

Developing Biological Control for Perennial Pepperweed in the U.S.: Progress So Far

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Abstract

Perennial pepperweed, *Lepidium latifolium* L. (PPW), is a mustard of Eurasian and Central Asian origin that is invading natural and cultivated habitats in North America and is difficult to control with conventional means. A project investigating the potential for biological control of PPW was started in 2004. Based on field collections in various countries within the native range of PPW, 113 phytophagous organisms were sampled or reared, five of which were prioritized as potential biological control agents: the root-mining weevil *Melanobaris* sp. n. pr. *semistriata* Boheman (Coleoptera, Curculionidae), the gall-forming weevil *Ceutorhynchus marginellus* Schultze (Coleoptera, Curculionidae), the stem-mining flea beetle *Phyllotreta reitteri* Heikertinger (Coleoptera, Chrysomelidae), the gall-forming eriophyid mite *Metaculus lepidifolii* Monfredo & de Lillo (Acari, Eriophyidae) and the stem-mining fly *Lasiosina deviata* Nartshuk (Diptera, Chloropidae). Host-specificity testing in quarantine at CABI Europe-Switzerland started in 2006 with the first three of the potential agents. In addition, several field tests were conducted in the native range of the organisms in Russia and Turkey. A summary of results so far will be presented and the potential of the organisms as biological control agents discussed.