
BOOK REVIEWS

Publications on International Agricultural Research and Development, Published by International Rice Research Institute, Los Banos, Laguna, Philippines, 1984, pp. 539.

This is an unusual publication in the sense that is neither an information bulletin on the International Agricultural Research Institutes, nor a catalogue of publications of the institutes. It is a compilation of information presented at the 1984 Exhibition at the Frankfurt Book Fair, sponsored by German Agency for Technical Cooperation (GTZ) Consultative Group on International Agricultural Research (CGIAR) and International Rice Research Institute. In the first few pages a brief on CGIAR and its contributions and a list of slide sets and videotapes on its activities are given. Following the same format information on 12 CGIAR-supported International Agricultural Institutes/Centres have been presented. Under each Institute General Information, List of recent publications (Books, Annual Reports, Monographs, Proceedings of Conferences, Workshops, and Symposia, Bulletins, Leaflets, Bibliographies) and Audiovisual Material where available are given. Also, a brief summary on the coverage of the most important publications are presented, which makes this compilation a very valuable one.

Besides information on the CGIAR-supported Institutes/Centres, five others, viz, (1) Asian Vegetable Research and Development Centre, Taiwan, (2) International Centre of Insect Physiology and Ecology, Kenya, (3) International Centre for Living Aquatic Resources Management, Philippines, (4) International Council for Research in Agroforestry, Kenya and (5) Winrock International Livestock Research Training Centre, U.S.A. is also given in a similar proforma.

Part III of the publication covers (1) Board on Science and Technology for International Development (BOSTID), U.S.A., (2) German Agency for Technical Cooperation (GTZ), Germany, (3) International Soybean Program (INTSOY), U.S.A. and (4) International Centre for Integrated Mountain Development (ICIMOD), Nepal.

Keyword Index in pages 453 to 539 is more than the general index given in a book and it would be very useful to the user.

On the whole, this publication should find a prominent place in all libraries, small and large, dealing with agriculture in its various aspects.

21 Indira Gandhi Road,
Fairlands, Salem 636 016.

G. RANGASWAMI

Annual Review of Phytopathology, Editor R. G. Grogan, Associate Editors G. A. Zentmyer and E. B. Cowling (Published by Annual Reviews Inc. 4139 El Camino Way, Palo Alto, California 94306 USA) Vol. 22, 1984, pp. 487, Price: USA \$27.00, Elsewhere \$30.00

The honour of writing the prefatory chapter has been given to Prof. S. H. Ou who has given a reminiscence of Rice Disease Problems in the Tropics and their systematic solutions through mission oriented researches. The article is thorough, thought provoking and highlights the programmes and achievements of the work done at IRRI, Philippines and National Science Council, Taiwan.

The grouping of the 21 review articles has been done under the following subtitles: historical perspectives (4 reviews), pathogens (6 reviews), morphology and anatomy (1 review on compartmentalization), physiology of host-plant interaction (3 reviews), genetics of host-pathogen interaction (2 reviews), breeding for resistance (1 review on durable resistance), epidemiology and influence of the environment (3 reviews), toxicants and chemical control (1 review on mycorrhizal fungi), contributing authors index of vols 13-22 and cumulative index of chapter titles of volumes 13-22.

The reviews on pioneer leaders in plant pathology enumerate the scientific greatness of Prof. E. C. Stackman Prof. Cynthia Westcott and Prof. James Johnson. The landmarks in the development of Phytobacteriology by Starr is equally meaningful and discusses not only the notable achievements but also the underneath philosophical approaches, sometimes emphasising the lamentable ignorance. The importance of allocating research support has been emphasised.

G. L. Ercolani has concluded that the full range of dose-response relations derived thus far from infectivity titration is not readily explained by any of the models tested for their applicability to bacterial infection of plants. New models or modifications of earlier models should provide a unifying basis for understanding dose-response relationship over wide ranges of dose in compatible and incompatible host-pathogen systems. P. G. Ayres has raised a pertinent question "are some plants more tolerant of diseases than others". M. K. Brakke has concluded that high mutation rates associated with virus diseases could increase the adaptability of plants and their survival under stress. Indeed the presence of mutator genes and transposons can confer an advantage to bacteria. So far the phenomenon was unrecognised. However, the incidence of mutation associated with virus disease is low and should not be a big problem in maintaining pure lines. Harris and Frederiksen have demonstrated that host plant resistance particularly of the durable type as discussed by Johnson, plays an important role in the integrated pest management. The cost-benefit ratio is exceeded only rarely by other control methods and a return of 300 US dollars for every dollar invested has been reported.

The reviews on nematode chemotaxis, plant diseases and flagellate protozoa, wall-less prokaryotes of plants, plant viral double stranded RNA, pathogens and natural plant communities, plant response to air pollution, acid rain and plants, toxin and virulence expression, recognition in plant disease, mycorrhizal reactions to pesticides and disease incidence-severity relationship are interesting and provide very useful data for learning and practice. It must, however, be mentioned that most of the articles have been contributed from USA and Europe and the voluminous pertinent research data generated particularly in Asia do not find a place.

The volume as a whole is a glowing tribute to the renewed growing concern in the ecosystem and survival of species under natural conditions despite interplant competition, adverse environment and attacks by pests and pathogens. It seems unbelievable that destructive epiphytotics occur rather rarely, and that too may be traced, in most cases, to mismanagement, unbalanced exploitation and homogeneous monoculturing, giving a chance to the continuously changing genotype of the pathogen. The volume contains critical data and has the potential to generate sufficient interest for creative discussions. The volume will be extremely useful to plant pathologist, ecologist, breeders, biochemists, epidemiologist, toxicologist as

well as management scientists.

J. P. VERMA

Division of Mycology and Plant Pathology
Indian Agricultural Research Institute
New Delhi 110012.

The Retinoids, Vols. 1 and 2, edited by Michael B. Sporn, Anita B. Roberts and DeWitt S. Goodman (Published by Academic Press, Inc., Orlando, Florida 32887, U.S.A.) 1984 (xiii + 424 and xiii, + 444 pages). Price: Vol. I \$49.50, Vol. II \$50.00

These days, when the areas of biology like biotechnology have become very popular, often it is not recognized that the field of vitamin A research has also been very exciting. The two volumes under review will amply prove that the vitamin A field has not been relegated to the background against all the excitement of research in recombinant DNA, gene cloning, etc.

The first book on vitamin A ("Vitamin A", publishers, Elsevier, Amsterdam) was written by Dr. T. Moore in 1957. It was a monumental work and has been most useful to all workers in the field. Later on, a multi-authored publication ("The Vitamins", 2nd ed., W. H. Sebrell, Jr. and R. S. Harris, eds., Academic Press) had appeared in print in 1967. But in recent years progress in many aspects of vitamin A research has been quite spectacular and from this point of view publication of these two volumes has been very timely.

Volume 1 mainly deals with chemistry, chemical and biological methods of analysis of retinoids and concludes with a survey of the extensive work on vitamin A in human and animal nutrition. In volume 2 are presented biogenesis and hepatic metabolism of retinol, plasma and intracellular retinoid-binding proteins, role of retinoids in photosensitive systems, general metabolism and cellular biology of retinoids, while applied biology of retinoids has been covered in reviews on toxicology, immunology as well as applications of retinoids in cancer and dermatology. Both volumes end with the same appendix giving the chemical structures of those retinoids which have been referred to in the text of both the volumes.

As would be expected in such multi-authored publications, the interests of a particular author are well reflected in his presentation. I found the chapters on chemistry, chemical and biological analysis, and general metabolism to be excellent, and next in my grading would come the chapters dealing with bio-

genesis and hepatic metabolism, plasma and intracellular retinoid-binding proteins and role of vitamin A in the eye. The chapters on biological assay (vol. 1) and cellular biology and biochemistry (vol. 2) have laid too much emphasis on organ and cell culture and have virtually dispensed with the classical animal experiments. Emphasis on biochemistry has also been quite inadequate.

Another point which deserves special mention is that, rather unbalanced attention has been given to clinical aspects. Thus separate chapters deal with subjects like toxicology, immunology and dermatology in relation to retinoids. The few workers in these fields will certainly appreciate the fact that the limited information available on these subjects is assembled in these chapters. But vitamin A deficiency (together with protein calorie malnutrition) is quite extensive among the pre-school children in most of the developing countries and millions of children either become permanently blind or mercifully die due to such deficiency. The tragedy is, administration of synthetic retinol, which would probably cost less than U.S.\$1.00 per child for the whole year or daily intake of just one handful of green leafy vegetables can effectively avert such unfortunate situation. Surely, this particular topic fully deserves a separate chapter. Instead, it is more or less lost in the massive chapter dealing with vitamin A in animal and human nutrition. This particular point appeared even more glaring when I noticed considerable emphasis in several chapters on retinoids and cancer, and tried to find whether any clear picture has emerged regarding any relationship between retinoids and human cancer. To any reader it will be quite apparent that the situation is very confusing at this moment.

Such criticisms apart, I wish to congratulate the authors, editors and publishers on bringing out the two volumes. The researchers in the field will certainly be grateful to them for such painstaking work and I am sure these volumes will prove of great value to a

variety of scientists for a long time to come.

J. GANGULY

Department of Biochemistry,
Indian Institute of Science,
Bangalore 560 012.

Basic Immunology by K. R. Joshi and N. O. Osamo,
(Published by Agro Botanical Publishers, (India) Old
Ginnam, Bikaner 334 001) pp. 171, Price Rs. 100-00,
\$12.00

The subject of immunology has undergone a revolutionary change in the recent past. Frontiers of the field of immunology are fast expanding. The widening horizons of its study and the applications of the new knowledge need a clear understanding of the fundamentals of the science of immunology. Role of immunology in many facets of human health is gaining recognition and immunity is providing answers to many basic problems in medicine, surgery and other disciplines of medical sciences.

This concise and comprehensive volume attempts to provide the basic knowledge of immunology, primarily to the medical undergraduates. The book covers general concepts of immunology and serology. Autoimmunity, immunology of infectious diseases and malignant disease immunohematology, transplantation and immunity, clinical immunology and other related topics are presented lucidly in various chapters.

Since the book caters to the general principles of immunology, it is also likely to meet the needs of the veterinary students.

No. 5, 12th Block
Kumara Park West
Bangalore 560 020

M. SIRSI