6-21-1991

INSECT, PLANT DISEASE, & WEED SCIENCE NEWS [No. 91-13] [June 21, 1991]

Alex Martin
University of Nebraska - Lincoln, amartin2@unl.edu

Bob N. Stougarrd
Extension Weed Specialist, University of Nebraska-Lincoln

Lisa Brown Jasa
University of Nebraska-Lincoln, ljasa@unlnotes.unl.edu

Insect Science Plant Disease Weed Science NEWS

UNIVERSITY OF NEBRASKA COOPERATIVE EXTENSION • INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES

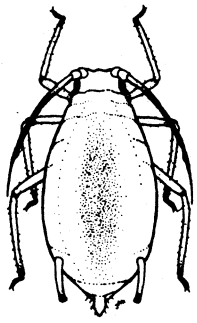
No. 91-13 June 21, 1991

In this issue

INSECT SCIENCE

Be alert for new greenbug types

Sorghum growers in isolated areas of Kansas encountered two new types of greenbugs in 1990. One was a biotype which damaged sorghum varieties resistant to the most common biotype E greenbug. The other greenbug could not be satisfactorily controlled with organophosphate insecticides such as parathion, Di-Syston, and Cygon. Researchers at the University of Nebraska and Kansas State University are now studying both types of greenbugs.



Greenbug

There have been no confirmed reports of these greenbugs in Nebraska, although there is some evidence that the resistant biotype was in the North Platte area in 1990. Greenbugs resistant to organophosphates have been found in western Kansas this season.

Nebraska sorghum growers should not be alarmed by these developments, but they should watch for greenbug infestations that are seriously damaging resistant varieties or greenbugs that are not satisfactorily controlled by organophosphate insecticides. Please report such cases to your local Extension office so they can forward the information to us.

Steve Danielson

Baythroid use illegal for chinch bug control

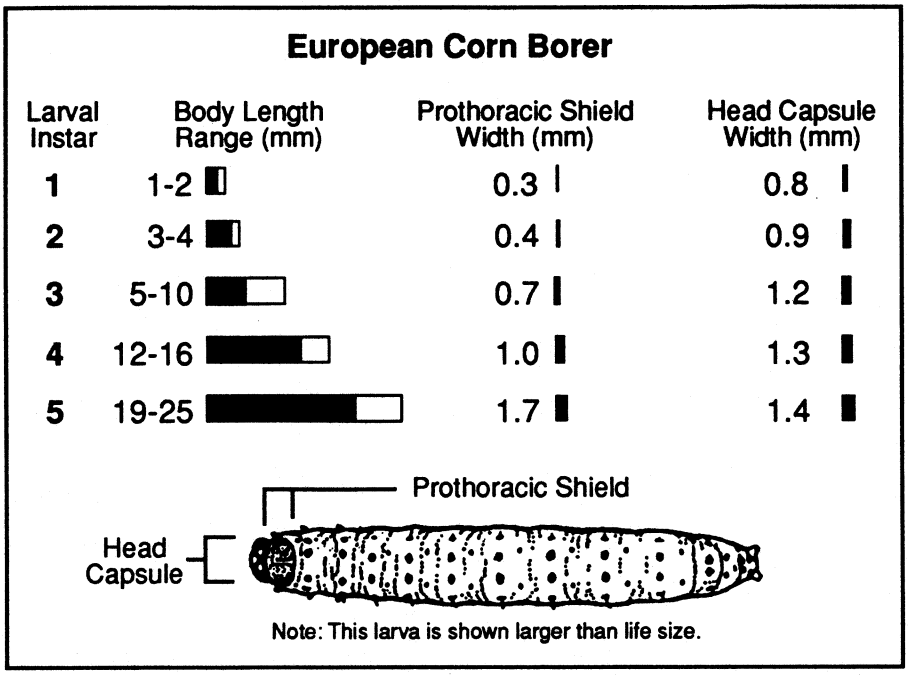
Baythroid insecticide is not legally registered for control of chinch bugs on sorghum or corn in Nebraska. This product was available for use on sorghum in 1990 through a special Section 18 registration. If growers think this product should be made available again this year, they should contact the Nebraska Sorghum Board at (402) 471-4276.

(Continued on page 75)

Sample borers and establish base for prediction

If you plan to use the Nebraska European corn borer computer program (see *IPW News* 91-6, page 33) to predict second generation egg-laying, you will need to sample first generation borers. This sample is used to establish the computer model based on the developmental stages of the corn borers in your area. It should be taken near the last half of the larval life cycle, probably in late June in most of Nebraska.

Predictions will be more reliable if borers are collected from more than one field in an area because moths laying eggs to begin the second generation will not remain in the field where they developed. A minimum of 50 European corn borers should be collected for the sample. Of these, less than 50% should contain first to third stage (instar) borers and less than 30% should contain pupae.



Measure European corn borer larva to identify instar stage.

To collect borers, select plants that have evidence of feeding by European corn borers. (Look for small "shot-holes" in leaves or sawdust-like matter on the leaf and in the whorl.) Pull the whorl and unroll it carefully, saving any live borers, and split the stalk to collect larger borers and pupae.

The computer program requires that sample borers be identified according to instar. There are five larval instars — the first two feed on the leaf and within the whorl; stalk tunneling begins in the third instar. If you can't identify borer stages in the field, samples may be stored in a container with alcohol and identified later.

The most reliable characteristic for identifying the development stage is the width of the dark shield behind the head (prothoracic shield). Although borers continually grow in length, their prothoracic shield and head only grow when they are molting and between stages. Use the chart above to identify different corn borer larval instars. (It is also available in the Extension publication, EC 91-1554.)

After you enter borer information in the program and choose a weather data file for your area, the computer will predict when second generation egg-laying will occur in your area. This will make it easier to accurately time scouting.

In future issues of the *IPW News*, egg-laying periods will be predicted for several areas of Nebraska, based on computer input from UNL Extension agents and the UNL Field Crops IPM Program staff.

Bob Wright

IPW News

© 1991 University of Nebraska

The Insect Science, Plant Disease and Weed Science News is published throughout the growing season by the University of Nebraska Department of Agricultural Communications, 108 Agricultural Communications Bldg., UNL, Lincoln, NE 68583-0918. To order a subscription or to change your address, write to IPW News, 108 Agricultural Communications Bldg. or call (402) 472-7981.

Lisa Brown Jasa, Editor

For more information about a particular subject, write the authors at the addresses below:

UNL Department of Entomology
202 Plant Industry Bldg.
Lincoln, NE 68583-0816

UNL Department of Plant Pathology
406 Plant Science Bldg.
Lincoln, NE 68583-0722

UNL Weed Science
Department of Agronomy
279 Plant Science Bldg.
Lincoln, NE 68583-0915

1991 insecticide tests released

The 1991 edition of *Insecticide & Acaricide Tests* is now available from the Entomological Society of America (ESA). This reference provides up-to-date unbiased information on pesticide efficacy.

The publication contains hundreds of short reports on efficacy of insecticides and acaricides (miticides) in the field and in the laboratory. Reports are based on university studies evaluating commercially available and experimental pesticides for crops, animals, and structures. Indexes by commodity, pest and pesticide are included.

The 1991 edition (Volume 16) is available for $35 ($25 to ESA members). Back issues (Vol. 15, 1990; Vol. 14, 1989;) are available for $10 each. Send orders, with check payable to "ESA", to ESA, Box 177, Hyattsville MD 20781-0177.

Bob Wright

Baythroid *(Continued from page 73)*

Growers who still have some Baythroid from last year should contact the dealer from whom they purchased it to arrange for return.

It is strictly illegal to apply this product to any commodity or site in Nebraska. Dumping or otherwise disposing of this insecticide also is illegal and may result in serious environmental damage, particularly if the chemical enters aquatic habitats.

Steve Danielson

WEED SCIENCE

Pasture weeds developing early; treat now

Crop growth is ahead of normal over much of Nebraska and so are pasture and grazingland weeds. Normally, late June is the best time to treat broom snakeweed, vervain, goldenrod, sagebrush, snow-on-the-mountain, and western ragweed; however, these weeds are in the correct stage for treatment over much of Nebraska now.

There is a tendency to treat late rather than too early. A good guideline for treating most perennials is to mow or apply herbicides when weeds are in the early flower bud stage. Biennial thistles are an exception and should be treated in the rosette stage.

The most commonly used treatments are 2,4-D ester and a combination of 2,4-D + Banvel. Grazing restrictions are minimal, except milking dairy animals should be withheld for seven days. Uneven terrain often makes a uniform herbicide application difficult in grazingland so use a marking system to avoid missed strips. Exercise care when applying 2,4-D and Banvel near sensitive crops, gardens, windbreaks, and farmsteads. Injurious drift can occur for a distance of one-half mile or more.

Alex Martin and Bob Stougaard

Control woody plants at full leaf

June is the best time for foliar applications of most herbicides for woody plant control. To achieve the best control, thoroughly cover foliage when plants are in full leaf and foliage is tender. Later in the summer the plants are often stressed due to dry conditions, resulting in lessened herbicide effect.

Several herbicides are available for woody plant control in pastures. These include 2,4-D, 2,4-DP, Crossbow, Banvel, and some formulations of Tordon. In non-cropland situations, Garlon, Krenite, Spike and Velpar also can be used for woody plant control. With the exception of Krenite, June is the best month for foliar applications. Krenite should be applied in late summer or early fall.

Alex Martin and Bob Stougaard

Herbicide options limited with forage sorghum

Wet fields, delayed planting and replanting may cause some producers to consider planting forage sorghum. As with any crop, weed control is important in attaining optimum yields; however, few herbicides are available.

Soil-applied treatments include atrazine, Dual, Dual + atrazine and Bicep. If Dual or Bicep ar used, the seed **must** be treated with Concep. Atrazine and Bicep treatments are restricted to medium and fine textured soils with greater than 1% organic matter.

Postemergence options include atrazine, Buctril, Buctril plus atrazine and Laddok. Apply atrazine, Buctril plus atrazine and Laddok before forage sorghum exceeds 12 inches. When using the higher rates of Buctril or Buctril plus atrazine, delay applications until the forage sorghum is in the fourth-leaf stage. Refer to product labels for appropriate rates and restrictions.

Alex Martin and Bob Stougaard

PLANT DISEASE

Soybean samples show two forms of root rot

Fusarium root rot and Rhizoctonia root rot were found in several soybean fields examined last week and in many samples recently received at the Plant Disease Diagnostic Laboratory.

These diseases have several things in common. Both are caused by soil fungi common to most crop production fields, both have a wide host range, and both can survive from one season to another on dead plant material. In addition, both fungi can attack seedling soybeans resulting in either pre- or post-emergence damping-off or late emergence and stunted plants.

There also are several important differences between these two diseases. Fusarium root rot, caused by *Fusarium oxysporum*, appears as dark-brown lesions on either the lateral roots or the lower portions of the stem. The infection process is favored when soils are cool (52°F to 58°F) and wet. Soil compaction and heavy rains after planting further enhance disease development. Root systems of severely infected seedlings may be completely destroyed. Surviving seedlings are slow-growing, stunted, and off-color. Older plants are usually not killed, but they wilt when soil moisture is low and recover turgidity at night or when moisture becomes adequate.

Rhizoctonia root rot, caused by *Rhizoctonia solani*, is ordinarily first noticed when plants wilt or die as the weather warms. Localized brown to reddish-brown spots and depressed lesions will appear on the upper part of the main root or lower stem. Discoloration usually is limited to the cortical layer of the hypocotyl and does not extend into the root or above the soil line. Infected stems remain firm and dry. Although the disease is associated with young plants, older plants may die if there is moisture stress and the hypocotyl is sufficiently decomposed to limit water uptake.

All varieties are susceptible to both diseases, and crop rotation is of little value. To prevent these root rot diseases, use a fungicide seed treatment. When cultivating, ridge the soil around the base of plants. This will promote root development from the stem base above the diseased area which may help the plants recover.

David Wysong

Good weather contributes to poor root growth

Corn is developing rapidly due to favorable temperatures and generally good soil moisture content. Corn that emerged about May 3-5 in the Lincoln area has 8 to 10 leaves now. When cut lengthwise, the tassel is clearly evident above the compressed internodes of the stalk, which is now beyond the soil line.

In some cases, the warm temperatures have favored top growth at the expense of root growth. That, along with wet soils, has caused symptoms of poor root development. The major symptom has been pale-green or yellow leaves, or even purple coloration along leaf margins and at the tips of leaves. As the root system catches up with top growth, the problem should be quickly corrected with little or no lasting effect on the crop.

David Wysong