

History of Biological Control in North Carolina

Classical biological control programs began in North Carolina in the 1920's. The cottony cushion scale, *Icerya purchasi* (a native of Australia), was discovered in North Carolina. Soon after its discovery, the Vedalia beetle, *Rodolia cardinalis* was imported from California and released to control the harmful scale insect. For three years the Vedalia beetle was reported to be colonized. It was so successful in wiping out the cottony cushion scale that it died out completely after eliminating its food source.

In North Carolina, from 1921-1975, scientists with the US Forest Service, NCSU, and NCDA attempted to control 16 species of insect pests with 48 species of parasites and predators, and eight pathogens. Some of these attempts resulted in success, but in other cases, the biological control agents did not become established.

The Biological Control Program was formalized under the Biological Organisms Act that was passed in 1973, and with the establishment of a laboratory for rearing parasitoids of the gypsy moth. Since that time, the laboratory has undertaken many projects, and a quarantine facility to receive, process, and study exotic insects has been constructed. The present facility opened in 1995.

Classical Biological Control

"Classical" biological control is the introduction by humans of parasites, predators, and pathogens to control populations of pest insects. The definition has since been used by scientists in fields other than entomology to include controlling weeds, nematodes, and plant diseases by this method. The great majority of North Carolina's insect and weed pests are introduced from other countries, e.g., the imported fire ant, hemlock woolly adelgid, Japanese beetle, gypsy moth, kudzu, European corn borer, multiflora rose, hydrilla, musk thistle, cereal leaf beetle, and euonymus scale. In their native land, these pests rarely cause problems because they are held in check by their natural enemies. Freed from their natural enemies, these introduced insects and weeds often reach economically damaging levels in our state. In 1965, the President's Science Advisory Board concluded that every \$1 spent on biological control research and development, resulted in \$30 in accrued benefits. Biological control programs can be effective in agriculture, forestry, and public health.

[Biocontrol Projects](#)

[Back to Biocontrol Home](#)