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**THE
INTERNATIONAL
BIBLIOGRAPHY
ON
AZOLLA
1983
SUPPLEMENT**

1984

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INTERNATIONAL BIBLIOGRAPHY ON AZOLLA

1983 Supplement

This bibliography supplements and updates the International Bibliography on Azolla published in 1979. It includes literature published between 1980 and 1983 and those produced earlier which were not included in the basic volume.

The entries follow a classified arrangement. Author and keyword indexes were provided at the end.

Miss Dionisia Capaya and Mrs. Editha Lantican indexed the periodicals. Miss Candelaria Banzuela and Mr. Raymundo Coloquio typed the index entries and the manuscript, respectively. Mrs. Mila Ramos edited the supplement.

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ABBREVIATIONS OF SERIAL TITLES

- Abstr. Pap. Am. Chem. Soc. Natl. Mtg.
Abstracts of Papers, American Chemical Society National Meeting
- Acta Agric. Univ. Pekinensis
Acta Agriculturae Universitatis Pekinensis
- Acta Biol. Cracov. Ser. Bot.
Acta Biologica Cracoviensia Serie Botanique
- Acta Phytophysiol. Sinica
Acta Phytophysiological Sinica
- Acta Phytotaxon. Sinica
Acta Phytotaxonomica Sinica
- Agric. Am.
Agricultura de las Americas
- Agric. Hortic.
Agriculture and Horticulture
- Agric. Ind. Life
Agricultural and Industrial Life
- Agric. Ital.
Agricoltura Italiana
- Agric. Res. J. Kerala
Agricultural Research Journal of Kerala
- Agric. Sci. Dig.
Agricultural Science Digest
- Agro-Chem. Fert. Agro-Pestic. News Brief
Agro-Chemicals Fertilizers and Agro-Pesticides News in Brief
- Agro-Chem. News Brief
Agro-Chemicals News in Brief
- Agron. Abstr.
Agronomy Abstract
- Agron. J.
Agronomy Journal
- Angew. Bot.
Angewandte Botanik
- Anhui Nongye Kexue
Anhui Nongye Kexue
- Anim. Husb. Agric. J.
Animal Husbandry Agricultural Journal
- Annu. Rep. Bangladesh Rice Res. Inst.
Annual Report, Bangladesh Rice Research Institute
- Annu. Rep. Boyce Thompson Inst. Plant Res. Cornell Univ.
Annual Report Boyce Thompson Institute for Plant Research at Cornell University

Annu. Rep. Cent. Rice Res. Inst. Cuttack
 Annual Report, Central Rice Research Institute, Cuttack

Annu Rep. Indian Agric. Res. Inst.
 Annual Report Indian Agricultural Research Institute

Annu. Rep. Inst. Bot. Acad. Sinica
 Annual Report, Institute of Botany, Academia Sinica

Annu. Rep. IRRI-PCARR Coop. Appl. Res. Proj. Rainfed Rice
 Annual Report IRRI-PCARR Cooperative Applied Research Project on Rainfed Rice

Annu. Rep. IRRI-PCARRD-Coop. Appl. Res. Proj. Rainfed-lowland Rice Areas
 Annual Report IRRI-PCARRD Cooperative Applied Research Project Rainfed-lowland Rice Areas

Annu. Rep. Letcombe Lab. Agric. Res. Counc.
 Annual Report, Letcombe Laboratory, Agricultural Research Council

Annu. Rep. NIAB [Nucl. Inst. Agric. Biol.] Faisalabad
 Annual Report, NIAB [Nuclear Institute for Agriculture and Biology] Faisalabad

Annu. Rep. Pakistan Counc. Sci. Ind. Res.
 Annual Report, Pakistan Council of Scientific and Industrial Research

Annu. Rep. SEAMEO Reg. Cent. Trop. Biol.
 Annual Report, SEAMEO Regional Center for Tropical Biology

Annu. Rep. Southeast Asian Reg. Cent. Grad. Study Res. Agric.
 Annual Report, Southeast Asian Regional Center for Graduate Study and Research in Agriculture

Annu. Rep. Univ. Agric. Sci. [Bangalore]
 Annual Report University of Agricultural Sciences, Bangalore

Annu. Rep. West Africa Rice Dev. Assoc. Res. Dep.
 Annual Report West Africa Rice Development Association Research Department

Annu. Rev. Plant Physiol.
 Annual Review of Plant Physiology

Annu. Sci. Rep. Cent. Agric. Res. Inst. Andaman Nicobar Is.
 Annual Science Report, Central Agricultural Research Institute for Andaman and Nicobar Islands

Antonie van Leeuwenhoek
 Antonie van Leeuwenhoek

Arroz
 Arroz, Colombia

Arroz CIAT [Cent. Int. Agric. Trop.] Am. Latina
 Arroz del CIAT y America Latina

Asian Bus.
 Asian Business

Asian Farms Gardens
 Asian Farms & Gardens

BIOTROP [SEAMEO Reg. Cent. Trop. Biol.] Bull.
 BIOTROP [Southeast Asian Ministers of Education Organization. Regional Center for Tropical Biology] Bulletin

BNF [Biol. Nitrogen Fixation] Bull.
 Biological Nitrogen Fixation Bulletin

Biochem. Biophys. Res. Commun.
Biochemical and Biophysical Research Communications

Bio-Energy Re-News
Bio-Energy Re-News

Bot. Bull. Acad. Sinica
Botanical Bulletin of Academia Sinica

Bot. Mag. Tokyo
botanical Magazine Tokyo

Bot. Not.
Botaniska Notiser

Bot. Ztg.
Botanische Zeitung

Bull. Int. Soc. Soil Sci.
Bulletin of the International Society of Soil Science

Bull. Taichung Dist. Agric. Improve. Stn.
Bulletin of Taichung District Agricultural Improvement Station

CLARC [Cent. Luzon Agric. Res. Consortium] Highlights
CLARC [Central Luzon Agricultural Research Consortium] Highlights

C. R. Seances Acad. Agric. Fr.
Comptes Rendus des Seances de l'Academie d'Agriculture de France

Cah. ORSTOM [Off. Rech. Sci. Tech. Outre Mer] Ser. Biol.
Cahiers ORSTOM [Office de la Recherche Scientifique et Technique Outre-Mer] Serie Biologie

Can. J. Microbiol.
Canadian Journal of Microbiology

Catena
Catena

Ceres
Ceres

China Exchange News
China Exchange News

China Rep. Agric.
China Report: Agriculture

Cienc. Cult.
Ciencia e Cultura

Coleopt. Bull.
The Coleopterists' Bulletin

Cornell Int. Agric. Mimeogr.
Cornell International Agriculture Mimeograph

Countryside
Countryside

Curr. Res
Current Research

D + C Dev. Coop.
D + C Development and Cooperation

Ecodev. News
Ecodevelopment News

Econ. Bot.
Economic Botany

Econ. Pol. Weekly
Economic Political Weekly

Environ. Sci. Technol.
Environmental Science Technology

Everyman's Sci.
Everyman's Science

Far East. Econ. Rev.
Far Eastern Economic Review

Farm Horizons
Farm Horizons

Farmer Parliament
Farmer Parliament

Farmers Echo
Farmers Echo

Farmers J.
Farmers Journal

Farming Today
Farming Today

Farming World
Farming World

Fern Gaz.
Fern Gazette

Fert. Dev.
Fertilizer Development

Fert. Inf. Bull.
Fertilizer Information Bulletin

Fert. Market.
Fertilizer Marketing

Fert. News
Fertiliser News

Fert. Res.
Fertilizer Research

Fert. Technol.
Fertilizer Technology

Fichier Encycl. Dev.
Fichier Encyclopedique du Development

Fookien Times Philipp. Yrbk.
The Fookien Times. Philippine Yearbook

Fujian Nongye
Fujian Nongye

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

Gintong Ani
Gintong Ani

Gintong Butil
Gintong Butil

Grains J.
Grains Journal

Greenfields
Greenfields

Guangdong Agric. Sci.
Guangdong Agricultural Science

Guangdong Nongye Kexue
Guangdong Nongye Kexue

Guangming Ribao
Guangming Ribao

Guangxi Nongye Kexue
Guangxi Nongye Kexue

Guangxi Nongye Tongxun
Guangxi Nongye Tongxun

Hedwigia
Hedwigia

Horizons
Horizons

Huanan Shiyuan Xuebao
Huanan Shiyuan Xuebao

Hubei Nongye Kexue
Hubei Nongye Kexue

Hunan Nongye Keji
Hunan Nongye Keji

IARI [Indian Agric. Res. Inst.] Newsl.
IARI [Indian Agricultural Research Institute] Newsletter

ICAR Res. Complex North East. Hills Reg. Newsl.
ICAR [Indian Counc. Agric. Res.] Research Complex for North Eastern Hills Region Newsletter

ICLARM [Int. Cent. Living Aquat. Resources Manage.] Newsl.
ICLARM [International Center for Living Aquatic Resources Management] Newsletter

IDRC [Int. Dev. Res. Cent.] Rep.
IDRC [International Development Research Centre] Reports

IFFCO [Indian Farmers Fert. Coop.] News
IFFCO [Indian Farmers Fertiliser Cooperative] News

IRRI [Int. Rice Res. Inst.] Res. Pap. Ser.
IRRI [International Rice Research Institute] Research Paper Series

Impact Sci. Soc. (Engl. Ed.)
Impact of Science on Society (English Edition)

Indian Agric.
Indian Agriculturist

Indian Farmer Times
Indian Farmer Times

Indian Farmers' Dig.
Indian Farmers' Digest

Indian J. Agric. Chem.
Indian Journal of Agricultural Chemistry

Indian J. Ext. Educ.
Indian Journal of Extension Education

Indian Phytopathol.
Indian Phytopathology

Inf. Agr.
Informatore Agrario

Inst. Sci. Agron. Burundi
Institut des Sciences Agronomiques du Burundi

Int. Agric. Dev.
International Agricultural Development

Int. Pest Contr.
International Pest Control

Int. Rice Comm. Newsl.
International Rice Commission Newsletter

Iran. J. Plant Pathol.
Iranian Journal of Plant Pathology

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

J. Appl. Ecol.
Journal of Applied Ecology

J. Aust. Inst. Agric. Sci.
Journal of the Australian Institute of Agricultural Science

J. Biol. Chem.
Journal of Biological Chemistry

J. Fujian Agric. Coll.
Journal of Fujian Agricultural College

J. Gen. Microbiol.
Journal of General Microbiology

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

J. Plant Nutr.
Journal of Plant Nutrition

J. Res. Assam Agric. Univ.
Journal of Research Assam Agricultural University

J. Soil Water Conserv.
Journal of Soil and Water Conservation

J. Weed Sci. Soc. Japan
Journal of the Weed Science Society of Japan

Jap. J. Soil Sci. Plant Nutr.
Japanese Journal of Soil Science and Plant Nutrition

Jiangsu Agric. Sci.
See Jiangsu Nongye Kexue

Jiangsu Nongye Kexue
Jiangsu Nongye Kexue

Keji Jianbao
Keji Jianbao

Kilusan
Kilusan

Kirkia
Kirkia

Kisan World
Kisan World

Land Water
Land and Water

Landwirtsch. Forsch.
Landwirtschaftliches Forschung

Lav. Arroz.
Lavoura Arrozeira

Los Baños Times
Los Baños Times

Lunds Univ. Arsskr.
Lunds Universitets Arsskrift

Madras Agric. J.
Madras Agricultural Journal

Microbiol. Rev.
Microbiological Reviews

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

Monitor
Monitor

Mutat. Breed. Newsl.
Mutation Breeding Newsletter

NIA [Natl. Irrig. Adm.] Digest
NIA [National Irrigation Administration] Digest

NIST [Natl. Inst. Sci. Technol.] News Release
NIST [National Institute of Science and Technology] News Release

Nat. Hist.
Natural History

Natl. Acad. Sci. Lett.
National Academy Science Letters

New Scientist
New Scientist

Newsl. Tamil Nadu Agric. Univ.
News Letter Tamil Nadu Agricultural University

Nhan Dan
Nhan Dan

Nippon Dojohiryogaku Zasshi
Nippon Dojohiryogaku Zasshi

Non-Symbiotic Nitrogen Fixation Newsl.
Non-Symbiotic Nitrogen Fixation Newsletter

Nongye Keji Tongxun
Nongye Keji Tongxun

Nongye Kexue Changshi
Nongye Kexue Changshi

OECD [Organ. Econ. Coop. Dev.] Observer
OECD [Organization for Economic Cooperation and Development] Observer

Oecologia
Oecologia

Oryza
Oryza

PCARR [Philipp. Counc. Agric. Resources Res.] Balitang Pambukid
PCARR [Philippines Council for Agriculture and Resources Research] Balitang Pambukid

Pesticides
Pesticides

Philipp. Dev.
Philippine Development

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

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

Phosphorus Agric.
Phosphorus in Agriculture

Pipeline
Pipeline

Plant Cell Environ.
Plant, Cell and Environment

Plant Prot. News
Plant Prot. News

Plant Res. Dev.
Plant Research and Development

Plant Sci. Lett.
Plant Science Letters

Plant Soil
Plant and Soil

Pollen Spores
Pollen et Spores

Protoplasma
Protoplasma

Q. J. Agric. Econ.
Quarterly Journal of Agricultural Economy

Rapp. Activ. Rech. Inst. Sci. Agron. Burundi
Rapport des Activites de Recherches Institut des Sciences Agronomiques du Burundi

Reachout
Reachout

Rep. Cent. Int. Agric. Trop.
Report, Centro Internacional de Agricultura Tropical

Rep. Int. Cent. Living Aquat. Resources Manage.
Report International Center for Living Aquatic Resources Management

Rep. Taiwan Sugar Res. Inst.
Report of the Taiwan Sugar Research Institute

Res. Los Baños
Research at Los Baños

Res. Rep. CSIRO Div. Irrig. Res.
Research Report, CSIRO [Commonwealth Scientific and Industrial Research Organization] Division
of Irrigation Research

Rev. Biol. Trop.
Revista de Biologia Tropical

Rezuo Keji Tongxun
Rezuo Keji Tongxun

Rhizobium Newsl.
Rhizobium Newsletter

Ricemill News
Ricemill News

SEARCA [Southeast Asian Reg. Cent. Grad Study Res. Agr.] Diary
SEARCA [Southeast Asian Regional Center for Graduate Study and Research in Agriculture] Diary

Sci. Am.
Scientific American

Sci. Progr.
Science Progress

Sci. Today
Science Today

Sciences

Seeds Farms
Seeds and Farms

Soc. Sci.
Society and Science

Soil Biol. Biochem.
Soil Biology and Biochemistry

Soil Sci.
Soil Science

Soil Sci. Plant Nutr.
Soil Science and Plant Nutrition

Soils Fert. Taiwan
Soils and Fertilizers in Taiwan

Soils Newsl.
Soils Newsletter

Span
Span

Stud. Third World Soc.
Studies in Third World Societies

TCA [Tarlac Coll. Agric.] Res. J.
TCA [Tarlac College of Agriculture] Research Journal

Tap Chi Sinh Vat Hoc
Tap Chi Sinh Vat Hoc

Trans. Bose Res. Inst. (Calcutta)
Transactions of the Bose Research Institute (Calcutta)

Trop. Pest Managc.
Tropical Pest Management

Turang Feiliao
Turang Feiliao

UPLB [Univ. Philipp. Los Baños] Newsl.
UPLB [University of the Philippines at Los Baños] Newsletter

UPLB [Univ. Philipp. Los Baños] Res. Finds
UPLB [University of the Philippines at Los Baños] Research Finds

Uhay
Uhay

URJA Indian J. Energy
URJA Indian Journal of Energy

Vietnam Cour.
Vietnam Courier

Weed Sci.
Weed Science

Weed Sci. Bull.
Weed Science Bulletin

World Crops
World Crops

Zhongguo Xumu Zazhi
Zhongguo Xumu Zazhi

GENERAL

1. AHMED, S. The INPUTS [Increasing Productivity Under Tight Supplies] effort: a review. In Adaptive production systems: proc. of the Fertilizer INPUTS Project Final Review Meeting, Honolulu, 1979, p.21-28. Ref. Honolulu: East-West Resource Systems Institute, 1979?
2. AZOLLA guineensis Schum. (Latin) Dansk. Vid. Selsk. Skr. Nat. Mat. Afhandl. 4:236. 1829.
3. AZOLLA pinnata var. Imbricata (Roxb.). Bonap. Notes Pteridop. 7:130. 1918.
4. AZOLLA study. Fert. INPUTS (Increasing Productivity Under Tight Supplies Proj.) Raw Materials Proj. Q Progr. Rep. 5(3):4-6. Sept. 1979.
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20. GREENWOOD, D. J. Fertilizer use and food production: world scene. *Fert. Res.* 2(1):33-51, ill. Ref. 1981.
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23. HANSON, H. Improved biological nitrogen fixation. In His Biological resources: report prepared for the Conference "Agricultural Production: Research and Development Strategies for the 1980's", Bonn, 1979, p.35-37. New York: Rockefeller Foundation, 1980.
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49. MARCELLIN, R. New tools for a new agriculture. OECD [Organ. Econ. Coop. Dev.] Observer 106:24-27, ill. Sept. 1980.
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51. N₂-FIXATION in rice/legumes and beneficial interaction between mycorrhiza and *Rhizobium* and between mycorrhiza in forest trees: N₂-fixation in rice. Annu. Rep. SEAMEO Reg. Cent. Trop. Biol. July 1981-June 1982:68-69. 1982. Paper presented at the Regional Workshop on Research Advances in Agricultural Microbiology in Southeast Asia, Bogor, Indonesia, 1981.
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