Agriculture in the Tropics

C. C. WEBSTER
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Agriculture in the Tropics

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Contents

PREFACE vii

1 The influence of climate on agriculture in the tropics 1

The main climates of the tropics – The influence of climatic factors on crop production

2 Tropical vegetation 35

The main climax and derived formations and their features of agricultural significance

3 Tropical soils 56

Soil formation – Soil properties and soil fertility – Notes on some tropical soils – Land resource assessment

4 Some social, economic and political factors affecting agriculture in the tropics 99

Social structures and customs – Land tenure and inheritance – Population pressure – Human health and nutrition: the world food problem – Farm equipment and requisites – Government support and finance

5 Soil and water conservation 109

Erosion caused by water – Wind erosion – Water conservation

6 Land clearing, drainage, tillage and weed control 141

Land clearing – Drainage – Preparatory cultivation – Cultivation after planting: weed control – Chemical weed control

7 Rain-fed arable farming systems 176

Shifting cultivation – Semi-permanent systems – Permanent systems

8 The improvement of rain-fed arable farming 200

The maintenance or improvement of soil fertility – Crop improvement – Improved husbandry

9 Permanent farming systems associated with swamp rice production 241

Traditional cultivation of swamp rice and associated rotation crops – Soil conditions and fertility in the padi fields – Improvement of swamp-rice-based systems

10 Monoculture of perennial crops 264

Production of improved planting material – Propagation by seed – Vegetative propagation – Transplanting – Plant density and spacing – Soil management after planting – Fertilizers – Shade – Windbreaks – Improving the productivity of smallholdings

11 Natural grasslands and their management 312

Types of natural grassland – Management and utilization – The use of natural grasslands by native pastoralists

12 Cultivated fodder crops and pastures 345

Fodder crops – Ensilage – Cultivated pastures

13 Classes of tropical livestock 376

Cattle – Water buffalo – Dromedaries, llamas and alpacas – Goats

14 Adaptation of livestock to tropical environments 424

Direct effects of heat on tropical livestock – Indirect effect of climate on tropical livestock

15 Cattle management in the tropics 450

Nomadic pastoralism – Ranching – Small-scale mixed farming – Medium-scale cattle farming – Large-scale cattle farming

16 Livestock improvement by feeding and nutrition 487

General considerations – Water – Carbohydrates – Proteins and non-protein nitrogenous substances – Fats and oils – Minerals – Vitamins – Feeding standards – Schedule of tentative nutrient standards for livestock

17 Livestock improvement through health and hygiene 528

General considerations – Major causes of tropical animal disease – Conclusion

18 Livestock improvement through breeding 547

Introduction – Sexual reproduction and fertility – Seasonal breeding – Artificial insemination (AI) – Animal multiplication – Genetic improvement – Systems of breeding – Jamaica Hope – Santa Gertrudis – The role of breed societies – Methods of selection

REFERENCES AND BIBLIOGRAPHY 582

INDEX 623

Preface

This book gives a general account of the basic factors affecting agriculture in the tropics and of the application of existing knowledge of the principles of agriculture to its improvement and development. It first deals with tropical climates, soils and natural vegetation types and their influence on agriculture, together with the constraints imposed by certain socio-economic factors. The principles of soil and water conservation, land clearing, drainage and tillage are then outlined. This section is followed by chapters dealing with current practice and possibilities for improvement in rain-fed arable farming, systems based on swamp rice production, plantation monoculture of perennial crops, and in the utilization of natural and cultivated pastures. Finally, the later chapters cover the classes of livestock important in the tropics, the adaptation of animals to tropical environments, animal husbandry and the improvement of livestock by better nutrition, hygiene and breeding.

In general, the book deals with principles rather than with specific detail. It does not set out to give a comprehensive treatment of any given crop or farm animal. Nor does it cover in detail those aspects of agriculture such as, for example, pig and poultry husbandry, where temperate practice can readily be modified to suit the requirements of the tropics. However, the reader is referred in the text to standard books dealing with these latter subjects, all giving specialized accounts of particular crops, animals or facets of tropical agriculture.

The primary aim has been to provide an outline of the subject for students reading for degrees or diplomas in tropical agriculture and for those who proceed to work, or study, in tropical agriculture after graduating in agriculture or related subjects in the temperate zone. It is also hoped that this book will prove useful to tropical planters and farmers and to others indirectly concerned with agriculture, such as administrators, development planners, geographers, economists and veterinarians. In some sections of the book it has been assumed that the reader has an elementary knowledge of an applied science relevant to agriculture. However, such knowledge is not essential to a proper understanding of the greater part of the book.

In the second, extensively revised, edition, efforts have been made to update the review of relevant research findings incorporated in the text and to refer the reader to recently published textbooks or scientific papers

on various aspects of tropical agriculture. In consequence, the list of references will be found to be unusually long for a book of this type but, as a result of their own experience in university teaching, the authors believe that a reference list of this nature will assist teachers in the preparation of their courses and will guide post-graduate students in their private reading.

In view of the increasing economic constraints imposed on small farmers by rising prices of equipment, fuel, fertilizers and pesticides, more emphasis has been placed in this edition on means of improving the productivity of smallholdings at least cost to the farmers. For this reason new, or expanded, sections have been included on such topics as crop improvement by selection and breeding, increased efficiency in the use of fertilizers and in weed control, the use of nitrogen-fixing legumes on arable land and pastures, the possibilities of minimum, or reduced, tillage and on the advantages of developing the traditional practice of mixed cropping.

Finally, although the authors have travelled widely, especially in Africa, South America, the West Indies and in Malaysia they cannot claim to be familiar with every facet of tropical agriculture and would greatly appreciate receiving critical comment from readers with experience in those countries and regions not specifically mentioned in this book.

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