Book Reviews

STATISTICS AND MATHEMATICS IN BIOLOGY


This book consists of 44 pages presented at the Biometrics Conference held at Iowa State College in June and July 1952. The editors were the program committee for the conference which was jointly sponsored by the Biometrics Society (ENAR). The book might be regarded as a companion volume to Heterosis, edited by John W. Gowen, which reported the proceedings of the Heterosis Conference held at Iowa State in 1950.

The papers are grouped into five general classes: (1) General Biometric Principles and Procedures, (2) Changes in Population Number, (3) Estimation of Populations, (4) Determination of Biological Response, (5) Genetical Analysis of Populations. These titles are not, of course, indicative of the wide range of subject matter reported upon. Most papers, even the more mathematical ones, stress the actual and potential applications of biometry to biological problems, and a few point up the contributions of biology to the field of biometry—particularly in the construction of analytical models. Some of the papers are expository surveys of a particular field. Most papers contain examples worked out, at least in part, as one paper by C. W. Churchman raises some embarrassing reminders about the philosophy of experimentation.

The book is not intended as a text though the title may be misleading in this respect. Rather, it is documentary evidence of the power of the combined efforts of biologists, mathematicians and statisticians when these are brought to bear on problems of common interest.—ROBERT J. MONROE.

ANNUAL REPORT, 1953, EAST MALLING RESEARCH STATION

Published by the Kent Incorporated Society for Promoting Experiments in Horticulture. 232 pp. illus. paper bound. June, 1954. $2.00.

This report, in four main parts, covers the work at the East Malling Station for the year Oct. 1, 1952, to Sept. 30, 1953. The farm report outlines the treatments given to the various plantations and summarizes information about the crops harvested. Research work during the year is reviewed in the second part which also lists the publications produced during the year. Part three contains 23 papers on horticultural breeding and cultural topics and includes the text of the sixth Amos Memorial Lecture by R. H. Stoughton on the growth and development of fruit plants, and the results of a detailed soil survey of the station completed by B. S. Furneaux. The final part comprises 10 bulletins in non-technical language intended to present to fruitgrowers the more practical results of the year's work. The report is illustrated with line drawings and maps and 27 pages of photographic plates. It is available from the Secretary, East Malling Research Station, Maidstone, Kent, England.

MASTER'S THESIS IN SCIENCE, 1952


This is the first of a proposed annual list of master's theses in the fields of pure and applied science accepted by American colleges and universities. It contains 5,588 entries from 138 institutions. The editor makes no claim for completeness, but does present a fairly representative catalog of theses. The section on "Agriculture" lists 192 titles. Of these, approximately 75% deal with agronomic topics. Other sections of interest to agronomists and the number of titles listed are: "Horticulture, 44; range management, 5; soils, 44; plant pathology, 53 and plant physiology, 62. The book should be helpful to research workers as a reference to unpublished theses. Its value would be greatly enhanced, however, if it included subject and author indexes. The editor has recognized this shortcoming, explaining that a lack of funds prevented the preparation of indexes. Either would have been of more likely value than the institution index. It lists the institutions alphabetically, followed by the entry numbers of the accepted theses. To locate a thesis accepted by a given institution, one must compare the entry number listed in this index with the inclusive numbers shown in a list of subject headings preceding the text. The value of this institutional index is not readily apparent.

MUTATION RESEARCH IN PLANTS—VOL. IV, NO. 3


The publication of MUTATION RESEARCH IN PLANTS is a special issue of Acta Agriculturae Scandinavica dealing with the problems of radiobiology, plant breeding and genetics and is dedicated to the memory of Herman Nilsson-Ehle, genetics professor at the University of Lund, who in collaboration with Ake Gustafsson, conducted some of the most outstanding research on induced mutations in plants in Sweden. Following is a partial list of the contents:

Ionizing Radiations: Mechanism of Action and Dosimetry; Biological Action of Mustards on Dormant Seeds of Barley and Wheat; Mutation Types of Barley, Chlorophyll Mutations in Barley; Mutation Breeding in Polyploid Cereals; X-Ray Mutations in Peas and Vetches; X-Irradiation of Lupinus latiusculus; Observations on X-Ray Post Pratenster, and Mutations, Viability and Population.

In summary articles Ake Gustafsson discusses Swedish mutation work in plants, background and present organization.

THE GARDENERS ARE COMING


This nation abounds in many imposing projects which have been more or less successful as flood controls. Mr. Taylor presents here a comprehensive plan for flood prevention which, if carried out, could render many imposing projects as obsolete as the covered bridge. Floods are the result of man's mismanagement of natural resources; large downstream dams are merely expedient means for alleviating flood damage, the author points out, and are foredoomed because they are not integrated in a system of flood prevention which encompasses an entire river basin.

Such integrated flood prevention is a "gardener's" system. It starts at the rim of the river basin and works first with the mountains and brooks, then the hills, valleys and streams and on ultimately to the sea. It would change the drainage channels as we know them today into a chain of peaceful waters at different altitudes separated by dams. The butying of brooks, supplemented by underground channels, and the erection of dams whose primary purpose is to control channel erosion would slow down the flow of water, reducing its potential as carrier of eroded soil.

This system, as a basin-wide development considers primarily the slope of the river basin (the gardener's slope) rather than the "tiller's slope" which is the immediate slope in relationship to the streams in the basin. The latter would not be neglected, however, and the author gives due credit to anti-erosion tillage practices. Mr. Taylor in this book is perhaps the most eloquent and philosophical of the advocates of basin-wide development. Although he seems unduly pessimistic over the ability of the human race to feed itself in the immediate generations, he has complete confidence—as the title indicates—in the efficacy of the "gardener's" method of flood prevention and in its indispensable role in providing food for the world.

Mr. Taylor's philosophy and point of view will be appreciated by many crop and soil scientists.

MENTION

Proceedings of the Crop Science Society of Japan, Vol. XXII, Nos. 3 & 4, (Faculty of Agriculture, Tokyo University, Japan) 1954. Contains 63 articles in Japanese with English titles, abstracts and tables. The contents of the book are: Growth behavior of the flax plant sown at various dates; Effects of soil moisture upon the leaf quality of bright yellow tobacco; Studies on the salt resistance of cultivated plants; Changes of metabolism of rice plant under flooding; Influence of chemical defoliation upon the boll opening in cotton; Relation between size of seed and yield in soybeans.

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