



PEST MANAGEMENT & CROP DEVELOPMENT

BULLETIN

FOR IMMEDIATE RELEASE
No. 18 / July 27, 2001

Executive editor: Kevin Steffey,
Extension Entomologist

Available on the Web at
<http://www.ag.uiuc.edu/cespubs/pest/>
For subscription information, phone
217.244.5166, or e-mail
acesnews@uiuc.edu

Copyright © 2001, Board of Trustees,
University of Illinois

In This Issue

- ❑ **Preliminary Root-Rating Results for Urbana Corn Rootworm Trial, 197**
- ❑ **Natural Controls Suppress Soybean Aphid Populations, 197**
- ❑ **Spider Mites Prove Challenging in Dry Areas of the State, 198**
- ❑ **Corn and Soybean Classic Meetings Scheduled for January 2002, 199**
- ❑ **Regional Reports, 199**

INSECTS

Preliminary Root-Rating Results for Urbana Corn Rootworm Trial

On July 16, a crew led by John Shaw, Illinois Natural History Survey, dug and washed roots from an experimental corn rootworm trial located just south of Champaign-Urbana. The following day, we rated the roots for larval injury, and we now present some of the preliminary results in Table 1.

Several of the following granular soil insecticides provided excellent-to-good protection despite the very significant corn rootworm larval injury in the control treatment (root rating = 5.5, 2-1/2 nodes of roots destroyed): Counter CR, Aztec 2.1G, Nufos, Force 3G, and Fortress 5G. In general, Capture 2EC and Lorsban 15G provided less consistent protection than the aforementioned products. Regent 4SC (50%) and Furadan 4F (15%), along with the seed treatments ProShield (53%) and Prescribe (20%), provided the least consistent levels of root protection (percentage of roots with injury ratings less than 4.0).

The preliminary results from this experiment indicate that several products that are marketed to protect corn roots from corn rootworm larvae do not offer consistent levels of protection. This is especially true for Regent 4SC, ProShield, Prescribe, and Furadan 4F. At best, the odds of witnessing heavy root pruning (root rating 4.0 or greater) with these products in our experiment were similar to guessing correctly "heads or tails" when flipping a coin. The odds of a correct choice were even more dismal for Prescribe and Furadan 4F.

Unfortunately, most producers do not monitor their corn or soybean fields (east-central Illinois) for corn rootworm adults; therefore, they do not have much of an indication regarding what the level of rootworm injury will be the following season. For this reason, most producers elect to use a soil insecticide as corn rootworm "insurance." We provide these results so that producers can make more informed choices the next time they pore through the blitz of product promotion literature.

We intend to share the results from our DeKalb and Monmouth insecticide efficacy trials during the next several weeks as these data become available.—*Mike Gray*

Natural Controls Suppress Soybean Aphid Populations

We have received reports from the University of Illinois soybean aphid monitoring team of soybean aphids in fields located in Pope and Hardin counties. Earlier monitoring efforts did not find soybean aphids in Pope County, but these two counties have now been added to the growing list of counties with confirmed soybean aphid populations. Craig Kilby, Golden Harvest Seed Company, observed soybean aphids on young trifoliates and stems (10 to 12 inches aboveground) in a field located in southeastern Tazewell County. We have received similar reports from other states, so in

Table 1. Preliminary root-rating results for corn rootworm trial, July 16, 2001, Urbana, Illinois.¹

<i>Insecticide</i>	<i>Rate</i> ²	<i>Application</i>	<i>Root rating</i> ³	<i>Consistency</i> ⁴
Counter CR	1.3	Band	2.2	100%
Aztec 2.1G	0.15	Band	2.4	100%
Aztec 2.1G	0.15	Furrow	2.4	100%
Nufos	1.3	Band	2.8	90%
Force 3G	0.13	Band	2.9	87%
Fortress 5G	0.16	Furrow	2.9	85%
Fortress 5G	0.16	Band (smart box)	2.9	80%
Aztec 2.1G	0.15	Band (smart box)	3.1	75%
Capture 2EC	0.082	Furrow	3.3	70%
Lorsban 15G	1.3	Band	3.3	75%
Capture 2EC	0.082	Band	3.4	55%
Capture 2EC	0.1	Band	3.5	60%
Capture 2EC	0.1	Furrow	3.7	60%
Regent 4SC	0.13	Microtube	3.7	50%
ProShield	1.2	Seed treatment	3.9	53%
Prescribe	1.34	Seed treatment	4.5	20%
Furadan 4F	1.0	Broadcast	4.8	15%
Control			5.5	0%

¹Plots were planted with Pioneer 34G81 on April 24, 2001, in a field that had been planted to a trap crop of corn in 2000.

²Rates are specified as lb/acre, except for seed treatments that are expressed as mg/seed.

³Iowa State University 1 to 6 root-rating scale used: (1 = no visible damage or only a few minor feeding scars, 2 = some roots with feeding scars but none eaten off to within 1.5 inches of the plant, 3 = several roots eaten off to within 1.5 inches of the plant but never the equivalent of an entire node of roots destroyed, 4 = one node of roots destroyed or the equivalent, 5 = two nodes of roots destroyed or the equivalent, and 6 = three or more nodes of roots destroyed. See issue no. 16 (July 13, 2001) of the *Bulletin*.

⁴Consistency is measured as the percentage of roots examined with a root rating less than 4.0.

addition to checking the newest trifoliates, check stems and lower leaves. With the recent heavy rains in some areas, soybean aphid populations on the upper portion of the plants may have been washed away.

On July 24, Ria Barrido reported more than 20,000 aphids on 50 plants in a field in LaSalle County but no noticeable signs of injury to the plants. A total of 68 predators, including Orius (aka minute pirate bugs) and lady bug adults and larvae, were also found on the 50 plants sampled. It appears that populations of natural enemies build up slowly, and their presence may not be readily apparent when aphid populations are low.

Kevin Black, Growmark, reported soybean aphid populations crashing as a result of lady bug larvae, syrphid maggots, lacewing larvae, parasitic wasps, and fungal diseases. In Ontario, half of a field was treated for soybean aphids and the other half was left untreated. Soybean aphid populations in the treated area of the field were significantly higher than in the untreated portion of the field. Ted Radcliffe, University of Minnesota, reported rapid increases in soybean aphid numbers after research plots were sprayed with lambda-cyhalothrin (Warrior) and carbaryl (Sevin). He suggests that the resurgence resulted from the suppression of generalist predators. These reports suggest that

natural enemies may be playing a major role in controlling soybean aphids. Treating a field for soybean aphids may not only be ineffective, it may be detrimental.

For the most recent information on distribution of soybean aphids, visit Soybean Aphid Watch 2001 (<http://www.pmcenters.org/Northcentral/Saphid/Aphidindex.htm>) and the University of Illinois IPM Web site (<http://ipm.uiuc.edu/agriculture/soybeans/aphids.html>).—*Susan Ratcliffe*

Adult Corn Rootworm Suppression Programs: Some Comments

Earlier this week (July 23) a joint team of entomologists from Purdue University and the University of Illinois dug and evaluated roots (72 producers' fields) from the USDA-ARS-sponsored areawide corn rootworm suppression experiment (16 square miles), located just south of Sheldon, Illinois (Iroquois County, Illinois; Benton County, Indiana). The roots were rated for injury to assess the performance of an adulticidal bait (Invite + Sevin XLR) that was applied in 2000. Results from this multistate and multiyear study continue to be generated by many other investigators (Iowa, Kansas, South Dakota, Texas). One of the basic goals of the experiment is to suppress the overall corn rootworm population across an area to reduce the amount of insecticide that may be required to manage this pest in subsequent years. Although some soil insecticides provide adequate root protection against corn rootworm larvae, these products do not lower the overall population of this pest. Consequently, many producers continue to use soil insecticides each year. Successful implementation of an areawide management approach for corn rootworms may result in overall significant reductions in insecticide use. Final results from this investigation will be analyzed following the 2002 growing season.

For producers who are interested in implementing a corn rootworm adult suppression program, scouting efforts should have begun in earnest no later than mid-July. For continuous corn production systems, determine the average number of adults per plant by counting beetles on two plants selected at random in each of 25 areas of a field. Count all western and northern corn rootworm beetles each time. The counts take about 45 minutes in a 40-acre field. As you approach a plant, move quietly to avoid disturbing the beetles. Count the beetles on the entire plant, including ear tip, tassel, leaf surface, and behind leaf axils. Record the number of beetles you find per plant. If the average is greater than 0.75 beetle per plant in corn after corn or 0.5 beetle per plant (first-year corn) for any sampling date, consider the following options: (1) plan to rotate away from corn, (2) be prepared to use a soil insecticide at planting in 2002, or (3) initiate a program for the prevention of egg laying. If densities do not exceed these thresholds for any sampling date, rootworm larvae should not cause economic root damage to corn next year. By no later than mid-July, you should be committed to scouting for corn rootworm adults at least once each week through early September.

Producers involved in a beetle-suppression program may find an insecticide application warranted if beetle thresholds are reached and 10% of the females are gravid (with eggs). If more than 10% of the females within a field are gravid, significant egg laying may have occurred already. Late attempts (significant oviposition has occurred already) to reduce beetle densities to decrease root injury in 2002 may prove less than satisfactory.

Adult suppression programs should be conducted by professional consultants or by trained and experienced producers who are very familiar with this pest management system.—*Mike Gray*

Spider Mites Prove Challenging in Dry Areas of the State

Infestations of twospotted spider mites continue to plague soybean producers in several of the drier areas of the state. We first reported on these pests in issue no. 9 (May 25, 2001) of the *Bulletin* when they were observed infesting clover in southern Illinois. As we suggested, these first sightings of mites in clover might serve as an early indicator of future problems with these pests in soybeans. Well, for the persistently dry areas of Illinois, twospotted spider mites continue to be an aggravation. In issue no. 15 (July 6, 2001) of the *Bulletin*, we continued to report on sporadic mite infestations in southern Illinois. As Kevin Steffey indicated, treatment guidelines for twospotted spider mites are not based on extensive research. He suggested that a miticide may be warranted if 20 to 25% (prior to pod set) of soybean plants are discolored and mites are present. After pod set, a treatment may be warranted if 10 to 15% of plants are discolored. Products suggested for control of twospotted spider mites in soybeans are dimethoate (see product label for rate) and Lorsban 4E at 1/2 to 1 pt of product per acre. The use of Lorsban 4E is restricted to certified applicators.

Many producers in the northwestern sector of Illinois are finding soybean aphids and twospotted spider mites in their soybean fields. For a more complete discussion of this topic, please refer to last week's *Bulletin* (no. 17, July 20, 2001). As we've discussed many times before, mite densities will continue to explode in drought-stressed soybean fields. Treating border rows may be a cost-effective management approach instead of spraying entire fields; however, in 1988, as the drought extended, many producers eventually treated entire fields (sometimes twice). Let's hope we see some rain.—*Mike Gray*

Corn and Soybean Classic Meetings Scheduled for January 2002

Mark your calendars now for the regional Corn and Soybean Classic Meetings scheduled for January 2002. This next round of meetings will mark the fifth consecutive year the Department of Crop Sciences has sponsored these increasingly popular educational sessions for growers and the agribusiness sector of Illinois. The meeting dates and locations for 2002 are as follows: January 15—Holiday Inn, Urbana; January 16—Hickory Grove Banquet Center, Rochelle; January 17—The Mark, Moline; January 24—Holiday Inn, Mt. Vernon; January 30—Holiday Inn, Collinsville; and January 31—Crowne Plaza, Springfield.

As program details become clearer, we'll share the presentation topics and speakers' names. We anticipate another great response to these regional Extension meetings.—*Mike Gray*

REGIONAL REPORTS

Extension center educators, unit educators, and unit assistants in northern, west-central, east-central, and southern Illinois prepare regional reports to provide more localized insight into pest situations and crop conditions in Illinois. The reports will keep you up to date on situations in field and forage crops as they develop throughout the season. The regions have been defined broadly to include the agricultural statistics districts as designated by the Illinois Agricultural Statistics Service, with slight modifications:

- North (Northwest and Northeast districts, plus Stark and Marshall counties)
- West central (West and West Southwest districts, and Peoria, Woodford, Tazewell, Mason, Menard, and Logan

counties from the Central district)

- East central (East and East South-east districts [except Marion, Clay, Richland, and Lawrence counties], McLean, DeWitt, and Macon counties from the Central district)
- South (Southwest and Southeast districts, and Marion, Clay, Richland, and Lawrence counties from the East Southeast district)

We hope these reports will provide additional benefits for staying current as the season progresses.

Northern Illinois

Several scattered thunderstorms during the past week brought needed rainfall to the region. However, recorded precipitation ranged from less than 1/2 inch to more than 3 inches. Corn yields have been adversely affected in many areas last week due to the dry soil conditions coupled with high temperatures.

Concerning insect outbreaks, some soybean field borders have been treated for spider mite infestations. Also, as always, alfalfa growers are encouraged to scout for potato leafhoppers, as populations remain high throughout the region. Japanese beetles have been observed frequently in soybeans and noncrop areas, but few instances of silk clipping have been reported.

Southern Illinois

There is consensus that it is hot in southern Illinois. We are losing some yield from high daytime and nighttime temperatures. Moisture continues to be quite variable across the region.

Spotty rain showers have favored one location and skipped others.

Corn is R3–R4, with some close to beginning dent. Soybeans are R3–R4. Double-cropped soybeans have made good progress also.

There are no serious pest problems at present. Southwestern corn borer moth flight is still high, especially in the southern counties. Waterhemp keeps on coming.

Remember the Dixon Springs Ag Center Field Day, August 2. Tours start at 8 a.m.

West-Central Illinois

Rain and warm temperatures continued during the week in most of the region. Some areas will end July with above-normal precipitation for the month.

As a result of the recent rain, crop conditions look very good. No major pest problems have been reported in corn. However, if warm and humid conditions persist, some leaf diseases may appear. Rapid crop development continues, and many farmers anticipate an early harvest.

Soybean growth has been rapid during the last week; plants grew noticeably taller. Spider mite problems subsided when the rains began. Some bean leaf beetle feeding has been observed. No other problems have been reported.

Potato leafhoppers continue to be a major pest problem in alfalfa.

Major activities for area farmers now include mowing and attending field day meetings and county fairs.

Contributing Authors

Mike Gray (m-gray4@uiuc.edu),
Extension Entomology, (217)333-6652

Susan Ratcliffe (sratclif@uiuc.edu),
Extension Entomology, (217)333-6652

U of I Extension Newsletter Service
University of Illinois
at Urbana-Champaign
528 Bevier Hall, MC-184
905 S. Goodwin Avenue
Urbana, IL 61801

Return Service Requested

*The Pest Management & Crop
Development Bulletin* is brought to you
by University of Illinois Extension and Information
Technology and Communication Services,
College of Agricultural, Consumer
and Environmental Sciences,
University of Illinois at Urbana-Champaign.
This newsletter is edited by Erin Cler
and formatted by Oneda VanDyke,
ACES/ITCS.

Copyright © 2001, Board of Trustees,
University of Illinois



UNIVERSITY OF ILLINOIS
EXTENSION

Helping You Put Knowledge to Work

University of Illinois
U.S. Department of Agriculture
Local Extension Councils Cooperating

University of Illinois Extension provides equal
opportunities in programs and employment.