

How to Look for Bio Agents

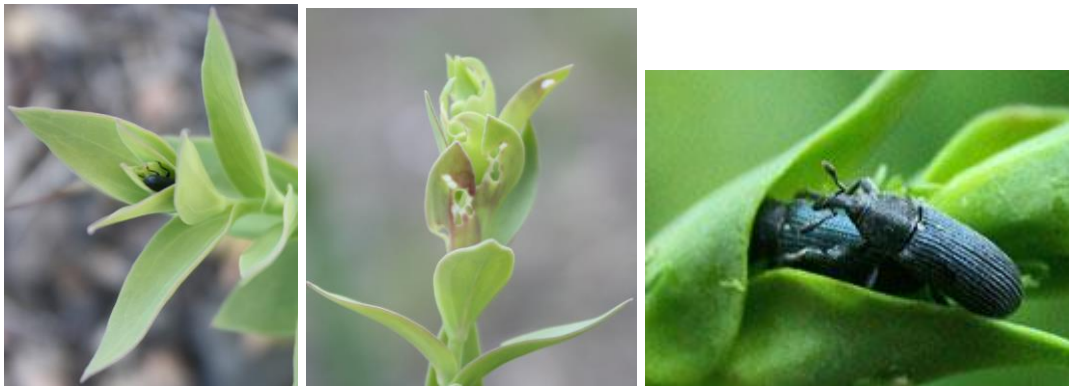
~~ Insect availability is weather dependent ~~

Hounds Tongue (*Mogulones crucifer*)



- *The weevil is approx. 2-3mm long. It is a blackish brown color with a white cross on its back.*
- *Look for feeding damage on the leaves and at the base of the leaves where they join the stem.*
- *These weevils are hard to find in person, they drop off the plant and pretend they're dead as soon as they see you coming.*
- *These weevils are available in May*

Dalmation Toadflax (*Mecinus janthiniformis*)



- *Look for feeding damage on the stem and foliage of the plant (Center Picture)*
- *Look for the weevil itself. Black weevil approx. 3-4mm long.*
- *These weevils are out in May-June*

Spotted/Diffuse Knapweed (*Larinus minutus*)



- *The Larinus weevil affects the seed head of the plant.*
- *The Weevil ranges in color from black to brown to green to tan and is approx. 4-5 mm long*
- *On the old plants, look for a bullet hole in the top of the seed head (that is where the weevil emerged)*
- *These weevils are available most of the summer, June-August*

Spotted/Diffuse Knapweed (*Cyphocleonus achates*)



- *The Cyphocleonus Achates weevil affects the root of the plant.*
- *The weevil is approx. 20mm long and is grey and white in color (blends in with the plant)*
- *In spring and early summer, pull up a root—the larvae will be burrowed down the center of the root system.*
- *There can be more than one in each root.*
- *These weevils are available July-August*

Spotted/Diffuse Knapweed (*Agapeta zoegana*)



- *A. zoegana* is a small bright yellow moth, 10 mm in length, with brown wing bands.
- The adults may be found resting vertically on the knapweed stems or under the leaves. They have the appearance of dead or dying knapweed leaves.
- In the spring and early summer, look at the root of a knapweed plant—*Agapeta* girtles the outside of the root system
- The larvae of *Agapeta* is long and skinny with a brown head.

Leafy Spurge (*Apthona nigriscutus*)



- The *Apthona* beetles are approximately 3-3.5 mm long and are a shiny brown or brownish with a black dot on their back behind their thorax
- The beetles are out from late July-August

References

<http://idahoweedawareness.net/vfg/weedlist/daltoadflax/media/weevil.jpg>

http://ukmoths.org.uk/images/0938A_zoeganaJC.jpg