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INSECT, PLANT DISEASE, & WEED SCIENCE NEWS [No. 90-8] [May 11, 1990]

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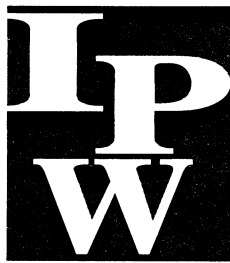
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Insect Plant Disease Weed Science

NEWS

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

No. 90-8

May 11, 1990

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PLANT DISEASE

Cut Alfalfa Early for Leaf Disease Control

Alfalfa, the Queen of the Forages, is subject to several foliar diseases that can severely reduce hay quality, yield, and plant vigor because of premature leaf loss. In Nebraska, the common foliar diseases include spring black stem and leaf spot, Lepto leaf spot, common leaf spot, and yellow leaf blotch. Cool to moderate temperatures coupled with wet, humid weather favor their development. When weather conditions are ideal for disease development, severe spotting, yellowing, and premature leaf drop occur.

Growers are encouraged to scout their fields periodically as the time for first cutting approaches. Harvest early if foliar diseases are causing defoliation. By cutting before significant leaf drop occurs, growers can avoid losses in yield and quality. Also, early harvesting helps protect future cuttings by removing infected leaves which serve as a source of inoculum for new infections on plant regrowth.

Do not harvest alfalfa before the early- to mid-bud stage to allow sufficient time for replenishing carbohydrate reserves in the root. For more information on specific alfalfa leaf spotting diseases, consult NebGuide G80-488, *Leaf Spot and Black Stem Diseases of Alfalfa*.

Seedling Sugar Beets Hit By Diseases, Freezing Injury

Recent temperatures in the lower twenties (Fahrenheit) in the North Platte Valley and in the mid-teens in the Alliance-Hemingford region have caused significant stand losses of seedling sugar beets. Some growers are replanting. Frost damage to seedlings may be more severe in lower areas of fields. Above-ground frost damage to seedlings



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may resemble damping-off. The cotyledons may darken from the tips toward and into the stem, with affected tissue becoming brown, dry, and necrotic. Below the frost line, the roots of frost-damaged plants appear healthy, but damping-off causes black, shriveled roots deep into the soil.

This spring the cool, wet soils may be more favorable than usual to *Pythium* damping off. The fungus, *Pythium ultimum*, grows well over a wide temperature range (40-95°F) and even late replanting may result in infection if soils are moist. This fungus primarily causes preemergence damping-off, but postemergence damping-off also may occur if conditions remain moist. *Rhizoctonia* damping-off has a lower requirement for soil moisture, and fungus growth prefers a higher range of temperatures (optimum of 68-86°F) than *Pythium ultimum*. Thus, late-planted sugar beets may be affected more by *Rhizoctonia* damping-off. Stems of seedlings turn dark and plants wilt and die. *Rhizoctonia* damping-off problems in this region have been controlled with thiram or PCNB type seed treatments. If *Pythium* damping-off is a problem, add a metalaxyl product to the seed treatment.

Eric D. Kerr

Bacterial Wetwood, Slime Flux Caused by Bacterial Activity

Bacterial wetwood, a common disease affecting many kinds of trees including elm, linden, maple, poplar, and willow, is easily recognized by its most obvious symptom — "slime flux." Commonly this liquid ooze or flux is produced from branch wounds, at high-angled and weak branch forks, or along breaks in the tree trunk bark. The exudate that bleeds from the wound is initially clear or light yellow but becomes foul-smelling and slimy as it is colonized by numerous microorganisms. When bleeding is profuse, liquid flows down the bark and dries, leaving a light gray to white incrustation. If the exudation is sustained, the bark is marked by a two-colored, vertical column of brown, flanked by stripes of white.

Slime flux is caused by the production of gas generated by metabolic activity of bacterial colonization that follows wounding. Bacterial fermentation of carbohydrates produces carbon dioxide that is further converted to methane. Gas composition has been reported as high as 46% methane, 34% nitrogen, 9% carbon dioxide, and 7% oxygen. The gases, confined within the trunk, cause abnormally high pressures. Fluids are forced out the wound by this internal pressure through weak points in the bark.

In most cases, bacterial wetwood appears to have little detrimental effect on the tree's health, although sometimes the slime flux inhibits callous closure around old wounds. While there is no way to prevent wetwood, installing metal or plastic drain tubes may lower stem pressures, reduce excessive fluxing, and reroute continual drainage away from the tree.

David S. Wysong

Fungal Disease May Cause Premature Needle Drop

Now is a good time to look for signs of *Rhizosphaera* needle cast, a fungal disease found primarily on blue spruce in nursery, ornamental, and Christmas tree plantings. Severely infected trees will show premature needle drop and branch dieback resulting in unsightly trees.

Infected needles turn yellow in July and then purplish-brown by late August. The disease usually begins in the lower part of the tree and gradually progresses upward. Infected needles drop off prematurely by late fall.

The most important diagnostic clue is found by looking carefully at the needles for the characteristic fruiting bodies of the fungus. The fruiting bodies are fuzzy and black and arranged in linear rows along the length of the needle. These fruiting bodies actually emerge from the stomata of the infected needles. A hand lens can be helpful in examining the needles. The fruiting bodies can be found on green, yellow, or purple needles.

The fruiting bodies release spores in late spring during wet weather. The spores are dispersed by rain splash to healthy needles. Protective fungicides can be applied when the needles are half elongated and again when fully elongated. Two years of treatment is usually adequate for disease control. Fungicides such as Bordeaux mixture and chlorothalonil (Daconil) can be used. Read and follow label directions.

Cultural controls include planting the trees far enough apart to promote good air circulation. Also, avoid buying infected trees or planting healthy trees near infected trees. Avoid shearing trees during wet periods.

Luanne V. Coziahr

WEED SCIENCE

Control Options Limited for Postemergence Shattercane

Apparently corn growers will have to wait until next year for reliable postemergence shattercane control. Unless Beacon is approved with a full registration within the next six weeks, options for postemergence shattercane control remain very limited.

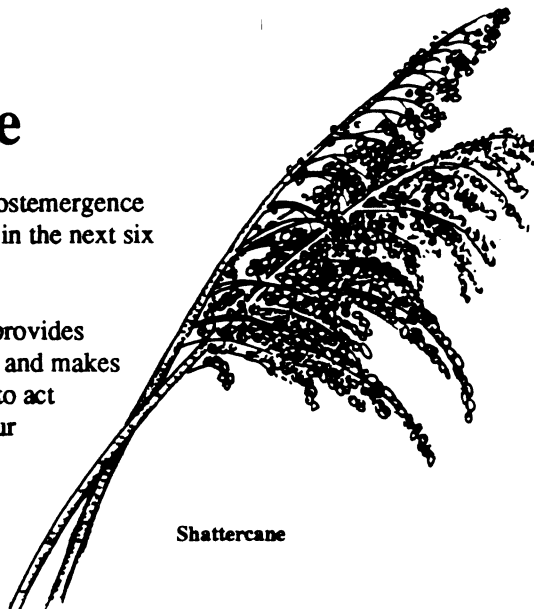
Bladex 90DF + surfactant applied to cane with only one or two leaves provides partial control and suppression. This allows corn to grow ahead of the cane and makes cultivation more effective. The application window is narrow, so be ready to act as soon as the cane emerges. If cane has passed the two-leaf stage, save your time and money. This treatment is not specifically labelled for shattercane, but often helps. It won't be sufficient if the population is high and works best where a soil-applied herbicide was used at planting. Treat corn before the fifth-leaf stage.

Treflan applied through the sprinkler irrigation system helps suppress unemerged cane. Since corn must have two leaves before Treflan is applied, Treflan won't help on cane emerging with corn.

Directed postemergence herbicides such as Evik and Gramoxone Extra will control cane that is about one-third the height of the corn. The corn should be at least 12 inches tall. These herbicides are not selective so only treat the lower third of the corn plant. Rigid drops are needed, so add a surfactant to the mixture.

None of our current postemergence options address the central problem: controlling cane that emerges with the corn. We are close to getting help in that regard with Beacon or Accent, but help probably will not be available for the 1990 season.

Fred Roeth



Shattercane

Stop Leafy Spurge Now Before It Spreads

Leafy spurge, an aggressive plant, continues to spread in Nebraska, greatly reducing the carrying capacity of grazing land. The weed is more common across northern Nebraska, but can be found elsewhere. Leafy spurge is a perennial and reproduces from seed as well as from buds on its deep, extensive root system. It reduces forage production, and cattle avoid grazing infested areas because it is an irritant and mildly poisonous.

Control on a large area is costly and difficult. Small patches should be treated before they spread. Plants in a new infestation are more readily controlled than established stands because the root system is not fully developed.

The ideal time to treat leafy spurge in much of Nebraska is from mid-May to June. Leafy spurge is easily spotted

now when plant tops are a bright yellow. All plant parts contain a white milky sap. Once leafy spurge has become well established it cannot be eliminated with a single herbicide treatment.

Herbicides for leafy spurge control are: 2,4-D ester (4 pounds per gallon) at 2 quarts per acre; 1 quart of 2,4-D plus 1 pint of Tordon per acre; or Tordon 22K at 2 to 4 quarts per acre. The treatments would cost \$5 per acre for 2,4-D, \$14 for 2,4-D plus Tordon and from \$45-\$90 per acre for Tordon. Apply 2,4-D in the spring just before the plant flowers. A second treatment in late fall, if moisture permits good regrowth, provides increased control. If only one treatment a year is possible, make it in the spring. Don't expect to eliminate leafy spurge in one or two years. It will take several years to make progress.

Tordon 22K is much more effective than 2,4-D against leafy spurge. A 2-quart-per-acre application usually provides 50-80% control a year later, and the 4-quart rate gives 90-100% control. Spring is the best time to apply Tordon, although it is also effective at other times. Tordon is long-lasting and mobile in the soil. It should not be used near trees or on sandy soil where the water table is within 15 feet of the soil surface at any time.

Alex Martin and Bob Stougaard

Weed Scientist Joins Scottsbluff Staff

Drew Lyon recently joined the Agronomy Department at the Panhandle Research and Extension Center in Scottsbluff. His responsibilities include Extension and research with research emphasis on dryland crop production systems. Drew is a native of Illinois and received his M.S. and Ph.D. degrees from the University of Nebraska. Welcome aboard, Drew.

Bob Stougaard

INSECT SCIENCE

Crop Pest Update: Weevils on the Move

Alfalfa weevil larvae continue to feed on alfalfa terminals in fields across much of the state. Counts in eastern Nebraska have ranged from 0.2 to 3.5 larvae per stems up to 12 inches tall. Some fields with higher infestations have been treated. Continue scouting for this pest and use the charts provided in EC 90-1511 *Field Crop Insect Management Guide for Nebraska—Alfalfa, Soybeans, Small Grains, Range and Pasture* or *IPW News 90-5* (April 20, 1990, page 29) for help in deciding about treatment. Consider taking an early cutting if the weevil numbers are nearing an action level and the alfalfa is nearing bud stage or is within a week of harvest.

Clover leaf weevil larvae continue to be found in high numbers in eastern and northeastern counties. Some pupation is occurring. We do not have enough information to recommend control of clover leaf weevil larvae, however, it seems unlikely that treatment would be beneficial now, especially since pupation has begun.

White grubs are continuing to be found in some eastern Nebraska fields being prepared for planting. In most cases these are annual white grubs that have nearly completed feeding and are preparing to pupate. We do not expect annual white grubs to cause problems. However, three-year grubs present a potential for damage. Growers are urged to properly identify the white grubs in their fields to determine proper control measures. Last week, a few **chinch bugs** were still found in overwintering bunchgrass sites, but we believe most chinch bugs have migrated into wheat. It is easy to overlook large numbers of chinch bugs in heavily infested fields, because they may not be crawling on the soil surface or feeding on the plants. By carefully scraping away the top, crusted soil layer (in thin patches of wheat where soil is

drier), we witnessed large numbers of mating bugs. If temperatures remain warm, we expect females to begin laying eggs fairly soon.

Steve Danielson
Barb Spike, Research Associate, Entomology

Control Tree, Shrub Pests With Immediate Treatment

Pine needle scale infestations can be controlled if treatment starts now. Successful control depends on killing the crawler stage before it settles down and secretes its protective scale covering. Orthene, Sevin and diazinon all give good control. Insecticidal soaps can be effective but have no residual action, so use two or three treatments at three-day intervals. Regardless of the material used, proper timing and thorough coverage are vital. There will be another generation in July.

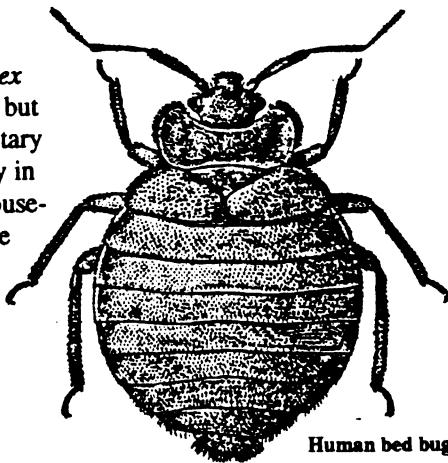
Lilac/ash borers are flying. Young plants and plants under transplant or drought stress are most susceptible to attack. The young borers must be killed before they enter the plant. Dursban or lindane will give good protection if applied to the trunk now and again in June.

Pine sawfly larvae are nearly half grown. If damaging populations are present, control with Orthene, diazinon, or Sevin. Do not delay treatment as damage will increase rapidly as the larvae become larger.

Ackland Jones

Bed Bugs, Bat Bugs, and Bird Bugs — Avoiding Their Bites

About a century ago, the bed bug, *Cimex lectularius*, was a common household pest, but now with improved housekeeping and sanitary practices, outbreaks occur only sporadically in Nebraska. Bedbugs are quite adapted to household conditions and normally do not survive outdoors in temperate zones. Therefore, household infestations usually occur when these pests are transported from other locations, such as in luggage (acquired from an infested motel or hotel room) or in used furniture and books.



Human bed bug

Bed bugs are obnoxious and repulsive to most people. Adults are brownish-red, a quarter-inch long, and oval and flattened in form. They produce a raspberry-like odor and leave excrement and blood stains on surfaces where they congregate. Feeding on human hosts occurs at night by drawing blood meals quickly and painlessly through needle-like mouthparts. At other times, they reside within cracks and crevices near the vicinity of their host, such as behind baseboards, picture frames, or within furniture. Accumulation of eggs, fecal material, cast skins and other debris occurs in these hiding places. Bed bug bites are painless, but most people develop an immediate allergic response to the saliva injected during the feeding process, resulting in severe local swelling. There is no evidence that bedbugs transmit disease, but poor health and sleeplessness can result under heavy infestation.

Two related species, the bat bug, *Cimex adjunctus*, and the swallow bug, *Oeciacus vicarius*, are common in the Midwest and can be an extreme annoyance when their preferred hosts (bats and swallows) have been eliminated from the home. For example, when bats have been excluded from the attic, or when swallow nests under roof eaves are abandoned, hungry bugs may migrate into the home to bite human occupants. However, these bugs do not utilize humans as a regular host.

In most cases, infestations of bed, bat, or swallow bugs should be eliminated by a commercial pest control operator. Non-chemical control involves thorough cleaning and vacuuming of infested rooms, laundering of bedsheets and mattress pads, sealing of cracks and crevices that harbor bugs, and elimination of bats or birds (if allowed by federal, state or local laws). Chemical control may involve fogging or fumigation of room or attic spaces, application of a residual insecticide to surfaces and into cracks and crevices, and special treatment of furniture and bedding.

Jim Kalisch

For More Information

The following publications were recently released by the UNL Department of Agricultural Communications:

G80-496: Tomatoes in the Home Garden. Tomato varieties, as well as planting and growing tomatoes, are discussed.

G81-540: Peppers. Various peppers and their care are discussed.

These publications and many more are available free or for 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, 104 ACB, University of Nebraska, Lincoln, NE 68583-0918.

Use of Temik on Potatoes Halted

The Rhone-Poulenc Ag Company has temporarily stopped selling Temik, containing aldicarb, for use on potatoes. It is taking this voluntary action in cooperation with the Environmental Protection Agency. Recent testing in major potato-growing regions showed a few samples from one field contained residues of aldicarb at higher levels than the company would expect from proper product use. Rhone-Poulenc will compensate growers who have already bought Temik. Although the product is still legal to use on potatoes, Rhone-Poulenc requests that it not be used until further notice.

Bob Wright

New Insecticides Listed for Termite Control

Since April 15, 1988, chlordane has not been available for termite control. New insecticides registered for termite control are:

Brand or Trade Name	Generic or Common Name	Manufacturer	Who Can Use
Demon TC	cypermethrin	ICI Chem. Co.	Prof. Pest Control Co.
Dragnet FT	permethrin	FMC Chem. Co.	Commercial Applicators
Dursban TC	chlorpyrifos	Dow Chem. Co.	Commercial Applicators
Pryfon 6	isofenphos	Mobay Chem. Co.	Certified Applicators
Torpedo	permethrin	ICI Chem. Co.	Certified Applicators
Tribute	fenvalebrate	Velsicol Co.	Comm. Pest Control Co.
Ortho-Klor Soil Insect/Termite Killer	chlorpyrifos	Chevron Chem.	General public

Most of these products are not available to the general public. For termite control, the only product available to the general public is "Ortho-Klor Soil Insect and Termite Killer". This product contains "chlorpyrifos" as the active ingredient. It is manufactured and registered by the Chevron Chemical Company and is available through local nurseries,

garden centers and discount stores. This product also is registered for outdoor use to control lawn insects, other wood destroying pests and home invading pests. Read and follow label directions.

Shripat T. Kamble
Extension Specialist, Pesticide Impact Assessment

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