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INSECT, PLANT DISEASE, & WEED SCIENCE NEWS [No. 91-10] [May 24,1991]

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Insect Science
Plant Disease
Weed Science
NEWS

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

No. 91-10 May 24, 1991

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INSECT SCIENCE

Corn, sorhum pests move into southern Nebraska

Cutworms

The large numbers of black cutworm moths caught in pheromone traps in late April and May indicated there is the potential for significant cutworm damage to corn and possibly other field crops in eastern Nebraska this year.

Cutworm damage is difficult to predict and is never uniform from one location to another. At best, predictions can give growers an idea of the general time to begin looking for damage in the field. Cutting should be present in some fields in eastern Nebraska. Some cutting has been observed on corn in northeastern Kansas and possibly in a few fields in southeastern Nebraska.

We suggest that corn, sorghum, and soybean growers begin scouting their fields at emergence and every few days thereafter for wilting or cut plants. Fields which have heavy crop or weed residues or heavy, early season weed growth are more likely to have serious cutworm infestations. Look at 25 plants in at least four locations in each field and estimate the percent cut by cutworms. The

Continued on Page 2

Greenbugs

Paul Hay, Extension Agent in Gage County, reports that greenbugs are now infesting seedling sorghum in southeast Nebraska. Although little damage was obvious, up to 12 adult greenbugs were observed per plant on many plants in some fields.

It is not unusual for seedling sorghum to become infested with greenbugs early in the season. Growers seldom need to control them due to natural control by seasonal, wind-driven rains. If the greenbugs are not eliminated soon, however, they can cause loss of stand when treatment is delayed.

Growers should consider treating seedling sorghum when greenbug colonies are present on 10% to 20% of plants and yellowing or spotting damage is visible on infested leaves.

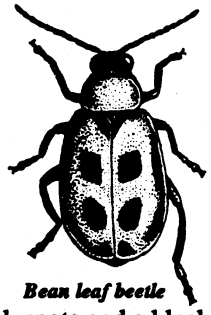
Many insecticides are registered for greenbug control in sorghum. For a list of these pesticides and information on control, refer to extension publications, EC91-1509, *Insect Control Guide for Corn and Sorghum,* and G87-838, *Sorghum Greenbug Control.*

Steve Danielson

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.

Be alert to bean leaf beetles in soybeans


Bean leaf beetle

Bean leaf beetles are active and will be searching out early emerging soybean fields. Concentrate scouting efforts on these fields because they will be most heavily damaged.

Adult beetles vary in color, but are usually reddish to yellowish-tan, about 1/4" long and commonly have two to four black spots and a black outside border on each wing cover. These spots and the black border may be missing or less pronounced on some beetles. However, in all cases, there is a small black triangle at the front of the wing covers near the thorax.

Bean leaf beetles overwinter as adults in leaf and plant litter in weedy areas surrounding fields. Beetles begin emerging in early April to feed on available vegetation. They prefer alfalfa and sweet clover or other legumes. The beetles feed on soybeans as soon as plants begin to emerge, and occasionally feed on newly germinated plants before they break through the soil surface. After feeding on soybeans, adults lay eggs in the soil. These eggs hatch and produce the first of two generations of bean leaf beetles. Larvae feed in the soil on soybean nodules, but are not known to cause economic damage in the Midwest.

In the soybean seedling stage, bean leaf beetles should be treated if beetles are present and one cotyledon is destroyed per foot of row or defoliation levels are 50% or greater. See EC 91-1511, *Insect Management for Alfalfa, Soybeans, Small Grains, Range and Pasture* for a complete list of effective insecticides, rates and restrictions. Additional information on bean leaf beetle biology and management is available in the extension publication, G90-974, *The Bean Leaf Beetle in Soybeans.*

Bob Wright

Furadan 15G uses cut

FMC Corporation is reducing or eliminating several uses of Furadan 15G in the future. No labeled uses of this product have been modified for the 1991 season and uses of Furadan 4F insecticide are not affected by this action.

Changes which may affect Nebraska growers include:

1) Discontinuing corn foliar broadcast applications (no effect on cultivation time use) as of September 1, 1991.

2) Cancellation of registrations for alfalfa stand establishment, soybeans, sugar beets, and sunflowers as of September 1, 1992.

3) No sales for use on corn and sorghum as of September 1, 1993.

4) For corn and sorghum, the product may be used for only one year after the label expiration date.

The EPA will conduct a review for corn and sorghum in fall 1993 to assess the risks and benefits of these changes and hear comments from the public. The proposed plan may be modified then. For more information, contact FMC in Omaha at (402) 592-5090 or the EPA in Kansas City at (913) 236-2800.

Steve Danielson

Cutworms *(Continued from Page 1)*

cutworms can sometimes be located by digging in the top inch of soil at the base of the damaged plants. Consider using an insecticide treatment on corn when one or more plants in 20 (five percent or more) are damaged. Treatment should be considered in soybeans when 20 percent of the plants are cut, stands have gaps of 1 foot or more, and cutworms are present.

For more information about cutworms; refer to the extension publications G80-501, *Corn Cutworms*, EC91-1509, *Insect Control Guide for Corn and Sorghum*, and EC91-1511, *Insect Management Guide for Alfalfa, Soybeans, Small Grains, Range and Pasture.*

Steve Danielson

IPW News

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Lisa Brown Jasa, Editor

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PLANT DISEASE

Powdery mildew coming on strong in wheat

Recent weather conditions over much of Nebraska's wheat growing region have been favorable for continued development of powdery mildew. The fungus produces great numbers of spores which are widely dispersed by winds. Spore germination occurs over a wide range of temperatures when the relative humidity is 85% or higher. Unlike many other fungal diseases, free moisture is not essential for its establishment. In favorable field environments, germination, infection and secondary sporulation are completed within seven days.

Personal observations and reports from many other agriculturists would indicate that powdery mildew is developing quickly and, on certain susceptible varieties, is becoming severe. Infections by the superficial, white, fluffy mildew colonies utilize plant nutrients for their own growth, reduce the plant's ability to photosynthesize, and increase host respiration and transpiration. Infected plants lose vigor, and their growth, heading and seed filling are impaired. Heavily infected leaves and even entire plants can be killed prematurely. Hence, yield losses occur in relation to the intensity and duration of attack and are measured as reduced head numbers and kernel weights.

The disease can be controlled by fungicide application(s). The product of choice would be Bayleton, since much of our wheat is beyond Feekes Growth State 8 (flag leaf emergence). Bayleton is formulated as a 50% Dry Flowable (DF), a 50% Wettable Powder (WP), and as a 50% WP in 8-ounce water soluble packets. All labels recommend 2 to 6 ounces of product per acre, adding that 4-6 ounces should be applied in areas having severe powdery mildew infection. The total amount of Bayleton should not exceed 16 ounces per acre per crop season. Do not apply within 21 days of harvest.

David Wysong

Turf also showing the effects of powdery mildew

Every year we see some powdery mildew on shaded lawns. Usually, it is temporary and disappears with the onset of hot, dry conditions. However, the clouds, high humidity, and moisture have hung on this year and some turf is becoming severely injured by powdery mildew.

Powdery mildew is easy to identify. The grass blades are covered by a fuzzy, grayish-white growth. As the disease spreads, affected leaves yellow and may die. Heavy infections can weaken and thin a turf.

To control this disease, follow these steps:

1. Plant shade-tolerant grass varieties in areas prone to powdery mildew problems.
2. Increase light penetration and air movement to affected turf areas by pruning landscape plantings. This reduces leaf wetness and, therefore, disease severity.
3. Avoid over fertilization which produces lush growth susceptible to powdery mildew infection.
4. Apply fungicides such as Bayleton or Fore to high-value turf or turf with a persistent powdery mildew problem. One or two applications in the spring and again in the fall should be adequate.

Luanne Coziahr

Coziahr to leave Plant Disease Clinic

The time has come for me to move on. I have accepted a position in the forestry division of the Omaha Public Power District as of June 3. I am excited about my new position and look forward to a shorter commute to work, but it's hard to leave such wonderful people and a wonderful job. I have enjoyed the 7 1/2 years I have worked as the Extension Assistant in Plant Pathology. I have learned many things and met many people. Thank you one and all for such a fantastic experience.

Because of my departure, the Plant Disease Diagnostic Clinic will be short staffed. Please consider this when sending samples. Be sure samples are good examples of the problem concerned, provide a description of the problem, and include any other information available. Be patient and understanding — some replies may be slightly delayed.

Luanne Coziahr

EBDC fungicide update

Several weeks ago, we reported on the status of an EPA special review of the EBDC fungicides. EBDC fungicides include Maneb, Dithane M-22, Manzate, Mancozeb, Dithane M-45, Manzate 200, Polyram, and Zineb. We have just received word from the EBDC/ETU Task Force in Washington, D.C., that the EPA is now estimating a late fall or early winter 1991 issuance of a final regulatory decision on whether to suspend or cancel use of these products on certain crops, namely potatoes, tomatoes, and bananas.

Until the review is complete, EBDC can be used on these crops and there is no restriction on the sale of produce treated with these fungicides.

David Wysong

Federal tests indicate most foods free of pesticides

Testing by the Food and Drug Administration has found that less than one percent of the U.S. food supply contains pesticide residues in excess of federal limits.

The FDA report is based on tests of 18,789 samples taken in 1989, the most recent year for which results are available. It tested for 270 pesticides. A total diet study, which estimates the dietary intake of pesticide residues for several age and sex groups, showed that total pesticide intake is well below United Nations standards.

The study looked at both pesticide residue and pesticide tolerance.

Pesticide residue is the quantity of a pesticide that is present after application. Pesticide tolerance is the maximum residue concentration legally allowed for a specific pesticide in or on a particular raw agricultural product, processed food or feed item.

Most of those were surveillance samples, which are collected when there is no suspicion of a pesticide problem. Both domestic and foreign food samples were taken, from all 50 states and Puerto Rico and 88 foreign countries.

Most violations occurred because of traces of pesticides found on commodities for which there is no established tolerance, although the pesticides may be registered for use on other foods.

Larry Schulze
Environmental Programs

WEED SCIENCE

Options cited for postemergence broadleaf control

In many cases the wet weather this spring has resulted in corn being planted without a soil applied herbicide treatment. Several herbicides control emerged broadleaf weeds in corn. Atrazine, Bladex and Extrazine II control broadleaf weeds and grasses. Atrazine can be applied to corn up to 12 inches tall. Bladex 80W, 90DF and Extrazine II can be applied to corn up through the 4th leaf stage. Do not apply if the 5th corn leaf is visible.

Buctril can be applied alone or tank mixed with atrazine, Banvel, Banvel plus atrazine or atrazine plus 2,4-D. Buctril treatments can be applied to corn after emergence and before the corn is 12 inches tall.

2,4-D can be broadcast applied after corn has emerged but before it is 8 inches tall. To avoid injury after this, use drop nozzles and keep the spray out of the corn whorl.

Banvel at 1 pint or Banvel plus atrazine (Marksman) should be applied before the corn exceeds the 5th leaf stage. Banvel at 0.5 pint can be used before the corn is 24 inches tall. Avoid using 2,4-D or Banvel near sensitive crops.

Basagran plus atrazine (Laddok) can be used to control yellow nutsedge as well as broadleaf weeds in corn less than 12 inches tall.

Refer to product labels for appropriate use rates and surfactant recommendations. Contact your seed corn dealer to determine if your hybrid is susceptible to a specific herbicide.

Bob Stougaard

Accent and Beacon prevail over shattercane

Although Accent (DuPont) and Beacon (CIBA-GEIGY) are new herbicides, most corn growers are probably familiar with these breakthrough products for postemergence shattercane control. Our work suggests that Accent and Beacon will give excellent shattercane control. Ideally, shattercane should be treated at the 4- to 6-inch height for maximum benefit. Delayed application risks corn yield loss from competition. Although the shattercane will stop growing soon after application, the plants may not die for three to four weeks.

Both products pose little risk of crop injury when used as directed. Crop safety is contingent on avoiding chemical interaction with other pesticides such as organophosphate insecticides. Follow label instructions to keep crop injury risk low.

Accent and Beacon can be used on field corn but not on sweet corn. Accent, but not Beacon, may be applied to popcorn. CIBA-GEIGY lists a few sensitive hybrids for Beacon, but DuPont does not list any for Accent. None of the sensitive hybrids are common in Nebraska. For hybrid seed production fields, prior testing of inbred lines is recommended. Recropping restrictions are not severe with either herbicide.

Accent and Beacon have similar activity on shattercane and perennial sorghums, but differ in controlling various other grasses and broadleaf weeds. Both herbicides control fall panicum and quackgrass as well as burcucumber, pigweeds and smartweeds. Among Nebraska weeds, Accent also controls barnyardgrass, woolly cupgrass, foxtails, field sandbur, wild proso millet, morningglories, puncturevine, and spotted spurge. Beacon expands the broadleaf weed list to include Canada thistle, common ragweed, giant ragweed, cocklebur, black nightshade, devilsclaw, kochia, Russian thistle, sunflower, and velvetleaf with suppression of lambsquarter and morningglories. For all weeds, size makes a big difference. Generally, weeds should be treated when 1 to 4 inches tall.

Apply these herbicides in water at 10 to 20 gallons per acre and *always* include a nonionic surfactant at .25% or crop oil concentrate (COC) at 1.0%. A COC is preferred under hot, dry conditions. In addition, a liquid fertilizer such as 28-0-0 at 4% is helpful on some species such as velvetleaf. Do not use liquid fertilizer as the carrier. Chemigation and aerial application are prohibited.

Banvel and Buctril can be tank mixed with either herbicide. Accent can be mixed with atrazine, Buctril + atrazine, or Marksman. Beacon can be tank mixed with 2,4-D; however, Accent prohibits mixing with 2,4-D because of antagonism. In tank mixes, both labels caution against adding COC or liquid fertilizer. Remember to abide by all pertinent herbicide labels when tank mixing. For example, atrazine cannot be applied to corn over 12 inches tall. Avoid tank mixes not permitted by the Accent or Beacon labels because of possible interactions.

When using organophosphate insecticides, the following precautions apply:

1.Do not use Beacon or Accent if Counter 15G or Counter 20CR was applied, except Accent does allow for a banded application of Counter 20CR at planting. This allowance was made to avoid a conflict with the Counter 20CR label. An exclusion statement indicates that DuPont will not be liable for any crop injury from such use. (Our experience with 20CR is too limited to conclude whether it is safer than Counter 15G.)

2.Do *not* apply a foliar postemergence organophosphate insecticide within 10 days before or 10 days after Beacon, or within seven days before and three days after Accent. Accent has the same precaution for 2,4-D, Basagran, Laddok, and Tandem herbicides.

Other label precautions are:

3.Maximum free-standing corn height for Accent is 24 inches without drop nozzles and 36 inches with drop nozzles. For Beacon, maximum height is 20 inches for single or the first half of a split application, and up to tassel emergence for the second half. The latter is to be directed with drop nozzles.

4.Do not cultivate within 10 days before Accent or seven days after a Beacon application. The Accent label suggests waiting until seven days after application before cultivation.

Accent and Beacon are remarkable products that should reduce shattercane prominence. They have very desirable toxicological and environmental properties. Use them prudently for maximum benefit.

Fred Roeth

HI-DEP used for broadleaf weeds

We've received a number of inquiries about HI-DEP. HI-DEP is a 4 lb/gal mixed amine, dimethylamine and diethanolamine formulation of 2,4-D. It is registered for broadleaf weed control in several crops including small grains, corn, sorghum, pasture and rangeland. HI-DEP was developed to minimize evaporative losses and can be applied in very low volumes with both air and ground equipment. We have not conducted detailed research with HI-DEP; however, we would expect its performance to be similar to other quality 2,4-D's.

Alex Martin

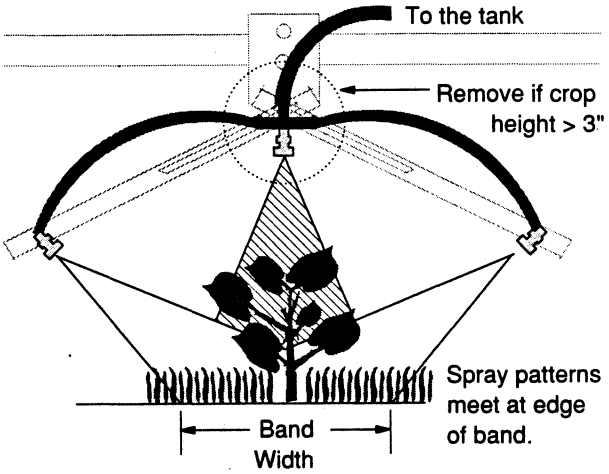
When banding herbicides

Remove center nozzle to avoid crop injury

Some growers are banding postemergence herbicides to reduce costs. A multiple nozzle configuration often is used when foliage penetration or crop height limits the effectiveness of a single nozzle. Two or three nozzles per row give better coverage of small weeds sheltered by the crop canopy.

In some cases, crop injury has occurred when a three-nozzle arrangement was used because the crop is intercepting excessive herbicide from the center nozzle. When applying herbicides with low crop tolerance, remove the top or center nozzle when the crop is taller than 3-4 inches. This reduces the risk of crop injury because the crop does not intercept as much herbicide.

Bobby Grisso
Biological Systems Engineering



1991 Nebraska Weed Tour

The itinerary has been set for the 1991 Nebraska Weed Tour. The tour will begin in eastern Nebraska. The proposed itinerary is:

Monday - June 17

2:00 p.m. Concord-Northeast Research and Extension Center
7:30 p.m. Mead-Agricultural Research and Development Center [Accent/Beacon-Insecticide Interaction].

Meet at Agronomy Headquarters at Agricultural Research and Development Center.

To go to the Center from Lincoln: travel north on Route 77, east on Route 63, north off Route 63 to Agricultural Research and Development Center.

Tuesday - June 18

9:00 a.m. Lincoln - 84th and Havelock
3:00 p.m. Clay Center-South Central Research and Extension Center

Wednesday - June 19

8:30 a.m. North Platte - West Central Research and Extension Center
3:00 p.m. (MDT) Sidney - High Plains Agricultural Laboratory

Thursday - June 20

8:30 a.m. (MDT) Scottsbluff-Panhandle Research and Extension Center
4:00 p.m. (MDT) University of Wyoming- Torrington Research and Extension Center

Alex Martin