
This is a reference book intended for professors, researchers, students, and extension personnel studying soil fertility, plant nutrition, crop breeding, crop physiology, or crop production. Crop growth and mineral nutrition are treated separately in other books while these authors present a one-book version. This makes for a succinct presentation for some subjects and an inadequate one for others. The book is useful for its audience, but only if an introductory presentation of subject material is desired. I enjoyed reading a review of cotton that took only 17 pages. Another chapter on mineral nutrition was incomplete. Lead author Fageria is the sole author of Maximizing Crop Yields (Marcel Dekker, 1992).

The first chapter is introductory ‘Field crops and mineral nutrition,’ and the second chapter addresses ‘Factors affecting production of field crops.’ Later chapters are devoted to particular crops and include specific information regarding the production factors discussed in this chapter. The third chapter is an overview of ‘Nutrient flux in soil-plant systems.’ Uptake kinetics and effects of mass flow, diffusion, and root interception are discussed, but are standard fare and presented in many textbooks today. The following chapter addresses ‘Diagnostic techniques for nutritional disorders.’ There is an eclecticism to this book with sections ranging from the extension service in the second chapter to methods for the destruction of organic matter in this chapter. The organic-matter digestion section is unnecessary, especially since newer methods of microwave digestions, S analyses by ICP, and combustion-method N analyzers are not mentioned. Another section from this chapter is valuable and discusses variability associated with nutrient analyses and what constitutes tolerable error, a topic often forgotten among researchers who want the most accurate and most precise analyses available—even if it is unrealistic and inefficient. A useful table is given for methods to correct all nutrient deficiencies and the tolerance of plant foliage to nutrient sprays.

A new chapter in this second edition is ‘Nutrient management of degraded soils.’ The authors use the first person style ‘we’ here. I welcome this as I expect experts (and these authors are well published and experienced) to interpret and evaluate subjects in dispute. Elsewhere in the book, references from general texts dominate and this provides little clue as to the authors’ interpretation of the literature or whether the literature was critically reviewed. The degradation chapter includes a panoply of topics covered in 47 pages: diseases, sodicity, refurbishing soils, and so forth. Issues addressed for each crop include crop requirements, growth and development, nutrients, and yield components. Chapters are short but an easy introduction to the field crops. A colleague complained to me of a lack of recent references in this chapter, especially regarding the importance of the white flower in assessing cotton maturity.

A note to the authors: Improve or remove the index for the next edition. The index now is an alphabetized table of contents. The index cited silicon under ‘Silicon and plant disease’ and not under ‘Silicon Nutrients.’ The index fails.

I expect more from books that are expensive. This book has no photographs or color and has less material than economical soils or crops textbooks. Scientists will like it as a reference, but its high cost makes it more suitable for libraries than for offices. Even for purchase by libraries, it may be a problem since at LSU, for example, textbooks and journals are bought because of their high cost. Academic books are tied to the number of books sold—like this one—are more expensive resulting where the more-expensive books may be in competing versions of less-expensive texts.

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The 90 papers published in this book were from the Fifth International Workshop on Seeds held at the University of Reading. These papers represent a crosscurrent research on the major topics that concern researchers. As Dr. Roberts implied in the introduction of this book, whether the seed scientist is a plant physiologist, soil chemist or molecular biologist, or if motivated by curiosity or a practical problem solver, this book is of interest because of the interrelationship of the paper topics.