

TROPICAL TREE SEED MANUAL

Tropical Tree Seed Manual. J. A. Vozzo, editor. USDA Forest Service, Washington, Agriculture Handbook 721, 2002, 899 pp.,

After several decades, this is finally a book which can be used not only by scientists, but also by foresters all over the world. The Tropical Tree Seed Manual is a product of the international cooperation and contributions.

The book is divided into two parts – Part 1 'Technical Chapters' and Part 2 'Species Descriptions'.

The first is divided into nine chapters aimed at the description of Tropical Tree Seed Biology. The chapter on Seed Biology (105 printed pages) is didactically well written and completed with numerous illustrations enabling even the unskilled reader to understand the richness of morphological types of assimilatory and reproductive organs of tropical trees and the mechanisms of the reproductive cycle, pollination and fertilization. Special attention is paid to fruit and seed structure, seed physiology, dispersal and germination. The chapters 2 to 9 are aimed at individual steps of seed collection and processing *e.g.* Collection, Storage, Orthodox and Recalcitrant Seeds, Dormancy and germination, Pathology, but also to Ecology, Ethnobotany and Tropical Seed Dendrology. These chapters are more practically oriented but representing the up-to-date review of current knowledge of the tropical tree seed science.

The second part of the manual "Species Descriptions" is aimed at the description of 197 botanically and economically important tropical tree species of Americas. However, a number of tropical tree species from other countries are also included. The significance of this chapter is that it compiles materials to serve those with a broad interest in tropical tree seeds. Much of the material has never been published, or had only a limited or regional distribution. Many of the descriptions are incomplete, with the lack of relevant data and

relevant material for illustrations.

This chapter represents as a practical guide intended to provide a useful information to collectors, handlers, seedsmen, and nursery managers. The reported data are uniformly given in the following order: scientific name; family name; synonyms; common names; occurrence; growth habits; geographic race and hybridization; use; flowering and fruiting; collection of fruits, cones and seeds; extraction and cleaning; storage; pre-germination treatments; germination tests; nursery practices; seedling care; additional information.

The first part of the book is richly illustrated is by numerous excellent color photographs and also artistic illustrations showing the morphological characters of leaves, flowers, seeds or reproduction processes.

Almost each of the species described in the second part is illustrated by ink drawing in most cases of a branch with leaves and inflorescences or flowers, fruits, seeds and seedlings. What is very valuable, almost in each plate the scale corresponding to entire picture or its part is shown.

The end of the book represents 53 pages of references (about 2500), a list of 30 authors and registers of scientific and common names, accompanying organisms and

The book is recommended to all interested in tropical seeds, but also ecologists, botanists who have to describe tree species by fruits, seeds or seedlings. It is a very illustrative and up-to-date source of relevant information. The manual is published in English and Spanish. It is available from the USDA Forest Service.

Ladislav Paule (Zvolen, Slovakia)