

Biorational Strategies

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STATISTICS EMERGE ANNUALLY from national and world bodies detailing the loss of agricultural commodities to insect pests, and reminding us of the devastating loss of human and wildlife to insect vectored diseases. Accordingly, the search for effective and environmentally pacific methods of insect control remains a continuing preoccupation of applied biologists and underscores the distinction of entomology as a superdiscipline among the biological sciences.

Few will argue that the discovery and application of organic chemical insecticides is responsible for the abundance and high quality of our food and the outstanding public health we currently enjoy. The occasional accumulation of embarrassing crop surpluses and the explosion of human populations worldwide documents their global impact. Yet, we acknowledge their virtue/vice relationships when we recognize that the residues of a few pesticides and their metabolites may accumulate in the environment and pose a continuing hazard to man, domestic animals and wildlife. At the same time the enormous reproductive potential of insects allows them to rapidly develop resistance to the ever more toxic permutations imagined by the synthetic organic chemists. For approximately thirty years insecticides were discovered largely through the random screening of industrial chemicals and war gases seeking compounds with rapid toxicity to insects. Efficacy, economics and ignorance of their environmental