

BOOK REVIEW

VAN EMDEN H.F. & PEAKALL D.B.: BEYOND SILENT SPRING. INTEGRATED PEST MANAGEMENT AND CHEMICAL SAFETY. Chapman and Hall, London, 1996. 322 pp. Hb: ISBN 0-412-72800-1, price GBP 60.00; Pb: ISBN 0-412-72810-9, price GBP 24.99.

This is the third book to review Rachel Carson's *Silent Spring*, which was published in 1962. The first one, *Since Silent Spring* (1970) by Frank Graham Jr., clearly supported Carson's predictions regarding environmental toxicity of overused pesticides, and associated human health effects. The second book, *Silent Spring Revisited*, was published by the American Chemical Society in 1987, and consisted of an assemblage of essays that were moderately sympathetic to the original *Silent Spring* and incorporated many changes that had taken place since the early 1960's.

UNEP (United Nations Environmental Programme) and ICIPE (International Centre of Insect Physiology and Ecology) organized a workshop in Nairobi (Kenya) in September 1992 in order to evaluate the recent state of chemical use against pests and the impacts of this use on the environment, especially in tropical countries. Emphasis was placed on practices and new trends in IPM (Integrated Pest Management). Instead of publishing a simple book of proceedings, two of the participants were asked to compile a book covering individual reviews and contributions along with their own opinions. It is apparent that this was a good idea.

The book begins with a review of chemicals that are known environmental pollutants. During the time when Carson's *Silent Spring* was written, the largest chemical environmental problem was the use of organochlorines. These were gradually banned, partially because of the public awareness, and partially because of evolved pest resistance. Now there are new kinds of pesticides, and new associated environmental problems with them.

Additionally, industrial chemicals have been recognized as widespread environmental pollutants.

The next three chapters present the principles of regulation of pesticides and chemical pollutants other than pesticides, and the components of IPM, namely management of insect pests. This portion of the book could be useful as a textbook of IPM for applied entomologists. The advantages and problems associated the use of biological control, sterilization, insect-growth regulators, pheromones, increased biodiversity in agriculture, cultural controls, host-plant resistance, and, of course, the insecticides are assessed. The authors support continued usage of pesticides in IPM if appropriate attention is directed to dosage levels, selectivity, application, timing, placement and formulation of pesticides.

The following chapters present examples of implementation of IPM in tropical Asia, Africa and South America, and focus on technical, organizational, legislative and other social constraints. Hazard assessment of persistent chemicals, and relations to phenomena such as acid rain, the greenhouse effect, and the ozone hole are discussed in terms of technical and legislative aspects on an international level. Thus, in addition to applied entomologists, the book is suitable source of information on diverse environmental problems for technical specialists and regulators.

The last chapter of Rachel Carson's book, entitled "The other road", advocates alternative means of pest control and strongly criticizes the use of any pesticides. "A look into the future" by the authors of *Beyond Silent Spring* predicts a compromise – the middle road of IPM. They predict that research related to IPM will flourish and in the coming decades IPM will be used around the world. The conclusions are optimistic – the human life span is still increasing, society cares about the global environment, and birds still sing...

O. Nedvěd