

Post Release Monitoring of a 2009 Release of *Jaapiella ivannikovi* (Diptera: Cecidomyiidae) for the Control of Russian Knapweed in Fremont County, Wyoming

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Abstract

Russian knapweed, *Acroptilon repens* (L.) D.C., is well established in Fremont County Wyoming, infesting over 40,000 acres of crop and rangeland. It has been the target of a biological control of weed effort in Wyoming, USA, since 1992 when a nematode, *Subanguina picridus* Kirjanova and Ivanova, was released. The Russian Knapweed Consortium has collected funds primarily from Wyoming Weed and Pest Districts as part of a cooperative effort with USDA/APHIS and CABI Europe-Switzerland to find additional agents. *Jaapiella ivannikovi* Fedotova (Dip., Cecidomyiidae) was approved for release in 2009. It was released north of Riverton, Fremont County, Wyoming on 19 May 2009. By the end of the summer over 50 galls had been located. By the end of 2010, the insect had spread across several hectares of land with over 200 galls being identified. Pre-release data had been collected from permanent transects established at this site for a number of years in anticipation of future releases. Additional transects have been established to monitor population expansion and impact of the agent on the target species. Preliminary data indicates that *J. ivannikovi* reduces Russian knapweed plant size and seed production. Efforts will be made in 2011 to evaluate parasitism, habitat preferences and seasonal phenology of gall formation and adult emergence. Preliminary field data suggests that *J. ivannikovi* is a promising biological control agent for Russian knapweed that has established in Montana, Colorado and Wyoming, has significant impact and is spreading in both density and area.