

What's bugging you: Russian wheat aphids and alfalfa weevil?

Assefa Gebre-Amlak
Regional Pest Management Specialist

We are seeing increased infestations and damage by Russian wheat aphids in Adams, Weld, Washington and Logan counties in Colorado. Severe infestations ranging from 10 to 80% were observed in some wheat fields in northeastern Adams County. Most of wheat fields appeared to be treated for this insect.

The second highest Russian wheat aphid infestation (25-30%) was observed in Logan County, a few miles east of Sterling. Fields in Washington County show lower levels of infestation, however, scouting for this pest is should continue.

Russian wheat aphids (RWA) can be found in winter wheat, usually on the younger leaves, from emergence in the fall to grain ripening. Aphid feeding prevents young leaves from unrolling. RWA colonies are found within the tubes formed by these tightly curled leaves. This not only makes it difficult to achieve good insecticide coverage, but also interferes with the ability of predaceous insects to reach and attack aphids. Leaves infested by RWA have long white, purple or yellowish streaks. Under some conditions, infested wheat tillers have a purplish color. Heavily infested plants are stunted and some may appear prostrate or flattened.

In 2003, a new biotype of the Russian wheat aphid was observed. It is virulent to all of the resistant varieties used in its management earlier. Russian wheat aphid resistant varieties may still be used if they perform well in a given area, however, they likely will not provide any useful resistance.

Chemical control of Russian wheat aphids is justified if you detect 5-10 % damaged and infested tillers (during regrowth and early boot) and 10-20 damaged and infested tillers during early boot to flowering stage. For effective insecticide products, you may refer to the High Plains IPM website, <http://highplainsipm.org>.

Alfalfa weevil is commonly found in most of the alfalfa fields in the Front Range area and northeastern Colorado. 148 degree days (which indicates pick occurrence of 2nd instar larvae) have been accumulated in Colorado (www.Nocopestalert.org).

Alfalfa weevil is the most destructive insect of alfalfa hay in the intermountain western region of the United States. Both larvae and adults feed on alfalfa; the larval stage is the damaging stage, lowering yield and quality.

First and second instars feed in the tightly folded leaves of stem buds. When half to full grown, the larvae tend to move onto open leaves near the terminals.

Alfalfa weevil larvae chew and skeletonize leaves and large larval populations may defoliate entire plants, giving the field grayish color. Damage normally occurs to the first

harvest but both larvae and adults may damage regrowth when populations are high, resulting in both yield and stands.

Monitoring and sampling techniques for alfalfa weevil: you may use sweep sampling (standard size 38 cm net) or bucket method (stem count method) to determine economic threshold level for the pest.

The economic threshold for a sweep sample is 20 larvae per sweep and stem count method is 1 ½ - 2 larvae per stem. For details of sampling methods and types of effective insecticide products, timing and other pesticide information, please check High Plains IPM Guide at <http://highplainsipm.org>.

A non-insecticide control measure for alfalfa weevils is an early first harvest if an economic infestation is not detected until late in the growth of the first cutting. Harvesting alfalfa in an immature stage provides good control of larvae for the first crop. Rapid removal of hay will accelerate larval mortality due to desiccation by direct sunlight.

Additional steps should be taken to ensure that surviving larvae do not cause economic damage to the regrowth. If larval survival under the windrows is high and baling is delayed (e.g., due to rainfall), damage to regrowth may be exacerbated. Regrowth should be inspected at a height of one to two inches to determine larval density.