

plants in other parts of the world, particularly the less-developed countries, will be similarly dealt with.

The book has purposely been written in a manner that will enable pastoralists and farmers to recognize symptoms of poisoning and to identify the plants that may be responsible. It is well illustrated with coloured plates and line drawings. Each species is treated separately and a detailed description of it provided. This is followed by information on toxicity, symptoms and post-mortem appearances. An appendix lists the toxic plants likely to be found in each of the sixteen districts of Western Australia. Other appendices give lists of the cyanogenetic plants and those known to cause photosensitivity, dermatitis and hay fever. As quite a number of the species dealt with occur in other parts of the world the book is likely to be of value in other countries.

F. N. HOWES

## WHEAT IN AUSTRALIA

The Wheat Industry in Australia

By Dr. A. R. Callaghan and Dr. A. J. Millington. Pp. viii+486. (Sydney and London: Angus and Robertson, Ltd., 1956.) 63s.

**W**HHEAT is by far the most important crop in Australian agriculture, and next to wool it is the most valuable product. Australian wheat accounts for about 5 per cent of the world output, but its international significance is greater than this figure suggests, because Australia is one of the four major wheat-exporting countries. The history of wheat cultivation in Australia provides an excellent example of agricultural evolution; starting from an exhausting mono-culture on virgin land after clearing and burning the native vegetation, it was improved by the introduction of fallows and fertilizers, especially super-phosphate, and more recently by diversified cropping and alternation with leguminous pasture, in an attempt to achieve stability of yield and to prevent soil erosion. The extensive cultivation of wheat with a minimum of man-power was made possible by the invention of special implements and machines adapted to local conditions. These are a few of the reasons that justify the publication of "the first comprehensive account of the Australian wheat industry".

This book is certainly comprehensive. It starts with a history of the establishment of agriculture in Australia, and its development up to the present. Some introductory chapters describe the climate and soils of the wheat lands, and discuss soil structure, plant nutrition and the use of fertilizers in general terms. There are a useful summary of Australian work on the effect of fallow and of leguminous crops on soil nitrogen, and an account of 'dry-farming', the benefits of which are shown to be due to conservation of nitrogen, not water, and to weed control. Variations in husbandry on the different soil types of the wheat belt, and possible future developments in cropping systems are discussed. There is a short general description of the morphological changes during growth of a wheat plant, not specifically related to Australian varieties or conditions. Later chapters deal with the improvement of wheat varieties by selection and breeding, wheat diseases, and the implements and machines used in wheat growing. The rest of the book, about a quarter of it, is concerned with non-agricultural topics, such as storage

and marketing of grain, its conversion into flour and bread, and the economics of world trade in wheat. Some of these seem scarcely appropriate for a volume of the "Australian Agricultural and Livestock Series". The most conspicuous omission is the lack of any consideration of the quantitative physiology of growth of wheat plants, and the ecology of wheat crops that form the basis on which the wheat industry is built.

The book is lavishly illustrated with nearly 300 photographs, diagrams and graphs, but many of them have so little relevance to the theme, and others so nearly duplicate each other (for example, Figs. 140, 141 and 154) that they could have been omitted with little loss, and possibly some reduction in cost. It is full of factual information, clearly presented and critically discussed, and generally succeeds in its declared intention of giving "an overall appreciation of the industry and its problems"; but it could have been shorter, more selective, and more readable if the authors had written for a more restricted audience, and had not tried to meet the requirements of "the farmer, the specialist, the student and the general reader" all within the same volume.

D. J. WATSON

## COMMON LANDS

The Common Lands of Hampshire

By Dr. L. Ellis Tavener. Pp. vii+123+8 plates+7 maps. (Winchester: Hampshire County Council, 1957.) 21s.

**W**HEN the Royal Commission on Common Land began its work two years ago, the lack of accurate information on the status and distribution of common land in England and Wales was at once apparent. The official estimate of about 2,000,000 acres (of which 500,000 may be in Wales) was based on a return made so long ago as 1873, together with some later information on larger areas suitable for war-time reclamation. Only one county, Cambridge, had made a survey of commons as part of its planning survey. To remedy its own position, the Hampshire County Council commissioned Dr. L. E. Tavener, senior lecturer in geography in the University of Southampton, to carry out a factual study of common land in that county—excluding the New Forest, of which adequate details exist.

The county has published his findings in this handsome volume. Whereas he was provided with a provisional list of 90 commons covering 12,000 acres, he actually found at least 133 commons totalling nearly 17,000 acres, not including innumerable village greens of less than five acres which have not been listed.

A tabular analysis and succinct descriptions of commons by administrative areas are accompanied by a chapter on their soils, and a comparison of the maps in the folder shows clearly the close association of commons with coarse, hungry soils of the London and Hampshire Tertiary basins, and the western end of the Weald. Tavener's pioneer study is of far more than local interest. A careful glossary, an attempt to determine what is a common, an indication of sources of information—notably the enclosure awards—combine to make this an indispensable guide to others who, it is hoped, will take up the systematic study in other counties.

L. DUDLEY STAMP