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Making information accessible

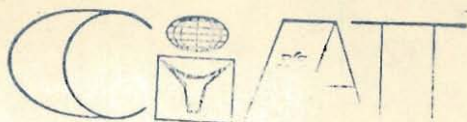
Fernando Monge

CASSAVA INFORMATION CENTER

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COLECCION HISTORICA

CENTRO DE DOCUMENTACION

MAKING INFORMATION ACCESSIBLE

FERNANDO MONGE

Information about what is going on in their field is essential to researchers. It is particularly important for those working on cassava because until recently little research was being done on the crop, despite the fact that it is a food staple for 200 to 300 million people. This chapter describes a new approach to providing information to cassava workers and the creation of a Cassava Information Centre, one of a worldwide network of centres providing highly specialized information to agricultural researchers. The project was funded initially with an IDRC grant of \$57,500 in 1972 and \$218,750 in 1976.

MAKING INFORMATION ACCESSIBLE

FERNANDO MONGE



FERNANDO MONGE is an Ecuadorian who currently is coordinator of the Scientific Information Exchange Unit at the Centro Internacional de Agricultura Tropical in Cali, Colombia. As such, he is responsible for the project he describes in this chapter. Dr Monge holds degrees in agriculture, plant genetics and mass communication, and has done post-doctoral work in information sciences. He was recently elected president of the Inter-American Association of Agricultural Librarians and Documentalists.

THE CENTRO INTERNACIONAL DE AGRICULTURA TROPICAL, CIAT, was created on the basis of experience acquired previously at the International Rice Research Institute (IRRI) and the Centro Internacional de Mejoramiento de Maiz y Trigo (CIMMYT). The success of these centres is due mainly to their clear orientation of contributing to the solution of food-production deficits in the world, using a commodity-oriented strategy rather than the more traditional academic, discipline-oriented research approach.

Although information has always been recognized as a major support component of research activities at the international centres, the traditional "library approach" was followed, without taking into account recent developments in information science. During 1972, while CIAT was still in its formative years, the Cassava Production Systems Program was expanded to a level of major importance within CIAT's research activities. This was the result of a significant contribution from the International Development Research Centre which considered the crop a potential solution to the calorie deficit existing in a considerable segment of the world's population.

IDRC recognized the importance of having an information service that would actively interact with research activities from the initiation of the program. Initially, the plan was to collect all existing information on cassava at CIAT and then compile a traditional bibliography based on citations only. After further analysis of the Latin American situation, further conversations were held with IDRC information scientists, and it was decided that this was not the most beneficial course of action. In this chapter, we present the major considerations that led to the creation of the Cassava Information Center at CIAT and the establishment of a system of *consolidated information* that provides a wide range of services far beyond the traditional library approach.

Because of the success of this information centre, others such as the International Grain Legume Information Centre at IITA and the Sorghum and Millets Information Centre at ICRISAT were established within the international agriculture research centres (IARCs). The International Irrigation Information Centre in Israel, although not directly related to the IARCs, is another example of a successful centre following the same general principles and also established through IDRC's financial assistance.

POPULATION AND FOOD PRODUCTION

Elaborating on the world's long-run capacity to produce food, the Committee on Resources and Man of the U.S. National Academy of Sciences calculated that food production could reach a level nine times the present production. This increase would be possible by quadrupling production from the land and increasing production from the sea two-and-a-half times. This assumes reaching maximum productivity from all potentially productive land, and also presupposes a greater use of fertilizers, insecticides and fungicides, and the chemical or microbiological synthesis of foods as well as other innovations⁽¹¹⁾.

On the other hand, population increases have implications that go beyond the mere balance between birth and mortality rates. Frejka⁽⁵⁾ points out that a significant part of the population increase has to be accepted as an accomplished fact. The present ratio of 30:70 between the rich and poor countries' populations, for instance, will inevitably become 20:80 and perhaps 10:90 in years to come. In addition, FAO statistics already indicate a marked increase of the dependent population in Latin America, where over 40 percent of the population is under 15 years of age and thus does not represent a production factor.

In conclusion: "The population of this globe is now doubling every 35 years and currently increasing at an estimated rate of 75 million people per year. This means that there will be over 200,000 more people for breakfast tomorrow morning than there were today; and that, in order to just stay at present levels of nutrition, man will have to learn in the next 35 years how to produce as much *more* food per year as he has since dawn of history. Production will need to be doubled in the next 18 years to meet the anticipated combination of increased population and purchasing power"⁽⁹⁾.

INFORMATION: ESSENTIAL FOR RESEARCH

Institutionalized research focusing on problem-solving activities appears as a potential solution for increasing food production in the world. Information, on the other hand, is an essential factor within the research process, not only in terms of accomplishing a coordinated action to avoid

duplication of efforts but also to obtain a multiplier effect sometimes called "a cross-fertilization of ideas".

Several communication and development models postulate three sub-processes to which distinct and sometimes institutionalized groups of people correspond. These are the generation of knowledge, its transformation and transmission, and finally, its application and utilization. In the agricultural sector, for instance, knowledge is typically generated by scientists, usually in government or private research institutions; transformation and dissemination is accomplished by "change agents" who belong to extension institutions or communication services; and finally, farmers represent the users who apply this knowledge.

This same structural model can be used to visualize the more restricted system of scientific development. The one *sui generis* characteristic of this subsystem, however, is that the same group of people — scientists — assumes the various roles of knowledge-generators, transmitters and users.

But where does information fit into this broad, structural scheme? Contrary to what happens in development models, information does not have a box in this scheme because of its dynamic nature and the connecting role it plays. Instead we prefer to conceptualize information not as an end in itself, but as an indispensable means that, through the process of communication, *interconnects the elements of the scientific research system to make it work as a system* and not as a heap of unconnected and disorganized parts.

Consequently, it is surprising so frequently to see information and communication services that are totally divorced from the research process. If researchers have sometimes been criticized for creating "ivory towers", perhaps librarians and documentalists are also guilty of creating "paper towers" because of a failure to recognize this *cycle of knowledge* as one single process.

Immediately a question comes to mind: are Latin American scientists unproductive only in terms of publishing research results or also in terms of *producing* results? In other words, are they not publishing because they do not have any research results to publish? In this connection, Felstehausen⁽⁴⁾ points out: "Each year the Latin American countries produce hundreds of reports, papers and articles on agriculture and rural development. Despite this fact, many of these publications and reports are not available to the administrator, planner, professor or scientist for whom they were written. The majority of agricultural materials are produced and distributed in limited numbers. Few agricultural reports in Latin America are collected and preserved systematically."

Based on the scant evidence we have, it seems that: 1. The low publication rates observed in Latin America are due mainly to a lack of motivation (institutional incentives as well as personal interest); 2. The rates are not due to a concomitantly low rate of production of research results; and 3. The majority of research results are not published in standard communi-

cation channels but in so-called unconventional forms, such as mimeographed papers and pamphlets, in limited numbers, and even in letters and memoranda. A minor percentage of this information reaches annual reports and proceedings of conferences and symposia.

Certainly, very valuable research results are produced, but they remain in the laboratories, the scientists' offices, or their secretaries' files. Diffusion is minimal.

THE LATIN AMERICAN SCIENTIST AS INFORMATION PRODUCER

Very little research has been done in Latin America on this aspect. It is recognized, however, that production of technical and scientific literature is low. A first study carried out by Rheineck and Diaz-Bordenave⁽¹²⁾ analyzed 34 scientists at La Molina University in Lima, Peru, in terms of certain institutional and personal variables that could have a bearing on their literature production. The results indicated that motivation seemed to play an important role in their publication rates. Personal motivation was low and, in turn, appeared to be based on a lack of perceived institutional incentives to publish. Over 50 percent of the scientists sampled were not aware of the existence of any reward whatsoever for the effort of publishing an article.

In a follow-up study carried out by Diaz-Bordenave⁽²⁾ on a more international sample of 88 scientists attending a meeting of the Latin American Association of Agricultural Scientists (ALCA), similar results were obtained. Based on this information, the author notes: "Priority reasons for this phenomenon seem to be centered around the motivational field, both from the standpoint of the scientist himself (interest) as well as the institution (incentives)." And after presenting results where 66 out of the 88 scientists included in the sample stated that "publishing is not necessary" or that "publishing makes a contribution but it is not really necessary," the author concludes: "It is evident that in Latin America no 'publish or perish' (ethic) exists."

THE PUBLICATION INFRASTRUCTURE

In 1962 the Scientific Development Division of the Pan-American Union and the Scientific and Technical Documentation Center of Mexico, through a National Science Foundation grant, supported a study of Latin American journals of science and technology. Despite the time lapse, the results of this study still reflect the present situation: "Typically, scientific and technical journals published in Latin America are short of personnel. Selection and edition of articles, as well as other editorial functions are usually carried out by scientists and professors in their free time, frequently free of

charge. Budgets are usually small and printing and distribution costs are subject to unpredictable raises due to inflation. Runs are small and the reduced number of subscribers limit the income that would come from subscriptions and advertisements . . . It was found that around one-third of the journals did not have a regular frequency of appearance, and if they did, it was seldom met in practice . . . It was also found that most journals had a low periodicity, quarterly at best, they were frequently irregular and of a reduced size (three out of every ten journals had less than 50 pages per issue)⁽¹⁰⁾.

Ten years later, Gorbitz⁽⁶⁾ confirmed these results at a meeting of a group of technical editors in Puerto Rico. In addition, he noted the uneven quality of the contents, a high percentage of journals having a short life cycle and poor international distribution.

Nevertheless, in spite of all these problems, it is rather comforting to see in Lawani's list⁽⁷⁾, later published in a more complete form by Brennen⁽¹⁾, of the 50 most frequently cited journals in the tropical and subtropical literature, that 6 Latin American titles are included.

It is not difficult to infer from the fundamental lack of motivation to publish observed in a major portion of the scientific community, that most Latin American technical and scientific journals are weak and constantly menaced. The infrastructure of technical and scientific publication in Latin America is another illustration of the vicious circle of underdevelopment. This, however, is a challenge to Latin American documentalists to develop innovative systems adapted to the real situation in order to reach the appropriate audiences with pertinent information at the time it is needed.

THE LATIN AMERICAN SCIENTIST AS INFORMATION CONSUMER

The other side of this production/consumption equation is also low. Latin American scientists exhibit a low level of information-seeking behaviour, but we do not have to go into elaborate psychological explanations in order to explain this phenomenon.

In a previous study⁽⁶⁾ it was found that the relative ease of access to pertinent information was the most important variable for explaining the use made of libraries by a group of Colombian scientists. This result has been confirmed by the success of the Cassava Information Center at CIAT and has thus become a guiding principle in our program. Latin American scientists are eager to receive information in their fields of research, but the generally poor services offered constitute a barrier that soon produces a sense of futility.

Whereas in the more developed countries such as the United States, one dollar of every five spent for goods, services, construction and new machinery is allocated to information services, in Latin America library collections are usually poor and out-dated, the number of libraries is very small,

they are usually located only in major cities, and the services offered are of the traditional type. This is what we call the "cafeteria approach" to information management, where the librarian or documentalist's function becomes one of displaying materials for users to choose.

The net result of this complex of factors is, therefore, as follows. Given that only a very low percentage of the information produced in the less-developed countries ever reaches conventional publication channels, and that only a very low percentage of the information generated in the more developed countries ever reaches the libraries and documentation centres of the less-developed countries, we can conclude that Latin American scientists are minimally informed in their respective fields.

Consequently, the tasks facing the scientist's counterpart, the documentalist, are first to collect the so-called "fugitive" material produced in the less-developed countries i.e., internal reports, mimeographed papers, etc., which contain valuable and up-to-date information. Second, he must link the vast amount of information produced and collected in the developed countries with users in the LDCs, in such a way that users are not bogged down with nonpertinent information. And, thirdly, he must process, group and disseminate information in a manner that reaches the user directly at the appropriate time.

CIAT'S ANSWER: CONSOLIDATED INFORMATION

Undoubtedly, the key variable for success in an information system is easy access to information by the users. Thus the fundamental principle of CIAT's Scientific Information Exchange Unit is to take the information to the user and not to wait for the user to request it. The scientist's time should be reserved, as much as possible, for the activities in which he is a specialist. Conversely, the information specialist should be allowed to fulfill his own role, which is to understand the needs of his client thoroughly and provide him with all pertinent materials.

In order to accomplish this, however, services feasible within the limitations of an underdeveloped environment must be developed. A prerequisite, of course, is a good collection of books and journals and a minimum of equipment such as copiers and storage and retrieval equipment.

The Scientific Information Exchange Unit at CIAT, a major part of which is the Cassava Information Center, has at present a library with approximately 40,000 volumes and receives 1302 journals regularly. The library does, of course, operate as a regular specialized library, but more important, it provides certain personalized services.

CONTENT PAGES

This is a current awareness monthly publication that lists the tables of contents of selected journals. Three areas are covered: animal sciences, covering 350 journals; plant sciences, covering 300 journals; and social sciences, covering 58 journals. They are distributed to almost 2000 scientists in Latin America, who select articles of their interest and request photocopies.

Although initially this service was directly distributed to individual subscribers, the unit is now stimulating national institutions to act as distributing agencies for their countries. At present, nine countries have adopted this system with highly rewarding results; for instance, the School of Agronomy Library at the University of Buenos Aires has almost doubled its output of photocopies from the time the CIAT *Content Pages* were first distributed among Argentinian agricultural scientists as a service of the country's national information system.

As a result of this service, CIAT provided around 250,000 pages of technical literature in photocopy form to Latin American scientists in 1978.

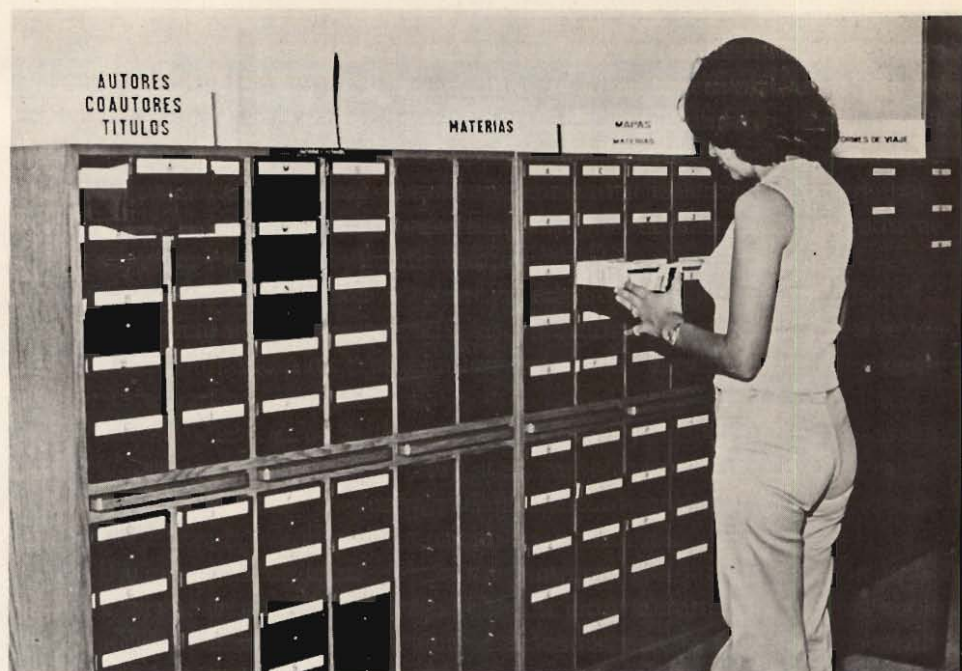
DOCUMENTATION

ABSTRACTING SERVICE

The documentation process considers typical scientific articles (published in journals or as manuals, research bulletins, internal reports, mimeographed papers, etc.) as the unit of information in order to make an in-depth analysis and produce an abstract and keywords or subject-matter descriptors, which are later used for selective retrieval of the information. The final products are cards containing this information, which are then distributed 10 times per year to over 2000 scientists in the world. On the basis of these abstract cards, scientists may request photocopies of the complete articles.

Documentation services cover four areas: cassava, in which the Center has the only known complete collection of everything published on this crop; field beans, limited to literature applicable to tropical environments; tropical pastures and forages; and Latin American agricultural economics and development.

Although documentalists working in these areas are professionals in their respective fields, the service counts on the invaluable collaboration of the scientists in the various research programs at CIAT. This symbiosis produces a beneficial effect both for the scientists, who are supported by a rapid and complete literature service, and the documentalists, who can count on a consulting body of specialists in order to perform an accurate analysis of the information.



The most complete collection of information on cassava in the world.

SPECIFIC TOPIC SEARCHES

Information retrieval is accomplished through a mechanized system based on specific topic descriptors. Searches are performed in an average of 15 to 20 minutes, which makes it usually possible to answer queries the same day they are received. This service is widely used by scientists around the world. Requests received by cable from subscribers are answered immediately, also by cable, giving the numbers of the pertinent documents since subscribers have the entire collection of abstract cards. In this manner, our collection of documents is being used for retrospective searches by users in distant countries with practically the same speed as if they were at CIAT headquarters.

CUMULATIVE VOLUMES

At the end of the year, the Center classifies all abstract cards produced during that period into broad categories and publishes cumulative abstract volumes, which are distributed to subscribers and sold to non-subscribers. To date, four volumes have been published on cassava, three on beans, three on Latin American agricultural economics, and one on tropical pastures and forages. Cassava and bean abstracts are published simultaneously in English and Spanish while the other two areas are published only in Spanish.

SERVICE FEES

The Unit charges nominal fees for all services provided, since free services tend to be under-valued. To facilitate payment, a system of coupons was created; a special agreement for payments to be effected in local currencies has also been reached with the Inter-American Institute of Agricultural Sciences (IICA), which has country representations in all Latin American capital cities.

CONSOLIDATED INFORMATION

An efficient documentation service must have several essential characteristics. It must: reach the user directly; provide a surrogate of the document (an abstract or annotation); incorporate a selective dissemination of information capacity in order to perform specific topic searches according to individual interests; and it must provide a photocopying service for document delivery.

Nevertheless, the concept of consolidated information goes beyond typical documentation activities. It includes not only the collection and dissemination of the products of research, but also mechanisms that synthesize these into scientific and technical knowledge that contributes to the advancement of science and can be applied to the solution of pressing problems.

Consequently, the process of consolidating information includes an evaluative phase whereby an expert in a broad area of knowledge selects and analyzes for reliability and quality the existing information at a given time, and then condenses and fuses this information in other types of publications such as monographs, state-of-the-art reports, and practical application manuals.

In accordance with this concept, the Cassava Information Center at CIAT produces:

1. *Monographs* on specific areas which are based on all the pertinent literature as provided by the Center's abstracting service, and give the user the benefit of a critical analysis of the subject by world experts.
2. *Field manuals* on practical problems, which gather, for example, information on diseases, pests, nutritional deficiencies, etc. and translate it into simplified language accompanied by colour illustrations. These manuals are thus useful not only to the researcher but also to the farmer and to the extension agent.
3. *Reproductions of published articles* which, because of their importance, deserve a wider distribution than they would get through the journals themselves, especially considering the limited access that most Latin American libraries and scientists have to technical journals. Frequently these reproductions are translations into Spanish.

4. *Newsletters* such as the *Cassava Newsletter*, which try to answer the question: Who is doing what and where? These publications have primarily a journalistic function of making scientists aware of research in progress and other news in the field and promoting cohesion through communication among researchers.

TRAINING

The First Agricultural Documentation Course presented by the Center was attended by 16 participants from 11 Latin American countries. The main purpose of this two-month course was to instill in the participants a philosophy of rapid, efficient service and to prepare them to work under restricted budgets with techniques appropriate to the LDCs. In addition to the operating functions, administrative aspects were also dealt with.

ACCOMPLISHMENTS AND FUTURE TRENDS

The basic accomplishment of the Cassava Information Center at CIAT may be the introduction of a pragmatic approach to the handling of technical information in the Third World. Emphasis is placed on satisfying the scientists' needs rather than on the techniques of doing so, which at times may be more complicated than necessary. The Consolidated Information model for collecting and disseminating information on a commodity-specialization basis and producing services that reach the users promptly is being adopted at both the national and international level. It has attracted the interest of larger international systems such as AGRIS (FAO) and AGRINTER (IICA), and it may be considered a pilot model for coordinated information services for other agricultural commodities in the LDCs.

Because of the wide acceptance that these services have had, present activities are being directed increasingly towards training of personnel for national documentation services, networking the documentation activities of the IARCs and other national and international organizations, and to increasing the coverage of literature within the four selected areas.

The present demand for training in documentation may be partially a result of CIAT's training activities in general, since all CIAT trainees are exposed to these services during their training period. Moreover, they receive free a one-year subscription in their area of interest after they return to their countries. In this manner, an awareness of the importance of efficient information services in research has been created at the national level, resulting in the desire for similar services at their own institutions.

The excellent results obtained with the first course have reinforced the decision to offer this type of training on a regular basis, together with follow-up activities such as meetings with former trainees at CIAT, so as to

provide opportunities for exchanging experiences and to promote a feeling of a Latin American working team of colleagues.

As far as networking is concerned, the IARC's are in a privileged position in which to establish a worldwide efficient information system on priority food commodities. As a result of a meeting of the IARC librarians at CIAT four years ago, IITA (Nigeria) began a food legume documentation centre, focussing initially on cowpeas, under the auspices of IDRC. In 1978 the Cassava Information Center provided advisory services to the Sorghum and Millets Documentation Centre at ICRISAT (India), another IDRC-sponsored activity.

Given the tremendous information explosion, we feel that the present trend to this type of highly specialized information centre is the most viable solution, and offers the best possibilities of reaching users rapidly.

IDRC has played an innovative role in foreign aid programs for the LDCs. Rather than being dogmatic, IDRC policy has always been flexible and open-minded, permitting the incorporation of firsthand experiences into programs and services. The results of this attitude are programs such as the Cassava Information Center, which have met with success without upsetting the socioeconomic milieu.

LITERATURE CITED

1. Brennen, Patrick W. Documentation in the Literature of Tropical and Subtropical Agriculture. *Special Libraries*. 65(7):263-271, July 1974.
2. Diaz Bordenave, Juan. Resultados de una encuesta realizada en la VII Reunión Latinoamericana de Fitotecnia. Secretaría de la ALALF, Octubre 1968. 16p.
3. FAO, Estado Mundial de la Agricultura y la Alimentación 1976. FAO, Roma, 1976.
4. Felstehausen, Herman. Improving Access to Latin American Agricultural Information through Modern Documentation Centers. University of Wisconsin Land Tenure Center, Mimeo No. 68LTC-1, Bogotá, Colombia, January 1968. 15p.
5. Frejka, Tomas. The Prospects for a Stationary World Population. *Scientific American*. 228(3); 15-23. 1973.
6. Gorbitz, Adalberto. Evaluación de Revistas Científicas Latinoamericanas. *Fitotecnia Latinoamericana (Venezuela)*. 8(2):23-29. 1972.
7. Lawani, Stephen. Periodical Literature of Tropical and Subtropical Agriculture. *UNESCO Bulletin for Libraries* 26(1):88-93.

8. Monge, Fernando. Reading habits of scientists in a Colombian Institution. University of Wisconsin, Madison, Wis., Ph.D. Thesis, 1967, 213p.
9. Nickel, John. Discurso Inaugural. Centro Internacional de Agricultura Tropical, CIAT. Noviembre 19, 1974. 12p.
10. Pan American Union. Latin America Scientific and Technical Journal Publication: A Statistical Analysis. In: Pan American Union, Guide to Latin American Scientific and Technical Periodicals. Washington, D.C. 1962. pp. 161-187.
11. Paz, Luis J. Trabajo presentado en la Mesa Redonda sobre la Producción y Demanda de Alimentos en América Latina y el Caribe. 13a. Reunión Anual de la Junta Directiva del Instituto Interamericano de Ciencias Agrícolas de la OEA. Caracas, Venezuela, Mayo 14-18, 1974.
12. Rheineck, Fritz y Diaz Bordenave, Juan. Factores Asociados con la Producción de Literatura Científica por Investigadores Agrícolas. Instituto Interamericano de Ciencias Agrícolas de la OEA, IICA, Dirección Regional para la Zona Andina. Mimeo. 17p., Agosto 1967.



CIAT LIBRARY



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CIAT is a nonprofit organization devoted to the agricultural and economic development of the lowland tropics. The Government of Colombia provides support as host country for CIAT and furnishes a 522-hectare farm near Cali for CIAT's headquarters. In addition, the Fundación para la Educación Superior (FES) makes available to CIAT the 184 hectare substation of Quilichao, situated near Santander de Quilichao, Departamento del Cauca. Collaborative work with the Instituto Colombiano Agropecuario (ICA) is carried out on several of its experimental stations and similar work is done with national agricultural agencies in other Latin American countries. CIAT is financed by a number of donors represented in the Consultative Group for International Agricultural Research (CGIAR). During 1979 these donors are: the United States Agency for International Development (USAID), the Rockefeller Foundation, the Ford Foundation, the W.K. Kellogg Foundation, the Canadian International Development Agency (CIDA), the International Bank for Reconstruction and Development (IBRD) through the International Development Association (IDA) the Inter-American Development Bank (IDB), the European Economic Community (EEC) and the governments of Australia, Belgium, the Federal Republic of Germany, Japan, the Netherlands, Norway, Switzerland and the United Kingdom. In addition, special project funds are supplied by various of the aforementioned entities plus the International Development Research Centre (IDRC) of Canada and the United Nations Development Programme (UNDP). Information and conclusions reported herein do not necessarily reflect the position of any of the aforementioned agencies, foundations or governments.

El CIAT es una institución sin ánimo de lucro, dedicada al desarrollo agrícola y económico de las zonas bajas tropicales. Su sede ocupa un terreno de 522 hectáreas, propiedad del Gobierno de Colombia, el cual en su calidad de país anfitrión brinda apoyo a las actividades del CIAT. El Centro trabaja en colaboración con el Instituto Colombiano Agropecuario (ICA) en varias de sus estaciones experimentales y también con agencias agrícolas a nivel nacional en otros países de América Latina. Varios miembros del Grupo Consultivo para la Investigación Agrícola Internacional financian los programas del CIAT. Los donantes en 1979 son: la Agencia Estadounidense para el Desarrollo Internacional (USAID), la Fundación Rockefeller, la Fundación Ford, la Fundación W.K. Kellogg, la Agencia Canadiense para el Desarrollo Internacional (CIDA), el Banco Internacional de Reconstrucción y Fomento (BIRF) por intermedio de la Asociación Internacional del Desarrollo (IDA), el Banco Interamericano de Desarrollo (BID), la Comunidad Económica Europea (EEC) y los gobiernos de Australia, Bélgica, la República Federal Alemana, Holanda, el Japón, Noruega, Suiza y el Reino Unido. Además, algunas de estas entidades, el Centro Internacional de Investigación para el Desarrollo del Canadá (IDRC), y el Programa de las Naciones Unidas para el Desarrollo (PNUD), financian proyectos especiales. La información y conclusiones contenidas en esta publicación no reflejan necesariamente la posición de ninguna de las instituciones, fundaciones o gobiernos mencionados.