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INSECT, PLANT DISEASE, & WEED SCIENCE NEWS [No. 90-7] [May 4, 1990]

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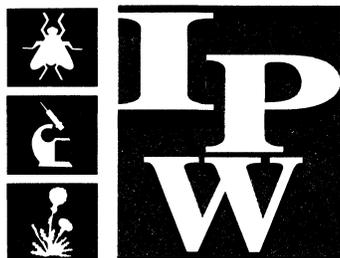
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Insect Plant Disease Weed Science

NEWS

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

No. 90-7

May 4, 1990

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INSECT SCIENCE

Russian Wheat Aphid Problem Escalates

The Russian wheat aphid problems in the Panhandle are growing worse. Several thousand acres have been treated for the aphid, and thousands more acres are at or above the threshold of having 10% of the tillers infested. The cool, wet weather the past few weeks has slowed the aphid somewhat, but perhaps more importantly, control efforts also have been slowed. Much of the severely infested wheat seems to be in very bad shape, especially considering the excellent moisture situation.

All wheat growers in western Nebraska need to check their fields for Russian wheat aphids. Additionally, growers

that have treated need to continue scouting their fields for possible reinfestation.

Russian wheat aphid control options include DiSyston 8, dimethoate (Cygon 400), Penncap M, and parathion. (For information on rates and restrictions, see Extension publication EC90-1511: *Field Crop Insect Management Guide for Nebraska — Alfalfa, Soybeans, Small Grains, Range and Pasture*). Lorsban 4E has also been added under a crisis exemption registration. Lorsban has a 28-day harvest interval, a 14-day grazing interval and a 28-day restriction for feeding straw. A recent question prompted me to get a ruling from



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



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the EPA concerning the use of straw from Disyston treated fields. The label indicates that no grazing should be allowed after a treatment of DiSyston. This restriction also applies to the use of straw, according to the EPA, because if straw is used for bedding there is no way to restrict cattle from eating it. This restriction has major implications in areas where straw is used, especially because it appears that the majority of wheat acreage in the Panhandle will be treated for Russian wheat aphid before the end of the season.

Gary Hein

Use Extended for Lorsban 4E on Russian Wheat Aphid

The Nebraska Department of Agriculture has submitted a Section 18 emergency exemption registration request for Lorsban 4E for use on wheat to control the Russian wheat aphid. This action automatically extends the crisis exemption for Lorsban that expired April 20. This extension is effective until the EPA acts on the section 18 registration, which would apply for the remainder of the year.

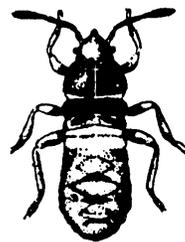
Gary Hein

Chinch Bugs Invade Wheat in Southeast Nebraska

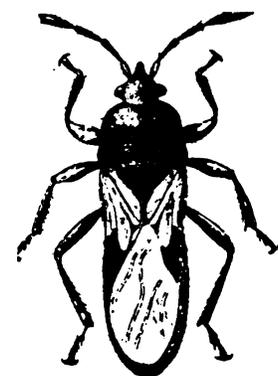
A large scale chinch bug migration has coincided with the late-April warm weather. We have received reports of large numbers of flying bugs and bugs already in wheat in southeastern Nebraska. Some reports have indicated that the infestation has spread outward and includes areas in addition to those heavily infested in 1989.

Chinch bugs are greatly influenced by environmental conditions which have been ideal for them for several years. Dry conditions in 1988 and 1989, compounded by the past mild winter, have resulted in the potential for another chinch bug epidemic this year. Lots of wet weather in the next six weeks may help dampen chinch bug populations, but populations already are so high that there most likely will be major sorghum acreage losses.

Sorghum is very susceptible to chinch bug damage when it is planted near an infested wheat field. Last year, sorghum producers reported average acreage losses of 15-20% in the high-risk counties. You can easily scout for chinch bugs in wheat, oats, or barley. Chinch bugs may be found crawling on the ground, feeding on the plant between the leaf sheath and stalk, or burrowing in the dry soil near the plant base. If the soil surface is very wet, they are more likely to be on the plant. Chinch bugs are most easily observed in, and seem to prefer, thin wheat.



Nymph chinch bug



Adult chinch bug

The best management strategy in the seven high-risk and four transition-zone counties (see IPW News 90-1; March 9, 1990), is to plant soybeans or another nonhost crop near infested wheat. In these 11 counties, producers enrolled in the farm program can use a prevented planting option and still maintain the sorghum history on their farm. We strongly recommend using this management strategy on any or all fields on a producer's farm, but a grower must have county ASCS approval before planting an alternative crop. For more information about the prevented planting option, contact your local extension agent or ASCS office.

Barb Spike, Research Associate, Entomology

For More Information

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

G85-742 Dollar Spot Disease of Turfgrass. This NebGuide describes the symptoms and disease cycle of dollar spot and provides recommendations for control.

EC90-120 Certified Perennial Grass Varieties Recommended for Nebraska. This publication lists recommended varieties, importance of using certified seed, and contains a map on best locations for adapted grass varieties.

Chinch Bug Control Requires Early Planning

If the weather continues to be drier than normal, we expect the chinch bug will cause as many or more problems than it did in 1989.

Sorghum growers in southeast Nebraska need to start planning how they will deal with the chinch bug. If they wait until summer when it is damaging sorghum, it will be too late and part or all of the crop may be lost.

What do we know right now about the likelihood for chinch bug problems during 1990? There are large numbers of chinch bugs now moving from overwintering sites into wheat and other small grains in southeastern counties. The weather has been ideal for survival of the chinch bug during the past several years, leading to increased numbers and distribution of this pest. If the weather continues to be drier than normal between now and when the wheat matures, we would expect that the chinch bug will cause as many or more problems for sorghum growers in southeast Nebraska than it did in 1989.

What can be done now to prepare for this likely invasion? If you are a crop producer in the high risk area of southeast Nebraska, consider planting soybeans or alfalfa (or some other broadleaf crop that is not a chinch bug host) instead of sorghum or corn. ASCS is allowing growers in this area to keep their corn/sorghum base, even if they plant alternate crops to avoid losses due to the chinch bug. You must get ASCS approval to do this, so check with your local ASCS office. At least consider planting non-host crops in fields near wheat. Planting sorghum or corn next to wheat is asking for trouble that you may not be able to deal with effectively.

What if sorghum or corn must be planted? Consider planting them some distance away from wheat fields, with trap crops like sudangrass or sudax in between. These can be treated repeatedly with insecticides to kill chinch bugs before they migrate to the susceptible crop. Many growers

have successfully used trap crops, but remember that the trap crop may need to be destroyed if insecticide applications exceed the labeled rates.

Is it advisable to use a planting time application of Furadan 15G insecticide when planting sorghum or corn in the high or moderate risk area? This method will only provide protection for two to three weeks for low to moderate chinch bug infestation levels during the seedling stage. We suggest growers consider using this planting time treatment when seedling emergence and establishment is expected to coincide with maturing of nearby winter wheat infested with chinch bugs. This is particularly important when sorghum or corn are planted into infested wheat stubble or destroyed wheat and when sorghum or corn are planted adjacent to or near infested wheat that is maturing.

Baythroid Proposed for Control

The Nebraska Department of Agriculture has received a Section 18 Emergency Exemption application for Baythroid (cyfluthrin) insecticide to control chinch bugs on sorghum. This insecticide is not currently available or legally registered for use on any Nebraska crops. The application will be evaluated by the University of Nebraska Pesticide Advisory Committee and by the Pesticide Review Board of the Department of Agriculture. If approved, the application will be forwarded to the Environmental Protection Agency for their review. This process will take from several weeks to a few months. There is no guarantee that Baythroid will be approved for this use this season, even if reviews and evaluations are favorable.

Baythroid is a nonsystemic synthetic pyrethroid insecticide. It is currently used primarily on cotton in the United States. Limited tests in Nebraska and Kansas during 1989 showed that Baythroid performed similarly to the currently registered insecticides for control of chinch bugs on sorghum. Under extreme chinch bug pressure, chinch bugs killed all seedling sorghum plants in our study within 10 days after treatment, even in the Baythroid treated plots.

If Baythroid were made available through this Section 18 process, it would be one more tool for sorghum growers to use in attempting to reduce losses due to chinch bugs. However, we do not have evidence that Baythroid will provide better chinch bug control than other products currently available, such as Sevin XLR and Furadan 4F.

Steve Danielson

How effective are foliar insecticides in controlling chinch bugs? When infestation levels are high, as they have been in a number of southeastern Nebraska counties during the past two years, the performance of the foliar insecticides has not been satisfactory for most growers. The problem is that like most insecticides, Sevin XLR and Furadan 4F do not kill all of the targeted insects. They kill a certain percentage of the insects in the field and the remaining ones survive to continue feeding and eventually reproduce. If there are 1,000 chinch bugs per foot of row in a field and the insecticide does a good job and kills 90% of them, that still leaves 100 surviving chinch bugs to continue damaging the crop. The problem is further compounded by the fact that during migrations, additional chinch bugs will move into previously treated areas within a few days and they will likely not be affected by insecticide residues in the field. Remember that chinch bugs generally must be contacted by the insecticide to obtain control. Do not depend solely on foliar applications of insecticides to save your sorghum or corn from serious damage due to high chinch bug infestations.

What about treating wheat to reduce chinch bug numbers before they move into sorghum and corn later on? This practice has been tested in Nebraska and Kansas and

the results generally were not satisfactory. For this reason, we do not recommend this practice. These experiments involved applications made relatively late in the season, when the crop had a protective canopy that reduced the ability of the insecticide spray droplets to contact the chinch bugs. Also, these applications were made after the first generation of chinch bug nymphs had been produced, which results in larger numbers of the insect in the field and higher numbers of survivors, given a certain percent of control. Tests will be conducted this season to determine whether or not earlier treatments might be more satisfactory.

Should growers consider the use of insecticides that are not EPA registered? Absolutely Not! It is illegal to use a pesticide on a crop for which it is not registered and which is not mentioned on the product label. Illegal use of insecticides can result in condemnation or confiscation of the treated crop, fines, and/or jail sentences. Furthermore, poor chinch bug control will likely result. **We are not aware of any insecticide that is not registered for the control of chinch bugs on sorghum that is likely to be more effective for this use than the insecticides that are currently registered.** Do yourself, your family, and your farming enterprise a favor by planning ahead to avoid large losses due to chinch bugs this season.

Steve Danielson

Label Changed on Force 1.5G Insecticide

Force 1.5G (tefluthrin), a synthetic pyrethroid soil insecticide manufactured by ICI Americas, Inc., is labelled for control of a variety of soil insects on field corn, popcorn, and seed corn in Nebraska. Force 1.5G is labelled for use at 8-10 ounces per 1000 row-feet using a banded or in-furrow application. It is a restricted use pesticide primarily because of concerns about toxicity to aquatic organisms. A revised label recently approved had the following changes:

- 1) In no-till, Force 1.5G can only be applied in-furrow if run-off drains into aquatic sites.
- 2) Force 1.5G should not be used within 20 yards of water.

- 3) The importance of incorporation of granules to avoid product movement has been highlighted.
- 4) A warning about the possibility of a temporary skin sensation from exposure to Force 1.5G and instructions on prevention and relief.
- 5) Telephone numbers to call for assistance.

For more complete information about Force 1.5G insecticide, refer to the label, and to Extension publication EC 90-1509, *Field Crop Insect Control Guide for Nebraska Corn and Sorghum* available from your local Extension office.

Bob Wright

Update: Alfalfa, Clover Leaf Weevils Moving In

Alfalfa weevil larvae are now being found in low numbers (generally less than one per stem) across much of southeastern Nebraska. Economic infestations have been observed in Butler County, however. Scouting should continue and treatment should be considered if thresholds are reached. Below-freezing temperatures in late April may affect weevil survival, so fields must be scouted individually to determine what exactly has happened in each location.

Clover leaf weevil larvae are very numerous in alfalfa in northeastern Nebraska. We are not sure about how many of these are required to cause concern for the first crop, however, we are concerned about the potential for problems on regrowth after harvest once these weevils become adults. Growers in affected areas of northeastern Nebraska should scout alfalfa fields after first harvest and be prepared to treat if normal regrowth does not occur within a week after harvest due to weevil feeding.

Steve Danielson

Watch for Army Cutworms in Western Nebraska

The large number of army cutworms present in many areas of western Nebraska may result in stand establishment problems in sugarbeets and other row-crops as they begin to emerge. Growers are urged to inspect their fields for these and other species of cutworms.

Fields most susceptible to these cutworms are those bordered by permanent grass areas (e.g. pastures, grass waterways, ditches etc.) or those that had small grain cover

crops over the winter. Damage can proceed rapidly, so close monitoring is important. It is also important to monitor those fields where planting-time insecticides were applied. Planting-time treatments do not adequately control severe cutworm infestations. If significant stand loss results from cutworm infestations, treatments may be warranted. In most instances, treatments limited to affected field borders should be sufficient.

Gary Hein

PLANT DISEASE

Wheat Leaf Rust Severe in Arkansas, Texas

Some growers are asking about the possibility of spraying wheat with Tilt for leaf rust. Leaf rust was not found in wheat in a recent survey of fields in southeast Nebraska. As of now, we do not have a rust problem. However, the situation in Arkansas and Texas, and any development of leaf rust in Kansas, bears watching.

Growers still have a week to decide whether to apply Tilt. Other options are the fungicides Dithane M-45, Manzate 200, or Bayleton plus mancozeb. These products can be applied in the boot stage, which is at least three weeks away. This will give us and growers more time to assess the rust situation south of Nebraska. As with the powdery mildew situation, the cost-benefit aspect of fungicide application must be carefully considered before spraying.

John E. Watkins

Powdery Mildew Now in Wheat

Powdery mildew was found on winter wheat in extreme southeast Nebraska last week. Severity on the lower leaves and stems was light to moderate with some mildew present on the upper leaves. If mildew becomes severe on the upper leaves and head, yield losses of 40% are possible. Powdery mildew develops on wheat during cloudy weather when temperatures are 60-79°F and humidity is above 80%. When temperatures reach the 80s, mildew development is severely restricted.

Growers in southeast Nebraska need to monitor their wheat fields weekly for the next couple of weeks. If weather conditions remain cool, cloudy and humid, and the mildew severity increases, growers can apply a fungicide to protect the upper leaves and head from infection. Consider the cost-benefit aspects before deciding whether to spray. Fields should have a yield potential of at least 45 bushels per acre if spraying a fungicide is to be economical. The fungicides that will control mildew are Tilt and Bayleton. Tilt cannot be applied after growth stage eight on the Feeke's scale, so growers will need to decide soon if it is to be applied. Bayleton can be applied now or later.

John E. Watkins

Stripe Smut Active in Turfgrass

Last week stripe smut was found in a lawn and in a football field in eastern Nebraska. In both cases, the smut was severe enough to cause thinning of the stand. The cool weather in April was ideal for stripe smut development.

The disease is easy to diagnose. Symptoms are bright yellow circular patches of turf accompanied by turf thinning in and around these patches. Some infected plants will have black stripes running parallel to the veins. Homeowners and turf managers may want to treat infected lawns with a fungicide. Benomyl or PCNB provide control. Apply the fungicide now, again in two weeks, and again in October. Turf with a history of stripe smut should be treated for a couple of years to prevent reinfection.

John E. Watkins

Soybean Seed Treatment: Yes or No?

Don Scott, Extension plant pathologist at Purdue University, recently published some interesting comments in his newsletter that are relevant to soybean growers in Nebraska. After discussing the advantages and disadvantages of treating soybean seed with a fungicide for disease control, Don concluded that "...seed treatment should be used to help insure an economical stand that does not need to be replanted." He indicated that fungicide seed treatment may or may not translate into increased yield, but will reduce the risk of seed rot, seedling decay, and damping-off diseases that result in poor, non-uniform stands.

Generally, seed treatment fungicides are more likely to be beneficial when planting conditions are less than ideal, when fair- to poor-quality seed is used, or when susceptible varieties are planted in fields having a history of Phytophthora or Rhizoctonia root rot problems.

A wide variety of seed treatment fungicides are available and can be applied either by commercial treaters or as on-farm hopper box formulations. Fungicides containing metalaxyl (Apron FL, Apron 25W, and Apron Dry) are specific for Phytophthora and Pythium diseases. Metalaxyl alone will not control other seed- and soil-borne diseases. A formulation containing carboxin (Vitavax), PCNB (Ter-racor), thiabendazole (TBZ), or chloroneb alone or in combination with captan or thiram offers the best control for Rhizoctonia, Fusarium, and Helminthosporium seed decay and seedling blight. Captan and thiram are often used as general purpose seed treatments when no specific disease is known.

David Wysong

Apply Fungicides to Control Dothistroma Needle Blight

The Plant Disease Diagnostic Clinic has received several pine samples showing symptoms of Dothistroma needle blight. This is one of the most common diseases of pines in Nebraska causing premature needle drop. Austrian, ponderosa, and mugo pines are all susceptible.

Look for the following symptoms to determine if Dothistroma needle blight is present:

- 1) Yellow to tan spots develop on current-year and older needles in the fall.
- 2) These spots darken to become reddish brown and may look like bands across the needle.
- 3) The portion of the needle beyond the lesion turns light green, then yellow, and dies while the basal portion of the needle remains green.
- 4) In the spring, black fruiting bodies erupt through the epidermis of the needle in the banded area.
- 5) The lower part of the tree is usually more severely affected.

A severe infection of Dothistroma needle blight over several years can lead to heavy needle drop with only the current-year needles retained. Branches may die, leading to death of the tree.

First-year needles are initially resistant to infection, but after midsummer they are susceptible. Older needles are susceptible throughout the season. Spores are released from the fruiting bodies during rainy periods from May to October.

Good control can be achieved by protecting susceptible needles with copper fungicides such as Bordeaux, liquid copper, or fixed coppers. The first application should be in mid-May to protect susceptible older needles. The second application should be in mid to late June to protect current year needles.

The Extension publication G81-575 (revised April, 1988) '*Dothistroma Needle Blight of Pines*' discusses symptoms, cause, and control of this disease. Color pictures showing characteristic symptoms are included.

Luanne V. Coziahr

Padded Mailers Available

The recent focus on Earth Day and recycling has caused me to think about recycling at home and work. A potential recycling opportunity has become apparent in the Plant Disease Diagnostic Clinic.

Padded mailers are highly recommended and appropriate for mailing plant sample materials. The Clinic has a notable collection of padded mailers in various sizes that could be reused. The next time you need to order new mailers or are in Lincoln, stop by the clinic to pick up some mailers for recycling.

Luanne V. Coziahr

WEED SCIENCE

New Herbicides Approved for Dry Edible Beans

Two new herbicides have just received approval from the Environmental Protection Agency for use on dry edible beans during the 1990 growing season.

Poast is a herbicide for control of annual and perennial grass weeds. It is applied postemergence after both the beans and grass have emerged. Poast is effective on volunteer corn and wild proso millet, two grasses many bean growers have difficulty controlling. Poast should be applied when volunteer corn is 1 to 12 inches and wild proso millet is 4 to 10 inches. Poast must always be combined with crop oil concentrate at a rate of 2 pints of oil concentrate per acre. Application rates for Poast range from 0.5 to 2 pints per acre depending on the grass species. The estimated cost for 1 pint per acre broadcast application of Poast would be \$8.00 per acre. Poast should not be applied within 30 days of harvest to dry edible beans.

Pursuit has been approved for preemergence application in dry edible beans. Pursuit may be applied at a rate of

2 ounces per acre after beans have been planted, but before crop emergence. Pursuit will control broadleaf and grass weeds; the degree of weed control will depend on rate of application. Pursuit applied at 2 ounces per acre will control hairy nightshade, redroot pigweed, and kochia only when following a preplant application of Eptam, Lasso, Prowl, Treflan, or Sonalan. Pursuit should not be tank-mixed with Eptam, Lasso, Prowl, Treflan, or Sonalan since these herbicides need to be preplant incorporated and Pursuit is not labelled for this use. Pursuit may affect the growth and delay the maturity of dry edible beans. Early season bean injury may last for several weeks with crop injury more pronounced on sand or loamy sand soils. Carryover of Pursuit may injure sensitive crops planted the next year. For this reason sugarbeets should not be planted prior to 26 months after a Pursuit application. To comply with the Federal Insecticide Fungicide and Rodenticide Act, the Pursuit container must have a supplemental label for dry edible beans.

Bob Wilson

Triazine-resistant Kochia Requires Special Plan

Kochia and Russian thistle are summer annual weeds that germinate in the early spring. They are particularly troublesome in no-till systems. Kochia and Russian thistle are normally readily controlled with Atrazine, Bladex, Lexone and Sencor. However, in many areas of western and central Nebraska, kochia has developed resistance to triazine herbicides. Following is a discussion of control strategies for triazine-resistant kochia. These treatments will control both susceptible and triazine-resistant kochia as well as Russian thistle.

In ridge-planted or no-till corn, Banvel is an effective herbicide for Russian thistle and triazine resistant kochia control. Gramoxone and Landmaster II are effective against both weeds. Bucril is effective against Russian thistle and kochia up to 4 inches. Kochia and Russian thistle are moderately susceptible to 2,4-D.

For ridge-planted or no-till corn or sorghum, it's important to spray prior to planting while the weeds are small. Treat with Bucril or Banvel depending on the crop

and time interval before planting when kochia and Russian thistle are less than 4 inches. Debris pushed aside during planting may protect small weeds if spraying is done after planting.

In fields where a seedbed is being prepared, use a disk or other tillage implement ahead of planting to kill any emerged weeds. A mixture of Banvel at 0.25 to 0.38 pounds per acre depending on soil texture and organic matter plus preemergence herbicides offers good kochia and Russian thistle control in corn. Banvel in corn can only be used preemergence on medium and fine textured soils with 2% or more organic matter. Delayed planting also can be used to advantage, thus allowing additional kochia to emerge and be killed with tillage. However, corn yields may be reduced by planting later.

Bucril and Banvel may be applied postemergence on corn and sorghum. Banvel may be applied 15 or more days prior to planting in sorghum or after the sorghum is in the three-leaf stage, but before it is 15 inches tall. In corn,

Banvel may be applied prior to planting, preemergence on some soils, and from the spike stage until corn is 36 inches tall. In corn over 18", use directed spray. Buctril can be applied before planting up until corn or grain sorghum emergence to control actively growing weed seedlings. It also may be used postemergence on grain sorghum in the three-leaf to boot stage or on corn from the three-leaf stage to tassel emergence. Banvel plus Buctril probably gives the most consistent control.

Kochia and Russian thistle can be controlled in ridge planted or no-till soybeans with Gramoxone applied prior to crop emergence. Command applied preemergence or preplant incorporated will control kochia in soybeans. Soil applied treatments effective against Russian thistle include Sonalan, Treflan, Sencor, Lexone, Scepter, Preview and Pursuit.

Bob Klein, Gail Wicks and Alex Martin

Passport Registered

Passport, a premix containing the active ingredients of Treflan (trifluralin 2.4 lb) and Pursuit (imazethapyr 0.2 lb), is now registered for use preplant incorporated for soybeans. It is manufactured by American Cyanamid.

Alex Martin and Bob Stougaard

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