COMMON CULTIVATED CROPS OF SOUTH INDIA

Making use of his rich experience gained in over 30 years as an executive officer in the Madras Department of Agriculture and as Professor of Agriculture in the Agricultural Colleges at Coimbatore and Bapatla, the author has produced a book which contains a wealth of information about the principal food, fodder, and commercial crops of South India.

Beginning with a general discussion of the soils and climate of South India, succeeding introductory chapters deal with soil fertility, tillage, irrigation and crop classification. The main body of the book deals with an interesting and detailed description of the practices followed in the growing, harvesting, storing, and utilizing eleven cereals; nine pulses; six oil seed crops; seven miscellaneous manuring crops; and crops used especially for pasture and forage.

The Madras and Andhra States, comprising South India, represent seven distinct climatic zones each of which has its own pattern of cropping. For instance, the author describes ten different methods of growing rice and four ways to prepare the land for sowing sorghum.

Plowing is done in most areas by use of the wooden country plow drawn by bullocks, and often in preparing for a crop the land is plowed three or four times and sometimes more depending upon the previous crop and the moisture content of the soil. Seeds of most crops are sown thickly and the excess plants removed by hand thinning. Crops, such as rice and millet, are sometimes started in a thickly seeded, specially prepared nursery and seedlings are transplanted to the field.

Crops are often grown in mixtures. For instance, in the uplands of the Godavari District 30 pounds of rice seed and 3/4 pound of cotton seed are mixed and broadcast over each acre in June and at the time this seed is being covered redgram is sown in the same field by drilling the seed in the plow furrows 6 to 8 feet apart. Crops in this mixture are harvested as follows: rice in October, redgram in February, and cotton in successive pickings thereafter.

Practical ways to fertilize the soil are presented. Ways of utilizing commercial fertilizers, green manure crops, and animal manures are recommended. One method of maturing the soil for rice in the Malabar District is to pen about 1,500 sheep per acre in the field for a night.

The volume contains an immense amount of information about field crops, including their history, adaptation, distribution, improvement, and suitability of specific varieties for use in the different crop growing areas of South India. The book is well written with large easy-to-read type and it is fairly well illustrated. It is written so as to be particularly helpful to the extension agriculturist and practical farmer rather than the agricultural scientist. Good as the book is, its value and usefulness would be much extended if it had an index.—George H. Dungan.

THE CHEMISTRY AND MODE OF ACTION OF PLANT GROWTH SUBSTANCES

This volume is a presentation of the papers given at the International Conference on Plant Growth Substances at Wye College, University of London, from July 17 to 22, 1955. The conference was concerned with the nature of auxins and related compounds with four general topics being discussed: Natural Auxins; Chemical Structure and Biological Activity; Metabolism and Mode of Action; and Applications of Kinetics to Auxin-Induced Growth. Most of the papers were concerned with the metabolism and the nature of some of the chemical and physiological growth responses.

The following papers are examples of some which were presented: Methods for the investigation of natural auxins and growth inhibitors by J. P. Nitsch, Harvard University; Distribution of natural hormones in germinating seeds and seedling plants by Phyllis M. Cartwright, J. T. Sykes, and R. L. Wain, Wye College, University of London; Hormones and hormone precursors in leaves, roots, and seeds by Joyce A. Bentley, S. Housley, and G. Britton, Manchester University; Chromatographische Untersuchungen uber die Wuchsstoffe und Hemmstoffe der Haferkoleoptile by H. Söding and Edith Raadts, Hamburg, Germany; Indole compounds in photoinduced plants by A. J. Vittos, Yonkers, New York; The biogenesis of natural auxins by S. A. Gordon, Lemont, Illinois; Geotropic responses in roots. Some theoretical and technical problems by P. Larsen, University of Bergen; On the effects of para-substitution in some plant growth regulators with phenyl nuclei by D. Aberg, Uppsala, Sweden; On form and function of plant growth substances by H. Veldstra, Amsterdam, Holland; The influence of growth substances upon sulphhydril compounds by A. C. Leopold and C. A. Price, Purdue University; Salt accumulation and mode of action of auxin: A preliminary hypothesis by T. A. Bennet-Clark, King's College, University of London; The kinetics of auxin-induced growth by J. Bonner and R. J. Foster, California Institute of Technology; The kinetics of auxin-induced growth by T. A. Bennet-Clark, King’s College, University of London.

There are 26 papers reported in all. While this volume may never be used as a textbook it should be invaluable as a reference for those interested in plant growth and for those working with plant growth substances.—C. Wiggans.

THE COMPLETE BOOK OF GREENHOUSE GARDENING

This reviewer has long nurtured a desire to raise chrysanthemums under glass—when time and other resources permit the luxury of such a hobby. Dr. and Mrs. Northen, the University of Wyoming botanists, have long shared their knowledge with amateur botanists and home gardeners as well as with college students and professional colleagues. They now present us with an authoritative and practical “how to do” book on greenhouse gardening. It is a comprehensive discussion that covers almost everything related to this subject.

Here the reader can learn how to select and build a greenhouse, how to manage it, how to assure soil fertility, how to propagate plants, as well as how to control greenhouse pests and diseases. There are also special instructions on the culture of common and unusual cut flowers, pot plants, exotic foliage, ferns, begonias, orchids, amaryllis and other families of plants. Vegetables are also considered. There are more than 60 pages of excellent quality halftone illustrations and numerous drawings.

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