## Some Other Books of Interest

**Insect Pheromones in Plant Protection**. A. R. JUSTUM and R. F. S. GORDON, Eds. Wiley-Interscience, New York, 1989. xvi, 369 pp. $95.

Advertised as a "technocommercial review," this book, John Kennedy writes in the foreword, "chronicles—and in effect celebrates" the fact that "we have now passed the point where the practical, commercial feasibility of using pheromones to control insect pests could still be doubted." Although predicting that pheromones will never "sweep the board as did the insecticides," Kennedy notes that they provide an "object lesson" showing how "the development of new pest management techniques . . . is going to need a much larger *scientific content* than in the past." An introduction by the editors and a background chapter on pheromones and insect behavior open the book. There follow chapters on the monitoring of pest insects and the timing of treatment and on mass trapping of pests and disruption of mating, especially in the pink bollworm, *Pectinophora gossypiella*, through the use of pheromones. Another group of chapters is concerned with methods of commercial production and application, the latter including plastic laminate dispensers, hollow-fiber controlled release systems, and microcapsules. A final section, headed Commercialization and the Future, includes a discussion of the development and marketing of pheromones based on the experience of ICI Agrochemicals with *Pectinophora gossypiella* in Egypt, an outline of procedures involved in registration of pheromones with regulatory agencies, and a consideration of factors involved in their practical adoption. An "epilogue" by the editors, followed by species and subject indexes, closes the book.—**K.L.**

**Crop Safeners for Herbicides**. Development, Uses, and Mechanisms of Action. KRITON K. HATZIOS and ROBERT E. HOAGLAND, Eds. Academic Press, San Diego, CA, 1988. xiv, 400 pp., illus. $69.95.

Crop safeners, also known as herbicide safeners, herbicide antidotes, or crop protectants, are chemical agents used to manipulate the tolerance of crop plants to herbicides used for weed control. This volume, according to the editors, is the first overview of the subject in book form since 1978. Twenty-four authors from North America, Japan, Hungary, Switzerland, and Israel have contributed. In part 1 Hatzios discusses the development of safeners from the 1940s to the present and Matsunaka and Wakabayashi report on their use in Japan. Part 2 is devoted to their mechanisms of action, beginning with a general discussion by Hatzios and including consideration of herbicide effects on metabolism, enzyme activity, and terpenoid biosynthesis, the action of dichloroacetamide and thiazole safeners, and protection of grasses against acetanilide, sulfonylurea, and imidazolinone herbicides. Part 3 discusses "alternative approaches," including the use of activated carbon and other adsorbents, controlled release agents, growth regulators and fungicides, microbial agents, and potentially more selective safeners ("prosafeners"). A summary ("progress and prospects") by the editors, an appendix listing common or code names of agrochemicals mentioned in the text, and a 21-page subject index conclude the volume.—**K.L.**