

2017- Weed and Agriculture Research Report Lassen, Modoc, Sierra and Plumas Counties



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I would like to sincerely thank all the cooperators, who allowed my colleagues and I to conduct these field trials on their land. I really appreciate the alterations of your management practices, donations of time, equipment, and labor to accommodate this work. Without your generosity, and help none of this work would have been completed.

In no specific order, cooperators included in this report are: Buck Parks, Jay Dow, Herb Jasper, John Flournoy, Billy Flournoy, Tim Garrod, Luke Garrod, Craig Hemphill, Steven Martin, Marty Svendsen, Ed Svendsen, Pam Cherney, Jack Hanson, Wyatt Hanson, Ron Lavor, Bob Sitika, and Einen Grandi

Additionally, I would like to thank Eric Rubio for help finding sites, and donation of product which allowed these trials to be completed.

For more information about any of the trials described, please do not hesitate to contact me.

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Russian Knapweed Biocontrol Release

Summary: Russian knapweed is a B list noxious weed species that is problematic in portions of Lassen, Modoc, and Plumas counties. It invades both agricultural systems and natural areas forming monocultures. It is a perennial species that can spread from either the root or the seeds of the plant. Biocontrol for invasive weeds utilizes the concept of bringing natural predators of the weed from its native range. Biocontrol species for weeds can consist of insects, and fungal or bacterial pathogens; however, it is very important they are species specific, so they do not spread to agronomic or native species.

Two insect species have been vetted and introduced to help control Russian knapweed in the US, and have successfully established in both Colorado and Montana. The gall midge (*Jaapiella ivannikovi*) was introduced to California but did not become established. This project's focus is to see if Russian knapweed gall wasp (*Aulacidea acroptilonica*) will establish in North Eastern California. Both of these insects lay their eggs on the plant, and their larvae form galls in the stem of the plant, helping prevent seed formation.

In conjunction with Mike Picarin from the CDFA, releases of the gall wasp were made at three locations within Lassen County in the spring of 2017 (additional releases were also made in Siskiyou county). Release sites were revisited in the fall. Gall formation was found on multiple Russian knapweed plants at two of the release sites in Lassen county! This is good news as this is the first step towards population establishment. Release sites will continue to be monitored in 2018 and addition releases will be made.



Gall formation on the stem of Russian knapweed. The fall following release of the gall midge biocontrol agent.