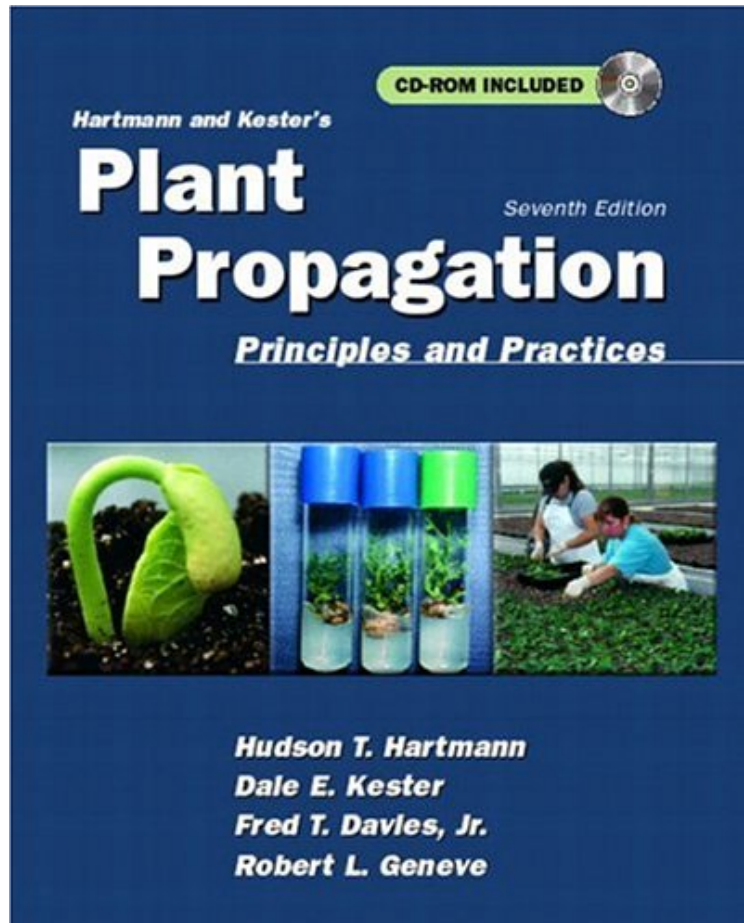


[PDF] Hartmann and Kester's Plant Propagation: Principles and Practices (7th Edition)

Hartmann and Kester's Plant Propagation: Principles and Practices (7th Edition)

Hudson T. Hartmann, Dale E. Kester, Fred T. Davies, Robert Geneve
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Hudson T. Hartmann, Dale E. Kester, Fred T. Davies, Robert Geneve : Hartmann and Kester's Plant Propagation: Principles and Practices (7th Edition) before purchasing it in order to gage whether or not it would be worth my time, and all praised Hartmann and Kester's Plant Propagation: Principles and Practices (7th Edition):

12 of 13 people found the following review helpful. great resourceBy moss dogI'm a first year Horticulture student, and this is my text for Plant Prop. Almost all of the information I've read so far - a few hundred pages - is new to me. Hartmann et. al. do a great job of taking complex, unfamiliar information and expressing it simply and clearly, so that I understand. In the margins of every page, they break out and define important terms, making it very easy to locate definitions when I need them. There are frequent boxes with "in depth" information that more fully explores concepts brought up in the general narrative. There's also a CD-Rom dictionary, which is helpful, although I find the access is a bit cumbersome - click on a letter, wait for it to open a list, click on a word (if the word you want is there - many of the

ones I wanted to find are not included), wait for it to open the definition picture, then click back to the first page. If it were simply searchable - if I could type in a word without clicking through the various screens - I'd use it more. It's a nice bonus, though, and they didn't have to include anything at all so it seems unfair to rate the book based on the accessibility of the disc contents. I will say this book would be most useful in tandem with practical labs that explore the concepts and offer the chance to experience what is in the text. I'm taking my class as an independent study, and I find it is very challenging to teach myself all of this material without the benefit of labs, even though my advisor is excellent and always available for my questions. I generally read the text at least twice and often four times, because it's so intense that I don't catch everything on the first run. I plan to try some of the techniques myself, once I gather the supplies I'll need; I think this will make all the difference in my true understanding and retention of what I've read about, and my advisor agrees. To instructors, I'd say to just be aware that even though the information is presented gently, it's still a lot for a new student to take in, and even the most conscientious student can get overwhelmed by a 100-page reading assignment. It's too much. Break it up, work in some labs, and really encourage discussion to make it come alive. In that context, I can't imagine a better text to use for teaching Plant Prop. 1 of 1 people found the following review helpful. Plant Propagation Extrordinaire By Frank DeFreytas SUPER Book. Everything you ever wanted to know about plant propagation in a very easy to read and understand book. YES YES YES 0 of 0 people found the following review helpful. Good book; not very difficult. By Sex_Engr_RockNRoll This is a good textbook. It is big, but that is because it has a lot of pictures and a lot of content. The pages are glossy and it has lots of color photographs in it. It covers many types of propagation. Though this was material for a 300-level collegiate horticulture class, I did not find it to be very difficult to learn and understand.

Hallmarked as the most successful book of its kind, this remarkably thorough treatment covers all aspects of the propagation of plants both sexual and asexual with considerable attention given to human (vs natural) efforts to increase plant numbers. The book presents both the art and science of propagation, and conveys knowledge of specific kinds of plants and the particular methods by which those plants must be propagated. A five-part organization outlines general aspects of plant propagation, seed propagation, vegetative propagation, methods of micropropagation, and propagation of selected plants. For anyone with an interest in how plants are grown and utilized for maintaining and adding enjoyment to human life.

From the Back Cover Hallmarked as the most successful text of its kind, this remarkably thorough book covers all aspects of the propagation of plants both sexual and asexual with considerable attention given to human (vs. natural) efforts to increase plant numbers. The text presents both the art and science of propagation, and conveys knowledge of specific kinds of plants and the particular methods by which those plants must be propagated. New features of the seventh edition include: In-depth text boxes separate more advanced topics or highlight specific key terminology. User-friendly elements, such as chapter-opening objectives and a marginal glossary have been added to assist users in managing and digesting the vast amount of technical information presented in this course. FREE glossary CD-ROM packaged with the text provides a valuable resource for learning the extensive new vocabulary of this course. Full-color photos and video clips help bring many of the terms to life. Chapter 2 has been extensively revised to synthesize the revolutionary impact of biotechnology. The new chapter alerts readers to recent biotechnology advances, their impact on biological concepts and their impact on the practice of plant propagation and makes readers aware of the increasing promise and controversy this technology brings with it. About the Author Dale E. Kester is Professor of Pomology emeritus at the University of California, Davis. During his 40 years at the University of California he taught courses in plant propagation and pomology. He has been a member of the American Society of Horticultural Science, becoming a Fellow in 1977. He received jointly the Stark Award in 1980. He has published over 100 research and popular publications in plant propagation and pomology. He has had a lifelong collaboration with Dr. Hudson T. Hartmann which resulted in the publication of the first edition of Plant Propagation: Principles and Practices in 1959, followed by other editions in 1968, 1975, 1983, and 1990. One of the founders of the Western Region of the International Plant Propagators' Society (1960), he has served the society in various capacities including Vice-President, program chair (1996) and President (1997). He received the Curtis J. Alley Achievement Award in 1999. Fred T. Davies, Jr., Professor of Horticultural Sciences, and Molecular and Environmental Plant Sciences, Texas AM University, has taught courses in plant propagation and nursery production and management since 1979. He has co-authored over 100 research and technical publications. He was a Fulbright Senior Fellow to Mexico (1993) and Peru (1999), and a J.S. Guggenheim Fellow (1999). He received the Distinguished Achievement Award for Nursery Crops from the American Society of Horticultural Sciences (1989), L.M. Ware Distinguished Research Award-ASHS-SR (1995), and S.B. Meadows Award of Merit-International Plant Propagator's Society-SR (1994). He is a recipient of the Association of Former Students Distinguished Achievement Award for Teaching-TAMU (1997), Chancellor of Agriculture's Award in Excellence in Undergraduate Teaching-TAMU (1998), L.M. Ware Distinguished Teaching Award, ASHS-SR (1998), and L.C. Chadwick Educator's Award, American Nursery and Landscape Association (1999). He is the International Division Vice-President-ASHS. He was President, and is currently Editor, of the IPPS-

SR. Robert L. Geneve is a Professor in the Department of Horticulture at the University of Kentucky. He teaches courses in plant propagation and seed biology. He has co-authored over 70 scientific and technical articles in seed biology, cutting propagation, and tissue culture. He is also the co-editor of the book *Biotechnology of Ornamental Plants* and author of *A Book of Blue Flowers*. He has served as a board member for the International Plant Propagators' Society-Eastern Region and serves on the Editor for the international horticulture journal, *Scientia Horticulturae*. Excerpt. Reprinted by permission. All rights reserved. The seventh edition of *Plant Propagation: Principles and Practices* continues the gradual reorganization and distribution in subject matter among the three active co-authors and the updating of biological concepts that underlie the practical application of the existing plant propagation technology. The first edition in 1959 contains the following excerpt: "The study of plant propagation involves three different aspects. These may be considered as objectives in any course of study involving the propagation of plants. First of all, plant propagation requires a knowledge of mechanical manipulations and technical skills whose mastery requires a certain amount of practice and experience. This would include such things as how to bud or graft or how to make cuttings, etc. This is the art of propagation. Secondly, successful plant propagation requires knowledge of plant growth and structure. This is the science of propagation. Some of this information can be learned empirically by working with the plants themselves, but it should be supplemented, if possible, with information gained from formal courses in botany, horticulture, plant physiology, and genetics. Such knowledge aids propagators in understanding why they do the things they do. It also makes it possible for them to better perform the practices. A third important requirement of successful plant propagation is a knowledge of specific kinds of plants and the particular methods by which those plants must be propagated. To a large extent the method must be geared to the requirements of the particular kind of plant being propagated." In preparing the seventh edition 42 years later we have maintained those same three objectives and, as much as possible, presented them in separate identified chapters as principles and practices although the order has changed somewhat. During the different editions, the amount of material has increased astronomically and the limits of scientific concepts and applicability have expanded beyond the wildest forecasts in 1959. Instead of simply piling more information onto previous information, we have tried to integrate new science and technology into the evolving pattern that characterizes the range from traditional to the present combination of science and technology. First of all, we must recognize the revolutionary impact of biotechnology not only upon the concepts of biology but also its practical applications in the propagation industry. We have had a long enough history to see the historical continuity in the evolution of human progress and scientific advancement. Chapter 1 has remained intact as a historical account of how propagation activities have been a primary backdrop for human progress leading up to our present era. Chapter 2 has been almost completely rewritten to synthesize a comprehensive view of propagation from the standpoint of the gene and the epigenetic control of development. Biotechnology is introduced as three separate branches: (a) cell and tissue culture technology, (b) gene marker technology, and (c) recombinant gene technology. Cell and tissue culture technology, which includes all aseptic aspects of the culture of protoplasts, cells, tissues, shoot tips, embryos, etc., was introduced in the first edition by a section on embryo culture which expanded into a full chapter by the third edition. From there the subject was treated in dual chapters of principles and practices. In this edition, this section has remained intact but is reorganized and partly rewritten. This technology has not only found its place in commercial propagation but is an essential aspect of current genetic engineering. DNA marker-based technology is now coming into its own to directly identify cultivars and to study taxonomic relationships. The ability to sequence genes and to manipulate them in the laboratory has created an essentially new field of biology known as genomics which will have an increasing impact of propagation. After many years in the laboratory, recombinant DNA technology is now having an impact on human activities. Propagators will be increasingly faced with both its promise and its controversy. The topic is introduced in Chapter 2. The production of transgenic cultivars is described for seeds in Chapter 5 (Seed Selection) and for vegetatively propagated cultivars in Chapter 16 (Clones). However, students will need to go elsewhere for a comprehensive text on genetic engineering. The engineering, computerization, and mechanization to control the propagation environment has continued to be a major aspect of the industry and of previous editions. Chapter 3 continues the integration of concepts and application. Seed propagation has made major advances in both the understanding of seed biology and the technology of seedling production. These chapters have remained largely intact but considerable rewriting and reorganization has taken place. Chapter 5 has been almost completely reorganized, integrating the concepts of selection for annual and perennial plants together into a comprehensive analysis. Chapters on vegetative propagation (cuttings, grafting, budding, layering, specialized roots and stems) follow next in sequence continuing the dual emphasis on principles and practices. The history of research on root initiation is reviewed. The chapter on clonal propagation has been expanded into a comprehensive analysis of the concept of clones as taxonomic units in perennial crops, including their origin in horticulture and forestry and the potential for improvement through transgenic cultivars. Sources of variability (environmental, epigenetic, genetic, and pathogenic) in clonal propagation systems are described as well as their control in plant production systems. Emphasis is placed on selection and maintenance of sources that are genetically pure, true to type, and pathogen free. One change that may be noted by previous users is renaming the title to: *Hartmann and Kester's Plant Propagation: Principles and Practices*. This is intended to maintain

the identity with the original text initially created and maintained by the two original authors through four editions, an identity recognized by thousands of horticultural students. We also recognize the need to increase the ease by which students can identify key concepts and terminology of propagation. Each chapter opens with an introductory statement and specific objectives. We are using in-depth text boxes to separate more advanced topics or to highlight specific key terminology. Whenever a new term is introduced (shown in bold print), the definition is added in the margin of that page to produce a glossary of terms. An added feature to the seventh edition is a student CD supplement that includes expanded definitions and images for over 200 terms used in plant propagation. The CD is packaged free in the back of each new text and provides an interactive supplement to the text that allows students to see additional color images, animations, tutorials, and video clips related to propagation. Additionally, a student support Web site is available at www.prenhall.com/hartmann. The Web site includes sample exam questions, giving students the opportunity to test their understanding of important course material. An Instructor's Manual is available as an aid for using the text to teach plant propagation. It includes chapter overviews with sample test questions. The Instructor's Manual is available by contacting your local Prentice Hall representative. We have added a number of new illustrations this time, including many replacements in Chapter 2. We have begun to include many Web sites as references within the text. The web will continue to be an expanding resource. In preparing the seventh edition of this book, we have depended upon the assistance of authorities in the various fields of propagation and related subjects. They gave their time most generously in reading sections of the manuscript and offering suggestions. We especially wish to thank: Sekar Arulsekar, Bill Barnes, Carol Baskin, D. Kim Black, Jack Buxton, Abhai Dandekar, John Day, Richard Durham, Kevin M. Fenning, Tom Gradziel, Jim Kamas, Ron Perry, Bill Proebsting, Larry Rupp, Jeff Sibley, John Tristan, Lawrence Virkaitis, Keith Warren, Philip Wilson, and Richard Zimmerman. The responsibility, however, for the final version of the edition is that of the authors. We need to acknowledge the passing of individuals associated with this text. We dedicate this edition again to Dr. Hudson T. Hartmann. Also we note the death of Daphne Kester who has been associated with the production of this text for many years. She typed many of the early manuscripts. In addition she was a dedicated supporter and participant of the effort. We also thank our wives, Maritza Davies and Pat Geneve, and families for their support, encouragement, and patience during the writing and production of the seventh edition of this book. We thank Carolyn Cobb for preparing many of the illustrations used in this book. Finally we acknowledge the skill and professionalism of the Prentice-Hall and associated editors who made this production possible: Debbie Yarnell, Lori Dalberg, Eileen O'Sullivan, and Carey Davies.