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## USDA, APHIS biological control of leafy spurge redistribution activity 1990

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In 1990, USDA, APHIS, PPQ continued its three-year-old release program of six species of introduced insects attacking leafy spurge, *Euphorbia esula* L. The purpose of these release efforts is to establish domestic field insectary sites (FIS) for future collection and redistribution activities. All six species have been previously screened and approved for release by the USDA. The insects were collected from domestic, Canadian, and European locations for redistribution. Insect releases over a broad area of the U.S. will provide the basis for domestic population development and future collections for redistribution.

In 1990, APHIS and state cooperators initiated a total of 71 FIS in the states of Colorado (3), Idaho (4), Minnesota (18), Nebraska (6), North Dakota (10), Oregon (7), South Dakota (6), Washington (4), and Wyoming (3). For all states, the total number of individuals released was: *Aphthona cyparissiae* (root boring flea beetle) 3,934 adults; *A. czwalinae* (root boring flea beetle) 117 adults; *A. nigriscutis* (root boring flea beetle) 55,465 adults, *A. flava* (root boring flea beetle) 13,121 adults; *Spurgia esulae* (shoot tip gall midge) 452 galls; and *Oberea erythrocephala* (stem and root boring longhorn beetle) 140 adults.