

CLOVER ROOT CURCULIO

Most Cache County alfalfa fields look great this year. The weather has been pleasant and spring rains have been timely. Thanks to effective alfalfa herbicides, most fields are free of weeds. We should easily start harvesting our first cutting during the month of May. Alfalfa quality should be exceptional, if we can harvest between rain storms.

My Idaho Extension associates are suggesting that Utah growers need to more closely monitor for Clover Root Curculio (CRC), an alfalfa pest that hasn't yet been detected in Utah. Some suggest we already have this insect, but don't recognize it. The underlying problem is a lack of common knowledge and public awareness. CRC damage characteristics usually have been misinterpreted and treated as nutrient deficiencies, disease problems, or attributed to other insects.

The Clover Root Curculio Weevil (*Sitona hispidule*) is one of the most serious alfalfa pests in the state of Idaho. Over the past ten years the CRC population has increased dramatically. Crop advisors have evaluated hundreds of growers' fields. The majority of fields and samples had some CRC damage.

Adult CRC weevils are dark gray to black, about 1/8" to 1/4" long, and have a short snout and deeply punctured appearance on the head, thorax and abdomen. Larvae are small white grubs about 1/4" long, with a dark brown head and no legs. They are usually found in the soil close to alfalfa root systems. Normally the CRC overwinters as an adult, laying eggs in the spring, but eggs may be laid in the fall or winter and overwinter until spring in mild seasons. In the spring adults become active, depositing eggs on the soil surface or on the undersides of leaves of alfalfa, clover, or other preferred host plants. The larvae hatch by May or early June, and move into the soil where they feed on the root system during their entire development period.

Adults feed on foliage, leaving half-circle holes along the leaf margins. While damage from adult feeding may be insignificant in established stands, it can be very injurious to new seedlings where springtime damage may result in serious stand loss. The most serious damage is caused by larval feeding on the main tap root, which weakens the plant and allows entry to disease pathogens which result in bacterial wilt and root rot. Affected alfalfa and clover will wilt and often die, especially if water-stressed. Alfalfa stands often lose productivity much sooner where CRC are prevalent.

In cooperation with growers, and industry researchers, Idaho crop advisors have evaluated different rates of new insecticides on alfalfa fields. The results have been inconclusive and not cost-effective. As an alternative, the following cultural practices have proven to be effective in helping to decrease CRC damage. First, growers should rotate their fields away from susceptible forage crops more frequently when CRC are a problem. Late fall plowing of CRC-infested alfalfa or clover will expose the beetles and larvae to killing conditions and natural predators. Late summer or early fall plowing is not as effective. If known, plant a variety of alfalfa known to have resistance to CRC.

There are no soil insecticides registered for use on established alfalfa or clover. Soil fumigation for forage crops is effective but not cost efficient. Foliar treatments are ineffective overall. Spring insecticide applications for alfalfa weevil will kill adult CRC and exposed larvae, but larvae in the soil are not affected.

CRC damage is usually noticed as crop wilting or slow growth the first year after fall seeding. Damage is more prevalent in the new, fast-recovering alfalfa varieties. Growers should make sure fertility levels are adequate and that plants are not water-stressed during mid-summer heat. Growers must also monitor soil moisture and adjust irrigation to prevent over-saturated or over-dry soils.

We have applied for a small grant to carefully examine potential damage from CRC weevils. We will likely be working with local alfalfa growers to keep an eye on potential problems with this new pest. It appears we may all learn more about CRC in the coming months and years, even if we prefer not to have another crop pest to deal with.

