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INSECT, PLANT DISEASE, & WEED SCIENCE NEWS [No. 92-1] [March 6, 1992]

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Insect Science
Plant Disease
Weed Science
NEWS

No. 92-1
March 6, 1992

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

Insect Science

Chinch bug numbers "significant" in Kansas

Results of the winter chinch bug survey from the Kansas Department of Agriculture indicate there are significant populations in northeastern Kansas. Numbers were up in more areas than down compared to a year ago, although no counts were as high as in 1990. Counts were taken from bunchgrass samples obtained from counties in northeast, north central, and east central Kansas. Although similar samples have not been taken in southeast Nebraska, there is no reason to expect that the results would be different.

The impact these high counts will have on our wheat, sorghum, and corn crops later in the season depends tremendously on the weather during the upcoming months. Dry spring weather favors chinch bugs, while moist spring weather may lead to declines in their numbers. Also, moist weather favors crop development and the better the crops are doing, the less damage we would expect from chinch bugs.

Many wheat fields in southeast Nebraska are very late in development, with some having sprouted sometime during the winter. Our understanding is that these fields may or may not produce acceptable wheat stands and yields later this year. Also, some wheat fields are thin and have erratic stands due to the dry conditions during most of 1991. Be aware that chinch bugs prefer to move into thin wheat stands in spring when they leave their overwintering sites. These sites then essentially become chinch bug nurseries as the insects produce the first generation of young for the new year. If weather conditions are favorable for them, resulting high chinch bug infestations will damage the wheat and then will move into nearby sorghum and corn fields as the wheat matures toward harvest.

Crop producers in southeast Nebraska are urged to consider their potential for chinch bugs now to avoid serious problems later in the season. Are all your wheat stands worth keeping? Do you want to plant sorghum or corn near wheat fields? Have you considered trap crops between wheat and sorghum/corn fields that must be planted near each other?

We will provide updates on the chinch bug situation in subsequent issues of the *IPW News*. For more information about chinch bug management, contact your local Extension office.

Steve Danielson
Extension Entomologist

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Welcome back

University of Nebraska Extension specialists in Lincoln and from across the state will provide the most current information on agricultural pest management through this newsletter. Guest writers from the Departments of Environmental Programs, Biological Systems Engineering, Agricultural Metereology and Agricultural Economics will contribute articles when appropriate. We welcome subscriber comments.

UNIVERSITY OF NEBRASKA-LINCOLN, COOPERATING WITH THE COUNTIES AND THE U.S. DEPARTMENT OF AGRICULTURE

Cooperative Extension provides information and educational programs to all people without regard to race, color, national origin, sex or handicap.

Plant Disease

Wheat surveys show varied growth patterns

I took advantage of the nice February weather to survey the condition of the winter wheat crop across the state. The areas included the south central, southwest and southern Panhandle. About 10 fields in each of these general areas were examined.

There is considerable variation in wheat growth from field to field. This ranges from fields with inadequate stands because of nonuniform germination to fields in the one to two leaf stage to fields in which the plants were tillered. Most of the fields I surveyed fell into the one to two leaf stage of growth. When you look across the rows the fields look bare; however, when looking down the rows many of the stands are fairly uniform, just short in height.

I was primarily interested in determining if crown and root rot was going to be significant this year. I found very little crown and root rot. Even though the plants are short, most had healthy crowns and were producing healthy crown roots. Recent moisture and warmweather should promote crown root development and top growth.

If crown and root rot are suspected or the condition of a field is questionable, there are several ways a grower can determine plant health. First, dig several plants selected at random in the field. Examine the roots and the crowns for discoloration. The greater the discoloration, the more severe the disease. Plants with severe crown rot likely will not survive. With the price of wheat being in the $4.00+ per bushel range, growers should weigh carefully any decision to destroy a wheat field that doesn't look as good as it should.

John Watkins
Extension Plant Pathologist

Potential high for wheat leaf rust

Reports from Kansas and Oklahoma indicate that viable leaf rust has overwintered as far north as central Kansas. This is not good since our rust inoculum comes from Texas, Oklahoma and Kansas. Early rust development, late wheat and susceptible varieties could spell trouble. Due to late emergence last fall, the wheat will probably mature a week or so later this year. This would provide a longer window for infection. A lot can occur between now and harvest to affect the leaf rust situation.

A serious outbreak of leaf rust is a real threat because of the extensive acreage of TAM 107 (very susceptible) planted in the Great Plains. Growers with rust susceptible wheat varieties may want to locate a source of fungicide (Tilt, mancozeb or Bayleton + mancozeb) just as a precaution. The fungicide doesn't have to be purchased this early, but it would be wise to identfy a source should the need arise. We will follow the leaf rust situation very closely and try to keep growers informed during the growing season.

John Watkins
Extension Plant Pathologist

Insect Science
Plant Disease
Weed Science News

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Lisa Brown Jasa, Editor

For more information about a particular subject, write the authors at the addresses below:

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Lincoln, NE 68583-0816

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279 Plant Science Bldg.
Lincoln, NE 68583-0915

Consider the value of treating soybean seeds

> Treating soybean seeds with a fungicide can be effective if the correct product is selected and the seeds are properly covered with the fungicide.

According to the long-range weather forecasts, this might be a good year to treat soybean seed with a fungicide to control early season diseases. These treatments are effective provided the correct product is selected for the pathogens involved and careful attention is given to covering the seed as completely as possible with the fungicide.

Soybean seeds often carry many kinds of fungus spores that can cause seed decay and seedling blights. In addition, seeds planted in cold, moist soil are often slow to germinate which makes them all the more vulnerable to attack by these and other microbes that live in the surrounding soil. The effectiveness of soybean seed treatment is influenced by several other factors, such as:

Seed quality. Use of high quality, certified seed provides for quicker, more uniform emergence and seedling establishment.

Depth of planting. Planting excessively deep may offset the benefits of seed treatment. The longer it takes for seedling emergence, the longer the entire plants are exposed to soil- and seed-borne fungi.

Planting time soil conditions. Soil temperatures should be consistently above 55°F. Unless the temperature is increasing steadily, planting when the soil is in the low 50s is not advisable. The seedling will emerge five to seven days after planting when the soil temperatures reach the mid to upper 60s.

The relative effectiveness of common seed treatment fungicides for the control of seed and seedling diseases of soybeans is shown in *Table 1*. Captan, thiram and the fungicide combinations of carboxin/thiram and PCNB/terrazole are probably the most widely used soybean seed treatments. These products have varying degrees of activity against seed and seedling pathogens. For instance, captan and thiram have little activity against the 'water molds' such as *Phytophthora*, but are effective against seed-borne *Phomopsis*. Carboxin/thiram, TBZ/thiram or PCNB/terrazole provides additional protection against Rhizoctonia diseases, but metalaxyl would be preferred if Pythium or Phytophthora diseases are recurring problems.

The products listed in *Table 1* represent readily available fungicide seed treatments for soybeans. This is not a comprehensive list of all formulations in the market place.

Dave Wysong
Extension Plant Pathologist

Table 1. Relative effectiveness of soybean seed treatment fungicides against seed decays, seedling blights and damping-off diseases.

Seed Treatment	*Some Trade Names*	*Phomopsis-Diaporthe Seed Rot*	*Pythium Seed Rot and Damping Off*	*Phytophthora Damping Off*	*Rhizoctonia Damping Off*	*Seed Rot*
Captan	Captan 300; Captan Moly	G	F	N	P	F
Captan + TBZ	Captan T; Agrosol Fl	G	F	N	P	F
Thiram	Thiram 50 WP	F	F	N	P	F
Thiram + TBZ	Agrosol T	G	G	N	F	F
Carboxin + thiram	Vitavax 200	G	F	N	F	F
Carboxin + captan	Vitavax 20-20	G	G	N	P	F
Chloroneb	Chloroneb 65W	F	F	N	P	F
Carboxin + PCNB	Vitavax-PCNB	G	G	N	P	G
PCNB + terrazole	Terraclor Super X	F	G	N	F	G
Metalaxyl	Apron Fl; Apron 25W	N	G	G	N	N

G = Good F = Fair P = Poor N = Not effective

Plant disease slides, video tapes available for study

The following slide-tape sets and video tapes on plant diseases are available for check-out:

Diseases of Wheat
Diseases of Alfalfa
Diseases of Turfgrass
Diseases of Landscape Plants
Diseases of Home Garden Fruits
Diseases of Home Garden Vegetables

Each module is 10 to 15 minutes long and covers the major diseases and their control for each subject area. The slide-tapes can be checked out from the Extension Plant Pathology Office at 448 Plant Sciences Bldg., UNL, Lincoln, NE 68583, (402) 472-2559. The video tapes can be checked out from the Institute of Agriculture and Natural Resources Communications and Computing Services, 209 Agricultural Communications Bldg., (402) 472-3035.

John Watkins
Extension Plant Pathologist

Weed Science

Begin alfalfa weed control now

Warm weather spurs the development of winter annual weeds in alfalfa. Downy brome, pennycress and other mustards can be effectively controlled if herbicide treatments are applied now before alfalfa greens up. Often a weed problem isn't recognized until the alfalfa greens up and it's too late for most herbicides. Scout alfalfa fields now and plan control programs accordingly.

If alfalfa has been established one year or longer, Lexone, Sencor and Sinbar can be used. These 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 impregnated on dry fertilizer and applied before there is 3 inches of new alfalfa growth. Foliage should be dry.

Kerb and Karmex also are labeled for use on established alfalfa. Kerb controls downy brome and other grasses; Karmex controls mostly broadleaf weeds. Karmex has performed well in western Nebraska, but the heavier soils in the eastern portion cause reduced 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 alfalfa and new seedings where plants have at least two trifoliate leaves. Do not use these herbicides if temperatures may drop to 40°F within three days after application.

Buctril can be used for broadleaf weed control in new seedings of alfalfa after plants have at least four trifoliate leaves. It should be used when the temperature is below 70°F. Buctril provides only fair control of pennycress and mustards that have overwintered.

We have had several inquiries about using 2,4-D for pennycress and mustard 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 conservation uses. No forage would be harvested. The use of 3/4 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 needs to be applied in late summer to control downy brome. Spring treatments will not control established downy brome.

Alex Martin
Extension Weeds Specialist

Be leery of RUP recordkeeping claims

Agricultural producers are receiving conflicting information concerning private applicator requirements for recording application of restricted use pesticides. The 1990 Farm Bill requires private recordkeeping, but it did not provide the regulations for enacting the bill. The proposed regulations are expected to be printed in the Federal Register this spring. Individuals will be invited to comment on the regulations during a specified period (possibly up to 90 days). Comments will be reviewed and considered by the USDA Task Force and other offices. The regulations likely will become effective in January 1993.

Firms selling record-keeping software, books, and home systems already are advertising their wares in anticipation of the increased recordkeeping requirements. Be careful with systems that imply USDA recordkeeping compliance before the regulations are finalized. Consider waiting until all the USDA requirements are finalized.

Larry Schulze
Extension Pesticide Coordinator

New UNL software aids with herbicide selection

A new computer program — NebraskaHERB — was developed by the University of Nebraska to help users select herbicides based on economic thresholds. The weed management program has been completed for postemergence weed control in soybeans. Similar programs will be developed for corn and additional crops.

The NebraskaHERB user enters the grower's name, field location, anticipated soybean selling price, soybean cultivar, row spacing, method of herbicide application, and herbicide costs. Field scouting information on plant size, soil moisture, and weed species and density are collected and entered. The model then calculates a damage estimate — the expected loss if no weed control measure is employed. The damage estimate calculation draws on many years of research on the effects of weeds on soybean yield. This is a critical step in the model because the costs associated with no weed control treatments can later be compared with the economic benefits of available herbicide and cultivation treatments. Once the damage estimate is computed, the model searches its kill-rate files for effective herbicide treatments and ranks possible treatments in order of net gain. This ranking is possible because a cost of the weed population was estimated when the damage estimate was calculated.

This user friendly program

(1) quickly determines whether it is cost effective to treat a field;

(2) identifies the most economically effective treatment (including broadcast and band-applied herbicides as well as cultivation); and

(3) ranks all other treatments in order of net profitability.

NebraskaHERB is available on floppy disks and runs on IBM compatible personal computers. It costs $110 and will be available this spring. Individuals who buy the program now will receive the upgrade (including corn), free when it is available. We plan to update NebraskaHERB annually for a modest charge.

We believe you will find NebraskaHERB a useful tool in making weed management decisions. If you are interested in receiving more information about it, contact:

Bev Ludden
362 Plant Science Bldg
Lincoln, NE 68583-0915
Phone: (402) 472-1547

Alex Martin
Extension Weeds Specialist

Glean use restricted

Scout wheat; plan treatment

Scout wheat fields now for weeds, including kochia, pennycress, and other mustards. If weeds are present, take control measures soon. Remember that wheat should be well tillered and healthy before applying 2,4-D.

Treat blue mustard 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 1/2 pint 2,4-D amine or 1/2 to 3/4 pint 2,4-D ester on fully tillered wheat. Ally at 0.1 ounce/A plus 1/2 pint 2,4-D ester also works well, but be aware of rotational restrictions. Pennycress and other mustards can be effectively controlled with 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 need more than 2,4-D. Use Banvel at 1/4 pint plus 2,4-D amine at 3/4 pint, Buctril at 1 to 1.5 pints plus 1/2 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, use Glean only in wheat, wheat-fallow, or wheat-spring small grain rotations on soils with a Ph of 7.5 or less. Grain sorghum and soybeans can be planted 14 months after Glean treatment in Franklin, Nuckolls, Thayer and Webster counties.

Alex Martin
Extension Weeds Specialist

Herbicide Guide correction

The last entry on page 11 of the *1992 Nebraska Herbicide Use Guide* is in error. Sencor is **not** labeled with Buctril + Atrazine postemergence. Sencor is labeled with Basagran and this is the treatment we intended to list in the Herbicide Guide.

Extension resources

The following new or revised publications have been released by the University of Nebraska Cooperative Extension. Most are available at your local Extension office or can be ordered by writing Bulletins, 105 ACB, PO Box 830918, University of Nebraska, Lincoln, NE 68583-0918. Nebraska residents can order one copy of up to 10 NebGuides free. When ordering more NebGuides than that, cost is 25 cents each. Shipping, handling and state and local sales will be added when ordering from the Bulletin office in Lincoln. (NebGuides are denoted by a G preceding the order number.) Prices for other publications, such as Extension Circulars (ECs) are listed below.

EC92-130 A 1992 Guide for Herbicide Use in Nebraska. This circular addresses herbicides for crop production. Suggestions are based on results at Nebraska research stations and elsewhere. Cost: $2.00

EC92-1509 Insect Management Guide for Nebraska Corn and Sorghum. This circular provides insect control recommendations and identification tips for corn insects below and above ground and sorghum insects, safety guidelines, and suggested field re-entry periods. Cost: $2.00

EC92-1511 Insect Management Guide for Nebraska Alfalfa, Soybeans, Wheat, Range, and Pasture. This circular provides insect control recommendations and scouting and identification tips for the crops cited, safety concerns, and suggested field re-entry periods. Cost: $2.00

Publication order blank enclosed

Enclosed is an order blank which can be used to order publications from the Central Extension Distribution Center in Lincoln. Postage, handling and state and local sales tax will be charged on all mail orders. Publications also are available from your local Extension office. Feel free to copy this order blank and use it throughout the year.

EC92-1537 Insect Management Guide for Nebraska Sugarbeets, Dry Beans, Sunflowers, Vetch, Potatoes, and Onions. This circular provides insect control recommendations and scouting and identification tips for the crops cited, safety concerns and suggested field re-entry periods. Cost: $2.00

EC92-1764 Windbreak Establishment. Covers site preparation, plant material selection, pre-planting care, plant techniques, weed control, insects and diseases, wildlife damage and irrigation. Cost: $.50

EC92-1763 How Windbreaks Work. Covers effect of height, effect of density, effect of orientation, effect of length, and microclimate modifications. Cost: $.50

EC91-102 Nebraska Spring Wheat, Oats, Barley, Canola, and Crambe Variety Tests. Results of the latest variety tests by region for the crops cited. Cost: $.25

EC91-103 Nebraska Fall-Sown Small Grain Variety Tests. Results of the latest variety tests by region for the crops cited. Cost: $.25

EC91-104 Nebraska Soybean Variety Tests. Results of the latest variety tests by region for the crops cited Cost: $.25

EC91-105 Nebraska Corn Hybrid Test. Results of the latest variety tests by region for the crops cited. Cost: $.25

EC91-106 Nebraska Grain Sorghum Hybrid Tests. Results of the latest variety tests by region and irrigation type for grain sorghum. Cost: $.25

EC91-107 Nebraska Proso, Sunflower and Amaranth Variety Tests. Results of the latest variety tests by region. Cost: $.25

G1068 Planting and Harvesting Information. Covers calibrating seed equipment, seeding rates per acre and a table detailing test weight, approximate number, seeding rate, usual planting date, seeding depth soil cover, most active harvest dates, cylinder speed, and safe storage moisture content for more than 30 Nebraska crops.

G1072 Insurance Packages for Farm Employers. Discusses life, health and unemployment insurance and workmen's compensation as part of an employee benefit plan.

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Extension publications cited in the ***Insect Science, Plant Disease and Weed Science News*** can be obtained from your local Extension Office or ordered from the Cooperative Extension Publications Distribution Center using this order form. See newsletter listings for individual publication prices.

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