Larinus minutus

Knapweed Flower/Seedhead Weevil

Weed(s) Attacked: Diffuse and Spotted Knapweed

SCNWCB February 2006

GENEALOGY

Original source for U.S. release was Greece. First U.S. releases were made in 1991. Now established in Montana, Oregon, and Washington. In Stevens County, starting in 2000, this has been the most heavily collected and redistributed agent of all time. It is now well established throughout the county, and needs little assistance.

LIFE CYCLE

Overwintered adults emerge from the ground litter in late May or June and begin feeding. Females lay clusters of eggs in open flowers. When the eggs hatch the larvae start feeding on flower parts and immature seeds. The larvae are aggressive and kill one another and other species within the seed head. The surviving larvae feed and go through numerous changes. Pupation into an adult takes place inside a cocoon made of chewed seed and flower parts and is attached to the flower receptacle. The new adults emerge from their cocoon in July and August. These adults feed before going into the ground litter to hibernate.

EFFECT

Both adult and larvae are destructive to Diffuse and Spotted Knapweed. Adults feed on young leaves in spring, and leaves and flowers later on. A larva often destroys all the seeds in it's seedhead.

REDISTRIBUTION

June and early July are the best times to collect this agent. The females have more egg laying ability at these times. A good collection method is to bend the entire plant over into a sweep net or container and shake the agents off. Place bugs in a paper sack with a little food (knapweed) and some water (a clean moistened sponge) for the trip to the new release site. Keep the bugs cool during their captivity. New release sites should closely resemble the environment from which the insects were collected. Generally this will be open, sunny knapweed patches, where plants are spaced enough for the ground between to be hot and dry. Release about 250-500 adults for each new site.

COMMENTS

The year 2000 marked the beginning of an effort to widely establish this agent throughout Stevens County. Over the years they have proven to be the best available BioAgent for Diffuse and Spotted Knapweed in our area. The insects are probably now established everywhere they are going to establish in Stevens County. Their impact is visible throughout numerous areas. They need little further assistance. As their populations increase over the coming years their impact should become significant throughout the county.

Larinus minutus adult

Larinus minutus adults

Larinus minutus on knapweed