1986 Supplement
Publications of the International Agricultural Research and Development Centers

1986 exhibition at the Frankfurt Book Fair
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(German Agency for Technical Cooperation) (GTZ)
Consultative Group on International Agricultural Research (CGIAR)
International Rice Research Institute (IRRI)

1986
The International Rice Research Institute
Los Baños, Laguna, Philippines
P.O. Box 933, Manila, Philippines
The International Rice Research Institute (IRRI) was established in 1960 by the Ford and Rockefeller Foundations with the help and approval of the Government of the Philippines. Today IRRI is one of the 13 nonprofit international research and training centers supported by the Consultative Group for International Agricultural Research (CGIAR). The CGIAR is sponsored by the Food and Agriculture Organization (FAO) of the United Nations, the International Bank for Reconstruction and Development (World Bank), and the United Nations Development Programme (UNDP). The CGIAR consists of 50 donor countries, international and regional organizations, and private foundations.

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The responsibility for this publication rests with the International Rice Research Institute.

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Introduction

The International Agricultural Research Centers (IARCs) focus modern agricultural research on the crops and livestock that provide 75% of the food for developing nations. The Centers are major publishers of books, periodicals, slide sets, films, and other educational materials on agricultural science and technology for developing nations.

In 1985 the International Rice Research Institute published *Publications of the International Agricultural Research and Development Centers*, a 691-page catalog of titles published by 13 Centers supported by the Consultative Group on International Agricultural Research (CGIAR); 8 other IARCs; the Board on Science and Technology for International Development (BOSTID) of the U.S. National Academy of Sciences; and the German Agency for Technical Cooperation (GTZ). The catalog includes 162 pages of in-depth index to help the reader locate all publication in certain fields (i.e. cytogenetics, insect resistance, maize). Ordering instructions for the 1985 catalog are on page 167 of this Supplement.

The 1986 Supplement includes only new titles that are not in the larger 1985 catalog. The two catalogs are the only compilations of the major Center publications and, collectively, are probably the largest catalog of titles on Third World agriculture in existence.

We have chosen to release the Supplement at the exhibit of Publications of the International Agricultural Research and Development Centers at the 1986 Frankfurt Book Fair. This is the fourth such exhibit sponsored by the CGIAR, GTZ, and IRRI.

We hope that the catalogs will bring us closer to the worldwide community of publishers and distributors in agricultural science. A wider exchange of knowledge on international agricultural research and production will help us achieve our ultimate objective — to make hunger and poverty a problem of the past.

Dr. K.J. Lampe
Head, Department of Agriculture
Health and Rural Development
Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH

Dr. M.S. Swaminathan
Director General
International Rice Research Institute
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Washington, D.C. 20433
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CGIAR-Supported Centers

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Apartado Aéreo 6713
Cali, Colombia

Centro Internacional de la Papa (CIP) 23
Apartado Postal 5969
Lima, Peru

Centro Internacional de Mejoramiento de Maiz y Trigo (CIMMYT)
(International Center for Maize and Wheat Improvement)
Londres 40, Apartado Postal 6-641
06600 Mexico, D. F., Mexico

International Board for Plant Genetic Resources (IBPGR) 41
Crop Genetic Resources Centre
Food and Agriculture Organization of the United Nations
Via delle Terme de Caracalla
00100 Rome, Italy

International Center for Agricultural Research in the Dry Areas (ICARDA)
P.O. Box 5466
Aleppo, Syria

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)
Patancheru P.O.
Andhra Pradesh 502 324
India

International Food Policy Research Institute (IFPRI) 61
1776 Massachusetts Avenue, NW
Washington D.C., 20036, USA

International Institute of Tropical Agriculture (IITA) 67
P.O. Box 5320
Ibadan, Nigeria

International Livestock Centre for Africa (ILCA) 71
P.O. Box 5689
Addis Ababa, Ethiopia
International Laboratory for Research on Animal Diseases (ILRAD)
P.O. Box 30709
Nairobi, Kenya

International Rice Research Institute (IRRI)
P.O. Box 933
Manila, Philippines

International Service for National Agricultural Research (ISNAR)
P.O. Box 93375
2509 AJ, The Hague, The Netherlands

West Africa Rice Development Association (WARDA)
P.O. Box 1010
Monrovia, Liberia

Part II
Non CGIAR-Supported Centers

Asian Vegetable Research and Development Center (AVRDC)
P.O. Box 42, Shanhua, Tainan, 74199
Taiwan, Republic of China

International Centre of Insect Physiology and Ecology (ICIPE)
P.O. Box 30772
Nairobi, Kenya

International Center for Living Aquatic Resources Management (ICLARM)
MCC P.O. Box 1501, Makati
Metro Manila, Philippines

International Council for Research in Agroforestry (ICRAF)
P.O. Box 30677
Nairobi, Kenya

Winrock International Livestock Research Training Center (WINROCK)
Route 3, Petit Jean Mountain
Morrilton, Arkansas 72110, USA

Part III
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113 Mumford Hall
1301 West Gregory Drive
Urbana, Illinois 61801, USA
International Centre for Integrated Mountain Development (ICIMOD)
P.O. Box 3226
Kathmandu, Nepal
International Irrigation Management Institute (IIMI)
Digana Village via Kandy
Sri Lanka
Appendix (Distributing Bodies for UNESCO coupons)
Addendum
CGIAR

Consultative Group on International Agricultural Research
What is the CGIAR?
What do the international centers do?

The Consultative Group on International Agricultural Research (CGIAR) is a relatively new and exciting strategy to increase global food production. Established in 1971, the CGIAR is an association of 48 countries, including the Federal Republic of Germany, international and regional organizations, and private foundations supporting 13 international agricultural research institutes. The purpose of the Consultative Group is to bring the resources of modern biological and socioeconomic research to bear on the problems of improving agricultural productivity in the tropics and subtropics where most of the developing nations lie. The research and training programs undertaken by the centers and sponsored by the Group seek to arm the developing countries with superior varieties of essential crops and improved farming systems for the production of food plants and animals. The food crops and livestock on which the centers focus provide 75% of the food consumed in the developing countries. Located in developing countries, the international centers work together with scientists in national institutions to set research priorities, develop technologies suited to the specific needs of the region, and to evaluate and test the new technologies. There are currently 7,000 staff working at the international centers; 600 are senior scientists recruited from over 50 different countries. The CGIAR is formally cosponsored by the World Bank, the United Nations Development Program (UNDP), and the Food and Agriculture Organization (FAO). In 1984, the CGIAR will finance the 13 centers' collective budgets for a total of $180 million.

Contributions of the CGIAR System

Four of the institutes were initiated in the 1960’s by the Ford and Rockefeller Foundations. The remainder were set up at different times since 1971 when the CGIAR was established. Despite their relatively short existence, the international centers have made remarkable contributions to world food production. As might be expected, the impact of the two oldest institutes, the Centro Internacional de Mejoramiento de Maiz y Trigo (CIMMYT) in Mexico, and the International Rice Research Institute (IRRI) in the Philippines, has been the most dramatic. Their mandated crops, rice and wheat, are the two most widely consumed food crops in the world. High yielding, management responsive varieties of rice and wheat derived from those developed by CIMMYT and IRRI are grown on over 55 million hectares — one third of the area planted to these cereals in the developing world. It is estimated that the increased yields feed 300 million people and the economic value of this additional food supply is more than $5 billion annually. While less well known, the accomplishments of the newer centers are also making an impact on food production and hold even greater potential for the future. For example, in Latin America
national programs have adopted and released more than 100 bean varieties developed by scientists at the Centro Internacional de Agricultura Tropical (CIAT) in Colombia. CIAT is also working on genetic improvements that can double and triple yields of cassava, an important food for some 400 million people in the tropics. In Lima, Peru, the Centro Internacional de la Papa (CIP) is concentrating on increasing production of the world’s fourth most important crop. CIP houses the largest collection of potato germplasm in the world. A unique tissue culture technique makes possible the transmission of germ-free potato genetic resources. Improved lines of edible legumes and innovative soil and crop management systems for Asia and Africa are being developed by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) based in India.

In addition to those international agricultural research centers supported by the CGIAR there are several funded independently of the Consultative Group. To further their objectives all the international centers are seeking more extensive exchange of knowledge on agricultural research and production among scientists and educators, particularly in developing countries. At the 1983 Frankfurt Bookfair they look forward to establishing new contacts and opening new channels of communication with publishers and book distributors from throughout the world.

**Annual Reports**

**Consultative Group on International Agricultural Research Annual Report for 1984**


The CGIAR annual report provides the most comprehensive review of the CGIAR’s current activities available anywhere to the general public. The 1984 and 1985 editions cover topics such as the impact of international agricultural research centers, research accomplishments, key events and CGIAR finances.

**Monographs**

Warren C. Baum

**Partners against Hunger: The Consultative Group on International Agricultural Research**

November 1986. 350 pages. 16 × 24 cm. Hard cover (ISBN 0-8213-0827-0), $29.95; paperback (ISBN 0-823-0828-9), $10.95. Plus air mail postage ($4.50 per item if mailed from Washington, D.C.); for surface mail, no charge (but all overseas orders are forwarded to local distributors whenever possible). Outside the U.S., this book may be purchased in local currency directly from local distributors of World Bank Books.
Describes how the CGIAR came into being, how it operates, and how it has forged a partnership of scientists and aid administrators from industrial and developing countries. Assesses the impact of the CGIAR on agricultural development, analyzes its successes and failures, and considers the potential for replication in other fields.

Donald L. Plucknett, Nigel J.H. Smith, J.T. Williams, and N.M. Anishetty

**Gene Banks and the World’s Food**


The authors address a broad audience of interested citizens, policy makers, and researchers to show why gene banks are emerging as linchpins in the global effort to conserve as much of the gene pool of crop plants as possible. The reader will find here a history of germplasm preservation and exchange, from botanical gardens to modern cold-storage units, and a highly readable assessment of the scientific, socioeconomic, and political ramifications of genebank programs. Gene Banks and the World’s Food contributes to the crucial debate on how best to preserve some of society’s most valuable raw material. The authors also provide an up-to-date report on the status and locations of gene banks, which includes the latest available information on germ-plasm holdings by crop. They then discuss how these holdings are being used to develop better crop varieties for the benefit of people around the world.

**Miscellaneous**

**The Fragile Web: The International Agricultural Research System**


To highlight the first decade of research in the CGIAR system, Canada’s IDRC — the International Development Research Centre — put together this publication outlining the work of the 13 CGIAR-affiliated centers. The booklet describes the origins of international agricultural research, the centers’ current research agendas and future prospects for improving agricultural productivity in developing countries.

Robert S. McNamara

**The Challenges for Sub-Saharan Africa**

Mr. McNamara, a former President of the World Bank, states that the economic crisis in Sub-Saharan Africa threatens to "condemn an entire continent to unimaginable human misery" unless stronger action is taken to control population growth; reverse ecological devastation; eliminate distortions in domestic economic policies; and increase external development finance. As the first speaker in the Sir John Crawford Memorial Lecture Series, Mr. McNamara goes on to say that the current crisis in Africa requires a substantial increase in bilateral and multilateral aid, further debt rescheduling and the establishment of a special research program to increase the world's understanding of African ecological issues.

Mr. McNamara, ancien President de la Banque Mondiale, écrit que la crise économique en Afrique sub-Saharienne menace de (condamner un continent entier à une misère humaine inimaginable), si on ne prend pas de mesures plus énergiques pour contrôler l'accroissement de la population, revenir sur la devastation écologique, éliminer les distortions dans les politiques économiques, et augmenter le financement externe du développement. En tant que premier conférencier dans la série des Conferences Commémoratives de Sir John Crawford, Mr. McNamara poursuit en disant que la crise actuelle en Afrique nécessite une augmentation substantielle de l'aide bilatérale et multilatérale, un rééchelonnement supplémentaire de la dette, et la mise en oeuvre d'un programme de recherches spécial pour accroître la compréhension des problèmes de l'écologie africaine dans le monde.

Training in the CGIAR System


The International Agricultural Research Centers emphasize training as an essential thrust to generate, promote, and disseminate research results. This publication describes efforts to forge and strengthen the partnership of the Consultative Group on International Agricultural Research and the nations it serves in its training endeavors to translate knowledge into more and better food from farmers' fields. It is based mainly on the report of a study team commissioned by the Technical Advisory Committee (TAC) to the CGIAR to review progress in training at the Centers and to suggest ways to further enhance this progress.

IRRI arranged the printing of the publication and assists the CGIAR and TAC in its distribution.
Impact Study Publications

In 1983, the CGIAR commissioned a wide-ranging study to assess the impact of the international agricultural research centers that fall under the CGIAR umbrella. As part of that exercise, a series of publications and papers were produced; the following list indicates those that are currently available and those scheduled for publication in 1986-87.

Main Report

(Untitled and currently being edited; estimated publication date mid-1987).

Summary of International Agricultural Research Centers: A Study of Achievements and Potential

30 pages. 28 × 21.5 cm. Free. Available from the CGIAR Secretariat.

Associated Reports

Dana G. Dalrymple, U.S. Agency for International Development

Development and Spread of High-Yielding Rice Varieties in Developing Countries

1986. US$12.75. Available from the International Rice Research Institute, P.O. Box 933, Manila, Philippines or Agribookstore, 1611 North Kent St., Arlington, Va. 22209, USA.

Dana G. Dalrymple, U.S. Agency for International Development

Development and Spread of High-Yielding Wheat Varieties in Developing Countries

1986. US$10.95. Available from CIMMYT, P.O. Box 6-641, Mexico 06600, D.F. Mexico or Agribookstore, 1611 North Kent St., Arlington, Va. 22209, USA.

Study Papers

(Available from the World Bank Book Store, 1818 H St., N.W. Washington, D.C. 20433; all study papers 21 × 27 cm).

Alain de Janvry and Jean-Jacques Dethier

Technological Innovation in Agriculture: The Political Economy of Its Rate and Bias

Michael Lipton with Richard Longhurst

**Modern Varieties, International Agricultural Research and the Poor**


J.G. Hawkes

**Plant Genetic Resources: The Impact of the International Agricultural Research Centers**


Rigoberto Stewart

**Costa Rica and the CGIAR Centers: A Study of Their Collaboration in Agricultural Research**


Rigoberto Stewart

**Guatemala and the CGIAR Centers: A Study of Their Collaboration in Agricultural Research**


K.J. Billing

**Zimbabwe and the CGIAR Centers: A Study of Their Collaboration in Agricultural Research**


Ramesh P. Sharma and Jock R. Anderson

**Nepal and the CGIAR Centers: A Study of Their Collaboration in Agricultural Research**


Carl E. Pray and Jock R. Anderson

**Bangladesh and the CGIAR Centers: A Study of Their Collaboration in Agricultural Research**


Fernando Homen de Melo

**Brazil and the CGIAR Centers: A Study of Their Collaboration in Agricultural Research**

Barry Nestel

Indonesia and the CGIAR Centers: A Study of Their Collaboration in Agricultural Research

Rafael P. sada Torres

Ecuador and the CGIAR Centers: A Study of Their Collaboration in Agricultural Research
In press.

Luis J. Paz Silva

Peru and the CGIAR Centers: A Study of Their Collaboration in Agricultural Research
In press.

Hisham El-Akhrass

Syria and the CGIAR Centers: A Study of Their Collaboration in Agricultural Research
In press.

Pedro A. Sanchez & Grant M. Scobie

Cuba and the CGIAR Centers: A Study of Their Collaboration in Agricultural Research
In press.

Arturo A. Gomez

Philippines and the CGIAR Centers: A Study of Their Collaboration in Agricultural Research
In press.

Rungruang Isarangkura

Thailand and the CGIAR Centers: A Study of Their Collaboration in International Agricultural Research
In press.
Janice Jiggins
**Gender Issues in International Agricultural Research: The Impact of International Agricultural Centers**
In press.

Dev Bhumbia, Ishwar Mahapatra with Steve Bokil
**India and the International Crops Research Institute for the Semi-Arid Tropics: A Study of Their Collaboration in Agricultural Research**
In press.

Hans Jahnke
**The Impact of Agricultural Research in Tropical Africa: A Study of the Collaboration Between the International and National Agricultural Research Systems**
In press.

Eduardo Venezian
**Chile and the CGIAR Centers: A Study of Their Collaboration in Agricultural Research**
In press.

Kyaw Zin
**Burma and the CGIAR Centers: A Study of Their Collaboration in Agricultural Research**
in press.

Robert E. Evenson
**The IARCs: Evidence of Impact on National Research and Extension Programs and on National Crop Yields**
In press.
General Information

Major research programs:
Cassava, field beans, rice, tropical pastures

Objectives:
To work with national organizations to develop improved agricultural technology to increase the quality and quantity of specific basic food commodities in the tropics. The main crops are cassava, field beans, and rice. CIAT also conducts a large program on developing suitable pasture technology for the infertile, acid soils of Latin America.

In this catalog CIAT publications are listed in the following criteria:
General; Beans (*Phaseolus vulgaris*); Cassava; Pastures (tropical pasture species); Rice; Seeds (seed technology).

Order information:
As a nonprofit organization, CIAT is primarily interested in making its research information widely available to the people who need it. Prices for developing countries are determined from direct production costs plus a small markup to cover warehouse and distribution costs. The "list price" for each book is its commercial sale price, which is based on actual production costs. This is also the developed country cost for the book. (Discounts are available for educational institutions and for distribution agents.)

Libraries can request copies of the CIAT Report, Miscellaneous Reports, CIAT International, commodity newsletters, and the abstracts journals through the Library exchange System at CIAT.

Many publications are available in English through the IADS Agri-bookstore, Rosslyn Plaza, 1611 Kent Street, Suite 600, Arlington, West VA 22209, USA. (Price list available on request.)

Payment:
Prices are listed in US dollars. Payment may be made with a personal or cashier checks, drawn only on banks that are affiliated with a US bank. PLEASE NOTE THAT PAYMENT MUST ACCOMPANY THE ORDER.

Payment may also be made in Colombian pesos, or in CIAT coupons, AGRINTER coupons, or UNESCO coupons.

Checks should be made payable to CIAT. No refunds can be made for checks exceeding the exact amount of the invoice, due to currency restrictions. An invoice can be requested, in order to verify availability of materials and total price. All refunds will be made in CIAT coupons.
Send orders to:
Distribution Office
CIAT
Apartado Aéreo 6713
Cali, Colombia

Como hacer pedidos:
Al ser una organización sin ánimo de lucro, el CIAT está principalmente interesado en que la información sobre sus programas sea ampliamente conocida por aquellos que la necesitan. Los precios para países en desarrollo reflejan los costos directos de publicación, con un incremento pequeño para cubrir los costos de almacenamiento y distribución.

Las bibliotecas pueden solicitar copias del Informe CIAT, de CIAT Internacional, de los boletines e, informes misceláneos, y de las revistas de resúmenes, mediante el sistema de canje del Centro.

Forma de pago:
Los precios anotados indican el precio en dólares estadounidenses por cada ejemplar, incluyendo el costo de su porte via correo aéreo. SE REQUIERE PAGO ADELANTADO PARA CUALQUIER ENVIO DE PUBLICACIONES.

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El pago puede hacerse también con cupones del CIAT, cupones AGRINTER, y cupones de la UNESCO.

Los cheques deben ser girados a nombre del CIAT. Favor tomar nota de que no es posible devolver dinero sobre cheques recibidos cuyo valor exceda el total de la factura.

En los pedidos a la siguiente dirección:
Distribución de Publicaciones
CIAT
Apartado Aéreo 6713
Cali, Colombia

Research Highlights

J. Reeves, Senior Writer

CIAT Report 1986/Informe CIAT 1986

1986. 140 pages. 21 × 27 cm. Perfect bound, paperback, ISSN 0120-3169 ISSN 0120-3150.

Highlights of the objectives, and research results in 1985 of CIAT's four basic crop commodity programs and support units.
Conferences

Federico Poey (Ed.)
Memorias Reunion de Trabajo Sobre Desarrollo y Proyeccion del Sector de Semillas en America Latina y El Caribe

1985. 128 pages. 15 × 21 cm. Paperback. ISBN 84-89206-47-3. HDC $6.00, LDC $5.00 plus airmail or surface mail postage.

Resumenes de los trabajos presentados sobre la situación del potencial de germoplasma disponible en los Centros sector de semillas en América Latina y el Caribe, el Internacionales de la región y de las posibilidades de cooperación técnica y financiera de las instituciones de apoyo que trabajan en el area.

Available only in Spanish.

Folania, Fabio (Ed.)
Memorias de la Reunion de Trabajo Sobre Investigacion y Capacitacion en Produccion y Tecnologia de Semillas

1986. 120 pages. 15 × 21 cm. Paperback. HDC $6.00, LDC $5.00 plus airmail or surface mail postage.

Resumenes de los trabajos presentados en la Reunión de Trabajo sobre Investigación y Capacitación en Tecnología de Semillas. Análisis del estado de la investigación sobre semillas, los logros alcanzados en este campo y las perspectivas que ofrecen nuevos campos de investigación sobre semillas en países desarrollados.

Disponible solo en Español.

John K. Lynam, Technical Editor
Cassava in Asia, its Potential and Research Development Needs

1986. 442 pages. 15 × 22 cm. Paperback. ISBN 84-89206-48-1. HDC $18.00, LDC $11.00 (airmail postage included).

Proceedings of a regional workshop held in Bangkok, Thailand, June 1984. Individual reports review the market potential of cassava in tropical Asia, new technology as the basis for increased production, and research and development needs.
Global Workshop on Root and Tuber Crops Propagation


Proceedings of a global workshop held in CIAT, Cali, Colombia in September 1983 covering crop description of potato, cassava, sweet potato, and cocoyam, seed production and storage and rapid propagation techniques. Sponsorship by CIAT, CIP, IITA, UNDP.

F. Cuevas and A.L. de Roman (Editors)

Taller sobre la Red Cooperativa de Investigación de Arroz en el Caribe

1986. 138 pages. 15 × 22 cm. Perfect bound, paperback. ISBN 84-89206-57-0. HDC $15.00, LDC $9.00 (airmail postage included).

Proceedings of a workshop held in the Dominican Republic, August 1984. Eight country reports on the rice situation, production systems, research, extension and recommendations for future research; workshop recommendations including the structuring of a Caribbean rice research network.

C. Lascano and E. Pizarro (Editors)

Evaluación de pasturas con animales. Alternativas metodológicas


Miscellaneous (Thesaurus, Glossaries and Directories)

Anzola, C; Leatherdale, D; Youngberg, H.

Thesaurus on Seed Science and Technology

1986. 236 pages. 22 × 28 cm. Paperback. HDC $4.00, LDC $2.50 plus airmail or surface mail postage.

A list of terms related to Seed Science and Technology, presenting their synonyms, structure and relationships.
José Fernández de Soto

Glosario de Terminos Usados en Semillas

1986. 92 pages. 22 × 28 cm. Paperback. HDC $4.00, LDC $2.50 plus airmail or surface mail postage.

A list of terms most commonly used in Seed Science and Technology. Includes definition and English equivalences.

Available only in Spanish.

Anzola, C; Rodríguez, M.

Directorio de Specialistas e Instituciones en Semillas


A list of names, addresses and area of specialization for individuals and institutions involved with seed production and technology in Latin America and the Caribbean.

Technical Manual & Catalogs

R. S. Bradley et al.

Catálogo de cepas de rizóbios para leguminosas forrajeras tropicales. 4a. ed.

Catalog of rhizobium strains for tropical forage legumes. 4th edition.


Contains information related to the rhizobium strains collection kept at the Soil Microbiology section of CIAT's Tropical Pastures Program.

C.F. de Fernández, P. Gepts and M. López

Etapas de desarrollo de la planta de frijol común (Phaseolus vulgaris L.)

1986. 34 pages. 12 × 19 cm. Saddle stitched. ISBN 84-89206-54-6. HDC $9.00, LDC $7.00 (airmail postage included).

Illustrated description of the development stages and the vegetative cycle of the common bean plant.
Bibliographies

Centro Internacional de Agricultura Tropical

Bibliography on Bean Research in Africa
Supplement 1986


This supplement includes 55 references to African bean literature. These documents, most difficult to obtain, give the history of research on *Phaseolus vulgaris* on the African Continent. Abstracts have been provided for 524 citations.

Cassava Information Center Staff

Abstracts on Cassava (*Manihot esculenta* Crantz) (Vol. XII)

1986. no. 1, 86 p; no. 2, 111 p; no. 3, 120 pages. 15 × 22 cm. Perfect bound, paperback. ISSN 0120-288X. HDC $35.00, LDC $16.00 plus air or surface mail postage.

Subject specialists analyze hundreds of articles in scientific and technical journals, manuals, bulletins, mimeographed works, and other sources and abstract the contents, augmenting the citation with keywords for quick retrieval. These abstracts are arranged by subject heading in periodic volumes that correspond to three key areas of CIAT research. All abstracts are subject and author indexed. Every title listed in the abstracts is available through the Documentation Service Unit, at CIAT.

Cassava Information Center Staff

Resumenes Analíticos Sobre Yuca (*Manihot esculenta* Crantz) (Vol. XII)

1986. no. 1, 119 p; no. 2, 118 p; no. 3, 120 pages. 15 × 22 cm. Perfect bound, paperback. ISSN 0120-2898. HDC $35.00, LDC $16.00 plus air or surface mail postage.

Especialistas en información analizan cientos de artículos publicados en revistas científicas y técnicas, manuales, boletines, trabajos mimeografiados y de otras fuentes, y resumen sus contenidos ampliando la cita bibliográfica con palabras claves que permiten una recuperación rápida. Estos resúmenes se organizan por encabezamiento de materia, en volúmenes periódicos que corresponden a las 3 áreas claves de la investigación del CIAT. Todos los resúmenes se indizan por autor y por materia y cada título indicado en los resúmenes está disponible por intermedio de la Unidad de Servicios de Documentación del CIAT.

Available in English and Spanish.
Bean Information Center Staff

Abstracts on Field Beans (*Phaseolus vulgaris* L.) (Vol. XI)

1986. no.1, 190 p; no.2, 176 p; no.3, 190 pages. 15 × 22 cm. Perfect bound, paperback. ISSN 0120-2928. HDC $35.00, LDC $16.00 plus air or surface mail postage.

Subject specialists analyze hundreds of articles in scientific and technical journals, manuals, bulletins, mimeographed works, and other sources and abstract the contents, augmenting the citation with keywords for quick retrieval. These abstracts are arranged by subject heading in periodic volumes that correspond to three key areas of CIAT research. All abstracts are subject and author indexed. Every title listed in the abstracts is available through the Documentation Service Unit, at CIAT.

Available in English and Spanish.

Bean Information Center Staff

Resumenes Analiticos Sobre Frijol (*Phaseolus vulgaris* L.) (Vol. XI)

1986. no.1, 198 p; no.2, 189 p; no.3, 196 pages. 15 × 22 cm. Perfect bound, paperback. ISSN 0120-2871. HDC $35.00, LDC $16.00 plus air or surface mail postage.

Documentalistas especializados analizan cientos de artículos publicados en revistas científicas y técnicas, manuales, boletines, trabajos mimeografiados y de otras fuentes, y resumen sus contenidos ampliando la cita bibliográfica con palabras claves que permiten una recuperación rápida. Estos resúmenes se organizan por encabezamientos de materia, en volúmenes periódicos que corresponden a las 3 áreas claves de la investigación del CIAT. Todos los resúmenes se indizan por autor y por materia, y cada título indicado en los resúmenes esta disponible por intermedio de la Unidad de Documentación del CIAT.

Available in English and Spanish.

Pastures Information Center Staff

Resumenes Analíticos Sobre Pastos Tropicales (Vol. VIII)

1986. no. 1, 185 p; no.2, 121 p; no.3, 150 pages. 15 × 22 cm. Perfect bound, paperback. ISSN 0120-2944. HDC $35.00, LDC $16.00 (plus air or surface mail postage).

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(Subject specialists analyze hundreds of articles in scientific and technical journals, manuals, bulletins, mimeographed works, and other sources and abstract the contents, augmenting the citation with keywords for quick retrieval. These abstracts are arranged by subject heading in periodic volumes that correspond to three key areas of CIAT research. All abstracts are subject and author indexed. Every title listed in the abstracts is available through the Documentation Services Unit, at CIAT.)

Available in Spanish only.

A. Ramírez P. (Editor)

Pasturas tropicales - boletin. Vol. 8, Nos. 1-3
1986. 32 pages. 21 × 27 cm. Saddle stitched. ISSN 0120-6915. Free.

Periodical bulletin with scientific articles, research activities and other information of interest to pasture researchers in the lowland tropics of Latin America and other areas in the tropics. It serves as a medium of communication to members of the Network for Evaluation of Tropical Pastures (RIEPT).

J. Reeves (Writer) / F. Motta (Editor)

CIAT Internacional. Vol. 5, Nos. 1-3

Newsletter. Highlights research results and international cooperation activities of CIAT. Published three times a year.

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CIAT International. Vol. 5, Nos. 1-3

Newsletter. Highlights research results and international cooperation activities of CIAT. Published three times a year.
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**Yuca Boletín Informativo. Vol. 10, Nos. 1-3**


Highlights the main advances in research on this crop through contributions of researchers and specialists worldwide. Published three times a year.

J. Reeves (Writer) / Elizabeth L. de Páez (Editor)

**Cassava Newsletter. Vol. 10, Nos. 1-3**


Highlights the main advances in research on this crop through contributions of researchers and specialists worldwide. Published three times a year.

J. Reeves (Writer) / A. de Roman (Editor)

**Hojas de Frijol para América Latina. Vol. 8, Nos. 1-3**


Newsletter with research activities and results of interest to members of bean research networks in Latin America. Published three times a year.

J. Reeves (Writer) / A.L. de Roman (Editor)

**Arroz en las Américas. Vol. 7, Nos. 1 & 2**

1986. 8 pages. 21 × 27 cm. Saddle stitched. ISSN 0120-2634. Free.

Newsletter with research activities and results and news of interest to members of rice research networks in Latin America and rice researchers in general. Published twice a year.

**Audiovisual Materials**

C.A. Valencia

**Benefico de semillas de A. gayanus**

1986. 75 slides, 20 minutes.

_Andropogon gayanus_ es una gramínea forrajera estable y productiva en las regiones de sabana de América tropical, por lo que ha sido liberada como cultivar en varios países de la región.
Las semillas de *A. gayanus* presentan problemas para el proceso de beneficio, debido a su bajo peso, abundante pubescencia y a la presencia de aristas y espiguillas vanas. Esta unidad presenta una descripción completa del proceso de beneficio, el cual puede producir tres clases de semilla de acuerdo con el grado de refinamiento: semilla cruda, semilla limpia o semilla clasificada.

C.A. Valencia

**Main pests of stored bean**

1986. 80 slides, 30 minutes.

Stored bean is attacked by pests commonly called bruchids that sometimes can cause irreparable losses.

This unit presents detailed information on the biology of the bruchids, and applicable methods for the control of these populations at domestic, small-farmer and commercial level. It also includes a description of the methodology used for their study.
International Potato Center
Centro Internacional de la Papa
Centre International de la Pomme de Terre

Apartado Postal 5969, Lima, Peru
Cables: CIPAPA-LIMA
Telex: 25672 PE
Telephone: 354354-366920
Foreword

The International Potato Center (CIP) is a scientific institution established for the purpose of developing and disseminating knowledge for greater use of the potato as a basic food. The following publications are designed to support research and communication among agricultural programs around the world. Several CIP publications are out of print and no longer listed. Copies may be available for consultation at an agricultural library.

We recommend contacting your National Potato Program. It is authorized to reproduce all technical information of CIP, and may also respond to other needs you may have concerning potato research or training.

Prefacio

El Centro Internacional de la Papa (CIP) es una entidad científica establecida para desarrollar y diseminar conocimientos sobre la papa, con el propósito de lograr su mayor utilización como alimento básico. Las siguientes publicaciones han sido hechas para apoyar la investigación y comunicación entre los programas agrícolas en el mundo. Algunas publicaciones del CIP están agotadas y ya no son incluidas en esta lista. Podrían encontrarse disponibles en una biblioteca agrícola.

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Avant-propos

Le Centre International de la Pomme de Terre (CIP) est une institution scientifique qui a été établie dans le but de développer et disposer les connaissances sur la Pomme de terre pour stimuler son emploi en qualité d'aliment de base. Les publications présentées ci-après ont été faites afin d'encourager la recherche et la communication entre les programmes agricoles dans le monde entier. Quelques-unes des publications du CIP sont épuisées et ne sont plus distribuées par le CIP. Cependant, il se peut qu'elles soient disponibles dans d'autres bibliothèques spéciales.

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1 Mail your order form to the address most convenient to you (see pages 26 to 32).
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<td>Centro Internacional de la Papa, 1985. 186 pp.</td>
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Technology Evaluation Series No. 10

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Serie de Evaluacion de Tecnologia No. 12

Investigaciones nematologicas en programas latinoamericanos de papa
2 Volumenes, 189 pp.

Breaking new ground: Agricultural anthropology
Rhoades, R.E. 1984. 84 pp.

Tissue culture micropropagation, conservation and export of potato germplasm

Potato storage for developing countries

Introduction to potato storage

Traditional potato production and farmers' selection of varieties in eastern Nepal

Potatoes in Food Systems Research Series No. 2
Household food production: Comparative perspectives

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Vol. 13, No. 2, 1985
• Basic seed: A new production and distribution program for Peru
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Vol. 13, No. 3, 1985
• The quest for improved potato varieties in Thailand
• La búsqueda de variedades mejoradas de papa en Tailandia

Out of print

Vol. 13, No. 4, 1985
• Induction and use of in vitro potato tubers
• Inducción y utilización de tubérculos de papa producidas in vitro

Working Papers - Documentos de Trabajo

1984 - 3 Building an effective potato country program:
   The case of Rwanda
   Monares, A. 34 pp.

1985 - 1 Adopción y difusión de variedades de papa en el departamento de Cajamarca
   Franco, E., Schmidt, E. 30 pp.

1985 - 2 Eficiencia técnica y económica de la producción de semilla de papa en la sierra central del Perú

Technical Information Bulletins (TIBs)
Boletines de Información Técnica (TIBs)
Bulletins d'Information Technique (TIBs)

English - The TIBs contain information that is useful for potato production and applied research. Although the information is directed at an intermediate professional level, it is adaptable to the farmers' level. The TIBs may be used for study, potato production, experimentation, training, and production of information for farmers.

Español - Los TIBs contienen información que es útil para la producción de papa y la investigación aplicada. Aunque la información está dirigida a un nivel profesional intermedio, es fácilmente adaptable al nivel del agricultor. Los TIBs pueden ser usados para el estudio, la producción de papa, experimentación, capacitación, y elaboración de mensajes para los agricultores.

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General Information

Maize and wheat constitute the principal sources of carbohydrates and protein for nearly half of the people of the world. CIMMYT's primary objective is to develop superior germplasm that will provide higher and more stable yields, as well as better nutritional quality. Toward this end, CIMMYT promotes and helps to implement research, training, and information programs designed to improve maize and wheat production in the developing countries of the world. The Center currently conducts research on maize, bread wheat, durum wheat, and triticale.

To be consistent with its mandate to serve the Third World, CIMMYT provides single copies of most of its publications free of charge to over 5,000 agricultural scientists and libraries in developing countries. Beyond this complementary distribution, CIMMYT employs a two-tiered pricing structure for its publications. Separate prices are listed in this catalog for Highly Developed Countries (HDCs) and Less Developed Countries (LDCs). All prices include air mail postage. (Note: CIMMYT reserves the right to adjust prices on an annual basis.)

In addition, all CIMMYT publications are available on microfiche. If interested in this delivery format, please write for cost information and other details.

Research Highlights

CIMMYT Staff

CIMMYT Research Highlights 1985 (new listing)


An annual research report on selected CIMMYT research activities in maize, bread wheat, durum wheat, and triticale crop improvement. Highlights of selected crop management and economics research activities are also provided.

Also available: Research Highlights 1984

Annual Reports

CIMMYT Staff

CIMMYT Annual Report 1985

This non-technical annual report is intended primarily for policy makers and members of the donor community. It presents CIMMYT's research program activities in a highly concise form (the "1985 Management Report" and "A Review of CIMMYT Programs"), and gives emphasis to the financial and special project aspects of the Center's operations. The Annual Report is supplemented by the Research Highlights and two technical reports, one focusing on maize research and the other on wheat research.

CIMMYT Maize Program Staff

CIMMYT Biennial Report on Maize Improvement 1982-83


This technical report is produced at two-year intervals and is intended for informed, technically oriented individuals working on various aspects of maize improvement. The report describes in detail the CIMMYT Maize Program's research in gene pool development, population improvement, special projects, wide crosses, training and regional programs.

CIMMYT Wheat Program Staff

CIMMYT Report on Wheat Improvement 1984


This annual technical report is intended for informed, technically oriented individuals working on various aspects of wheat improvement. The report describes the CIMMYT Wheat Program's research on bread wheat, durum wheat, and triticale. Also included are reports on activities of the research support programs, regional programs, and bilateral programs.

Also available: CIMMYT Report on Wheat Improvement 1983, 1982

Conference Proceedings

B. Gelaw, Editor

To Feed Ourselves: A Proceedings of the First Eastern, Central and Southern Africa Regional Maize Workshop

A regional workshop on maize in Eastern, Central, and Southern Africa was held in Lusaka, Zambia, on March 10-17, 1985, and was attended by maize breeders and agronomists from 17 African countries. The proceedings contains "country reports" that summarize the status of maize production in the 17 countries represented at the workshop, as well as technical papers by selected specialists. These technical papers present and discuss 1) various approaches to maize research, 2) the constraints to maize production in African environments, 3) the breeding efforts necessary to overcome these constraints, 4) seed production issues, 5) questions regarding various economic aspects of maize production under the conditions of representative farmers.

CIMMYT Staff

**Strengthening Agricultural Research in Latin America and the Caribbean (Proceedings)**


The Workshop on Strengthening Agricultural Research in Latin America and the Caribbean, held at CIMMYT on September 10-12, 1984, brought participants together to address issues related to the framework within which agricultural research is organized in these regions. The papers in the proceedings include a projection of production, consumption, and export trade trends in Latin America to the year 2000; a report on agricultural research in the public sector; and a summary of current opportunities for investment in agricultural research. On-farm research, biotechnology, and the availability of human resources for national agricultural research also receive attention. Observations of commentators are included.

**Miscellaneous Reports and Brochures**

CIMMYT Staff

**Improving on Excellence: Achievements in Breeding with the Maize Landrace Tuxpeño**

1986. 10.2 × 21.5 cm. Paperback. Saddle wire stitched. Available in English and Spanish. HDC $2.00. LDC $1.00.

Over the past two decades at CIMMYT, genetic improvement of Tuxpeño, one of the outstanding maize germplasm complexes of Latin America, has resulted in the development of materials that are useful in many parts of the world. The Program's approach to developing these materials provides a focus for describing several important aspects of its work. Among the aspects considered are the assumptions and decisions made by maize breeders about their work, goals and priorities they set, methods they applied, and results they achieved.
The progress of the Maize Program and indications of its future course are also discussed.

CIMMYT Staff

**Veery “S”: A Bread Wheat for Many Environments**


This publication describes the Wheat Program's development of improved bread wheats from crosses between the spring-and winter-habit germplasm pools. Veery “S” materials have moved bread wheat onto a new yield level, and show exceptionally stable performance across a wide range of environments. Varieties derived from Veery “S” are being rapidly released by national programs, and are currently planted on over 3,000,000 ha worldwide.

Christopher R. Dowswell

**Strengthening National Research Programs Through Training: A Twenty-Year Progress Report**


The evolution, organization, and philosophy of CIMMYT training are reviewed in this publication, with emphasis on the Center's contribution to expanding the capacity of national programs to conduct research in maize and wheat improvement and economics. The full range of training opportunities offered by CIMMYT is described in detail. The program's plans for the future, especially with regard to the changing needs of national programs, are discussed.

Steven A. Breth

**Mainstreams of CIMMYT Research: A Retrospective**


CIMMYT's most significant research initiatives and accomplishments are reviewed in this publication, which includes special sections on the Center's origins and organization, its objectives and priorities during the past two decades, its work with national crop improvement programs, and its three major research programs — Maize, Wheat, and Economics. A comprehensive summary of the work of each of these programs to date, as well as the present direction of their research, provides a general perspective on CIMMYT's evolution as an organization.
CIMMYT Staff

**Poster: Identification of Rust Diseases on Wheat**

1985. 28 × 60.5 cm. Full color. Available in English, Spanish and French. HDC $2.00. LDC $1.00.

The three rust diseases occurring on wheat — stem rust, leaf rust, and stripe rust — are pictured to aid identification. A description of symptoms and disease development, as well as spore morphology, is given for each rust disease.

CIMMYT Staff

**Poster: Characteristics of Selected Seed-borne Fungi**

1985. 28.5 × 80 cm. Full color. Available in English, Spanish, and French. HDC $2.00. LDC $1.00.

Four seed-borne fungal diseases are compared to healthy seed: Karnal bunt, common bunt, dwarf bunt, and black point. For each disease, a description of the crops affected, the symptoms, and the spore morphology is given.

**Guidebooks and Manuals**

J.M. Prescott et al.

**Wheat Diseases and Pests: A Guide for Field Identification**


An illustrated, pocket-size field guide to common wheat diseases and pests, designed for use in the field by all agricultural workers. A simple diagnostic key, numerous color photographs of diseased and pest-infested plants, and a helpful glossary of pathology-related terms are included as aids to identification.

**Periodicals**

CIMMYT Economics Program Staff

**1986 World Maize Facts and Trends: An Analysis of the Economics of Maize Seed Production**

A viable, effective maize seed industry is a key element in the extension of improved maize varieties to Third World farmers. In this report, the worldwide use of maize seed is analyzed by major seed type, and the prices and costs of different types of maize seed are detailed. A discussion of issues central to maize seed production focuses on the use of open-pollinated maize seed and hybrid maize seed, on public and private seed industries, and on incentives for establishing an effective seed industry. In tabular form, the report presents recent data related to the maize economy in countries that either grow over 100,000 hectares of maize or consume 100,000 tons of the grain (or both).

CIMMYT Staff

**A Common Ground for Maize Research: Regional Cooperation in the Middle East and North Africa.**

**CIMMYT Today**


CIMMYT's Middle East/North Africa Regional Maize Program is tailored to the unique requirements and circumstances of maize research in the region, reinforcing the efforts of national researchers to improve the productivity of resources committed to maize production. Some of the accomplishments of these researchers in Egypt, Turkey, Morocco, Syria, and Portugal are described, including their work in germplasm development and on-farm research. This publication also explains how they are supported by CIMMYT's maize program, which develops and improves germplasm and delivers this and other research products or services to national maize scientists.
IBPGR

International Board for Plant Genetic Resources

Crop Genetic Resources Centre Food and Agriculture Organization of the United Nations, Via delle Terme de Caracalla, 00100 Rome, Italy
Cable:FOODGARI, ROME - Telex: 610181 FAOI
Annual Reports, Periodicals and Research Highlights

IBPGR Annual Report 1985

1986. 92 pages. 19 × 26 cm. Paper. ISBN 92-9043-121-0. Available free to developing countries but restricted distribution to developed countries.

The Annual Report provides a detailed overview of IBPGR's activities during the year.

FAO/IBPGR Plant Genetic Resources Newsletter (Nos. 1-65).

 Quarterly. Approx. 40 pages. 21 × 29.7 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

This newsletter describes the diverse activities of the global programme developed by the IBPGR and organized co-jointly with FAO.

L.A. Withers and J.T. Williams

Research Highlights: In Vitro Conservation

1986. 21 pages. 14 × 20.7 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

Up to 1984, all IBPGR-supported research had been summarized in Annual Reports. For 1984-85, IBPGR research on in vitro conservation forms the topic for this, the first IBPGR Research Highlights. Included are concepts and practices of in vitro conservation and IBPGR research on specific crops.

General Information

Crop Germplasm Conservation and Uses (Pamphlet)

1986. 13 pages. 10 × 21 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

This pamphlet briefly describes the uses put to conserved germplasm, particularly by plant breeders and notes new technologies which may be of use in the improvement of crop plants.
Monographs on Crops

J.C. Cлемент

Les Mils Penicillaires de l’Afrique de l’Ouest: Prospections et Collectes

1985. 231 pages. 21 × 29.7 cm. Paper. Published in cooperation with Institut Français de Recherche Scientifique pour le Développement en Coopération (ORSTOM). Available free to developing countries, but restricted distribution to developed countries.

This publication includes information on the variability in pearl millet (Pennisetum americanum L.) in the Sahelian countries obtained in collecting missions since the early 1970s. In French.

S.K. Mukherjee

Systematic and Ecogeographic Studies on Crop Genepools: 1. Mangifera L.

1985. 86 pages. 21 × 29.7 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

This is the first of a series which summarize studies of the geographical distribution of species, in this case those related to the cultivated mango with the purpose of devising a plan of action for collection and conservation (in situ and ex situ).

C.D.G. Chapman

Genetic Resources of Wheat: A Survey and Strategy for Collecting

1985. 39 pages. 21 × 29.7 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

Wheat germplasm has been extensively collected for over a relatively long period. This germplasm is dispersed among a number of collections however and the objective of this survey is get a coherent picture in order to set priorities for future work.

Genetic Resources of Tropical and Sub-Tropical Fruits and Nuts (Excluding Musa).

1986. 160 pages. 21 × 29.7 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

This book holds reports on specific aspects relevant to the conservation of genetic resources of 31 mainly tropical and sub-tropical fruit and nut crops. Some major crops such as banana and plantain, which have been covered in other IBPGR publications, are not included.
Monographs on Conservation

The Potential for Using In Vitro Techniques for Germplasm Collection

1984. 8 pages. 21 × 29.7 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

This book is an outcome of a meeting of a subcommittee of the IBPGR's Advisory Committee on In Vitro Conservation. It considers novel collecting techniques for vegetatively propagated species and material such as coconut which present practical problems.

J. Hanson

Procedures for Handling Seeds in Genebanks (Practical Manuals for Genebanks No.1)

1985. 115 pages. 21 × 29.7 cm. Spiral-bound. Available free to developing countries, but restricted distribution to developed countries.

This manual is the first in a series of practical guides to suitable methods for processing and storing seeds in genebanks. It is aimed specifically for genebank personnel, especially those technicians and staff involved in day-to-day seed handling.

Long-term Seed Storage of Major Temperate Fruits

1985. 38 pages. 21 × 29.7 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

This report provides information on the storage and germination of seeds of Prunus, Malus, Pyrus and Vitis spp. The problem of substantial seed dormancy is common to all four genera.

Cost-effective Long-term Seed Storage

1985. 38 pages. 21 × 29.7 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

This is a report of a meeting of a subcommittee of the IBPGR Advisory Committee on Seed Storage. Particular emphasis is given to alternatives to conventional long-term seed stores operating at the IBPGR preferred conditions.
C. Stushnoff and C. Fear

The Potential Use of In Vitro Storage for Temperate Fruit Germplasm: A Status Report.

1985 21 pages. 21 × 29.7 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

This report discusses conservation of temperate fruit germplasm in vitro, either using minimum growth methods for short- to medium-term storage, or cryopreservation for long-term storage.

The Design, Planning and Operation of In Vitro Genebanks

1986. 17 pages. 21 × 29.7 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

This is a report of a meeting of a subcommittee of the IBPGR Advisory Committee on In Vitro Storage. It draws attention to the scale, in terms of manpower requirements and other resources, of undertaking the establishment of an In Vitro Active Genebank.

R.H. Ellis, T.D. Hong and E.H. Roberts

Handbook of Seed Technology for Genebanks Vol. I: Principles and Methodology (Handbooks for Genebanks No. 2)

1985. 210 pages. 21 × 29.7 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

This first volume on seed technology for genebanks deals with many of the principles of seed testing which need to be understood when monitoring the viability of seed accessions maintained in genebanks. It is the second in a general series of genebank handbooks.

R.H. Ellis, T.D. Hong and E.H. Roberts

Handbook of Seed Technology for Genebanks Vol. II: Compendium of Specific Germination Information and Test Recommendations (Handbooks for Genebanks No. 3)

1985. 456 pages. 21 × 29.7 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

This second volume on seed technology for genebanks provides general approaches, detailed information, guidance and, where available, prescriptions for removing dormancy and germinating the seeds. It is the third in a general series of genebank handbooks.
Documentation of Genetic Resources (General)

J. Konopka and J. Hanson (editors)

Documentation of Genetic Resources: Information Handling Systems for Genebank Management

1985. 87 pages. 17 × 24.5 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

This publication, the proceedings of a workshop, has the objective of raising the standards of genebank management by stimulating the development and implementation of computerized data management systems in order to facilitate seed handling procedures.

M.J.A. Simpson and L.A. Withers

Documentation of Genetic Resources: Characterization of Plant Genetic Resources Using Isozyme Electrophoresis: A Guide to the Literature

1986. 102 pages. 17 × 24.5 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

Morphological and agronomic evaluation of variability of accessions held in genebanks may be supplemented by more direct study of the genome by isozyme electrophoresis. This survey aims to provide a guide to the literature on isozyme electrophoresis in plant biology and to demonstrate the potential role of the techniques in the evaluation and utilization of plant genetic resources.

Descriptor Lists

This description applies to all the books in the following section: In order for the global network of crop genetic resources centres to readily exchange data about samples along with the plant materials, it is necessary for each centre to develop a data bank with a certain degree of standardization. This standardization is provided by the descriptors for each crop agreed internationally. The use of these descriptors permits scientists of different nationalities to readily communicated among themselves.

Forage Legumes Descriptors

1984. 29 pages. 21 × 29.7 cm. Paper. Published in cooperation with Commission of European Communities (CEC). Available free to developing countries, but restricted distribution to developed countries.
E. Bellini, R. Watkins and E. Pomarici (editors)

**Peach Descriptors**

1985. 34 pages. 21 × 29.7 cm. Paper. Published in cooperation with Commission of European Communities (CEC). Available free to developing countries, but restricted distribution to developed countries.

R. Guerriero and R. Watkins (editors)

**Apricot Descriptors**

1985. 36 pages. 21 × 29.7 cm. Paper. Published in cooperation with Commission of European Communities (CEC). Available free to developing countries, but restricted distribution to developed countries.

D. Cobianchi and R. Watkins (editors)

**Plum Descriptors**

1985. 31 pages. 21 × 29.7 cm. Paper. Published in cooperation with Commission of European Communities (CEC). Available free to developing countries, but restricted distribution to developed countries.

**Descriptors for Finger Millet**

1985. 20 pages. 17 × 24.5 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

**Faba Bean Descriptors**

1985. 19 pages. 17 × 24.5 cm. Paper. Published in cooperation with International Center for Agricultural Research in the Dry Areas (ICARDA). Available free to developing countries, but restricted distribution to developed countries.

**Lentil Descriptors**

1985. 15 pages. 17 × 24.5 cm. Paper. Published in cooperation with International Center for Agricultural Research in the Dry Areas (ICARDA). Available free to developing countries, but restricted distribution to developed countries.

**Descriptors for *Vigna aconitifolia* and *V. trilobata***

1985. 39 pages. 17 × 24.5 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.
Descriptors for *Seteria italic* and *S. pumila*

1985. 18 pages. 17 × 24.5 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

Descriptors for *Panicum miliaceum* and *P. sumatrense*

1985. 14 pages. 17 × 24.5 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

B.F. Tyler, J.D. Hayes and W. Ellis Davies (editors)

**Forage Grass Descriptors**

1985. 30 pages. 21 × 29.7 cm. Paper. Published in cooperation with Commission of European Communities (CEC). Available free to developing countries, but restricted distribution to developed countries.

Descriptors for *Phaseolus acutifolius*

1985. 26 pages. 17 × 24.5 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

**Sunflower Descriptors**

1985. 33 pages. 17 × 24.5 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

**Chickpea Descriptors**

1985. 15 pages. 17 × 24.5 cm. Paper. Published in cooperation with International Center for Agricultural Research in the Dry Areas (ICARDA) International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). Available free to developing countries, but restricted distribution to developed countries.

**Oat Descriptors**

1985. 21 pages. 17 × 24.5 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

**Cherry Descriptors**

1985. 33 pages. 21 × 29.7 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

**Cotton Descriptors (Revised)**

1985. 17 pages. 17 × 24.5 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.
Descriptors for Wheat (Revised)
1985. 12 pages. 17 × 24.5 cm. Paper. Published in cooperation with Commission of European Communities (CEC). Available free to developing countries, but restricted distribution to developed countries.

Descriptors for Vigna mungo and V. radiata (Revised)
1985. 23 pages. 17 × 24.5 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

Groundnut Descriptors (Revised)
1985. 20 pages. 17 × 24.5 cm. Paper. Published in cooperation with International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). Available free to developing countries, but restricted distribution to developed countries.

R. Gülcan (editor)

Almond Descriptors (Revised)
1985. 30 pages. 21 × 29.7 cm. Paper. Published in cooperation with Commission of European Communities (CEC). Available free to developing countries, but restricted distribution to developed countries.

Rye and Triticale Descriptors
1985. 13 pages. 17 × 24.5 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

Directories of Germplasm Collection

This description applies to all the books in the following section: These directories list germplasm holdings in institutes around the world. The information contained therein has been provided by the curators. These data are a preliminary attempt to assess total holdings and the information aids scientists in making contact with other scientists working on the same crop.

G.A. Juvik, R.L. Bernard and H.E. Kauffman

Directory of Germplasm Collections; 1.II Food Legumes (Soyabean)
1985. 53 pages. 22 × 29.7 cm. Paper. Published in cooperation with the University of Illinois, Urbana-Champaign, USA. Available free to developing countries, but restricted distribution to developed countries.
T. Lawrence, J. Toll and D.H. van Sloten

Directory of Germplasm Collections; 2. Root and Tuber Crops

1986. 178 pages. 21 × 29.7 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

Conferences and Meetings

IBPGR Advisory Committee on In Vitro Storage: Report of the Second Meeting

1985. 15 pages. 21 × 29.7 cm. Paper. Available free to developing countries, but restricted distribution to developed countries.

This document reports the findings of the second meeting of one of the IBPGR’s two Standing Committees on Conservation.
General Information

Objectives:

To improve the agricultural systems and major food crops of the drier regions of Western Asia and North Africa. Mediterranean-type of climate of cool, moist winter and hot, dry summers, and the high elevation plateaux, with extremes of winter cold and summer heat, and snow cover for up to five months a year.

Research Highlights

ICARDA

Research Highlights 1985

1986. ___ pages. 16.8 × 23 cm. ISSN 0255-643-X. Paperback.

This brochure describes the highlights of ICARDA's research during 1985. The topics highlighted give a partial insight into the continuing work of ICARDA scientists and the progress they have already made.

Annual Reports

ICARDA

Annual Report 1985

1986. 378 pages. 19.8 × 23.8 cm. ISSN 0254-8313. Paperback.

This annual report gives an overview of the center's research activities and results in 1985 on ICARDA's mandated crops. Activities of the genetics resources, computer services, communication and documentation, visitors' services, and collaborative projects with advanced institutions are also reviewed and lists of scientific publications and seminars given during the year are included.

Conference, Workshop, and Symposia Proceedings

S. Miladi, S. Mahgoub and P. Neate (Editors)

Interfaces between Agriculture, Food Science, and Nutrition: Proceedings of a National Workshop in Sudan, 10-15 Dec 1983

This book is the outcome of this workshop. It comprises papers presented by agriculturalists, economists, food scientists, sociologists, and nutritionists, participants in the workshop, and their recommendations to foster future cooperation among them.


This book contains 12 studies describing methods used in conducting livestock on-farm trials, primarily in the Middle East and Africa regions. Also included are five methodological summaries covering definition of research problems, trial design, farmer participation, criteria for evaluation, and future directions for lofts.

J.P. Srivastava and L.T. Simarski (Editors)

Seed Production Technology

1986. 287 pages. 17.1 x 24 cm. Paperback.

This book is a compilation of the lectures delivered by specialists to the trainees participating in the Third Seed Production Course, 1984.

Miscellaneous Reports and Information Brochures

Harvest of Research: Highlights of the IFAD/ICARDA Nile Valley Project 1979-1985


This publication tells the story of the Nile Valley Project between 1979 and 1985 to improve faba bean production in Egypt and Sudan and the achievements of the project.

B.H. Somaroo and Y.J. Adham (Editors)

Barley Germplasm Catalog I

'86. 413 pages. Soft cover.

The catalog intended as an aid for researchers lists 8,000 barley germplasm accessions with information on their country of origin and the evaluation data on 22 different agro-morphological, physiological and other traits.
ICARDA: A Partner in Cereal Improvement

1985. 74 pages. 16.5 × 24 cm. Soft cover.

This publication acquaints the readers with the kinds of services ICARDA, and in particular its cereal improvement program, offers to national cereal programs and some of the joint accomplishments emerging from their work together.

Technical Manual

P. Williams, F. Jaby El-Haramein, H. Nakkoul and S. Rihawi (Editors)


This manual provides instructions to breeders and staff involved in quality screening of cereals, pulses, and forage crops. It gives a brief description of the tests used, their principles, and interpretation, and includes instructions for each test.

Periodicals

RACHIS Newsletter (Barley and Wheat Newsletter)


This newsletter is published biannually. It contains scientific articles, short communications, book reviews, news items about training, conferences and scientists in barley and wheat. Arabic versions are also published with the financial support of IDRC, Ottawa, Canada.

FABIS Newsletter (Faba Bean Information Service), supported by IDRC, Ottawa, Canada


This newsletter is published triannually. It contains short scientific research articles, review articles on specific areas of faba bean research, book reviews, announcements, and news items about training and conferences on faba bean.

LENS Newsletter (Lentil Experimental News Service), supported by IDRC


This newsletter is published biannually in cooperation with the University of Saskatchewan, Canada. It contains review articles on specific areas of lentil research, news items about conferences on lentils, and descriptions of ICARDA publications.
General Information

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) was founded in 1972 and is one of 13 centers in an international research network operating under the aegis of the Consultative Group on International Agricultural Research (CGIAR). Its headquarters and main research farm, ICRISAT Center, is near the village of Patancheru, 25 km northwest of Hyderabad, India. Other ICRISAT scientists are posted in several countries of Africa, in Mexico, and in Syria.

The mandate of ICRISAT is to:
1. Serve as a world center for the improvement of grain yield and quality of sorghum, millet, chickpea, pigeonpea, and groundnut, and to act as a world repository for the genetic resources of these crops.
2. Develop improved farming systems that will help to increase and stabilize agricultural production through more effective use of natural and human resources in the seasonally dry semi-arid tropics.
3. Identify constraints to agricultural development in the semi-arid tropics and evaluate means of alleviating them through technological and institutional changes.
4. Assist in the development and transfer of technology to the farmer through cooperation with national and regional programs, and by sponsoring workshops and conferences, operating training programs, and assisting extension activities.

Since its foundation ICRISAT has realized the importance of communicating its research findings and production technology via a wide range of publications. The ones listed here are bound in paper covers unless otherwise stated.

Ordering Instructions

Per-copy prices are listed separately for:
- highly-developed countries (HDCs), expressed in U.S. dollars;
- less-developed countries (LDCs), also expressed in U.S. dollars;
- India and other countries in the Indian subcontinent (India), expressed in rupees at a rate equivalent to the LDC price.

The LDC and India prices are quoted at cost, to permit maximal distribution among clients in national agricultural research and extension programs in developing countries.

Book trade discounts are available on request. Other orders for five or more copies are discounted by 30%.
Prepayment is required, based on a proforma invoice. Payment is accepted in Indian rupees, in U.S. dollars or negotiable hard currencies, or in UNESCO coupons.

Prices, and cost of postage and packing (P & P), are quoted for all priced publications and must be remitted in full. Out-of-print publications are available as microfiche copies, at flat-rate page charges.

Organizations that formally exchange publications with ICRISAT Library, journal editors who review ICRISAT publications, and national program staff who collaborate with ICRISAT research programs are entitled to receive single free copies.

Publications will be dispatched via air bookpost unless sea mail is specifically requested. Experience shows that surface mail packages are often delayed for months, do not always reach their destinations, and may be damaged.

Send orders to:

Information Services
ICRISAT
Patancheru
Andhra Pradesh 502 324
India

Research Highlights

ICRISAT Research Highlights 1985
1986. 48 pages. 17 × 23.5 cm. Saddle stitched. ISSN 0257-2532. Free.

Reports advances in ICRISAT’s research work during 1985 on its five mandate crops: sorghum, pearl millet, chickpea, pigeonpea, and groundnut. Illustrated in color, the text focuses on the Institute’s multidisciplinary approach to problem-solving in the development of agriculture in the semi-arid tropics.

1986. 48 pages. 17 × 23.5 cm. Saddle stitched. ISSN 0257-2494. Free.

Conferences


Presents the proceedings of the workshop held at College Station, Texas, USA. Participants discussed the need for sorghum entomology research the world over, with special reference to the developing world. Reports are given on sorghum pests in eastern and West Africa, Southeast Asia, India, Australia, and most of the Americas. Other sections concern specific pests and a final section is devoted to breeding for insect resistance in sorghum and other control approaches.


1985. 28 pages. 17 × 23.5 cm. Saddle stitched. ISBN 92-9066-113-5. HOC $3.00, LDC $1.00 plus airmail ($2.20) postage.

Contains the summaries of eight papers presented at the meeting, which brought together representatives of various research groups working on groundnut rosette virus disease from all over the world to discuss recent findings and plans for future research. Recommendations for a coordinated international collaborative plan and the guidelines set down for each research group are also included.


1985. 48 pages. 21.5 × 28 cm. Saddle stitched. ISBN 92-9066-114-3. HOC $3.00, LDC $1.00 plus airmail ($3.70) postage.

Reports on this 2-day workshop held with particular reference to deep Vertisol technology. The recommendations include suggestions for effective watershed management and development, stronger infrastructural facilities and staff for training, and measures to strengthen research resources.


This meeting brought together participants from industrial, research, university, donor, and international organizations, to share ideas, methodologies, and results in agroforestry research. Recommendations were made for both bioscientific and socioeconomic research, and for developing collaborative linkages.

**Farming Systems Principles for Improved Food Production and the Control of Soil Degradation in the Arid, Semi-Arid, and Humid Tropics, 20-23 June 1983.**

1986. 36 pages. 17 × 23.5 cm. Saddle stitched. ISBN 92-9066-115-1. HDC $3.00, LDC $1.00 plus airmail ($2.00) postage.

Comprises the summary proceedings of an experts' meeting sponsored by the UN Environment Programme, the main objective of which was to identify areas of farming systems research and development having potential to significantly increase food production and promote soil conservation for selected agroecological zones. Guidelines and research priorities are given for farming systems to prevent soil degradation in arid lands, the semi-arid tropics, and the humid tropics.

**Miscellaneous**

**ICRISAT in Africa**

1986. 60 pages. 17 × 23.5 cm. Saddle stitched. Free.

Describes the collaborative work of ICRISAT scientists in semi-arid tropical countries in Africa. Illustrated in color.

**L'ICRISAT en Afrique**

1986. 60 pages. 17 × 23.5 cm. Saddle stitched. Free.


**Bibliographies**

Sorghum and Millet Information Center

**Sorghum bibliography, 1982**


Contains 1616 annotated entries, grouped under broad headings such as Agronomy, Pathology, Entomology, etc. Detailed subject and author indexes are included.
Millet bibliography, 1982.


Contains 991 annotated entries, grouped in three major categories - pearl millet, minor and other millets, and wild relatives. The bibliography includes author and subject indexes.
General Information

Objectives

Research at IFPRI is aimed at contributing to the reduction of hunger and malnutrition in low-income countries through the analysis of underlying processes that extend beyond the narrowly defined food sector. The results of IFPRI's research and analysis are intended to assist policymakers in developing countries make informed decisions on food policy issues. IFPRI works closely with other international and developing nation institutions to understand food production, consumption, and trade processes; to develop new options for policymakers; and to assess the efficacy of existing policies. Individual copies of most IFPRI publications are free but multiple copies will carry a fee plus shipping costs. The fee varies with size and weight of publications.

Annual Report

IFPRI Report 1985

May 1986. 63 pages. 17.8 x 25.4 cm. Saddle stitched.

The annual report summarizes the year's work in each of the Institute's five main programs — food data evaluation, food production policy, agricultural growth linkages, food consumption and nutrition policy, and international food trade and food security — as well as the year's seminars and collaborative work. IFPRI Report 1984 is also available.

Monographs

Research Reports

No. 50
Victor J. Elias

Government Expenditures on Agriculture and Agricultural Growth in Latin America


This study evaluates how government expenditures on agriculture affected agricultural output between 1950 and 1980 in Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Mexico, Peru, and Venezuela.
No. 51
Michel Petit

**Determinants of Agricultural Policies in the United States and the European Community**


This report presents a conceptual framework for analyzing why agricultural policies are what they are, how and under which forces they evolve, and how much of their future evolution can be predicted. Three case studies involving U.S. and European agricultural and agricultural trade policies illustrate and specify the framework.

No. 52
Leonardo Paulino

**Food in the Third World: Past Trends and Projections to 2000**


The trends in production, consumption, and trade of basic food staples (cereals, roots and tubers, pulses, groundnuts, and bananas and plantains) in 105 developing countries are examined and projections developed based on output and income trends.

No. 53
Ulrich Koester

**Regional Cooperation to Improve Food Security Among the Southern and Eastern African Countries**


This report investigates whether regional cooperation can improve food security for developing countries. It identifies the determinants of successful cooperation schemes, and it develops a methodology for quantifying the potential benefits. Specifically it examines the potential for food security in the nine African countries comprising SADCC.

No. 54
Padma Desai

**Weather and Soviet Grain Yields**

_______ 1986. ___ pages. ISBN______.

The influence of weather on Soviet grain yields is measured and the role of systemic and policy factors in weather-adjusted yields is assessed. Methodologies are devised for analyzing such issues.
No. 55
T. Ademola Oyejide

**Effects of Trade Regime and Exchange Rate Policy on the Structure of Incentives to Agriculture in Nigeria**

1986. ___ pages. ISBN.______

This report measures, in terms of relative prices, the incidence of protection accorded by trade and exchange rate policies to agriculture in relation to other sectors of the economy; assesses how trade and exchange rate policies affect intra- and intersectoral resource allocation; and examines how the oil sector affected production incentives in agriculture.

**Books**

John W. Mellor and Gunvant M. Desai, eds.

**Agricultural Change and Rural Poverty: Variations on a Theme by Dharm Narain**


Leading development specialists examine the complexities of the issue of whether the green revolution has left the poor behind. Conclusions with major implications for development policy are presented, and the experiences of and lessons from India, Japan, Southeast Asia, and Africa are compared.

Order from publisher:
The John Hopkins University Press
701 W. 40th Street
Suite 275
Baltimore, MD 21211, USA

In India, the publisher is:
Oxford University Press
YMCA Library Building
Jai Singh Road
Post Box No. 43
New Delhi 110001, INDIA.
Peter Hazell, Carlos Pomareda, and Alberto Valdes, eds.  
**Crop Insurance for Agricultural Development: Issues and Experience**  

Crop Insurance is assessed by presenting the economic theory behind it, testing it against empirical data from several countries, and putting it into perspective with other policy options. The book suggests how the efficiency of crop insurance programs could be increased and possible alternative policies.  

Order from JHU Press (see under previous publication for address).  

**Conference Proceedings**  

IFPRI and the German Foundation for International Development (DSE).  
**Summary Proceedings of the Workshop on Cereal Yield Variability**  

These papers deal empirically with a range of issues associated with cereal yield variability. The nature of changing patterns of yield variability for different cereals in various regions is documented, and alternative approaches to reducing variability are examined. The relationship between changes in yield variability and yield correlations and such causal factors as changes in agricultural technologies, weather, irrigation, input availability, and farming systems is analyzed.  

**Miscellaneous Reports**  

Ojetunji Aboyade  
**Administering Food Producer Prices in Africa: Lessons from International Experiences**  

This work explores the possible effects of increasing price incentives to farmers in Sub-Saharan Africa. The institutional factors and administrative arrangements necessary for a viable producer-price incentive system are examined against the background of case-study experiences in Africa and Asia.
Harold Alderman

The Effect of Food Price and Income Changes on the Acquisition of Food by Low-Income Households


This paper reviews the methodological approaches used and the empirical results obtained in quantifying the extent to which the poor are more responsive to price changes than wealthier consumers. It identifies generalizable findings that may be used to approximate price responses and provides insights into the adjustments low-income households make in food consumption in response to price changes.
Publications of the International Institute of Tropical Agriculture 1984

About IITA

The International Institute of Tropical Agriculture is a non-profit research and training institute established in 1967 under the Laws of the Federal Republic of Nigeria. Like its other 12 sister institutions, IITA is principally financed through the Consultative Group on International Agricultural Research which is an informal group of donor countries, development banks, foundations, and agencies.

The mandate

IITA is responsible for developing viable alternatives to shifting cultivation in the humid and sub-humid tropics. Also, the Institute has a global mandate for research to improve cowpeas, yams, and sweet potatoes as well as carrying out research in Africa on maize, rice, cassava, and soybean. It organizes training, conferences and workshops to increase the number of well qualified persons to carry out research and development.

Books published by commercial companies should be obtained through the book stores.

Grain Legume Improvement Program, IITA

Large Scale Soybean Production in Nigeria

1985. 10 pages. 21 X 27 cm. Hard cover. HDC $3.00, LDC $3.00 plus airmail ($6.30) or surface mail ($4.20) postage.

M. Ashraf, P. Balogun and A. Jibrin

A Case Study of On-Farm Adaptive Research in the Bida Agricultural Development Project in Nigeria

1985. 32 pages. 21 X 27 cm. Hard cover. HDC $3.00, LDC $3.00 plus airmail ($8.50) or surface mail ($4.20) postage.

This publication is the first in a series of IITA On-Farm Bulletins. It describes work undertaken with the Agronomy Section of the Bida Agricultural Development Project in Niger State, Nigeria.
M.C. Palada, W.O. Vogel and H.J.W. Mutsаers

**Report on Exploratory Survey of Ijaiye-Imini Pilot Research Area, Oyo State, Nigeria**

1985. 59 pages. 21 × 27 cm. Hard cover. HDC $3.00, LDC $3.00 plus airmail ($11.80) or surface mail ($5.20) postage.

The result of an exploratory survey carried out by a multidisciplinary team in preparation of on-farm technology testing. It describes the farming environment and the farming systems in the area and the constraints and opportunities observed by the team.

H.H.W. Mutsаers

**On-farm Research Training Workshops**

1985. 40 pages. 21 × 27 cm. Hard cover. LDC $3.00, LDC $3.00 plus airmail ($9.60) or surface mail ($4.50) postage.

This publication is written as a set of practical hints for an efficient organization of On-farm Research (OFR) training workshops, for use by IITA trainers.

H.W. Rossel and G. Thottappilly

**Virus Diseases of Important Food Crops in Tropical Africa**

1985. 61 pages. 15 × 22 cm. Hard cover. HDC $5.00, LDC $5.00 plus airmail ($11.60) or surface mail ($7.20) postage.

This book contains information about the geographical distribution, symptoms, identification and control of the most prevalent virus diseases of some of the continent's principal staple food crops.

B.B. Singh, S.R. Singh, L.E.N. Jackai and S.A. Shoyinka

**General Guide for Cowpea Cultivation and Seed Production**

1986. 16 pages. 21 × 28 cm. Hard cover. HDC $3.00, LDC $3.00 plus airmail ($7.95) or surface mail ($4.20) postage.

The publication provides information on cowpea culture to serve as a guide for farmers and seed producing agencies.
S.K. Hahn

**Les Plantes a Racines et Tubercules Tropicales Amelioration et Utilisation**

1986. 32 pages. 21 × 27 cm. Hard cover. HDC $3.00, LDC $3.00 plus airmail ($8.50) or surface mail ($4.20) postage.


Efren Oro

**Basic Course in Photography**

1986. 39 pages. 14 × 22 cm. Soft cover. HDC $3.00, LDC $3.00 plus airmail ($6.30) or surface mail ($4.20) postage.

IITA

**Special Issue Tropical Grain Legume Bulletin — No. 32**

1986. 173 pages. 21 × 27 cm. Hard cover. HDC $5.00, LDC $5.00 plus airmail ($38.00) or surface mail ($10.20) postage.

Based on papers presented at the first World Cowpea Research Conference, held at IITA, Ibadan, Nigeria - 5 to 9 November, 1984. These papers contained valuable information. To ensure that the salient features of the papers are documented, the Grain Legume Improvement Program at IITA decided to publish them as a Special Supplement of the Tropical Grain Legume Bulletin.
ILCA

General Information

Mandate: To assist national efforts which aim to effect a change in production and marketing systems in tropical Africa so as to increase the sustained yield and output of livestock products and improve the quality of the life of the people of this region.

Centre Objectives

ILCA is an international centre of livestock research, training and documentation. Through research, it seeks to increase the production and sale of livestock and livestock products. This research effort is supported by an extensive documentation service and by the provision of training programmes for national research workers. ILCA's goal of increasing livestock production originates in the premise that the output of the arable and pastoral land of Africa is the major determinant of economic growth, and that inadequate increase in livestock and crop output in most African countries in recent years are the key reason for the unsatisfactory rate of economic growth in these countries. The role of livestock in stimulating economic growth derives from their capacity to generate rapid increases in the cash income of subsistence farmers, enabling these farmers to purchase the agricultural inputs needed to generate large increase in food grain production. In the traditional agricultural systems of Africa, there is a strong complementarity between livestock output and crop production, with increase in the former quickly leading to an upturn in the latter. It is this relationship which ILCA specifically seeks to exploit.

Annual Reports

CIPEA

Rapport Annuel 1982 Une Année au Service de l'élevage en Afrique

1984. viii, 70 pages. 28 × 21 cm. Paperback.

This report summarizes the work of ILCA during the 1982 calendar year. The foreword gives the background to ILCA's research approach
and the main body of the report highlights the work of ILCA's field research programmes in Ethiopia, Nigeria, Mali, Kenya, and Botswana. Further sections highlight ILCA's work on livestock policy, trypanotolerance, forage legume agronomy, nutrition, aerial surveys, computer services, library and documentation, training and publications. A centre spread focuses on the state of the livestock sector in countries of sub-Saharan Africa. The report includes a full staff list, details of ILCA's Board of Trustees, Donors and publications.

Available in English and French.

ILCA

ILCA Annual Report

Annually since 1981; latest 1984. Varies (approx. 80 pages). 28 X 21 cm. Saddle stitched. ISSN 0255-0040 (E) and 0255-3473 (F).

Highlights the work of ILCA's field research programmes in Ethiopia, Nigeria, Mali, Kenya, and Botswana as well as work on livestock policy, trypanotolerance, forage legume agronomy, small ruminants and camels, nutrition, aerial survey, computer services, library and documentation, training and publications.

Available in English and French.

Monographs

No. 1
ILCA and Institut d'économie rurale du Mali

Evaluation of the Productivities of Maure and Peul Cattle Breeds at the Sahelian Station, Niono, Mali


This report provides information on the productivity of two African cattle breeds and some of their crosses used at the Station d'Elevage et de Recherches Zootechniques du Sahel in Mali. Among the traits which are analysed here are reproductivity, milk yield and composition, mortality, body weight and various body measurements. The results are compared to those from production systems found in comparable environments elsewhere in Africa.

Available in English and French.
No. 2

*Le Bétail Trypanotoléant d’Afrique Occidentale et Centrale Tome 1: Situation Générale, Tome 2: Situations Nationales*


Cette monographie présente l'examen fait de la classification, de la distribution, des paramètres de production et de la productivité des bovins, ovins et caprins trypanotolérants étudiés dans 18 pays d'Afrique occidentale et centrale. Des recommandations et quelques situations intéressantes sont présentées pour évaluer le potentiel et l'utilisation future des races trypanotolérantes et pour assurer la conservation de celles en danger d'extinction.

No. 3
J. C. M. Trail and K. E. Gregory

*Sahiwal Cattle: An Evaluation of their Potential Contribution to Milk and Beef Production in Africa*


In this Monograph the potential for both milk and meat production of the Sehiwal cattle breed and its crosses with Bos taurus and indigenous Bos indicus breeds in various African environment has been evaluated. The data was derived from five ranches in Kenya where cattle is reared under different environmental conditions and with different production objectives.

Available in English and French.

No. 4
J. J. R. Grimsdell and S. Westley (Editors)

*Low Level Aerial Survey Techniques*

1981. vi, 243 pages. 29.5 × 21 cm. Paperback. ISBN 92-9053-012-X.

Based on workshop papers and discussion summaries on the development of low-level aerial survey techniques and their present application to livestock, wildlife and land-use evaluation, this Monograph reviews survey designs and sampling procedures as well as problems of bias, information transfer and coordination with information collected at other survey levels. It includes recommendations for further research and cooperation in this field.

Available in English.
No. 5
E. Mukasa - Mugerwa

The Camel (*Camelus dromedarius*): A Bibliographical Review


Written with the aim of assessing the present performance and productive potential of the dromedary, this last Monograph in ILCA’s series describes the origins and distribution of camel breeds, their reproductive performance and nutritional requirements as well as common camel diseases. The camel’s suitability for milk and meat production and transport, and the use of camel hair and hides are also discussed alongside with management and socioeconomic factors.

Available in English.

No. 6
M. Murray, J. C. M. Trail, D. A. Turner, and Y. Wissocq

Livestock Productivity and Trypanotolerance, Network Training Manual


This training manual describes the parameters and techniques which are used in the collection of data in the area of animal health, tsetse, and animal productivity, and indicates how relevant information is extracted, analysed and interpreted.

Available in English and French.

Conference, Workshop, and Symposia Proceedings

ILCA

Evaluation and Mapping of Tropical African Rangelands


This report summarizes ideas and suggestions relating to the evaluation of sub-Saharan rangeland resources, which was the main theme of the ILCA sponsored seminar held in Bamako, Mali in 1975. It presents a review of rangeland survey and evaluation techniques,
discusses site development methods, sampling and data processing, transcription of data from aerial photographs to base maps, and finally, recommends guidelines for rangeland survey and evaluation in the future.

Available in English and French.

S. B. Westley (Editor)

**East African Pastoralism: Anthropological Perspectives and Development Needs**


This selection of 11 conference papers addresses topics ranging from ethnographic information on specific forms of pastoralism in eastern Africa, methodological problems in the collection and analysis of anthropological information, theoretical issues in the study of society, to the various ethical and policy problems facing development planners and administrators. The need to maintain an ecological balance in pastoral production systems under development is also discussed.

Available in English.

R. M. Gatenby and J. C. M. Trail (Editors)

**Small Ruminant Breed Productivity in Africa**


This is a collection of 11 papers presented at the Seminar on Small Ruminant Breed Productivity which was held at ILCA, Ethiopia in 1982. The topics covered include breeding and production objectives, current research approaches in sub-Saharan Africa and other tropical areas, methods of collection and analysis of small ruminant production data, and a review of current research findings in Africa.

Available in English.

H. N. Le Houerou (Editor)

**Browse in Africa: The Current State of Knowledge**


These proceedings present a unique review of the current knowledge of browse species and their role in the development of livestock
production. The papers included in this volume deal with the ecology of browse trees and shrubs, their geographical distribution, relative palatability for different animals and their composition and theoretical value. The primary and secondary production of browse, its intensification through technically possible, economically viable and socially acceptable operations, and the need for the regeneration of browse populations through appropriate management methods are also discussed, as well as future research priorities to eliminate the various gaps in the knowledge on the subject.

Available in English and French.


This document summarizes the proceedings of the workshop on Pastoral Systems Research in sub-Saharan Africa held at ILCA's headquarters in Addis Ababa from 21 to 24 March 1983. The workshop focused on the techniques and processes in pastoral systems research with particular reference to ILCA's experience in sub-Saharan Africa.

Presentations appear in their source language. Summaries of discussion sessions presented in both English and French.

D. H. Hill

Peste des Petits Ruminants (PPR) in Sheep and Goats Proceedings of the International Workshop held at IITA, Ibadan, Nigeria, 24-26 September 1980


These proceedings are a summary of the current state of knowledge on the epidemiology, symptomatology, pathology and diagnosis of peste des petits ruminants (PPR) in West Africa. The physicochemical and biological characters of the PPR virus and the role of other agents responsible for the pathogenesis of PPR are also discussed and clear recommendations are given as to the further direction of policy and research on the problem.

Available in English.
J. E. Sumberg and K. Cassady (Editors)

Sheep and Goats in Humid West Africa


These proceedings summarize the results of research on dwarf sheep and goat production in humid West Africa. Among the topics discussed are disease profiles of village sheep and goats; feed intake, growth and reproduction rates of West African Dwarf goats; integration of the small ruminant enterprise into the wider farming system of the zone; and the economics of the improved production systems of ruminants.

Available in English.

Miscellaneous, Reports, and Brochures

ILCA Systems Studies

No. 1

F. M. Anderson et J. C. M. Trail

Modélisation Mathématique des Systèmes de Production Animale: Application au Botswana du Modèle de Production Bovine de la Texas A & M University

1982. iii, 57 pages. 29.5 × 21 cm. Encollé. ISBN 92-9053-026-X.

Ce rapport présente l’application du modèle de production bovine mis au point à Texas A & M University, aux systèmes de production traditionnel et de ranching au Botswana. On y identifie également les problèmes pour lesquels les techniques de l’application de modélisation pourraient faciliter les activités de recherche et de développement sur la production animale en Botswana.

Disponible en Français.

C. de Haan, S. B. Westley et S. Chater

Systems Studies No. 3: L’élevage des Petits Ruminants dans les Régions Tropicales Humides


Ce document rend compte des recherches effectuées sur la production des petits ruminants dans la zone humide de l’Afrique de l’Ouest.
comprend une analyse portant sur les paramètres de production des races naines africaines, un inventaire des stratégies alimentaires et une évaluation de la fréquence de certaines maladies. Par ailleurs, l'un des volets de l'étude a été consacré à l'examen de la production des petits exploitations et des exploitations à grande échelle.

No. 2
ILCA

La Production Animale dans la Zone Subhumide de l'Afrique de l'Ouest: Une Etude Régionale

Après une brève description de l'environnement et des éleveurs Peuls auxquels appartient la majeure partie du bétail de la zone, cette étude fait l'inventaire des ressources fourragères et animales, se penche ensuite sur la trypanosomiase et autres zoonoses. Enfin, elle analyse les stratégies d'utilisation et de mise en valeur des ressources territoriales, en puisant largement dans l'expérience du Nigéria en matière de production de ruminants.

Disponible en français.

ILCA Research Reports

No. 2
P. A. Konandreas and F. M. Anderson

Cattle Herd Dynamics: An Integer and Stochastic Model for Evaluating Production Alternatives

This report presents the rational and formal specifications of a simulation model used for evaluating cattle herd production dynamics. In the model a herd is simultaneously represented as both a biological and an economic unit. The analytical background is presented and the model is explained in detail, with the simulation of feed intake, growth and milk production, reproduction and mortality being discussed. The policy options in herd management are also discussed.

Available in English and French.
No. 3
A. Fall, M. Diop, S. Sandford, Y. J. Wissocq, J. Durkin, and J. C. M. Trail

**Evaluation of the Productivities of Djallonke Sheep and N'Dama Cattle at the Centre de Recherches Zootechniques, Kolda, Senegal**


This publication reports on the analysis of reproductive performance, viability and growth performance traits of Djallonke sheep and N'Dama cattle at the Centre de Recherches Zootechniques, Kolda in Senegal. These traits are used to build up overall indices for the two species. The report presents an analysis of carefully recorded productivity data collected up to 1981.

Available in English and French.

No. 4
G. Gryseel and F. M. Anderson

**ILCA Research Report 4 — Research on Farm and Livestock Productivity in the Central Ethiopian Highlands: Initial Results 1970-1980**


This report of ILCA's studies on the traditional smallholder production systems of the highlands, productivity aspects of the system's crop and livestock components are analyzed, results of research on innovations are given and the approach to Farming Systems Research with special reference to livestock is discussed together with the implications for adoption of the approach and its results by a national agency.

Available in English.

No. 5
R. T. Wilson, P. N. de Leeuw et C. de Haan (Editors)

**Recherches sur les Systèmes des Zones Arides du Mali: Résultats Préliminaires**


Ce rapport décrit les systèmes extensifs traditionnels de production agropastorale et pastorale dans le delta intérieur du Niger, ainsi que les
constraintes à l'accroissement de leur productivité. Les ressources fourragères, la production animale, la production agricole, l'économie villageoise et l'organisation socio-territoriale sont analysées et des conclusions générales sur l'orientation des recherches futures sont esquissées.

Available in French.

No. 6

The Water Resource in Tropical Africa and Its Exploitation
1984. vii, 104 pages. 25.5 × 17.5 cm. Paperback. ISBN 92-9053-043-X.

This report deals with the mechanics of the hydrological cycle, the origins of the wide variations in rainfall, the potential for water resources development in pastoral areas and low-cost methods of exploiting these resources. Problems of water quality are also covered in outline. The final chapter makes recommendations.

Available in English.

No. 7
J. M. King

Livestock Water Needs in Pastoral Africa in Relation to Climate and Forage

In this report a detailed discussion of the physiology of water and energy use in the herbivore is given and a diagram of the interrelation between the two has been constructed. The information obtained on water and energy use by livestock in the traditional pastoral system has been applied to water and livestock development in the context of range, woodland and livestock management and implications for research are presented notably for hypothesis and modelling, as well as component research for which priority topics and species are given.

Available in English.
No. 8
S. Sandford
Organization and Management of Water Supplies in Tropical Africa
1983. vi, 45 pages. 25.5 x 17.5 cm. Paperback. ISBN 92-9053-042-1.

In this report traditional and modern strategies used to overcome water shortages are discussed. The technical, administrative and environmental problems experienced in the past development of water supplies are outlined as is the relationship between technology, equity, management and control. The implications of past experience for planning water development in the future are considered. Proposals are made for future research.

Available in English.

No. 9
J. C. M. Trail, K. Sones, J. M. C. Jibbo, J. Durkin, D. E. Light and Max Murray
Productivity of Boran Cattle Maintained by Chemoprophylaxis under Trypanosomiasis Risk
1985. 76 pages. 25.5 x 17.5 cm. Paperback. ISBN 92-9053-056-1.

Detailed analysis of the performance of Boran cattle has shown that prophylactic drugs can be used successfully in an area of high tse-tse challenge. Twenty thousand calving records collected over a 10-year period at Mkwaya Ranch in Tanzania were analyzed. The results of the analysis are published in this report.

Available in English.

No. 10
P. A. Konandreas, F. M. Anderson and J. C. M. Trail
Economic Trade-Offs Between Milk and Meat Production Under Various Supplementation Levels in Botswana.
1983. v, 52 pages. 25.5 x 17 cm. Paperback. ISBN 92-9053-034-0.

A dynamic and stochastic cattle simulation model is briefly described and validated for production conditions in a study area in Botswana using Tswana and Simmental x Tswana cattle. The performances of the two genotypes under various milking and supplementation policies are compared, and the economic trade-offs between milk and meat production presented. An optimum production strategy is defined, and policy options for the development of Botswana's dairying sector are outlined.

Available in English.
No. 11

Crossbred Dairy Cattle Productivity in Arsi Region, Ethiopia


This publication reports on analyses carried out on a range of performance traits and productivity estimates for indigenous Arsi and Zebu cattle and eight different grades of these crossed with Jersey and Friesian, maintained for milk production. Data covered the period 1968 to 1981, and the animals were kept at Asela station and on surrounding smallholder farms in the Arsi Region of Ethiopia.

Available in English.

ILCA Brochures

ILCA

1981. 24 pages. 16 x 24 cm. Brochure.

This brochure gives a broad overview of the work of ILCA. It explains the establishment and evolution of the Centre, the focus of ILCA's research work and where it is conducted, and summarizes the early results.

Available in English and French.

ILCA

1980. 127 pages. 29.5 x 21 cm. Paperback.

This brochure briefly describes the origins and mandate of ILCA and highlights the Centre's achievements in the first years of its existence.

Available in English and French.

ILCA

Studies of Range Livestock Production Systems Under Induced Changes

1980. 16 pages. 30 x 21 cm. Brochure.

This booklet describes the impact of ILCA's research on national development schemes. It focuses on the design and application of monitoring techniques for the study of the traditional livestock production systems, and on their response to development inputs.

Available in English and French.
Bibliographies, Directories and Abstracts

Microfiche indexes

This series of publications lists non-conventional literature collected from African countries. A bibliographic index and a subject index constitute the main sections of the document. Author and institution or collective author indexes are also given. The information provided is unavailable elsewhere.

Catalogue des Documents Microfilmés par l'équipe CIPEA/CRDI; Mission du Burundi

Catalogue des Documents Microfilmés par l'équipe CIPEA/CRDI; Mission du Cameroun

Catalogue of Documents Microfiched by ILCA/IDRC Team: Tanzania Mission

Index to Livestock Literature Microfiched in Zambia 1981

Index des Documents Microfichés au Zaire

Index to Livestock Literature Microfiched in Zimbabwe (Part 2)

Index to Livestock Literature Microfiched in Ghana 1981
Index des Documents Microfichés au Sénégal

Index des Documents Microfichés par l'équipe CIPEA/CRDI en Haute Volta

Index des Documents Microfichés par l'équipe CIPEA/CRDI en Côte d'Ivoire

Index des Documents Microfichés par l'équipe CIPEA/CRDI au Rwanda

Index to Livestock Literature Microfiched by the ILCA/IDRC team in Malawi

Compiled by Michael R. Goe and Michael Hailu

Animal Traction: A Selected Bibliography

This bibliography is a comprehensive listing of documents relating to the research or application of animal traction throughout the world. The bibliography is divided into 13 subject sections, and includes both species and author indexes. It constitutes essential reference material for anyone working on animal traction.

ILCA Documentation

Index to Livestock Literature Microfiched in Zimbabwe (Part 2)

This index lists the titles and references of the documents microfiched by ILCA's documentation team who visited Zimbabwe in 1981.
ILCA

Index to Livestock Literature Microfiched in Ghana 1981

This index lists the titles and references of the documents microfiched by ILCA's documentation team who visited Ghana in 1981.

ILCA

Index des Documents Microfichés au Sénégal

This index lists the titles and references of the documents microfiched by ILCA's documentation team who visited Senegal.

Periodicals

ILCA

ILCA Bulletin

This publication presents articles summarized from research papers written by ILCA staff members and provides an up-to-date account of aspects of the centre's work.

Available in English and French.

ILCA

ILCA Newsletter

The ILCA Newsletter reports on ILCA and national activities in the context of African livestock research and development. It reaches an audience of 4000, 70% of which are in Africa.

Available in English and French.
• Casalinda Bookshop  
  2nd Floor San Antonio Plaza  
  Forbes Park, Makati

• La Solidaridad Bookshop  
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  Central Luzon State University  
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  Wesleyan University  
  College of Agriculture  
  Cabanatuan City

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  College of Agriculture  
  San Carlos City  
  Pangasinan 0747

• Tarlac College of Agriculture  
  Camiling, Tarlac

Ilocos Region

• N. Corpuz Enterprises, Inc.  
  Paco Roman Street  
  Laoag City, Ilocos Norte

• Iluminada M. Dumo  
  Don Mariano Marcos Memorial State University Library  
  Bacnotan, La Union

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  MSAC-TEC Cooperative Inc.  
  Mountain State Agricultural College  
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  Ministry of Agriculture and Food  
  Vigan, Ilocos Sur

• Teodoro T. Salvador, Jr.  
  Ministry of Agriculture and Food  
  Region No. I, Vigan, Ilocos Sur

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  Abulag, Cagayan

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  Panay State Polytechnic College  
  Mambusao, Capiz

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  Kramer Agro Diversification  
  17th Cor. Lacson Street  
  Bacolod City

Samar

• Beatriz T. Balagnir  
  Librarian, Pedro Rebadulla Memorial Agricultural College  
  Catubig, Northern Samar 7208
Research Highlights

International Rice Research Institute

IRRI Highlights 1985

1986. 101 pages. 17.7 x 22.8 cm. Paperback. ISBN 971-104-131-6. HDC $13.30, LDC $4.00 plus airmail ($4.00) or surface mail ($1.00) postage.

A yearly report on IRRI progress in area such as rice breeding for resistance to diseases, insects, drought, adverse soils, and cold and hot temperature; pest control; irrigation water management; soil and crop management; cropping systems; machinery development; finances; and other items. Illustrations in color.

IRRI Highlights 1985 focuses on IRRI programs to develop improved rice varieties and management practices for farmers in economically and environmentally disadvantaged areas — those bound to rainfed upland and lowland rice, or in areas of deep water or problem soils. Simultaneously, rice scientists must continue to develop, for farmers in more favored irrigated areas, low-cost technologies to permit them to reduce production costs without sacrificing yield gains.


Annual Reports

International Rice Research Institute

IRRI Annual Report for 1985

1986. Approx. 500 pages. 17.7 x 25.4 cm. Paperback. ISBN 971-104-095-6. HDC $38.30, LDC $11.50 plus airmail ($9.00) or surface mail ($2.00) postage.

This is an in-depth annual report of IRRI's overall research progress presented on a problem area basis rather than by scientific discipline. Major sections include Genetic Evaluation and Utilization (problem-oriented plant breeding); Control of Diseases, Insects, and Weeds; Irrigation and Water Management; Soil and Crop Management; Environment and its Influence; Constraints on Rice Yields; Consequences of New Technology; Rice-Based Cropping Systems; and Machinery Development.

Monographs

B.S. Vergara

A Farmer's Primer on Growing Rice

1979. 221 pages. 15 × 22.3 cm. Paperback. ISBN 971-104-051-4. HDC $6.00, LDC $2.40 plus airmail ($5.00) or surface mail ($1.00) postage.

A Farmer's primer was written to help progressive rice farmers and technicians understand why and how the improved rice varieties and farm technology increase production. Dr. B.S. Vergara, IRRI plant physiologist, explains agricultural practices such as why a farmer incubates seed, why he applies fertilizer, and how and when that fertilizer should be incorporated. Farmer's primer illustrations are available to encourage translations.

A farmer's primer on growing rice is now available from IRRI in:

- English — ISBN 971-104-051-4
- Hiligaynon — ISBN 971-104-091-3
- Ilokano — ISBN 971-104-092-1
- Pilipino — ISBN 971-104-093-X
- Cebuano — ISBN 971-104-118-9
- Pampango — ISBN 971-104-094-8
- Spanish — ISBN 971-104-125-1
- Bikol — ISBN 971-104-132-4
- Kiswahili — ISBN 971-104-135-9
- Creole — ISBN 971-104-142-1
- Pangasinan — ISBN 971-104-152-9

International Rice Research Institute

Field Problems of Tropical Rice: Revised Edition

1983. 172 pages. 10.2 × 17.8 cm. Paperback. ISBN 971-104-080-8. HDC $5.00, LDC $2.00 plus airmail ($3.00) or surface mail (US$1.00) postage.

Field Problems of Tropical Rice has been one of IRRI's most popular publications. The 1983 revised edition has 153 color plates to help rice workers identify common production problems such as insects, diseases, weeds, and problem soils.

Although the original edition focused on problems in Asia, the revision also identifies common problems of Africa and Latin America.
Like the original edition, the revision is designed to facilitate its low-cost translation and copublication by agricultural programs, international agencies, and publishers in developing nations. IRRI also arranges the printing of bulk orders of non-English Field Problems (2,000 copies or more), using IRRI’s color plates, at actual printing and paper cost, plus freight.

Field problems of tropical rice: revised edition is now available from IRRI in:

- **English**: ISBN 971-104-080-8
- **French**: ISBN 971-104-087-5
- **Spanish**: ISBN 971-104-086-7
- **Vietnamese**: ISBN 971-104-085-9
- **Cebuano**: ISBN 971-104-088-3
- **Pilipino**: ISBN 971-104-084-0
- **Warai**: ISBN 971-104-089-1
- **Pampango**: ISBN 971-104-127-8
- **Ilokano**: ISBN 971-104-129-4
- **Bengali**: ISBN 971-104-136-7
- **Punjabi**: ISBN 971-104-143-0
- **Hiligaynon**: ISBN 971-104-128-6
- **Bikol**: ISBN 971-104-156-1
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- **Thai**: ISBN 974-07-5425-2
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IRRI is holding a limited number of non-English copies for international distribution. Editions in other languages are in preparation.

**International Rice Research Institute**

**Insights of Outstanding Farmers**

1985. 114 pages. 15.24 × 22.86 cm. Paperback. ISBN 971-104-143-X. HDC $8.30, LDC $2.50 plus airmail ($3.00) or surface mail ($1.00) postage.

"Before you teach the farmers," a Chinese peasant proverb advises, "listen to them." *Insights of outstanding farmers* contains a narration of the experiences of 14 outstanding rice farmers from 10 Asian nations who have developed packages of technology appropriate to their ecological environments and institutional settings. The farmers were honored at IRRI during the 1985 celebration of IRRI's 25th Anniversary.

One message that all of the farmers clearly conveyed is the need for additional opportunities for on-and off-farm employment and income in rural areas.

These farmers' insights are useful not only to scientists and policy makers working on rice but to all who are interested in increasing food production.
Benito S. Vergara and T. T. Chang

Flowering Response of the Rice Plant to Photoperiod

1986. 62 pages. 15.24 X 22.86 cm. Paperback. ISBN 971-104-151-0. HDC $3.30, LDC $1.00 plus airmail ($3.00) or surface mail ($1.00) postage.

The review is primarily concerned with the effect of photoperiod, or daylength, on flowering of the rice plant. The review includes discussions on how flowering response to photoperiod is affected by the phasic development of the rice plant, reception and translocation of the photoperiod stimulus, temperature, and the intensity, quality, and interruption of light. Also covered are biochemical changes during photoinduction, methods of testing photoperiod sensitivity, ecology and photoperiodism, terminologies used in describing photoperiod sensitivity, inheritance of vegetative growth duration, and problems encountered when studying photoperiod. The bibliography includes 585 papers on photoperiodism of rice; all available through IRRI’s Library and Documentation Center.

The photoperiod response of 501 specific rice cultivars tested at IRRI is included.

Dana G. Dalrymple

Development and Spread of High-Yielding Rice Varieties in Developing Countries

1986. 110 pages. 15.24 X 22.86 cm. Paperback. ISBN 971-104-159-6. HDC, send orders to METROTEC INC., 1623 Connecticut Avenue, Washington D.C. 20009, U.S.A.; LDC $3.70 plus airmail ($3.00) or surface mail ($1.00) postage.

"Development and Spread of High-Yielding Rice Varieties in Developing Countries is the 7th edition of a publication formerly titled "The Development and Spread of High-Yielding Varieties of Wheat and Rice in the Less Developed Nations." This book has long been considered one of the most comprehensive and authoritative references on the adoption of semidwarf varieties. Its 6th edition was published in 1978.

The author, Dr. Dana G. Dalrymple, is an agricultural economist, U.S. Department of Agriculture, on detail to the Bureau of Science and Technology, U.S. Agency for International Development (USAID). Dr. Dalrymple serves as research advisor with the Consultative Group on International Agricultural Research (CGIAR).

USAID published the book and has provided a stock for IRRI distribution. A companion volume on wheat is available from the Bureau of Science and Technology, USAID, Washington, D.C. 20533, U.S.A.
There is abundance of global food stocks that reached nearly 300 million tons by late 1985. Thus pockets of plenty and scarcity coexist in different parts of the world. Ironically several countries that now face acute food scarcity are also those where the domestication of plants and animals took place long ago and are important centers of origin and diversity of crop plants. Why do such countries face difficulties on the food front?

Global Aspects of Food Production seeks to clarify such issues. Knowledgeable scientists discuss the multifaceted nature of the agricultural production process. They describe problems and needs as well as potentials and opportunities.

This book provides information relevant to the promotion of an international agricultural system based on principles of ecology, efficiency, and equity.

B. M. Sheppard, J. A. Litsinger, and A. T. Barron

Helpful Insects, Spiders, and Diseases — Friends of the Farmers

This booklet illustrates representative examples of some of the more common species of predators, parasites, and diseases of insects pests of rice. It can be used with the IRRI booklet Field Problems of Tropical Rice, which provides information only on pest species.

Before intelligent decisions about pesticide applications can be made, it is necessary to be able to identify which insect species are pests and which are beneficial. The occurrence of beneficial organisms varies depending upon location, time of year, and crop cultural practices. Thus we made no attempt to rank the groups by their relative importance.

Scientific language is minimized to make the descriptions more easily understood. The photos provide an easy way of identifying beneficial species and thereby help prevent unnecessary chemical treatments.
Like *Field Problems*, this booklet was designed to facilitate its easy and inexpensive translation and copublication in languages other than English. IRRI does not ask for payment of royalties or payment for translations of IRRI materials published in developed nations. For details, contact the Communication and Publications Department, International Rice Research Institute, P.O. Box 933, Manila, Philippines.

International Rice Research Institute

**World Rice Statistics**

1986. 276 pages. 17.78 × 25.40 cm. Perfect binding. ISBN 971-104-164-2. HDC $11.50, LDC $3.40, plus airmail ($6.00) or surface mail ($2.00) postage.

This publication draws together statistics on rice production, trade, consumption, prices, and related basic information from various international and national sources. FAO publications are used as sources of data on production, area, yield, and trade of rice. Tables on rice trade include origin and destination, tariff and nontariff measures on rice, and carry-over stocks of rice. *World Rice Statistics* was prepared by IRRI Agricultural Economics Department. It is a handy reference for rice researchers and policy makers around the world.

Beth Rose

**Appendix to The Rice Economy of Asia: Rice Statistics by Country, Tables with Notes**

1986. 404 pages. 18 × 23.3 cm. Paperback. HDC. send orders to Resources for the Future, 1616 P. Street. N.W., Washington, D.C. 20036. U.S.A.; LDC $4.00 plus airmail ($8.00) or surface mail ($2.00) postage.

This is an appendix to the book *The Rice Economy of Asia* by Dr. R. Barker, Dr. R. W. Herdt, former IRRI economists, and Beth Rose, a scholar of Asian Affairs, Cornell University. It includes 26 tables, each containing a historical series of annual rice statistics for a specified country in Asia. The data cover the period from the turn of the century, continuing through the early 1980s. Most statistics in the tables were gathered from official government sources.

The section for each country or cluster of countries begins with a brief description of the statistical system employed by the country to gather rice production data. The tables themselves, together with notes and data sources, are presented next. The table formats are similar across countries and contain data series on total crop area; rice production, area, and yield; rice area irrigated; quantities imported and exported; the price of unmilled rice at the farm and of milled rice at the wholesale and retail levels; farm wage rates; population; and the apparent per capita availability of rice. Also included is information such as acronyms and conversion factors to assist the reader in interpreting the information.
Conferences

International Rice Research Institute

Wetland Soils: Characterization, Classification, and Utilization

1985. 559 pages. 15.24 × 22.86 cm. Paperback. ISBN 971-104-139-1. HDC $31.30, LDC $9.40 plus airmail ($9.00) or surface mail ($2.00) postage.

Wetland Soils: characterization, classification, and utilization is the proceedings of a workshop held at the International Rice Research Institute 26 March-April 1984. The proceedings includes scientific papers and recommendations for future research and action to increase crop production from wetland soils. The workshop was sponsored by the International Network on Soil Fertility and Fertilizer Evaluation for Rice and the Soil Management Support Services of the U.S. Agency for International Development and U.S. Department of Agriculture. It brought together a unique mix of soil taxonomists and soil fertility scientists.

International Rice Research Institute

Rice Improvement in Eastern, Central, and Southern Africa

1985. 159 pages. 15.24 × 22.86 cm. Paperback. ISBN 971-104-147-2. HDC $8.30, LDC $2.50 plus airmail ($4.00) or surface mail ($1.00) postage.

An enormous potential exists for increasing rice yields under cultivation in Africa. The present rice-growing area in eastern, central, and southern Africa is quite modest. Many governments now plan to dramatically increase rice production in response to the accelerating demand for rice by rural and urban consumers.

The International Rice Workshop held in Lusaka, Zambia 9-11 April 1984 brought together rice scientists from Kenya, Tanzania, Zimbabwe, Zambia, and Malagasy for the first time, to jointly assess their problems and formulate common strategies for rice research and development. The workshop was organized by the Department of Agriculture of Zambia and was jointly sponsored by IRRI and the International Institute for Tropical Agriculture, Nigeria.

These proceedings document the status and achievements of rice research in each national program, and directions through which future progress can be made. The workshop recommendations provide a blueprint for building a base of regional collaboration in rice research.

This volume should help alleviate the great information gap on rice in eastern and southern Africa.
Impact of Science on Rice

HDC $19.70, LDC $5.90 plus airmail ($6.00) or surface mail ($2.00) postage.

Impact of Science on Rice is a compilation of papers presented during the Symposium on Rice Research: Accomplishments and Challenges, held on the occasion of IRRI's 25th anniversary. The speakers, who included ministers of agriculture and policy makers from rice-growing countries and donor nations to the Consultative Group on International Agricultural Research, discussed the many concurrent steps necessary to achieve progress in rice production. A central point of the presentations was the pivotal role of science in agricultural progress.

Women in Rice Farming

HDC, send orders to Gower Publishing Co. Ltd., Gower House, Croft Road, Aldershot, Hampshire, GU11 3HR, England; LDC $16.30 plus airmail ($9.00) or surface mail ($2.00) postage.

Women play a major role in rice cultivation, post-harvest processing, and marketing. Rural women work long hours in domestic and agricultural production because they often have primary responsibility for both household subsistence and child welfare. Any technology that can increase rural women's productivity, allowing them to work less and earn more, is beneficial to the welfare of rural households.

Women in Rice Farming includes papers presented at the Women in Rice Farming Systems Conference, held at IRRI in September 1983.

This volume reflects the variety of women's experiences in Asian and African rice farming. It should be of interest to agricultural economists, rural sociologists, planners concerned with international development, and those with an interest in women's issues, such as:

- Technology and the demand for women's labor in Asian rice farming;
- Women and technology — rice processing in Bangladesh;
- Women in African rice farming systems; and
- Two examples of emerging mechanization technologies at IRRI.

Women in Rice Farming is a joint publication of Gower Publishing Co., U.K. and IRRI. IRRI has acquired a stock of paperback copies for low-cost distribution in the Third World only.
Asian lowlands have for centuries produced enough rice to feed large populations. Food production has recently increased slightly faster than population growth — but the increases were mainly from lands with fertile soil and favorable climate. Because there is little new land to develop, rice and other crops must be grown where water is not well controlled, soils are less fertile, or there are physical constraints such as compacted soil layers.

Improved soil and water management methods are essential to increase food production from ricelands and to avoid soil erosion and degradation.

These problems were addressed by 55 scientists from 21 countries at a Workshop on Physical Aspects of Soil Management in Rice-based Cropping Systems at IRRI 10-14 Dec 1984.

Participants concluded that there is significant potential to develop practical technologies to increase food production from lowland rice-based cropping systems. Essential to these increases will be applied research on physical aspects of soil management.

This volume includes papers presented at the workshop and the participants' recommendations for research priorities.
Eighty-seven research workers from 22 countries gathered at IRRI 2-7 September 1985 for the conference "Small Farm Equipment for Developing Countries: Past Experiences and Future Priorities."

*Small Farm Equipment for Developing Countries* includes the papers and recommendations of that conference.

International Rice Research Institute

**Rice Grain Quality and Marketing**

1986. 76 pages. 21.59 X 27.94 cm. Paperback. ISBN 971-104-149-9. HDC $5.00, LDC $1.50 plus airmail ($4.00) or surface mail ($1.00) postage.

Grain quality becomes increasingly important as more Asian countries become self-sufficient in rice and look toward export markets for selling surpluses. Although production, harvesting, and postharvest operations affect quality of milled rice, the variety remains the most important determinant of market quality. Consumers favor certain varieties and value specific appearances and tastes of milled rice for home cooking.

Recognizing that markets are most responsive to high quality rice, planners of the 1985 International Rice Research Conference, 1-5 June at IRRI included a half-day session on grain quality and marketing. Presentations covered the status of rice quality in world and domestic markets, consumer demand for rices with certain physical and chemical characteristics, effects of environment and variety on milling quality, and breeding for rices of excellent processing, cooking, and eating qualities.

Participants also discussed priority problem areas in rice breeding for market quality. Recommendations stress research needs in milling quality and consumer preferences.

*Rice Grain Quality and Marketing* includes the papers and recommendations of that meeting.

International Rice Research Institute

**Progress in Upland Rice**

1986. 578 pages. 15.24 X 22.86 cm. Paperback. ISBN 971-104-150-2. HDC $25.00, LDC $7.50 plus airmail ($9.00) or surface mail ($2.00) postage.

The second International Upland Rice Conference was held 4-8 March 1985 in Jakarta, Indonesia. The conference was divided into four technical sessions: 1) characterization and classification of upland rice-growing environment, 2) integrated upland rice farming systems, 3) biological stresses with emphasis on blast disease, and 4) ecological, social, economic, and technical issues of preproduction testing and production.
Progress in Upland Rice is the proceedings of that conference. Recommendations for research priorities and strategies, as well as conference papers, are included.

The Jakarta Conference was organized by the Upland Rice Intercenter Research Coordinating Committee and the Agency for Agricultural Research and Development of Indonesia.

International Rice Research Institute

Rice Genetics: Proceedings of the International Rice Genetics and Cytogenetics Symposium

1986. 956 pages. 15.24 × 22.86 cm. Paperback. ISBN 971-104-148-0. HDC $23.30, LDC $7.00 plus airmail ($20.00) or surface mail ($5.00) postage.

A continuous updating of knowledge of the genetics of the rice plant and the precise identification of the nature of the genetic control of important economic characters have become particularly urgent in the context of recent advances in molecular biology and genetic engineering.

Two hundred one scientists from 31 countries met at IRRI in June 1985 for a symposium on "Rice Genetics and Cytogenetics" — the only such symposium held since 1963. The state of knowledge of rice genetics was reviewed, including recent advances in fields such as gene mapping, identification and conservation of genetic stocks, and gene symbolization and nomenclature.

This volume includes papers presented at the symposium.

Physical Measurement in Flooded Rice Soils: The Japanese Methodologies

1986. 65 pages. 15.24 × 22.8 cm. Paperback. ISBN 971-104-163-4. HDC $3.30, LDC $1.00 plus airmail ($4.00) or surface mail ($1.00) postage.

Worldwide demand for rice will increase by 3% annually for the next 15 years. The increased production must be met by growing rice on lands where water is not well controlled, or soils are less fertile, or there are physical constraints such as compacted soil layers. Improved methods of soil and water management for ricelands must be developed and adopted, both to increase food production and to avoid soil erosion and land degradation.

Participants at a 1985 workshop on "Physical Aspects of Soil Management in Rice-based Cropping Systems" recommended strongly that the existing Japanese methodologies of soil-physical measure-
ment in flooded rice soils, developed over years of careful research, be published in English. Ten authors from Japanese universities and the Japanese National Research Institute of Agricultural Engineering wrote and translated the 10 component chapters of this book that describe measuring methods relating to soil texture, structure, mechanics, and water.

Miscellaneous

Technical Advisory Committee

Training in the CGIAR System

1986. 136 pages. 18 41 × 27.76 cm. Paperback. ISBN 971-104-161-8. HDC $10.00, LDC $3.00 plus airmail ($4.00) or surface mail ($1.00) postage.

The International Agricultural Research Centers emphasize training as an essential thrust to generate, promote, and disseminate research results. This publication describes efforts to forge and strengthen the partnership of the Consultative Group on International Agricultural Research and the nations it serves in its training endeavors to translate knowledge into more and better food from farmers' fields. It is based mainly on the report of a study team commissioned by the Technical Advisory Committee (TAC) to the CGIAR to review progress in training at the Centers and to suggest ways to further enhance this progress.

IRRI arranged the printing of the publication and assists the CGIAR and TAC in its distribution.

Bibliographies

Requests and purchases for bibliographies may be addressed to:
Library and Documentation Center
IRRI, P.O. Box 933
Manila, Philippines

Milagros C. Zamora, The Library and Documentation Center

International Bibliography of Rice Research (Annual Supplements)

1985. 736 pages. 21.7 × 29.9 cm. Paperback. ISSN 0074-2021. HDC $93.00, LDC $28.00 plus airmail ($28.00) or surface mail ($2.25) postage.

Periodicals

International Rice Research Institute

**IRRI Research Paper Series (IRPS)**

Number of pages varies. 21.5 × 27.9 cm. Saddle stitched. ISSN 0115-3862.

The *IRRI Research Paper Series* is a vehicle for timely publication of research findings by IRRI and associated scientists. The papers go regularly to libraries and certain institutions. Individuals may request *for only one or two selected papers* on a complimentary basis. Requests for complimentary copies must be made on organizational letterheads. Additional copies may be purchased at prices indicated below:

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No. 113 Boron toxicity in rice
No. 114 Energy analysis, rice production systems, and rice research
No. 115 Production risk and optimal fertilizer rates: an application of the random coefficient model
No. 116 Consumer demand for rice grain quality in Thailand, Indonesia, and the Philippines
No. 117 Morphological changes in rice panicle development

Also available: IRPS No. 1-110.
International Rice Research Institute

International Rice Research Newsletter (IRRN)

Number of pages varies. 21.5 × 27.9 cm. Saddle stitched. ISSN 0115-0944. Free.

The International Rice Research Newsletter (IRRN) is published by IRRI in the interest of improving the communication of relevant rice research among scientists in many nations. The IRRN is published every 2 months and has an annual subject index.

The IRRN invites all scientists to contribute concise summaries of significant research on rice or rice-based cropping systems for review. Contributions should be limited to no more than two double-spaced pages and no more than two graphics (tables, figures, or photographs). Authors are identified by name, title, and research organization.

International Rice Research Institute

IRRI Reporter

Usually 4 pages. 21.5 × 27.9 cm. Single fold. ISSN 0115-2467. Free.

The IRRI Reporter is a quarterly publication describing IRRI's research program and directions.

Complimentary subscriptions to the IRRI Reporter and the IRRN are available.
Mandate and Objectives of ISNAR

ISNAR's primary mandate is "to help strengthen national agricultural research capabilities in developing countries." Only if the scientific capacity and research management capability of the countries concerned are adequately developed so as to enable them to test, adapt, and complement the newly developed technologies, can the ultimate aim of the CGIAR system — of helping the developing countries achieve self-sustaining technical and economic growth — be reached.

ISNAR concentrates its assistance to developing countries mainly on program, priorities, policy, organizational and management programs needed to improve the performance of national agricultural research systems. It is concerned with commodities and other renewable natural resources important to national development objectives including, but not limited to, the food commodities covered by other components of the CGIAR system.

Such assistance is available to any developing country upon request, ISNAR's available staffing and financial limitations permitting. The goal is to enable developing countries to plan, organize, manage, and execute agricultural research more effectively from their own human, natural, and financial resources as soon as possible. The service seeks to complement, and not compete with, other sources of technical assistance and frames its program to encourage full use of technical expertise from other sources acceptable to the government concerned.

Annual Reports


Detailed full reports on ISNAR activities during one year.

ISNAR Documents

Conferences


Research Management


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Working Papers


Country Reports

Africa


Asia and South Pacific


Latin America and Caribbean


Regional Research Networks: the Experience of PRECODEPA.
CIP, ISNAR. November 1985.
General Information

The West Africa Rice Development Association which was formed in September 1970 under the auspices of UNDP, FAO and ECA is an intergovernmental organization consisting of 16 member countries namely: Benin, Burkina-Faso (Upper-Volta), Chad, Ivory Coast, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone and Togo.

The Headquarters of WARDA are located in Monrovia (Liberia) while its four Regional Research Stations are located in Bouake, Ivory Coast (Upland rice); Rokupa, Sierra Leone (mangrove and swamp rice); Richard-Toll, Senegal (irrigated rice); and Mopti, Mali (deep water/floating rice). In addition, WARDA has a Regional Training Center at Fendall (Liberia).

WARDA is one of the 13 International Agricultural Research Centers (IARCs) of the Consultative Group on International Agricultural Research (CGIAR). The Association has been mandated to assist its member countries to achieve self-sufficiency in rice, a staple food of West Africans.
About AVRDC

AVRDC is the international research and training center charged with improving vegetable crop production in the tropics. Its multinational scientific staff conducts research aimed at increasing the production potential of tomato, Chinese cabbage and sweet potato as well as soybean and mungbean. The Center's research agenda also includes the study of the nutritional, environmental and management factors that influence vegetable production in the tropics. Emphasis is similarly directed to scientific and training programs conducted in collaboration with national and international research organizations, agricultural development agencies and institutions of higher education.

How to Order

The publications listed below can be ordered from the AVRDC Office of Information Services (OIS). Most are available free of charge and will be posted upon request via surface mail. If airmail delivery or multiple copies are required, please check the price list located below. All charges should be paid with a US dollar check payable by a bank in the US, made out to AVRDC.

Notice to Librarians

Single copies of all AVRDC publications are available to libraries free of charge. If more than one copy is required, or if our records show that your library received a free copy in the past, you will be charged for the publication at the "additional copies" price listed below. All library copies will be sent by surface mail unless otherwise indicated in your request. Please consult the price list for airmail charges.

Research Highlights

Bruce T. McLean (Compiler/Editor)

AVRDC Progress Report Summaries 1985

Sept. 1986. _____pages. 18 × 25.5 cm. Soft cover. ISSN 0258-3097. Free (includes surface mail postage). Airmail postage, $3.00.

Provides a brief summary of all major activities conducted by AVRDC in 1985. It also contains considerable institutional information about AVRDC.
Bruce T. McLean (Compiler/Editor)

1985 AVRDC Highlights

1986. 8 pages/folds. 9.5×21.2 cm. Folded. Free (includes surface mail postage). Airmail postage, $0.50.

This short color brochure contains the highlights (illustrated) of AVRDC's research activities in 1985.

Available in: English, Chinese, French, German, Indonesian, Italian, Japanese and Korean.

Annual Reports

AVRDC Progress Report 1985

Dec. 1986. 450 pages. 19 × 26 cm. Soft cover. ISSN 0258-3089. HDC $10.00, LDC $10.00 plus airmail ($10.00) or surface mail ($3.50) postage.

Provides a detailed report of all major activities conducted by AVRDC in 1985.

Conference, Symposia, and Workshop Proceedings

N. S. Talekar (Scientific Editor), T. D. Griggs (Publications Editor).

Diamondback Moth Proceedings

1986. 483 pages. 17.7 × 25.3 cm. Soft cover. ISBN 92-9058-0021-8. HDC $18.00, LDC $18.00 plus airmail ($10.00) or surface mail ($3.50) postage.

Contains 40 reports on all aspects of this serious cruciferous pest from the International Workshop on Diamondback Moth Management, 11-15 March 1985.

S. Shanmugasundaram (Scientific Editor), P. Lastimosa (Publications Editor).

Soybean Varietal Improvement Workshop

Dec. 1986. ___pages. 17.5 × 25.3 cm. Soft cover. ISBN 92-90580-0023-5. HDC $7.50, LDC $7.50 plus airmail ($2.50) or surface mail ($1.00) postage.

Contains 10 reports given during the 1984 Soybean Varietal Improvement Workshop.
Miscellaneous

P. Van der Goot

Agromyzid Flies of Some Native Legume Crops
Sept. 1984. 104 pages. 17 × 25 cm. Soft cover. ISBN 92-9058-0006-4. HDC $5.00, LDC $5.00 plus airmail ($2.50) or surface mail ($1.00) postage.

This publication was translated from the Dutch "De Agromyza-Vliegjes der Inlandsche Katjang-Gewassen op Java" of 1930.

S. Shanmugasundaram, T. S. Toung and L. F. Chen

AVRDC Soybean Evaluation Trial (ASET)

First report of results from international network of AVRDC Soybean Evaluation Trial (ASET) cooperators from 1980-81.

Chang-Soon Ahn, Jin-Hu Chen, Hao-Koan Chen

International Mungbean Nursery


George Kuo

Handling of Sweet Potato Germplasm
June 1985. 2 pages. 20.4 × 26 cm. Free.

This International Cooperator's Guide lists the two forms which AVRDC distributes sweet potato germplasm without spreading insects or diseases.

George Kuo, Steve Lin, and Sylvia Green

Sweet Potato Germplasm for International Cooperators
June 1985. 4 pages. 20.4 × 26 cm. Free.

This International Cooperator's Guide lists the 30 AVRDC cultivars currently available and provides information on how they can be obtained.
John S. Caldwell

Assessing Rainy Season Vegetable Production Alternatives: A Case Study in "Upstream" Farming Systems Research


The study was conducted with the goal of developing a methodology for integrating surveys of vegetable production, consumption and marketing with experiments based on AVRDC crop management research.
ICIPE

The International Centre of Insect Physiology and Ecology
Introduction

The International Centre of Insect Physiology and Ecology (ICIPE) was established in 1970 and became functional in 1972. The idea was inspired by the realization that long-term solutions to pest problems in the tropics could not rely on chemical insecticides alone, and that even the effective use of these depended on a thorough understanding of insect biology, ecology and related disciplines.

Research Programmes

ICIPE's Research Programme is primarily concerned with tropical insect pests of crops and vectors of livestock diseases. The crop pests under investigation include the crop borers of maize, sorghum, and cowpeas. The livestock pests being studied are tsetse, the vector of trypanosomiasis, and ticks, the vector of several debilitating cattle diseases including East Coast Fever. In earlier years, there was also substantial emphasis on insect vectors of human diseases. All that remains of this medical vectors research is a single project on leishmaniasis, which is concerned with the sandfly vector of the disease, which is important in the semi-arid rural areas. The ultimate impact of ICIPE's research will be the development of integrated pest and vector management systems for these economically important pests and disease vectors.

ICIPE's research programmes are supported by four research units which provide assistance in chemistry, fine structure, sensory physiology and biostatistics.

Training

Training at the ICIPE is conducted in three major areas: (a) Professional scientific training is accomplished at both the postdoctoral and postgraduate levels. The latter is done in close collaboration with several African universities. (b) Short-term training courses in pest and vector management are offered to practising insect scientists and technologists from the developing world. (c) There is a programme for the upgrading of special skills and techniques of the staff of the ICIPE itself.
Introduction

ICLARM was organized in 1975 in response to a broadly perceived need to strengthen research on tropical aquatic resources for the benefit of developing countries. It was recognized that development of aquaculture and of viable fisheries management practices is often hindered by the inadequacy of technical information pertinent to problems encountered in the tropics. ICLARM's research has been oriented toward the goal of improving the condition of the rural poor in developing countries by improving their incomes, employment opportunities and productivity through the wise use of aquatic resources. ICLARM was incorporated in the Philippines in 1977. Since then ICLARM has played an important role in fisheries development and has been widely recognized for its research contributions.

Objectives

The objectives of ICLARM as stated in its Articles of Incorporation may be summarized as follows:

• To conduct and assist with research on fish production management, presentation, distribution, and utilization to assist peoples of the world in meeting their nutritional and economic needs.
• To improve the efficiency of culture and capture fisheries through coordinated research, education and training, linked with appropriate development and extension programs.
• To upgrade the social, economic, and nutritional status of people in less-developed areas through improvement of small-scale fisheries.
• To encourage labor intensive and low-energy input systems where appropriate.
• To publish and disseminate research findings in support of the Center's objectives.
• To organize and conduct conferences, forums, and workshops for discussion of current problems and for exchange of research results.

Annual Reports

J. L. Maclean, L. B. Dizon, and M. S. M. Sadorra

ICLARM Report 1985

1986. 117 pages. 18 X 25.5 cm. Perfect binding. ISSN 0115-4494, ISBN 972-1022-23-0. Free plus air mail $6.00 postage
Conferences

I. R. Smith, E. B. Torres and E. O. Tan

Philippine Tilapia Economics


Contains 18 papers presented at the PCARRD-ICLARM Workshop on Tilapia Economics, 10-13 August 1983, at Laguna, Philippines together with working group reports and recommendations of the workshop.

S. Tookwinas (translated by E. W. McCoy)

Commercial Cockle Farming in Southern Thailand

1985. 13 pages. 21.5 × 28 cm. Stapled. ISSN 0115-4141, ISBN 971-1022-20-6. Air mail $2.50; surface mail $1.25.


C L. Angell

The Biology and Culture of Tropical Osyters

1936. 42 pages. 21.5 × 28 cm. Saddle stitched. Air mail $6.00; surface mail $3.00.

Reviews the biology, ecology and culture techniques both experimental and commercial, used in the tropics; describes problems associated with tropical oyster farming; and points out research needs to develop this form of aquaculture further. Oyster genera discussed are: Ostrea, Crassostrea and Saccostrea. Discusses also the advantages and disadvantages of various species of each genus with regard to aquaculture.

M. J. Broom

The Biology and Culture of Marine Bivalve Molluscs of the Genus Anadara

1985. 37 pages. 21.5 × 28 cm. Saddle stitched. ISSN 0115-4389, ISBN 971-1022-21-4. Air mail $7.50; surface mail $3.75.

A review of the general biology, ecology, population dynamics, reproduction and culture methods of marine bivalves of the family Arcidae, sub-family Anadarinae. These cockles are harvested on a subsistence basis in many tropical, subtropical and warm temperate areas. Important species are Anadara granosa (L.), A. subcrenata (Lischke) and A. broughtoni (Schrenk).
Bibliographies

J. L. Munro and W. J. Nash

A Bibliography of the Giant Clams


A bibliography on Tridacnidae (around 300 entries) of scientific papers and reports that deal with aspects of biology, ecology, exploitation and cultivation of the living species of giant clams.

Periodicals

NAGA, The ICLARM Quarterly

January, April, July, October 1986. No. 1, 24 p.; No. 2, 32 p.; No. 3, 24 p. 21.5 X 28 cm. Saddle stitched. ISSN 0116-290X. HDC $14.00 (air mail postage included); LDC free (surface mail).

New name for ICLARM Newsletter starting January 1986. Volume numbering is continuous from the ICLARM Newsletter.
General Information

ICRAF is an autonomous, nonprofit international council governed by a board of trustees with equal representation from developed and developing countries. With the exception of a representative of the host country, Kenya, trustees do not represent countries or organization but are elected on individual merit. ICRAF derives its financial support from governments and international, private, and public organizations and agencies.

ICRAF’s objective is to improve the nutritional, economic, and social well-being of the peoples of developing countries by promoting agroforestry systems for better land use without harming the environment. ICRAF acts as an international catalyst in agroforestry research.

ICRAF’s program of work includes
• the development of methodologies to identify social, economic, and ecological constraints in land-use systems and to assess the potential of agroforestry technologies to overcome such constraints;
• the systematic collation and assessment of agroforestry knowledge and the development of methods of studying and evaluating agroforestry technologies; and
• the efficient dissemination of methodologies and knowledge to scientists and development planners in the tropical and sub-tropical developing world.

In this catalog ICRAF publications are listed in the following categories:

Books, proceedings, and reviews
Science and practice of agroforestry
ICRAF communications
ICRAF reprints
ICRAF working papers
Agroforestry systems
About ICRAF
Miscellaneous papers

Annual Report

ICRAF
Annual Report 1985
ICRAF Reprints

The ICRAF reprints series, issued under the council’s own imprint, consists of articles by ICRAF Staff or papers by other scientists first published elsewhere but as a result of the council’s own research activities.


ICRAF Working Papers

Working papers are made available in limited numbers for comment and discussion and to inform interested colleagues about work in progress at ICRAF. Comments and suggestions are invited, and they
should be directed to the author(s). Material in working papers may be cited but working papers may not be reproduced without permission.


**Newsletters**

No. 18. 8 pp. September (EN, FR, ES).
Introduction

The Winrock International Institute for Agricultural Development was established in 1985, and incorporates more than 50 years of combined organizational experience in providing technical assistance and professional expertise to international agricultural development. One of the largest independent entities engaged in international agricultural development, Winrock International was created through the merging of the Agricultural Development Center (A/D/C), the International Agricultural Development Service (IADS), and the Winrock International Livestock Research and Training Center. Winrock International is an autonomous, nonprofit corporation.

Mission

Winrock International's mission is to help people around the world by increasing agricultural productivity and improving nutrition. Since agricultural development is by its nature a team effort, cooperative relationships are the key to its success. Accordingly, Winrock staff members work with host governments, private voluntary organizations, producer groups, and others to provide research and analysis, education and training, technical assistance, and communications services. Areas of emphasis are human resources, renewable resources, food policy, animal agriculture and farming systems, and agricultural research and extension.

Monographs

Agricultural Development Council

Food Policy Analysis in Thailand

1985. 347 pages. 18 X 25 cm. Perfect binding. HDC $16.00, LDC $8.00 plus airmail ($16.30) or surface mail ($2.10) postage.

The six main studies and five shorter essays in this volume resulted from the Food Policy Analysis Project in Thailand. Thailand is an important food exporter, yet it experiences 1) poverty and malnutrition despite impressive growth rates in agricultural output and rising food exports; 2) stagnant crop yields despite the availability of high-yielding varieties, impressive irrigation investments, and the farmers' reputed responsiveness to economic incentives; and 3) policies affecting the performance of the food sector formulated with no policy analysis input despite the increasing numbers of economists in the country with sophisticated analytical tools.
Winrock International Institute for Agricultural Development

Agroecosystem Analysis for Research and Development

1986. 111 pages. 18.5 × 26.5 cm. Perfect binding. HDC $6.00, LDC $3.00 plus airmail ($6.25) or surface mail ($1.00) postage.

The Green Revolution, with its narrow emphasis on productivity, largely ignored both environmental and socioeconomic heterogeneity. The author of this publication presents an innovative approach, agroecosystem research and development, to the complexities of agricultural development. This approach can be used within the framework of farming systems research or integrated rural development, and is based on the disciplines of agricultural and human ecology.

Conference, Workshop, and Symposia Proceedings

Winrock International Institute for Agricultural Development

Research and Development of Vegetables in the Tropics

1986. 88 pages. 21 × 28 cm. Perfect binding. ISBN 0-933595-04-2. HDC $11.00, LDC $5.50 plus airmail ($6.30) or surface mail ($1.00) postage.

This collection of presentation summaries resulted from a meeting of 25 agricultural specialists who explored ways to help the developing countries of the tropics to improve the diets and incomes of their poor by promoting vegetables. The group recommended the development of network of organizations and individuals concerned with research and development of vegetables in the tropics and the formation of a small unit to provide scientific and administrative leadership and coordination.

Winrock International Institute for Agricultural Development

Multispecies Grazing

1985. 235 pages. 21 × 28 cm. Perfect binding. ISBN 0-933595-02-6. HDC $10.00, LDC $5.00 plus airmail ($11.65) or surface mail ($1.75) postage.

This proceedings document contains the deliberations of 30 conferees from a variety of disciplines. The conference was held in response to inquiries as to whether combining sheep and cattle would improve the economic efficiency of midwestern U.S. farms. Research data and producer experiences for both arid and humid areas of the country were reviewed, evaluated, and summarized.
Agricultural Development Council

Irrigation Management: Research from Southeast Asia

1981. 248 pages. 15 X 23 cm. Perfect binding. HOC $12.50, LDC $6.25 plus airmail ($6.25) or surface mail ($1.00) postage.

Most of the papers in this volume pay much-needed attention to the farmers because it is believed that greater farmer involvement in the design and management of irrigation systems will lead to better performance in these systems. The primary objective of this book, written mainly by Asians for Asians, is to place a set of discrete studies within easy reach of research scholars, students, and practitioners — those who must make policy choices regarding the design and management of irrigation systems.

Agricultural Development Council

Farm Power and Employment in Asia

1984. 437 pages. 15 X 21 cm. Perfect binding. HOC $17.00, LDC $8.50 plus airmail ($13.20) or surface mail ($1.80) postage.

This collection discusses the history, impact, and future of the mechanization of small farms in Sri Lanka, Bangladesh, Indonesia, and Thailand. The findings of the four studies show how various types of mechanization offer private and social advantage in some situations but not in others. Editorial introductions and conclusions to each section help to mold the papers into a cohesive whole.

Miscellaneous (Handbooks)

Winrock International Livestock Research and Training Center

Goat Health Handbook

1983. 123 pages. 14 X 20 cm. Comb. HOC $4.25, LDC $4.25 plus airmail ($3.95) or surface mail ($1.00) postage.

This field handbook was designed to assist agricultural development personnel involved in goat husbandry. It is intended for use in areas where there is limited or no access to veterinary services. (Also see Sheep Health Handbook).
Winrock International Livestock Research and Training Center

Sheep Health Handbook

1983. 132 pages. 14× 20 cm. Comb. HDC $4.65, LDC $4.65 plus airmail ($3.95) or surface mail ($1.00) postage.

This field handbook was designed to assist agricultural-development personnel involved in sheep husbandry. It is intended for use in areas where there is limited or no access to veterinary services. (Also see Goat Health Handbook.)
The Board on Science and Technology for International Development

Office of International Affairs
National Academy of Sciences/National Research Council
What are the National Academy of Sciences and the National Research Council?

The National Academy of Sciences (NAS) is a private, honorary society of scientists and engineers, dedicated to the furtherance of science and its uses for the general welfare. Although the Academy is not a federal agency, it is called upon by the terms of its 1983 charter to examine and report on any subject of science or technology upon request of any department of the federal government.

The National Research Council (NRC), serves as the operating arm of the National Academy of Sciences (NAS) and the National Academy of Engineering. The Institute of Medicine, a sister organization, also participates in the activities of the NRC.

The NRC is composed of eight major units, called assemblies and commissions. The Office of International Affairs has the broad function of conducting the international activities of the National Research Council.

What is the Board on Science and Technology for International Development (BOSTID)?

BOSTID is a division of the Office of International Affairs and is responsible for programs with developing countries. Established in 1969, BOSTID examines ways to apply science and technology to problems of economic and social development, through overseas programs, studies, advisory committees, and other mechanisms.

Participants in BOSTID activities work with counterpart groups in developing countries. This joint effort is directed toward strengthening local scientific and technological capabilities related to agriculture, environmental planning, energy, forestry, health, natural resource management and conservation, nutrition, water supply and quality, and other areas. Overseas activities also address the national organization and planning capabilities needed in applying science and technology to development. Studies examine specific development problems and suggest possible scientific and technological solution.

BOSTID's work relies on scientists and engineers who are selected for their expertise and who contribute their time and services as members of study panels and participants in overseas activities. BOSTID's permanent staff provides professional support and continuity and plans future programs.
What are the objectives of BOSTID's program?

- BOSTID seeks to help developing countries strengthen their own capabilities for dealing with important development-related problems and for moving toward greater scientific and technological self-reliance.
- BOSTID seeks to stimulate and support R&D within and among the developing countries on problems of high priority for development and human welfare.
- BOSTID seeks to provide developing countries with greater access to the scientific and technological know-how and expertise found in the United States and other countries.
- BOSTID seeks to provide a focal point within the U.S. scientific and technical community for assistance to the developing countries and to encourage greater cooperation between U.S. scientists and engineers and their colleagues in the Third World.

New price information for BOSTID publications

<table>
<thead>
<tr>
<th>Title</th>
<th>Price ($)</th>
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<tbody>
<tr>
<td>More Water for Arid Lands: Promising Technologies and Research Opportunities</td>
<td>$6.50</td>
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<tr>
<td>Underexploited Tropical Plants with Promising Economic Value</td>
<td>$6.50</td>
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<tr>
<td>Making Aquatic Weeds Useful: Some Perspective for Developing Countries</td>
<td>$6.50</td>
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<td>Postharvest Food Losses in Developing Countries</td>
<td>$7.50</td>
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<tr>
<td>Tropical Legumes: Resources for the Future</td>
<td>$8.00</td>
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<tr>
<td>Firewood Crops: Shrub and Tree Species for Energy Production</td>
<td>$7.00</td>
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<tr>
<td>Food, Fuel and Fertilizer from Organic Wastes</td>
<td>$6.50</td>
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<tr>
<td>Sowing Forests from the Air</td>
<td>$5.00</td>
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<tr>
<td>Winged Bean: A High Protein Crop for the Tropics (2nd edition)</td>
<td>$5.00</td>
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<tr>
<td>The Water Buffalo: New Prospects for an Underutilized Animal</td>
<td>$6.00</td>
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<tr>
<td>Mangium and Other Fast-Growing Acacias for the Humid Tropics</td>
<td>$5.00</td>
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<tr>
<td>Calliandra: A Versatile Small Tree for the Humid Tropics</td>
<td>$5.00</td>
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<td>Crocodiles as a Resource for the Tropics</td>
<td>$5.00</td>
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<td>Butterfly Farming in Papua New Guinea</td>
<td>$5.00</td>
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<tr>
<td>Little-Known Asian Animals with a Promising Economic Future</td>
<td>$6.00</td>
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<tr>
<td>Alcohol Fuels: Options for Developing Countries</td>
<td>$6.00</td>
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<tr>
<td>Producer Gas: Another Fuel for Motor Transport</td>
<td>$6.00</td>
</tr>
<tr>
<td>Firewood Crops: Shrub and Tree Species for Energy Production - Volume II</td>
<td>$5.50</td>
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<tr>
<td>Diffusion on Biomass Energy Technologies for Developing Countries</td>
<td>$5.00</td>
</tr>
<tr>
<td>Amaranth: Modern Prospects for an Ancient Crop</td>
<td>$5.50</td>
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<tr>
<td>Cauvarinas: Nitrogen-Fixing Trees for Adverse Sites</td>
<td>$6.00</td>
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<tr>
<td>Jojoba: New Crop for Arid Lands</td>
<td>$6.00</td>
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<tr>
<td>Leucaena: Promising Forage and Tree Crop for the Tropics (2nd edition)</td>
<td>$5.00</td>
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Conferences, Workshop, and Symposia

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<th>Title</th>
<th>Price ($)</th>
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<tbody>
<tr>
<td>Proceedings, International Workshop on Survey Methodologies for Developing Countries</td>
<td>$7.00</td>
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<tr>
<td>Priorities in Biotechnology Research for International Development: Report of a Workshop</td>
<td>$7.00</td>
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What is GTZ?

The Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) is a non-profit enterprise owned by the Federal Republic of Germany, represented by the Federal Minister for Economic Cooperation (BMZ) and the Federal Minister of Finance (BMF).

The GTZ has existed in its present form since January 1, 1975, when it took over the activities of two previous development agencies - the Bundesstelle für Entwicklungshilfe (BfE) and the Deutsche Förderungsgesellschaft für Entwicklungsländer (GAWI), to streamline operations.

The basis of the GTZ's work in official technical operation is a General Agreement concluded on December 12, 1974. This agreement clearly delineates the tasks between the Federal Ministry for Economic Cooperation (BMZ) which is responsible for development policy and the GTZ as implementing agency:

- The BMZ, the negotiating partner of the governments of the developing countries, defines the general development policy aims and the objectives of individual activities and supervises their implementation; it decides what projects are to be supported and sets the financial framework in its commissions to the GTZ.
- The GTZ carries out BMZ commissions under its own responsibility, either itself or by recalling in other state or private enterprises; it supports the BMZ in the further development of principles and instruments of development policy.

What is the purpose of GTZ?

GTZ puts development policy into practice. Most of its work is commissioned by the Government of the Federal Republic of Germany whose July 1980 "Policy Paper on German Cooperation with Developing Countries" defines technical cooperation as follows:

"The purpose of technical cooperation is to enhance the performance of manpower and institutions in the developing countries. It involves the assignment of technical personnel and the supply of technical equipment. As a rule, technical cooperation are services granted on a non-repayable basis. In the more advanced developing countries, this cooperation is either partly or wholly against payment."

In addition to implementing Federal German development policy, the GTZ also takes direct commissions against payment from developing countries or from international organizations and it operates projects with its own funds on a limited scale.
GTZ is carrying out 2000 projects in more than 100 African, Asian and Latin American countries. More than 3000 staff members are involved in this work. The projects are implemented by GTZ's own field staff or by consultant firms and include the elaboration of studies and evaluations, handling of financial contributions, food aid etc. More than 10,000 supply consignments are made to projects every year. From 1975 to 1985 annual turnover rose from DM 460 to DM 1,015 million.

Main tasks

Technical cooperation projects span almost the entire economic and social spectrum of the developing countries. GTZ tasks and services are correspondingly broad:
- Assignment and funding of experts for agreed projects as well as advisers, instructors, specialists, appraisers and short-term experts;
- supply of equipment and materials for the facilities supported, supply of industrial and agricultural production inputs, provision of services and works;
- support of the reintegration in their home countries of expert manpower from developing countries who trained in the Federal Republic of Germany and wish to return home;
- salary topping up subsidies for German experts under direct contract to a developing country;
- coordination of the initial and further training of specialists and managerial personnel from developing countries either in their own countries, in other developing countries, in the Federal Republic of Germany or in other industrial countries;
- subsidization of the cost of training programmes carried out by companies in the developing countries;
- financial contributions to projects and programmes of efficient implementing agencies in developing countries.

To achieve these tasks the development projects are planned and implemented by three departments:

Department 1: Agriculture, Health and Rural Development
Department 2: Science and Technology, Education, Vocational Training, Industry and Trade
Department 3: Infrastructure

Agriculture, Health and Rural Development

The promotion and development of rural areas has always been a top priority in German development cooperation with developing countries. The activities of the Department of Agriculture, Health and Rural Development are therefore determined by the following goals:
- to raise and diversify production in agriculture, forestry and fisheries,
- to create more jobs by promoting the agricultural structure,
• to improve storage, distribution, marketing, and processing of agricultural products,
• to establish appropriate production, credit and marketing organizations,
• to intensify agricultural research and technology,
• to improve living conditions by supporting health, nutrition and family planning programmes.

The department cooperates closely with national and international research institutions and organizations in its research and development activities.

Publications

Experience gained in gtz projects is available to a wide circle of readers in gtz publications.

The GTZ series of publications can be obtained directly from the TZ-Verlagsgesellschaft mbH, Bruchwiesenweg 19, D-6101 Roßdorf 1
Telefon: Your code for Germany, then 6154-81119, against payment of the stipulated price, plus postage.

The following GTZ publications are no longer available:

Nr. 11, Nr. 40, Nr. 44, Nr. 53, Nr. 54, Nr. 67, Nr. 75, Nr. 90, Nr. 103, Nr. 112, Nr. 119, and Nr. 127.

Nr. 17
Lindau, Manfred
El Koudia/Marokko - Futterbau und Tierhaltung - Culture fourragère et entreien du bétail


Die marokkanische Tierzuchtforhsungsstations El Koudia, ein Vorhaben der Technischen Zusammenarbeit der Bundesrepublik Deutschland, das im Februar 1974 in die alleinige Verantwortung der Marokkaner übergegangen ist, wird in dieser Publikation vorgestellt. Die Schrift enthält Beiträge über die Situation der Futtererzeugung auf der Station El Koudia sowie Vorschläge zur Verbesserung besonders im Hinblick auf die Anlage von Dauerweiden. Es wird ferner auf Versuchs zur Verbesserung von Matorral-Weideflächen durch unterschiedliche Bearbeitungsmaßnahmen und Unter-???
Rapid population growth has become a major concern of many Third World countries and thus also of Pakistan, where the annual population growth rate increased from 1.6% during the period from 1901-1911 to about 3% during the time from 1961-1972. To master the problem, the Pakistan government initiated a family planning programme in 1960; it was assisted by the Federal Republic of Germany. This publication describes the Pakistan family planning model.

The largest continuous forest of the Philippines in eastern Mindanao is composed of a large number of variety of tree species. Many of these were unknown and could therefore not be identified reliably. This gap has now largely been filled.

This tree identification handbook owes its existence to a GTZ project in Davao City, Philippines. The book was to help in the elaboration on the Philippines of guidelines for the management of tropical forests since the need for well-planned forest utilization, even with regard to timber species not utilized to date, is increasingly being recognized.

The basic concept of the book was to summarize the dendrological characteristics permitting rapid and reliable identification in the field.
Nr. 129
Weidner, Herbert; Rack, Gisela.

Tables de détermination des principaux ravageurs des denrées entreposées dans les pays chauds (Tables to determine the principal pests of stored foods in hot countries).


Nr. 146
Link, Rolf; Mouch, Moustapha.

Contributions a la biologie a la propagation et a la lutte contre les adventices au Maroc (Contributions to the biology, the spread and the control of weeds in Morocco).


Nr. 147
Maydell, H. -J. von

Arbres et arbustes du Sahel - Leurs caractéristiques et leurs utilisations (Trees and shrubs of the Sahel - their characteristics and usages).


This book discusses about 120 different trees and shrubs which are native to the Sahel in order to point out the variety and usefulness of the natural vegetation, and at the same time warn against its overuse. Unless the ecological balance is reestablished the people living there and their animals will in the long run lose the basis on which their lives depend.

Nr. 155

Forschung und Entwicklung in der Technischen Zusammenarbeit mit Entwicklungsländern


Die vorliegende Zusammenstellung will eine Übersicht geben über die durch die GTZ durchgeführten Projekte mit Forschungs- und Entwicklungscharakter. Die in Kapitel 5 dieser Broschüre enthaltenen Übersichten geben einen Überblick über die Verteilung der dargestellten Projekte auf die Fachbereiche der GTZ und auf die einzelnen Länder. Die Verteilung auf die Fachbereiche der GTZ spiegelt sogleich eine sektorale Verteilung der Projekte wider.
Nr. 156

Entwicklung ohne Rückschläge. Antworten eines Ökologen auf 20 Fragen im Hinblick auf die Ländliche Entwicklung in den Tropen und Subtropen


Um schwerwiegende Fehlplanungen bei ländlichen Entwicklungsvorhaben zu vermeiden, sollten ökologische, aber auch soziale, kulturelle, ökono-mische und politische Bedingungen berücksichtigt werden. Der Göttinger Geobotaniker gibt aus seiner langjährigen Erfahrung praktische Lösungen für Probleme, die bei der Bewirtschaftung des Bodens in den Tropen und Subtropen auftreten.

Nr. 157

Whistler, W. Arthur.

Weed Handbook of Western Polynesia


Nr. 158

Integrated Research Programme on Technologies for Rural Development


Nr. 152

Busche, Detlef; Draga, Monika; Hagedorn, Horst.

Les sables éoliens - Modeles et Dynamique - La menace éolienne et son contrôle. Bibliographie annotée


Nr. 167


Nr. 168
Schlolaut, W. (Redaktion).

Abrégé de production cunicole tenant compte des conditions spécifiques des pays en développement

Nr. 169
Schlolaut, W. (Redaktion).

Compendium for Rabbit Production - appropriate for conditions in developing countries

Nr. 177
Heber, G.; Teplitz, W.; Zeitinger, C.; Zieroth, G.
Biofuels for developing countries: promising strategy or dead end?

Nr. 178
Überleben trotz der Dürre. Statt Nahrungsmittelhilfe - Eigenproduktion

Nr. 179
Steiner, Kurt G.

Cultures associées dans les petites exploitations agricoles tropicales en particulier en Afrique de l'Ouest

International Soybean Program
Programme International pour le Soja
Programa Internacional de la Soya
Introduction and Objectives

INTSOY seeks to improve human nutrition around the world through the use of soybeans, a legume rich in protein and calories. Cooperating with likeminded regional, national, and international organizations, we work toward this goal through research, cultivar testing and breeding programs, feasibility studies, publications, regional and international conferences, training courses, and symposia.

INTSOY provides timely information about cultivar adaptation, crop management and protection, seed storage, and the processing and use of soy food. We offer direct access to a worldwide collection of soybean germplasm, and conduct a breeding program under varied ecological conditions. Through training programs, conferences, and publications, we are extending practical and timely information to soybean workers.

The United States Agency for International Development (USAID) has provided the core funding since INTSOY’s creation in April 1973. Special grants from FAO, UNDP, UNICEF, CARE, and IBPGR have supported a range of special projects.

INTSOY, el Programa Internacional de la Soya, está tratando de mejorar la nutrición humana en todo el mundo a través del uso de la soya, una leguminosa rica en proteínas y calorías. Un programa de la Universidad de Illinois en Urbana-Champaign, INTSOY coopera con organizaciones nacionales, regionales e internacionales para la expansión del uso de la soya. Comuníquese con nosotros si desea mayor información sobre los programas de INTSOY.

INTSOY, un Programme International pour le Soja, cherche à améliorer l'alimentation humaine dans le monde par l'usage du soja, un légume riche en protéines et en calories. INTSOY est un programme de l'Université d'Illinois en cooperation avec des organisations nationales, régionales et internationales pour la généralisation de l'utilisation du soja. N'hésitez pas à nous contacter pour tous renseignements complémentaires concernant les programmes d'INTSOY.

Miscellaneous Reports and Brochures

J. A. Jackobs, C. A. Smyth and D. R. Erickson

International Soybean Variety Experiment, Eleventh Report of Results, 1984

ICIMOD

International Centre for Integrated Mountain Development

P.O. Box 3226, Kathmandu, Nepal
Cable: ICIMOD Kathmandu
Telex: NP 2245 SATA
Telephone: 522819, 521575
General Information

The primary objective of the Centre is to promote economically and environmentally sound development in the Hindu Kush-Himalayas and to improve the well-being of the local population. This region includes, partially or totally, Afghanistan, Bangladesh, Bhutan, Burma, China, India, Nepal and Pakistan.

ICIMOD is a centre for multi-disciplinary documentation, training, and applied research as well as for consultative services on resource management and development activities in mountain regions.

The staff comprises a multi-national team of scientists, scholars, and experts in the many fields of mountain development. Appointed primarily from the countries of the Hindu Kush-Himalaya region, the long-term staff work in cooperation with colleagues from around the world recruited for specific short-term contribution.

The establishment of the Centre is based on an agreement between His Majesty’s Government of Nepal and the United Nations Educational Scientific and Cultural Organization (UNESCO) signed in September 1981. At present the Centre is being sponsored by the following four parties: His Majesty's Government of Nepal, the Government of the Federal Republic of Germany, the Government of Switzerland, and UNESCO.

The Centre is located in Kathmandu, the capital of the Kingdom of Nepal, and enjoys the status of an autonomous international organization.

Monographs

International Centre for Integrated Mountain Development

Occasional Papers

Number of pages varies. 21 × 30 cm. Soft cover. $5.00. Air postage cost is $1.50. Surface mail is free.

The objective of the Occasional Paper series is to promote the exchange of practical field experience having major policy implications for the Hindu Kush-Himalaya region.
No. 1
Brian Carson

**Erosion and Sedimentation Processes in the Nepalese Himalaya**

August 1985. 39 pages.

The relations between human activities and erosion and sedimentation processes in the Nepalese Himalaya are analyzed.

No. 2
B.B. Pradhan

**Integrated Rural Development Projects in Nepal — A Review**

December 1985. 58 pages.

This synthesis of integrated rural development projects in Nepal draws conclusions regarding performance and areas for improvement.

**Proceedings**

Jeffrey A. McNeely, James W. Thorsell and Suresh R. Chalise, editors

**People and Protected Areas in the Hindu Kush-Himalaya**

December 1985. 112 pages. 21 × 29 cm. Soft cover.

The International Workshop on the Management of National Parks and Protected Areas in the Hindu Kush-Himalaya was held 6-11 May, 1985, in Kathmandu, Nepal. Convened by the International Centre for Integrated Mountain Development in partnership with the King Mahendra Trust for Nature Conservation, the Workshop explored the question of how to involve local people more effectively in mountain conservation. The proceedings include: Opening Addresses, Defining the Problems and Suggesting Solutions, Case Studies, Protected Area Management Issues, and International Perspectives.

Kk Pandey, Convenor

**International Workshop on Watershed Management in the Hindu Kush-Himalaya Region: A Report**


The International Workshop on Watershed Management in the Hindu Kush-Himalaya Region, held in Chengdu, China, 14-19 October 1985, was the first international workshop to concentrate specifically on mountain watersheds and mountain communities of the region.
Jointly organised by ICIMOD and the Commission for Integrated Survey of Natural Resources of the Chinese Academy of Sciences, the workshop reviewed and evaluated progress made in the field of watershed management in the region. The proceedings include: Introduction, Overview, Discussion Papers, and Paper Summaries.

Miscellaneous

ICIMOD

About ICIMOD


The proceedings deal with the environmental degradation and overuse of natural resources in the Hindu Kush-Himalaya. The authors, mainly scientists, practitioners, and decision-makers, discuss barriers and ways to an ecologically and economically sound development of the mountain areas. Special attention is given to the work programme of ICIMOD.

Periodicals

ICIMOD Newsletter

8 pages. 21 X 29.5 cm.

Published triannually and distributed free of charge.
IIMI

International Irrigation Management Institute

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Telephone: (08) 74274

Liaison Office:
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International Irrigation Management Institute

The International Irrigation Management Institute (IIMI) is an autonomous, non-profit international organization chartered in Sri Lanka in 1984 to conduct research, provide opportunities for professional development, and communicate information about irrigation management. Through collaboration, IIMI seeks ways to strengthen independent national capacity to improve the management and performance of irrigation systems in developing countries.

IIMI’s research program aims at deriving methodologies and conceptual understandings that result in better management of irrigation resources. Researchers seek to understand the ways in which local conditions - physical and social - affect the performance of irrigation systems. Attention is focused on the whole system through a multidisciplinary approach.

IIMI’s training program is designed to strengthen leadership and management skills among professionals responsible for planning and managing irrigation systems. This is accomplished through workshops and conferences, and support for graduate students and post-doctoral fellowships in innovative irrigation management.

IIMI’s information program supports IIMI researchers and an international network of people interested in irrigation management. The Communication and Publication Office produces publications on irrigation management topics, provides documentation services through IIMI’s computerized database, and maintains the Institute’s library.

IIMI’s headquarters is in Digana Village near Kandy, about 130 km east of Colombo and central to some of Sri Lanka’s extensive irrigation projects.

For further information, please write: IIMI, Digana Village via Kandy, Sri Lanka. Telephone (08) 74274, 74253, and 74334. Telex 22318 IIMIHQ CE.

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Publications of the International Agricultural Research and Development Centers

1985. 691 pages. 13 × 21 cm. Paperback. All nations, US$10.20 (includes airmail postage and handling); Philippines, P80.35 (includes surface mail and handling).

In 1985 the International Rice Research Institute published Publications of the International Agricultural Research and Development Centers, a 691-page catalog of titles published by 13 Centers supported by the Consultative Group on International Agricultural Research (CGIAR); 8 other IARCs; the Board of Science and Technology for International Development (BOSTID) of the U.S. National Academy of Sciences; and the German Agency for Technical Cooperation (GTZ). The catalog includes 162 pages of in-depth index to help reader locate all publications in certain fields (i.e. cytogenetics, insects resistance, maize).

Supplement to Publications of the International Agricultural Research Development Centers

1986. 167 pages. 13 × 21 cm. Perfect binding. US$4.00 (includes airmail postage and handling); Philippines, P40.00 (includes surface mail and handling)

The 1986 Supplement to Publications of the International Agricultural Research Development Centers includes only new titles that are not in the larger 1985 catalog. The two catalogs are the only compilations of the major Center publications and, collectively, are probably the largest catalog of titles on Third World agriculture in existence.