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INSECT, PLANT DISEASE, & WEED SCIENCE NEWS [No. 91-1] [March 8, 1991]

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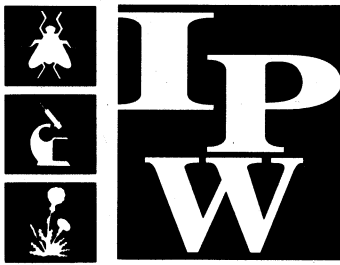
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Insect Science Plant Disease Weed Science

NEWS

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

No. 91-1

March 8, 1991

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Welcome

Welcome to the 1991 edition of the Insect Science, Plant Disease and Weed Science News. Specialists in the UNL Departments of Entomology, Plant Disease and Weed Science will be bringing you the latest information on Nebraska's agricultural pest situations throughout the year. Watch for special alerts on pest movements and trends, pesticide label changes, and production and control recommendations based on University research.

INSECT SCIENCE

Army Cutworms Move into Nebraska

Recent reports of severe army cutworm infestations in Kansas, Oklahoma, and Texas are numerous. More than 12 cases of army cutworm infestations have been reported in winter wheat in Nuckolls, Thayer, and Webster counties since Feb. 28.

Wheat growers in southern and western Nebraska should be watching for this pest during the next several weeks. Symptoms of damage include loss of stand and "browning out". Fields showing these symptoms should be scouted for the presence of cutworms, at or just below the soil surface in the vicinity of the damaged areas.

Insecticide treatment is suggested when one or two cutworms are found per square foot in thin or poorly tillered stands of winter wheat. In normal stands, treatment is suggested when there are four or five cutworms per square foot. The only insecticide registered for this use is parathion at 0.5 lb AI/acre. This product will not provide spectacular control of the army cutworm, particularly when air temperatures are below 70°F, but it is currently the only treatment available.

Steve Danielson and Gary Hein



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



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RESOURCES

The following new or revised publications were recently released by the University of Nebraska Department of Agricultural Communications. For a publications catalogue, contact your local Extension office or write Bulletins, 105 ACB, University of Nebraska, Lincoln, NE 68583-0918.

EC91-130 A 1991 Guide for Herbicide Use in Nebraska. This circular addresses herbicides for crop production. The suggestions for use are based on results at Nebraska research stations and elsewhere.

EC91-1509 1991 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 for specific chemicals.

EC91-1511 1991 Insect Management Guide for 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 for specific chemicals.

EC 90-102 Nebraska Spring Small Grain Variety Tests 1990. Includes suggested oat and barley varieties, characteristics of oat varieties, and test results for oats, barley and spring wheat.

EC 90-104 Nebraska Soybean Variety Tests 1990. This circular provides the results of variety tests and discusses the effect of cultural practices and location.

EC 90-105 Nebraska Corn Hybrid Tests 1990. This circular provides test results for trials at 16 sites and discusses the effects of cultural practices.

G90-996 Ridge Plant Systems: Fertility. This NebGuide contains information on managing fertilizers in ridge-plant systems.

EC90-106 Nebraska Grain Sorghum Hybrid Tests 1990. This circular is a progress report of grain sorghum trials conducted to obtain yield and other information for some of the hybrids being marketed.

G80-485 Mandatory Tax Withholdings on Farm Wages Paid. This NebGuide details who must withhold social security tax and state and federal income and unemployment tax. Procedures for withholding and depositing are discussed.

G90-1002 Child Labor Laws for Agriculture. This NebGuide details special considerations for employing persons 16 years of age and younger.

Biological Control Program Seeks Cooperators

Barte Smith of the USDA-APHIS Plant Protection and Quarantine Division needs potential cooperators for two biological control programs this season.

The first program involves the release of a parasite of the European corn borer. Ten sites will be required in corn production areas of Nebraska. At each site, a minimum of 10 acres of corn will be used for the release. The site needs to be where other crops are grown, water sources are nearby, and the European corn borer is definitely established. The parasite will be released in July or August. It is hoped that subsequent insecticide applications in the 10-acre site will be avoided or kept to a minimum.

The second program involves the release of a root borer that attacks leafy spurge. Fourteen sites across the state are required for this program. The primary site requirement is that several acres of leafy spurge are present. Growers and landowners interested in participating in either of these programs should contact Smith before June 1 at USDA-APHIS-PPQ, 5940 S. 58th St., P.O. Box 81866, Lincoln, NE 68501, or (402) 434-2345.

Steve Danielson

IPW News

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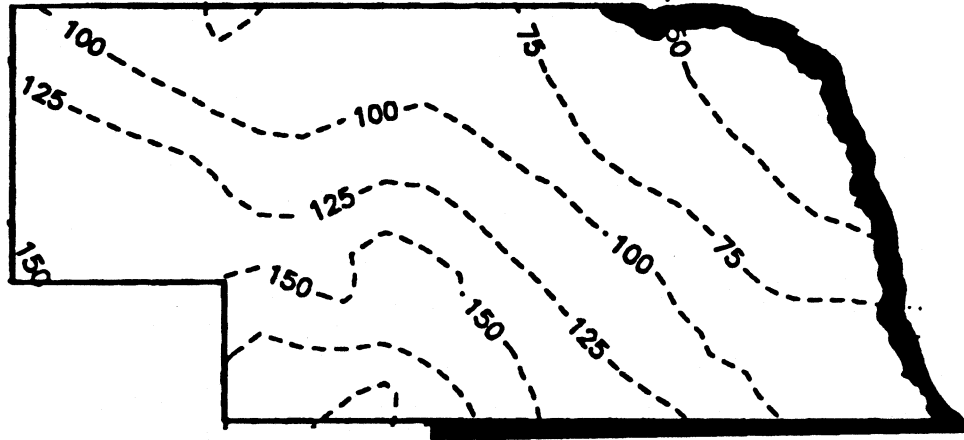
Lisa Brown Jasa, Editor

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Accumulated Degree Days, Base 48

Use Degree Days

Predict Alfalfa Weevil Progress

During the next few months, we will be providing IPW readers with predictions of alfalfa weevil development based on degree day accumulations.

Insects (and plants) are dependent on temperatures being above a specific threshold for development to occur. The following formula can be used to calculate degree days for a specific date:

$$\text{Degree days} = \frac{\text{max. temp.} + \text{min. temp.}}{2} - \text{developmental threshold}$$

In the case of the alfalfa weevil, we use 48°F for the developmental threshold. Degree day values are totaled from Jan. 1.

The map (above) was developed by Dr. Ken Hubbard of the UNL Department of Agricultural Meteorology to indicate degree days. The map shows the state of Nebraska with contour lines across it representing the accumulated degree days for the developmental threshold (base) of 48°F from Jan. 1 through March 3. The degree day accumulations run from 50 in the northeastern counties to 200 (unlabeled contour) in the southwest.

Research has shown that we should expect to see alfalfa weevil larvae hatching from eggs and present on the plants when 200 degree days have accumulated.

Alfalfa growers should begin sampling for this insect when 300 degree days have accumulated in their area. Peak larval feeding is predicted at 600 degree days. The peak for new adult appearances is predicted for 1100 degree days.

Based on this information, we would expect that some alfalfa weevil larvae are now present on alfalfa in extreme southwestern Nebraska. Numbers are probably quite low and little if any damage would be apparent. No control efforts would be advisable this early in the season.

We will provide updated maps and predictions in this newsletter as the season progresses.

Steve Danielson, Bob Wright, and Ken Hubbard

Correction

There is a mistake on page 7 of the Extension Publication EC 91-1509, Insect Management Guide for Nebraska Corn and Sorghum. Dyfonate II 20G is labelled at the 6 ounce formulation per 1,000 row feet, NOT 4.5 ounces, for use against corn rootworm larvae in corn.

WEED SCIENCE

Plan Alfalfa Weed Control Before Green-Up

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 spring when alfalfa greens. Then it is too late for most herbicides. Scout alfalfa fields now and plan control programs accordingly.

Scout Wheat Now; Begin Weed Attack

Scout wheat fields for weeds in early March. The most likely candidates are kochia, pennycress, and other mustards. If weeds are present, take control measures soon. Care should be taken to make certain the wheat is well tillered and healthy before 2,4-D is applied.

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 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 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 1/4 pint plus 2,4-D amine at 3/4 pint, Butril 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/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.

Alex Martin and Bob Stougaard

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 applied impregnated on dry fertilizer 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 seedlings where plants have at least two trifoliate leaves. These herbicides should not be used where temperatures may drop to 40°F within three days after application.

Butril can be used for broadleaf weed control in new seedlings of alfalfa after plants have at least four trifoliate leaves and should be used when temperatures are below 70°F. Butril 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 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 and Bob Stougaard

PLANT DISEASE

Examine Trees, Turf for Water Loss Injury

Although we have had better snow cover and precipitation this winter than in the past, there is still a potential for desiccation injury to evergreens and turf. Water loss from foliage may occur on warm, sunny, windy, dry days in late winter and early spring. Roots are not functioning due to dry, cold, or frozen soils and are unable to replace the lost moisture. The end result may be needle browning on evergreens or damage to turf grass.

On evergreens, the damage is fairly uniform. Needle tips will all be brown to about the same point. One side of the tree (the side most exposed to the wind) may be more severely affected than other sides. Evergreen foliage can hold its color after injury for some time so damage may not be clearly visible for several weeks. To identify damage, it's important to check the condition of the buds and cambial tissue. Using a razor blade, cut into a bud. The tissue should be a moist, bright green. Peel the bark down a small branch with browning needles to check the cambium. The cambium should be moist and greenish to white in

color. Brown bud tissue and cambium means the damage was severe and the tissue is dead. Green tissue is a good sign that only the needles were damaged. New growth in the spring will quickly improve appearances.

Turfgrass damaged by desiccation is found where there was poor snow cover and exposure to the wind. The turf will be off-color and like straw. Protected areas will not be affected. To check for damage, dig up some plants to inspect the condition of the crown tissue. Healthy crown tissue is white and moist. Such plants will probably recover. Brownish tissue indicates severe injury. This turf may not recover.

The damage due to winter desiccation can be lessened with timely watering. Ensure that turf and evergreens have adequate moisture in their soil profiles before winter conditions cause the soil to freeze. Water during the mid-winter thaw if conditions become dry.

Luanne Coziahr

Fewer Fungicides Available for Home Use

Keeping up on all the changes in fungicide labels is a constant task these days. Please note these changes. They should be made on NebGuide G76-292 *Home Fruit Spray Schedules* or attached as an insert to the publication. It is not likely that this NebGuide will be revised soon.

The availability of fungicide for homeowner use in home gardens and landscapes has become quite limited. Many manufacturers are not packaging their products in small amounts or are not pursuing registration of their products for the homeowner market.

• **Phaltan** and **Zineb** are no longer sold in the United States.

• Apples are removed from the **Mancozeb** label.

It is highly recommended that homeowners use cultural or biological controls whenever and wherever possible. For example, select apple cultivars resistant to cedar apple rust since there are no fungicides readily available to homeowners to effectively control cedar apple rust. Also, always read and follow all label instructions carefully. This will insure good product performance, expected results, and safe use. Finally, some products may be available in larger quantities from agricultural or horticultural distributors in or near your area.

Luanne Coziahr

Learn at Home with Plant Disease Slide/Tape Sets

Several slide/tape sets are available from the UNL Department of Plant Pathology for home or educational use. Each set lasts 10-15 minutes and comes with slides, a synchronized tape, and a written narrative. Consider checking out a slide/tape set on one of the following topics:

Alfalfa Diseases. This includes a comprehensive overview of the alfalfa diseases that occur in Nebraska and discusses disease management.

Wheat Diseases. This discusses important wheat diseases of Nebraska and the Central Great Plains and suggests control measures.

Turfgrass Diseases. This set presents a detailed look at the major turfgrass diseases in Nebraska and outlines appropriate control measures.

Diseases of Landscape Plants. Diseases of flowers, shrubs, and broadleaf and evergreen trees used in the

landscape are described. Symptom identification and control are discussed.

Diseases of Home Garden Vegetables. This set is new for 1991 and will be available this month. It presents information on disease identification and control for most vegetables grown in the home garden.

Diseases of Home Garden Fruits. This set also is new for 1991 and will be available this month. The diseases of both small and tree fruits are discussed along with control measures.

To check out any set, contact the Extension Plant Pathology Office at (402) 472-2559. There are five copies of each set and they will be reserved on a first come, first served basis.

John Watkins

New Newsletter Addresses Turf/Horticulture Issues

The University of Nebraska Institute of Agriculture and Natural Resources begins publication of a new six-page subscription newsletter on turf management and commercial horticulture next week.

While the newsletter is designed for commercial turf managers, lawn and landscape services, commercial horticulture business, nurseries and greenhouses, it also will address gardening, landscaping, and lawn care for the homeowner. Regular contributors will be from the Departments of Horticulture, Plant Pathology, Entomology, Forestry, and Weed Science.

Plant Watch

Plant Watch will be issued twice a month from March through October and monthly from November through February. Cost is \$25 annually. For more information or to order a subscription, write Plant Watch, 108 Ag Communications Bldg., Lincoln, NE 68583-0918.

Pesticides: Natural Ones as Toxic as Synthetics

Pesticides, by their very nature, are toxic. They are usually defined as chemicals that destroy pests, control their activity, or prevent them from causing damage. They are usually from either synthetic or botanical origins. Synthetic pesticides are formulated or manufactured in a laboratory and botanical pesticides are derived from plants. Botanical pesticides have been popular for many years. Nicotine was used as early as the 1690s to control aphids.

Although they often are called "natural", don't be deceived about the power of botanical pesticides. Nicotine is highly toxic to warm-blooded animals. Even the caffeine from berries, seeds and leaves of tea, coffee and cocoa plants has insecticidal properties. Regardless of the source of the pesticide, the applicator must follow label guidelines for safe handling of the material.

Certain risks are encountered when mixing, loading or applying pesticides. It is important to understand that risk is a function of the product toxicity and the potential for personal exposure. The toxicity of a product does not, by itself, determine the danger of handling it.

A common chemical which is often taken for granted is gasoline. It can easily be applied to the risk formula. It is extremely toxic when ingested, but can be handled safely through proper nozzles, hoses and funnels. It's important to remember that while the toxicity of a product cannot be changed, the risk can be managed. Next week: Pesticides — managing the risk factor.

Larry Schulze, Environmental Programs