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INSECT, PLANT DISEASE, & WEED SCIENCE NEWS [No. 92-21] [Sept. 18, 1992]

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IPW Insect Science Plant Disease Weed Science NEWS

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

Plant Disease

Root, stalk rot becoming a major threat

An increasing number of calls from Extension agents, crop consultants, and growers last week strongly suggests that corn root and stalk rot is becoming more apparent as the crop approaches physiological maturity. Judging from a few of these reports, the disease is progressing from the root rot phase to the stalk rot phase, and, in some cases, is fairly well advanced in the crown and lower stalk tissues. If the situation continues to develop as it has this past week, corn and sorghum stalk rot could be a widespread and serious problem through much of our corn growing region — especially if we get an early freeze or experience less-than-optimum harvest weather.

Take heart: maturity may be closer than growing degree days indicate.

A bit of good news, however. Although the growing degree units indicate the corn crop to be a week or two behind normal progress toward maturity, most crop observers think it is further along than that. The indication is that much of the corn crop is "about where it ought to be" for this time of year (with the exception of replanted fields). In a way, the stage of stalk rot development confirms these field maturity observations. That is, I would expect to find stalk rot intensities at about the level we're seeing only in corn approaching physiology maturity, not in plants that are four to five weeks away from full maturity.

(Continued on page 3)

Inside

Insect Science

Potential problems high for Hessian flies in wheat

Surveys conducted across Kansas by the Kansas State Board of Agriculture indicate that Hessian fly infestations on volunteer wheat are quite high. Apparently, the relatively cool, wet weather this summer was favorable for fly development. This weather also has led to quite a bit of volunteer wheat in some neighborhoods which provides the fly with an oversummering host between wheat crops.

It is likely that Hessian fly numbers are also high in Nebraska. One of the management strategies that we normally suggest for this insect is to plant

(Continued on page 2)

Hessian fly *(Continued from page 1)*

after the "fly safe" dates which are based on average weather conditions. Because this year's weather has been far from average, we do not believe that the "fly safe" dates are going to be effective in preventing problems with the Hessian fly. The best strategy is to plant Hessian fly resistant wheat varieties such as Arkan, Brule, Redland, Larken, 2163, and Norkan. Several more varieties are classified as moderately resistant: Arapahoe, Buckskin, Century, Colt, Mesa, Rawhide, and Wings. Avoid susceptible varieties, including Karl, Thunderbird, Abilene, Scout 66, Siouxland, Centura, and the TAM numbers. Your local University of Nebraska Extension Office has a complete list of wheat varieties adapted for Nebraska conditions and their Hessian fly resistance status.

We urge wheat growers across the state to take the Hessian fly seriously — especially this year.

Few Nebraska wheat producers may remember when this insect was a serious problem. This has led them to believe that it is only of historical significance and not something to worry about today. This is not good reasoning because the Hessian fly destroyed 2,500 acres of wheat in the Ogallala area as recently as 1986!

We urge wheat growers across the state to take the Hessian fly seriously every year — and especially this year. The fly is out there, the known fly-free dates are inappropriate because of the unusual weather, and most importantly, there are no effective ways of controlling this insect once the wheat becomes infested. In other words, insecticides are not going to save your crop if you discover later this fall or next spring that you have a problem with the Hessian fly.

Steve Danielson
Extension Entomologist
Lincoln

New publications

The following new or revised publications have been released by the University of Nebraska Cooperative Extension. Most are available at your local Extension office or can be ordered by writing Bulletins, 105 ACB, PO Box 830918, University of Nebraska, Lincoln, NE 68583-0918.

EC92-103 Nebraska Fall-Sown Small Grain Variety Tests 1992. This circular reports data from winter wheat and winter barley trials conducted throughout Nebraska. Entries included varieties or hybrids and promising experimental strains from Nebraska and surrounding states and private breeders. Trials were conducted by personnel of the UNL Agronomy Department and the South Central (Clay Center), West Central (North Platte) and Panhandle (Scottsbluff) Research and Extension Centers.

G92-1098 Cultivators for Conservation Tillage. Topics include cultivator components, cultivating residue-covered fields, ridge-till considerations, guidance systems for cultivators, and modifying conventional cultivators for no-till.

Insect Science
Plant Disease
Weed Science News

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Lisa Brown Jasa, Editor

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Root, stalk rot

(Continued from page 1)

Lessons learned in the past still hold true this year: identify those fields where stalk rot appears to be most severe and flag those for harvest as soon as weather and kernel moisture content permit.

A "quick and dirty" test to determine lodging potential is to hand-crush the lower internodes or push plants 6 to 10 inches from their normal vertical position. Select five to ten inspection sites per field and examine 25 to 50 continuous plants in two adjacent rows at each site. Average the number of "at risk" plants from all sites. Consider scheduling a field for first harvest if 10% to 15% of the plants have crushable internodes or do not return to the vertical position when pushed. If early harvest is required, be sure to check the grain moisture and be prepared to dry the grain before storage.

David S. Wysong
Extension Plant Pathologist
Lincoln

Leaf blight attacking seed corn and some sorghum fields

Recently the plant disease diagnostic clinic has received several samples of northern corn leaf blight, all of which came from seed-production fields, and one sample of leaf blight of sorghum. Both of these diseases are caused by the same causal organism, *Exserohilum turcicum* and, therefore, are quite similar in symptomolgy but somewhat different in control. Many people recognize the causal agent of northern corn leaf blight by the previous name *Helminthosporium turcicum*.

The lesions are similar in shape and size on both corn and sorghum but can appear slightly different in color due to differences in the variety and cultivar of the host. Lesions on sorghum can be easily mistaken for sooty stripe. Leaf blight lesions are usually larger and do not develop the superficial resting structures on the leaf surface that can be easily rubbed off as in sooty stripe. On both hosts long, elliptical, grayish to tan lesions ranging from 1 to 6 inches in length develop first on the lower leaves and then progress to the upper leaves. On sorghum the lesions may have a purplish color and/or reddish margins depending on the cultivar or variety of sorghum.

Northern corn leaf blight is, for the most part, a disease of sweet corn and seed-production fields in Nebraska. Resistant hybrids and varieties effectively control this disease in field corn. In seed-production fields, fungicide applications sometimes are feasible. In Nebraska this disease is generally not an economic threat to sorghum production, but the unique weather conditions this season may result in isolated exceptions. At this late stage of development, loss from this disease should be minimal. There is no control treatment available for this season's crop. Future control could include crop rotation away from corn and sorghum and control of grassy weeds, such as johnsongrass, which are hosts for these diseases.

Diane A. Merrell
Extension Assistant
Plant Pathology, Lincoln

Corn maturity stage affects harvest, storage

Depending on the timing of the first freeze, there is a high probability that some corn will be high moisture and need drying. Harvest conditions will depend on the stage of maturity at the time of the first 28°F freeze.

If corn is frozen in the:

milk stage, yields will be low and green-chopping or ensiling may be the only option.

dough stage, yields may be reduced by at least 50 percent and the test weight may be less than 50 pounds per bushel. Since kernel moisture will still be above 60%, the crop must be left to field dry. Field losses will increase due to stalk breakage and ear molds. Combining can begin as kernel moisture drops below 30%. Use the lowest possible cylinder speed to achieve good shelling.

•*early to mid-dent stage*, yields will be 22% to 40% less and test weight will be reduced. Harvest this grain in the same manner as frost-damaged corn in the dough stage.

late dent stage, yields will suffer a 4% to 12% loss with test weights near normal. Harvest normally.

Drying is feasible for corn harvested in the early to late dent stages. Farmers can expect additional breakage and fine material when harvesting, drying and handling high-moisture and frost-damaged corn. Remove fine material before drying and storing grain. As with any immature grain being fed, its feed content should be analyzed since there is a potential lower feeding value.

Tom Thompson
Extension Grain Drying Specialist
Lincoln

Weed Science

Desiccants helpful for drying weeds, but can damage immature crop

There is interest in using desiccants for soybeans and grain sorghum. The primary concern is the drying of weed growth to facilitate harvest. Desiccants should not be applied until the crop is mature. Early applications will have the same effect on crop yields as frost. Timely early harvest is especially important where wheat is to be seeded after harvest.

Gramoxone Extra® is registered as a desiccant for soybeans. For indeterminate soybean varieties (most of those grown in Nebraska), apply after 65% of the soybean pods have turned brown. The treatment will "dry up" green weeds and speed crop dry-down. However, Gramoxone Extra® will not dry up black nightshade.

Roundup® was recently labeled as a preharvest treatment for soybeans. Apply after soybean pods have lost all green color and a minimum of seven days before harvest. Aerial applications are limited to a maximum rate of 1 quart Roundup® per acre. This treatment is not effective in drying black nightshade berries.

Sodium chlorate, available under several trade names, is available as a desiccant for grain sorghum. Appy after the sorghum is ready for a frost (grain moisture of 30% or less). Sodium chlorate is widely used in the south as a cotton desiccant. However, it may not be available on short notice in our area. If use is anticipated, make arrangements with a supplier in advance.

Alex Martin
Extension Weeds Specialist
John McNamara
Extension Assistant
Lincoln

Begin weed control in alfalfa now

Weeds in established alfalfa can be easily controlled through fall treatments. Weed populations must not be allowed to achieve high levels or become competitive with the alfalfa. A herbicide treatment in absence of good cultural practices will seldom give the desired results. Proper management is essential to maintaining weed-free alfalfa stands.

Treatments such as Karmex®, Lexone®, Sencor®, Sinbar®, and Velpar® will control both winter annual grasses and broadleaf weeds in established alfalfa one year or longer. These treatments are made in late fall to early spring to dormant alfalfa to control winter annuals such as downy brome and pennycress. Karmex® fits best as the treatment on soils with low organic matter. These herbicides may cause alfalfa injury if the soil organic matter is less than 1%.

Butyrac®, Butoxone® (2,4-DB), and Buctril® can also be used mainly for broadleaf weed control, but are temperature dependant. Do not use Butyrac® and Butoxone® (2,4-DB) if the temperature may drop to 40 degrees within three days after application. At 40 degrees the growth processes of many weed species will slow down and, consequently, the herbicide activity will be reduced. In order to avoid injury to the alfalfa, Buctril® should not be used if temperatures are above 70 degrees.

Few weeds can compete with vigorously growing alfalfa that is mowed two or more times per season. Mowing healthy alfalfa at the right time weakens and may kill most annual and many perennial weeds. Herbicides can be integrated with proper cutting frequency and effective insect control measures so the alfalfa production is maximized.

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John McNamara
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