Introduction and Overview

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Classical biological control--the importation of natural enemies to control pests of foreign origin--has had a long history of significant economic successes in North America beginning with the importation of the vedalia beetle, *Rodolia cardinalis*, and the parasitic fly, *Cryptochaetum iceryae*, which led to the permanent control of the cottony cushion scale in California more than a century ago. Like other forms of biological control, classical biological control is intuitively appealing as a pest management tactic because it involves naturally selected components of the agroecosystem, is nontoxic, and often is self-sustaining. Therefore, it may be economical. In theory and in practice, the goal of classical biological control is to reunite natural enemies with pest species that have invaded new geographical areas with the expectation that effective pest suppression will result. Often, this process involves few input costs when compared with the monetary and social benefits and the outcome may be spectacular and permanent. In addition, like other nonchemical tactics, biological control is nontoxic and, when successful, reduces the use of pesticides that contaminate and disrupt managed and unmanaged ecosystems. For these reasons, biological control is considered a cornerstone of many integrated pest management (IPM) programs.

Despite many proven benefits, classical biological control has come under recent scrutiny by conservationists and environmentalists because of the concern that imported natural enemies may adversely affect native fauna or flora, especially rare and endangered species. Also, there is no clear