

Inhibiting Factors and Promotion Strategies for Increasing Adoption Levels of Improved Forages in Cattle Production

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INTRODUCTION

- Cattle production is the main economic activity in Colombia’s rural area. It is based on extensive production systems with naturalized pastures and low fertility soils which limits the forage supply and productivity, especially during the dry season
- Research conducted in the south west of Colombia (Patia Valley, Cauca) with improved forages (IF) has proven their ability to adapt to dry season conditions, higher productivity (quality and supply) and contribution to reducing Green House Gas (GHG) emissions
- In spite of the benefits, the adoption process of IF has been low due to inhibiting factors

OBJECTIVES

- Identify limiting and promoting factors for adoption of IF in the south west of Colombia (Patia Valley, Cauca)
- Propose strategies that promote higher adoption of these technologies

MATERIALS & METHODS

This study is part of the research program “*Development and implementation of forage resources for sustainable bovine production systems in the Cauca department, Colombia*” between the International Center for Tropical Agriculture (CIAT) and the Cauca University

Data Collection

Survey	➡	307 cattle producers
Semi-structured interview	➡	SEDAM, Banco Agrario de Colombia, Centro Provincial de Mercaderes
Participatory Rural Appraisal	➡	Adopters (15), Non adopters (14) of IF

Data analysis

Quantitative Analysis: A correlation analysis was used to evaluate the influence of socio-demographic variables and the technical knowledge of improved forages on the adoption level. A Mann-Whitney U test was applied for the analysis of mean differences in the adoption level between regular and board members of associations

Qualitative Analysis: Information obtained through semi-structured interviews and PRA was analyzed qualitatively to identify inhibiting and motivating adoption factors

RESULTS

- ✓ 11.32% of the total land used for cattle production in the study area was cultivated with IF
- ✓ 42.7% of the surveyed producers have adopted IF and 50.6% belonged to some sort of producer association (N=307)

Among adopters:

- ✓ Median adoption: 22.2%, with a rightly skewed distribution (skewness = 0.99)
- ✓ 4.8% of the adopters had all their land under IF
- ✓ 20.8% had between 50% and 99% of their land under IF

Tabla 1 Correlation between selectd variables and adoption level

Non parametric t-tests	sig	Variable	Correlation	Sig
Technincal assistance	0.000	Age	-0.21	0.02
Belongs to association	0.036	Distance to input point of sale (km)	-0.11	0.06
Role in association	0.039	Distance to product ponit of sale (km)	-0.12	0.07

- ✓ Gender, income level, education, producers’ size, have no significant relationship with adoption level
- ✓ Producers never state that they adopted IF due to their environmental benefits. All their stated motivators were economic

REFERENCES

Arguello, H. & Díaz, J. (In press). Extension Rural Basada En La Comunidad Local: Una Estrategia Para El Desarrollo Rural Territorial
Cáceres, D., Silveti, F., Soto, G., & Rebolledo, W. (1997). La adopción tecnológica en sistemas agropecuarios de pequeños productores. Agro Sur 25(2):123–135
Arriaga, C.-M. & Anaya, J.P. (2014). Contribución de la producción animal en pequeña escala del desarrollo rural. Re-verté: Barcelona, España



Image 1 & 2 Cattle system with IF (left.) vs. traditional (right.) in dry season
Source: Grupo de investigación Nutrifaca - Universidad del Cauca

INHIBITING FACTORS

- Lack of knowledge on establishment and management of IF
- Lack of knowledge on forage species adapted to the region
- Negative personal experiences due to inappropriate management of IF and observation of negative experiences made by other producers
- Inappropriate credit scheme for cattle production. Repayment too early in the business cycle, high interest rates
- Limited acces to productive and economic resources (seeds, fertilizer)
- Implementation and management costs for IF systems.
- Lack of interest and initiative from producers (custom, risk aversion)
- Distance to markets (buying inputs)

PROMOTING FACTORS

- Superior characteristics of IF: higher nutritional quality, higher yield and carrying capacity, tolerance to abiotic stress, higher profitability.
- Technical knowledge of IF
- Technical assistance
- Membership in a producer association
- Administrative or directive role in producer association (active participation)

CONCLUSIONS AND STRATEGIES

- Given that technical knowledge has an important effect on adoption, knowledge transfer through methodologies such as Farmer Field Schools, Farmer to Farmer Networks, Training of Trainers, Demonstration Plots, Feedback Loops between producers, technicians and researchers, and Workshops may encourage adoption of IF
- It is necessary to promote the dialogue between producer associations and financial entities to develop appropriate credit schemes for cattle production
- In spite of the interest in implementing IF, productive inputs such as seeds can be hard to find. Therefore it is recommendable to promote local seed multiplication programs (legumes) and to strengthen the formal seed sector (for forage hybrids)
- Promoting public and/or private incentives (differentiated products, payment for eco-system services) may serve as a monetary incentive to producers for investing in the establishment IF

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