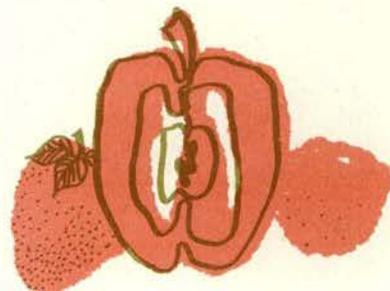


3 **FRUIT GROWERS' LETTER**

July 1975

By Leonard B. Hertz, extension horticulturist

WISCONSIN WILL HOST THE ANNUAL ORCHARD TOUR

The annual summer orchard tour for Wisconsin and Minnesota apple growers will be held at

Rasmussen's Apple Acres

Located on Highway 21, 2 miles west of Oshkosh, Wisconsin and Highway 41 (in eastern Wisconsin)

Date--Friday, July 25, 1975

This is an excellent opportunity to see apples grown the "Wisconsin Way." For additional information contact either G. C. Klingbeil, University of Wisconsin, Department of Horticulture, Madison, WI 53706 or L. B. Hertz, University of Minnesota, Department of Horticulture, St. Paul, MN 55108.

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PLUM POCKET A PROBLEM

Plum pocket disease is quite common this year. It is caused by the fungus Tophrens communis. Symptoms of plum pocket infection include the following:

- leaves turning color and dying
- "bladder-like" fruit

Infected plums first show whitish spots which gradually enlarge to cover the fruit; the developing seed soon dies, withers, leaving a hollow cavity surrounded by the enlarging fruit.

Infection by the fungus takes place in the early spring at the time the flower and leaf buds are swelling. The disease can be controlled by a single application of a dormant spray in the early spring before bud swell. Use either Bordeaux mixture or Captan (follow label directions carefully).

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This archival publication may not reflect current scientific knowledge or recommendations.
Current information available from University of Minnesota Extension: <http://www.extension.umn.edu>

FRUIT LOSS FROM INSECTS AND DISEASE

F. R. Hall, associate professor
Department of Entomology
Ohio Agricultural R&D Center
Wooster, Ohio

Following a 2-year study of how fruit losses from insects and diseases are produced in an unsprayed apple orchard, researchers at the Ohio Agricultural Research and Development Center, Wooster, Ohio, decided to return the trees to production.

As reported by F. R. Hall, associate professor, Department of Entomology, a block of four cultivars (Stayman, Yellow Delicious, Red Delicious, and Jonathan) was divided into two sections, one left unsprayed and the other placed on an integrated spray program using reduced rates (25 to 50 percent) of both insecticides and fungicides.

The spray program consisted of three pre-bloom applications of Benlate in after-infection sprays against apple scab. Post-bloom applications included Benlate, lead arsenate, Diazinon, and Guthion at reduced rates in four sprays. The petal-fall and cover sprays were timed according to pheromone trap records in nearby orchards for both codling moth and redbanded leafroller. A total of seven sprays were applied in a year of numerous apple scab infection and where conventional spray programs in nearby orchards consisted of 12 to 14 separate applications.

The cost inputs for the sprayed block totaled \$71.49 per acre for spray materials and \$21 per acre for labor and machinery. In comparison, a standard spray program in 1973 totaled \$110 per acre for spray materials and \$36 per acre for labor and machinery. Thus, the integrated program represented about a 40 percent reduction in crop protection costs.

The block of apple trees in 1972 (the second year of non-spraying) had fruit quality reduced to 0 percent and yields reduced to 20 percent of potentials. It was therefore expected that in 1973, these trees could receive severe injury from both insects and diseases.

In 1973, the pre-bloom weather was extremely wet with many severe apple scab infection periods which resulted in 100 percent apple scab infection. Because of the severity of apple scab, both the fruit and leaves dropped from the unsprayed trees and there were no fruits on three of the four unsprayed varieties at harvest.

The Jonathan unsprayed trees had only 5 percent of the fruit compared to the sprayed trees. Of the remaining fruit on the unsprayed trees, the quality was extremely poor. One hundred percent were infected with apple scab, as well as having insect infestations. Damage to unsprayed fruit from plum curculio, apple scab, and other insects resulted in no marketable fruit (Jonathan) at harvest.

The foliage of the sprayed trees was maintained in a reasonable condition although apple scab infections were present on the foliage. There were no problems with various aphids or mites on either sprayed or unsprayed trees. These are the immediate and obvious results of judicious use of pesticides versus non-spraying of apples in only one year. However, there are even greater long-term effects on fruit production the following year. The loss of greater than 50 percent of the foliage before July 1 had a dramatic effect on the formation of fruit buds on these trees in 1974. Obviously, insect and disease damage in 1973 had a two fold effect: (1) up to 100 percent loss of fruit in 1973, and (2) close to 100 percent loss of blossom formation in 1974.

(From Agrichemical Age)

CHARCOAL AIDS STRAWBERRY GROWERS

Charcoal may be of more value for growing strawberries than for barbecuing steaks. A study at Agriculture Canada's Agassiz, B. C. research station demonstrated that an activated form of charcoal used as a root dip protects strawberry plants from damage when they are planted in soil previously treated with some herbicides.

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HANDBOOK DESCRIBES HIGH DENSITY APPLES

A fully illustrated, in-depth handbook entitled "High Density Apple Orchards Planning, Training and Pruning" has just been published by USDA's Agricultural Research Service.

Agricultural Handbook No. 458 is authored by Don Heinicke, former ARS horticulturist in Wenatchee, now Western Regional Manager for Hilltop Orchards and Nurseries, Inc. This handbook can be obtained from the U.S. Government Printing Office, Washington, D. C. at a cost of 65 cents each.

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RASPBERRY DISEASES AND THEIR CONTROL

Leaf and Cane Blights

Anthracnose and Spur Blight often limit economic raspberry production. Symptoms of Anthracnose include gray to white spots up to $\frac{1}{4}$ inch in diameter occurring on the canes. Leaf spots are yellowish white and about $\frac{1}{16}$ inch in diameter. The centers of spots on leaves often fall out. The symptoms of Spur Blight include purple spots from $\frac{1}{2}$ inch to several inches long on the new canes. Leaf infections include large dead areas, light brown in color, and often covering half or more of the leaf surface. For control of these two diseases apply Captan or Zineb in spring, when overwintering cane leaves are fully expanded, and again at bud stage. If the infections persist, additional fungicide applications will have to be made during the growing season.

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RASPBERRY INSECT PESTS AND THEIR CONTROL

The raspberry is comparatively free from insect injury, when looking at other fruit crops. Insect damage can be kept at a minimum with good pruning practices and timely applications of insecticides to control the current insect problem.

Spider Mites

Mites feed on the undersurface of raspberry leaves. Injury first appears as whitish speckling of foliage. For control, spray with Kelthane when needed.

Sap Beetle

The Sap Beetle is black, about $\frac{1}{4}$ inch long, with 4 yellow spots on the wings. It feeds on injured and ripe berries. To control this pest, keep over-ripe and injured berries from accumulating. The insecticide Sevin or malathion reduces Sap Beetle population.

Cane Borers

To control raspberry cane borers, rednecked can borers, and tree cricket injury, prune out infected canes in early fall. Raspberry cane borers cause cane tips to wilt;



shoots are girdled with two rings an inch apart. Since larvae burrow downward, cut off wilted tips a few inches below the girdle and destroy them. The rednecked cane borer causes a gall-like enlargement on the cane due to a spiral burrowing of the larva. Crickets cause egg-laying scars that weaken canes.

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RASPBERRY VIRUS INFECTIONS

Unthrifty growth, mottling, yellowing, and crinkling of leaves indicate virus infection. The most serious effects are decline in plant vigor and reduction in yield. Once the plant is infected, it remains infected and plants propagated from infected plants will also be infected. Roguing of diseased plants and those within 3 feet will help prevent virus spread to other plants. Control of the insect vector will also aid in disease control.

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NATIONAL WEED LAW ENACTED

A law has been passed by the U. S. Congress and signed by President Ford to halt the introduction of exotic noxious weeds into the U. S. and to restrict the spread of those already present.

The legislation empowers USDA to make inspections at ports of entry, to begin surveys within the U. S., to carry out programs of eradication, and to impose quarantine actions to prevent the spread of weed pests.

The law was prompted by the introduction of exotic waterweeds into the southern part of the U. S. The act limits government involvement to those weed species of foreign origin and as yet not widespread within the country.

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STORAGE LIFE OF APPLES

Apples are perishable and must be handled with extreme care. If you plan to use the fruit for pies or sauce you can harvest them before they reach full maturity. However, to store apples for extended periods of time you must harvest at the proper stage of maturity (when they separate readily from the fruit spurs and before they drop). Also, for extended storage, you must have optimum conditions of temperature (near 32° F.) and a room with high moisture.

Several of the Minnesota-developed apples, as well as other recommended cultivars, have excellent "cold storage life" for fresh eating use. These have been grouped into three broad categories, full season storage, half season storage, and non-storage:

<u>Full season</u>	<u>Half season</u>	<u>Non-storage</u>
Connell Red	Chestnut Crab	Beacon
Fireside	Cortland	Duchess
Haralson	Delicious	Mantet
Honeygold	Golden Delicious	Oriole
Prairie Spy	Lakeland	
Regent	McIntosh	
	Minjon	
	Red Baron	
	Redwell, Wealthy	