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## INSECT, PLANT DISEASE, & WEED SCIENCE NEWS [No. 90-22] [Aug. 31, 1990]

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# Insect Plant Disease Weed Science

# NEWS

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

No. 90-22

Aug. 31, 1990

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## IPW Survey

# We Want to Know Your Opinion

Something extra is in your IPW News this week — a reader opinion survey is attached. We would like you to help us evaluate the changes we've made in format as well as our selection of topics and content. We want to know what you like about the newsletter and what you would like to change. We also want to know more about who our readers are and what kind of information you need.

We would appreciate it if you would take a few minutes to complete the attached survey and mail it back, postage-free. Your comments and suggestions will help us plan for the next season. The results of this survey will be reported in IPW News in the first issue next year. We value your opinion and hope you will take the time to complete this survey.

# INSECT SCIENCE

## Consider Early Harvest to Limit Corn Borer Damage

Many corn fields, especially late planted fields, have been heavily damaged by European corn borers. Our management recommendations concentrate on controlling the early hatching corn borers, which are responsible for the greatest amount of direct yield loss in corn. However, later hatching larvae tunnel in the stalk and ear shank, making the plant more susceptible to stalk breakage or ear drop. With the cool weather earlier this summer, corn borers laid eggs over a greater number of days than average, and corn remained susceptible to corn borer damage longer as well.

The exact amount of yield loss corn growers will see from corn borer feeding depends on some factors, such as weather, which they cannot control. Strong winds before harvest can greatly increase the amount of stalk breakage and ear drop that will occur. The one practice that can reduce this type of yield loss is early harvest. Consider harvesting those fields first which have the highest levels of corn borer damage to stalks or ear shanks. Although there may be greater costs for grain drying, the increased harvested yield should increase your profits.

Bob Wright



UNIVERSITY OF NEBRASKA-LINCOLN, COOPERATING WITH THE COUNTIES AND THE U.S. DEPARTMENT OF AGRICULTURE



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## Watch for Late Season Soybean Insects

Green cloverworms have been reported damaging soybeans in several southeastern counties. These caterpillars are light green with a thin white stripe down each side. They are 1-1.5 inches long at maturity. A good way to identify them in the field is that when disturbed, they wriggle violently. A fungal disease which can control green cloverworms was reported in Sarpy County last week. After the fungus kills the caterpillar, white spores are produced, which can then attack additional caterpillars. Infected caterpillars may be discolored (tan or whitish) and act sluggish. If a high proportion of caterpillars appear sick, insecticides may not be needed. Second generation bean leaf beetle adults are emerging and will bear watching from

now until pod maturity. These beetles will feed on leaves, and as leaves begin to die, beetles will scrape green tissue off the surface of pods, causing a brown scarring.

For both insects (and any other defoliating insect on soybeans), treatment is warranted if 25% defoliation occurs from bloom to pod maturity. For bean leaf beetle pod feeding, treat if 10% of the pods are fed upon. Both insects are controlled by a variety of insecticides. For a list, see the *1990 Insect Management Guide for Alfalfa, Soybeans, Wheat, Range and Pasture*, EC 90-1511. Green cloverworms are susceptible to *Bacillus thuringiensis* products (e.g., Dipel).

Bob Wright

## Clean, Prepare Bins for Harvest

Properly preparing grain bins before harvest can help ensure successful grain storage. Don't wait until you are in the middle of harvest to discover there's a crack in the foundation or even later to discover insects are devouring your grain. The sanitation and condition of bins are important aspects to successful grain storage. Following are some guidelines for preparing bins.

### Check the Bin Structure, Aeration System

Inspect bins and foundations for structural problems. Uneven settling of foundations can cause gaps between the foundation and bottom edge of the bin. This can cause grain spills, moisture problems and insect and rodent infestation. If perforated floors are used, a gap at the foundation edge will allow air that would normally be forced through the grain to escape from the bin. Also, inspect and repair leaky roofs, roof vents, sheared or loosened bolts, the bottom ring of the bin, and the access ladder.

Electrical wiring should be inspected for corrosion and broken or cracked insulation. Run loose and dangling wires through a conduit. The conduit should not be crimped and connections should be secured. Check fans and ducts for corrosion and make sure all transitions are secure.

### Sanitation and Insect Control

Now's a good time to clean combines, truck beds, augers and other equipment used for harvesting and transporting grain. Next, ensure that the bins are clean and ready for storage. Remove old grain with brooms and vacuum cleaners. **Never put new grain on top of old.** Also, clean bins not being used for storage this year and mow around all bins to keep insects from migrating to clean bins.

At least two weeks before grain storage, spray all interior surfaces of the cleaned bin with premium grade malathion, methoxychlor or Reldan (sorghum only). Spray

### Biological Systems Engineering

all surfaces to the point of runoff and force spray into the cracks and seams. Follow product label instructions for dilution and application directions. NOTE: Do not spray bins where soybeans will be stored. Stored soybeans rarely experience insect problems and few insecticides are labeled for use on soybeans.

It is impossible to clean and spray under perforated drying floors. Remove as much of the debris as possible then fumigate the empty bin with chloropicrin. (Chloropicrin is a Restricted Use Pesticide and requires gas monitoring devices and respirator protection.)

Store only clean, dry grain. Be especially careful when handling grain from stressed crops because this grain is more easily damaged. To reduce the incidence of molds and insects, dry and cool grain immediately after storage. Apply a liquid or dust grain protectant to grain as it is being augered into the bin. Use either premium grade malathion (corn and sorghum), Reldan (sorghum only), or Actellic (corn and sorghum). Power spray applicators are preferred over gravity drip applicators because they provide more uniform coverage and insect control.

After the grain has been leveled, topdress the surface with both Dipel and malathion or Reldan (sorghum only), or Actellic (corn and sorghum). Dipel works against Indian meal moths while malathion is needed for beetle control. Reldan and Actellic control both types of insects. (Do not treat soybeans with malathion, Reldan or Actellic.) If Indian meal moths have been a problem in the past, use Vapona resin strips (1 per 1,000 cubic feet of air space) in the bin space above the grain.

David Jones, Extension Grain Storage Specialist

# PLANT DISEASE

## Stalk Rot Can be Serious; Scout Fields Now

As corn and sorghum plants begin to approach maturity and grain reaches the last of the filling processes, stalks begin to age and lose their internal strength and integrity. At this time various fungi move in and colonize declining stalk tissues, ultimately causing the condition called stalk rot. Stalk rot may decrease grain yields in two ways: 1) losses due to poor grain fill because of premature plant death, and 2) ear losses associated with stem breakage (lodging) when stalks lose structural strength.

Because yield losses from stalk rot can be significant, growers should routinely scout corn fields beginning about a

month after pollination. Check for stalk rot by pinching the lower internodes of plants, or by pushing plants 6 to 8 inches from vertical as an indication of lodging potential. Select five to 10 inspection sites per field and examine 25 to 50 continuous plants down each of two adjacent rows. Average the number of at risk plants across all sites. Consider scheduling a field for early harvest when stalk rot is evident on 10% to 15% of the plants. If early harvest is needed, be sure to check the grain moisture and be prepared to dry the grain before storage.

David S. Wysong

## Sorghum Leaf Spots Now Prevalent

Two fungal leaf spots are readily apparent in most sorghum fields. They are sooty stripe caused by *Ramulispora sorghi* and zonate leaf spot caused by *Gloeocercospora sorghi*. The recent warm, wet weather promoted their development. Abundant inoculum has hastened their spread within and between fields throughout eastern and central Nebraska.

Sooty stripe lesions are elliptical or spindle-shaped spots with straw-colored centers and reddish purple or tan margins. Fully developed lesions are 2-5 inches long and about 0.25 to 0.50 inches wide. As multiple lesions enlarge they grow together to form extensive necrotic areas causing premature leaf death. Older lesions later become black or "sooty" (hence the name sooty stripe) when the fungus

produces numerous small, superficial fruiting bodies that can be easily rubbed off. Zonate leaf spot is conspicuous on sorghum leaves as large, circular lesions with alternating zones of reddish-purple bands and straw-colored or tan rings which form a concentric pattern with irregular borders. The spots often occur in semicircular patterns along leaf margins. Abundant spotting on leaves of older plants may cause premature destruction of foliage.

Both fungi overwinter in dead tissue of the previous year's sorghum crop. Hence, clean cultivation to destroy such residues and/or crop rotation are recommended to minimize the effects of both diseases.

David S. Wysong

## Powdery Mildew Common; Treat with Fungicides

Powdery mildews are visible on many landscape ornamentals, trees, and vegetables. A tour through almost any yard or garden would probably reveal powdery mildew on one or more plant species. On a short walk around UNL's East Campus, I found it on lilacs, Virginia creeper, roses, zinnias, phlox, and cherry trees. Look for white to gray powdery spots or blotches on the leaves, stems, flowers, and buds. With heavy infections the entire leaf surface may be covered with the whitish fungal growth. Premature defoliation, leaf distortion, and general plant weakening can occur with heavy, repeated infections.

Several types of fungi cause powdery mildew. These fungi are differentiated from each other by morphological and microscopic features associated with the fruiting bodies.

These fruiting bodies are pinhead-sized, spherical structures which range in color from white to brown and are found on older infected tissue.

Shady, overcrowded plantings tend to develop powdery mildew more often. Prune plants and increase plant spacing to improve light penetration and air circulation. Powdery mildews can occur in cool, warm, wet, and/or dry conditions. The spores only require a brief period of high humidity to be released, germinate, and start an initial infection. Avoid overhead irrigation late in the day because it can contribute to the problem.

Reoccurring problem areas or plantings routinely devastated by powdery mildew can be treated with fungi-

cides. Benomyl (Benlate), dinocap (karathane), sulfur, and triforine (Funginex) are available and effective. Pay close attention to label restrictions. Some products are not

labelled for use on certain plants. Also, do not apply sulfur if temperatures are expected to exceed 80°F. Severe leaf burning can occur when sulfur is used at high temperatures.

Luanne V. Coziahr

## *Irrigate Young Trees to Avoid Losses*

Many areas of Nebraska missed the recent storm fronts and have not received much, if any, rainfall lately. In addition, recent high temperatures quickly reduced available moisture. Young trees and recent transplants are at risk under such conditions due to undeveloped root systems or poor establishment.

Proper irrigation now and into the fall will greatly benefit young, woody plantings. Roots actively absorb and

grow until temperatures drop below 40°F. This growth can occur even after leaves have dropped.

Slow, deep-soaking irrigations are better than a light daily sprinkle. Let the garden hose trickle slowly in several locations around the tree's dripline. Avoid runoff or puddling which are wasteful and could injure the roots. In most sites, a deep watering once or twice a month is adequate.

Luanne V. Coziahr

### IPW News Contributors

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Dear IPW News Subscriber,

We value your opinion and want to know what you think about the Insect, Plant Disease and Weed Science News? What do you like and what don't you like about it? How can we improve it for you? Please take a moment and fill out this survey. Then fold it, staple it, and return it to us, postage free. Thank you.

1. What is your occupation? \_\_\_\_\_ How would you categorize it?  
 Farmer/Rancher     Manager/Official     Sales  
 Consultant     Extension Agent     Other (Specify) \_\_\_\_\_

2. If you are a producer, 1) how many acres do you farm and what crops do you produce; or 2) what kind and how many livestock do you raise?

\_\_\_\_\_  
\_\_\_\_\_

3. What is most valuable about IPW News? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

4. What changes would you make in the subject matter? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

5. What changes would you make in the format? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

6. Have you changed any pest management or crop production practices as a result of information in IPW News? Yes \_\_\_\_\_ No \_\_\_\_\_ Please check all that apply.

Pesticide Selection     Pesticide timing     Scouting  
 Use of nonchemical controls     Other (Please describe) \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

7. Are you getting the information you need on a timely basis? \_\_\_\_\_ If not, please give specific examples.

\_\_\_\_\_

8. Do you read all or part of the newsletter and how do you decide what to read? What do you do with the newsletter when you're done reading it?

\_\_\_\_\_  
\_\_\_\_\_

9. We are considering the possibility of limiting this newsletter to agricultural pest topics and starting another newsletter to focus on yard and garden topics. How do you feel about this possibility?

\_\_\_\_\_  
\_\_\_\_\_

What is your age?  Under 30  30-40  40-50  50-60  Over 60

Additional comments?

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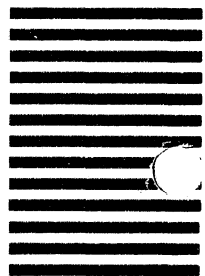
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