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Upland Rice Research:

An International Bibliography 1965–1982

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FOREWORD

Most upland rice farmers continue to grow locally selected varieties under low input levels, and gather a meager harvest. The fruits of modern rice technology have not widely influenced their production. New varieties and practices are often unadapted to the tough growing conditions that these farmers must face.

The unique production problems of upland rice demand specifically tailored varieties and management techniques. A new phase of international collaboration is now under way. Satisfactory progress will be achieved only with the active co-operation of many researchers.

Upland rice researchers must know about each others' results and experiences. Unfortunately, their work is widely scattered in the literature. In compiling this bibliography, Dr. Dennis Garrity of the International Rice Testing Program has attempted to assemble the sources of the world literature specifically focused on upland rice and make them conveniently available. The work contains 1,222 citations representing research in 44 countries.

A critical upland rice research problem that poses a formidable challenge is the development of productive varieties with superior resistance to drought and resistance to rice blast. Another is the attainment of better weed control and greater fertilizer efficiency on aerobic soils. These topics are only a few of those considered.

With a better mutual understanding among workers in different countries, we can look forward to an accelerated flow of ideas, methods, germplasm, and crop technology. This bibliography represents an effort to enhance this interchange for the mutual benefit of researchers everywhere.

M. S. Swaminathan
Director General

INTRODUCTION

The portion of the world's rice that is grown where surface flooding does not occur for any significant part of the growing season is considered upland rice. Its crop environmental conditions differ, both qualitatively and quantitatively, from those of submerged rice. Lack of impounded flood-water results in the threat of water stress, even under the most favorable rainfall patterns, and subjects the crop to soil fertility imbalances that are substantially ameliorated in flooded rice.

The upland rice situation is unique in that the adoption of modern varieties has been low. On the basis of global averages, fertilizer use on upland rice is near zero.

Diverse harsh environmental conditions, low input use, and serious socioeconomic constraints make the improvement of upland rice more similar to that of such rainfed crops as sorghum and millet than to that of its own "sister," irrigated rice.

The area planted to upland rice is so large (nearly 20 million hectares) that if it were considered a unique crop, it would be one of the world's most widely grown cereals.

New approaches to upland rice research are needed. The present worldwide scientific literature on the crop is sparse and scattered. This bibliography attempts to make the existing citations more conveniently available to researchers.

The references are mainly drawn from the 1965-1981 supplements to the *International Bibliography of Rice Research* and from the *Liste des Publications de L'IRAT Sur le Riz Pluvial* covering the period 1960-1982. The pre-1965 references found in these sources have been retained. Unpublished references collected at the International Rice Research Institute Library and Documentation Center through June 1982 are also included. Many additional references were obtained from responses to a request addressed to more than 100 upland rice scientists around the world. The assistance of Mr. M. Jacquot in assembling bibliographic material from *L'Institut de Recherches Agronomique Tropicales et Les Cultures Vivrieres* (IRAT) is gratefully acknowledged.

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	860	861	864	879	890	937	960	988	990	1083	1085-	1087	1089-	1094	1118
	1161	1165	1197	1198											
America	4	24	52	100	378	469	487	587	865	1074					
Asia	65	98	111	164	839										
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Brazil	2	9	15	30	33	87a	88	118	135	136	137	188 -	191	203	213
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	604	689	698	774	775	829	875	995	1028	1055	1062	1063	1064	1073	
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	665	667	581	697	700	701	702	715	716	717	724	725	726	738	771
	772	786	801	818	866	869	883	914	924	926	935	938	942	943	945
	959	973	979	980	1025	1035	1038	1054	1056	1065	1066	1067	1068	1070	1072
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	432	514	525	551	590	611	631	770	784	785	788	789	825	826	828
	853	860	861	862	864	920	921	960	990	1085	1086	1087	1090	1091	1092
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ABBREVIATION OF SERIAL TITLES

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Agr. Econ.
Agricultural Economics

Agr. Hort./Agric. Hortic.
Agriculture & Horticulture

Agr. Indus. Life
Agricultural and Industrial Life

Agric. Asia
Agriculture in Asia

Agric. Econ. Bull. Afr.
Agricultural Economics Bulletin for Africa

Agric. Res. J. Kerala
Agricultural Research Journal of Kerala

Agric. Situat. India
Agricultural Situation in India

Agron. J.
Agronomy Journal

Agron. Trop. (France)
Agronomie Tropicales [France]

Andhra Agr. J.
Andhra Agricultural Journal

Annot. Bibliogr.
Annotated Bibliography

Ann. Inst. Sper. Mecc. Agr.
Annali dell Istituto Sperimentale

Ann. Phytopathol.
Annales de Phytopathologie

Annu. Progr. Rep. La. Rice Exp. Stn.
Annual Progress Report, Rice Experiment Station, Crowley, Louisiana

Annu. Rep. Centr. Rice Res. Inst.
Annual Report of the National Institute of Agricultural Science in Japan

Ann. Rpt. Soc. Plant Protect. North Japan
Annual Report of the Society of Plant Protection, North Japan

Ann. Zool. Ecol. Anim.
Annales de Zoologie Ecologie Animale

Asian Farmers Gard.
Asians Farms & Gardens

B. Aomori Agr. Exp. Stn.
Bulletin of the Aomori Agricultural Experiment Station

B. Ehime Agr. Exp. Stn.
Bulletin, Ehime Agricultural Experiment Station

B. Gunma Agr. Exp. Stn.
Bulletin of the Gunma Agricultural Experiment Station

BIOTROP (SEAMEO Reg. Centr. Trop.Biol.) Bull.
BIOTROP (SEAMEO Regional Center for Tropical Biology) Bulletin

Bull. Agric. Coll. Jeonbug Nat'l. Univ.
Bulletin, Agricultural College, Jeonbug National University

Bull. Balai Penel. Perkeb. Medan
Bulletin Balai Penelitian Perkebunan Medan

Bull. Chiba-Ken Agr. Exp. Stn.
Bulletin of Chiba-Ken Agricultural Experiment Station

Bull. Coll. Agr., Utsunomiya Univ.
Bulletin, College of Agriculture, Utsunomiya University

Bull. Dep. Agric. Econ. Ext. Njala Univ.
Bulletin of the Department of Agricultural Economics and Extension, Njala University

Bull. Fac. Agric. Miyazaki Univ.
Bulletin of the Faculty of Agriculture, Miyazaki University

Bull. Fac. Agr. Tamagawa Univ.
Bulletin of the Faculty of Agriculture, Tamagawa University

Bull. Fukushima Prefect. Agric. Exp. Stn.
Bulletin of the Fukushima Prefectural Agricultural Experiment Station

Bull. Hiroshima Prefect. Agric. Exp. Stn.
Bulletin of the Hiroshima Prefectural Agricultural Experiment Station

Bull. Hyogo Prefect. Agr. Exp. Stn.
Bulletin of the Hyogo Prefectural Agricultural Experiment Station

Bull. Ibaraki Agr. Exp. Stn.
Bulletin of the Ibaraki Agricultural Experiment Station

Bull. Kagoshima Agric. Exp. Stn.
Bulletin of the Kagoshima Agricultural Experiment Station

Bull. Kyushu Agric. Exp. Stn.
Bulletin of the Kyushu Agricultural Experiment Station

Bull. Nagano Prefect. Agric. Exp. Stn.
Bulletin of the Nagano Agricultural Experiment Station

Bull. Saga Agr. Exp. Stn.
Bulletin of Saga Agricultural Experiment Station

Bull. Shiga Prefect. Agr. Exp. Stn.
Bulletin of the Shiga Prefectural Agricultural Experiment Station, Shiga-ken
Nogyo Shiken-jo Kenkyu Hokoku

Bull. Tochigi Agr. Exp. Stn.
Bulletin of the Tochigi Agricultural Experiment Station

Bull. Tokai-Kindi Nat'l. Agric. Exp. Stn.
Bulletin of the Tokai-Kinki National Agricultural Experiment Station

Bull. Yamagata Prefect. Agr. Exp. Stn.
Bulletin of Yamagata Prefectural Agricultural Experiment Station

Centr. Res. Inst. Agr. (Indonesia)
Central Research Institute for Agriculture (Indonesia)

Chugoku Agr. Res.
Chugoku Agricultural Research

Chugoku Weed Contr. Res.
Chugoku Weed Control Research

Circ. Agr. Res. Stn. Manokwari Agr. Ser.
Circular, Agricultural Research Station, Manokwari Agricultural Series

Circ. Tec. EMBRAPA
Technical Circular, Empresa Brasileira de Pesquisa Agropecuaria

CLSU Sci. J.
Central Luzon State University Scientific Journal

Commun. Agr.
Communications Agricultural, Bogor Agricultural University, Indonesia

Crop Sci.
Crop Science

Curr. Sci.
Current Science

Dep. Agric. Hortic. Div. Agron. Div. Res. Div. Res. Rep. (Thailand)
Department of Agriculture, Horticulture Division and Agronomy Division Research Division Research Report

Dep. Agric. Rice Div. Res. Rep. (Thailand)
Department of Agriculture Rice Division Research Report

Dep. Nac. Pesq. Agropecuar. Div. Pesq. Fitotec.
Departmento Nacional de Pesquisa Agropecuaria, Divisao de Pesquisa Fitotecnica

Diss. Abs. Int.
Dissertation Abstracts International

Diss. Abstr. Int. (Cornell University)
Dissertation Abstracts relating to International Agricultural and Rural Development

East Afr. Agric. For. J.
East African Agricultural and Forestry Journal, formerly Fast African Agricultural Journal

Econ. Res. J.
Economic Research JOurnal

Ent. Surv. Rep. No. 15
Entomological Survey Report No. 15

Exp. Agr./Exp. Agric.
Experimental Agriculture, formerly Empire Journal of Agriculture

Expt. Rpt. Mid-West Reg. Min. Agr. Natur. Resources Nigeria
Experiment Report, Mid-West Region, Ministry of Agriculture and Natural Resource, Nigeria

Getr. Mehl
Getreide und mehl

Ghana J. Agric. Sci.
Ghana Journal of Agricultural Scence

Ghana J. Sci.
Ghana Journal of Science

Farm J.
Farm Journal, India

Farm Work Res.
Farm Work Research, Japan

Farming Mech.
Farming Mechanization

Field Crop Res.
Field Crop Research

Fert. News
Fertilizer News

Fiji Agric. J.
Fiji Agricultural Journal

Fitotec. Latinoamer.
Fitotecnia Latinoamericana

Food Farming Agric.
Food Farming and Agriculture

Fukien Agric. Sci. Technol.
Fukien Agricultural Science and Technology

Haryana AGric. Univ. Res. J.
Haryana Agricultural University Research Journal

Indian Agric.
Indian Agriculturist

Indian Farmers' Dig.
Indian Farmers' Digest

Indian J. Agric. Res.
Indian Journal of Agricultural Research

Indian J. Agr. Sci.
Indian Journal of Agricultural Science

Indian J. Agron.
Indian Journal of Agronomy

Indian J. Farm Sci.
Indian Journal of Farm Sciences

Indian J. Weed Sci.
Indian Journal of Weed Science

Inform. Centro Region. Invest. Agropecuar. Tulumayo
Informe Centro Regional de Investigaciones Agropecuarias de Tulumayo

Inform. Progr. Nac. Arroz Min. Agr. Pesq. Peru
Informe Programa Nacinal de ARroz, Ministerio de Agricultura, Peru

Inform. Tec. Progr. Nac. Arroz Peru
Informe Tecnico del Programa Nacional de Arroz, Peru

Ilmu Pertanian (Agr. Sci.)
Ilmu pertanian (Agricultural Science), Indonesia

Intensive Agric.
Intensive Agriculture

Int. Rice Comm. Newsl.
International Rice Commission Newsletter

Int. Rice Res. Inst.
International Rice Research Institute

Int. Rice Res. Newsl.
International Rice Research Newsletter

Invest. Agropecu. Fac. Agron. Univ. Panama
Investigaciones Agropecuarias del Faculte de Panama Univ.

IRRI Reptr.
International Rice Research Institute, Reporter

IRRI Res. Pap. Ser.
International Rice Research Institute, Research Paper Series

J. Agr. Ass. China
Journal of the Agricultural Association of China

J. Agric. Econ.
Journal of Agricultural Economics, Taiwan

J. Agr. Meteorol.
Journal of Agricultural Meteorology

J. Agric. Res. China
Journal of Agricultural Research of China (formerly Journal of Taiwan Agricultural Research)

J. Agr. Sci.
Journal of Agricultural Science

J. Cent. Agric. Exp. Stn.
Journal of the Central Agricultural Experiment Station

J. Econ. Entomol.
Journal of Economic Entomology

J. Econ. Social Stud.
Journal of Economic and Social Studies

J. Fac. Agr. Iwate Univ.
Journal of the Faculty of Agriculture, Iwate University

J. Indian Soc. Soil Sci.
Journal of the Indian Society of Soil Science

J. Jap. Soc. Food Nutr.
Journal of the Japanese Society of Food and Nutrition

J. Niigata Agr. Exp. Stn.
Journal of the Niigata Agricultural Experiment Station

J. Sci. Soil Manure Japan
Journal of the Science of Soil and Manure Japan

J. Taiwan Agr. Res.
Journal of Taiwan Agricultural Research

J. Trop. Geogr.
Journal of Tropical Geography

JARQ
Japan Agricultural Research Quarterly

Jap. J. Breed.
Japanese Journal of Breeding

Jap. J. Crop Sci.
Japanese Journal of Crop Science (formerly Proceedings of the Crop Science Society of Japan)

Jap. J. Ecol.
Japanese Journal of Ecology

Jap. J. Genet.
Japanese Journal of Genetics

Jap. J. Nematol.
Japanese Journal of Nematology

Jap. J. Trop. Agric.
Japanese Journal of Tropical Agriculture

Japan Pestic. Inf.
Japan Pesticide Information

Jeonbug Nat'l. Univ. Thesis Collect. Agric. Coll.
Jeonbug National University. Theses Collection of the Agricultural College

Joint Publ. Res. Serv. Transl. N. Vietnam
Publications Research Service Translation, North Vietnam

Kinki Chugoku Agric. Res.
Kinki Chugoku Agricultural Research (formerly Chugoku Agricultural Research)

Kinki Nat'l. Agr. Exp. Stn.
Kinki National Agricultural Experiment Station

Kyushu Agric. Res.
Kyushu Agricultural Research

Lav. Arroz
Lavoura Arrozeira

Meded. Landbproefsta. Suriname
Mededelingen, Landbouwproefstation Suriname

MMA (Macch. Mot. Agric.)
Macchine e Motori Agricoli

Mod. Agric. Ind. Asia
Modern Agriculture and Industry in Asia

Mysore J. Agric. Sci.
The Mysore Journal of Agricultural Sciences

N.C. Agric. Exp. Stn. Tech. Bull.
North Carolina Agricultural Experiment Station Technical Bulletin

Neth. J. Agric. Sci.
Netherlands Journal of Agricultural Science

Niger. Agric. J.
The Nigerian Agricultural Journal

Nigerian J. Genet.
Nigerian Journal of Gnetics

Oriental Geog.
Oriental Geography

Pesqui. Agropecu. Bras.
Pesquisa Agropecuaria Brasileira

Philipp. Agric.
Philippine Agriculturist

Philipp. J. Crop Sci.
The Philippine Journal of Crop Science

Philippine J. Plant Indus.
Philippine Journal of Plant Industry

Philippine J. Soils
The Philippine Journal of Weed Science

Philipp. J. Weed Sci.
The Philippine Journal of Weed Science

Philipp. Weed Science Bull.
Philippine Weed Science Bulletin

Phytopathol.
Phytopathology

Plant Dis. Rept.
Plant Disease Reporter

Plant Environ.
Plant Environment

Plant Ind. Dig.
Plant Industry Digest

Plant Protect. (Japan)
Plant Protection (Japan)

Proc. Ass. Plant Protect. Kyushu
Proceedings of the Association for Plant Protection of Kyushu

Proc. Bihar Acad. Agric. Sci.
Proceedings of the Bihar Academy of Agricultural Sciences

Proc. Chugoku Br. Crop Sci. Soc. Japan
Proceedings of the Chugoku Branch of Crop Science Society of Japan

Proc. Crop Sci. Soc. Japan
Proceedings of the Crop Science Society of Japan

Proc. Hokuriku Br. Crop Sci. Soc. Japan
Proceedings of the Crop Science Society of Japan

Proc. Hokuriku Br. Crop Sci. Soc. Japan
Proceedings of the Hokuriku Branch of Crop Science Society of Japan

Proc. Kanto-Tosan Plant Prot. Soc.
Proceedings of the Kanto-Tosan Plant Protection Society

Proc. Kinki Symp. Crop Sci. Plant Breeding Soc.
Proceedings of the Kinki Symposium of Crop Science and Plant Breeding Society

Proc. Kyushu Br. Crop Sci. Soc. Japan
Proceedings of the Kyushu Branch of Crop Science Society of Japan

Proc. Seventh Conf. Asian Pacific Weed Sci. Society, Australia
Proceedings of the Seventh Conference of the Asian Pacific Weed Science Society, Australia

Proc. Shikoku Br. Crop Sci. Soc. Japan
Proceedings of the Shikoku Branch of Crop Science Society of Japan

Proc. Soil Sci. Soc. Am.
Proceedings of the Soil Science Society of America

Proc. Tokai Br. Crop Sci. Soc. Japan
Proceedings of the Tokai Branch of Crop Science Society of Japan

Ranchi Univ. J. Agr. Res.
Ranchi University Journal of Agricultural Research

Rep. Thai-Aust. Highland Agric. Proj.
Reports of the Thai-Australian Highland Agricultural Project

Rep. Tohoku Br. Crop Sci. Soc. Japan
Report of the Tohoku Branch of Crop Science Society of Japan

Res. Bull. Aichi-ken Agric. Res. Cent.
Research Bulletin of the Aichi-ken Agricultural Research Center

Res. Bull. Fac. Agr. Gifu Univ.
Research Bulletin, Faculty of Agriculture, Gifu University

Res. Rep. Fukuoka Agric. Exp. Stn.
Research Report of Fukuoka Agricultural Experiment Station

Res. Rep. Off. Rural Dev.
Research Report of the Office of Rural Development, Korea

Res. Rep. Rubber Sericult. Div. Thailand Dep. Agric.
Research Report of the Rubber Sericulture Division, Department of Agriculture, Thailand

Rev. Agr. Econ. Hokkaido University
Review of Agricultural Economics, Hokkaido University

Rev. ICA (Inst. Colomb. Agropecu.)
Revista, Instituto Colombiano Agropecuario

Riv. Agr. Subtrop. Trop.
Rivista di Agricoltura Subtropicale e Tropicale

Rpt. Tokushima Agr. Exp. Stn.
Reports of the Tokushima Agricultural Experiment Station

Rural Dev. Rev.
Rural Development Review, Korea

Rural Reconstr. Rev.
Rural Reconstruction Review

SABRAO J.
SABRAO (Society for the Advancement of Breeding Researches in Asia and Oceania) Journal

Sao Paulo Inst. Agron. Circ.
Sao Paulo Instituto Agronomico Circular

Sci. Rep. Fac. Agr. Kobe Univ.
Scientific Reports of the Faculty of Agriclture, Kobe University

Sci. Rpt. Hyogo U. Agr. and Facul. Agr. Kobe Univ.
Scientific Report of Hyogo University of Agriculture and Faculty of Agriculture, Kobe Univ.

Sierra Leone Agric. J.
Sierra Leone Agricultural Journal

Soil Sci.
Soil Science

Soil Sci. Plant Nutr.
Soil Science and Plant Nutrition

Southeast Asian Stud.
Southeast Asian Studies

Suribayan Publ.
Suribayan Publication

Tech. Bull. Fac. Agric. Kagawa Univ.
Technical Bulletin of the Faculty of Agriculture, Kagawa University

Tech. Bull. Miyagi Prefect. Agric. Exp. Stn.
Technical Bulletin of the Miyagi Prefecture and Agricultural Experiment Station

Thai J. Agric. Sci.
Thai Journal of Agricultural Science

Thailand Dep. Agric. Tech. Agric. Chem. Agric. Eng. Div. Res. Rep. 1974
Thailand Department of Agriculture, Technical Division, Agricultural Chemistry Division, and Agricultural Engineering Division Research Report, 1974

Thailand Dep. Agric. Tech. Div. Annu. Res. Rep. 1975
Thailand Department of Agriculture, Technical Division Annual Research Report 1975.

Tohoku Agr. Res.
Tohoku Agricultural Research

Trans. 10th Int. Congr. Soil Sci.
Transactions of the 10th International Congress of Soil Science

Trop. Agric.
Tropical Agriculture

U.P. Los Baños, Coll. Agric. Dept. Agron. Weed Sci. Report
U.P. Los Baños, College of Agriculture, Department of Agronomy. Weed Science Report

WARDA Tech. Newsl.
WARDA (West Africa Rice Development Association) Technical Newsletter, Liberia

Weed Abs.
Weed Abstract

Weed Contr.
Weed Control

Weed Res.
Weed Research

Weed Sci.
Weed Science

Z. Ausl. Landwirtsch.
Zeitschrift feur Auslandische Landwirtschaft