

International Bibliography of Rice Research

International Rice
Research Institute



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Preface

The technical literature on rice, the world's major food crop, originates from many sources and the articles are provided in many journals varying greatly as to the field of specialty and circulation. Therefore, it appeared to the International Rice Research Institute that a real service would be rendered to rice scientists around the world if a rather complete bibliography of recent rice literature could be prepared and made available to those who are actively engaged in rice research or who are disseminating information about the crop.

This publication presents the result of nearly two years of work on a bibliography covering rice research from 1951 to 1961. It is the beginning of what is planned to be a continuous activity with new bibliographies appearing at least every two years.

A further service to be offered by the Institute is to have microfilm copies of substantially all literature cited in the bibliography available in the library of the Institute in the Philippines. Scientists who do not have access to these articles in their institutional libraries can obtain them in photocopy from the Institute.

The International Rice Research Institute is confident that this bibliographic service will contribute greatly to scientific progress by enabling scientists to determine what work has already been done, and thus more clearly to plan their future research projects.

Many people have contributed toward the success of this first

bibliography. Dr. Dorothy Parker, an Associate Director of The Rockefeller Foundation, first suggested the project and has given it primary leadership throughout the course of its preparation.

Robert F. Chandler, Jr.,
Director
International Rice Research
Institute

Los Baños, The Philippines

September 1963

Introduction

The establishment of the International Rice Research Institute immediately posed the problem of providing the rice research workers at the Institute and their associates in other countries with as much of the research literature as possible. It was decided that a bibliography which would cover the publications of the ten-year period prior to the initiation of the Institute (1951-1960 inclusive) would be one of the most useful bibliographic tools that could be provided for the research staff. The ten year period was arbitrarily selected because it is generally acknowledged that in many fields of scientific investigation, the most used literature is that published in the past eight to ten years.

As anyone who has attempted to compile a bibliography can attest, more problems are encountered than can be anticipated at the beginning of a project. This bibliographic effort is not exceptional in that respect. No one anticipated that so many languages are used in reporting scientific investigations of one cereal group nor that so many serial publications from so many countries would be involved. It was decided that the references included should be those which would serve the scientific program of the International Rice Research Institute and that the semi-scientific and popular would not.

The work of compilation began in February of 1960 with the acquisition of copies of the rice entries from numerous agricultural

libraries (as listed in the acknowledgements). These of course included many references published prior to 1951. Although not appearing here, they are on deposit at the International Rice Research Library.

After the initial collection of references, the search of literature began at the National Agricultural Library, Washington, D. C. The final results, herein published, include literature written in twenty-three of the world's major languages. Language specialists made the necessary translations and transliterations into English. It will be noted that some countries publish in a language other than their own. Occasionally this results in the usage of English somewhat different from that encountered in English speaking countries.

The bibliography includes research publications about cultivated rice *Oryza sativa* and other species of *Oryza*, which are found in journal articles, monographs, pamphlets and books. In brief, the following categories of information are included: A general section containing, I. Bibliographies, general books and articles touching on several topics, and reports of research institutions; II. Material classified on a geographic basis which is arranged by country rather than by subject and is subdivided by region and country; III. The rice plant heading contains the bulk of references, with the subject matter subdivided on the basis of Botany; Cytology, Genetics and Breeding: Production; Culture; Plant Pathology and Plant Protection; IV. The Rice Product; and V. Economic and Social Aspects.

All aspects of rice growing and rice utilization have been included - the rice plant, climate, soils, culture, diseases, pests, processing, utilization, marketing, trade, rice politics, nutritive

value of rice and rice diets. Medical and experimental diets containing rice in general have been excluded, although a few references appear which suggest the use of rice in diets in treatment of hypertension.

The bibliography attempts comprehensive coverage of the principal insects infesting growing or stored rice, including biology and life histories as well as description and control. For pests which infest many different plants or stored grains, e.g. *Sitophilus granarius*, only references discussing the insect as infesting rice have been included.

As the table of contents indicates, general publications on field crops, cereals, tropical agriculture, soils, irrigation, marketing, etc., which might contain information on rice, were not collected. Similarly, the general statistical publications of rice-growing countries, which include statistics on rice production, consumption, trade, etc., are not included. Although references concerning the nutritive value of rice and rice diets are represented, medical and experimental diets with rice have been excluded generally. The bibliography goes beyond the report of research in a few cases where the information would be useful to work in field operations, etc. Patents have been excluded.

At this early stage of operating the International Rice Research Institute, it is urgent that the research workers have the bibliography as soon as possible. Haste and excellence are not compatible in bibliographic work but in this case it was decided that timeliness has the higher priority. The great distances separating the contributors and collaborators of this work have also contributed

to difficulties in providing the most satisfactory results.

It will be greatly appreciated if errors in the information supplied are reported to the International Rice Research Institute Library, and it is hoped that future volumes will attain a higher standard of excellence in every respect.

As this goes to press, a supplement to the bibliography covering the years 1961 and 1962 is nearing completion and it is planned that supplements will continue to be issued as one of the regular services of the International Rice Research Institute Library.

Dorothy Parker,
Rockefeller Foundation

New York, N. Y.
Sept. 20, 1963

Acknowledgements

It is a pleasure to acknowledge the numerous examples of unselfish cooperation, collaboration and assistance which have been rendered by librarians, rice research investigators and friends who went far beyond the call of duty in giving of their time, effort and moral support to produce this bibliography. This in no way compensates their assistance. However, we hope they will receive satisfaction from the knowledge that their help will contribute to the alleviation of hunger which is the constant companion of millions of people.

The following libraries (through their librarians and administrators), gave invaluable aid in starting the bibliographic work:

Albert R. Mann Library, Cornell University, Ithaca,
New York

American Meteorological Society, cards from Meteorological Abstracts and Bibliography, Washington, D. C

Ames Library of South Asia, West St. Paul, Minnesota

Chinese Technical Mission to Vietnam on Crop Improvement,
Saigon, South Vietnam

Comision de Arroz, Lisbon, Portugal

Commonwealth Bureau of Helminthology, cards from Helminthological Abstracts, St. Albans, Herts., England

Commonwealth of Pastures and Field Crops, Cards from
Field Crop Abstracts, Hurley, Berks., England

Commonwealth Institute of Entomology, cards from Review
of Applied Entomology, London, England

Commonwealth Mycological Institute, cards from Review of
Applied Mycology, Kew, Surrey, England

Facultad de Agronomia, Universidad Central de Venezuela,
Maracay, Venezuela

Faculty of Agriculture, University of the Philippines, Los
Banos, Philippines

Food and Agriculture Organization of the United Nations
Library, Rome, Italy

Indian Agricultural Research Institute, New Delhi, India

Indian Council of Agricultural Research, New Delhi, India

Instituto Biologico, São Paulo, Brazil

Instituto Interamericana de Ciencias Agrícolas, Turrialba,
Costa Rica

Joint Commission on Rural Reconstruction, Taipei, Taiwan

Koninklijk Instituut voor de Tropen, Amsterdam, Netherlands

Landbouwhogeschool, Wageningen, Netherlands

Library of Congress, Washington, D. C.

National Agricultural Library, Washington, D. C.

National Library of Medicine, Washington, D. C.

Royal Society of Medicine, London

Tropical Products Institute, London

Universitäts-Bibliothek, Abt. Landwirtschaft, Bonn, Germany

University of the West Indies, Faculty of Agriculture,
St. Augustine, Trinidad

In addition, appreciation is expressed to many persons:

to Mr. Foster E. Mohrhardt, Director of the National Agricultural
Library, who not only gave wise counsel and advice, but also pro-
vided space and facilities at the Library. Without this as-

sistance, the bibliography could not have been completed. Dr.

Charles B. Crook of the U. S. Agricultural Research Service advised
on the classification of references on soil and water. Dr. Malcolm
Rigby, editor of Meteorological Abstracts and Bibliography provided
useful information. Dr. Roy C. Adair kindly made available his
collection of rice publications including translations of articles.

Deep appreciation is due the group who carried out the major
portion of the detailed literature search, translating, checking and

compilation in Washington. Mrs. Margaret Bryant was in charge of the work and was assisted by a number of people including: Miss Margaret Mitchell, Mrs. Helen N. McClure, Mrs. Marjorie B. Nash, and Miss Milagros Zamora who will continue the work on future supplements.

Dr. Jukyu Cho and Miss Etsuko Takeyoshi, working in Tokyo, assembled most of the Japanese titles included in the bibliography.

Special appreciation is due others who assisted in this work: to Miss Lina D. Manalo, librarian of the International Rice Research Institute, and other members of its staff, and to the officers of the Ford Foundation and Rockefeller Foundation, for contributions including those both financial and intellectual. Grateful appreciation is offered Dr. Ralph R. Shaw for his deep interest, enthusiasm and imaginative suggestions at every stage of the work, and to his very efficient staff, Mrs. Charles Hardy, Mrs. Donald Smalley and Miss Diane Harlow.

As indicated above, this is the work of many hands in many places, working with a wide range of subject matter in many languages, in varying bibliographic forms, and with variant forms of transliteration from non-roman alphabets. While all those mentioned above contributed to its completion none of them is responsible for the imperfections in this list, which are noted in the Introduction.

Instructions for Use of the Bibliography

The form adopted is approximately that of the United States Department of Agriculture Style Manual, with the addition of issue numbers, and indication of illustrations, maps, and/or plates.

The entries are numbered consecutively beginning with 1, with a few numbers like 26A or a number omitted where rearrangement after numbering occurred.

Articles in series were brought together under one number and given a single item number for the series (see entries 981 and 982). Since the series included contain from two to more than twenty parts, the total number of publications is higher than the total number of entries. When requesting photocopies of items from the International Rice Research Institute, a note should be made as to whether or not all of a series is wanted or some part of the series. Nearly all of the entries herein listed are available at the library of the International Research Institute, some are still being sought.

Three indexes will assist the reader in locating information by the author, subject or geographical area. All author names (personal or corporate) are listed. The author names are all capitalized.

The Author Index includes the names of all authors, whether personal or corporate, and names of persons or institutions which are the subject of any of the references.

The Subject Index provides a subject approach to the references more detailed than that provided by the classified arrangement. Because the whole bibliography deals with rice (*Oryza sativa*) the word, rice, has been omitted from the index whenever this could be done without creating confusion. Subjects which might be too imprecise out of the context of the bibliography can be understood if this is kept in mind. Growth refers to the growth of the rice plant. Growth of roots or leaves, or of other organisms is indexed by growth as a subheading under Roots, Leaves, or the name of the organism. Biochemistry refers to the biochemistry of the rice plant. In any other connection, biochemistry is used as a subheading under the subject the biochemistry of which is discussed. Diseases is used for diseases of the rice plant; human diseases being indexed as Human diseases, and diseases of other organisms under the name of the organism. Grains refers to rice grains; Wax, to rice wax. When rice is part of the accepted common name of an insect or disease (e.g. rice stem borer) the word has been retained. Similarly, *Oryza sativa* alone is not used as a main heading.

Diseases and insects will be found under either the common name or names of the disease or insect, or under the scientific name of the insect or causal organism. Scientific names have been used in indexing whenever they were found in the title or text, but they have not been supplied. Indexers have not assumed that an author writing about the rice stem maggot was talking about *Chlorops oryzae*. Only one scientific name has been used for an organism in the index, although in the text of the bibliography such names

are taken exactly as written by the author. Cross references bring together common and scientific names and variant forms.

The Geographic Index has been provided for the convenience of those who are interested in rice in a particular country. In it, references in which the locale is of real significance have been brought together under the names of countries with a limited number of very broad subheadings. Current names of countries have been used throughout the index even when the publications referred to were issued before the change in name.

Numbers in all three indexes are the consecutive numbers given to the references in the text of the bibliography. In the Subject and Geographic Indexes, each reference number is followed by a language symbol showing the language of the text of the reference. A key to these symbols will be found on page 696. When numbers in sequence have been combined, texts of all are in the same language; e.g. 5642J-44J indicates that 5642, 5643, and 5644 are all in Japanese. Had 5643 been in French, the numbers would read 5642J, 5643Fr, 5644J. Abstracts or summaries in another language are not shown by a language symbol. In some cases, however, the several papers in a series to which only one reference number has been assigned are in different languages. This is indicated by the language symbols separated by a virgule (E/J). For multi-lingual glossaries, no language symbol is provided. Language symbols are not used in the Author Index inasmuch as a user looking for work by a particular author usually knows in what language that author customarily writes.

Abbreviations for Serial Titles

- | | |
|---|---|
| Acad. Roy. Belg. B. Cl. Sci.
(Sér. 5). | Agr. Ferrarese. |
| Académie Royale de Belgique | L'Agricoltore Ferrarese |
| Bulletin de la Classe des
Sciences (Série 5) | Agr. Gaz. N.S. Wales. |
| Acta Agr. Sinica. | The Agricultural Gazette of
New South Wales |
| Acta Agriculturae Sinica | Agr. Handbook U.S. Dept. Agr. |
| Acta Agron. | Agriculture Handbook, U.S.
Department of Agriculture |
| Acta Agronomica, Hungary | Agr. Hist. |
| Acta Agron. [Colombia]. | Agricultural History |
| Acta Agronómica, Colombia | Agr. Hort. |
| Acta Biol. | Agriculture and Horticulture. |
| Acta Biologica, Hungary. | Nogyo Oyobi Engei |
| Acta Biol. Expt. Sinica | Agr. Ital. |
| Acta Biologiae Experimentalis
Sinica | L'Agricoltura Italiana |
| Acta Bot. Acad. Sci. Hungaricae. | Agr. J. [Fiji]. |
| Acta Botanica Academicae
Scientiarum Hungaricae | Agricultural Journal, Fiji |
| Acta Bot. Sinica. | Agr. Mktg. B. Burma. |
| Acta Botanica Sinica | Agricultural Marketing Bulletin,
Burma Department of
Agriculture |
| Acta Ent. Sinica. | Agr. Mod. |
| Acta Entomologica Sinica | Agricultura Moderna, Cuba |
| Acta Microbiol. Acad. Sci.
Hungaricae. | Agr. Monog. U.S. Dept. Agr. |
| Acta Microbiologica Academiae
Scientiarum Hungaricae | Agriculture Monograph, U.S.
Department of Agriculture |
| Acta Pedol. Sinica. | Agr. Pakistan. |
| Acta Pedologica Sinica | Agriculture Pakistan |
| Acta Physiol. | Agr. Pest News |
| Acta Physiologica Academiae
Scientiarum Hungaricae | Agricultural Pest News |
| Acta Zool. | Agr. Res. [Taiwan]. |
| Acta Zoologica, Hungary | Agricultural Research, Taiwan |
| Advn. Chem. Ser. | Agr. São Paulo. |
| Advances in Chemistry Series | Agricultura em São Paulo |
| Advn. Genet. | Agr. Sarda. |
| Advances in Genetics | L'Agricoltura Sarda |
| Agr. Anim. Husb. | Agr. Situation India. |
| Agriculture and Animal Hus-
bandry, Uttar Pradesh | Agricultural Situation in India |
| Agr. B. Saga U. | Agr. Téc. Méx. |
| Agricultural Bulletin of the
Saga University | Agricultura Técnica en México |
| Agr. Engin. | Agr. Trop. [Colombia]. |
| Agricultural Engineering | Agricultura Tropical, Colombia |
| | Agr. Ybk. Philippine Assoc. Agr. |
| | Agricultural Yearbook, Philip-
pine Association of Agri-
culturists |

- Agrártudomány.
 Agrártudomány
 Agricultura.
 Agricultura, Italy
 Agriculture [France].
 Agriculture, Revue Mensuelle
 Technique et Economique
 Agro [Venezuela].
 Agro. Revista del Centro de
 Estudiantes de Ingeniería
 Agronómica. Maracay,
 Venezuela
 Agrobiologiya.
 Agrobiologiya, Vsesoyuznaya
 Ordena Akademiy Sel'skok-
 hozyaistvennykh Nauk Imeni
 V.I. Lenina
 Agrokém. Talajtan.
 Agrokémia és Talajtan
 Agron. J.
 Agronomy Journal
 Agron. Lusitana.
 Agronomia Lusitana
 Agron. Sulriograndense.
 Agronomia Sulriograndense,
 Boletín Técnico da Diretoria
 da Produção Vegetal, Estado
 do Rio Grande do Sul, Brazil
 Agron. Trop. [France].
 L'Agronomie Tropicale, France
 Agros [Brazil].
 Agros, Brazil
 Agros [Portugal].
 Agros, Portugal
 Agrotecnia.
 Agrotecnia, Cuba
 AIBS Bull.
 American Institute of Biological
 Sciences, Bulletin
 AIC U.S. Bur. Agr. Indus. Chem.
 AIC, U.S. Bureau of Agri-
 cultural and Industrial
 Chemistry
 Albrecht-Thaer-Arch.
 Albrecht-Thaer-Archiv,
 Arbeiten aus den Gebieten
 Bodenkunde Pflanzenernährung
 Acker-und Pflanzenbau
 Aliment. Anim.
 Alimentazione Animale
 Alimentazione.
 Alimentazione
 Allahabad Farmer.
 The Allahabad Farmer
 Amer. J. Bot.
 American Journal of Botany
 Amer. J. Clin. Nutr.
 The American Journal of
 Clinical Nutrition
 Amer. J. Pub. Health.
 American Journal of Public
 Health and The Nation's
 Health
 Amer. J. Trop. Med. Hyg.
 The American Journal of
 Tropical Medicine and
 Hygiene
 AMS U.S. Agr. Marketing Serv.
 AMS, U.S. Agricultural
 Marketing Service
 An. Assoc. Bras. Quím.
 Anais da Associação Brasileira
 de Química
 An. Col. Ingen. Agrón.
 Anales, Colegio de Ingenieros
 Agrónomos, Costa Rica
 An. Edafología Fisiol. Vég.
 Anales de Edafología y
 Fisiología Vegetal
 An. Inst. Nac. Invest. Agron.
 [Spain].
 Anales Instituto Nacional de
 Investigaciones Agronómicas,
 Spain
 An. Inst. Super. Agron.
 Anais do Instituto Superior de
 Agronomia, Universidade
 Técnica de Lisboa
 An. Real Soc. Espan. Ffs. Quím.
 Ser. B. Quím.
 Anales de la Real Sociedad
 Española de Física y Química,
 Serie B. Química
 An. Seminário Bras. Herbicidas
 Ervas Daninhas.
 Anais do Seminário Brasileiro
 de Herbicidas e Ervas
 Daninhas
 An. Soc. Cient. Argentina.
 Anales de la Sociedad Científica
 Argentina
 Anal. Chem.
 Analytical Chemistry
 Analyst.
 The Analyst
 Andhra Agr. J.
 The Andhra Agricultural
 Journal

- Ann. Academia Sinica.
Annals of Academia Sinica
- Ann. Agron. [France].
Annales Agronomiques.
Annales de l'Institut National
de la Recherche Agronomique,
Série A
- Ann. Appl. Biol.
The Annals of Applied Biology
- Ann. Assoc. Amer. Geog.
Annals of the Association of
American Geographers
- Ann. Biochem. Expt. Med.
Annals of Biochemistry and
Experimental Medicine
- Ann. Bot.
Annals of Botany
- Ann. Ent. Soc. Amer.
Annals of the Entomological
Society of America
- Ann. Facol. Agr. U. Catolica
Sacro Cuore.
Annali della Facoltà di Agraria
dell'Università del Sacro Cuore
- Ann. Facol. Med. Vet. Torino.
Annali della Facoltà di Medicina
Veterinaria di Torino, Uni-
versità degli Studi di Torino
- Ann. Facol. Med. Vet. U. Pisa.
Annali della Facoltà di
Medicina Veterinaria, Uni-
versità Pisa
- Ann. Facul. Sci. U. Saigon.
Annales de la Faculté des
Sciences, Université de Saigon
- Ann. Gembloux.
Annales de Gembloux
- Ann. Géog.
Annales de Géographie
- Ann. Hist. Nat. Mus. Nat.
Hungarici.
Annales Historico-Naturalis
Musei Nationalis Hungarici.
Magyar Nemzeti Múzeum Ter-
mészettudomány Múzeum Ev-
könyve
- Ann. Mag. Nat. Hist.
The Annals & Magazine of
Natural History
- Ann. Paed.
Annales Paediatrici.
- Ann. Phytopath. Soc. Japan
Annals of the Phytopathological
- Society of Japan Shokubutsu
Byori Gakkai Ho
- Ann. Sper. Agr.
Annali della Sperimentazione
Agraria
- Ann. Sta. Sper. Riscolt. Colt.
Irrig. Vercelli.
Annali Stazione Sperimentale di
Riscoltura e delle Colture
Irrigue Vercelli, Italy
- Annot. Zool. Jap.
Annotationes Zoologicae
Japonensis
- Ann. Rpt. Natl. Inst. Genet.
Japan.
Annual Report of the National
Institute of Genetics, Japan
- Ann. Rpt. Natl. Inst. Nutr.
Japan.
Annual Report of the National
Institute of Nutrition, Japan
- Ann. Rpt. Smithsn. Inst.
Annual Report of the Smith-
sonian Institution
- Ann. Rpt. Takeda Res. Lab.
Annual Report Takeda Research
Laboratory
- Antonie Van Leeuwenhoek J.
Microbiol. Serol.
Antonie Van Leeuwenhoek
Journal of Microbiology and
Serology
- Appl. Microbiol.
Applied Microbiology
- Araneta J. Agr.
Araneta Journal of Agriculture
- Arch. Biochem. Biophys.
Archives of Biochemistry and
Biophysics
- Arch. Bot. Biogeog. Ital.
Archivio Botanico e Bio-
geografico Italiano
- Arch. Inst. Grand-Ducal Luxemb.
Sect. Sci. Nat., Phys., Math.
Archives, Institut Grand-Ducal
de Luxembourg, Section des
Sciences Naturelles,
Physiques, et Mathématiques
- Arch. Inst. Pasteur Guyane
Franc. Inini.
Archives de l'Institut Pasteur
de la Guyane Française et
de l'Inini