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ILLINOIS VEGETABLE FARMERS' LETTER
Letter No. 6

URBANA, ILLINOIS
June 20, 1973

SUGGESTIONS FOR MAILING PLANT SPECIMENS

A large number of plant specimens are sent to us for use in identifying problems. Some specimens are well-packed and arrive in good shape. Others are not, and we have difficulty in trying to determine anything from them. Following these suggestions will help us to give you the best service when you send in such samples.

CONTACT YOUR COUNTY OR AREA EXTENSION ADVISER FOR HELP IN SOLVING A PROBLEM. IF YOU OR THE ADVISER NEED TO SUBMIT A SAMPLE, PLEASE FOLLOW THESE RULES:

Samples relating to distinct insect problems should be mailed to the Department of Agricultural Entomology, 380 Natural Resources Building, Natural History Survey, Urbana, Illinois 61801.

Samples concerning disease problems should be mailed to the Department of Plant Pathology, 241 Davenport Hall, Urbana, Illinois 61801.

If the problem is one that you are sure does not concern insects or diseases, send the sample to Vegetable Crops Extension, Vegetable Crops Building, Urbana, Illinois 61801.

In choosing your specimen:

1. Be sure the sample you send is typical of the injury.
2. Send a sample of each type of injury.
3. Press the foliage specimens between layers of cardboard. Wrap the cardboard and all with aluminum foil. Put this in a sturdy box and mail.
4. When sending the whole plant, wrap the roots in moist paper towels. Put the specimen in a paper bag. Send this inside a mailing tube or sturdy box.
5. Fruit samples should be individually wrapped in newspaper and packed in a box. Put the box in a paper bag, seal it, wrap it with wrapping paper, and mail.

Please include this additional information:

1. How widespread is the condition? Is it spreading?
2. Does this condition exist over the whole planting, or only in some spots?
3. Are these spots peculiar? (High, low, different soil type, and so on).
4. Is the part of the plant you are sending the only one affected?
5. What variety is the plant?
6. What have you used as a spray?
7. When did you first notice the condition?

CLARIFICATION OF RESPONSIBILITY FOR TANK MIXES

The U.S. Environmental Protection Agency has recently taken a stand on tank mixes of pesticides (mixing two or more pesticides in the spray tank at time of application).

They state that tank mixes and serial application (repeated treatments) fall into one of three categories:

1. Those tank mixes that have instructions provided for such use on product labels registered with the EPA. A common example would be Alfatox (a mixture of diazinon and methoxychlor) used to control alfalfa weevils. Other examples would be various commercially prepared fruit and vegetable sprays and dusts containing two or more pesticides. These uses can be continued. The U.S. EPA accepts responsibility for their use.
2. Tank mixes that may be covered by a state registration. The State of Illinois registers only those pesticide labels having U.S. EPA approval; therefore, this category would NOT apply in Illinois.
3. Various tank mixes and serial applications that are recommended by a state, or are commonly used in that state for agricultural purposes. These uses can be continued if:
 - a. the products in the mix are applied at a dosage rate not to exceed the label instructions for use of any product in the mix used singly for the same set of insects on the same crop; AND
 - b. if the label on one or more of the products does not explicitly instruct against such mixtures.

The burden of responsibility for the continued use of the tank mixes in the third category lies with the user, not the U.S. EPA. These are applied at the applicator's own risk in terms of their effect on crops and application equipment, applicator safety, the environment, and preharvest tolerance intervals.

The U.S. EPA is unofficially sanctioning their use, but absolving itself of responsibility. The EPA also states that in the future, it may take appropriate action to rule the use of specific tank mixes or serial applications as inconsistent with label instructions on a case-by-case basis.

CAGED TOMATOES

Drs. Bill Courter and Joe Vandemark reported their 1972 work on wire cages for growing tomatoes in a recent issue of *Illinois Research* (Winter, 1973, Vol. 15, No. 1). In tests at Urbana and Dixon Springs they found that wire cages did a good job of supporting plants and keeping fruit off the ground for many of our best varieties--including Better Boy, Jet Star, Cardinal, Burpee VF, Springset, Spring Giant, and Campbell 1327. Caged plants yielded fewer cull fruit and out-produced staged plants in the total yield. However, the early yield was delayed--an important consideration for growers who depend on the high market prices for early production.

Similar results have been reported recently by researchers in Michigan. They concluded that the cost of caging was less than the value of the additional fruit thus obtained. They say, "Caging should be a profitable practice for markets that require quality fruit and that will pay a premium for quality."

In trials this year, clear plastic mulch is being combined with various degrees of pruning to determine whether early yields can be increased for caged plants.

For a copy of the 1972 report "Growing Tomatoes in Wire Cages," write to Extension Specialist in Vegetable Crops, Vegetable Crops Building, Urbana, Illinois 61801.

ILLINOIS RESEARCH

Illinois Research is a quarterly publication of the University of Illinois Agricultural Experiment Station. Articles tell about current research and progress on projects in all departments of the College of Agriculture. For example, the latest issue contains information on highbush blueberries, principles of organic gardening, a new canned pork and soybean product, conservation tillage and plant disease, warping and cracking of wood products, children and money, using computer instruction in animal breeding, winter melon (a new crop), herbicides and turf grass, and erosion from animal feedlots. Each issue also carries a brief article on some phase of economics and farm business trends.

Illinois Research is sent free, on request. Address requests to the Office of Agricultural Publications, 123 Mumford Hall, Urbana, Illinois 61801.

SWEET-CORN MATURITY ADVANCEMENT

Based on degree-day summations, sweet corn planted at Urbana May 1 is about 4 days behind schedule, as of June 1. Plantings made in the middle of May are about 2.5 days behind. These estimates are being made using the Barger system, with a base temperature of 45 and a cutoff temperature of 80. This information refers to Urbana conditions, but probably reflects a similar delay throughout the state.

PLANT DISEASE REPORTS

CORN

Anthracnose. Corn growers, home gardeners, and commercial producers alike should be on the lookout for a seedling leaf blight. This disease, which attacks both sweet corn and field or dent corn, is known as anthracnose. Sweet corn appears to be considerably more susceptible than dent corn. Anthracnose is caused by the fungus *Colletotrichum graminicolum*. This fungus requires high humidity, heavy dews, or rainy weather to infect and spread. The pathogen overwinters in the form of spores or mycelia in crop residues. Spores are produced in the spring and summer during wet periods, and are carried from the debris by the wind and the rain.

Spots that are small (1/16 to 1/8 inch), round to slightly oblong, and water-soaked then yellowish first appear on the leaves. These lesions (spots) may enlarge up to 1/2 inch in diameter, becoming tan in the center with a narrow yellowish halo or reddish-brown border. Later, leaf tissues turn yellow in streaks extending from the lesions. The lesions may coalesce. Severely infected leaves turn yellow then brown, and die. The fungus may cause root and stalk rot later in the season.

The fruiting bodies (acervuli) of this fungus appear as translucent, spore-bearing structures (conidiophores) and large, black, sterile setae (that look like pin cushions under the microscope). The setae are the identifying sign of the disease.

Control measures include crop rotation, sanitation, and balanced fertility. To date, NO chemical has been cleared by the EPA for use on sweet, pop, or dent corn to control anthracnose. However, greenhouse experiments have shown that the zinc-ion-plus-maneb complex (Dithane M-45, Manzate 200) does control this disease. That fungicide

is registered by the EPA. It can be applied within 7 days of harvest on sweet and pop corn, and within 40 days on dent corn to control the *Helminthosporium* leaf blights (northern and southern), at the rate of 1.5 pounds of fungicide per acre in sufficient water to wet the foliage. The addition of a suitable spreader-sticker (surfactant) will improve efficiency. The University of Illinois is making NO chemical recommendations at this time to control anthracnose.

Stewart's Disease. Flea beetle populations are high in certain areas of the state. This insect transmits the bacterium *Xanthomonas stewartii*, which causes Stewart's disease of corn. Seedlings infected with the pathogen may appear to be wilted on hot dry days. Cutting the base of the plant lengthwise may reveal a dark-brown, wet rot of the crown area. Older plant symptoms appear as long, pale green-to-brown streaks that start at the feeding wounds of the corn flea beetle. Control measures include growing resistant varieties and beetle control.

Numerous sweet corn varieties are resistant to this disease after the third-, fourth-, or fifth-leaf stage. Dent corn is generally much more resistant than sweet corn. Resistance to Stewart's disease has been correlated with resistance to the northern corn leaf blight.

Beetles can be controlled by spraying or dusting plants with a suggested insecticide. More information is available in Report on Plant Diseases No. 201, *Stewart's Leaf Blight of Corn*. Copies are available from the Department of Plant Pathology, 218 Mumford Hall, Urbana 61801.

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