

Weevils



Hadroplontus litura (formally *Ceutorhynchus litura*), commonly Canada thistle stem mining weevil.

The stem mining weevil was introduced from Europe to Canada in 1965 and to the USA in the early 1970's to feed on Canada thistle. The weevil restricts its feeding to this weed and a few close relatives. After wintering the weevils emerge in early spring as the first thistle rosettes begin to appear. The adults are present for several weeks, mating and

feeding on the foliage of the Canada thistle; unfortunately, adult feeding appears to have little adverse effect on weed vitality. Even at high densities, the adults are difficult to find in the field, as they fall off the host plant when disturbed and remain motionless on the ground where they are well camouflaged.

When ready to lay eggs, a female weevil chews a hole (1/10" in diameter) in a thistle leaf on a young rosette, generally in the main vein. She turns around and lays one to five eggs in the hole. When the larvae hatch a week or so later, they tunnel through the leaf in the lower stem and roots collar; when several larvae are present, the main vein turns black from the tunnelling and, several days later the leaf dies.

In early summer, once fully fed, the larvae emerge from the thistle shoot through small exit holes that they chew near or just below ground level. They work their way into the soil, and enter the pupal stage in which they transform into adults. After two to three weeks, adults emerge from the soil in late June and July and feed on the thistle foliage until heavy frost occurs in fall. Upon release at new locations they spread slowly; in field studies in Canada, they spread on average 90 m in 6 years. Because of this localization the level of infestation at the sites of release increases over time.

Weevil feeding may allow a variety of other micro-organisms to enter the thistle stem, with adverse consequences for the thistle: field studies in Montana indicated that underground parts of stems are much more subject to winter kill if the aboveground stem is attacked by weevils during the growing season.

WCFA has been working with local producers on the release of these weevils for the last four years. Sites where weevils have been released have generally shown decreased stand vigor and patches thin out over time. In 2012, 50 dishes (each containing 105 weevils individuals) were brought up from Montana for producers in the West Central Region who were interested in the purchase and release them in thistle patches. Added to this was 58 dishes for a regional trial set up by the Agricultural Research and Extension Council of Alberta. These 58 dishes were released into controlled site from Lethbridge right up to the Peace Country. These sites will be monitored for the next several years to further establish whether the weevils are developing local populations or not.

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