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INSECT, PLANT DISEASE, & WEED SCIENCE NEWS [No. 90-1] [March 9, 1990]

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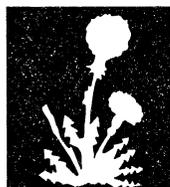
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**INSECT
PLANT DISEASE
WEED SCIENCE**

NEWS

DEPARTMENT OF ENTOMOLOGY UNIVERSITY OF NEBRASKA-LINCOLN,
EAST CAMPUS 68583-0816 PHONE 472-2125

No. 90-1

March 9, 1990

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To Our Readers:

Welcome to the 1990 edition of the Insect, Plant Disease and Weed Science Newsletter. Those of you who have received the newsletter before will notice a new look. The newsletter will continue to provide the most current scouting information, chemical product updates and treatment recommendations from Extension specialists in plant pathology, weed science and entomology, but in a format that allows us to present the information more efficiently. In addition, there will be guest writers from other departments as special crop situations develop. Along with the new look, there will be a new editor. I have worked as an editor for the UNL Department of Agricultural Communications for several years and am looking forward to the next season of the IPW Newsletter.

This year, it will be organized as one continuous newsletter rather than three individual newsletters from different departments. Pages will

be numbered consecutively throughout the year to make it easier for authors to refer to information in previous issues. The authors will be cited at the end of each article, and contributors will be listed by department at the end of each newsletter to make it easier to get more information. The final newsletter will include an index of the season's topics.

We want to provide you with an interesting and informative tool for your pest management decisions. If you have any questions or suggestions concerning the newsletter, please feel free to write me at 108 Ag Communications Bldg., UNL East Campus, Lincoln, NE 68583, or call 402-472-5756.

Lisa Brown Jasa



INSECT

Chinch Bug Outlook

Many sorghum and corn producers in southeastern Nebraska suffered losses due to chinch bugs in 1988 and 1989. Unfortunately, we have no reason to believe there will be fewer chinch bug problems in 1990. Surveys in Kansas and Nebraska show there are even more chinch bugs in overwintering sites this year than in the past two years. Therefore, we are expecting the chinch bug problem to be at least as bad as in 1989, unless we have a wet spring and early summer that might lead to reduced survival of these insects.

Because of expected problems, sorghum and corn growers in southeastern Nebraska should do everything they can to avoid serious losses in 1990. Those who rely exclusively on insecticides to manage chinch bugs are likely to be disappointed. The importance of cultural controls cannot be overemphasized.

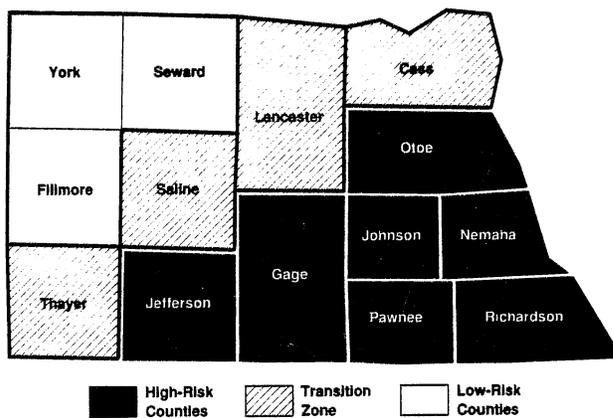
The following management strategies are suggested to reduce losses from chinch bugs in sorghum and corn:

- Plant crops other than sorghum or corn. Soybeans and alfalfa are not susceptible to chinch bugs since these pests only feed on grassy plants.
- If it's necessary to plant sorghum or corn into wheat stubble or destroyed volunteer wheat, apply Furadan 15G at planting and follow-up with foliar applications of Sevin XLR or Furadan 4F, as necessary. If possible, delay planting sorghum or corn for at least 2 weeks to reduce the possibility that chinch bugs will be waiting when the susceptible crop emerges.
- If it is necessary to plant sorghum or corn adjacent to or very near winter wheat, consider using Furadan 15G at planting in the first 50 rows next to the wheat, with follow-up foliar applications of Sevin XLR or Furadan 4F, as necessary. The use of trap crops, such as sudangrass, planted between the wheat and sorghum or corn may be useful, particularly when the trap area is treated when needed with foliar insecticides.
- Sorghum and corn not planted near wheat may still become infested since chinch bugs can migrate over relatively long distances (over 1/2 mile perhaps). In these cases, spot or whole field applications of foliar insecticides may be necessary.

Burning grassy areas that may serve as overwintering sites for chinch bugs has not proven beneficial and is not recommended. We are not aware of any chinch bug resistant commercial corn or sorghum varieties that are available.

If producers must plant sorghum or corn in areas where the risk of chinch bug damage is high, consider planting as early as possible to give them a "head start" on the chinch bugs. Also, consider taking out crop insurance if it will give you some protection from chinch bug losses later in the season.

Steve Danielson



Probable Risk of Severe Chinch Bug Damage

Chinch Bug Survey Results

In fall 1989, a questionnaire examining the chinch bug infestation in 1989 was sent to 1,000 sorghum growers in 14 counties in southeastern Nebraska. Growers responded to questions ranging from the amount of acreage infested with and lost to chinch bugs to management tactics they used for control.

Our survey results indicate that within this 14-county area, there are three distinct risk zones. Growers in seven high-risk counties (Johnson, Gage, Nemaha, Jefferson, Richardson, Otoe, and Pawnee) reported that 65% of their sorghum acreage was infested with chinch bugs and 15% of their planted fields were lost or replanted because of chinch bug damage. Four counties (Lancaster, Saline, Cass, and Thayer) are in a transitional zone. Growers in these counties reported having fewer acres infested with chinch bugs (35%) and lower acreage losses (4%),

although growers with fields near a high-risk county did experience serious problems. Fillmore, Seward and York are in a low-risk zone, although a few growers in each county reported fields infested with chinch bugs (7%). Because of the dry conditions and the presence of chinch bugs in the high-risk counties and regions of the transition zones, we expect that sorghum growers in these counties will experience problems with chinch bugs in 1990.

In the high-risk counties, growers tried to control infestations by: using insecticide treatments (60%), manipulating their crop rotations (50%), growing less sorghum (17%), and growing less wheat (37%). Some growers also planted their sorghum as early as possible while others reported that they never planted sorghum next to wheat fields. Survey results suggest that sorghum growers in southeastern Nebraska lost more than \$12.5 million to chinch bugs in 1989. We believe large densities of chinch bugs are now present in overwintering sites and the potential exists for similar economic losses in 1990.

Barb Spike

Postdoctoral Research Associate-Entomology

Dormant Oil Sprays

Dormant oils are applied to reduce overwintering scale insects, aphids, spider mites and other small pests on fruit trees and many other ornamental trees and shrubs. Apply these sprays before leaf or flower buds begin to swell, preferably during late February through early March. Once trees and shrubs have leafed out, dormant oils should not be applied because of possible foliar injury.

Fred Baxendale

Early Spring Control of Cankerworm and Iris Borer

Spring cankerworms overwinter in the soil and the moths emerge and mate in very early spring. I haven't looked for them this spring, but some activity is likely now. The females are wingless and must climb the tree trunk to lay their eggs on twigs and small branches. The larvae are small, brownish "inch worms" which can be controlled by spraying with Sevin, diazinon, Cygon and Orthene. Bacillus thuringiensis (Bt) is an excellent biological control. Several brands are available, including Dipel and Thuricide. Some garden center chains carry the product under their own label; just ask for "Bt." In addition, placing a band of sticky material around the trunk will trap females as they climb the tree. Sticky

bands should be applied now, since emergence may have begun. The material is widely marketed as Tanglefoot, Tack Trap and Stickem.

Iris beds should be cleaned of all old foliage and stems because they may harbor the eggs of the iris borer. Iris borer moths laid their eggs on the foliage last fall; the eggs will hatch before this year's foliage is six inches tall. Destruction of the old foliage and nearby plant debris is important for iris borer control. Ideally, this should have been done after the first hard frost last fall, but better late than never. To kill young hatching larvae, treat with Cygon when the leaves are about three inches high. Repeat at 7-10 day intervals for a total of three or four applications.

Ackland Jones

Clover Mites Getting Active

Clover mites feed on a number of host plants including clover, grasses, weeds and some ornamental shrubs. While occasionally causing significant plant damage, more often they can become a nuisance when they move into homes and other structures for overwintering. They are most annoying in the early spring when they crawl about on interior surfaces. Wandering clover mites can be collected with a vacuum sweeper (discard the vacuum bag and/or its contents after collection) or sprayed with a household aerosol formulation containing pyrethrins, chlorpyrifos (Dursban) or propoxur (Baygon). When crushed, clover mites often leave a reddish brown stain, so care should be taken in their removal. Outdoors, the foundation and the surrounding 15-20 feet of lawn can be treated with an insecticidal soap or with insecticides such as diazinon or chlorpyrifos (Dursban) to reduce mite populations. Preparing an 18-24 inch wide strip around the foundation, cleared of vegetation and planted to plant varieties not attractive to the mites should also help reduce invasions of these unwanted pests.

Fred Baxendale

CPMU Proceedings Available

Copies of the proceedings from the 1989 Crop Pest Management Update (CPMU) conference are available for \$5 each. This was an excellent conference and the proceedings contain articles written by the speakers about topics that are of importance to anyone interested in crop protection. To order your copy, send a check for \$5 made out to the University of Nebraska-CPMU to: CPMU, Extension Entomology, Department of Entomology, University of Nebraska, Lincoln, NE 68583-0816.

Steve Danielson.

PLANT DISEASE

Check Alfalfa Early for Winterkill, Disease

As with winter wheat, 'winterkill' in alfalfa is associated with a combination of stand decline diseases and harsh winter weather. To a large extent, the vigor of alfalfa stands coming out of winter is determined by their condition going into winter. The outcome of fall cutting of alfalfa is conditional upon many management, weather, and disease factors. Cutting during the 'critical fall period', which in Nebraska is from September 15 to the first killing frost, often causes winter injury. Stands cut during this period are usually slow to green; and if anthracnose, *Phytophthora* root rot, or *Verticillium* wilt are present, stands may show considerable 'winterkill'. If a grower is interested in stand longevity, fall cutting will usually reduce stand persistence. Growers are encouraged to check stands during the green-up period in March or April. Plants that are slow to green up, or fail to green up, can be sent through the local extension office to the Plant Disease Diagnostic Clinic for disease analysis.

Base removal of the 'winterkilled' stand on economics. First, estimate the current yield and then roughly determine what percent of the plants are affected, i.e. winter injured and/or diseased. Consider the expected longevity of the stand. Stands older than 5 to 6 years are likely to be on the decline due to the presence of crown and root diseases. If the stand is judged to be economically unproductive, growers should try to identify the diseases or conditions responsible for the decline, rotate the field to an alternate crop for two years, and then replant with a winter-hardy, disease-resistant alfalfa cultivar.

John Watkins

Winter Wheat Growers: Be Alert to Crown and Root Rot

Wheat growers are expressing concern over the condition of the winter wheat crop. Although it is too early to know the full impact of our dry, open winter, growers can be checking fields to determine if crown and root rot is present. This disease is brought on by dry conditions in the fall and through winter and leads

to thin stands and poor vigor after green up. However, growers don't have to wait until green up to determine if plants are infected.

To check for this disease, randomly sample field plants. When taking a sample, dig plants, don't pull them. Clean the soil off the roots and then slice the crown with a sharp knife or razor blade. If crown and root rot is present, infected crowns and roots will be light to dark tan rather than the white of healthy ones. The darker brown the crowns, the greater the infection and the higher the risk for stand decline. Another way to determine if plants are alive is to place some in a jar of water after cleaning the soil from the roots. Place the jar in a sunny location in the house and check it in about a week or ten days. Healthy plants will rapidly produce new crown roots and top growth; whereas, diseased ones will be slow to initiate root and top growth.

Crown and root rot of winter wheat is associated with 'winterkill.' Stand loss during the winter and in spring is a combination of harsh winter conditions and crown and root rot. If the disease is detected during this early survey, try to get a rough estimate of the percentage of diseased plants in the field and then watch that field closely during and after the green-up period.

Don't give up on the crop too early. Wheat has an amazing ability to tolerate disease and environmental stresses. Growers usually can determine by mid-April if the stand is economically unproductive.

John Watkins

The EBDC Situation

The final outcome of possible label suspensions and cancellations of uses of EBDC fungicides (mancozeb, zineb, and metiram) to control plant diseases of vegetables, fruits, ornamentals, and turf is not clear. I urge all product users to read and follow label directions fully and carefully. Also, this is a good time to consider implementing non-chemical control procedures and gardening practices. Many of these require pre-planting forethought. Please refer to the following article on non-chemical disease control for more information.

Luanne Coziahr

Non-Chemical Disease Control

The following procedures can effectively reduce plant disease and the need for chemical control:

- **Crop rotation.** Rotate your garden location. If this is not feasible, rotate crops within your garden. Do not plant the same or similar crops in the same area more than twice in seven years.
- **Sanitation.** Remove and destroy or spade under (bury) plant debris from last year's growing season.
- **Resistant varieties.** Select disease resistant varieties whenever possible.
- **Healthy transplants.** Choose healthy, disease-free transplants and seeds from reputable suppliers.
- **Planting.** Plant seeds and transplants at the appropriate times to insure rapid germination and vigorous growth. Space plants adequately to insure good air circulation and light penetration. Choose a garden location with adequate sunlight and fertile, well-drained soil.
- **Watering.** Adequate and timely irrigation is necessary for healthy plant growth. Avoid overhead watering late in the day as leaf wetness favors disease development. Also, mulching will help conserve soil moisture and reduce disease occurrence.
- **Fertilization.** Do not overfertilize with nitrogen. This can cause a lush growth susceptible to disease.
- **Roguing.** Pull out and destroy diseased plants as they occur to reduce disease spread.
- **Control weeds and insects.** They may harbor or carry diseases to your healthy garden plants.

Luanne Coziahr

WEED SCIENCE

Weed Control in Winter Wheat

Wheat fields should be scouted for weeds during early March. The most likely candidates are kochia, pennycress, and other mustards. If weeds are present, start control measures now. Extra care should be taken this year to make sure the wheat is well tillered before applying 2,4-D.

Blue mustard should be treated by mid-March for best results. Spring treatments can be effective if applications are made before bolting. Daytime temperatures of 50°F or higher are desirable for best control. Treat with 1 to 1.5 pints 2,4-D amine or 0.5 to 0.75 pint 2,4-D ester on fully tillered wheat. Allyl at 0.1 ounce per acre plus 0.5 pint 2,4-D ester per acre also works well, but be aware of rotational restrictions. Pennycress and other mustards can be effectively controlled with applications of 2,4-D. It is important to treat before flower stalks elongate (bolting occurs). Late spraying is the most common cause of poor weed control in wheat.

Wild buckwheat, kochia, and smartweed require more than 2,4-D. Use Banvel at 0.25 pint plus 2,4-D amine at 0.75 pint, Bucril at 1 to 1.5 pints plus 0.5 pint 2,4-D amine, or Bronate or Curtail.

As a result of weed resistance problems, new restrictions apply to the use of Glean in Nebraska. Glean can be used at 0.17 to 0.33 ounces per acre in combination with 8 ounces of 2,4-D east of Highway 183 only. Because of carryover concerns, Glean should only be used in wheat, wheat-fallow, or wheat-spring small grain rotations on soils with a pH of 7.9 or less.

Bob Stougaard and Alex Martin

Beware of Miracle Herbicides

"Miracle Herbicides" are again being sold by long distance telephone. The products generally consist of 96% to 98% petroleum distillates with small amounts of 2,4-D, bromacil, or other herbicides. Claims often include performance as good as Roundup at half the cost. Free gifts are sometimes offered as bonuses. The long distance calls are usually made early in the morning. Doing business with local dealers eliminates long distance rip-offs. Local dealers handle proven products and have reputable manufacturers and service groups to follow up on product performance. Do yourself a favor and buy herbicides from a local supplier.

Bob Stougaard and Alex Martin

Alfalfa Weed Control

Warm weather spurs the development of winter annual weeds in alfalfa. Downy brome, pennycress and other mustards can be effectively controlled with herbicide treatments applied now. Many times the weed problem isn't recognized until the alfalfa "greens up" in spring, but then it is too late for most herbicides. Consider a word to the wise: "Scout alfalfa fields now and plan control programs accordingly."

Lexone, Sencor and Sinbar can be used on alfalfa established one year or longer. Those herbicides control both winter annual grasses and broadleaf weeds including pennycress and downy brome. Alfalfa injury may occur on soils containing less than 1% organic matter. If dormancy has broken, Sencor can be applied impregnated on dry fertilizer prior to 3 inches of new growth on the alfalfa. Foliage should be dry.

Kerb and Karmex are also labeled for use on established alfalfa. Kerb is used for the control of downy brome and other grasses while Karmex controls mostly broadleaf weeds. Karmex has performed well in the western part of the state, but the heavier soils in the eastern portion reduce weed control.

Butyrac or Butoxone (2,4-DB) is "so-so" on pennycress and other mustards in the spring but can be used in both established and new seedings where plants have at least two trifoliolate leaves. These herbicides should not be used where temperatures will drop to 40°F within three days after application. Bucril can be used for broadleaf weed control in new alfalfa seedings after plants have at least two trifoliolate leaves or on established stands. It should be used when temperatures are below 70°F. Bucril provides only fair control of pennycress and mustard that have overwintered.

We have had several inquiries on the use of 2,4-D for pennycress and mustard control in alfalfa. While this appears to be a successful treatment, it is not a labeled use. We feel the practice would be legitimate where an established stand is going into the conservation reserve program and no forage would be harvested. The use of 0.75 to 1 pint of 2,4-D ester applied to dormant alfalfa would eliminate pennycress and mustards, thereby preventing seed production on conservation acres.

Treflan TR-10 is registered for the control of annual grasses including downy brome and cheat in established alfalfa. Rainfall or irrigation of 0.5 inches is required to activate Treflan. Because Treflan does not control established weeds, it would have to be applied in the late summer to control downy brome. Spring treatments will not control established downy brome.

Bob Stougaard and Alex Martin

Weed Control in Oats

Early summer annual weeds such as kochia, smartweed and wild mustard are likely to be problems in oats. Herbicide control options are fewer and risk of crop injury is greater compared to winter wheat. Herbicide applications should be made when the oat crop is in the third or fourth leaf stage. Applications made prior to or after this stage increase the risk of crop injury. Herbicide options include MCPA at 0.5 to 1 pint per acre, 0.5 to 1 pint 2,4-D amine, or a tank-mix of 0.5 pint 2,4-D amine plus 1 to 1.5 pints of Bucril 2EC. Do not use 2,4-D ester formulations on oats because it is more likely to cause injury than the amine formulation.

Bob Stougaard and Alex Martin

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