BIOLOGICAL CONTROL FOR KNOTWEEDS IN NORTH AMERICA

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ABSTRACT

Knotweeds are a complex of closely related invasive plants in the genus *Fallopia* in the family Polygonaceae. Introduced into North America from Japan, these large herbaceous perennials form dense thickets that crowd out native plants, impede recreation, increase erosion, and reduce the quality of habitat for wildlife. They are particularly aggressive invaders of stream banks and flood plains. Our team is carrying out research to develop biological control program for knotweeds that would employ natural enemies introduced from the native range of the weeds (Japan). Two insect species, a sap-feeding psyllid, *Aphalara itadori,* and a leaf and stem-feeding moth, *Ostrinia ovalipennis*, are being tested at the Oregon State University quarantine facility to determine if they are sufficiently host-specific for release into North America. Additionally, a distinct southern strain of the psyllid is also being tested by CABI-Bioscience in the United Kingdom. Seventy native and economically important plants were selected for testing. The primary test procedure involves caging adult insects onto individual test plants and measuring any oviposition and subsequent development that occurs. Testing of the psyllid is near completion, while testing of the moth has just begun. The psyllid has demonstrated a high level of host specificity with only very marginal development on three of the nontarget hosts. These results will be submitted for review by the regulatory authorities for a possible release as early as 2010. Testing of the moth will take at least 2 more years for completion.