded Pasture	C	(0-10)	0,97	1,00	27,82	19,98	7,84	2,20	
Degraded Pasture	C	(10-20)	1,24	1,00	19,42	10,00	9,42	1,73	
Degraded Pasture	C	(20-40)	1,25	2,00	29,80	29,99	-0,20	2,73	
Degraded Pasture	C	(40-100)	1,26	6,00	69,26	62,01	7,25	6,31	
For, Bank Improved Management	A	(0-10)	1,19	1,00	29,97	27,40	2,58	2,82	
For, Bank Improved Management	A	(10-20)	1,26	1,00	24,34	19,97	4,38	2,35	
For, Bank Improved Management	A	(20-40)	1,35	2,00	33,10	20,86	12,24	2,90	
For, Bank Improved Management	A	(40-100)	1,39	5,13	68,46	30,99	37,47	6,21	
For, Bank Improved Management	B	(0-10)	1,19	1,00	26,11	23,05	3,06	2,43	
For, Bank Improved Management	B	(10-20)	1,26	1,00	19,00	13,68	5,31	1,63	
For, Bank Improved Management	B	(20-40)	1,35	2,00	33,29	19,56	13,73	2,83	
For, Bank Improved Management	B	(40-100)	1,39	5,13	65,27	24,36	40,91	5,71	
For, Bank Improved Management	C	(0-10)	1,19	1,00	35,91	34,45	1,46	3,38	
For, Bank Improved Management	C	(10-20)	1,26	1,00	23,76	19,35	4,41	2,18	
For, Bank Improved Management	C	(20-40)	1,35	2,00	37,51	23,29	14,22	3,22	
For, Bank Improved Management	C	(40-100)	1,39	5,13	63,89	28,31	35,58	5,49	
Forage Bank Local Management	A	(0-10)	1,09	1,00	32,26	23,19	9,08	2,67	
Forage Bank Local Management	A	(10-20)	1,31	1,00	25,05	15,09	9,96	2,29	
Forage Bank Local Management	A	(20-40)	1,29	2,00	38,28	18,67	19,61	3,61	
Forage Bank Local Management	A	(40-100)	1,35	5,39	78,97	28,58	50,39	8,30	
Forage Bank Local Management	B	(0-10)	1,09	1,00	37,07	27,85	9,23	3,32	
Forage Bank Local Management	B	(10-20)	1,31	1,00	23,65	13,71	9,94	2,04	
Forage Bank Local Management	B	(20-40)	1,29	2,00	40,50	20,56	19,94	3,88	
Forage Bank Local Management	B	(40-100)	1,35	5,39	78,21	26,78	51,43	8,35	
Forage Bank Local Management	C	(0-10)	1,09	1,00	40,71	30,44	10,27	3,65	
Forage Bank Local Management	C	(10-20)	1,31	1,00	29,23	18,93	10,30	2,84	
Forage Bank Local Management	C	(20-40)	1,29	2,00	39,69	20,11	19,58	3,99	
Forage Bank Local Management	C	(40-100)	1,35	5,39	78,76	26,24	52,52	7,86	
Monoculture	A	(0-10)	1,45	1,00	41,84	38,49	3,35	2,91	
Monoculture	A	(10-20)	1,51	1,00	29,10	22,27	6,83	2,16	
Monoculture	A	(20-40)	1,52	2,00	41,06	22,18	18,88	2,96	
Monoculture	A	(40-100)	1,59	3,93	60,14	16,90	43,24	4,13	
Monoculture	B	(0-10)	1,45	1,00	45,75	41,22	4,53	3,68	
Monoculture	B	(10-20)	1,51	1,00	28,63	21,31	7,33	2,19	
Monoculture	B	(20-40)	1,52	2,00	45,62	27,22	18,39	3,35	
Monoculture	B	(40-100)	1,59	3,93	69,60	28,05	41,55	4,38	
Monoculture	C	(0-10)	1,45	1,00	37,00	33,44	3,56	3,12	
Monoculture	C	(10-20)	1,51	1,00	23,10	14,90	8,21	1,65	
Monoculture	C	(20-40)	1,52	2,00	38,12	19,43	18,69	2,76	
Monoculture	C	(40-100)	1,59	3,93	63,24	21,85	41,39	3,81	
Natural Regeneration	A	(0-10)	0,98	1,00	28,92	28,81	0,11	2,07	
Natural Regeneration	A	(10-20)	1,29	1,00	23,72	17,09	6,63	1,71	
Natural Regeneration	A	(20-40)	1,24	2,00	36,51	20,56	15,94	2,79	
Natural Regeneration	A	(40-100)	1,30	5,78	76,06	26,70	49,35	4,96	
Natural Regeneration	B	(0-10)	0,98	1,00	36,89	35,09	1,80	2,76	
Natural Regeneration	B	(10-20)	1,29	1,00	24,86	17,45	7,42	1,77	
Natural Regeneration	B	(20-40)	1,24	2,00	40,70	24,67	16,03	3,10	
Natural Regeneration	B	(40-100)	1,30	5,78	87,72	36,50	51,22	7,49	
Natural Regeneration	C	(0-10)	0,98	1,00	33,89	29,77	4,12	2,52	
Natural Regeneration	C	(10-20)	1,29	1,00	24,82	15,86	8,95	2,25	
Natural Regeneration	C	(20-40)	1,24	2,00	36,27	17,75	18,53	2,95	
Natural Regeneration	C	(40-100)	1,30	5,78	74,58	25,02	49,56	6,18	

BLOQUE # 4															
Tratamiento	Calista	Profundidad	densidad	pH (Un)	P (mg/Kg)	CIC (mmol/Kg)	Ctotal (gr/Kg)	Coxid (gr/Kg)	Cest (gr/Kg)	Ntotal (mg/Kg)	Arasa (%)	Arclla (%)	Lima (%)	ethm1	uthm1
Asociation	A	(0-10)	1,17	4,31	1,53	12,2	22,07	19,84	2,23	1809,16	10,76	47,44	41,80	25,80	2,11
Asociation	A	(10-20)	1,30	4,44	0,54	10,4	14,66	10,62	4,04	1155,98	0,33	51,38	48,29	19,05	1,50
Asociation	A	(20-40)	1,40	4,43	0,99	10,7	13,49	9,28	4,22	1265,80	0,94	47,25	51,81	37,78	1,54
Asociation	A	(40-100)	1,39	4,60	0,49	11,6	9,45	4,07	5,38	964,50	0,00	60,35	39,65	78,86	8,05
Asociation	B	(0-10)	1,17				25,43	22,69	2,74	2425,27			29,73	2,84	26,53
Asociation	B	(10-20)	1,30				23,56	20,75	2,81	2128,56			30,62	2,77	26,96
Asociation	B	(20-40)	1,40				13,90	10,34	3,56	1067,28			38,91	2,99	28,94
Asociation	B	(40-100)	1,39				8,73	3,56	5,17	720,93			72,84	6,02	29,70
Asociation	C	(0-10)	1,17				18,24	15,52	2,72	1582,51			21,33	1,85	18,14
Asociation	C	(10-20)	1,30				18,36	14,79	3,57	1666,28			23,85	2,17	19,22
Asociation	C	(20-40)	1,40				11,89	10,43	1,47	1199,48			33,30	3,36	29,20
Asociation	C	(40-100)	1,39				8,59	3,17	5,42	747,20			71,68	6,24	26,47
Degraded Pasture	A	(0-10)	1,07	4,67	3,09	12,4	31,07	28,04	3,03	2640,32	7,27	37,88	54,85	33,23	2,82
Degraded Pasture	A	(10-20)	1,31	4,68	1,07	10,6	13,91	12,26	1,65	1203,84	0,69	48,19	51,12	18,72	1,58
Degraded Pasture	A	(20-40)	1,34	4,70	1,35	11,4	9,80	8,65	1,15	1164,00	2,65	54,17	43,18	26,33	3,13
Degraded Pasture	A	(40-100)	1,29	4,77	0,50	12,6	7,08	7,30	-0,22	781,41	1,36	61,88	36,76	54,57	6,03
Degraded Pasture	B	(0-10)	1,07				21,48	14,14	7,34	1859,47			27,97	1,99	15,12
Degraded Pasture	B	(10-20)	1,31				12,02	7,16	4,86	1335,89			15,75	1,75	9,38
Degraded Pasture	B	(20-40)	1,34				7,85	8,65	-0,80	1031,78			21,09	2,77	23,23
Degraded Pasture	B	(40-100)	1,29				5,90	7,30	-1,40	1014,67			45,52	7,83	56,31
Degraded Pasture	C	(0-10)	1,07				24,93	18,52	6,41	2220,95			26,66	2,38	19,81
Degraded Pasture	C	(10-20)	1,31				15,42	10,12	5,30	1571,24			20,20	2,06	13,26
Degraded Pasture	C	(20-40)	1,34				8,12	8,65	-0,53	1049,50			21,81	2,82	23,23
Degraded Pasture	C	(40-100)	1,29				3,62	7,30	-4,68	629,46			20,20	4,86	56,31
For, Bank Improved Management	A	(0-10)	1,28	4,50	1,87	9,2	22,43	14,31	8,12	1801,94	7,58	44,21	48,21	28,62	2,30
For, Bank Improved Management	A	(10-20)	1,29	4,62	7,08	10,3	17,22	10,35	6,87	1136,74	12,86	44,12	43,02	22,28	1,47
For, Bank Improved Management	A	(20-40)	1,41	4,51	0,90	10,0	13,19	6,25	6,95	875,43	0,00	50,69	49,31	37,31	2,48
For, Bank Improved Management	A	(40-100)	1,46	4,61	0,25	11,6	10,35	3,23	7,12	615,87	0,00	59,99	40,01	90,35	5,38
For, Bank Improved Management	B	(0-10)	1,28				19,42	14,39	4,83	1528,73			24,78	1,95	18,62
For, Bank Improved Management	B	(10-20)	1,29				16,63	11,44	5,20	1234,96			21,51	1,60	14,79
For, Bank Improved Management	B	(20-40)	1,41				12,97	6,74	6,23	842,61			16,68	2,38	19,05
For, Bank Improved Management	B	(40-100)	1,46				10,83	4,78	6,05	668,91			94,55	5,84	41,71
For, Bank Improved Management	C	(0-10)	1,28				23,01	20,91	2,10	1723,53			29,36	2,20	26,68
For, Bank Improved Management	C	(10-20)	1,29				14,68	9,84	4,84	1010,02			18,98	1,31	12,72
For, Bank Improved Management	C	(20-40)	1,41				11,84	6,39	5,45	672,09			33,49	1,90	18,08
For, Bank Improved Management	C	(40-100)	1,46				9,99	4,11	5,88	568,98			87,26	4,97	35,90
Forage Bank Local Management	A	(0-10)	1,11	4,52	12,99	14,4	32,13	21,64	10,49	2491,01	13,52	45,02	41,46	35,34	2,77
Forage Bank Local Management	A	(10-20)	1,11	4,32	7,18	16,2	23,53	13,84	9,69	1838,15	9,48	50,69	39,83	30,76	2,40
Forage Bank Local Management	A	(20-40)	1,36	4,43	0,69	12,6	17,56	5,66	6,90	1088,14	0,33	58,48	41,19	34,05	2,95
Forage Bank Local Management	A	(40-100)	1,37	4,55	0,45	14,4	9,79	3,51	6,28	1019,47	0,00	66,71	33,29	80,33	8,36
Forage Bank Local Management	B	(0-10)	1,11				28,23	19,84	8,39	2417,51			31,40	2,69	22,07
Forage Bank Local Management	B	(10-20)	1,31				17,57	10,68	6,89	1630,78			22,96	2,13	13,96
Forage Bank Local Management	B	(20-40)	1,36				10,85	4,80	6,05	1188,38			29,41	3,22	13,02
Forage Bank Local Management	B	(40-100)	1,37				8,93	3,39	5,54	1017,10			73,24	8,34	27,81
Forage Bank Local Management	C	(0-10)	1,11				28,36	19,73	8,63	2386,64			31,55	2,65	21,95
Forage Bank Local Management	C	(10-20)	1,31				18,76	9,30	7,46	1567,98			21,91	2,05	12,15
Forage Bank Local Management	C	(20-40)	1,36				12,47	6,04	6,43	1234,40			33,80	3,32	16,38
Forage Bank Local Management	C	(40-100)	1,37				9,97	3,97	6,00	1134,29			81,75	9,31	32,57
Monocultive	A	(0-10)	1,49	4,74	1,78	11,4	16,62	15,25	1,37	1451,83	4,08	48,52	47,42	24,76	2,16
Monocultive	A	(10-20)	1,57	4,75	1,26	11,2	15,34	13,22	2,12	1520,39	2,38	48,72	48,90	24,09	2,39
Monocultive	A	(20-40)	1,61	4,76	0,57	9,2	8,09	5,16	2,92	779,89	1,71	45,88	52,41	25,98	2,51
Monocultive	A	(40-100)	1,63	4,65	0,20	11,4	6,51	3,50	3,00	586,21	0,03	52,45	47,52	63,52	5,72
Monocultive	B	(0-10)	1,49				17,78	17,19	0,59	1663,65			26,50	2,48	25,62
Monocultive	B	(10-20)	1,57				12,70	10,37	2,33	1140,00			19,95	1,79	16,29
Monocultive	B	(20-40)	1,61				7,95	4,76	3,20	630,22			25,56	2,02	15,29
Monocultive	B	(40-100)	1,63				6,54	3,10	3,43	510,30			63,80	4,96	30,27
Monocultive	C	(0-10)	1,49				28,81	28,37	0,44	2635,28			42,93	3,93	42,28
Monocultive	C	(10-20)	1,57				23,69	22,52	1,17	2074,41			37,22	3,26	35,38
Monocultive	C	(20-40)	1,61				8,79	6,15	2,64	646,42			28,24	2,08	19,76
Monocultive	C	(40-100)	1,63				7,21	4,03	3,17	522,95			70,35	5,11	39,36
Natural Regeneration	A	(0-10)	1,04	5,02	16,81	12,3	31,79	23,27	8,52	2490,47	12,76	44,62	42,62	33,06	2,59
Natural Regeneration	A	(10-20)	1,29	4,73	1,30	10,2	15,85	8,41	7,44	1324,98	1,83	49,44	48,73	20,45	1,71
Natural Regeneration	A	(20-40)	1,38	4,70	0,17	11,6	11,70	4,84	6,86	980,27	0,00	53,70	46,30	32,28	2,70
Natural Regeneration	A	(40-100)	1,39	4,74	0,07	13,4	9,47	2,96	6,52	932,86	0,00	60,11	39,89	78,90	7,77
Natural Regeneration	B	(0-10)	1,04				34,52	24,87	9,65	2361,69			35,89	2,46	25,85
Natural Regeneration	B	(10-20)	1,29				18,19	11,38	6,81	1482,10			23,47	1,91	14,68
Natural Regeneration	B	(20-40)	1,38				13,09	6,10	6,99	1046,40			26,11	2,89	16,83
Natural Regeneration	B	(40-100)	1,39				8,92	2,79	6,13	862,32			74,32	7,18	23,24
Natural Regeneration	C	(0-10)	1,04				27,06	19,55	7,51	2111,14			28,13	2,19	20,32
Natural Regeneration	C	(10-20)	1,29				14,43	6,99	7,45	1232,57			18,63	1,59	9,01
Natural Regeneration	C	(20-40)	1,38				10,24	4,42	5,83	1083,01			28,26	2,99	12,18
Natural Regeneration	C	(40-100)	1,39				9,97	2,85	7,12	975,04			83,08	8,12	23,77

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Tratamiento	Cálculo	Profundidad	densidad	pH	P	CTC	Clorol	Ceolol	Ceolol	Ceolol	Metal	Arene (%)	Aretila (%)	Limon (%)	ctthml	atthml	coctthml	cectthml
Association	A	(0-10)	1,13	4,51	18,66	15,80	24,54	24,01	0,53	1838,73	3,98	54,18	41,84	27,78	2,08	27,17	0,60	
Association	A	(10-20)	1,34	4,50	2,32	15,40	15,15	12,04	3,11	1050,86	1,21	62,01	36,78	20,29	1,41	16,13	4,17	
Association	A	(20-40)	1,37	4,39	0,21	12,10	13,54	9,62	3,92	1070,22	3,29	53,85	42,86	37,92	2,93	26,30	10,71	
Association	A	(40-100)	1,38	4,43	0,00	12,10	10,77	5,87	4,90	797,60	0,00	57,79	42,21	89,13	6,60	48,54	40,59	
Association	B	(0-10)	1,13				21,39	19,16	2,22	1854,05				24,21	2,10	21,69	2,52	
Association	B	(10-20)	1,34				15,18	10,68	4,51	1110,52				20,34	1,49	14,30	6,04	
Association	B	(20-40)	1,37				14,11	10,97	4,04	1124,46				38,57	3,07	27,53	11,05	
Association	B	(40-100)	1,38				9,71	4,25	5,46	812,67				80,33	6,72	35,16	45,17	
Association	C	(0-10)	1,13				22,74	20,84	1,89	1938,47				25,74	2,19	23,59	2,14	
Association	C	(10-20)	1,34				15,81	11,86	3,95	1302,64				21,17	1,74	15,88	5,29	
Association	C	(20-40)	1,37				12,75	7,85	4,89	1178,62				34,85	3,22	21,48	13,38	
Association	C	(40-100)	1,38				9,01	3,13	5,88	786,16				74,52	6,51	25,86	48,66	
Degraded Pasture	A	(0-10)	1,10	4,62	2,14	12,40	28,16	24,66	3,50	2369,36	2,17	44,26	53,57	30,86	2,60	27,02	3,84	
Degraded Pasture	A	(10-20)	1,28	4,58	0,52	12,00	14,07	13,38	0,69	1209,49	0,69	52,02	47,29	18,04	1,55	17,15	0,89	
Degraded Pasture	A	(20-40)	1,33	4,54	0,09	12,80	10,59	6,61	3,98	1184,90	0,28	57,37	42,35	28,16	3,15	17,57	10,59	
Degraded Pasture	A	(40-100)	1,27	4,71	0,00	15,80	8,47	11,36	7,89	859,88	0,08	66,49	33,43	64,73	6,57	86,79	-22,06	
Degraded Pasture	B	(0-10)	1,10				31,37	24,26	7,11	2570,76				34,38	2,82	26,59	7,79	
Degraded Pasture	B	(10-20)	1,28				13,51	6,68	6,83	1260,36				17,32	1,82	8,56	8,75	
Degraded Pasture	B	(20-40)	1,33				9,85	6,61	3,24	962,99				26,19	2,56	17,57	8,62	
Degraded Pasture	B	(40-100)	1,27				8,07	11,36	-3,29	850,75				61,63	6,50	86,79	-25,16	
Degraded Pasture	C	(0-10)	1,10				17,96	10,10	7,86	1484,30				19,68	1,63	11,07	8,61	
Degraded Pasture	C	(10-20)	1,28				12,68	6,09	6,59	1161,32				16,26	1,49	7,81	8,45	
Degraded Pasture	C	(20-40)	1,33				12,60	6,61	5,99	1131,23				33,51	3,01	17,57	15,94	
Degraded Pasture	C	(40-100)	1,27				11,93	11,36	0,57	1113,00				91,13	8,50	86,79	4,34	
For, Bank Improved Management	A	(0-10)	1,13	4,70	6,00	14,75	28,32	19,24	9,08	2182,69	11,17	48,07	40,76	31,80	2,46	21,68	10,23	
For, Bank Improved Management	A	(10-20)	1,34	4,62	1,20	13,20	14,97	6,68	8,29	1077,86	0,00	54,72	45,28	20,10	1,45	8,97	11,13	
For, Bank Improved Management	A	(20-40)	1,38	4,50	0,88	12,80	13,04	4,66	8,37	962,01	0,00	57,55	42,45	36,06	2,66	12,90	23,16	
For, Bank Improved Management	A	(40-100)	1,35	4,75	0,30	14,80	10,90	2,73	8,16	722,00	0,00	63,99	36,01	88,38	5,86	22,17	66,20	
For, Bank Improved Management	B	(0-10)	1,13				23,77	15,83	7,94	2210,53				26,78	2,49	17,83	8,95	
For, Bank Improved Management	B	(10-20)	1,34				18,29	11,14	7,14	1480,00				24,55	1,99	14,96	9,59	
For, Bank Improved Management	B	(20-40)	1,38				15,18	6,94	8,24	1059,95				41,99	2,93	19,20	22,79	
For, Bank Improved Management	B	(40-100)	1,35				11,08	2,97	8,11	712,43				89,88	5,78	24,08	65,80	
For, Bank Improved Management	C	(0-10)	1,13				37,89	19,62	8,27	2259,44				31,42	2,55	22,10	9,31	
For, Bank Improved Management	C	(10-20)	1,34				16,24	8,42	7,82	1184,16				21,80	1,59	11,30	10,50	
For, Bank Improved Management	C	(20-40)	1,38				12,70	4,88	7,82	807,46				15,13	2,23	13,49	21,63	
For, Bank Improved Management	C	(40-100)	1,35				9,36	1,96	7,40	576,82				75,88	4,68	15,88	60,00	
Forage Bank Local Management	A	(0-10)	1,23	5,06	10,04	13,60	28,12	19,48	8,65	2537,63	10,97	45,02	44,01	34,48	3,11	23,88	10,60	
Forage Bank Local Management	A	(10-20)	1,34	4,42	1,24	12,20	15,25	7,56	7,69	1426,67	0,94	55,13	43,93	20,38	1,91	10,11	10,28	
Forage Bank Local Management	A	(20-40)	1,39	4,37	0,68	12,30	12,62	4,73	7,89	1153,25	0,54	59,20	40,26	35,09	3,21	13,15	21,95	
Forage Bank Local Management	A	(40-100)	1,38	4,45	0,17	14,10	10,99	3,16	7,82	1062,23	0,00	66,14	33,86	71,14	8,81	26,25	64,90	
Forage Bank Local Management	B	(0-10)	1,23				26,21	17,50	8,71	2269,07				32,14	2,78	21,46	10,68	
Forage Bank Local Management	B	(10-20)	1,34				15,52	7,50	8,02	1437,82				20,75	1,92	10,03	10,72	
Forage Bank Local Management	B	(20-40)	1,39				13,26	5,62	7,63	1220,23				36,87	3,39	15,64	21,23	
Forage Bank Local Management	B	(40-100)	1,38				11,08	3,49	7,59	1172,48				91,89	9,73	28,92	62,97	
Forage Bank Local Management	C	(0-10)	1,23				26,50	16,86	9,64	2157,07				32,49	2,64	20,68	11,82	
Forage Bank Local Management	C	(10-20)	1,34				17,86	9,22	8,64	1471,84				23,87	1,97	12,33	11,54	
Forage Bank Local Management	C	(20-40)	1,39				13,90	5,40	8,50	1175,41				38,65	3,27	14,02	23,63	
Forage Bank Local Management	C	(40-100)	1,38				10,23	3,42	6,81	1094,09				84,85	9,08	28,36	55,48	
Monoculture	A	(0-10)	1,49	4,74	2,77	13,40	29,23	26,61	2,62	2205,42	19,20	45,32	35,48	43,52	3,28	39,62	3,90	
Monoculture	A	(10-20)	1,49	4,58	0,92	11,50	18,08	14,19	3,89	1291,74	5,33	49,06	45,61	26,89	1,93	21,18	5,81	
Monoculture	A	(20-40)	1,54	4,61	0,45	10,40	13,43	7,43	6,00	1076,11	1,30	54,27	44,43	41,38	3,32	22,90	18,48	
Monoculture	A	(40-100)	1,57	4,71	0,00	11,80	9,88	4,04	5,84	787,05	0,00	60,91	39,09	93,08	7,41	38,08	54,99	
Monoculture	B	(0-10)	1,49				25,95	23,57	2,38	2035,89				38,64	3,03	35,09	3,54	
Monoculture	B	(10-20)	1,49				22,48	19,83	2,65	1823,30				33,55	2,72	29,59	3,96	
Monoculture	B	(20-40)	1,54				19,15	14,15	5,00	1470,69				59,01	4,53	43,60	15,41	
Monoculture	B	(40-100)	1,57				12,10	5,57	6,53	1021,02				114,02	9,62	52,49	61,53	
Monoculture	C	(0-10)	1,49				27,61	24,99	2,62	2073,44				41,11	3,09	37,21	3,90	
Monoculture	C	(10-20)	1,49				15,94	9,42	6,53	1152,59				23,80	1,72	14,05	9,74	
Monoculture	C	(20-40)	1,54				12,39	5,58	6,81	899,48				38,18	2,77	17,18	20,99	
Monoculture	C	(40-100)	1,57				7,27	2,94	4,12	739,89				68,45	6,97	27,72	40,73	
Natural Regeneration	A	(0-10)	1,08	4,94	3,18	12,80	37,09	27,39	9,70	2634,50	14,40	40,29	45,31	49,06	2,85	29,58	10,48	
Natural Regeneration	A	(10-20)	1,37	4,57	0,42	11,00	14,27	6,17	7,90	1451,21	0,15	52,20	47,65	19,58	1,99	8,74	10,84	
Natural Regeneration	A	(20-40)	1,45	4,60	0,19	11,10	12,16	4,22	7,93	1157,08	0,00	56,15	43,85	35,21	3,35	12,23	22,98	
Natural Regeneration	A	(40-100)	1,40	4,67	0,03	12,30	9,59	2,45	7,14	1035,92	0,00	65,52	34,48	80,82	8,73	20,64	60,18	
Natural Regeneration	B	(0-10)	1,08				35,97	26,63	9,34	2637,77				38,85	2,85	28,76	10,09	
Natural Regeneration	B	(10-20)	1,37				15,08	7,45	7,63	1577,97				20,68	2,16	10,22	10,46	
Natural Regeneration	B	(20-40)	1,45				12,31	4,53	7,78	1180,02				35,67	3,42	13,12	22,54	
Natural Regeneration	B	(40-100)	1,40				10,10	2,43	7,67	1186,36				85,11	10,00	20,51	64,60	
Natural Regeneration	C	(0-10)	1,08				30,76	21,44	9,32	2391,22				33,22	2,58	23,16	10,07	
Natural Regeneration	C	(10-20)	1,37				15,09	7,05	8,04	1306,52				29,70	1,79	9,67	11,03	
Natural Regeneration	C	(20-40)	1,45				14,12	6,61	7,52	1419,12				40,92	4,11	19,13	21,78	
Natural Regeneration	C	(40-100)	1,40				9,93	3,12	6,81	1399,90				83,66	11,80	26,25	57,41	

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Tratamiento	Calicata	Profundidad	densidad	pH (Dn)	P (mg/Kg)	CNC (cmol/Kg)	Ctotal (gr/Kg)	Cacid (gr/Kg)	Ccat (gr/Kg)	Ntotal (mg/Kg)	Amino (%)	Arillo (%)	Lima (%)	ctthml	ctthml	coctthml	ctthml
Association	A	(0-10)	1,08	4,25	2,08	14,2	23,61	21,84	1,77	2341,12	11,53	48,62	39,85	25,39	2,52	23,48	1,91
Association	A	(10-20)	1,27	4,30	0,81	13,4	15,04	13,78	1,26	1400,29	6,42	52,45	41,13	19,16	1,78	17,55	1,60
Association	A	(20-40)	1,38	4,40	0,00	12,8	10,26	7,52	2,74	1158,06	0,00	60,73	39,27	28,30	3,19	20,74	7,56
Association	A	(40-100)	1,40	4,47	0,00	12,9	7,65	5,22	2,43	781,65	0,00	62,01	37,91	64,36	6,58	43,93	20,41
Association	B	(0-10)	1,08				20,33	19,92	0,41	1785,93				21,86	1,92	21,42	0,44
Association	B	(10-20)	1,27				15,81	13,89	1,92	1431,42				20,14	1,82	17,69	2,45
Association	B	(20-40)	1,38				10,62	7,49	3,13	947,31				29,30	2,61	20,66	8,64
Association	B	(40-100)	1,40				7,27	4,09	3,18	757,35				61,19	6,37	34,41	26,78
Association	C	(0-10)	1,08				23,18	20,88	2,30	2007,02				24,92	2,16	22,45	2,47
Association	C	(10-20)	1,27				10,39	8,67	1,72	1012,81				13,23	1,29	11,04	2,19
Association	C	(20-40)	1,38				10,06	5,28	4,78	677,89				27,76	1,87	14,57	13,19
Association	C	(40-100)	1,40				8,83	3,59	5,24	561,06				74,31	4,72	30,19	44,12
Degraded Pasture	A	(0-10)	1,10	4,59	1,07	11,6	22,37	19,02	3,35	1764,25	2,17	48,09	49,74	24,53	1,93	20,85	3,68
Degraded Pasture	A	(10-20)	1,33	5,60	0,78	13,2	13,94	13,61	2,33	1310,47	1,77	53,97	42,26	21,17	1,74	18,07	3,09
Degraded Pasture	A	(20-40)	1,33	4,78	0,41	11,4	11,71	9,93	2,38	1170,86	1,57	58,63	39,78	31,09	3,11	24,78	6,31
Degraded Pasture	A	(40-100)	1,32	4,75	0,48	12,4	8,83	9,78	-0,95	882,57	1,16	62,76	36,08	69,83	6,98	77,35	-7,32
Degraded Pasture	B	(0-10)	1,10				22,97	14,18	8,79	2449,03				25,18	2,69	15,55	9,63
Degraded Pasture	B	(10-20)	1,33				15,10	7,47	7,63	1357,78				20,05	1,80	9,92	10,13
Degraded Pasture	B	(20-40)	1,33				11,05	9,33	1,72	1136,34				29,36	3,02	24,78	4,58
Degraded Pasture	B	(40-100)	1,32				8,86	9,78	-0,92	979,75				70,04	7,75	77,35	-7,31
Degraded Pasture	C	(0-10)	1,10				20,31	12,17	8,14	1766,00				22,26	1,94	13,34	8,92
Degraded Pasture	C	(10-20)	1,33				14,13	7,00	7,13	1341,18				18,76	1,78	9,30	9,46
Degraded Pasture	C	(20-40)	1,33				10,82	9,33	1,49	1588,40				28,75	4,22	24,78	3,97
Degraded Pasture	C	(40-100)	1,32				9,30	9,78	-0,48	914,67				73,56	7,23	77,35	-3,78
For, Bank Improved Management	A	(0-10)	1,28	4,57	0,09	13,0	25,25	24,13	1,12	2104,09	10,13	43,65	46,22	32,21	2,68	30,78	1,43
For, Bank Improved Management	A	(10-20)	1,35	4,41	1,23	10,4	14,98	10,84	4,14	1096,32	1,71	48,96	49,33	20,25	1,48	14,65	5,59
For, Bank Improved Management	A	(20-40)	1,43	4,26	0,99	11,9	12,54	7,50	5,04	859,84	0,03	52,99	46,98	35,74	2,45	21,39	14,36
For, Bank Improved Management	A	(40-100)	1,48	4,55	0,34	13,2	9,70	3,69	6,01	608,78	0,90	60,91	38,19	86,32	5,42	32,86	53,46
For, Bank Improved Management	B	(0-10)	1,28				18,45	16,97	1,48	1636,58				23,53	2,09	21,65	1,88
For, Bank Improved Management	B	(10-20)	1,35				15,11	11,97	3,15	1357,92				20,43	1,84	16,18	4,26
For, Bank Improved Management	B	(20-40)	1,43				10,86	6,61	4,25	936,97				30,95	2,67	18,84	12,11
For, Bank Improved Management	B	(40-100)	1,48				8,59	3,33	5,07	775,99				76,48	6,91	31,40	45,08
For, Bank Improved Management	C	(0-10)	1,28				21,43	19,74	1,69	2008,15				27,34	2,56	25,18	2,16
For, Bank Improved Management	C	(10-20)	1,35				13,84	10,58	3,25	1094,32				18,71	1,48	14,31	4,40
For, Bank Improved Management	C	(20-40)	1,43				10,95	6,32	4,63	865,82				31,21	2,47	18,01	13,20
For, Bank Improved Management	C	(40-100)	1,48				8,11	3,48	4,63	596,52				72,22	5,31	31,00	41,22
Forage Bank Local Management	A	(0-10)	1,17	4,65	7,51	14,7	29,17	21,06	8,12	2460,65	8,22	49,26	42,52	34,24	2,89	24,71	9,53
Forage Bank Local Management	A	(10-20)	1,29	4,48	0,96	14,8	15,81	8,74	7,08	1747,70	0,13	57,18	42,69	20,45	2,26	11,50	9,15
Forage Bank Local Management	A	(20-40)	1,29	4,59	0,70	14,5	13,59	5,81	7,78	1367,68	0,33	60,91	38,76	35,05	3,53	14,98	20,07
Forage Bank Local Management	A	(40-100)	1,32	4,60	0,18	13,9	10,62	3,54	7,09	1225,08	0,13	64,89	34,98	84,41	9,73	28,11	56,30
Forage Bank Local Management	B	(0-10)	1,17				31,45	23,10	8,35	2681,66				36,92	3,15	27,12	9,80
Forage Bank Local Management	B	(10-20)	1,29				16,56	8,99	7,57	1588,17				21,41	2,05	11,62	9,79
Forage Bank Local Management	B	(20-40)	1,29				13,37	5,89	7,48	1122,19				34,49	2,89	15,19	19,30
Forage Bank Local Management	B	(40-100)	1,32				13,94	3,84	10,10	1118,56				110,72	8,89	30,50	80,22
Forage Bank Local Management	C	(0-10)	1,17				33,17	23,30	9,87	2901,00				38,93	3,41	27,35	11,58
Forage Bank Local Management	C	(10-20)	1,29				19,07	10,51	8,56	1846,68				24,66	2,39	13,59	11,07
Forage Bank Local Management	C	(20-40)	1,29				14,98	6,64	8,34	1458,74				38,62	3,71	17,12	21,50
Forage Bank Local Management	C	(40-100)	1,32				9,48	3,46	6,02	1144,29				75,34	9,09	27,51	47,82
Monoculture	A	(0-10)	1,47	5,61	19,97	13,0	27,76	25,74	2,02	2239,41	11,53	45,32	43,15	40,89	3,30	37,91	3,98
Monoculture	A	(10-20)	1,53	5,03	8,66	12,8	17,63	13,21	4,42	1388,95	2,78	52,88	44,34	27,04	2,13	20,25	6,78
Monoculture	A	(20-40)	1,61	4,62	0,43	13,5	11,74	5,50	6,25	839,45	0,90	60,91	38,19	37,80	2,70	17,70	20,11
Monoculture	A	(40-100)	1,56	4,73	0,10	15,4	9,76	3,20	6,55	759,41	0,28	67,74	31,98	91,44	7,12	30,00	61,44
Monoculture	B	(0-10)	1,47				24,82	21,97	2,85	1942,68				36,56	2,86	32,36	4,19
Monoculture	B	(10-20)	1,53				16,31	11,01	5,31	1519,59				25,02	2,33	16,88	8,14
Monoculture	B	(20-40)	1,61				13,24	7,27	6,92	1176,53				42,74	3,79	23,38	19,36
Monoculture	B	(40-100)	1,56				10,82	4,37	6,45	978,10				101,38	9,17	40,91	60,46
Monoculture	C	(0-10)	1,47				25,60	22,30	3,30	2054,10				37,70	3,03	32,85	4,65
Monoculture	C	(10-20)	1,53				17,24	13,02	4,22	1387,06				26,43	2,13	19,96	6,47
Monoculture	C	(20-40)	1,61				12,92	6,50	6,41	961,91				41,57	3,10	20,93	20,64
Monoculture	C	(40-100)	1,56				9,63	2,88	6,76	636,16				99,30	5,96	26,99	63,32
Natural Regeneration	A	(0-10)	0,99	4,90	2,74	13,3	34,90	29,03	5,87	2499,33	14,57	41,49	43,94	34,69	2,48	28,86	5,84
Natural Regeneration	A	(10-20)	1,28	4,65	0,78	11,7	18,68	11,00	7,68	1356,59	4,35	50,43	45,22	23,83	1,73	14,03	9,79
Natural Regeneration	A	(20-40)	1,39	4,58	0,26	12,1	13,81	9,93	7,88	1058,00	0,00	55,89	44,11	38,26	2,99	16,42	21,84
Natural Regeneration	A	(40-100)	1,40	4,66	0,27	13,3	10,54	3,22	7,32	856,49	1,18	58,46	40,36	88,81	7,21	27,12	61,70
Natural Regeneration	B	(0-10)	0,99				32,85	25,01	7,84	2097,32				32,66	2,09	24,87	7,79
Natural Regeneration	B	(10-20)	1,28				17,97	10,21	7,76	1455,12				22,91	1,86	13,02	9,89
Natural Regeneration	B	(20-40)	1,39				12,79	5,00	7,80	1181,32				35,44	3,27	13,84	21,60
Natural Regeneration	B	(40-100)	1,40				9,50	2,64	6,86	1071,54				80,01	9,03	22,26	57,75
Natural Regeneration	C	(0-10)	0,99				30,25	21,76	8,49	2491,35				30,07	2,48	21,63	8,44
Natural Regeneration	C	(10-20)	1,28				20,75	12,08	8,67	1850,09				26,46	2,36	15,40	11,06
Natural Regeneration	C	(20-40)	1,39				14,37	6,56	7,81	1304,76				39,81	3,61	18,17	21,64
Natural Regeneration	C	(40-100)	1,40				10,73	3,03	7,70	1009,78				90,33	8,51	25,48	64,87

Experimento Topografía Lomerio, Amazonía, Colombia
Listado de Variables de Laboratorio y Calculadas Método 1 (profundidad fija)

BLOQUE - 1																	
Tratamiento	Calicata	Profundidad	densidad	pH (lit)	P (mg/Kg)	CTC (cmol/Kg)	Celul (g/Kg)	Casid (g/Kg)	Carb (g/Kg)	Ntotal (mg/Kg)	Amoia (%)	Amoia (%)	Limo (%)	ctthm1	atthm1	cothm1	ctthm1
Asociación	A	(0-10)	1,23	4,47	4,60	16,00	20,21	19,58	0,63	1741,03	5,84	54,06	40,10	24,80	2,14	24,02	0,77
Asociación	A	(10-20)	1,29	4,38	1,42	14,00	16,37	14,91	1,46	1531,45	6,22	52,56	41,22	21,17	1,98	19,29	1,88
Asociación	A	(20-40)	1,36	4,49	0,00	14,20	9,56	6,28	3,28	946,11	0,00	60,49	39,51	26,06	2,58	17,12	8,94
Asociación	A	(40-100)	1,31	4,60	0,00	12,80	6,91	3,16	3,75	661,77	0,00	61,91	38,09	54,45	5,22	24,91	29,55
Asociación	B	(0-10)	1,23				28,68	28,21	0,47	2533,79			35,18	3,11	34,60	0,58	
Asociación	B	(10-20)	1,29				14,57	12,74	1,83	1541,15			18,84	1,99	16,48	2,37	
Asociación	B	(20-40)	1,36				10,08	7,57	2,31	1081,83			27,47	2,85	20,64	6,83	
Asociación	B	(40-100)	1,31				6,85	3,84	3,00	769,96			53,97	6,07	30,30	23,68	
Asociación	C	(0-10)	1,23				30,96	30,38	0,58	2868,01			37,98	3,52	37,27	0,71	
Asociación	C	(10-20)	1,29				15,04	13,56	1,48	1654,85			19,46	2,14	17,54	1,92	
Asociación	C	(20-40)	1,36				12,69	9,47	3,22	1205,78			34,59	3,29	25,80	8,78	
Asociación	C	(40-100)	1,31				9,15	5,13	4,02	943,83			72,13	7,44	40,46	31,67	
Degraded Pasture	A	(0-10)	0,97	4,67	1,45	18,00	23,06	21,30	1,56	2476,02	8,38	45,63	46,01	22,27	2,39	20,76	1,51
Degraded Pasture	A	(10-20)	1,24	4,59	0,77	14,40	21,44	19,54	1,90	2180,47	0,08	53,63	46,29	26,56	2,70	24,21	2,35
Degraded Pasture	A	(20-40)	1,25	4,77	0,57	14,40	21,44	12,03	9,41	1424,78	0,08	57,48	42,44	53,46	3,55	29,99	23,46
Degraded Pasture	A	(40-100)	1,26	4,72	0,23	14,60	9,70	8,20	1,50	1225,84	0,08	61,63	37,29	73,35	9,27	62,01	11,34
Degraded Pasture	B	(0-10)	0,97				24,05	15,64	8,41	2113,30			23,22	2,04	15,10	8,12	
Degraded Pasture	B	(10-20)	1,24				17,20	8,68	8,52	1487,74			21,30	1,84	10,75	10,55	
Degraded Pasture	B	(20-40)	1,25				11,01	12,03	-1,02	980,11			27,45	2,44	29,99	-2,54	
Degraded Pasture	B	(40-100)	1,26				8,13	8,20	-0,07	868,98			61,49	6,57	62,01	-0,52	
Degraded Pasture	C	(0-10)	0,97				28,81	20,69	8,12	2274,71			27,82	2,20	19,98	7,84	
Degraded Pasture	C	(10-20)	1,24				15,68	8,07	7,61	1399,46			19,42	1,73	10,00	9,42	
Degraded Pasture	C	(20-40)	1,25				11,95	12,03	-0,08	1093,04			29,80	2,73	29,99	-0,20	
Degraded Pasture	C	(40-100)	1,26				9,16	8,20	0,96	834,42			69,26	6,31	62,01	7,25	
For. Bank Improved Management	A	(0-10)	1,19	4,28	24,58	15,80	25,27	23,10	2,17	2381,36	17,44	51,51	31,05	29,97	2,82	27,40	2,58
For. Bank Improved Management	A	(10-20)	1,26	4,26	13,55	15,40	19,31	15,84	3,47	1863,53	5,72	55,47	38,81	24,34	2,35	19,97	4,38
For. Bank Improved Management	A	(20-40)	1,35	4,19	1,20	14,40	12,28	7,74	4,54	1075,56	0,00	60,85	39,15	33,10	2,90	20,86	12,34
For. Bank Improved Management	A	(40-100)	1,39	4,45	0,31	14,70	9,62	4,33	5,26	872,15	0,00	63,30	36,70	80,07	7,26	36,24	43,83
For. Bank Improved Management	B	(0-10)	1,19				22,02	19,44	2,58	2046,71			26,11	2,43	23,05	3,06	
For. Bank Improved Management	B	(10-20)	1,26				15,07	10,86	4,22	1294,41			19,00	1,63	13,68	5,31	
For. Bank Improved Management	B	(20-40)	1,35				12,35	7,26	5,09	1049,56			33,29	2,83	19,56	13,73	
For. Bank Improved Management	B	(40-100)	1,39				9,17	3,42	5,75	802,14			76,34	6,68	28,49	47,85	
For. Bank Improved Management	C	(0-10)	1,19				30,28	29,95	1,23	2851,09			35,91	3,38	34,45	1,46	
For. Bank Improved Management	C	(10-20)	1,26				18,85	15,35	3,50	1726,16			23,76	2,18	19,35	4,41	
For. Bank Improved Management	C	(20-40)	1,35				13,92	8,64	5,28	1194,00			37,51	3,22	33,29	14,22	
For. Bank Improved Management	C	(40-100)	1,39				8,98	3,98	5,00	770,77			74,73	6,42	33,11	41,62	
Forage Bank Local Management	A	(0-10)	1,09	4,47	9,62	15,10	29,58	21,26	8,32	2447,32	13,73	49,85	36,42	32,26	2,67	23,19	9,08
Forage Bank Local Management	A	(10-20)	1,31	4,34	2,24	14,40	19,14	11,53	7,61	1747,88	0,90	58,83	40,27	25,05	2,29	15,09	9,96
Forage Bank Local Management	A	(20-40)	1,29	4,42	0,79	14,90	14,80	7,22	7,58	1396,06	0,00	62,55	37,45	38,28	3,61	18,67	19,61
Forage Bank Local Management	A	(40-100)	1,35	4,57	0,22	9,81	10,86	3,93	6,93	1141,12	0,00	66,45	33,55	87,83	9,23	31,78	56,05
Forage Bank Local Management	B	(0-10)	1,09				33,98	25,53	8,46	3040,81			37,07	3,32	27,85	9,23	
Forage Bank Local Management	B	(10-20)	1,31				18,08	10,48	7,60	1561,07			23,65	2,04	13,71	9,94	
Forage Bank Local Management	B	(20-40)	1,29				15,66	7,95	7,71	1498,29			40,50	3,88	20,56	19,94	
Forage Bank Local Management	B	(40-100)	1,35				10,75	3,68	7,07	1148,49			86,99	9,29	29,79	57,20	
Forage Bank Local Management	C	(0-10)	1,09				37,32	27,91	9,41	3344,01			40,71	3,65	30,44	10,27	
Forage Bank Local Management	C	(10-20)	1,31				22,34	14,47	7,87	2121,35			29,23	2,84	18,93	10,30	
Forage Bank Local Management	C	(20-40)	1,29				15,34	7,77	7,57	1542,12			39,69	3,99	20,11	19,58	
Forage Bank Local Management	C	(40-100)	1,35				10,83	3,61	7,22	1081,10			87,60	8,75	29,19	58,41	
Monocultivo	A	(0-10)	1,45	4,81	2,93	13,90	28,81	26,50	2,31	2602,55	10,19	47,44	42,37	41,84	2,91	38,49	3,35
Monocultivo	A	(10-20)	1,51	4,56	1,63	13,60	19,31	14,78	4,53	1435,91	4,68	57,92	37,40	29,10	2,16	22,27	6,83
Monocultivo	A	(20-40)	1,52	4,69	0,52	14,50	13,50	7,29	6,21	973,69	0,28	61,29	38,43	41,06	2,96	22,18	18,88
Monocultivo	A	(40-100)	1,59	4,63	0,40	14,80	9,61	2,70	6,91	659,89	0,00	66,45	33,55	91,73	6,30	25,78	65,95
Monocultivo	B	(0-10)	1,45				31,50	28,38	3,12	2534,89			45,75	3,68	41,22	4,53	
Monocultivo	B	(10-20)	1,51				19,00	14,14	4,86	1454,46			28,63	2,19	21,31	7,33	
Monocultivo	B	(20-40)	1,52				14,99	8,95	6,05	1101,70			45,62	3,35	27,22	18,39	
Monocultivo	B	(40-100)	1,59				11,12	4,48	6,64	700,12			106,16	6,68	42,79	63,38	
Monocultivo	C	(0-10)	1,45				25,47	23,02	2,45	2148,16			37,00	3,12	33,44	3,56	
Monocultivo	C	(10-20)	1,51				15,33	9,89	5,45	1093,57			23,10	1,65	14,90	8,21	
Monocultivo	C	(20-40)	1,52				12,83	6,39	6,14	907,96			38,12	2,76	19,43	18,69	
Monocultivo	C	(40-100)	1,59				10,10	3,49	6,61	609,36			96,46	5,82	33,33	63,13	
Natural Regeneration	A	(0-10)	0,98	4,57	2,27	15,00	29,54	29,42	0,12	2117,98	14,79	50,85	34,36	28,92	2,87	28,81	0,11
Natural Regeneration	A	(10-20)	1,29	4,52	0,79	14,30	18,35	13,22	5,13	1321,62	0,82	57,18	42,00	23,72	1,71	17,09	6,63
Natural Regeneration	A	(20-40)	1,24	4,67	0,35	13,50	14,75	8,31	6,44	1125,89	0,00	62,71	37,29	36,51	2,79	20,56	15,94
Natural Regeneration	A	(40-100)	1,30	4,75	0,14	15,50	10,12	3,55	6,57	660,43	0,00	66,59	33,41	78,92	5,15	27,71	51,21
Natural Regeneration	B	(0-10)	0,98				37,68	35,84	1,84	2816,56			36,89	2,76	35,09	1,80	
Natural Regeneration	B	(10-20)	1,29				19,24	13,50	5,74	1371,42			34,86	1,77	17,45	7,42	
Natural Regeneration	B	(20-40)	1,24				16,44	9,97	6,48	1253,01			40,70	3,10	24,67	16,03	
Natural Regeneration	B	(40-100)	1,30				11,67	4,86	6,82	997,17			91,02	7,77	37,87	53,15	
Natural Regeneration	C	(0-10)	0,98				34,61	30,40	4,21	2571,48			33,89	2,52	29,77	4,12	
Natural Regeneration	C	(10-20)	1,29				19,20	12,28	5,93	1738,48			24,82	2,25	15,86	8,95	
Natural Regeneration	C	(20-40)	1,24				14,66	7,17	7,49	1191,05			36,27	2,95	17,75	18,33	
Natural Regeneration	C	(40-100)	1,30				9,93	3,33	6,60	822,91			77,38	6,42	25,96	51,42	

Block	Treatment	Soil pit (calicata)	Soil Depth	Cylin. No.	Bulk density calicata side 1	Cylin. No.	Bulk density calicata side 2	Cylin. No.	Bulk density calicata side 3	Bulk density mean per calicata
1	Degraded Pasture	A	0-10	1165	0.94	1169	0.99	1173	0.96	781.63
1	Degraded Pasture	A	10-20	1166	1.24	1170	1.26	1174	1.22	782.57
1	Degraded Pasture	A	20-40	1167	1.28	1171	1.28	1175	1.18	783.25
1	Degraded Pasture	A	40-100	1168	1.32	1172	1.23	1176	1.24	783.93
1	Degraded Pasture	B	0-10							
1	Degraded Pasture	B	10-20							
1	Degraded Pasture	B	20-40							
1	Degraded Pasture	B	40-100							
1	Degraded Pasture	C	0-10							
1	Degraded Pasture	C	10-20							
1	Degraded Pasture	C	20-40							
1	Degraded Pasture	C	40-100							
2	Degraded Pasture	A	0-10	1177	1.15	1181	0.96	1185	1.19	789.76
2	Degraded Pasture	A	10-20	1178	1.34	1182	1.31	1186	1.33	790.66
2	Degraded Pasture	A	20-40	1179	1.28	1183	1.35	1187	1.36	791.33
2	Degraded Pasture	A	40-100	1180	1.33	1184	1.31	1188	1.31	791.98
2	Degraded Pasture	B	0-10							
2	Degraded Pasture	B	10-20							
2	Degraded Pasture	B	20-40							
2	Degraded Pasture	B	40-100							
2	Degraded Pasture	C	0-10							
2	Degraded Pasture	C	10-20							
2	Degraded Pasture	C	20-40							
2	Degraded Pasture	C	40-100							
3	Degraded Pasture	A	0-10	1189	1.11	1193	1.03	1197	1.15	797.76
3	Degraded Pasture	A	10-20	1190	1.30	1194	1.25	1198	1.29	798.62
3	Degraded Pasture	A	20-40	1191	1.33	1195	1.33	1199	1.33	799.33
3	Degraded Pasture	A	40-100	1192	1.29	1196	1.28	1200	1.25	799.94
3	Degraded Pasture	B	0-10							
3	Degraded Pasture	B	10-20							
3	Degraded Pasture	B	20-40							
3	Degraded Pasture	B	40-100							
3	Degraded Pasture	C	0-10							
3	Degraded Pasture	C	10-20							
3	Degraded Pasture	C	20-40							
3	Degraded Pasture	C	40-100							
4	Degraded Pasture	A	0-10	1201	1.11	1205	1.00	1209	1.10	805.74
4	Degraded Pasture	A	10-20	1202	1.38	1206	1.26	1210	1.29	806.64
4	Degraded Pasture	A	20-40	1203	1.38	1207	1.31	1211	1.33	807.34
4	Degraded Pasture	A	40-100	1204	1.25	1208	1.30	1212	1.31	807.95
4	Degraded Pasture	B	0-10							
4	Degraded Pasture	B	10-20							
4	Degraded Pasture	B	20-40							
4	Degraded Pasture	B	40-100							
4	Degraded Pasture	C	0-10							
4	Degraded Pasture	C	10-20							
4	Degraded Pasture	C	20-40							
4	Degraded Pasture	C	40-100							

Block	Treatment	Soil pit (calicata)	Soil Depth	Cylin. No.	Bulk density calicata side 1	Cylin. No.	Bulk density calicata side 2	Cylin. No.	Bulk density calicata side 3	Bulk density mean per calicata
1	Forage Bank Local Management	A	0-10	1621	1.07	1625	1.16	1629	1.05	1085.76
1	Forage Bank Local Management	A	10-20	1622	1.32	1626	1.30	1630	1.31	1086.64
1	Forage Bank Local Management	A	20-40	1623	1.27	1627	1.32	1631	1.29	1087.29
1	Forage Bank Local Management	A	40-100	1624	1.36	1628	1.41	1632	1.28	1088.01
1	Forage Bank Local Management	B	0-10							
1	Forage Bank Local Management	B	10-20							
1	Forage Bank Local Management	B	20-40							
1	Forage Bank Local Management	B	40-100							
1	Forage Bank Local Management	C	0-10							
1	Forage Bank Local Management	C	10-20							
1	Forage Bank Local Management	C	20-40							
1	Forage Bank Local Management	C	40-100							
2	Forage Bank Local Management	A	0-10	1633	1.19	1637	1.12	1641	1.21	1093.84
2	Forage Bank Local Management	A	10-20	1634	1.32	1638	1.25	1642	1.32	1094.63
2	Forage Bank Local Management	A	20-40	1635	1.32	1639	1.30	1643	1.25	1095.29
2	Forage Bank Local Management	A	40-100	1636	1.37	1640	1.26	1644	1.34	1095.99
2	Forage Bank Local Management	B	0-10							
2	Forage Bank Local Management	B	10-20							
2	Forage Bank Local Management	B	20-40							
2	Forage Bank Local Management	B	40-100							
2	Forage Bank Local Management	C	0-10							
2	Forage Bank Local Management	C	10-20							
2	Forage Bank Local Management	C	20-40							
2	Forage Bank Local Management	C	40-100							
3	Forage Bank Local Management	A	0-10	1645	1.20	1649	1.23	1653	1.25	1101.89
3	Forage Bank Local Management	A	10-20	1646	1.32	1650	1.36	1654	1.32	1102.67
3	Forage Bank Local Management	A	20-40	1647	1.41	1651	1.33	1655	1.43	1103.39
3	Forage Bank Local Management	A	40-100	1648	1.38	1652	1.39	1656	1.38	1104.05
3	Forage Bank Local Management	B	0-10							
3	Forage Bank Local Management	B	10-20							
3	Forage Bank Local Management	B	20-40							
3	Forage Bank Local Management	B	40-100							
3	Forage Bank Local Management	C	0-10							
3	Forage Bank Local Management	C	10-20							
3	Forage Bank Local Management	C	20-40							
3	Forage Bank Local Management	C	40-100							
4	Forage Bank Local Management	A	0-10	1657	1.09	1661	1.17	1665	1.07	1109.78
4	Forage Bank Local Management	A	10-20	1658	1.36	1662	1.32	1666	1.25	1110.64
4	Forage Bank Local Management	A	20-40	1659	1.40	1663	1.31	1667	1.36	1111.36
4	Forage Bank Local Management	A	40-100	1660	1.33	1664	1.37	1668	1.40	1112.03
4	Forage Bank Local Management	B	0-10							
4	Forage Bank Local Management	B	10-20							
4	Forage Bank Local Management	B	20-40							
4	Forage Bank Local Management	B	40-100							
4	Forage Bank Local Management	C	0-10							
4	Forage Bank Local Management	C	10-20							
4	Forage Bank Local Management	C	20-40							
4	Forage Bank Local Management	C	40-100							

Block	Treatment	Soil pit (calicata)	Soil Depth	Cylin. No.	Bulk density calicata side 1	Cylin. No.	Bulk density calicata side 2	Cylin. No.	Bulk density calicata side 3	Bulk density mean per calicata
1	Natural Regeneration	A	0-10	1573	1.02	1577	0.94	1581	0.98	1053.65
1	Natural Regeneration	A	10-20	1574	1.29	1578	1.26	1582	1.33	1054.63
1	Natural Regeneration	A	20-40	1575	1.24	1579	1.23	1583	1.25	1055.24
1	Natural Regeneration	A	40-100	1576	1.34	1580	1.27	1584	1.28	1055.97
1	Natural Regeneration	B	0-10							
1	Natural Regeneration	B	10-20							
1	Natural Regeneration	B	20-40							
1	Natural Regeneration	B	40-100							
1	Natural Regeneration	C	0-10							
1	Natural Regeneration	C	10-20							
1	Natural Regeneration	C	20-40							
1	Natural Regeneration	C	40-100							
2	Natural Regeneration	A	0-10	1585	1.03	1589	0.98	1593	0.97	1061.66
2	Natural Regeneration	A	10-20	1586	1.31	1590	1.18	1594	1.33	1062.61
2	Natural Regeneration	A	20-40	1587	1.39	1591	1.32	1595	1.45	1063.39
2	Natural Regeneration	A	40-100	1588	1.38	1592	1.45	1596	1.39	1064.07
2	Natural Regeneration	B	0-10							
2	Natural Regeneration	B	10-20							
2	Natural Regeneration	B	20-40							
2	Natural Regeneration	B	40-100							
2	Natural Regeneration	C	0-10							
2	Natural Regeneration	C	10-20							
2	Natural Regeneration	C	20-40							
2	Natural Regeneration	C	40-100							
3	Natural Regeneration	A	0-10	1597	1.10	1601	1.07	1605	1.07	1069.75
3	Natural Regeneration	A	10-20	1598	1.34	1602	1.34	1606	1.43	1070.71
3	Natural Regeneration	A	20-40	1599	1.45	1603	1.44	1607	1.46	1071.45
3	Natural Regeneration	A	40-100	1600	1.43	1604	1.45	1608	1.33	1072.07
3	Natural Regeneration	B	0-10							
3	Natural Regeneration	B	10-20							
3	Natural Regeneration	B	20-40							
3	Natural Regeneration	B	40-100							
3	Natural Regeneration	C	0-10							
3	Natural Regeneration	C	10-20							
3	Natural Regeneration	C	20-40							
3	Natural Regeneration	C	40-100							
4	Natural Regeneration	A	0-10	1609	0.94	1613	0.99	1617	1.19	1077.71
4	Natural Regeneration	A	10-20	1610	1.28	1614	1.28	1618	1.31	1078.62
4	Natural Regeneration	A	20-40	1611	1.39	1615	1.41	1619	1.34	1079.38
4	Natural Regeneration	A	40-100	1612	1.40	1616	1.38	1620	1.39	1080.06
4	Natural Regeneration	B	0-10							
4	Natural Regeneration	B	10-20							
4	Natural Regeneration	B	20-40							
4	Natural Regeneration	B	40-100							
4	Natural Regeneration	C	0-10							
4	Natural Regeneration	C	10-20							
4	Natural Regeneration	C	20-40							
4	Natural Regeneration	C	40-100							

Block	Treatment	Soil pit (calicata)	Soil Depth	Cylin. No.	Bulk density calicata side 1	Cylin. No.	Bulk density calicata side 2	Cylin. No.	Bulk density calicata side 3	Bulk density mean per calicata
1	For. Bank Improved Management	A	0-10	1525	1.28	1529	1.21	1533	1.07	1021.85
1	For. Bank Improved Management	A	10-20	1526	1.32	1530	1.20	1534	1.26	1022.59
1	For. Bank Improved Management	A	20-40	1527	1.35	1531	1.40	1535	1.29	1023.35
1	For. Bank Improved Management	A	40-100	1528	1.33	1532	1.40	1536	1.43	1024.05
1	For. Bank Improved Management	B	0-10							
1	For. Bank Improved Management	B	10-20							
1	For. Bank Improved Management	B	20-40							
1	For. Bank Improved Management	B	40-100							
1	For. Bank Improved Management	C	0-10							
1	For. Bank Improved Management	C	10-20							
1	For. Bank Improved Management	C	20-40							
1	For. Bank Improved Management	C	40-100							
2	For. Bank Improved Management	A	0-10	1537	1.22	1541	1.26	1545	1.34	1029.94
2	For. Bank Improved Management	A	10-20	1538	1.38	1542	1.32	1546	1.35	1030.69
2	For. Bank Improved Management	A	20-40	1539	1.45	1543	1.41	1547	1.42	1031.43
2	For. Bank Improved Management	A	40-100	1540	1.50	1544	1.44	1548	1.51	1032.15
2	For. Bank Improved Management	B	0-10							
2	For. Bank Improved Management	B	10-20							
2	For. Bank Improved Management	B	20-40							
2	For. Bank Improved Management	B	40-100							
2	For. Bank Improved Management	C	0-10							
2	For. Bank Improved Management	C	10-20							
2	For. Bank Improved Management	C	20-40							
2	For. Bank Improved Management	C	40-100							
3	For. Bank Improved Management	A	0-10	1549	1.06	1553	1.14	1557	1.18	1037.79
3	For. Bank Improved Management	A	10-20	1550	1.23	1554	1.40	1558	1.39	1038.68
3	For. Bank Improved Management	A	20-40	1551	1.37	1555	1.36	1559	1.42	1039.38
3	For. Bank Improved Management	A	40-100	1552	1.36	1556	1.36	1560	1.34	1040.02
3	For. Bank Improved Management	B	0-10							
3	For. Bank Improved Management	B	10-20							
3	For. Bank Improved Management	B	20-40							
3	For. Bank Improved Management	B	40-100							
3	For. Bank Improved Management	C	0-10							
3	For. Bank Improved Management	C	10-20							
3	For. Bank Improved Management	C	20-40							
3	For. Bank Improved Management	C	40-100							
4	For. Bank Improved Management	A	0-10	1561	1.24	1565	1.36	1569	1.23	1045.94
4	For. Bank Improved Management	A	10-20	1562	1.27	1566	1.30	1570	1.30	1046.63
4	For. Bank Improved Management	A	20-40	1563	1.42	1567	1.42	1571	1.40	1047.41
4	For. Bank Improved Management	A	40-100	1564	1.45	1568	1.47	1572	1.45	1048.12
4	For. Bank Improved Management	B	0-10							
4	For. Bank Improved Management	B	10-20							
4	For. Bank Improved Management	B	20-40							
4	For. Bank Improved Management	B	40-100							
4	For. Bank Improved Management	C	0-10							
4	For. Bank Improved Management	C	10-20							
4	For. Bank Improved Management	C	20-40							
4	For. Bank Improved Management	C	40-100							

Block	Treatment	Soil pit (calicata)	Soil Depth	Cylin. No.	Bulk density calicata side 1	Cylin. No.	Bulk density calicata side 2	Cylin. No.	Bulk density calicata side 3	Bulk density mean per calicata
1	Asociation	A	0-10	1477	1.15	1481	1.23	1485	1.30	989.89
1	Asociation	A	10-20	1478	1.24	1482	1.37	1486	1.26	990.63
1	Asociation	A	20-40	1479	1.37	1483	1.34	1487	1.38	991.36
1	Asociation	A	40-100	1480	1.28	1484	1.31	1488	1.35	991.98
1	Asociation	B	0-10							
1	Asociation	B	10-20							
1	Asociation	B	20-40							
1	Asociation	B	40-100							
1	Asociation	C	0-10							
1	Asociation	C	10-20							
1	Asociation	C	20-40							
1	Asociation	C	40-100							
2	Asociation	A	0-10	1489	1.17	1493	1.10	1497	0.96	997.74
2	Asociation	A	10-20	1490	1.35	1494	1.32	1498	1.16	998.61
2	Asociation	A	20-40	1491	1.36	1495	1.39	1499	1.39	999.38
2	Asociation	A	40-100	1492	1.44	1496	1.40	1500	1.37	1000.07
2	Asociation	B	0-10							
2	Asociation	B	10-20							
2	Asociation	B	20-40							
2	Asociation	B	40-100							
2	Asociation	C	0-10							
2	Asociation	C	10-20							
2	Asociation	C	20-40							
2	Asociation	C	40-100							
3	Asociation	A	0-10	1501	1.12	1505	1.06	1509	1.22	1005.80
3	Asociation	A	10-20	1502	1.33	1506	1.33	1510	1.37	1006.67
3	Asociation	A	20-40	1503	1.38	1507	1.31	1511	1.41	1007.37
3	Asociation	A	40-100	1504	1.41	1508	1.37	1512	1.37	1008.05
3	Asociation	B	0-10							
3	Asociation	B	10-20							
3	Asociation	B	20-40							
3	Asociation	B	40-100							
3	Asociation	C	0-10							
3	Asociation	C	10-20							
3	Asociation	C	20-40							
3	Asociation	C	40-100							
4	Asociation	A	0-10	1513	1.16	1517	1.19	1521	1.15	1013.84
4	Asociation	A	10-20	1514	1.19	1518	1.35	1522	1.36	1014.63
4	Asociation	A	20-40	1515	1.34	1519	1.47	1523	1.39	1015.40
4	Asociation	A	40-100	1516	1.38	1520	1.44	1524	1.36	1016.06
4	Asociation	B	0-10							
4	Asociation	B	10-20							
4	Asociation	B	20-40							
4	Asociation	B	40-100							
4	Asociation	C	0-10							
4	Asociation	C	10-20							
4	Asociation	C	20-40							
4	Asociation	C	40-100							

Carbon Sequestration Project

CIPAV - CIAT - CATIE - U. Amazonia - Wageningen University

The Netherlands Cooperation - Activity CO-010402

Experiment Amazonia BALCANES Mild-slope Topography - original bulk density values per cylinder

Block	Treatment	Soil pit (calicata)	Soil Depth	Cylin. No.	Bulk density calicata side 1	Cylin. No.	Bulk density calicata side 2	Cylin. No.	Bulk density calicata side 3	Bulk density mean per calicata
1	Monoculture	A	0-10	1429	1.45	1433	1.37	1437	1.54	958.12
1	Monoculture	A	10-20	1430	1.42	1434	1.51	1438	1.59	958.84
1	Monoculture	A	20-40	1431	1.59	1435	1.38	1439	1.60	959.52
1	Monoculture	A	40-100	1432	1.59	1436	1.62	1440	1.56	960.26
1	Monoculture	B	0-10							
1	Monoculture	B	10-20							
1	Monoculture	B	20-40							
1	Monoculture	B	40-100							
1	Monoculture	C	0-10							
1	Monoculture	C	10-20							
1	Monoculture	C	20-40							
1	Monoculture	C	40-100							
2	Monoculture	A	0-10	1441	1.61	1445	1.40	1449	1.40	966.14
2	Monoculture	A	10-20	1442	1.53	1446	1.58	1450	1.49	966.87
2	Monoculture	A	20-40	1443	1.59	1447	1.67	1451	1.57	967.61
2	Monoculture	A	40-100	1444	1.59	1448	1.57	1452	1.53	968.23
2	Monoculture	B	0-10							
2	Monoculture	B	10-20							
2	Monoculture	B	20-40							
2	Monoculture	B	40-100							
2	Monoculture	C	0-10							
2	Monoculture	C	10-20							
2	Monoculture	C	20-40							
2	Monoculture	C	40-100							
3	Monoculture	A	0-10	1453	1.52	1457	1.55	1461	1.40	974.16
3	Monoculture	A	10-20	1454	1.46	1458	1.51	1462	1.51	974.83
3	Monoculture	A	20-40	1455	1.57	1459	1.53	1463	1.53	975.54
3	Monoculture	A	40-100	1456	1.60	1460	1.47	1464	1.64	976.24
3	Monoculture	B	0-10							
3	Monoculture	B	10-20							
3	Monoculture	B	20-40							
3	Monoculture	B	40-100							
3	Monoculture	C	0-10							
3	Monoculture	C	10-20							
3	Monoculture	C	20-40							
3	Monoculture	C	40-100							
4	Monoculture	A	0-10	1465	1.62	1469	1.43	1473	1.43	982.16
4	Monoculture	A	10-20	1466	1.61	1470	1.54	1474	1.56	982.90
4	Monoculture	A	20-40	1467	1.65	1471	1.61	1475	1.56	983.61
4	Monoculture	A	40-100	1468	1.73	1472	1.57	1476	1.57	984.29
4	Monoculture	B	0-10							
4	Monoculture	B	10-20							
4	Monoculture	B	20-40							
4	Monoculture	B	40-100							
4	Monoculture	C	0-10							
4	Monoculture	C	10-20							
4	Monoculture	C	20-40							
4	Monoculture	C	40-100							



***Final Database
Mild-slope Topography Experiment
Amazonia, Colombia***

BLOQUE = 3									
tratamiento	calicata	ctthmt1 60c	coxthmt1 60c	cethmt1 60c	ntthmt1 60c	ctthmt2 60c	coxthmt2 60c	cethmt2 60c	ntthmt2 60c
Asociation	A	80,44	36,22	44,22	5,78	63,81	28,73	35,08	4,58
Asociation	B	88,74	42,31	46,43	6,36	70,39	33,56	36,83	5,05
Asociation	C	85,95	44,59	41,36	7,00	68,18	35,37	32,81	5,55
Degraded Pasture	A	68,09	42,54	25,56	6,54	57,78	36,09	21,68	5,55
Degraded Pasture	B	66,79	43,18	23,61	6,69	56,68	36,64	20,03	5,68
Degraded Pasture	C	78,98	42,21	36,77	6,84	67,02	35,82	31,20	5,80
For, Bank Improved Management	A	77,40	33,87	43,53	5,33	62,17	27,21	34,97	4,28
For, Bank Improved Management	B	86,40	46,67	39,72	6,22	69,40	37,49	31,91	4,99
For, Bank Improved Management	C	90,13	50,18	39,94	6,33	72,40	40,31	32,09	5,08
Monocultive	A	75,29	28,52	46,76	6,22	59,82	22,66	37,15	4,94
Monocultive	B	81,41	40,49	40,93	6,25	64,69	32,17	32,52	4,96
Monocultive	C	70,03	39,25	30,79	5,41	55,65	31,18	24,46	4,30
Natural Regeneration	A	89,69	32,59	57,11	5,03	68,27	24,81	43,47	3,83
Natural Regeneration	B	93,84	75,29	18,56	7,12	71,43	57,31	14,13	5,42
Natural Regeneration	C	81,17	47,98	33,19	5,30	61,78	36,52	25,27	4,04
BLOQUE = 4									
tratamiento	calicata	ctthmt1 60c	coxthmt1 60c	cethmt1 60c	ntthmt1 60c	ctthmt2 60c	coxthmt2 60c	cethmt2 60c	ntthmt2 60c
Asociation	A	104,67	67,16	37,51	8,56	84,21	54,03	30,18	6,88
Asociation	B	84,02	38,51	45,51	5,47	67,59	30,98	36,61	4,40
Asociation	C	80,45	43,58	36,87	6,47	64,72	35,06	29,66	5,21
Degraded Pasture	A	79,95	64,97	14,98	9,70	65,12	52,92	12,20	7,90
Degraded Pasture	B	71,20	64,97	6,23	7,38	57,99	52,92	5,07	6,01
Degraded Pasture	C	81,59	64,97	16,62	9,90	66,46	52,92	13,54	8,07
For, Bank Improved Management	A	84,18	45,34	38,83	5,62	67,33	36,27	31,06	4,50
For, Bank Improved Management	B	86,77	51,04	35,73	5,99	69,41	40,83	28,58	4,79
For, Bank Improved Management	C	88,62	51,48	37,13	6,90	70,88	41,18	29,70	5,52
Monocultive	A	72,92	34,47	38,46	6,25	53,60	25,33	28,27	4,59
Monocultive	B	84,74	43,52	41,22	6,93	62,29	31,99	30,30	5,10
Monocultive	C	73,15	27,63	45,52	5,16	53,77	20,31	33,46	3,79
Natural Regeneration	A	79,35	48,38	30,97	5,57	57,97	35,34	22,63	4,07
Natural Regeneration	B	91,27	52,93	38,34	6,23	66,68	38,67	28,01	4,55
Natural Regeneration	C	91,27	47,67	43,60	7,06	66,68	34,83	31,85	5,16

Experimento Topografía Plana, Amazonía, Colombia
Listado de Variables de Carbono Acumulado de 40-100 cm metodos 1 y 2

[illegible]

- ❑ Socio-economic results (*J. Gobbi and M. Ibrahim*)
- ❑ Conclusions (*M. Ibrahim*)

Chapter 7: Extrapolation

- ❑ Considerations on Extrapolation (*B. van Putten*)
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September 27, 2006

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**Carbon Sequestration
in Tropical Grassland Ecosystems**

Editor-in-Chief: L. 't Mannetje

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Annex 9

Project Book Contents

BLOCK 3															
Land use	Soil Ph	Depth (cm)	Bulk density	pH	Sand (%)	Clay (%)	Silt (%)	P mg/Kg	Acidez	Ca cmol(+)/l	K cmol(+)/l	Mg cmol(+)/l	Total C (gr/Kg)	Oxid C (gr/Kg)	N (mg/Kg)
H.rufa	7	0-10	0.9900	5.3000	34.5098	28.4957	36.9945	0.8800	5.6200	3.9800	0.0600	2.8600	38.8000	38.8000	1800.00
H.rufa	7	10-20	1.1100	5.3700	27.0073	38.4962	34.4966	0.5800	6.2300	4.6500	0.0400	2.9200	14.8000	14.8000	1300.00
H.rufa	7	20-40	1.1200	5.2800	29.5159	35.9919	34.4922	0.7300	6.6500	4.6300	0.0300	3.2200	9.1000	9.1000	1800.00
H.rufa	7	40-100	1.2600	5.5600	36.0112	31.4945	32.4943	0.2900	7.2400	5.8200	0.0200	5.3900	4.2000	4.2000	600.00
b.brizhanta	7	0-10	1.1000	5.4600	44.5042	20.9984	34.4974	2.3400	1.4000	2.6500	0.1400	0.8600	34.6000	34.6000	3800.00
b.brizhanta	7	10-20	1.1063	5.4400	24.5075	38.4962	36.9963	1.0200	3.4000	2.5800	0.0600	1.0200	27.2000	27.2000	1700.00
b.brizhanta	7	20-40	1.1020	5.2800	17.0083	45.9954	36.9963	0.7300	8.1100	1.7800	0.0300	1.2900	16.4000	16.4000	700.00
b.brizhanta	7	40-100	1.2503	5.2800	14.5107	50.9936	34.4957	0.4400	9.1300	1.4100	0.0200	1.2800	7.5000	7.5000	600.00
B.briz+ A.pintoi	7	0-10	1.0000	5.4600	46.5067	16.4979	36.9954	2.3400	1.1100	1.5100	0.1100	0.5900	31.2300	31.2300	5200.00
B.briz+ A.pintoi	7	10-20	1.0451	5.5300	39.0107	23.9958	36.9935	1.3200	1.5300	1.5900	0.0400	0.4800	27.2000	27.2000	2600.00
B.briz+ A.pintoi	7	20-40	1.2400	5.4900	24.0114	43.9934	31.9952	0.4400	2.9800	4.0000	0.0300	2.3300	12.6000	12.6000	800.00
B.briz+ A.pintoi	7	40-100	1.2600	5.4900	29.0106	43.9934	26.9960	0.4400	4.3800	4.1100	0.0300	3.8500	8.2000	8.2000	600.00
Cratylia	7	0-10	0.9100	5.0000	46.5094	16.4971	36.9935	2.1900	1.4700	1.4500	0.1100	0.5800	40.0000	40.0000	5500.00
Cratylia	7	10-20	0.9700	5.4600	34.0132	28.9942	36.9926	2.9200	1.4800	2.7600	0.0700	1.3400	20.0000	20.0000	2600.00
Cratylia	7	20-40	1.3000	5.4000	24.0133	38.9932	36.9935	0.4400	2.3800	2.7500	0.0300	2.2300	18.0000	18.0000	1000.00
Cratylia	7	40-100	1.3000	5.5400	26.5055	38.9971	34.4974	0.4400	3.5900	3.0900	0.0200	2.2700	7.4000	7.4000	400.00
regeneration	7	0-10	0.9900	5.1700	39.5060	25.9974	34.4966	1.4600	2.2200	0.3500	0.0600	0.1700	38.8000	38.8000	3300.00
regeneration	7	10-20	0.9400	5.0100	22.0058	40.9969	36.9972	0.7300	5.4300	0.5500	0.0200	0.1900	22.1000	22.1000	1400.00
regeneration	7	20-40	1.0966	5.1000	14.5085	53.4947	31.9968	0.2900	8.5300	0.7100	0.0100	0.3700	7.8000	7.8000	700.00
regeneration	7	40-100	1.1151	5.1500	14.5043	55.9972	29.4985	0.4400	11.4400	0.4600	0.0100	0.3700	6.5500	6.5500	600.00
BLOCK 4															
H.rufa	8	0-10	0.9000	5.2400	41.0044	26.4980	32.4976	5.1200	2.5100	1.4200	0.1400	0.6200	40.5000	40.5000	3700.00
H.rufa	8	10-20	1.1700	5.1000	33.5050	36.4973	29.9978	1.6100	4.3500	0.4600	0.0500	0.2200	29.9000	29.9000	900.00
H.rufa	8	20-40	1.1300	4.9600	26.0074	43.9956	29.9970	0.5800	9.8600	0.2100	0.0200	0.1200	16.1000	16.1000	300.00
H.rufa	8	40-100	1.1500	4.9800	41.0103	33.9941	24.9956	0.4400	18.0400	0.0800	0.0200	0.0500	8.6000	8.6000	300.00
b.brizhanta	8	0-10	1.1000	5.4100	44.5042	25.9981	29.4978	4.2400	0.6700	5.4900	0.7400	3.3700	38.8000	38.8000	5000.00
b.brizhanta	8	10-20	1.1054	5.2100	22.0097	45.9943	31.9960	0.8800	7.0200	1.6800	0.2600	1.4000	25.6000	25.6000	1200.00
b.brizhanta	8	20-40	1.1088	5.0800	22.0097	45.9943	31.9960	0.8800	9.2200	0.6400	0.1500	0.6400	9.1000	9.1000	700.00
b.brizhanta	8	40-100	1.2193	5.0400	19.5121	45.9931	34.4948	0.4400	10.5900	0.2800	0.2100	0.3300	7.0000	7.0000	300.00
B.briz+ A.pintoi	8	0-10	0.9100	5.5000	59.5051	18.4977	21.9973	1.6100	0.5500	3.1200	0.2800	1.2200	31.5000	31.5000	3600.00
B.briz+ A.pintoi	8	10-20	1.0901	5.4800	54.5045	20.9979	24.4976	2.0500	0.7000	2.2400	0.2100	0.7800	21.1000	21.1000	3600.00
B.briz+ A.pintoi	8	20-40	1.1300	5.2500	32.0068	35.9964	31.9968	0.2900	2.5200	1.2500	0.0500	1.0700	8.6000	8.6000	500.00
B.briz+ A.pintoi	8	40-100	1.3500	5.2600	17.0104	48.4939	34.4957	0.2900	5.5000	0.4800	0.0900	0.9500	7.3000	7.3000	300.00
Cratylia	8	0-10	1.0584	5.0800	41.0118	26.4947	32.4935	2.0500	1.2000	1.8100	0.2000	1.3200	34.5000	34.5000	3100.00
Cratylia	8	10-20	1.1053	5.2100	26.0074	38.9961	34.9965	0.8800	3.9900	0.6000	0.0600	0.2900	15.1000	15.1000	900.00
Cratylia	8	20-40	1.2700	4.9400	23.5038	41.4979	34.9983	0.5800	4.9400	0.3300	0.0300	0.1900	9.8000	9.8000	700.00
Cratylia	8	40-100	1.3400	4.8300	23.5134	41.4927	34.9939	0.8800	6.4000	0.1400	0.0300	0.1300	7.3000	7.3000	400.00
regeneration	8	0-10	1.2100	5.4800	57.0075	18.4968	24.4957	2.1900	0.8200	3.0900	0.1600	1.0900	34.1000	34.1000	5100.00
regeneration	8	10-20	1.1644	5.5300	29.5053	35.9973	34.4974	0.7300	1.4400	2.2300	0.0400	0.7900	19.0000	19.0000	1600.00
regeneration	8	20-40	1.4000	5.3500	14.5107	50.9936	34.4957	0.2900	3.2100	1.2800	0.0100	0.8000	7.1000	7.1000	600.00
regeneration	8	40-100	1.2217	5.2800	17.0145	48.4915	34.4940	0.2900	4.0500	0.8800	0.0100	0.8100	7.7000	7.7000	500.00

New Experimental Farms, Lab Results - Costa Rica 2005 (final Carbon sampling)

Carbon Sequestration Project

CIPAV - CIAT - CATIE - U. Amazonia - Wageningen University

The Netherlands Cooperation - Activity CO-010402

BLOCK 1															
Land use	Soil Pit	Depth (cm)	Bulk density	pH	Sand (%)	Clay (%)	Silt (%)	P mg/Kg	Acidez	Ca cmol(+)/l	K cmol(+)/l	Mg cmol(+)/l	Total C (gr/Kg)	Oxid C (gr/Kg)	N (mg/Kg)
H.rufa	5	0-10	1.1000	5.6200	41.0044	21.9984	36.9972	1.1700	0.5600	3.0000	0.1900	0.9200	45.0000	45.0000	3600.00
H.rufa	5	10-20	1.1200	5.6200	28.5071	34.4966	36.9963	0.5800	1.2800	2.2000	0.1000	0.7300	29.0000	29.0000	2000.00
H.rufa	5	20-40	1.1000	5.2400	21.0138	41.9927	36.9935	0.2900	3.5600	1.5000	0.0500	0.5700	11.2000	11.2000	800.00
H.rufa	5	40-100	1.2000	5.1600	18.5081	54.4946	26.9973	0.0100	7.6800	0.7200	0.0200	0.8700	9.3000	9.3000	400.00
b.brizhanta	5	0-10	1.1100	5.2800	41.0118	21.9956	36.9926	1.3200	2.0500	0.5900	0.0700	0.1600	31.5000	31.5000	3200.00
b.brizhanta	5	10-20	1.1100	5.1800	23.5057	39.4970	36.9972	0.5800	5.2300	0.6600	0.0400	0.3000	26.3000	26.3000	1100.00
b.brizhanta	5	20-40	1.1800	5.1900	31.0103	41.9937	26.9960	0.2900	7.8000	0.9900	0.0200	0.4500	14.9000	14.9000	400.00
b.brizhanta	5	40-100	1.2300	5.2000	33.5150	41.9906	24.4945	0.5800	12.3500	0.3200	0.0200	0.3200	8.9000	8.9000	300.00
B.briz+ A.pintoi	5	0-10	1.1200	5.1000	26.0129	39.4931	34.4940	0.7300	4.0600	0.5300	0.1900	0.2400	35.1000	35.1000	1600.00
B.briz+ A.pintoi	5	10-20	1.2300	5.0300	16.0084	49.4951	34.4966	0.2900	7.0500	0.4400	0.0700	0.2700	29.8000	29.8000	600.00
B.briz+ A.pintoi	5	20-40	1.2642	5.1200	13.5151	46.9918	39.4931	0.2900	9.9600	0.2800	0.0600	0.2500	16.2000	16.2000	300.00
B.briz+ A.pintoi	5	40-100	1.3400	5.2200	18.5143	39.4931	41.9927	0.1500	6.8200	0.2100	0.0600	0.2800	8.4000	8.4000	400.00
Cratylia	5	0-10	1.0800	4.7800	36.0112	31.9944	31.9944	3.6500	2.5200	0.4900	0.1000	0.3100	35.0000	35.0000	2700.00
Cratylia	5	10-20	1.2600	5.0100	8.5069	59.4955	31.9976	0.2900	5.3200	0.4200	0.0400	0.2300	14.9000	14.9000	800.00
Cratylia	5	20-40	1.2800	4.9700	16.0126	54.4918	29.4956	0.1500	6.3500	0.1900	0.0300	0.2000	6.9000	6.9000	400.00
Cratylia	5	40-100	1.3100	4.8800	26.0111	41.9937	31.9952	0.1500	6.6700	0.1000	0.0400	0.1900	6.1000	6.1000	300.00
regeneration	5	0-10	1.0500	5.4500	46.0081	21.9967	31.9952	1.3200	1.4500	1.2100	0.1200	0.4900	39.8000	39.8000	3900.00
regeneration	5	10-20	1.2900	5.3800	33.5100	31.9952	34.4948	0.7300	2.0200	1.0700	0.0500	0.3600	27.5000	27.5000	1600.00
regeneration	5	20-40	1.2400	5.2600	21.0039	46.9977	31.9984	0.1500	4.3600	0.7700	0.0200	0.5100	18.4000	18.4000	600.00
regeneration	5	40-100	1.2369	5.2800	23.5076	41.4959	34.9965	0.4400	4.0900	0.9700	0.0200	0.8900	6.3000	6.3000	500.00
BLOCK 2															
H.rufa	6	0-10	0.9471	5.3300	42.0101	20.9963	36.9935	1.7500	2.2200	1.8800	0.2100	0.7400	39.8345	39.8345	4700.00
H.rufa	6	10-20	1.1700	5.0700	27.0091	35.9955	36.9954	0.5800	5.0400	0.5400	0.0700	0.2600	34.6000	34.6000	1600.00
H.rufa	6	20-40	1.3100	5.0300	24.5057	40.9969	34.4974	0.4400	6.6500	0.4100	0.0600	0.2200	11.6000	11.6000	1000.00
H.rufa	6	40-100	1.2500	5.0700	17.0124	53.4920	29.4956	0.1500	13.9000	0.4000	0.0200	0.3900	7.0000	7.0000	400.00
b.brizhanta	6	0-10	1.1100	5.0800	29.0106	33.9949	36.9945	0.7300	4.6100	1.1500	0.0800	0.6400	36.1000	36.1000	2000.00
b.brizhanta	6	10-20	1.2400	5.2500	24.0095	41.4948	34.4957	0.2900	5.4900	1.3500	0.0200	0.6100	20.3000	20.3000	1100.00
b.brizhanta	6	20-40	1.2600	5.1000	16.5125	46.4930	36.9945	0.4400	7.2800	0.6800	0.0100	0.5000	10.8000	10.8000	600.00
b.brizhanta	6	40-100	1.2900	5.1500	21.5059	41.4969	36.9972	0.2900	7.9500	0.4700	0.0100	0.5700	7.9000	7.9000	500.00
B.briz+ A.pintoi	6	0-10	1.0500	5.7800	52.0036	15.9988	31.9976	1.1700	0.4100	4.4700	0.3500	1.3100	34.8000	34.8000	4200.00
B.briz+ A.pintoi	6	10-20	1.0500	5.5700	39.5106	23.4959	36.9935	0.8800	1.6000	2.8400	0.1700	0.8200	27.5000	27.5000	2500.00
B.briz+ A.pintoi	6	20-40	1.1400	5.2800	24.5113	38.4942	36.9945	0.2900	7.9200	2.2700	0.1000	1.0900	20.6000	20.6000	900.00
B.briz+ A.pintoi	6	40-100	1.2079	5.0000	19.5080	45.9954	34.4966	0.2900	12.1200	0.4700	0.0900	0.5700	7.3000	7.3000	600.00
Cratylia	6	0-10	0.9400	5.0700	44.5083	25.9961	29.4956	2.1900	1.2400	4.7400	0.4200	2.0100	44.5000	44.5000	4900.00
Cratylia	6	10-20	1.2000	5.7400	24.5038	38.4981	36.9982	0.7300	2.9900	4.3000	0.0700	1.3000	22.6000	22.6000	1600.00
Cratylia	6	20-40	1.2000	5.3000	22.0156	43.4913	34.4931	0.2900	6.1900	3.1600	0.0500	0.7200	11.2000	11.2000	800.00
Cratylia	6	40-100	1.2700	5.0600	14.5192	53.4880	31.9928	0.7300	12.6700	0.7500	0.0500	0.7700	6.1000	6.1000	500.00
regeneration	6	0-10	1.0851	5.0100	28.5089	39.4951	31.9960	0.2900	6.4700	0.7100	0.0500	0.4300	40.1000	40.1000	1300.00
regeneration	6	10-20	1.1871	4.9800	23.5115	41.9937	34.4948	0.1500	6.7700	0.3500	0.0300	0.1900	18.0000	18.0000	1100.00
regeneration	6	20-40	1.1206	5.0200	16.0084	47.4953	36.4964	0.0100	9.0100	0.3900	0.0100	0.2300	9.0000	9.0000	600.00
regeneration	6	40-100	1.1897	5.0400	16.0042	44.9978	38.9981	0.0100	8.0500	0.2900	0.0100	0.1700	6.2000	6.2000	600.00