Insects Threaten Corn, Too

Growers Need To Scout For Corn Rootworm Adults

From SDSU Extension

BROOKINGS — Corn rootworm adults are emerging and moving to above-ground plant tissues to feed. It is important to scout for them now to assess their potential for damage to corn plants this year, and because their presence will be a good indicator if corn rootworm larvae are likely to be present in those fields next year, says Ada Szczepaniec, SDSU Extension Entomologist and Assistant Professor at South Dakota State University.

Szczepaniec explains that the western and northern corn rootworms, the two species of corn rootworm that cause severe economic damage to corn in the Midwest, have one generation per year.

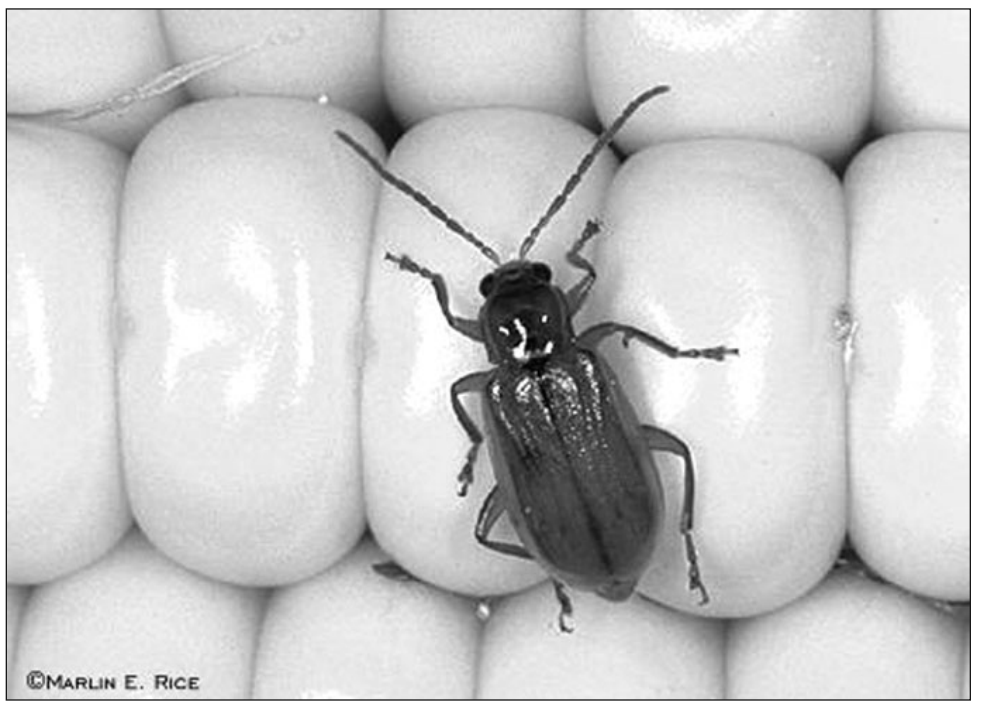
"Adult corn rootworms emerge in late June and early July, and begin to lay eggs in mid-summer and continue until fall. Adults of western and northern corn rootworm can consume corn silks, and if their populations are high, their damage to corn silks can interfere with pollination and result in corn ears that are poorly filled," Szczepaniec said.

Western corn rootworm adults also feed on green plant tissues, and in very high numbers they can strip a layer of leaf tissue leaving only a thin, dry, and almost see-through layer behind. This type of damage is severe, and indicates presence of a very high population of western corn rootworms.

Because adults are mobile, Szczepaniec says it is important to make note of them not just in corn fields, but adjacent fields and field margins as well.

"They can be seen mating and feeding on plants. Their presence indicates potential for larval activity the following year. To predict if the adults will affect plants this year, scout for adults shortly before and during corn silking," Szczepaniec said.

She adds that scouting should take place in the morning and late afternoon, when the beetles are most active. It should continue every two to three days until silks turn brown.



The Northern Corn Rootworm. (Photo: Marlin E. Rice)

"To assess if adult feeding will affect pollination of this year's crop, walk through the field and look for beetles on corn ears. Inspect silks on plants in those fields where you see 3-5 beetles per corn plant. In addition to adult corn rootworms, Japanese beetles may also be present in the ear zone area of corn plants, and may cause silk clipping, so take a note of both kinds of beetles," she said.

Growers need to inspect at least five plants in five different areas of the field to establish if insecticide applications are necessary, Szczepaniec says.

LENGTH OF SILK IS IMPORTANT

Szczepaniec reminds growers that if silks are still green, they need to measure silk lengths because even if silks are clipped, only 1/2 inch of silk is sufficient for pollination.

"So even if there are beetles present on plants,it is not necessary to manage adult corn rootworms if silks are longer than 1/2 inch," Szczepaniec said. "If silks are already brown, no control is necessary."

Silks clipped to less than 1/2 inch in length and still green warrant chemical control (e.g. dimethoate, malathion).

"I would caution against using pyrethroid insecticides since they are known to flare up spider mites, which are also associated with dry and hot conditions," Szczepaniec said.

Because applications of pesticides during pollination will harm pollinators, Szczepaniec says it is very important to adhere to management recommendations.

"Healthy communities of pollinators are necessary for agricultural production, and it is critical to minimize the impact of any potentially negative management practices to pollinators," Szczepaniec said.

Szczepaniec appreciates all those in the field who called with information about adult corn rootworms in corn fields. If you have seen these insects in your area, or suspect corn rootworm larvae in a Bt field, please give Szczepaniec a call at 605-688-6854 or e-mail her at adrianna.szczepaniec@sdstate.edu.

Drought Creates Need For Forage Nitrates Sampling And Testing

BROOKINGS — Livestock producers struggle during times of drought to provide adequate grazing and forage resources to meet the nutritional needs of their animals. However, having adequate volumes of forage available may not be the entire answer to this challenge, says Jim Krantz, SDSU Extension Cow/Calf Field Specialist.

"When plants are stressed such as during times of drought, nitrates can accumulate to toxic levels," Krantz said of the naturally occurring substance in plants. "This accumulation occurs primarily in the lower portions of the plant such as the stalk or stem and less in the upper portions such as the leaves."

Krantz explains that when animals eat forages with toxic levels of nitrate, the excess nitrate prevents animals from converting the forage to amino acids and protein resulting in the formation of nitrites.

"The excess nitrites are absorbed directly into the blood stream where they combine with hemoglobin to form methhemoglobin. Hemoglobin can transport oxygen while methhemoglobin cannot and asphyxiation can occur," Krantz said.

If producers suspect high levels of nitrate in their forages testing can be done to establish the levels of nitrates present, or not present, in the plant.

HOW TO TEST FORAGE FOR NITRATE

"Proper sampling will dictate the accuracy of the results from testing," Krantz said. "In addition, grazing method will reveal direction in the sampling process."

In areas where livestock are allowed limited access to forage, Krantz says testing the upper portions of the plant is recommended, as they will not be left there long enough to consume the lower portions of the plant.

In rotational grazing systems, or those where livestock will be confined for the entire season, he says sampling should focus on the lower third of the forage, where higher concentrations would be expected.

"Samples need to be representative of the entire grazing resource. They should be a composite of about 10 to 15 areas with similar fertility and moisture," he said.

Krantz adds that mixing plants from "good/bad" portions of a field is not recommended as each area should be tested individually. When collected, samples should be placed in a paper bag so that there is no mold build-up. He recommends that moist plants, such as silage or wet plants should be placed in plastic bags and put in a cooler with ice packs. They should be delivered directly to a lab the same day or shipped overnight with ice packs.

"Storage of moist samples in plastic bags at room temperature will encourage mold growth, and reduce nitrate levels, resulting in inaccurate results," Krantz said.

TEST FOR NITRATES AT SDSU REGIONAL EXTENSION CENTERS

Preliminary nitrate testing can be accomplished at any Regional Extension Center through the use of a "quick" test. This test takes only a few minutes. Although these tests only recognize the presence of nitrates in plants, not the actual levels; when, or if, the presence of nitrates is confirmed, further testing for quantification by a laboratory is required.

Visit www.foragetesting.com for a list of labs where samples can be sent for nitrate testing. For more information on nitrate levels in forages or other livestock related resources, visit iGrow.org.

An Update From The Brhel Farm: A Long Summer ...

BY RITA BRHEL
P&D Correspondent

Rita BRHEL

This could be a long summer.

It's been hot, hot, hot. Not just a lot of red on the thermometer, but especially humid. Uncomfortable and downright disgusting weather.

On our little farm, the sheep seem to be holding up to this weather OK. They spend a lot of time in the barn, riding out the hottest part of the day and grazing the pasture early in the morning and late in the evening. We've been dealing with flystrike more than usual, where the biting flies pick the same spot on the sheep until they've developed a sore. So, we've added treatments with fly spray every week now.

We had some difficulty with our electric fences earlier in June. There was a nasty storm at the beginning of the month and lightning had struck our electrical work outside. At first, all I noticed was that my Internet wasn't working and it took a bit of time for the repairmen to figure out that it was caused by lightning and that the equipment had been essentially fried. While I was busy with this, I didn't notice that the charge to our electric fences was going in and out until I noticed that the sheep were hopping cross-fences. We learned that the lightning had also irreparably damaged the fence charger, and while replacing it with a new machine isn't that big of a deal, retraining sheep not to jump is. It seems that we've got the pasture fences resolved now.

The biggest story of late has been keeping chickens alive. The heat has been really hard on them and we've lost several hens and a big, beautiful rooster. While we didn't have problems other years with the heat like we have had this summer, we're finding ourselves going back to the drawing board and looking at new options for summer housing. Our main hen house is great for the winter but just not vented properly for the summer, and I don't think we could install enough fans to make it work. The henhouse is actually a room in our garage-turned-barn, and the garage is constructed out of cement blocks, wood, and tin, and it's a perfect oven. For now, we've got the hens turned outside but we live close to the road and it's a busy road, so I'm not sure this is a viable option. I'm also on emergency duty — ready to dip heat-stressed birds in water for a quick cool-down should it be an especially toasty day, which seems like most days lately.

We've been a bit bird-buying happy lately. Our main poultry group are the standard breeds — the full-size chickens, which lay the full-size eggs that people like to buy — but I've always been partial to the bantam breeds. For Christmas, my husband bought me five Silkie chicks. Silkies are a small breed of chicken that originated in China and are unique in several ways: They have a top-knot of feathers on their heads, they have black skin, they have five toes on each foot, and their feathers lack barbs so they look like a ball of fluff. They're also very docile and do not fly. But they're also susceptible to disease, and the guy he bought them off of didn't vaccinate them, so only two grew up into adulthood. Then, for Mother's Day, my husband bought me five Polish chicks. Polish are like Silkies in that they have a top-knot but their feathers do have the barbs. They remind me of the road runner on the Looney Tunes cartoon with the coyote. I also have a bantam Rhode Island Red rooster that my mom gave my daughter for her birthday. Now, this evening, my husband is hoping to buy some ducks.

Some of our poultry are purely hobby. We'll eat the eggs ourselves. But the big, standard hens lay eggs that we sell off the farm. For the last couple of years, we would just sell our surplus to people who prefer to eat farm-fresh eggs over the store-bought eggs. And we will continue to do that, but we're planning on making it a more formal side business. My husband is now supplying a tropical fish breeder with a steady stream of eggs that he turns into fish food. And we've lost a couple of customers simply because we didn't have a regular supply of eggs. So, we're now looking into investing in our hens more to ensure a more consistent supply year-round. I'm not exactly sure how we're going to do this in the winter without it costing an arm and a leg to heat the henhouse, but we're researching it.

Finally, our garden is sad, very sad, this year. Our spring was incredibly busy, and we just plain ran out of time to do much with it. Plus, what is in there was all that survived after that nasty storm that knocked out the fence charger; with it came several inches of golf ball-size hail. We got a bowl-full of lettuce out of it, and I know the potatoes are still doing good and we might get some tomatoes but not nearly enough for our needs, let alone selling any produce to customers. I am dearly missing cucumbers and squash, and feel a bit awkward shopping at the local farmers markets as we're usually a seller there.

And as with nearly any farm, both my husband and I have our other income sources to buoy everything. Some people consider it a failure if a farm is unable to support the family on its own fully, but I see it all with the same goal: We want to live out in the country, we want this lifestyle, so anything that makes income or, alternatively, saves money is working toward this goal. My husband still builds houses; lately, he has been very busy, sometimes pulling 80-hour weeks. And I continue to work from home for a global nonprofit and then doing my freelance work on the side. And of course, as the housewife, my other job is to keep the home, the family, the farm, and the finances running smoothly. But in the end, we are living where we want to live, we are doing what we want to do.

My dad just retired at age 65 and is getting to do what he's always wanted to do — spend his days, all day everyday, on the family ranch. My mom has been managing the ranch for 33 years. And for those 33 years, my dad would go to his job — which coincidentally was managing a government-owned ranch — during the day and then come home to his own ranch in the evenings and weekends. For 33 years, he's worked basically two full-time jobs and now that he's retired, he gets to work just one full-time job — his ranch. I know my husband shares the same desire, and I hope that eventually, we can get him to that point. But for now, we are as close as we can get at this time. And that's good enough.