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INSECT, PLANT DISEASE, & WEED SCIENCE NEWS [No. 91-9] [May 17,1991]

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Insect Science
Plant Disease
Weed Science
NEWS

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

No. 91-9 May 17, 1991

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INSECT SCIENCE

Scouting provides an edge in pest control

Regular monitoring (or scouting) of fields is an important basic component of integrated pest management (IPM) programs. Fields may vary greatly even on a single farm, due to factors such as planting dates, crop varieties, adjacent crops, or pesticide use earlier in the season. All fields should be scouted regularly starting at plant emergence to make good pest management decisions based on actual field conditions. Scouting can be done by the farmer, or a crop consultant can be hired to provide this service. Regardless of who does the scouting, you should be aware of some basic guidelines that should be followed.

Scout fields regularly, at least once a week, and for some pests that can develop rapidly in hot weather, such as spider mites or aphids, more frequent scouting may be necessary. For any pest, when pest densities are reaching an economic level, fields may need to be scouted more frequently. Scouting less frequently than once a week may allow pests to exceed economic levels, resulting in poorly timed pesticide treatments and yield loss.

Field conditions and pest infestations are rarely uniform within a field, thus sampling from only one or two locations may give misleading information. The scout should obtain a representative sample of the pest level in each field by taking samples from several locations within a field. Check a minimum of four sites in each field. Often, walking along a V-, or W-shaped path will allow you to check different areas of the field efficiently. As you enter the field, observe pest activity, since some pests, such as grasshoppers, chinch bugs or spider mites, first appear on borders. However, avoid taking samples from field borders.

More about resources for scouting training, page 2.

Sample sites should be chosen randomly, without regard for whether pests are present. When you sample for pests, always record your observations in a quantitative fashion. Record number of pests per plant, per leaf, or per row-foot, not "few", "many" or "a lot." This will allow others to interpret the information and will allow you to compare information between years or between fields.

Bob Wright

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

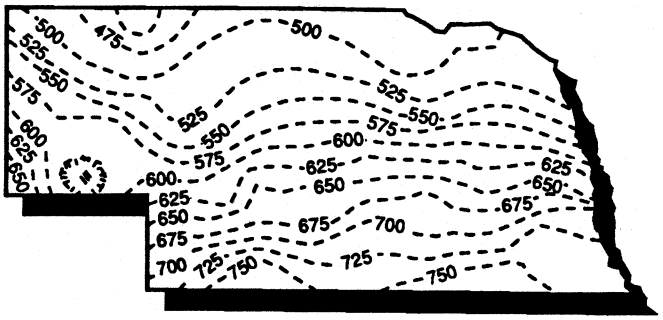
Cooperative Extension provides information and educational programs to all people without regard to race, color, national origin, sex or handicap.

Meetings, manuals, films offer scouting information

To learn more about scouting for pests in Nebraska's agricultural crops, Extension training sessions, manuals, and videotapes are available.

The UNL Field Crops Extension IPM Program will conduct three Scout Training Sessions later this month, as listed below:

North Platte, May 29, West Central Research and Extension Center;
Kearney, May 30, Buffalo County Extension Office;
Center, May 31, Center Community Hall, Knox County.



Degree day accumulations as of May 12.

Alfalfa weevil update

All counties should have alfalfa weevil pupation occurring now or very soon. Pupation normally occurs at 495 DD. Weevil larval counts were lower last week in southeast Nebraska. This is partly due to pupation and partly to an increased incidence of a fungal disease favored by timely rains.

Clover leaf weevil larval counts also are lower due to pupation and disease.

Growers should continue to scout fields, particularly after harvest to be sure that regrowth is not delayed by adult weevil feeding.

Steve Danielson and Keith Jarvi

Contact Jack Campbell or Ron Seymour at (308) 532-3611, concerning the North Platte and Kearney meetings, which will start at 9 a.m. Contact Keith Jarvi at (402) 584-2261 concerning the Center meeting, which will start at 9:30 a.m. Registration begins 30 minutes before meetings begin.

For corn insects, a good summary of scouting procedures, treatment guidelines, descriptions of the pest and its damage symptoms, and additional information sources can be found in NebGuide G89-904, *Corn Insects — Quick Reference*. Information on other field crop insects is available in the UNL *Insect Management Guides* for *Specialty Crops* (EC90-1537), *Corn and Sorghum* (EC91-1509), and *Alfalfa, Soybeans, Small Grains, Range and Pasture* (EC91-1511). These publications are available at your local Extension office.

Bob Wright

IPW News

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Lisa Brown Jasa, Editor

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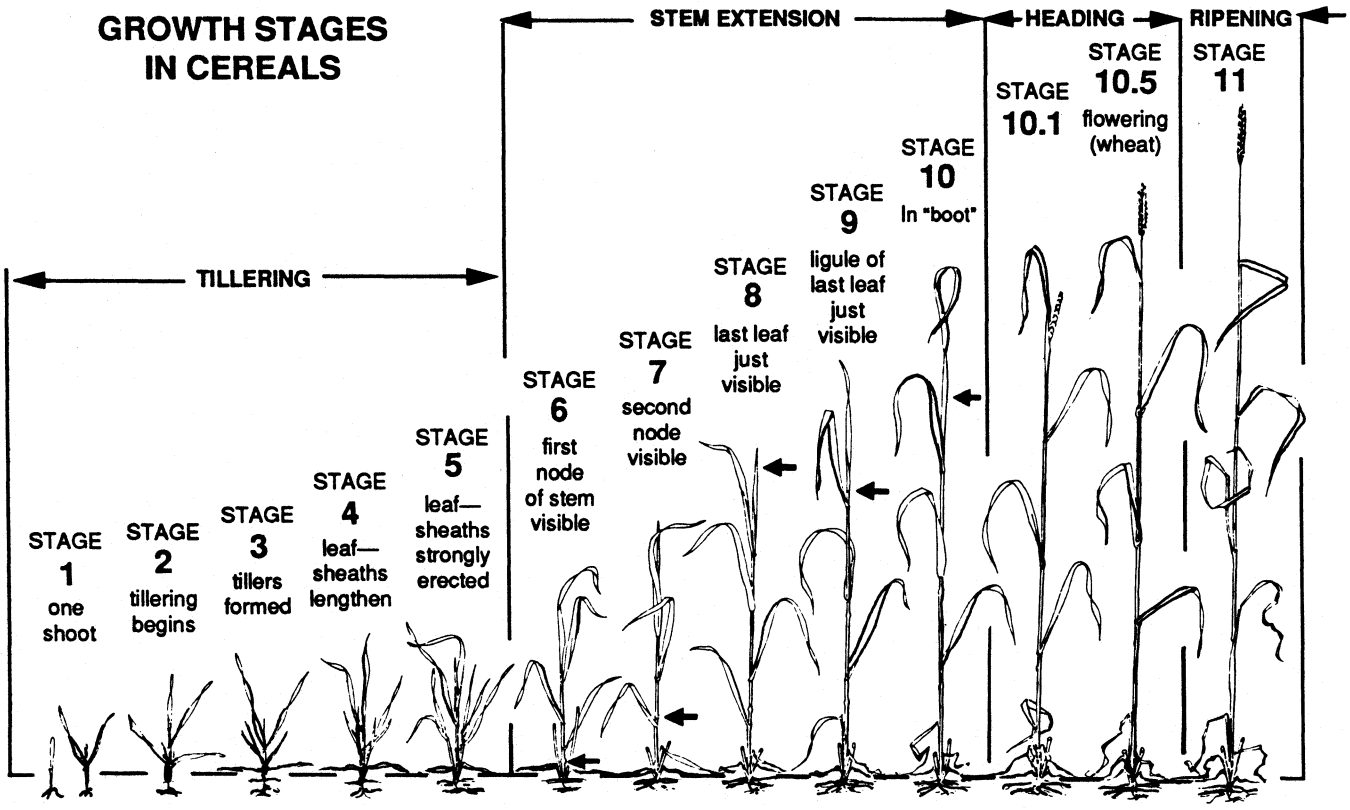
PLANT DISEASE



Identifying wheat development stage important for fungicide selection

Several scales have been developed to designate the developmental stages of the wheat plant. The Feekes scale is the traditional and most common scale. It designates developmental stages on a scale of 1 through 11, with stage 1 representing the seedling and stage 11 representing grain-fill underway. The Feekes scale is especially useful between stages 6 and 10.5, the period from when the first node appears during the extension of the stem (the beginning of stem elongation) to the completion of anthesis. Stem elongation is subdivided into five stages (6-10), which are useful when considering the critical time at which to apply fungicide.

Plants in the stem extension stage can be staged by counting the number of nodes (joints) above the ground (Feekes stages 6-8). The appearance of the flag leaf (Feekes 9), the last leaf of the plant, indicates that the boot stage is near.

The boot stage (Feekes 10) is also relatively easy to recognize. It starts with a slight swelling in the stem beneath the still-expanding flag leaf and lasts until the flag leaf is fully extended and the first awns are visible within its sheath.

Wheat is considered fully headed (Feekes 10.5) when the base of the head fully clears the sheath of the flag leaf. It is in anthesis (Feekes 10.51) when the anthers with pollen are extruding from the florets. Thereafter, grain-fill progresses through the watery-ripe stage (Feekes 10.54); the early and late milk stages (Feekes 11.1); the early, soft- and hard-dough stages (Feekes 11.2); and the kernel-hard stage (Feekes 11.3 and 11.4).

The type of foliar fungicide used and the time of application is based on the stage of plant development. Tilt is applied at Feekes 8 (flag leaf just visible), Bayleton-Mancozeb 4 at Feekes 10 (in "boot"), and Bayleton, Dithane F-45, or Manzate 200 at Feekes 10 and 10.1.

The information on development stages of the wheat plant were extracted from *Wheat Health Management*, by R.J. Cook and R.J. Veseth.

John Watkins

Hot, dry weather controls ash anthracnose

Ash anthracnose is presently active in Nebraska. Infected leaves have irregular blotches and/or small, brown spots. Some leaves may be distorted due to tissue damage interfering with normal leaf expansion and growth. Severely infected leaves will drop prematurely.

It is too late to apply chemical fungicides for effective control. Fungicides must be applied before bud swell to be effective. Fortunately, hot, dry weather will suppress disease development and new leaves should not be affected. Keep the trees vigorous and healthy to insure recovery. Provide adequate water if conditions are dry and protect your trees from mechanical injury or stress. Fungicides could be applied early next spring to young or weak trees which had serious infections this year. It is not necessary to treat healthy, established trees in this region.

Raking fallen leaves next autumn will also help reduce ash anthracnose. The fungus causing this disease requires leaf wetness so providing good light penetration and air circulation will encourage leaf drying and help reduce the disease. It may be necessary to selectively prune nearby trees to achieve this.

Do not be surprised if other shade trees develop similar anthracnose symptoms of leaf blotches and spots, distortion, and leaf drop. Different fungi cause anthracnose on maples, elms, walnuts, and sycamores. Control recommendations are similar for all.

Luanne Coziahr

Prune for control

Bacterial blight appearing on lilacs

Several samples of lilacs showing symptoms typical of bacterial blight have been received by the Plant Disease Diagnostic Clinic. These symptoms include brown spots surrounded by yellow margins on the leaves. Young shoots and immature leaves may turn black and die. Flowers may become limp, turn brown, and die.

This disease is caused by the bacterium *Pseudomonas syringae* and is favored by cool, wet weather. White lilacs seem to be more severely affected than others.

Prune out and destroy diseased shoots as they appear. Be sure to cut well below the infected tissue (3-6 inches). Disinfect cutting tools after each cut to reduce the chance of disease spread. If the problem is serious this year, apply a fungicide containing basic copper sulfate early next spring.

Luanne Coziahr

WEED SCIENCE

Simplify algae and moss control in water tanks

With warmer weather, moss and algae will begin appearing in plastic tanks used to hold water for spraying. Control is simple and inexpensive with copper sulfate.

A convenient way to measure copper sulfate is to dissolve 1 ounce in a pint of water in a glass jar. Add 7.5 tablespoons of the prepared copper sulfate solution to each 1000 gallons of water. Mix thoroughly. This concentration also can be used for moss and algae control in livestock tanks.

Another method for controlling algae and moss is to paint the tank black to block out sunlight. Algae will not grow without sunlight.

Alex Martin and Bob Stougaard

Many preemergents can be used postemergence

A timely herbicide application is not always possible in the busy planting season. This is especially true during wet springs. Some, but not all, preemergence herbicides can be applied early postemergence with good results. However, most of these treatments are more effective when applied preemergence, especially against annual grasses. Rain or sprinkler irrigation is required after application for best control.

The following table lists herbicides commonly used in Nebraska which can be used both preemergence and early postemergence.

Alex Martin and Bob Stougaard

Treatment	*Crop Stage*	*Weed Stage*
Corn		
AAtrex/Atrazine	0-12"	1.5" grass
Banvel + Atrazine	not stated	1.5" grass
Banvel + Bladex 80W or 90DF	before 5th leaf	1.5" grass
Bicep	0-5"	2-leaf
Bladex 80W or 90DF	before 5th leaf	1.5" grass
Bladex 80W + Atrazine 80W	before 5th leaf	1.5" grass
Bullet	0-5"	2-leaf
Dual	0-5"*	unemerged
Dual + AAtrex	0-5"	2-leaf
Extrazine	before 5th leaf	1.5"
Lariat	0-5"	2-leaf
Lasso + Atrazine	0-5"	2-leaf
Lasso + Banvel	0-3"	2-leaf
Marksman	0-5"	0-4" broadleaf
Prowl + Atrazine	up to 2-leaf	1"
Prowl + Bladex 80W or 90DF	up to 2-leaf	1"
Ramrod + Atrazine	0-5"*	2-leaf
Soybeans		
Dual	through unifoliate stage*	unemerged
Lasso	through unifoliate stage	unemerged
Scepter	90 days preharvest	4-6", some weeds
Pursuit	not stated	0-3"
Grain Sorghum		
AAtrex/Atrazine	0-12"	1.5"
Bicep	up to 5"*	2-leaf
Dual	up to 5"*	unemerged
Lariat	up to 5"	2-leaf
Lasso up to 5"*	unemerged	
Lasso + Atrazine	up to 5"	2-leaf
Ramrod + Atrazine	0 to 5"*	2-leaf

*Not labeled postemergence; however, experience indicates little chance of crop injury.

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.

G91-1025, *Two Crops in One Year: Doublecropping.* Choice of crops, weed control, and other cultural practices for successful doublecropping are discussed.

EC91-872, *Estimated Crop and Livestock Production Costs, Nebraska 1991.* This publication has budgets presented in detailed format to allow the user to adjust the cost of individual items for general price changes and to reflect price variations between farms.

EC90-2502 *Perspectives on Nitrates.* This publication is comprised of six papers that provide readers with insights on nitrogen in the environment and the potential effects of nitrate and its metabolites on human and animal health.

G73-2 *Fertilizer Management for Alfalfa.* This discusses adequate soil fertility, soil tests, use of lyme, phosphorus, potassium, sulfur, micronutrients and nitrogen.