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INSECT, PLANT DISEASE, & WEED SCIENCE NEWS [No. 91-21] [Aug. 23, 1991]

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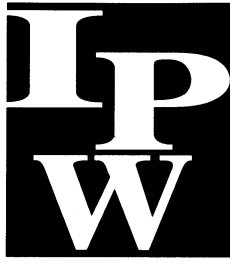
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Martin, Alex; Stougarrd, Bob N.; and Brown Jasa, Lisa, "INSECT, PLANT DISEASE, & WEED SCIENCE NEWS [No. 91-21] [Aug. 23, 1991]" (1991). *Historical Publications in Weed Science and Weed Technology*. 108.

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Insect Science Plant Disease Weed Science

NEWS

UNIVERSITY OF NEBRASKA COOPERATIVE EXTENSION • INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES
No. 91-21 Aug. 23, 1991

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PLANT DISEASE

Anthracnose signs expected soon

Anthracnose is one of our most serious diseases in alfalfa in Nebraska. In past years it, along with environmental stress, has been responsible for the loss of two- and three-year old stands over a large number of acres.

The initial infection of the alfalfa plant occurs primarily in August and September when the fungus produces diamond-shaped lesions on the lower half of the stem. Infected stems may contain three or four lesions. The most visible symptom is a sudden dying of infected stems. The leaves turn reddish brown, the tip of the stem curves, and eventually the entire stem dies. On susceptible varieties these symptoms often become conspicuous when the third and fourth cuttings are harvested. When these symptoms appear, examine the lower stems for characteristic lesions.

Anthracnose can not be controlled in established alfalfa. Those stands showing symptoms in August and September should be noted. The fungus will move internally from the lesion on the stem into the crown. Invasion of the crown can lower the winter hardiness of the plant and may result in a higher incidence of stand loss during winter.

Producers establishing new stands in August or early September should select varieties with good resistance to anthracnose. Varieties with a low or moderate level of resistance are better than susceptible ones but, in certain years, may not provide adequate protection. Investing in disease resistant varieties is important to good, longterm management.

John Watkins



Common smut found in field, sweet, pop corn

Several crop observers have commented recently on the relatively high incidence of common smut in corn this year. This seems to be an especially good year for its development. Since the fungus (*Ustilago maydis*) is a wound pathogen, it must mean there has been considerable insect or mechanical (hail, wind, equipment, detasseling, etc.) injury to the crop during this growing season.

Common smut galls can develop on all above-ground plant parts — stalks, tassels, ears, and leaves. The galls are fleshy white when young, later turning to a mass of black spores covered with a thin, papery membrane that ruptures when mature. Plants are not systemically infected (as is the case with head smut, which is caused by a different fungus), but rather are “locally” infected at the site of injury. Large galls on the ear or stalk above the ear are more destructive than galls below the ear.

Oozing trees may signal the wetwood disease

During summer many homeowners notice a wet, frothy material that oozes from bark wounds and runs down trunks of their landscape trees. The dark, wet streaks turn light gray or white upon drying. These trees are not “bleeding”, but rather are infected with a bacterial disease called wetwood. The foul-smelling, slimy mass of fermented exudate is known as slime flux.

Wetwood is a common vascular disease of many shade and ornamental trees. It occurs frequently in elm, oak, poplar, and willow but is also occasionally seen in maple, mulberry, apple, birch, redbud, sycamore, and walnut.

The bacteria infect trees through impact or pruning wounds or via cracks in the bark from freezing or at weak limb crotches. The bacteria may live within the tree for many years without any outward evidence of infection. However, as sap accumulates in the diseased wood, gasses are produced by the fermentation action of the bacteria, and pressures up to 60 pounds per square inch have been recorded. These high pressures force accumulated gas and fermented sap through cracks in branch crotch unions, breaks in the protective bark, or through areas where pruning cuts were improperly made.

There is no chemotherapeutic treatment to control wetwood. Inserting a drain tube into the tree to relieve pressure and drain infected sap was once an accepted treatment, but this procedure is *no longer recommended*. Boring holes in affected trees causes internal spread of the bacteria and allows entry of wood decay fungi.

Prevention consists of proper pruning of branches to allow rapid and complete healing. Keep affected trees healthy and water and fertilize as needed.

Dave Wysong

There is no effective chemical control for this disease. In garden sites, galls can be cut or pulled from infected plants while they are still young and white. This would tend to reduce the potential carry-over inoculum for next year's infections. Some varieties of sweet corn are more susceptible than others, and white sweet corn is especially prone to smut infections.

David Wysong

For your information

The following new or revised Extension publications recently were released by University of Nebraska-Lincoln Communications and Computing Services. They are available free or for a minimal cost from your local Extension office or from UNL Communications and Computing Services, Room 104, Ag. Communications Bldg., Lincoln, NE 68583-0918.

EC91-2500 Federally registered restricted use pesticides. (This reference will be incorporated into 1992 pesticide applicator training.)

IPW News

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The **Insect Science, Plant Disease and Weed Science News** is published throughout the growing season by the University of Nebraska Communication and Computing Services, 108 Agricultural Communications Bldg., UNL, Lincoln, NE 68583-0918. To order a subscription or to change your address, write to IPW News, 108 Agricultural Communications Bldg. or call (402) 472-7981.

Lisa Brown Jasa, Editor

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INSECT SCIENCE

Consider preharvest intervals when treating

Bean leaf beetles moving to pods

Concerns about field crop insects will switch to soybeans over the next several weeks as bean leaf beetles begin to transfer some of their feeding activity to the pods. This transfer will happen gradually as the bean leaves begin to yellow. The beetles, in search of greener, more succulent tissue, will move to the pod surface to feed on the outer layer of the soybean pod.

Earlier planted fields will likely have more beetles. The beetles seek out the first emerging fields early in the year and tend to remain in the same fields throughout the year. Bean leaf beetles are about 1/4 inch long and vary in color from yellow to tan to red. They have a black triangle behind the head, with four black spots and black outside borders on the back.

Pod feeding will appear as if someone scratched spots off the outer green layer of the pod with sandpaper. A "bite" is not usually taken out of the bean. A bare patch eventually will appear as the pod matures. The seeds underneath the feeding scars may be affected by the feeding. If the feeding area is small enough the seed will develop normally. Other seeds will discolor and some will develop disease symptoms. Often, only the seed under the feeding will exhibit damage, while other seeds in the same pod develop normally. Seeds that eventually become diseased may spread disease to other seeds in the pod. Yields probably will not be affected unless pod feeding is extensive. It appears that nearby seeds compensate somewhat for damaged seeds in yield. However, seed quality may be reduced by the feeding.

Much research is still needed to determine the effects of bean leaf beetle pod feeding on soybeans. For now, our recommendation is to consider treatment if 10% or more pods show feeding scars and bean leaf beetles are still active in soybean fields. In Nebraska, beetle numbers start to decline in early September when beetles leave the fields to seek overwintering sites.

If insecticide use is needed on soybeans late in the season for bean leaf beetles or other insects, consider the preharvest interval when selecting an insecticide (see table). Other restrictions also may apply. See the pesticide label and EC 91-1511, 1991 *Insect Management Guide for Alfalfa, Soybeans, Wheat, Range, and Pasture* for more complete information on using these insecticides.

Keith Jarvi and Bob Wright

Product	Preharvest interval
Sevin 80X,XLR Plus, 50W,4F	None
Dipel ES	None
Malathion 57EC	None
Malathion ULV 9.33	7 days
Lannate 90SP,1.8L,2.4LV	14 days
Orthene 75S	14 days
Guthion 2S,2L,-up to 2 pt./acre	14 days
-above 2 pt./acre	45 days
parathion 4EC, 8EC	20 days
Pennacap-M	20 days
Furadan 4F	21 days
Asana 1.9EC	21 days
Cygon 400	21 days
Scout 0.3EC	21 days
Pydrin 2.4EC	21 days
Lorsban 4E	28 days
Larvin 3.2F	28 days
Ambush 2E, 25W	60 days
Pounce 3.2EC, 25WP	60 days

Sevin drops minor crops from some applications

The Rhone-Poulenc Ag Company has decided not to support uses of carbaryl insecticide (Sevin) on onions, chestnuts, maple trees (for sap production), prickly pear cactus and oysters. (Sevin is not registered for onions.) Additional crops may be dropped from individual carbaryl formulation labels while being maintained on others. Some entire formulations may be dropped.

These changes are expected to have little impact in Nebraska, although their announcement may generate increased calls to local chemical dealers for more information.

Larry Schulze
UNL Pesticide Coordinator

Begin cleaning, treating grain bins

Properly preparing grain bins now for storing corn, soybeans and sorghum can limit losses from storage problems. Pest problems are often greater when grain is held for more than one season. To maintain quality of stored grain, follow these steps:

1. Clean combines, truck beds, augers, and other equipment used for harvesting and transporting grain.
2. Clean bins before storing new grain. Remove all old grain with brooms and vacuum cleaners. **Never put new grain on top of old.**
3. Spray all inside surfaces of the cleaned bin with premium grade *malathion*, *methoxychlor*, or *Tempo* (cyfluthrin) insecticides at least two weeks before storing. Spray all surfaces to the point of run-off when applying malathion or methoxychlor and force spray into cracks and seams when using any of these products. Follow product label instructions for dilution and application directions. Note: Stored soybeans rarely experience insect problems and few insecticides (except for Dipel to control Indian meal moth) are labeled for use directly on soybeans.
4. Store only clean, dry grain. Be sure to level the grain surface to reduce moisture accumulation in high points. Be especially careful when handling grain from stressed crops as this grain is more easily damaged. Also, immediately dry and cool grain after placing it in storage to reduce the incidence of molds and insects.

5. Apply a liquid or dust grain protectant to the 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) for application directly to the grain. Follow product label instructions for dilution and application directions. Note: Power spray applicators are preferred over gravity drip applicators for applying the insecticide since uniform coverage is important for effective insect control.

6. After the grain has been leveled in the bin, 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 will control both insects. Work the topdressing into the top 4 to 6 inches of grain. Follow label instructions for dilution and application. Do not treat soybeans with malathion, Reldan, or Actellic. Do not treat corn with Reldan.

7. If Indian meal moths have been a problem, use Vapona resin strips (1 per 1,000 cubic feet of air space) in the bin overspace; replace as needed.

8. Remember to inspect the grain at least every two to three weeks for insect activity and other quality degrading factors.

For more information, refer to EC88-1534, *Pest Management of Farm-Stored Grain*.

Steve Danielson

WEED SCIENCE

Prepare to treat hemp dogbane

Hemp dogbane approaches the correct stage for treatment with 2,4-D in late August and early September. Apply 2,4-D after corn is in the brown silk stage. Hemp dogbane roots should have swollen pink buds. Pod set on soybeans in the adjacent area should be complete.

Treatments can be made until the dogbane leaves begin to yellow or frost occurs. After this, treatment is ineffective. Drought stress will reduce control.

Applications rates for 2,4-D are 1.0 lb/acre active ingredient on corn. Leafy corn in 30-inch rows will intercept spray material and reduce control unless the application is made with a high clearance sprayer equipped with drop extensions. Plan to treat for two or three consecutive years.

Alex Martin and Bob Stougaard

Herbicide Guide to be revised

Industry representatives, extension agents, and all other users of our Herbicide Use Guide are invited to submit suggestions now for the 1992 edition.

We have appreciated your input in previous years. You have helped make the Nebraska Herbicide Use Guide a most useful weed control aid for farmers, dealers, applicators, farm managers, consultants, extension agents, and others. Send suggestions for the 1992 guide by Sept. 6 to: Weed Science, 362 Plant Science Building, University of Nebraska, Lincoln, NE 68583-0915.

Alex Martin and Bob Stougaard

ENVIRONMENTAL POLICY

Pesticide use, training regulated through three state programs

This is the second article in a four-part series on agrichemical regulation in Nebraska. The third article will address the EPA Pesticides Strategy and the fourth article will discuss choices for managing Nebraska's agrichemical policy.

The Environmental Protection Agency regulates pesticide availability and use under FIFRA, the Federal Insecticide, Pesticide and Rodenticide Act. Under EPA's proposed Pesticides in Ground Water Strategy, states will be required to regulate the use of those pesticides most likely to contaminate ground water. States not regulating those pesticides may face an EPA ban of them. Nebraska is the only state that does not administer FIFRA and as a result, some chemicals eventually may be banned for use here. This article examines current Nebraska programs for regulating agrichemical use and discusses state FIFRA administration.

User Certification

FIFRA requires that users of restricted use pesticides (RUPs) be certified in proper pesticide use before they can buy these chemicals. Nebraska statutes do not require state user certification, but do require the UNL Extension Service to conduct user certification training. Extension provides federal user certification training for EPA. Nebraska does not monitor pesticide use for compliance with label directions, however, and does not prosecute pesticide use violations.

SPAs

Pesticide and fertilizer use may be regulated by natural resources districts (NRDs) in special ground water quality protection areas (SPAs) designated by the Nebraska Department of Environmental Control (DEC). NRD regulations must include an educational program, and may include mandatory best management practices, including limiting agrichemical application and irrigation water application. One SPA has been designated by DEC to control nitrate ground water contamination, but regulations have not yet been adopted.



QMAs

NRDs also may regulate agrichemical use in ground water quality management areas (QMAs) after preparing a ground water management plan. Two NRDs restrict fall fertilizer application, require soil and irrigation water testing for nitrogen content, and require reporting of fertilizer application in QMAs.

State FIFRA Assumption

Implementing EPA's Pesticides Strategy in Nebraska would require the state to assume FIFRA administration. To qualify for FIFRA program assumption Nebraska would have to establish a user certification and enforcement program to determine that certified applicators are following label directions, and that restricted use pesticides are applied only by authorized personnel. Assuming state administration of FIFRA would also require an effective program for monitoring pesticide use and prosecuting pesticide misapplication. State or perhaps local natural resource district staff could investigate pesticide misuse complaints, a function now performed by EPA.

Nebraska pesticide statutes would have to be significantly broadened to assume FIFRA administration. Such changes have been proposed in the Nebraska Unicameral for several years, but have been opposed by Nebraska pesticide dealers. This opposition reflects dealer concern that the program would be financed by higher registration and other pesticide fees.

J. David Aiken
Water and Agricultural Law Specialist