

- analytical measurement
- environmental persistence when used for weed control.

The editor has certainly compiled a comprehensive picture of arsenic's environmental fate and effects from a very wide variety of sources:

- 17 chapters
- 33 authors from 11 different countries.

GARY F. BENNETT

*Toxic Substances in the Environment*, B.M. Francis, Wiley, New York, NY, 1994, \$49.95, 360 pp., ISBN: 0-471-50781-4

Chemicals have provided society with unparalleled benefits. Yet, many chemicals are toxic. As these chemicals (many of which are toxins) accumulate in the environment, the concern of the population in general and scientists in particular continues to rise. Hence, the book which is based on a course given by the author (a geneticist) at the University of Illinois.

The text is organized around a series of case studies that illustrate the hazards associated with particular substances and demonstrate the multidisciplinary approach that is essential to any effective effort to clean up or prevent contamination.

The book has many good points. Clearly, the author (a geneticist) is well-versed in the ecological and health effects of toxic chemicals. She details these chemical effects (inputs) in a series of case histories, one of which dealt with the kepone contamination in Hopewell, Virginia. I have read much about the incident but learned much more about the toxic effects of kepone (chlordecone) than I had known before.

Then I turned to a chapter, which I felt my background could let me critically review – Hazardous Waste Disposal. To say the least, I was not impressed. The author began by commenting on garbage; then she discussed sludge, and ended with air pollution from metals' use and production. All are important topics, but much out of place in this chapter. What legally constitutes hazardous waste and the amounts produced are not discussed, and the number of hazardous waste generators in this country is portrayed by a map of the US from the *New York Times*!

Indeed the above generates another criticism of the book. There were more references from the popular press than the scientific literature. Even her list of pertinent periodicals to read (at the back of the book) missed the chemistry, chemical engineering and technical environmental journals.

Curiously, a chapter I learned a great deal from (albeit starting from a very limited knowledge basis) was the chapter on carcinogens. For a neophyte such as myself, it was very worthwhile reading.

My overall assessment is that the author probably teaches a very good course and the book is a good point of departure for students of environmental sciences. But some balance is required to show engineering solutions to the problems presented. It would also be helpful to have some idea of the assignments given to students.

GARY F. BENNETT