BOOK REVIEWS, continued

The Agricultural Research Service

This book presents the story of the Agricultural Research Service, from its unofficial beginnings with George Washington's experiments on soils, seeds, and fertilizers, to the continuing controversy about the effects of pesticides, which rose from the publication of Rachel Carson's Silent Spring. The author, who was information director of the ARS for 12 years, also attempts to explain both the research and regular duties of the organization. In a chapter entitled "Functions of the Agricultural Research Service," he discusses ARS's six main areas of work—farm research, marketing research, nutrition, consumer, and industrial-use research, research in foreign countries, regulatory and control programs, and management programs. In two other chapters he describes in more concrete terms some of the specific achievements of the ARS, among them Edward F. Knippling's sterility principle for eradicating insects, which was highly successful with the screwworm fly, and the development of a method for producing penicillin in large quantities. The book also contains four appendices, a bibliography, and an index.—JDS.

Hydraulic Resistances of Drain Pipes

Hydraulic flow experiments were carried out using five different PVC pipes. The results of hydraulic resistance measurements with full flowing drain pipes under pressure showed that a straight line relationship existed between log λ and log Re. Resistance equations showing higher exponents for R and S than are found in the normally used Manning formula were derived from this relation. An equation showing the relation between discharge, hydraulic head, and length of the drain line was derived for a constant inflow per unit length of drain. The experiments covered a range of Reynolds numbers sufficient for all practical cases of drainage.—JDS.

Entrance Resistance of Plastic Drain Tubes

Model tests on different types of plastic pipes were performed in order to investigate factors determining entrance resistance. The use of larger pipe diameters tended to decrease entrance resistance better than an increase in the amount of perforation. A single sheet of fiberglass reduced entrance resistance, not because of its effects as a filter, but because it formed a more permeable layer around the pipe. It was concluded that thicker filters were more effective than larger diameters or more perforations. A perforation of two rows or 450 mm²/m was usually sufficient.—JDS.

Oestrogenic Constituents of Forage Plants

This lithograph presents a study of how oestrogenic activity in forage plants is associated with reproductive problems in farm animals. Although it is difficult to assess the scope of the problem, the situation is more serious than was previously thought. The author proposes that more study be given "to the nature of the physiological responses to oestrogenic pastures and to their correlation with chemical assay." He also asserts the possibility that forages may contain minute amounts of other highly potent oestrogens which have not yet been detected, and that interrelationships between plant disease and forage oestrogenicity may be extremely important in relation to infertility problems.—JDS.

Hydrographic Data Book, 7th Edition
By J. C. Stevens. Revised and published by Leupold & Stevens Instruments, Inc., P. O. Box 25347, Portland, Ore. 97225. 111 p. 1968. $1.50.

This edition of a basic reference book on hydrology contains two new chapters—"Open Channel Flow Measurement" and "Telemetering." Three other chapters are "Float Wells and Instrument Shelters," "Errors in Float Operated Devices," and "Hydraulic Tables and Other Data," which is largely a compilation of weir and flume data. Thirty-one figures complement the text.—JDS.

Selections of Significance to the Geographer from Soil Science Society of America Proceedings
By J. Sullivan Gibson. Occasional Paper Number One, Department of Geography and Geology, Indiana State University, Terre Haute. 30 p. 1968.

This lithograph is the first in a series intended to supplement current journals in the fields of geography and geology. It is a selected annotated bibliography, containing 112 articles from SSA Proceedings that are of interest to the geographer. These articles are listed in alphabetical order by author, with volume and page citations and a brief sketch. Papers published from 1936 to 1967 are included.—JDS.

Dictionaries and Vocabularies

This compilation contains a list of 375 lexicographic works obtained by the Library from November 1965 to March 1968. They are arranged in alphabetical order by subject. Three divisions are included: (i) technical dictionaries, (ii) FAO vocabularies, and (iii) language dictionaries. Subject indexes in English, French, Spanish, and German provide for swift bibliographic research.—JDS.

Annual Report, 1967: International Institute for Land Reclamation and Improvement

This latest report on the activities of the Institute includes information on research work in six countries, education work in the field of international drainage, its library and publications, and the consequences of the move of the Institute into the Staring Building in Wageningen. Also included are two addresses delivered at the opening of the new building in December 1967. These are "Present and Potential Usefulness of Soil Resources" by Roy W. Simonson and "Reflections d'un Economiste sur Quelques Problemes Fonciers" (An Economist's Thoughts of Some Agricultural Problems) by Denis Bergmann. Except for this paper in French, the report is in English.—JDS.

The Coconut Palm

This survey of the scientific and practical aspects of coconut production is one of the series Techniques Agricoles et Productions Tropicales, which produced books on the banana, the oil palm, spice plants, the pineapple, and rice. New information includes attention to the various aspects of the coconut in West Africa. Some of the more general subjects covered are management and biology, breeding, climate and soil needed for growth, propagation, products and byproducts, and world production and trade. Other information is contained in 31 tables, 47 line drawings, 76 photographs, and a bibliography.—JDS.