

RAUPP, M. A., R. G. VAN DRIESCHE, AND J. A. DAVIDSON. 1993. *Biological Control of Insect and Mite Pests of Woody Landscape Plants: Concepts, Agents and Methods*. 39 pages, including references. Contribution number 8575 of the Maryland Agricultural Experiment Station, Maryland Cooperative Extension Service, University of Maryland, College Park, Maryland. For sale by the University of Maryland, Agricultural Duplicating Service, 6200 Sheridan Street, Riverdale, MD 20727. The price is \$22.00 with volume discounts at purchases of over 10 and 20 copies. Slide series (56 slides, same as plates in manual) \$50.00.

Biocontrol goes glossy! Indeed if biocontrol is to catch the eye as effectively as the pizzazz of pesticide ads, this manual has made an inroad. The bright glossy cover, effective use of computer graphics, and excellent color plates catches the eye. The readability should hold the attention of even the mildly interested. Unfortunately, as in the case of the shinier apple, and the bigger tomato, something may have been compromised.

All in all this is a nicely presented introduction to some biological control considerations for the nursery producer and landscaper. As the forward states, the manual's purpose is to provide a reference that "serves to expand and facilitate the practical use of biological control in landscapes and nurseries." Its brevity (22 pages of text), provides the nursery producer or landscaper a concise and understandable presentation of just what "biological control" is, and partially addresses the "how-to" of implementation. The concepts of conservation, importation and augmentation, as well as the use of formulated biological organisms are discussed in terms of their roles in biological control and integrated pest management. A brief discussion on why biological control should be considered is presented, citing pesticide resistance, pest stimulation, pesticide-induced outbreaks, effects of pesticides on nontarget organisms, and human health risks attributed to exposure to pesticides.

The majority of the manual is rightly devoted to the description and discussion of the natural enemies commonly encountered, and of special interest to landscape and nursery production. The descriptions of the arthropods are reasonably specific, highlighting some important distinctions that allow the untrained to differentiate between pest and beneficial. The accompanying set of excellent color plates allows the reader to clearly see representatives of these natural enemies at various life stages.

I was looking forward to reading the section entitled "Methods For Implementation," hoping to find concise instruction that provides the grower with some concrete methodology to implement a biological control program. I found the manual to provide some excellent pointers, especially in the area of conservation of natural enemies. In the area of augmentation of natural enemies, however, a lack of information available on specific methods prevails. The authors recognize this deficiency and refer the reader to other sources. Considering the relatively narrow scope of the manual's title I was a little disappointed not to find more applicable information regarding augmentative releases. One important area that was entirely overlooked was the need for a scouting program, without which any attempt at implementation of a biocontrol program is probably futile.

The eye-catching manual is printed on sturdy glossy paper, and spiral bound. The slide series, which is a duplication of the color plates in the manual, is numbered rather than labeled; requiring the use of the manual for explanation of the slide contents.

This manual and slide series will certainly be a valuable tool for the introduction of biological control to an audience in need of pest control reform, but I hope that the next "how-to" manual of biological control comes closer to achieving its objective. Onward ho, in search of the elusive shiny apple that tastes as great as it looks!

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