

If you are interested in ordering biocontrols through the CDA Palisade Insectary please use the Request-A-Bug link through our website at www.palisadeinsectary.com. Your request will be processed and added to the agent request list of the particular weed or weeds you are targeting. As agents are field collected through the summer we will notify you when they are available and ship them via Fed-Ex to your physical address. Shipping cost is included in our fee structure and payment is not requested until agents become available and you are notified. Depending on which agents you have requested availability varies and is not guaranteed within the same year as ordered. Generally requests are fulfilled within the year however field conditions and demand affect availability. The table below lists the approximate timing in which agents are available and distribution begins. Project manager emails are provided as well if you would like further information.

Colorado Department of Agriculture, Palisade Insectary Biological Controls 970-464-7916 www.palisadeinsectary.com insectary@state.co.us						
Targeted Weed or Insect	Biocontrol Agent	Mode of Action	Effectiveness Following 2-3 Years of Establishment	Notes	Insectary Contact	
List B						
Canada thistle	<i>Puccinia punctiformis</i>	Rust Fungus	Spores systemically infect plant above and below ground leading to plant mortality.	Effective	\$50.00 per release. Spores collected in the field and released in the fall (August-October).	Karen Rosen karen.rosen@state.co.us
Musk thistle	<i>Trichostrocalus horridus</i>	Crown Weevil	Feed on rosette crowns and kills apical meristem/ reduces flowering	Effective	Limited Availability; \$30.00 per 100 adult weevils. Can decrease plant density. Distributed late June-early July	Nina Louden nina.louden@state.co.us
Diffuse & Spotted Knapweed	<i>Larinus minutus</i>	Flower Weevil	Feed on seed heads and leaves	Effective	\$30.00 per 200 adult weevils. Released July - August. Primary biocontrol for diffuse knapweed; field collected - highly available on Front Range.	John Kaltenbach john.kaltenbach@state.co.us
	<i>Cyphocleonus achates</i>	Root Weevil	Root boring	Effective	Limited Availability; \$30.00 per 100 adult weevils. Available July-August. Will distribute as numbers allow; effective on diffuse & spotted knapweed.	John Kaltenbach john.kaltenbach@state.co.us
Russian Knapweed	<i>Jaapiella ivanikovi</i>	Gall Midge	Adult fly lays eggs on shoot tips, larvae stimulate gall formation	Reduces flowering and stem height	Free, minimum 25 galls per release. Field, Insectary garden and greenhouse collected. Galls can be released as early as April-June (weather depending) then again in August-September (weather depending).	Sonya Daly sonya.daly@state.co.us
	<i>Aulacidea acroptilonica</i>	Stem Gall Wasp	Lay eggs in stems/ larvae stimulate gall formation	Reduces flowering and stem height	No charge until 2021. 200 adult wasps. Released April-June.	Sonya Daly sonya.daly@state.co.us
Leafy spurge	<i>Aphthona spp.</i>	Flea beetle	Adults defoliate; larvae feed on roots	Effective in rocky soils and in full sun; not as effective in deep, sandy soils.	\$30.00 per 1000 adults per release. Field collected and distributed mid-June to mid-July.	John Kaltenbach john.kaltenbach@state.co.us
	<i>Oberea erythrocephala</i>	Long-horned beetle	Adult feed above ground; larvae bore into stem & root crown	Effective	Limited availability; Collected June and July	John Kaltenbach john.kaltenbach@state.co.us
Yellow toadflax	<i>Mecinus janthinus</i>	Weevil	Larvae bore into stems to feed. Adults feed on foliage.	Effective (need 5-6 yrs to see toadflax decline)	Limited Availability; \$30.00 per 100 adult weevils. Field collected, available May-June. Effective on Yellow toadflax.	Mike Racette michael.racette@state.co.us
Dalmatian toadflax	<i>Mecinus janthiniformis</i>	Weevil	Larvae bore into stems to feed. Adults feed on foliage.	Effective; may take several years.	\$30.00 per 200 adult weevils. Available late May-June.	Mike Racette michael.racette@state.co.us
List C						
Field bindweed	<i>Aceria malherbae</i>	Eriophyid mite	Wormlike mite causes galls along midribs of leaves, petioles, stem tips	Effective	\$35.00 per 1000 galls. Stunts plants and reduces seeds; can potentially eradicate; can winter over; doesn't move from plant to plant easily but mowing can assist. Available June-August	Nina Louden nina.louden@state.co.us
Puncturevine	<i>Microlarinus spp. (M. lareynii, lypriformis)</i>	Weevil	Feed on seeds and stem	Can be effective	\$30.00 per 100 adult weevils. Field collected in September.	Mike Racette michael.racette@state.co.us
Others						
Purple loosestrife	<i>Hylobius transversovittatus</i>	Weevil	Feed on roots	Effective	OUT OF COLORADO RELEASES ONLY. Inappropriate for List A in Colorado; can be distributed to other states	Sonya Daly sonya.daly@state.co.us
Oriental Fruit Moth	<i>Macrocentrus ancylivorus</i>	Parasitic wasp	Parasitism	Very effective	Free; reared at the Insectary. Releases start the end of May and continue through the first part of August.	Mike Racette michael.racette@state.co.us