Alfalfa Weevil Treatment Thresholds
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Alfalfa weevil is one of the most significant insect pests in alfalfa in New Mexico. Each year, producers report economical losses due to the pest, especially on first cuts. While both the larval and adult forms of the weevil can cause plant injury, by far, the larval form does the most damage early in the growing season when populations are high (Figure 1) and natural predator and parasitoid populations tend to be low.

The first cutting of alfalfa tends to be affected more than the second, and infestations as low as 1 larva per stem can result in significant reductions in yield. Generally speaking, the larvae are most active from February to May in the southern part of NM and from March to June or July in the rest of the state. For most of the state, scouting of fields should begin as soon as mid-February. The first weevil larva per stem may cause as
much as 200 lb/ac yield decrease (Figure 2). At current prices, one larva per stem on hay running $200/ton (or $0.10/lb) would reduce your profits $20.00 per ton. Most states have an economic threshold level of 15-20 larvae per sweep with a 15-inch sweep net. However, sweep net numbers may not be the best estimate to use as it tends to underestimate small larvae. Thresholds by number of larvae per stem of alfalfa are the best estimates to use. In these cases, anything above 1 larva per stem is worth considering treatment. However, this is dependent upon the size of the plant (Figure 3). Larger, more mature plants can tolerate more feeding damage. If plant size is less than 6 inches tall, then treatment is warranted at the 1 larva/stem level.

Most of the information that exists on weevil thresholds is based on hay prices that are considerably lower than current prices (Figure 3). As a result, threshold levels should be lowered as potential losses due to infestation are greater at the high prices we are experiencing. The higher the price of hay, the lower the threshold, considering control costs stay the same. For instance, at $200+ per ton, threshold levels would be lower than one larva per stem, and could be as low as one larva per 2 or 3 stems—even at taller plant heights. In addition, if plants are stressed due to lack of moisture, treatment thresholds should be reduced.

It is recommended that if hay is 7 to 10 days away from cutting or if plants are blooming that the crop be harvested early to prevent further damage rather than spraying. Some chemicals have harvest intervals longer than 10 days that would restrict their use in these situations anyway.

Regular, frequent field scouting is essential to prevent these pests from becoming economic disasters. For more information on treatment options for alfalfa weevil, contact your local NM Cooperative Extension agent.

Figure 1. Alfalfa weevil larval populations in Las Cruces, NM. Source: Dr. Scott Bundy, NMSU Entomologist.

Figure 2. Yield reductions associated with alfalfa weevil larvae per stem. Solid line = 1st cutting, Dashed line = 2nd cutting. Source: Alfalfa Weevil and its Management in Oklahoma. Oklahoma Cooperative Extension Pub. PSS-2097.

Figure 3. Alfalfa weevil management based on larvae number, stage of growth, and value of hay. Source: University of Nebraska Institute of Agriculture and Natural Resources Cooperative Extension.