BOOK REVIEWS


This textbook is targeted for an undergraduate audience, specifically, students enrolled in horticulture and plant science courses that are taken early in a student’s course of study. The primary emphasis is on environmental factors that affect both plant growth and commercial production. The author, Dennis R. Decoteau, is both professor and head of the Horticulture Department at The Pennsylvania State University. Both of his graduate degrees focused on environmental plant physiology, and he has previously published Vegetable Crops with Prentice Hall.

This book has four major sections. The first presents an overview of plant sciences and the second covers the basics of plant growth and development. Taken together, those two sections include a total of 86 pages. The third section focuses on aerial environmental factors affecting plant growth, and includes 182 pages. The fourth section turns the reader’s attention toward rhizosphere factors affecting plant growth, and consists of 102 pages.

Decoteau does a fine job of presenting detailed material regarding environmental factors influencing plant growth, whether he’s focusing on below- or above-ground factors. Perhaps the most important difficulty with this text is the decision on how to handle the introductory material. As the text stands, the introductory material (the first two sections) tends to be somewhat superficial and unsatisfying. The other alternative, simply informing readers that this content should be derived from a previous textbook, is more attractive to this reviewer. However, an instructor could supplement Decoteau’s text with additional materials on plant sciences and the basics of plant growth and development, and then focus on the environmental factors, using Decoteau’s text as the primary point of reference.

Although the first section presents only a modest coverage of plant sciences, it gives a reasonably good idea of how plant sciences fit into the global realities of food production. I was surprised to see a discussion of the various plant sciences (Chapter 4) that did not include plant biotechnology. In the second section, Chapter 6 does a fine job of drawing distinctions among C3, C4, and CAM photosynthetic types; in addition, detailed information is presented on glycolysis and the Krebs’ cycle. I found the next chapter on hormones to be somewhat misplaced, since it discussed management at some length but was placed in a section focused on plant growth and development. As a crop ecologist myself, I was surprised that Chapter 8 (ecology) was so short and primarily focused on definitions rather than concepts.

Part 3 starts with some editorial confusion. While Page 87 identifies Chapter 9 (introductory to all environmental factors) as the beginning of Part 3 and Page 95 identifies Chapter 11, the section title is “Part III: Aerial Environmental Factors.” The introductory chapter, describes the origins and scope of stored-product insects. With increasing urbanization in modern societies, an extensive distribution system converts raw commodities, bagged and packaged food, and delivers those products to consumers. The food industry is deeply concerned about the risk from infestation and destruction by stored-product insects. With increasing urbanization in modern societies, an extensive distribution system converts raw commodities, bagged and packaged food, and delivers those products to consumers. The food industry is deeply concerned about the impact of stored-product insects on food safety, and strict control measures are required to prevent serious infestations. For control to be accurate, each species must be correctly identified, and the pest’s history and biology must be taken into account. Control measures must be properly evaluated for the specific pests and control measures are adopted. Although there is a wealth of knowledge regarding stored-product insects, much of the information is in the scientific literature, which is sometimes difficult to access. The author, David Rees, is an entomologist with CSIRO Entomology in Australia and an expert on population biology and ecology of stored-product insects. He has written a general yet comprehensive publica-


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