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INSECT, PLANT DISEASE, & WEED SCIENCE NEWS [No. 90-3] [April 6, 1990]

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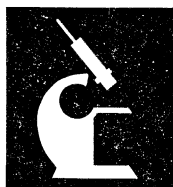
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INSECT PLANT DISEASE WEED SCIENCE

NEWS

DEPARTMENT OF AGRONOMY (WEED SCIENCE) UNIVERSITY OF NEBRASKA-LINCOLN,
EAST CAMPUS 68583-0915 PHONE 472-1527 or 472-1544

No. 90-3

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WEED SCIENCE

Herbicide Label Changes Outlined

Label changes and new herbicide products are described here briefly. More complete information is available on the product labels.

Advantage — Safener used as a seed treatment for field corn. Available as a planter box treatment. Reduces the risk of injury from carryover of several soil applied herbicides including Command and Scepter. FMC

Amiben — The manufacture of Amiben will be discontinued. A limited supply will be available in 1990. Rhone-Poulenc

Atrazine—Atrazine label changes approved by EPA to go into effect September 1, 1990 are intended to reduce exposure, reduce risk of groundwater contamination and reduce total product use. Product in distribution channels will not be relabeled. Label changes include:

- Products containing Atrazine will be classified Restricted Use for 1991.
- Protective clothing is required (long sleeve shirt, long pants, gloves and boots; in addition, face shield or goggles are required for mixing).
- Postemergence applications must be made before corn or sorghum is 12 inches tall.
- Maximum rate for corn or sorghum is 3 lb/A. Fall application for quackgrass control is deleted.
- Maximum rate for non-crop use is 10 lb/A.
- Product cannot be applied through irrigation systems.
- Do not mix or load within 50 feet of wells.

Cycle — A premix combination containing the active ingredients of Dual and Bladex (two pounds of each per gallon) is registered preplant, preplant incorporated and preemergence in field and silage corn and



grain sorghum. Sorghum seed must be treated with Concep safener. Cycle is classified as a Restricted Use product. Ciba-Geigy

Pinnacle — (DPX-M6316) A new herbicide registered for postemergence broadleaf weed control in soybeans. Chemically related to Classic, but having shorter soil residual and greater activity on pigweeds. DuPont

Poast — Registration has been received for postemergence annual grass control in dry edible beans. BASF

Gramoxone Extra 2.5L — A new formulation containing 2.5 pounds of paraquat per gallon. ICI Americas

Bob Stougaard and Alex Martin

Early Weed Control Important to Maintaining Healthy Turf

Weeds in the yard are one of the first signs of spring for many homeowners. Early germinators such as dandelions, mustards, knotweed, chickweed, clover and henbit should be treated soon to avoid competition with the turf.

The first step is to clean up the lawn by raking leaves, dead grass and other trash. Next, mow the turf short to allow the soil to warm up quicker and stimulate turf growth. Wait two to three days before applying herbicide to allow the turf and weeds to recover from the mowing. Most situations require that a combination product be used to control unwanted weeds. Granular herbicides are safest under most conditions. Liquid herbicides should be applied with low spray pressure when there is little or no wind. Examples of products are as follows:

Common Name	Trade Name
2,4-D + dicamba	Lesco Eight-One
2,4-D + Mecoprop (MCP)	Lescopar Ortho Weed-B-Gon Lawn Weed Killer 2 Plus 2
2,4-D + Triclopyr	Turflon D Turflon II amine
2,4-D + Mecoprop + dicamba	Lesco Three-Way Ortho Chickweed, Spurge & Oxalis Killer D Trimec Classic

Trimec and other formulations containing dicamba (BANVEL) should be used sparingly next to and under trees and shrubs. Turflon products need to be applied by a commercial applicator.

These foliar applied products should not be applied if rainfall is expected within 24 hours. After applying the herbicide, avoid mowing for several days to allow the herbicide to translocate throughout the weed. Cool temperatures may cause symptoms to develop slowly. If certain areas of the lawn require reseeding, wait at least 45 days after applying the herbicide.

Preemergence herbicides for the control of crabgrass should not be applied until soil temperatures get into the 60's. This usually occurs in mid to late April. Examples of preemergence herbicides for crabgrass include DCPA (Dacthal), benefin (Balan), benefin + trifluralin (Team), bensulide (Betasan), and pendimethalin (PRE-M). Water-in within three days after treatment. A second application is usually required six to eight weeks later. Check the label. Products may not be registered on all turf species.

Bob Stougaard and Alex Martin

NebGuide Explains Process For Submitting Pest/Plant Samples

The University of Nebraska Cooperative Extension offers a public pest/plant identification service. Experts in the departments of plant pathology, entomology, weed science and horticulture will identify the subject material and, if appropriate, recommend methods for prevention or control. It's important that specimens be properly packaged and submitted to insure accurate identification and a speedy reply.

NebGuide G76-322 -- How to Handle Insect and Plant Specimens for Identification describes this service, offers collection and packaging information, and provides addresses for the plant disease, insect, weed and horticulture clinics. To obtain a copy of this or any other Extension publication, contact your local Extension office or write Bulletins, 104 ACB, University of Nebraska, Lincoln, NE 68583-0918.

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The following publications were recently released by the University of Nebraska-Lincoln Department of Agricultural Communications:

G88-863 Annual Broadleaf Weed Control in Winter Wheat. This guide discusses preventive, cultural, and chemical weed control in winter wheat. Best weed control is obtained by using a combination of these three methods.

G90-970 Summer Patch and Necrotic Ring Spot -- Diseases of Turfgrass. This NebGuide describes the causes, predisposing conditions, and symptoms of summer patch and necrotic ring spot, and provides recommendations for their control.

PLANT DISEASE

Soilborne Wheat Mosaic Symptoms Now Evident in Eastern Nebraska

The first sample of wheat with symptoms of soilborne wheat mosaic arrived in the Plant Diagnostic Clinic last week. Soilborne wheat mosaic is a common early season disease in eastern and south central Nebraska. Soilborne wheat mosaic virus is transmitted to wheat by a fungus that feeds on the roots. This fungus is widespread in Nebraska wheat fields east of Highway 183. Infection usually occurs in fall, but symptoms are not expressed until spring.

Leaf symptoms first appear in early spring and persist as long as temperatures remain below the mid 60s. Infected plants are yellowed and stunted with the individual leaves showing a mosaic pattern of light and dark green. The youngest leaves give the truest expression of symptoms. The pattern in fields most often conforms to low areas, waterways, etc. that tend to stay wetter than the rest of the field. The extent and severity of symptoms will vary with the variety planted, temperature and moisture conditions, strain of the virus, and the cropping history of the field.

Growing resistant or tolerant winter wheat varieties is the only effective method of disease prevention. The disease is aggravated by continuously cropping a field to a susceptible wheat variety and by planting too early. Avoid these practices. More information, see NebGuide G74-202 Soilborne Wheat Mosaic, available at your local extension office.

John Watkins

Tomato Spotted Wilt Virus Attacks a Wide Range of Plants

Tomato spotted wilt virus (TSWV) has become a hot topic among greenhouse growers of vegetables, transplants, and floral crops. Many growers feel the virus has become one of the most important virus problems associated with the greenhouse plant industry.

This virus has a very wide host range. It has been reported to infect over 170 species of plants, and some experts believe there are many other susceptible hosts which have not yet been identified. The host range of the virus includes cyclamen, gloxinias, African violets, impatiens, New Guinea impatiens, Rieger begonias, nonstop begonias, geraniums, lettuce, and tomatoes.

The symptoms of tomato spotted wilt virus are dependent on the host and can be confusing. Symptoms range from well defined ringspots on the leaves to stunting, flower breaking, stem browning, and plant death. Some of these symptoms may easily be confused with other viral diseases, fungal and bacterial pathogens, or nutritional problems. Tomato spotted wilt virus symptoms can vary on the same host due to the age and health of the plant, time of initial infection, and environmental conditions.

Because symptomatology is so varied, it is necessary to rely on specific tests to identify and confirm this virus. The Plant Disease Diagnostic Clinic plans to use two ELISA tests which can detect two strains of this virus. More information concerning these tests will be announced in upcoming IPW newsletters.

The wide host range, variation in symptom expression, and the need for laboratory tests to confirm virus presence are enough to make tomato spotted wilt virus a serious concern. Furthermore, the fact that this virus is easily and effectively spread by thrips (reported as the western flower thrips) adds to the overall problem. The management of thrips populations is critical for the control of this virus. (See article on page 16.)

Along with controlling the thrips population, it is important to remove and destroy all plants infected with tomato spotted wilt virus. More importantly — do not buy virus-infected or thrips-infested transplants or cuttings. Be aware that stock plants or other plants kept in the greenhouse may harbor the virus and/or thrips. Also, weeds in and around the greenhouse can harbor the virus and/or thrips and should be eliminated.

Luanne V. Coziahr

It's Time for Garden Clean-up

With the loss of the maneb and zineb fungicides for home fruit and vegetable use, cultural practices such as a thorough cleaning of the garden will be even more important in preventing diseases. Examples of diseases that carry over in the garden are Septoria leaf spot and early and late blight of tomato, anthracnose of cucumber and melons, brown rot of stone fruits, and apple scab. The early source of inoculum comes from debris that is left in the garden or under or on fruit trees. Cleaning up the material will remove this early source of infection. If done properly, diseased material can be composted.

John Watkins

Prune To Eliminate Black Knot

It is still too early to do much in the garden, but many of us are getting eager. If you have any plantings of cultivated plums, wild plums, or wild cherries, this is a good time to check for black knot. Black knot is a fungal disease which attacks the woody parts of plum trees. Mature infections form hard, coal-black swellings (knots) which can vary in size, shape, and location. More recent infections (from last spring) are generally small, light brown to olive-green swellings.

The black knots and other swellings should be pruned out of infected trees by cutting several inches below the last visible evidence of infection. Burn or remove the prunings from the area before the trees break dormancy in the spring. Spores develop on the swellings during rainy weather and are discharged into the air and carried to new growth to create new infections. Removing the knots and swelling can effectively control this disease.

Luanne V. Coziahr

Dethatch and Aerify Lawn for Thatch Management Program

Two leading contributors to summer patch and necrotic ring spot diseases are excessive thatch and soil compaction. A lawn with more than one-half inch of thatch should be under a thatch management program. This can be done by power raking or aerifying, or both, in spring or early fall.

Power raking should be done carefully to minimize injury to the turf. Both practices should be done in early May so the turf will have at least three to four weeks to heal before hot weather begins. A turf with a deep root system is much less prone to summer patch and necrotic ring spot injury. Thatch management should become a routine turf management practice in the home lawn.

John Watkins

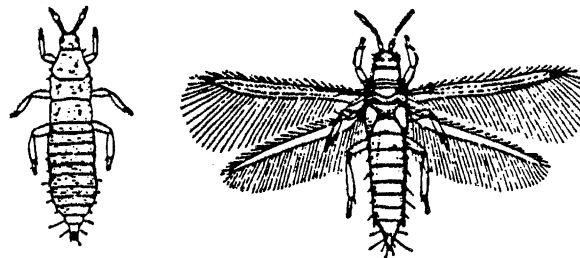
INSECT

Thrips Damage Horticultural Plantings

Several kinds of thrips occasionally cause severe damage to various flowers, fruits, vegetables (especially onions, cabbages, tomatoes and leafy vegetables) and greenhouse crops. Adult thrips are tiny (1/25-inch), pale yellow to dark brown with elongate bodies having four feathery wings folded over the back. Larvae resemble adults but are wingless and lighter-colored. Both larvae and adults injure plants by scraping or rasping the buds, flowers and leaves of the host plant and then feeding on the escaping juices.

Thrips feeding results in curled, crinkled and twisted flowers and leaves and produces silvery patches or streaks on plant tissues speckled with dark fecal spots. Heavy infestations can kill terminal buds or even entire plants. Thrips injury is usually more severe during hot, dry conditions. Certain thrips species are also capable of transmitting viruses and other disease-causing agents. A notable example is the tomato spotted wilt virus which causes serious diseases in many field, vegetable and greenhouse crops (*See article on page 15*).

Effective management of thrips usually requires a combination of cultural and chemical control strategies. Early detection and accurate diagnosis are critical. Placement of yellow sticky cards just above the crop canopy can



Larva and adult thrips specimens

provide early evidence of a developing thrips infestation. Thrips also can be detected by tapping or shaking a suspected plant over a sheet of white paper and examining the paper for adults and larvae.

Good cultural practices are important in limiting thrips infestations. To help reduce thrip numbers in an area, eliminate grasses and flowering weeds that serve as alternate hosts. Also, remove volunteer plants and crop residues after harvest. In areas where thrips historically have been a problem, it may be necessary to avoid growing plants that are particularly susceptible to injury. Finally, overhead irrigation, timed early in the day, may suppress thrips populations.

A number of insecticides, including diazinon, carbaryl (Sevin) and malathion, are registered for control of thrips on certain flowers, fruits and vegetables and in some green-

house situations. However, because thrips typically feed in protected areas such as in terminal buds, flowers or inside leaf axils, they are difficult to control using insecticides alone. When these products are applied according to label directions and in combination with one or more of the cultural practices described above, thrips usually can be controlled.

Fred Baxendale

Treatment Recommendations Changed

Several changes or additions have been made in our recommendations for insect management on field crops for 1990. This article only highlights these changes. For more details, refer to the product labels and the 1990 Insect Management Guide for the specific crop. (EC 90-1509 for corn and sorghum, EC 90-1511 for alfalfa, soybeans, small grains, range and pasture, and EC 90-1537 for specialty crops.)

CORN: Force 1.5G is a new soil insecticide available from ICI Americas, Inc. to control corn rootworms, black cutworms, seedcorn maggot, and seedcorn beetle. It is a synthetic pyrethroid insecticide classified for restricted use.

All diazinon uses on corn have been cancelled by the manufacturer except for seed treatments and aerial application of diazinon 14G after planting.

Counter 15G is no longer registered for use on corn to control European corn borer and spider mites.

Although still registered for these uses, we no longer recommend the following: Lorsban 4E, Asana 1.9EC, or Pydrin 2.4EC for chinch bugs on corn and Dipel ES for second generation European corn borer in field corn.

SORGHUM: All uses of diazinon on sorghum have been cancelled.

We no longer recommend the use of Lorsban 4E for chinch bugs on sorghum, although the product is still registered and can be legally used.

ALFALFA: Diazinon is no longer registered for use on alfalfa.

The suggested rate of application of permethrin (Pounce or Ambush) for control of alfalfa weevil larvae has been increased to 0.2 lb AI/acre.

Charts for alfalfa values of \$70 and \$105 per ton are available to help growers with alfalfa weevil management decisions.

SOYBEANS: The application rate for PennCap-M to control green cloverworm and grasshoppers on soybeans is 0.5-0.75 lb AI/acre.

WHEAT: Diazinon and Thiodan are no longer registered for use on wheat.

The preharvest interval for Cygon 400 on wheat is now 35 days.

The preharvest interval for Sevin XLR on wheat is 21 days for grain and 0 days for forage harvest.

PennCap-M rates for grasshoppers and aphids/greenbugs on wheat are 0.75 and 0.5 lb AI per acre, respectively.

RANGE AND PASTURE: Diazinon is no longer registered for use on range and pasture.

The application rate for PennCap-M to control grasshoppers and armyworms is 0.5-0.75 lb AI per acre.

DRY BEANS: All uses of diazinon on dry beans have been cancelled.

The use of pheromone traps to monitor western bean cutworm moth flights and to time scouting efforts is encouraged.

SUNFLOWERS: Recommendations have been developed for the banded sunflower moth.

POTATOES: Treatment guidelines for defoliating insects have been developed.

ONIONS: Permethrin (Pounce and Ambush) is now labelled for onion maggot and thrips control on onions. The suggested application rates are 0.1-0.3 lb AI per acre for onion maggot and 0.15-0.3 lb AI per acre for onion thrips.

Please follow all label directions before using any pesticide product.

Gary Hein, Steve Danielson, Bob Wright

Chinch Bug Migration Beginning

In early March, 87 traps were placed in four native bunchgrass sites in Gage County to catch chinch bugs as they migrate out of their overwintering habitat. The traps are inverted, 16-ounce yellow plastic cups coated on the outside with a sticky material to capture flying insects. The sites include a five-species mixed-grass pasture (big and little bluestem, switchgrass, indiangrass and sideoats grama), a little bluestem set-aside field, and certified big and little bluestem seed fields. Two sites are near Odell; the other two are a few miles north of Beatrice.

The traps examined March 20 had only two male chinch bugs, both from the mixed-grass pasture two miles south of Odell, indicating little chinch bug movement up to then. On March 27, an average of 57 bugs per trap were counted in this same field. These chinch bugs probably moved on March 21 when temperatures reached 76 degrees F. Traps in nearby wheat fields suggest that a few chinch bugs have moved into the wheat, but more flights are expected. Watch for further updates on chinch bug movement in the IPW News.

Barb Spike, Research Associate-Entomology

Panhandle Insect Problems Developing

Economic infestations of Russian wheat aphids already have been reported in several areas of the Panhandle. High Russian wheat aphid populations last fall apparently were not adversely affected by winter conditions. Wheat growers in western Nebraska need to begin checking their wheat fields for aphids. Inspect at least 100 randomly selected tillers in each field. The threshold for tillering wheat with an average yield potential (e.g. 40 bushels per acre) is when 10% of the tillers are infested with Russian wheat aphids. The threshold should be lowered if the yield potential is substantially greater and raised if the yield potential is substantially lower than 40 bushels per acre.

Growers who treat their fields in April will probably need to treat them again before harvest. A later first treatment will reduce the likelihood that a second treatment is needed. However, the threshold level should not be exceeded because economic losses may occur and control may be impaired. This points to the need for accurate, weekly sampling. Often early infestations will be limited to borders or other hot spots. Substantial cost reductions may be realized by limiting treatment to only those field areas that are affected.

Army cutworms also are being observed in the Panhandle. Many of these early reports are of very large

numbers (armies) of larvae from pastures, roads and driveways. Increased reports of alfalfa and wheat infestations will likely occur as more growers inspect their fields. Economic levels range from two to five per square foot on alfalfa and from two to three per square foot on wheat. Growers should scout their alfalfa and wheat fields soon! Several pesticides are registered for army cutworm control on alfalfa, but no effective insecticides are labelled for army cutworm control on wheat. If severe infestations are developing, emergency registration procedures must be initiated by the Department of Agriculture. Growers are advised to contact their local extension agent if populations are approaching economic levels.

Gary Hein

Correction

The last two sentences of the second paragraph in the article on army cutworms on page 10 of the March 23 IPW News (90-2) should have read:

Growers should consider treatment of established stands when they find four or more cutworms per square foot. Avoid unnecessary expense and use spot treatments when only portions of fields are infested.

Steve Danielson

IPW News Contributors

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