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## INSECT, PLANT DISEASE, & WEED SCIENCE NEWS [No. 90-2] [March 23, 1990]

Alex Martin

*University of Nebraska - Lincoln, [amartin2@unl.edu](mailto:amartin2@unl.edu)*

Bob N. Stougarrd

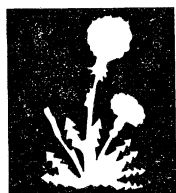
*Extension Weed Specialist, University of Nebraska-Lincoln*

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# INSECT PLANT DISEASE WEED SCIENCE

# NEWS

DEPARTMENT OF PLANT PATHOLOGY UNIVERSITY OF NEBRASKA-LINCOLN,  
EAST CAMPUS 68583-0722 PHONE 472-2559

No. 90-2

March 23, 1990

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## **PLANT DISEASE**

### **Avoid Heavy Fertilizing in Early Spring to Prevent Lawn Diseases**

Leaf spot, melting out, necrotic ring spot, and stripe smut are the four main diseases of Kentucky bluegrass lawns in Nebraska. With the spring rains and warm weather, lawns are greening up early this year. This is a pleasant change from winter, but it means preparing now for the onslaught of turf pests.

Leaf spot and melting out diseases are old enemies that have plagued us for years. Leaf spot occurs from early April to June and melting begins in May. Symptoms of leaf spot are small dark-brown spots with buff-colored centers on the leaf blades. On susceptible lawns, leaf blades will be severely infected and the turf will show yellowing and thinning. Melting infects the leaf sheath area causing the leaf blade to yellow and eventually die.

The best medicine to prevent injury from either disease is:

1. Do not fertilize heavily in early spring. This promotes lush growth that is susceptible to both diseases. Fertilize in early May using a slow release nitrogen fertilizer.
2. Begin a preventative fungicide program using a spray or granular treatment in early April.

Stripe smut appears as bright-yellow circular areas that are about 6-10 inches in diameter. Close examination of the infected plants reveals small black stripes on the leaf blades. After correctly identifying the disease, apply an appropriate fungicide now and in October.



Necrotic ring spot develops primarily in cool, wet weather with symptoms appearing from April into June in Nebraska. Kentucky bluegrass is the primary host to this disease. Necrotic ring spot appears as roughly circular tan patches of dead turf often with a tuft of green grass in the center. These symptoms are identical to those produced by summer patch, their presence during cool, wet spring weather can probably be attributed to necrotic ring spot. The prescription for healthy turf is similar to that for leaf spot and melting out.

1. Do not stimulate lush growth with heavy fertilization in early spring.
2. Apply an appropriate fungicide beginning in early April.
3. Aerify in early May to reduce thatch and compaction.

John Watkins

## Multi-resistant Alfalfa Offers Security from Diseases

[This article is adapted from a paper presented by Dr. Fred Gray, University of Wyoming, who spoke at the National Alfalfa Symposium held in Lincoln in February.]

Certified alfalfa cultivars with multiple disease resistance will continue to be at the center of any disease control program now and in the near future. In 1989, 169 certified alfalfa cultivars with resistance to one or more diseases were available. Of these cultivars, 89% are marketed by 55 different private seed companies; the remaining 11% are available through public agencies.

Disease resistance will continue to be of major importance in cultivar development. A single cultivar can be resistant to up to seven diseases, with the average being four diseases. The level of disease resistance is important in selecting a cultivar. More than 50% of the plants are in the Highly Resistant classification; 30-50% of the plants are in the Resistant classification; and 15-30% are in the Moderately Resistant classification. Nebraska growers should only plant cultivars with one of these three levels of resistance to *Phytophthora* root rot anthracnose and bacterial wilt.

John Watkins

## Plan Plantings to Avoid Cedar Apple Rust

The Plant Disease Diagnostic Clinic has received several inquiries concerning the control of cedar apple rust on apple trees. Recent changes in the labelled uses of EBDC fungicides have eliminated the chemical control method formerly available to homeowners for use on apples. As of January 1, 1990, all unsold maneb, mancozeb, and metiram products were required to be relabelled to remove apples from approved uses. Zineb is no longer produced or sold in the United States. If you bought these products before January 1, 1990, you can still use them as stated on the label.

Many other chemicals also are effective for controlling cedar apple rust of apples, but they are only available to commercial growers. These products include triadimefon, triforine, myclobutanil, fenarimol, thiram, and ferbam. No labelled chemicals are available to homeowners for controlling cedar apple rust on apples. They are advised to plant rust-resistant apple varieties, especially when apple trees are to be planted near cedar trees.

Luanne V. Coziahr

## Avoiding Salt? Do the Same For Plants

Houseplants with brown or scorched leaf tips, leaf drop, wilting foliage, and unhealthy roots may suffer from salt toxicity. Salts from irrigation water and fertilizers may accumulate in the potting soil. These salts are taken up by the plant and may accumulate in the leaf tips. This can lead to cell death and leaf tip browning. Roots also can be damaged by high salt concentrations. Unhealthy roots are soft and brown rather than firm and white.

Avoid salt toxicity problems by using well-drained potting soil and containers with drainage holes. Water plants thoroughly and discard any excess water which drains through. If salt toxicity does occur, soil leaching may help clear up the problem. Water the plant so that at least 10% of the water goes through the soil and out the bottom of the container. This can easily be done in the bathtub or sink, but only do it occasionally. In severe cases of salt toxicity, repot the plant in clean, fresh potting soil.

Luanne V. Coziahr

# INSECTS

## Corn Rootworm Control Starts With Careful Planning

Planning is essential to controlling corn rootworms. Ask yourself the following questions as you get ready for the 1990 season.

**1) In which fields should corn be planted?** Continuous corn production favors corn rootworm survival; crop rotation is a highly effective nonchemical control measure. If you have rootworm beetle scouting data from 1989, this information should be considered when deciding which fields to plant to corn (e.g., rotate fields with highest beetle counts out of corn).

**2) Should I use a soil insecticide at planting?** Because crop rotation is such an effective control measure for corn rootworms, use of a planting-time soil insecticide is rarely feasible in first year corn. Treatment of first year corn should be considered only if corn follows oat stubble, or soybean fields heavily infested with volunteer corn (usually in excess of 4,000 corn plants per acre) or weeds. Even in continuous corn production, many fields do not have high enough levels of corn rootworms to cause economic loss. Adult beetle counts from 1989 can be used to identify fields with a low risk of economic loss from corn rootworms; a planting-time soil insecticide is not recommended for these fields.

In fields where a soil insecticide is needed, if the corn is planted early (before May 15), planting time applications provide less reliable insecticide performance than treatments at cultivation. This is because of the long period of time between planting and rootworm egg hatch. Another factor greatly influencing soil insecticide performance is calibration of application equipment. Many "failures" of soil insecticides are due to poor equipment calibration. Take time now to calibrate granular applicators. Soil insecticide performance data (planting time and cultivation time applications) for 1989 is available in last year's UNL IPW Entomology Newsletter (No. 89-22, Sept. 29). It is based on research conducted by Dr. Lance Meinke, UNL Entomology Dept., at the University of Nebraska Agricultural Research and Development Center near Mead.

**3) Should my fields be scouted for rootworms?** If you did not have your corn scouted in 1989, you should

seriously consider doing it in 1990. Regular monitoring (or scouting) of corn during the growing season by a properly trained individual can provide a great deal of information useful in managing corn rootworms and other pests. Adult rootworm scouting can identify whether economic damage is likely the next year if continuous corn is grown. It can identify the need for, and proper timing of an adult control program aimed at preventing silk damage or reducing egg-laying by adults. See NebGuide G86-774, "Western Corn Rootworm Soil Insecticide Treatment Decisions Based on Beetle Numbers" for further information on scouting procedures and interpretation of beetle densities. Producers who have the time and training can do their own scouting or they can hire someone trained in pest identification and scouting procedures. Crop consultants, or others providing scouting services, may provide a variety of services, ranging from insect scouting only, to a complete program of scouting, nutrient management and irrigation scheduling. Evaluate their fees in relation to your needs and the types of services they provide.

Bob Wright

## Examine Trees Now for Insect Eggs

Bagworms overwinter as eggs inside the female's bag. Hundreds of eggs are in these bags, so removing and destroying them before the eggs hatch is an effective control technique. Bagworm eggs usually hatch between late May and early June. Some bags will be overlooked or out of reach so examine trees and shrubs carefully and, if bagworm activity is detected, treat. For biocontrol, use Dipel or Thuricide (Bt); for chemical control use Sevin, diazinon, Cygon or Orthene.

Tent caterpillar moths laid their eggs last July in 1/4-1/2 inch long clusters that encircle small twigs of the host plant. Keep a sharp eye and watch for egg masses, especially on plum, cherry, apple and crabapple trees. Prune out and destroy all egg masses. More importantly, egg mass sightings are an early warning of infestation. Spray plants on which egg masses are found with Bt, Sevin, malathion or diazinon. The eggs hatch early, just at bud break. Treat at the first sight of webs.

Ackland Jones

## Army Cutworms Advance Into Dawson County

Army cutworms have been reported damaging established alfalfa in Dawson County and in several surrounding states. The cutworms are about 1/4 to 1/2 inch long and have been found in densities up to six per square foot. The cutworms are clipping and eating the small amount of alfalfa growth. In most cases, established stands should recover naturally from this type of damage; however, in severe cases crop development may be delayed and yields reduced. Although we don't know of any new alfalfa fields infested with Army cutworms, new alfalfa stands are especially vulnerable to severe damage.

Alfalfa growers throughout Nebraska should be scouting their fields for cutworms and damaged leaf buds. Treatment should be considered on newly established stands when cutworms average two or more per square foot. Except in severe cases, it's unnecessary to treat established stands. Growers should consider treatment when they find four or more cutworms per square foot. Avoid unnecessary expense and use spot treatments when only portions of fields are in

Insecticides registered for controlling army cutworms in alfalfa include Sevin XLR, Lorsban 4E, Pounce 3.2EC or 25WP, and Ambush 2E or 25W. Follow label directions when using insecticides.

Steve Danielson

## Pest Scouting Guides Available

Two videotapes on field crop insect scouting and identification and a manual for field crop scouts are available for sale. The videotapes -- **Insect Scouting in Corn** (26 minutes) and **Insect Scouting in Soybeans and Alfalfa** (21 minutes) were developed by Robert Wright, University of Nebraska at Lincoln, and Keith Jarvi, University of Nebraska at Concord. They describe how to identify major pest and beneficial insects and mites on these crops and provide scouting guidelines. The **Field Scout Manual** includes information on pest identification and scouting procedures for the major insect, weed and disease pests on corn, sorghum, soybeans, alfalfa, wheat and specialty crops. It was edited by Wright, Jarvi and Ron Seymour, University of Nebraska at North Platte.

All three are available for sale through the UNL Department of Agricultural Communications. Insect scouting videos are available in 1/2-inch VHS format for \$29.95 plus sales tax for one, or \$50 plus sales tax for both on one tape. The **Field Scout Manual** is available for \$25 plus sales tax. Make checks payable to the University of Nebraska. Send orders to: Field Scouting, 104 Agricultural Communications Bldg., University of Nebraska-Lincoln, NE 68583-0918.

Bob Wright

## Inspection, Treatment Keys to Houseplant Pest Control

The most common pests associated with houseplants are aphids, whiteflies, scale insects, mealybugs, spider mites and fungus gnats. To avoid pest problems, carefully inspect the leaves, stems and soil of plants for insects and mites before purchase. Similar inspections should be made before moving plants inside for the winter. When repotting plants, use a commercially prepared, pasteurized potting mixture to avoid introducing ants, springtails, fungus gnats, sowbugs and other soil pests. Remove dead material from plants and soil surface to eliminate pest hiding places.

To control pests without using chemicals: remove infested leaves and stems; repot the plant (discard insect-infested soil); remove large pests by hand, or scrape off insects such as scale insects or mealybugs with cotton swabs dipped in rubbing alcohol. Insecticidal soap or horticultural oil sprays are quite effective for a wide variety of pests on certain plants (check label for phytotoxicity information). If houseplants are heavily infested, dispose of the plant.

Insecticide sprays often are the most practical treatment for pests on houseplants. Before use, however, make sure the product is labeled for both the pest and the plant. Some chemicals can damage plants, so check the label for a list of plants known to be sensitive to the product. Systemic granular formulations can be applied to the potted soil. In most cases, a commercially formulated, ready-to-use (RTU) insecticide spray will provide the best control for houseplant pests. If fungus gnats are the problem, water less often to lower the soil's moisture level. Fungus gnats are most often a problem in over-watered houseplants.

Fred Baxendal

## When Carpenter Ants Come Marching, Protect Your Home

Despite their small size, carpenter ants can pack a destructive wallop when they overwinter in homes. These ants are usually noticed when workers forage for food or moisture in kitchens or bathrooms or when the winged reproductive forms swarm. During swarming, winged adult females (nuptial queens) disperse to mate with males and establish new colonies. Of the two most common species in the home, a red species, *Camponotus rasilis*, normally swarms in the early spring, and the larger black species, *C. pennsylvanicus*, swarms in the spring to early summer.

Carpenter ants usually build nests in wooden structures that have been weakened by moisture. Common nest sites include interior structural beams attached to foundation walls or areas around windows and doors, near leaky plumbing in kitchens and bathrooms, or beneath a leaky roof. Carpenter ants do not eat wood but simply excavate tunnels and chambers for housing. Once established, colonies expand into sound wood, sometimes destroying its structural integrity.

If you suspect carpenter ants are present, look for sawdust-like excavated wood, ant body parts and other wastes which the ants eject through exit holes. Black carpenter ants are more damaging than red carpenter ants because they are larger and have larger colonies. Red carpenter ant colonies normally consist of a few hundred workers; damage may be minimal since sometimes they use voids within walls or beneath trim.

In most cases, carpenter ants are best controlled by a professional pest control operator with specialized equipment and experience. For control, insecticides are applied in cracks and crevices, wall voids and ant tunnels. Control products available to homeowners include Dursban (chlorpyrifos), Baygon (propoxur), Ficam (bendiocarb) and boric acid. Dust formulations usually are more effective than liquid sprays. If you decide to hire a pest control operator, get several bids and then select a reputable operator with a proven record.

Jim Kalisch

## WEED SCIENCE

### Early Application the Key to No-Till Weed Control

Weed control is critical to successful no-till crop production. In many instances weeds will be established before planting. This is especially true of later-planted crops such as grain sorghum and soybeans. Although weeds do hold the soil in place and reduce raindrop impact, early weed growth can hurt no-till crop production because it depletes soil moisture, interferes with planting, and may attract insects. The warm temperatures and recent rains have caused weeds to germinate earlier than normal this year. Some fields already are starting to 'green up' with pennycress, shepherdspurse, prickly lettuce, henbit, and marestalk (horseweed).

No-till weed control strategies must include weeds established before planting as well as later-developing weeds. To control early weed growth, apply an early preplant (EPP) herbicide. An EPP application provides a residual herbicide prior to weed germination so weeds

can't become established. The application should be timed so rainfall is likely and can activate the herbicide.

Ideally an EPP application is made before weeds germinate and become established. Start to scout fields now for weeds. Normally, EPP treatments are applied between April 1 and April 15; however, EPP treatments may need to be applied earlier this year because of the warm weather and early weed growth. Most EPP treatments can control weeds less than 2 inches tall. Many EPP treatments include a triazine herbicide such as atrazine, Bladex, Lexone or Sencor which have some foliar activity. This foliar activity can be greatly increased by adding either 2,4-D, crop oil concentrate or 28% UAN. If weeds are taller than 4 inches, include a nonselective herbicide. In addition, if rainfall does not occur and weeds emerge through the EPP treatment, Gramoxone Extra or Roundup can be used at planting.

When discussing EPP applications, it is important to consider the herbicide's residual properties. Because field corn is planted in early spring, EPP treatments are usually applied 10 to 15 days before planting. As a result, an EPP herbicide application which includes both a grass and broadleaf herbicide will normally provide season-long weed control. However, an additional at-planting herbicide treatment might be needed if the application is made 20 to 30 days ahead of planting or if there is much soil disturbance with planting. No-till planters equipped with fluted coulters disturb the herbicide barrier in the row which results in weed escapes. An extreme example would be use of the ridge plant system during which the top 1.5 inches of soil and the herbicide are removed.

Soybean and grain sorghum planting usually follows corn by 10 to 30 days. The longer time between herbicide application and planting means an EPP herbicide application seldom provides season-long control. In grain sorghum a split application with one portion applied EPP and the other at planting time helps maintain control. This approach also works well in soybeans. An additional strategy in soybeans is to apply an EPP treatment and follow up with a postemergence herbicide program. This not only spreads the work load out over

an extended time, but allows you to choose the specific herbicide for the weed problems which develop.

No-tilling into alfalfa sod presents additional concerns. It is best to kill the sod as soon as possible to conserve soil moisture. Attempts to take off the first cutting and then plant no-till have not been successful. Alfalfa should be actively growing and have at least 4 inches of green growth at treatment. The most consistent treatment is 1 quart of 2,4-D + 0.5 pint Banvel per acre, based on a 2,4-D formulation of 4 pounds per gallon. A 2-quart rate of 2,4-D ester per acre also works well. Do not apply these treatments with other residual herbicides or surfactants because this lessens control. Apply at least one week before planting corn and four weeks before planting grain sorghum. Do not use these treatments before planting fieldbeans or soybeans.

**Alex Martin and Bob Stougaard**

### ***IPW News Contributors***

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**Lisa Brown Jasa, Editor**

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

Fred Baxendale  
Art Hagen  
Ackland Jones  
Ron Seymour

Jack Campbell  
Gary Hein  
Jim Kalisch  
John Witkowski

Steve Danielson  
Keith Jarvi  
Leroy Peters  
Bob Wright

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

Luanne Coziah  
John Watkins

Ben Doupnik  
David Wysong

Eric Kerr

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

Alex Martin

Bob Stougaard