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INSECT, PLANT DISEASE, & WEED SCIENCE NEWS [No. 90-12] [June 15, 1990]

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Insect Plant Disease Weed Science NEWS

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

No. 90-12 June 15, 1990

In This Issue

PLANT DISEASE

Northeast Nebraska Oats Showing Signs of Wind Burn

Oat producers in northeast Nebraska are concerned about the brown cast their fields have taken on in the last 10 days. With the 1988 barley yellow dwarf epidemic fresh in their minds, several producers were concerned that there was going to be another outbreak.

A recent survey of oats in several northeast Nebraska counties showed that the problem was caused by wind injury to the leaf tips rather than barley yellow dwarf. Fields showed a brown cast over most of the field except for areas protected from the wind. Close examination of the plants revealed a burning of the leaf tip characteristic of wind injury. The injury is primarily superficial and should not seriously affect yields.

Barley yellow dwarf was in all fields, but mostly just on scattered plants. As of the June 4-7 survey, the incidence of barley yellow dwarf was light in most fields, except Madison, Stanton, and Cuming counties where it was moderate to high.

The disease incidence will increase as the season progresses, but it will probably only be a problem in late-maturing fields planted to susceptible varieties. Barley yellow dwarf infected plants are usually stunted and have a definite reddish cast. The field pattern of barley yellow dwarf ranges from scattered random plants to larger more concentrated areas. It usually is not uniform over a field. Wind injury, however, is uniform over a field and injured plants show burning of the leaf tips but no reddening or stunting. Some growers were ready to cut their oats for hay because they were misdiagnosing the wind injury for barley yellow dwarf. Therefore, correct diagnosis of the problem is critical.

John E. Watkins

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

Yellow Corn Problem Does Disappearing Act

After the Memorial Day weekend, Extension specialists at the South Central Research and Extension Center at Clay Center received numerous calls regarding "yellow corn plants" in area fields. We examined many plants with the following symptoms—severe interveinal chlorosis, stunting, and poorly developed root systems.

Field history evaluations suggested that the only thing in common among the problem fields was early planting dates. Symptoms were typical of nutrient deficiencies and we tentatively diagnosed the problem as being environmentally induced. When these early-planted fields were exposed to the long duration of cold, wet soil conditions and several low-temperature nights their ability to utilize nutrients had been limited. We suggested that warmer temperatures and sunshine were needed. However, cool, wet weather continued for several more days. Then early last week increased concern regarding the fate of the "yellow plants" was fueled by rumors that a plant disease, possibly a virus or sorghum downy mildew, was the cause. Even though symptoms of the plants were not those normally associated with sorghum downy mildew, leaves from several fields were examined for oospores. These would indicate systemic infection with downy mildew. These tests were negative; thus, eliminating sorghum downy mildew as the cause of the interveinal chlorosis. Additional samples also are being analyzed for viruses. These tests are not complete, but the symptoms observed are not typical of virus infections.

With the recent warmer weather and abundant sunshine, the plants have improved dramatically and the mystery seems to be fading. Had the problem been caused by one of these diseases, the plants would not have improved. When Richard Ferguson, UNL Extension soils specialist, analyzed soil and leaf tissue samples, he found nutrient levels were adequate, but nutrients weren't being fully used.

Ben Doupnik, Jr.

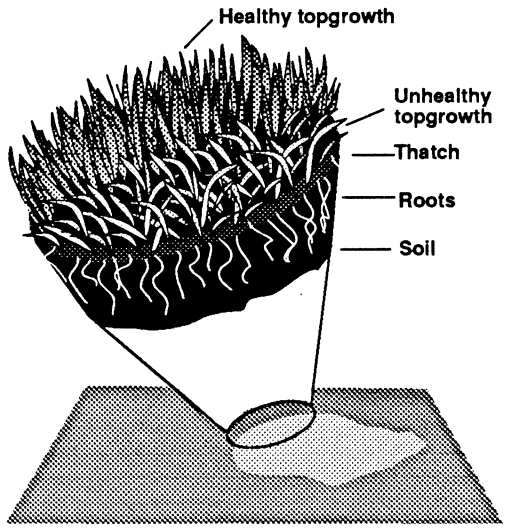
Remove Turfgrass Plugs Carefully for Diagnoses

Turfgrass problems are discouraging for everyone. The homeowner is distraught when the turf turns brown and dies after time, money, and effort have been spent in hopes of a lush green carpet of turf. The diagnostician is equally frustrated when having to identify the problem with only a few blades of dead grass. A good turfgrass sample makes possible an accurate, rapid diagnosis.

The most important points to consider when selecting a good turfgrass sample are the symptoms. Most turfgrass problems develop as patches of thinning, dying, or off-color grass. Select an area that shows representative symptoms from the edge of the problem. Remember, dead grass provides little information.

Cut out a plug of turfgrass using a small spade or knife. This plug should be 4-6 inches in diameter and include both healthy and unhealthy turfgrass. The plug should be deep enough to include thatch, roots, and soil as well as the top growth. This allows the diagnostician to examine whole plants and also the growth habit and site conditions to some extent.

Place the sample turfgrass plug in a sturdy container, such as a box or plastic margarine tub. Cover loosely with a lid or plastic and package for mailing. Do not add moisture because the sample may rot. Mail so the sample arrives



Enlarged View of a Turfgrass Plug

quickly at the UNL Plant Disease Diagnostic Clinic, 448 Plant Sciences Hall, University of Nebraska, Lincoln, NE 68583-0722.

Be sure to include information concerning the extent of the problem, when it was first noticed, any patterns, and a description of the symptoms. A map or description of the site can point out trees, buildings, and walkways which may be important factors. A few comments on the general care (watering, fertilization, use of chemicals) also are helpful.

Luanne V. Coziahr

Heavy Leaf Loss in Trees May Not Be Serious

The Plant Disease Diagnostic Clinic has received several samples and phone calls concerning recent heavy leaf loss from elm, hackberry, and ash trees. The leaves on the ground are yellow but show no evidence of pathogenic disease. Mike Kuhns, UNL Extension forester, suggested that there may be some loss of interior leaves that are becoming shaded out by heavy leafing above. This is not a problem. When examining a tree, concentrate on the crown. As long as the crown is full and not thinning excessively, the tree is fine. If the crown begins to thin, a closer examination is needed.

Currently, samples and surveys have shown that anthracnose diseases are prominent (see page 69, IPW News No. 90-11, June 8). Trees showing signs of decline related to environmental conditions also have been noted. No other widespread problems have been noted.

Luanne V. Coziahr

Brown Patch Found in Turf

The warm, humid, wet weather last week and lush turf stands have been ideal for development of Rhizoctonia brown patch. Disease symptoms include long, irregular lesions with dark margins occurring on the leaf blades. Turf with a history of brown patch should be treated with a fungicide every two to three weeks as long as the weather remains warm and humid.

John E. Watkins

WEED SCIENCE

Tackle Weeds in Soybeans Postemergence

To save time during this rainy season, some growers planted soybeans without using a herbicide. The recent weather has been ideal for weed growth. Weeds in soybeans planted in late May are reaching the stage when they should be controlled. Weeds between rows can be controlled with a cultivator, but weeds within the row are best controlled with herbicides.

Success with postemergence herbicides hinges on timing the application. Timing depends more on the weed growth stage than on the crop stage; small weeds are more readily controlled than large ones. Apply herbicides when most susceptible weeds are less than 4 inches tall. Nitrogen solutions (28-0-0 and 32-0-0 at 1 gallon per acre) increase the activity of many herbicides against velvetleaf, but weed size limitations remain. Taller weeds are defoliated, but they often recover.

The spectrum of weeds controlled varies with herbicide. Basagran is effective against cocklebur, smartweed, sunflower, and velvetleaf. Blazer, Tackle and Reflex control black nightshade, pigweed, and smartweed. Tackle or a combination of Basagran and Blazer often are used for broader spectrum control. Galaxy is a premix combination of Basagran and Blazer. Classic is effective against cocklebur, smartweed, sunflower, and provides pigweed suppression. Pinnacle's weed spectrum is similar to Classic except it is more effective against pigweed and has less soil persistence than Classic. Classic and Pinnacle also control velvetleaf when a nitrogen solution is used as an additive. Scepter controls cocklebur and pigweed. Pursuit is effective against most annual broadleaf weeds and many grasses, including shattercane. The weed spectrum of Cobra and Reflex is similar to Blazer and Tackle, with one difference being greater effectiveness against velvetleaf. Classic, Pursuit, Reflex and Scepter have crop rotation restrictions — consult the label.

Assure, Fusilade, Poast and Option have excellent crop safety; soybean injury is not a concern with these herbicides. Treat annual grasses before they tiller. Tillering often occurs when grasses are 3 to 4 inches tall. Grasses treated after tillering usually recover and regrow from the crown. Volunteer corn and shattercane are very susceptible to these herbicides. Good control can be achieved of plants up to 18 inches tall.

Spray additives are required with these herbicides. Additives include crop oil concentrate, nonionic surfactants, fertilizer solutions, and ammonium sulfate. Each herbicide has specific additive requirements— consult the label for details. In some cases lesser herbicide rates are required with certain additives. Nitrogen solution (28-0-0) has largely replaced crop oil concentrate as an additive with Basagran and improves Classic, Pinnacle and Pursuit activity against velvetleaf. Dash, a new additive for Poast, enhances activity and eliminates the need for increasing the Poast rate when tank mixing with Basagran.

Alex Martin and Bob Stougaard

Heavy Rains Aid Weeds as Well as Grasses

While the recent, abundant rainfall aids turf growth, it also stimulates the germination of weed seed and causes herbicides to break down faster. Lawns which received a preemergence crabgrass treatment in mid to late April need to be treated again. Repeat applications of Dacthal or pendimethalin will help control prostrate spurge. Mow the lawn before applying these products and water as soon as possible afterward. Waiting more than three days will result in loss of the herbicide and reduced control. It is also advisable to return the clippings for at least three weeks after application. Much of the herbicide is retained on the plant foliage and, by returning the clippings, the herbicide will be washed off to aid in weed control.

Another turf weed to watch for is yellow nutsedge. Because yellow nutsedge spreads rapidly, it's important to begin control practices as soon as it is visible. If left unchecked, yellow nutsedge can spread and infest large lawn areas. Basagran, which is now available in pint containers, is the most effective herbicide for yellow nutsedge. Mix 0.75 to 1.5 ounces per gallon of water along with an equal amount of surfactant and apply to vigorously growing plants. This will treat 1,000 square feet. If desired control is not obtained with the first application, make additional applications at 10- to 14-day intervals. DSMA, MSMA and other methyl arsenates also can be used for control. The methyl arsenates also will control annual grasses such as crabgrass. Repeat applications at seven to 10 days. The methyl arsenates can discolor turf and should not be applied if temperatures are above 85 degrees. Also, don't apply if rain is expected within 24 hours and do not mow for four to five days after application.

Don't plan to control perennial broadleaf weeds in turf in the summer. Wait until late September to early October to control perennial broadleaf weeds like ground ivy, dandelions and violets. High winds and air temperatures increase the chance for drift injury to nearby sensitive plants, especially with products which contain dicamba and 2,4-D. In addition, herbicide control this time of year often is unsatisfactory.

Alex Martin and Bob Stougaard

INSECT SCIENCE

Corn Rootworms Best Controlled at Cultivation

Insecticide applications made at cultivation may provide the best corn rootworm control because insecticides are applied when rootworms are present. As of June 10, corn rootworm eggs had begun to hatch. This is somewhat later than in recent years, due to the cooler spring weather. With the later hatch and the wet soil conditions in many areas, persistence of soil insecticides applied at planting may be reduced. Regardless of whether a soil insecticide was applied at planting, you should begin to scout corn fields for corn rootworm larvae and damage. This will allow you to determine whether an insecticide is needed, if one was not used at planting, and provide a check on the effectiveness of planting time insecticide applications. In the case of poor control, this will allow you to apply an emergency rescue treatment.

To scout for corn rootworm larvae, dig a 7-inch cube of soil centered on the corn plant and carefully search through the soil and corn roots to find corn rootworm larvae. Searching through the soil and roots should be done over a sheet of black plastic to help you see the small white worms. Also examine roots for evidence of corn rootworm feeding damage. Repeat this process at a minimum of 10 sites distributed across the field. There is no established treatment guideline for corn rootworm larvae, but some consultants advise treating if there are two to three per plant. The usefulness of this value is dependent on your ability to find rootworm larvae in the soil.

Corn rootworm larvae are from 1/32 to 1/2 inch long, whitish, with a black to dark brown head and a brown patch on the tail end which gives the insect a two-headed appearance. There are three pairs of small legs which may be difficult to see without magnification.

For control, apply insecticides either at the plant base or over the row as specified by the pesticide label. Most planting-time soil insecticides labelled for corn rootworm control also are labelled for use at cultivation. Read the label to be sure. Incorporate with 1-2 inches of soil after application. Some soil moisture is needed for activation of the insecticide. Under dry soil conditions irrigation after

incorporation is beneficial. If soil moisture is excessive and an aerial application is made, effectiveness may be decreased unless there's incorporation. A final option is application of an insecticide through a center-pivot system.

For more information, including a listing of registered products and rates, see *EC 90-1509: Field Crop Insect Control Guide for Nebraska Corn and Sorghum* and *NebGuide G87-839: Corn Rootworm Control.* These are available from University of Nebraska Department of Agricultural Communications or your local Extension office.

Bob Wright

Chinch Bugs Invade Sorghum Not Near Wheat

Distraught sorghum growers have reported finding chinch bug adults in sorghum (and corn) **not** planted near wheat. Large numbers of damaged sorghum plants and some destroyed fields have been reported. Typically large numbers of chinch bugs (immatures and adults) may overwhelm and destroy a sorghum field planted next to an infested wheat field. The cool spring has delayed development of the immature or "red bugs", and beginning a month ago, we observed large numbers of flying adult bugs. In addition, the high numbers of bugs observed in wheat are no longer there, although some eggs and "red bugs" (and a few adults) still remain.

Our best explanation of this phenomenon is that this year the chinch bugs have been highly concentrated in thin stands of wheat. It has been noticed that when population densities become very high, there is a tendency for some insect species (migratory locusts, for example) to migrate out from the dense population center. These high densities may have triggered this adult movement. We expect the typical mass migration of immatures and adults into sorghum planted near an infested wheat field to begin soon. If replanting becomes necessary, soybeans are still the best choice if herbicides are compatible. In addition to sorghum and corn, chinch bugs will feed on and destroy sudax and millet so these forages are definitely not good choices for replanting.

Barb Spike, Research Associate, Entomology

European Corn Borers Emerging

European corn borer moths are emerging across the state. Because of the cooler weather this spring, seasonal development will be somewhat later than normal. Scouting efforts should begin after peak moth flight, or as soon as the first egg masses are observed. Scouting should continue for two to four weeks.

First generation moths prefer the tallest corn in an area for egg-laying. Scout these fields first. For more information on scouting and treatment of first generation corn borers, see the next IPW News or *NebGuide G75-217: European Corn Borer*, or *EC 90-1509: Field Crop Insect Control Guide for Nebraska Corn and Sorghum*, available at your local Extension office. The cool spring and delayed corn growth also will effect the corn borers. Borer survival after egg hatch is strongly influenced by corn plant height. Regardless of corn variety, borer survival will be poor on corn plants with fewer than six fully expanded leaves (whorl height of about 10 inches). Successful establishment of borers on susceptible hybrids increases as plant height increases. Hybrids with leaf-feeding resistance maintain their resistance up to tassel emergence.

Bob Wright

For Your Information

These publications were released by the University of Nebraska Department of Agricultural Communications:

G81-548: Organic Gardening in the Backyard. Successful organic gardening requires consideration of many factors, including resistant cultivars, crop rotation, sanitation, incorporation of organic matter, garden location, and insect and disease control.

EC90-883: Crop and Livestock Prices for Nebraska Producers. This report was compiled in response to numerous requests for historical price data for the major crops and livestock classes produced in Nebraska. Prices received by Nebraska producers from 1960 to 1989 are reported.

These publications and many more are available free or at a nominal charge at your local Extension office or from the UNL Department of Agricultural Communications. For a Publications Catalog, contact your local Extension office or write Bulletins, 105ACB, University of Nebraska, Lincoln, NE 68583-0918.

Scout Alfalfa Fields After Harvest for Weevils

The potential exists for serious damage on alfalfa regrowth due to alfalfa and clover leaf weevils. Large numbers of the larval stages have been found in alfalfa the past few weeks. In some cases, they have caused severe losses to the first crop. Since then, the larvae have pupated and are becoming adults just as harvest is beginning. These adults will be looking for something to feed on and often will chew off new alfalfa growth at ground level. Sometimes weevil adults will even move into nearby soybean fields in search of food, although soybean damage usually is not severe.

Not all fields may have regrowth damage so scoutfields individually. In fact, the recent wet weather may have encouraged growth of a fungus that kills the alfalfa and clover leaf weevils, thus limiting problems. Refer to page 62 of IPW News No. 90-10, (May 25, 1990) for a formula developed at Iowa State University to help growers determine if and when insecticide treatment is necessary. For a list of registered insecticides, see *EC90-1511: Field Crop Insect Management Guide for Nebraska — Alfalfa, Soybeans, Small Grains, Range and Pasture*, available from your local Extension office.

Steve Danielson

Watch for Armyworms in Wheat

Large numbers of armyworm moths have been observed at many Nebraska locations. These moths recently have flown in from overwintering sites in southern states and the females now are laying eggs in grassy sites such as the lush wheat found throughout the state. It is not unusual to have armyworm problems in wheat, especially when the growth is rank. Some surrounding states already are experiencing severe damage due to this pest.

Wheat fields should be scouted for armyworms and the resulting damage to leaves and possibly the developing heads. Consult *EC90-1511: Field Crop Insect Management Guide for Nebraska — Alfalfa, Soybeans, Small Grains, Range and Pasture* for information on insecticidal control of armyworms in wheat.

Steve Danielson

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