Biologically Based Technologies for Pest Control

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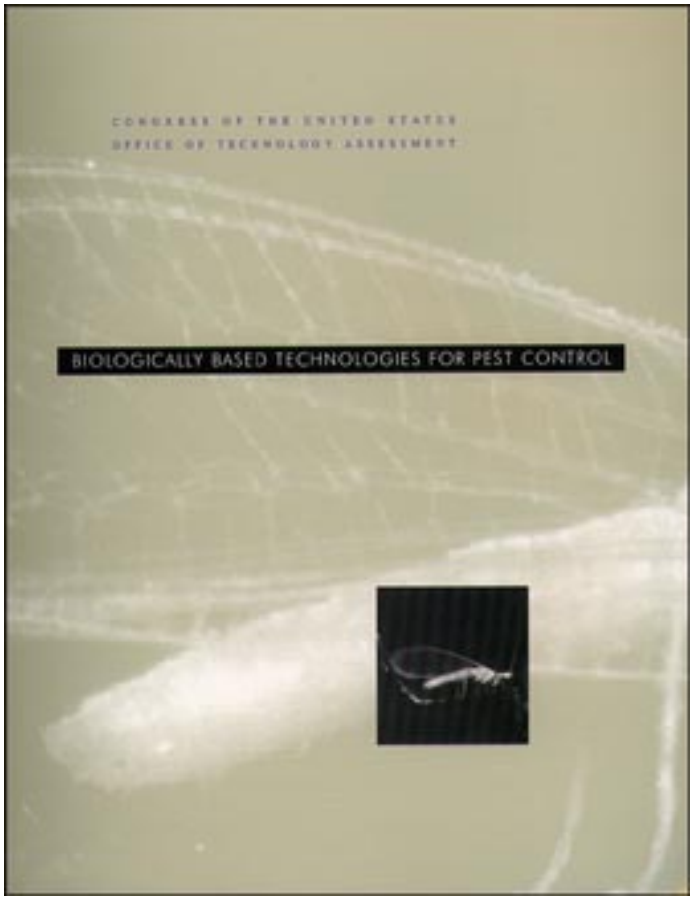

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Foreword

The way the nation manages pests is changing because of efforts to reduce the reliance on conventional pesticides. Driving this change is strong public opinion coupled with action by Congress and by federal and state agencies. At the same time, pest control needs are rising. Many important pests are now resistant to formerly effective chemical controls. And new pests continue to enter the country or spread to new locations where they threaten agriculture, native ecosystems, or human health.

The farmers, foresters, ranchers, and others who seek to prevent excessive pest damage are increasingly aware of the shortcomings of conventional pest control approaches. Their need for more pest control options is acute. Current hopes are that integrated pest management (IPM)—which uses alternative tools as well as pesticides—will provide the key to meeting this need while reducing the reliance on conventional pesticides. This assessment examines an array of the biologically based tools that underpin effective IPM.

The report covers technologies ranging from enhanced biological control of pests by their natural predators and parasites to commercial formulations of microbial pesticides. Today, such approaches have joined the mainstream. Biologically based technologies have penetrated most major applications of pest control and are the methods of choice for such widespread pests as the gypsy moth. They could be used more widely to help solve the nation's pressing need for pest control tools. What happens next will depend largely on federal policies and programs.

The federal government's role here is extensive through its involvement in research, technology transfer, plant protection, land management, and pesticide regulation. Annual expenditures for research and implementation of biologically based technologies for pest control exceed $200 million. But the system does not work as well as it might. A better match between national priorities and the portfolio of federally supported research would improve delivery of new pest control tools into the field. An improved regulatory system would streamline the regulatory process while more closely evaluating the occasional high risks. Finally, the relative roles of the private and public sectors warrant rethinking, because the private sector on its own will go only so far in supplying new biologically based tools.

Biologically Based Technologies for Pest Control was requested by three congressional committees: the House Committee on Agriculture; the House Merchant Marine and Fisheries Committee; and the House Committee on Natural Resources, Subcommittee on National Parks, Forests, and Public Lands.

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