The Container Tree Nursery Manual.
Volume 7, Seedling Processing, Storage, and Outplanting
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Volume Seven
Seedling Processing, Storage, and Outplanting

Thomas D. Landis, Retired National Nursery Specialist, USDA Forest Service and Private Consultant, Medford, OR

R. Kasten Dumroese, National Nursery Specialist and Research Scientist, USDA Forest Service, Rocky Mountain Research Station, Moscow, ID

Diane L. Haase, Western Nursery Specialist, USDA Forest Service, State & Private Forestry, Portland, OR
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Preface

The Container Tree Nursery Manual consists of seven volumes that have all been published under the same series number: USDA Agriculture Handbook 674. Writing began in the late 1980s, with the first volume published in 1989. Subsequent volumes were published at increasingly longer intervals with the seventh and last volume taking over 10 years to complete (fig. 1).

Each volume contains chapters on closely related subjects concerning the production of trees and other native plants in containers. The volumes can be accumulated and used as a complete nursery manual, or they can be used separately by specialists needing information on a particular subject. Because several subjects must be discussed in more than one volume, there will be some redundancy in the manual. Such repetition is justified, however, because most readers will be using the manual as a technical reference and will not be reading the entire text.

The Container Tree Nursery Manual has been functionally organized to follow the normal sequence of nursery development, seedling propagation, and outplanting. Volume one discusses the various steps that should be followed in developing a nursery facility. Volume two is concerned with the selection of types of containers and growing media. Volume three and volume four analyze the “limiting factors” that affect seedling growth and discuss how they can be manipulated in container nurseries. Volume five examines the various biological organisms that can affect seedlings, either negatively as pests or positively as mycorrhizae. Volume six shows how to develop growing schedules and how seedlings are propagated through the three growth phases. Volume seven covers the time from when the crop is hardened-off and ready for harvest to when they go in the ground.

The seven volumes are structured around an outline of numerical organizational headings that enable the reader to locate a specific subject quickly, without referring to an index. The general outline of volume and chapter titles is as follows:

Volume One—Nursery Planning, Development, and Management
Chapter 1 Initial Planning and Feasibility Assessment
Chapter 2 Site Selection
Chapter 3 Nursery Design and Site Layout
Chapter 4 Environmental Control and Safety Equipment
Chapter 5 Service Buildings and Equipment
Chapter 6 Nursery Management
Chapter 7 Troubleshooting Nursery Problems

Volume Two—Containers and Growing Media
Chapter 1 Containers: Types and Functions
Chapter 2 Growing Media

Volume Three—Atmospheric Environment
Chapter 1 Temperature
Chapter 2 Humidity
Chapter 3 Light
Chapter 4 Carbon Dioxide

Volume Four—Seedling Nutrition and Irrigation
Chapter 1 Mineral Nutrition and Fertilization
Chapter 2 Irrigation and Water Management

Volume Five—The Biological Component: Nursery Pests and Mycorrhizae
Chapter 1 Disease and Pest Management
Chapter 2 Mycorrhizae

Volume Six—Seedling Propagation
Chapter 1 Crop Planning
Chapter 2 Seed Propagation
Chapter 3 Vegetative Propagation
Chapter 4 Seedling Development: The Establishment, Rapid Growth, and Hardening Phases

Figure 1—Years required to write each volume of Agriculture Handbook 674.
This manual is based on the best current knowledge of container nursery management and should be used as a general reference. Recommendations were made using the best information available at the time and are, therefore, subject to revision as more knowledge becomes available. Much of the information in this manual was primarily developed from information on growing western and southern conifer seedlings in the United States. Because of the wide variation in individual species responses, container nursery managers will need to adapt these principles and procedures to their own crop requirements. There is no substitute for individual experience, and recommended cultural practices should be tested before being implemented on an operational scale.

Trade names are used throughout the manual, but only to provide examples, and no endorsement by USDA of specific products, or exclusion of equally suitable products, is implied. The mention of specific pesticides is intended only for general information and should not be construed as an endorsement. Because of frequent changes in pesticide registration and labeling, the reader should check with local authorities to make sure that an intended use is both safe and legal. Remember that pesticides can be harmful to humans, domestic animals, desirable plants, and fish or other wildlife if they are not handled or applied properly. Use all pesticides selectively and carefully, following the label directions. Follow recommended practices for the disposal of surplus pesticides and pesticide containers.

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4033 SW Canyon Road
Portland, OR 97221 USA
Tel: 503-226-4562 Fax: 503-226-2515
E-mail: richard@westernforestry.org
Web site: http://www.westernforestry.org

Stuewe & Sons, Inc.
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