

Preface

Economic Botany in the Tropics was first published in 1981, and its fourth edition appeared in 2011, and in between the book has been reprinted several times. It is a matter of great privilege and honour that its new edition is being published by Cambridge University Press, under the new title 'Economic Botany: A Comprehensive Study' 5th edition. During the course of revision I have been influenced by review inputs from subject experts, across the world, as well as from advice offered to me by the editorial staff of the Cambridge University Press, India. It gives me pleasure in presenting to the readers an expanded and updated edition and I hope it will prove to be even more useful than the previous ones.

Salient features of this edition are as follows:

The production data for different crops is given for the year 2012–13, alongside top ten producers of cereals, grain legumes, fruits, vegetables, oil crops and root and tuber crops. The role of essential fatty acids (EFAs), such as linoleic and linolenic acids in human nutrition has been emphasised. These fatty acids if not supplemented in the diet can lead to many functional disorders.

Another significant feature is the inclusion of well-known 'natural sources' of antioxidants and phytonutrients, which, if made a part of our diet, can prevent cardiovascular, cancerous and neurodegenerative disorders, etc. The health benefits of many of our food plants have been given special coverage, along with a listing of the physiological basis of the chemical constituents present in them. Besides these, I have included discussions on 'the catastrophic sexual transmutation theory' of the origin of maize; 'pseudocereals' such as grain amaranth, quinoa, buckwheat, chia seeds and eel-grass; forage grasses of different regions (in Chapter 3); sugarcane propagation and its breeding strategies, and other sweetening plant materials (in Chapter 4); winged bean and fodder legumes as well as green manures (in Chapter 5); canola oilseed crop (in Chapter 6); kinnow mandarin, Brazil nut and many other sources of exotic fruits (in Chapter 7); True Potato Seed (TPS) Technology and select varieties of potato, turnip and pea (in Chapter 8); the risks associated with the use of Smokeless Tobacco, *bidi* and E-cigarettes (in Chapter 10); wines, beers, distilled spirits and liqueurs (in Chapter 11); and medicinal yams and Madagascar periwinkle (in chapter 15). The inclusion of the write-up on 'Terminator Gene Technology' will be of great value to students and scholars in various fields.

The earlier less-focused photographs have been substituted with high-quality images. Many line diagrams have been recast and have been made more informative in content.

The online resource material includes topics such as green revolution – an overview; transgenic crops – objectives, achievements and concerns; plant biotechnology and sustainable agriculture; plant diversity and its conservation (including the work of N.I. Vavilov); plant introduction activities; and several appendices dealing with horticulture, forestry, archaeology as well as food and nutrition.

University and college students preparing for their degrees and diplomas in botany, agriculture, and horticulture as well as those engaged in studies of forestry, food science and nutrition, ethnobotany, archaeology, plant breeding and biotechnology or indeed anyone with a concern for our natural resources, will hopefully find this book useful. For a commoner, it can serve as a customized window to the fascinating world of useful plants as the book also emphasises the health benefits of some common food plants which should be made a part of one's regular diet. The book does not sermonise; it instead seeks to explain the necessity of and the rationale behind the usage of such plants. The information presented in this book is not intended to provide medical advice or treatment: do check with your physician/dietitian.