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INSECT, PLANT DISEASE, & WEED SCIENCE NEWS [No. 90-20] [Aug. 17, 1990]

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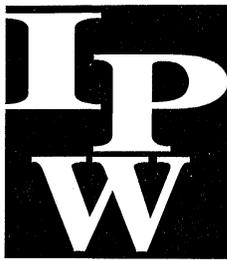
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Insect Plant Disease Weed Science

NEWS

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

No. 90-20

Aug. 17, 1990

In This Issue

Plant Disease

Wheat Disease Management Begins Before Planting	121
Accurate Tree Descriptions Improve Diagnoses	122

Insect Science

Youths: Don't Get Bored, Get Bugged	123
Cultural Practices are Best Means for Hessian Fly Control This Fall	123
Caputre 2EC Use Continued until Sept. 15	124
Whitefly Control Difficult in Gardens	124

PLANT DISEASE

Wheat Disease Management Begins Before Planting

The three primary wheat diseases in the central Great Plains are crown and root rot, wheat streak mosaic, and leaf rust. Very few hard red winter wheat varieties have a high level of resistance to these three diseases plus the necessary winter hardiness to survive in Nebraska. With careful variety selection and proper fall management, you can minimize the risk of disease loss this fall and next year.

Usually, the first criteria in variety selection is yield ability; however, yield potential may not be fully realized if the variety lacks winter hardiness, is planted too early, or is highly susceptible to leaf rust or wheat streak mosaic. All varieties grown in Nebraska should be resistant to stem rust, and, if possible, moderately resistant to leaf rust, soilborne wheat mosaic, and wheat streak mosaic.

Cropping practices most often influencing diseases are post-harvest weed control, crop rotation, seedbed preparation, and seeding dates. Cultural practices which minimize sources of curl mites and wheat streak mosaic are a primary means of controlling the virus. These practices begin with postharvest control of volunteer wheat and

weeds in stubble fields and other areas. This will reduce the risk of carryover of the curl mite and wheat streak mosaic virus into the fall-planted crop.

Winter wheat planting dates often are based on grower convenience or the Hessian fly-free date, but they also significantly influence the severity of crown and root rot, wheat streak mosaic, soilborne wheat mosaic and leaf rust. Early planting will undoubtedly result in a fall buildup of one or more of these diseases. How do you avoid this? Plant at the proper date for your growing region.

Continuous wheat can increase the incidence of Cephalosporium stripe and take-all diseases. In areas where continuous cropping is practiced, winter wheat should be rotated with row crops or spring grains every two years.

Seed quality and seedbed preparation influences seedling vigor and ultimately crown and root rot and winter injury. Do not use bin-run seed more than two years in a row. At least every third year, plant certified or high-quality seed. To avoid stress on seedlings, always plant into a firm and mellow seedbed.

John E. Watkins



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.

Accurate Tree Descriptions Improve Diagnoses

Trees make up the majority of plant samples received by the Plant Disease Diagnostic Clinic. Problems include leafspots, dieback, wilting, and poor growth and vigor. Usually, people send a few leaves or a branch and request a diagnosis and recommendation for control. In many cases, the diagnostician must call or write for more information, such as:

- Age and size of the tree
- Description of extent and severity of the problem
- Description of location
- Description of general care of the tree

This information provides the important clues necessary for an accurate diagnosis and appropriate recommendations. For example, brown leaf margins on a 5-foot recent transplant would be entirely different from brown leaf margins on a 70-foot, well-established, mature tree.

A description of the problem, the tree's location, and its general care are fairly easy to jot down. However, it may be difficult to accurately determine the age and height of a tree. Use the following guidelines to get a fair estimate of tree age and height.

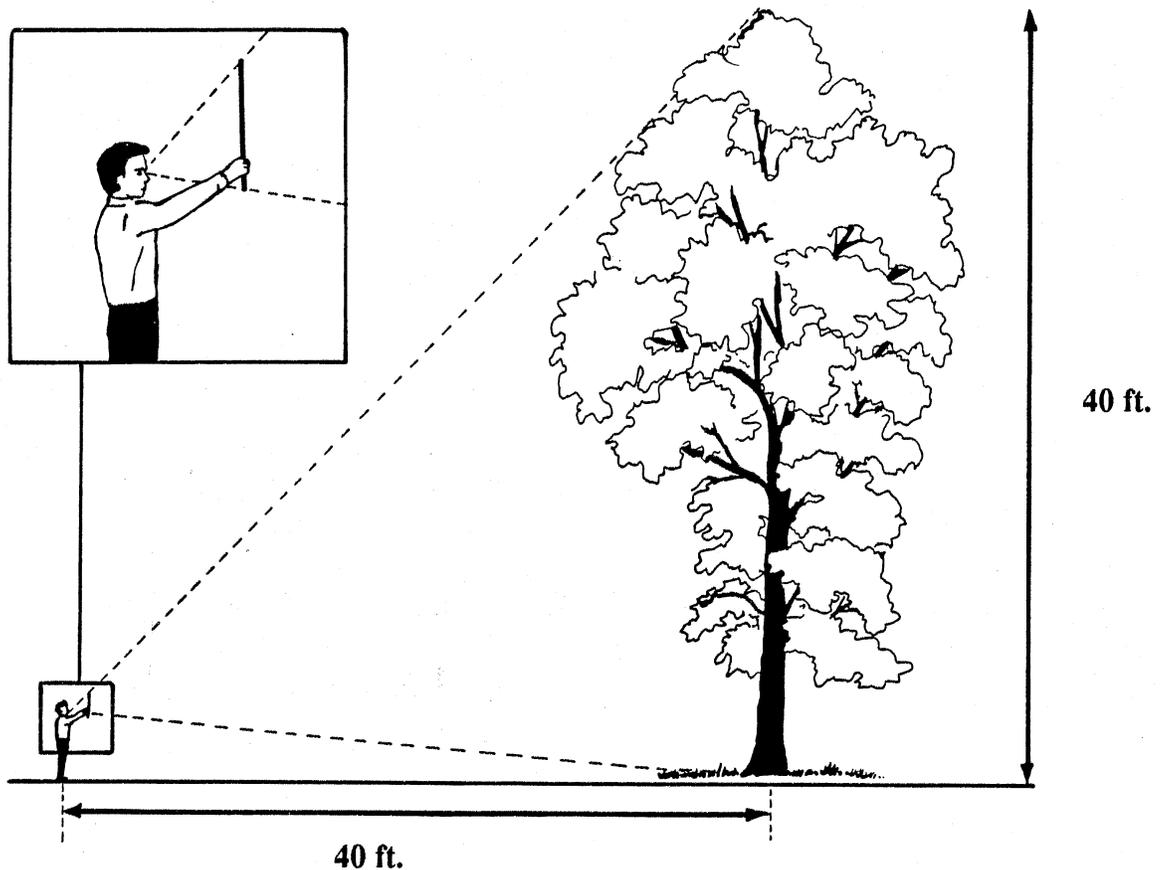
Estimating Tree Age

The tree diameter increases every year with a ring of new wood. Measuring the circumference of a tree at the 5-foot height is a good guide to tree age. For most trees, the rule of thumb is "an inch a year" so a circumference of 5 feet would indicate the tree is about 60 years old.

Estimating Tree Height

Most estimates of tree height by eye underestimate trees of 20-40 feet and overestimate trees 80-100 feet tall. An easy way to estimate tree height is to use a right triangle approach (see diagram). Select a stick and break it so it is the exact length of your outstretched arm. Stand a distance from the tree and hold the stick vertically at arm's length. Stand so that the top and bottom of the stick line up with the top and bottom of the tree. At this point, the distance between you and the tree is about the height of the tree.

Luanne V. Coziahr



How to measure tree height using right angle method

INSECT SCIENCE

Youths: Don't Get Bored, Get Bugged

The Bruner Entomology Club is sponsoring an insect identification contest for youth 10-12 years. The contest will be held in Room 204 of the Plant Industry Building while the 4-H Insect Identification Contest is being held next door at the East Campus Union. There is no preregistration — just show up between 8:30 and 11:30 a.m. Sept. 1. This is not a 4-H event, but it will give younger 4-H'ers something to do while older 4-H'ers are participating in nearby events.

Contestants will be asked to identify 25 insect specimens by order and common name. These names can be easily learned by studying a field guide such as the Golden Nature Guide, "Insects," or Chapter VII of the 4-H Entomology Manual. This contest was not announced earlier because it is intended to be low stress and just for fun. Too much studying might take the fun out of it! Please pass this information on to any interested youths.

Ackland Jones

Cultural Practices Are Best Means for Hessian Fly Control This Fall

Now's the time to begin battling the Hessian fly with preventive measures. Chemical controls are not a practical solution. To reduce Hessian fly fall infestations:

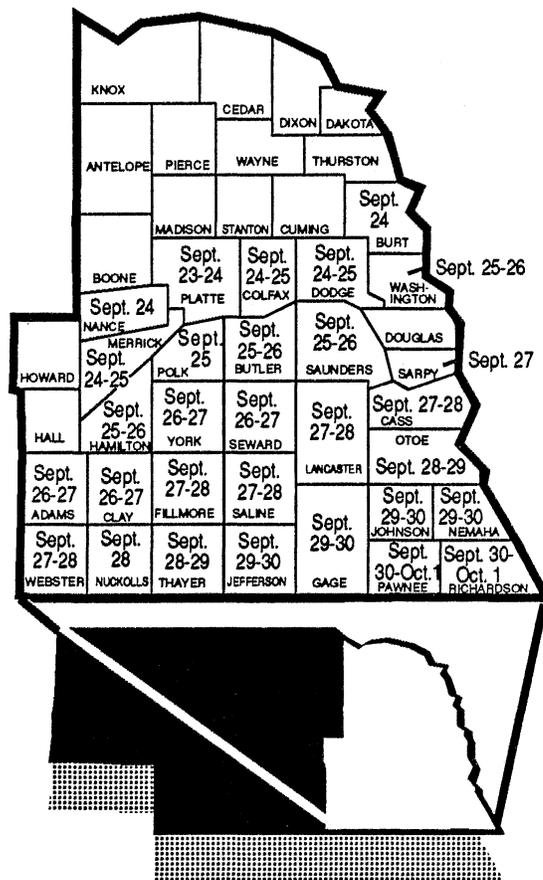
- 1) plow down stubble and volunteer wheat before planting;
- 2) plant resistant or tolerant wheat varieties; and
- 3) plant after the fly-safe date (see map).

The Hessian fly spends the summer in the flaxseed stage on wheat stubble. In the fall, adults emerge to deposit eggs on early-seeded or volunteer wheat. Plowing will bury many flaxseeds deep enough to prevent adults from reaching the surface. Planting after the fly-safe date allows seedlings to emerge after most adult flies have died. Fly-safe dates are averages based on several years of observations. A hot, dry September can delay fly emergence. Moist, cool weather may cause average emergence dates to be earlier. Fly-safe dates have not been developed for western Nebraska, however, planting before mid September is **not** recommended. Average fly-safe dates for eastern Nebraska are listed on the map.

Producers who wish to plant early should strongly consider planting resistant varieties. Varietal resistance to Hessian flies does not guarantee immunity, but should reduce the probability of severe infestations. Among the Hessian fly resistant varieties listed in the Growers' Directory for Fall Planting are:

- Resistant** — Arkan, Brule, Redland, and Norkan;
- Moderately Resistant** — Arapahoe, Buckskin, Colt, Vona, Mesa, and Wings.

Steve Danielson and Bob Wright



Fly-safe planting dates for Hessian fly control

Capture 2EC Use Continued until Sept. 15

The Environmental Protection Agency has reversed an earlier decision and will allow the use of Capture 2EC for control of spider mites on corn in Nebraska until Sept. 15. The decision was announced Aug. 10. A number of restrictions apply, including: no more than two applications per season; aerial application only; mechanical flaggers; 30-day harvesting, grazing, and crop rotation intervals; a 500-foot buffer between treated acreage and fish bearing water; and a one-mile buffer between treated fields and moving fish

bearing waters that contain or shelter endangered species. The application rates are 0.08 pounds AI per acre or 5.12 fluid ounces formulation per acre in a minimum of two gallons total spray volume.

The applicator must have the supplemental product label at the time of application. Please read and follow all label instructions and restrictions.

Steve Danielson

Whitefly Control Difficult in Gardens

Many vegetable gardens in Nebraska have become infested with whiteflies. These tiny white insects suck plant juices from the undersides of leaves, causing plants to be stunted and produce undersize fruit. As they feed, whiteflies excrete a sticky syrup-like substance called honeydew which is attractive to other types of insects and serves as a medium for mold growth.

Whiteflies are generally difficult to control this late in the season because all stages of the insect (including those

stages most difficult to kill) are present in large numbers. If control is desired, spray plants thoroughly with an insecticide formulation containing resmethrin. This synthetic pyrethroid does a fair job of controlling whiteflies. Specially formulated "whitefly and mealybug sprays" containing resmethrin also are available. Follow all label directions and restrictions.

Fred Baxendale

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