

Fruits of the Tropics and Subtropics.

Manual of Tropical and Subtropical Fruits: Excluding the Banana, Coconut, Pineapple, Citrus Fruits, Olive and Fig. By W. Popenoe. (The Rural Manuals.) Pp. xv+474+24 plates. (New York: The Macmillan Co.; London: Macmillan and Co., Ltd., 1920.) 30s. net.

A CONSIDERABLE literature on the more important fruits of tropical and subtropical countries exists, much of it in the form of bulletins or articles in journals which are not easily accessible to all who require them. A volume in which all the more valuable information so widely distributed had been collected would have proved a boon to many. Such a purpose Mr. Popenoe's manual has, in a large measure, fulfilled. But the work is far from being a mere compilation. The author has drawn freely on the writings of others, as he admits, but his wide knowledge of the subject has enabled him to select critically from the material at his disposal, and having travelled extensively in tropical and subtropical regions as agricultural explorer for the United States Department of Agriculture, as well as having had practical experience in fruit-culture in California and Florida, he has produced a volume based largely on his own observations and experiments. Certain well-known fruits, as pointed out on the title-page, have been excluded for the reason that they have been already dealt with in other volumes, while the term "fruits," as understood in the volume under notice, does not include nuts.

The work is divided into sixteen chapters, the first being an excellent article on the outlook for tropical fruit. Then follow chapters on the following and related fruits: The avocado, the mango, the annonaceous fruits, the date, the papaya, the loquat, fruits of the myrtle family, the litchi, the sapotaceous fruits, the kaki, the pomegranate and the jujube, the mangosteen, the breadfruit, and miscellaneous fruits, among which are included the durian, carambola, tamarind, and tree-tomato. Before the index there is a brief bibliography, and in addition to the twenty-four half-tone plates there are sixty-two line-drawings in the text. The book is well printed and in every way a worthy companion to the many excellent works comprising "The Rural Manuals," edited by Dr. L. H. Bailey. We have no doubt that it will be regarded, as it deserves to be, as one of the standard books on tropical and subtropical fruits.

There are probably few fruits of much importance, in addition to the six named on the

title-page, that are not included in the work, though in some cases the information given about them is necessarily very meagre. We observe that none of the Cucurbitaceæ is mentioned. Most of the fruits of this family are apparently outside the scope of the volume, though *Acanthosicyos horrida*, the narras or 'nara, a native of south-west tropical Africa, is one that might have been included, for it appears to have qualities that would render it an invaluable plant for hot, dry, sandy regions, where very little vegetation of any kind is found. The late Prof. H. H. W. Pearson said of it in the *Kew Bulletin*, 1907, p. 344: "For about four months in the year the fruits and seeds render the Hottentots independent of other sources of food, and to some extent of water also."

Our Bookshelf.

How to Teach Agriculture: A Book of Methods in this Subject. By Prof. Ashley V. Storm and Dr. Kary C. Davis. Pp. vii+434. (London: J. B. Lippincott Company, 1921.) 12s. 6d. net.

DRS. STORM AND DAVIS have produced a book entirely for the teacher; they develop some interesting ideas and make a number of suggestions which cannot fail to be helpful. The book contains an interesting chapter on teaching through charts, slides, and films, which could be read with advantage by many agricultural teachers in this country. The authors state that the use of films as a means of teaching is rapidly gaining ground in America. The expense of the projecting machine is being reduced by the manufacture of smaller and less costly models, while the expense of the films is being lessened by more economical methods of manufacture. Teachers and producers are co-operating in making films that are actually, and not merely ostensibly, educational, while the inefficiency of the film service is being overcome by the development of co-operation between schools, colleges, and commercial and teachers' organisations.

The Electrical Transmission of Photographs. By M. J. Martin. Pp. xi+136. (London: Sir Isaac Pitman and Sons, Ltd., 1921.) 6s. net.

ALTHOUGH the transmission of photographs over telegraph circuits may still be said to be in the experimental stage, a number of processes have been developed to a considerable extent, and already pictures are sent over the London-Paris and other lines to a limited extent in illustrated journalism. The author summarises the work of various inventors in this field, and the processes described include those depending on the action of light on selenium, and those in which a stylus travels over a metallic image. Full instructions are given for the construction of an experimental equipment, and a chapter is included referring briefly to the wireless actuation of such apparatus.