



Farm Views

Scouting for rootworm beetles could save big money next year

Corn rootworms are one of Nebraska's most serious insect pests in corn. If you have ever seen a field suffer severe rootworm damage, you know what a mess you can have with lodged and goose-necked plants. It is, therefore, easy to see why people don't take risks when it comes to rootworms. If there is any doubt whether they might have a rootworm problem, most people apply a soil insecticide just to be certain.

On the other hand, University of Nebraska studies have shown that 40 to 60 percent of soil applications of insecticides for rootworm control in Nebraska are unnecessary. These unneeded treatments cost money, they slow the planting process and increase your personal exposure to extremely poisonous chemicals. Another important consideration, and one that is getting more attention these days, is the potential hazard these chemicals pose to the environment and groundwater.

There is a simple procedure that you, a farmer, can use (or your paid field scout can do for you) that is more environmentally sound and quite possibly more economical than "insurance" treatments of rootworm insecticide.

Research has shown that one can reliably predict the probability of an economical rootworm infestation next year by knowing the number of rootworm adults that will be laying eggs in your field this year.

Threshold Level

Scientists have determined that populations of less than 18,000 beetles per acre have a very low probability of causing more damage than the cost of a control treatment.

Scouting Procedure

The proper scouting procedure is to scout about five spots in your field and cautiously approach 10 individual plants at random in each spot. Gently cup your hand over the ear tip as you come up to the plant to trap any beetles that may be in the ear tip. Count the beetles on the remainder of the plant first, then release the ear tip and count the beetles in the silks.

Find the average number of beetles per plant by dividing the total number of beetles, counted by the number of plants observed. If you have a plant population of 18,000, the threshold would be one beetle per plant. If you have 24,000 plants per acre, the threshold would be 3/4 beetle per plant, etc.

First Year Corn Fields

Female beetles tend to migrate from field to field much more than males. Since we are concerned with potential numbers of eggs deposited by the females, the threshold level of adults is, therefore, lower in first year corn fields. In first year corn fields, use a threshold of 13,500 beetles per acre when predicting whether to treat the following year.

If you scout your fields every week from the middle of July to the middle of August, but never find an average population above the threshold, you should not need a soil insecticide next year. If you do find more than the threshold number in any week, you can stop scouting the field for rootworm beetles, you will know that you have a potential rootworm problem. In that case, plan to treat with a rootworm insecticide or rotate to another crop next year to prevent loss from rootworms. (TD)

Tips for late summer alfalfa planting

Is planting alfalfa in your plans next month? August is an excellent time to plant, if you have moisture and you do it right. Dr. Bruce Anderson, extension forage specialist, lists the following reminders on how to be successful.

Seedbed preparation is crucial for late summer planting. Good seed-to-soil contact and weed control are essential. Half-hearted seedbed preparation produces only half-decent stands. Two types of seedbeds work well in August, a fully tilled seedbed is best for many growers. With fully tilled seedbeds, weeds are eliminated and the field is smooth. But don't over-till. Conserve soil moisture whenever possible and put extra effort into getting a firm seedbed. You should be able to dribble a basketball on an alfalfa seedbed in August. Rolling, harrowing and waiting for rain or irrigating, all help make seedbeds firm.

Small grain stubble also makes a good seedbed. Many drills can place alfalfa seeds into stubble soil very nicely. Just make sure you control weeds like foxtail, sunflowers and volunteer grain before stubble seeding.

Use herbicides like Roundup or Gramoxone Extra before

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Fertilizing grass pastures and hay lands-Part 2

This article is the second of a two-part series.

Part 1, printed in the June issue of NEBLINE discussed nitrogen fertilizer management of pastures and haylands, this article will discuss the application of phosphorus and other nutrients.

Pastures are important to many livestock producers in Nebraska, but production from many pastures is low. Research shows that fertilizing, weed control and rotational grazing increases grass production from pastures, resulting in increased livestock production.

Fertilizing and controlling weeds on hay lands also increases production. Since more plant material is removed when land is managed as hay land, more attention needs to be paid to fertilization.

In addition to increasing grass production, fertilizing can improve forage quality. On-the-farm demonstrations show that fertilizing increases the amount of beef produced per acre, even in a dry year. This increased production is primarily a result of added carrying capacity, rather than an increase in average daily gain.

Phosphorus Use

In addition to nitrogen, phosphorus fertilizer also is needed on many pastures in Nebraska. Research in eastern and northeastern Nebraska shows that the combination of nitrogen and phosphorus frequently produces higher yields than the application of either nutrient alone.

Phosphorus recommendations are based on the availability of phosphorus in the soil as measured by a soil test. Phosphorus recommendations for grasslands are listed in Table II. If legumes make up one-fourth or more of the stand, apply 50 percent more phosphate than for grass alone. Phosphate fertilizers can be applied with the nitrogen in either spring or fall.

Table II. Phosphorus recommendations for grasslands in Nebraska

| Relative Index Value | Soil Test Levels | | Phosphorus Rate lbs P ₂ O ₅ /A |
|----------------------|------------------|--------------------------------|---|
| | Bray & Kurtz #1 | Olsen P (Na HCO ₃) | |
| | ppm | | |
| Very Low | 0-5 | 0-3 | 40 |
| Low | 6-15 | 4-7 | 20 |
| Medium | 16-25 | 8-14 | 10 |
| High | 25+ | 15+ | 0 |

Repeat applications of phosphate fertilizers may increase the level of available phosphorus in the soil. When soil phosphorus levels are in the high range, phosphate application can be eliminated until soil test levels fall below the high range. When grasslands are used as haylands, soil sample more frequently. Phosphorus may need to be applied more often, since removal of nutrients will be greater than on grazed land.

Other Nutrients

Results of studies conducted throughout eastern and northeastern Nebraska indicate that applying potassium, sulfur and zinc does not improve pasture production. There is a small possibility that some pastures and grasslands on sandy soils, may require sulfur. The need for sulfur, however, has not yet been demonstrated in research trials. (TD)

Source: NebGuide G-406 "Fertilizing Grass Pastures and Haylands" by Bruce Anderson, Extension Forage Specialist and Charles A. Shapiro, Extension Soils Specialist.

Be alert to the danger; poison hemlock abounds this year

Undoubtedly many of you have seen the large display of tall plants with green leaves and large clusters of small white flowers while driving through-out central and eastern Nebraska. The unusually high moisture this spring provided ideal habitat for poison hemlock, *Conium maculatum*. Because this plant is so prevalent this season, producers should be aware of the dangers surrounding it.

Poison hemlock is a biennial forb that was introduced from Europe. Hemlock is now flowering in Nebraska and will continue to do so through-out July. Poison hemlock is one of the most poisonous of all flowering plants. It contains several alkaloids that, when consumed in even small doses, can be lethal. Ingestion of as little as 0.25 percent of an animal's body weight of poison hemlock is lethal.

Poison hemlock is identified by alternate fern-like leaves



Courtesy of the Weed society of America

which are divided into lobes of lanceolate leaflets. Each leaflet is toothed or highly divided. The leaf surface is smooth and hairless. The petioles of lower leaves are sheathed. Stems are hollow, erect and green with purple blotches. Poison hemlock sends out a long taproot, characteristic of biennials. The flower is white with notched petals, growing in small clusters. Poison hemlock is found

growing along roadsides, moist shaded areas and along riparian areas.

Fortunately, hemlock is not palatable so livestock will not consume it readily unless they are very hungry or if the plants are altered. Thus, the best strategy to reduce poisoning is to avoid overgrazing or even reduce the stocking rate in infested pastures which will decrease the likelihood of livestock consumption. Fencing off infested parcels also will reduce problems. Avoid turning hungry animals into tough pastures containing hemlock and make sure plenty of water, salt and mineral are available. We do not recommend chemical control of hemlock in pastures as herbicides such as 2,4-D can increase palatability causing livestock to graze treated plants. As plants mature, they remain highly toxic with the roots

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