

Current Status of Biological Weed Control Agents in Idaho, Oregon, and Washington

Weed	Biocontrol Agent	Oregon				Washington				Idaho			
		Distribution ¹	Attack Rate ²	Control ³	Availability ⁴	Distribution ¹	Attack Rate ²	Control ³	Availability ⁴	Distribution ¹	Attack Rate ²	Control ³	Availability ⁴
Bindweed, field (<i>Convolvulus arvensis</i>)	<i>Aceria malherbae</i>	L	M	F	L	L	M	F	M	L	L	F	L
	<i>Tyta luctuosa</i>	L	L	P	U	U	U	U	U	L	L	U	L
Broom, French (<i>Genista monspessulana</i>)	<i>Bruchidius villosus</i>	W	H	G	M	—	—	—	—	—	—	—	—
Broom, Scotch (<i>Cytisus scoparius</i>)	<i>Bruchidius villosus</i>	W	H	G	M	W	H	G	M	L	U	U	U
	<i>Exapion fuscirostre</i>	W	H	G	M	W	H	G	L	L	U	U	U
	<i>Leucoptera spartifoliella</i>	W	M	P	L	L	M	P	L	—	—	—	—
Gorse (<i>Ulex europaeus</i>)	<i>Exapion ulicis</i>	W	H	G	M	M	H	F	I	—	—	—	—
	<i>Sericothrips staphylinus*</i>	—	—	—	—	—	—	—	—	—	—	—	—
	<i>Tetranychus lintearius</i>	W	L	P	U	W	L	P	U	—	—	—	—
Hawkweeds [mouse-ear (<i>Pilosella officinarum</i>); orange (<i>P. aurantiaca</i>); whiplash (<i>P. flagellaris</i>)]	<i>Aulacidea subterminalis</i>	—	—	—	—	U	U	U	U	—	—	—	—
	<i>Cheilosia urbana*</i>	—	—	—	—	—	—	—	—	—	—	—	—
Hemlock, poison (<i>Conium maculatum</i>)	<i>Agonopterix alstroemeriana</i>	W	L	P	L	W	L	P	L	L	L	P	L
Knapweed, diffuse (<i>Centaurea diffusa</i>)	<i>Bangasternus fausti</i>	W	H	G	M	W	H	G	M	L	L	F	L
	<i>Cyphocleonus achates</i>	L	L	F	L	L	M	E	L	L	M	G	M
	<i>Larinus minutus</i>	W	H	E	M	W	H	E	M	W	H	E	M
	<i>Pterolonche inspersa</i>	L	L	L	U	F	—	—	—	F	—	—	—
	<i>Sphenoptera jugoslavica</i>	W	H	G	L	W	H	G	M	W	H	G	M
	<i>Urophora affinis</i>	W	H	G	M	W	H	G	M	W	H	G	M
Knapweed, meadow (<i>Centaurea x moncktonii</i> ; = <i>C. jacea</i> x <i>nigra</i> ; = <i>C. debeauxii</i> ; = <i>C. pratensis</i>)	<i>Larinus minutus</i>	L	M	F	L	L	M	F	L	—	—	—	—
	<i>Larinus obtusus</i>	W	H	G	M	W	H	G	M	—	—	—	—
	<i>Urophora quadrifasciata</i>	W	L	F	L	L	M	F	M	—	—	—	—
Knapweed, Russian (<i>Rhaponticum repens</i> ; = <i>Acroptilon repens</i>)	<i>Aulacidea acroptilonica</i>	L	H	U	M	L	M	U	M	L	M	U	L
	<i>Jaapiella ivannikovi</i>	L	L	L	M	L	M	U	M	L	M	U	L
	<i>Subanguina picridis</i>	L	U	U	U	F	—	—	—	U	U	U	U
Knapweed, spotted (<i>Centaurea stoebe</i> ; = <i>C. stoebe</i> ssp. <i>micranthos</i>)	<i>Agapeta zoegana</i>	L	H	G	U	L	M	U	L	W	L	U	L
	<i>Bangasternus fausti</i>	W	L	G	M	L	L	U	L	L	U	U	L
	<i>Chaetorellia acrolophi</i>	L	L	F	L	L	L	U	L	L	L	U	L
	<i>Cyphocleonus achates</i>	W	H	F	M	L	M	F	L	L	M	G	M
	<i>Larinus minutus</i>	W	H	E	M	W	H	E	M	W	H	E	M
	<i>Larinus obtusus</i>	W	H	E	M	L	M	G	M	L	M	F	L
	<i>Metzneria paucipunctella</i>	W	L	F	L	W	L	G	L	W	H	G	M
	<i>Sphenoptera jugoslavica</i>	W	H	G	L	W	H	G	M	L	L	P	L
	<i>Terellia virens</i>	L	M	G	L	L	U	U	U	L	U	U	U
	<i>Urophora affinis</i>	W	M	G	M	W	H	G	M	W	H	G	M
<i>Urophora quadrifasciata</i>	W	H	G	M	W	H	G	M	W	H	G	M	
Loosestrife, purple (<i>Lythrum salicaria</i>)	<i>Galerucella californiensis</i>	W	H	E	M	W	H	E	M	W	H	E	M
	<i>Galerucella pusilla</i>	W	H	E	M	W	H	E	M	W	H	E	M
	<i>Hylobius transversovittatus</i>	W	H	G	M	L	M	F	L	L	L	F	L
	<i>Nanophyes marmoratus</i>	W	M	F	M	L	M	F	M	W	L	F	M

Weed	Biocontrol Agent	Oregon				Washington				Idaho			
		Distribution ¹	Attack Rate ²	Control ³	Availability ⁴	Distribution ¹	Attack Rate ²	Control ³	Availability ⁴	Distribution ¹	Attack Rate ²	Control ³	Availability ⁴
Puncturevine (<i>Tribulus terrestris</i>)	<i>Microlarinus lareynii</i>	L	M	F	U	L	M	P	U	L	L	P	U
	<i>Microlarinus lypriformis</i>	F	—	—	—	U	U	U	U	L	L	P	U
Ragwort, tansy (<i>Jacobaea vulgaris</i> ; = <i>Senecio jacobaea</i>)	<i>Botanophila seneciella</i>	W	H	F	M	W	H	G	M	L	L	F	U
	<i>Longitarsus jacobaeae</i>	W	H	E	M	W	H	E	M	W	H	G	L
	<i>Tyria jacobaeae</i> *	W	H	E	M	W	H	E	M	—	—	—	N
Sage, Mediterranean (<i>Salvia aethiopis</i>)	<i>Phrydiuchus tau</i>	W	H	G	L	L	M	L	N	W	H	G	M
St. Johnswort (<i>Hypericum perforatum</i>)	<i>Agrilus hyperici</i>	L	H	E	L	L	H	E	L	W	H	E	M
	<i>Aplocera plagiata</i>	W	M	P	M	W	M	F	L	W	M	F	M
	<i>Chrysolina hyperici</i>	W	H	E	L	W	H	E	M	W	H	E	M
	<i>Chrysolina quadrigemina</i>	W	H	E	L	W	H	E	M	W	H	E	M
Saltcedar (<i>Tamarix ramosissima</i>)	<i>Diorhabda carinulata</i> * (formerly <i>D. elongata</i>)	W	M	F	F	—	U	—	U	L	H	G	L
Skeletonweed, rush (<i>Chondrilla juncea</i>)	<i>Aceria chondrillae</i> (formerly <i>Eriophyes chondrillae</i>)	W	H	E	M	W	H	G	M	W	H	E	M
	<i>Bradyrrhoa gilveolella</i>	L	S	P	U	U	U	U	U	L	M	F	L
	<i>Cystiphora schmidti</i>	W	H	G	M	W	H	G	M	W	H	E	M
	<i>Puccinia chondrillina</i>	W	M	G	L	W	H	G	M	W	H	G	M
Spurge, leafy (<i>Euphorbia virgata</i> ; = <i>E. esula</i>)	<i>Aphthona cyparissiae</i>	L	H	E	L	L	M	F	L	L	L	G	M
	<i>Aphthona czwalinai</i>	L	H	E	M	L	L	U	U	L	L	G	M
	<i>Aphthona flava</i>	L	H	F	L	L	M	F	L	L	L	G	M
	<i>Aphthona lacertosa</i>	W	H	E	M	L	M	U	L	W	H	E	M
	<i>Aphthona nigricutis</i>	W	H	E	M	L	M	F	U	W	H	E	M
	<i>Hyles euphorbiae</i>	F	—	—	—	—	—	—	—	W	M	G	M
Starthistle, yellow (<i>Centaurea solstitialis</i>)	<i>Bangasternus orientalis</i>	W	L	P	L	W	L	P	L	W	L	P	M
	<i>Ceratopion basicorne</i> *	—	—	—	—	—	—	—	—	—	—	—	—
	<i>Chaetorellia australis</i>	W	H	E	M	W	M	G	M	W	M	G	M
	<i>Eustenopus villosus</i>	W	H	E	M	W	H	E	M	W	H	E	M
	<i>Larinus curtus</i>	W	H	E	M	W	M	F	L	W	H	E	M
	<i>Puccinia jacea</i> var. <i>solstitialis</i>	L	S	U	U	U	U	U	U	U	U	U	U
	<i>Urophora sirunaseva</i>	W	L	P	L	W	L	U	L	W	L	U	L
Thistle, bull (<i>Cirsium vulgare</i>)	<i>Urophora stylata</i>	W	H	G	M	L	M	F	L	L	L	U	L
Thistle, Canada (<i>Cirsium arvense</i>)	<i>Hadroplontus litura</i> (formerly <i>Ceutorhynchus litura</i>)	L	H	P	U	L	M	F	L	L	L	F	L
	<i>Puccinia punctiformis</i>	L	H	G	L	U	U	U	U	U	U	U	U
	<i>Rhinocyllus conicus</i> *	W	H	F	N	W	H	F	N	W	F	F	N
	<i>Urophora cardui</i>	W	H	P	M	W	H	F	M	L	M	F	M
Thistle, Italian (<i>Carduus pycnocephalus</i>)	<i>Cheilosia grossa</i> (formerly <i>C. corydon</i>)	W	H	L	L	—	—	—	N	—	H—	G—	N
	<i>Rhinocyllus conicus</i> *	W	H	G	N	—	—	—	N	L	H	G	N
	<i>Trichosirocalus horridus</i> *	W	H	U	N	—	—	—	N	L	L	U	N
Thistle, milk (<i>Silybum marianum</i>)	<i>Rhinocyllus conicus</i> *	W	H	G	N	—	—	—	N	—	—	—	—
Thistle, musk (<i>Carduus nutans</i>)	<i>Rhinocyllus conicus</i> *	W	H	G	N	W	H	G	N	W	H	G	N
	<i>Trichosirocalus horridus</i> *	L	M	G	N	—	—	—	N	L	M	G	N

Weed	Biocontrol Agent	Oregon				Washington				Idaho			
		Distribution ¹	Attack Rate ²	Control ³	Availability ⁴	Distribution ¹	Attack Rate ²	Control ³	Availability ⁴	Distribution ¹	Attack Rate ²	Control ³	Availability ⁴
Thistle, plumeless (<i>Carduus acanthoides</i>)	<i>Rhinocyllus conicus</i> *	L	H	G	N	W	H	G	N	W	H	G	N
	<i>Trichosirocalus horridus</i> *	U	U	U	U	L	L	U	N	L	L	U	N
Thistle, slenderflower (<i>Carduus tenuiflorus</i>)	<i>Cheilosia grossa</i> (formerly <i>C. corydon</i>)	W	M	F	M	—	—	—	—	—	—	—	—
	<i>Rhinocyllus conicus</i> *	W	H	G	N	—	—	—	N	—	—	—	—
	<i>Trichosirocalus horridus</i> *	W	H	F	N	—	—	—	N	—	—	—	—
Toadflax, Dalmatian (<i>Linaria dalmatica</i>)	<i>Brachyterolus pulicarius</i>	W	M	P	M	W	M	P	M	W	H	E	M
	<i>Calophasia lunula</i>	L	L	P	U	W	H	F	M	W	L	U	L
	<i>Mecinus janthiniformis</i> (formerly <i>M. janthinus</i>)	W	H	E	M	W	H	E	M	W	H	E	M
Toadflax, yellow (<i>Linaria vulgaris</i>)	<i>Brachyterolus pulicarius</i>	L	M	F	L	L	M	F	L	L	M	P	L
	<i>Calophasia lunula</i>	L	U	U	U	L	M	F	L	L	M	F	L
	<i>Rhinusa antirrhini</i> (formerly <i>Gymnetron antirrhini</i>)	W	M	U	L	L	H	G	L	L	M	U	L
	<i>Rhinusa pilosa</i> *	—	—	—	—	—	—	—	—	—	—	—	—
	<i>Mecinus janthinus</i>	L	H	E	L	L	U	U	U	L	H	E	L
Watermilfoil, Eurasian (<i>Myriophyllum spicatum</i>)	<i>Euhrychiopsis lecontei</i> *	L	L	U	U	W	M	F	U	W	L	F	L
Whitetop or hoary cress (<i>Lepidium draba</i>)	<i>Aceria drabae</i> *	—	—	—	—	—	—	—	—	—	—	—	—

¹ Distribution within host range: W = widespread; L = limited sites; F = failed to establish; U = unknown status; — = not released

² Attack rate host: H = heavy (> 70%); M = medium (> 30%); L = light (> 10%); S = slight (< 1%); U = unknown status

³ Control ability on seeds and/or plant density: E = excellent; G = good; F = fair; P = poor; U = undetermined

⁴ Availability for redistribution: M = mass collections; L = limited (Limited availability indicates biocontrol agent populations are slow in building or are recently introduced. Work on these species should be coordinated through biological control specialists at the state department of agriculture or state university); U = unavailable; N = not recommended. These biocontrol agents may attack native species and interstate shipments are no longer permitted.

*Indicates biocontrol agents where redistribution limitations may apply. See Table 2 for additional information