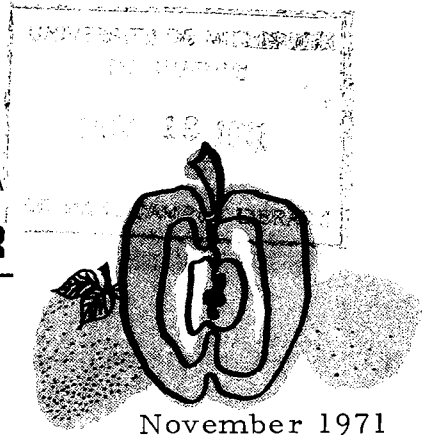


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AGRICULTURAL EXTENSION SERVICE

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3 FRUIT GROWERS' LETTER



By Leonard B. Hertz, Extension Horticulturist

November 1971

THE WATERCORE PROBLEM

Watercore, a nonparasitic disorder of apples, is a yearly concern to Minnesota apple growers. It affects appearance (causes water-soaked areas throughout the apple) and flavor of the apple, and frequently leads to internal breakdown in cold storage.

Although the exact cause of watercore is not known, several factors of production contribute to its development. One prime factor is fruit maturity. The more mature the fruit of a susceptible variety, the more severe watercore will be. Heavy thinning, severe pruning, irrigation, and excessive nitrogen all increase the susceptibility of fruit to watercore.

Several Minnesota grown varieties, including Red Delicious, Jonathan, Haralson, and Regent, are subject to watercore.

Under most conditions, watercore does not develop further after the fruit is harvested. In fact, following harvest it gradually disappears, but at a variable rate depending upon the severity at harvest. However, its disappearance is usually complicated since stored apples containing watercore are also highly susceptible to internal breakdown.

The occurrence of watercore can be reduced by:

- . Avoiding cultural practices that hasten apple maturity
- . Harvesting apples before watercore becomes intense.

What can be done with watercored fruit? Fruit with slight watercore should be suitable for long-term cold storage. Severely watercored fruit should be disposed of soon after harvest because they are highly susceptible to internal breakdown. Fruit with moderate watercore should be placed in regular storage and sold early in the storage season. If breakdown begins to develop, the fruit should be sold as soon as possible to keep losses at a minimum.

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FIELD MOUSE CONTROL IS A MUST

Field mice cause serious economic loss to Minnesota fruit growers each year. In general, the mice prune the roots and/or girdle the trunk and roots. Cultural practices combined with proper application of toxic baits can reduce this damage.

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

Cultural practices, such as mowing ground vegetation and clearing an area around the base of the trunk help limit the number of mice and reduce potential cover for their surface runways. Also, hardware cloth tree guards are helpful in reducing summer and fall damage.

For control of field mice with toxic baits, use zinc phosphide-treated apple cubes. Apple cubes are prepared by cutting firm, ripe apples into 1/2 inch cubes. Place the cubes in a container and sprinkle them with one level teaspoon of Zinc Phosphide rodenticide to each quart of cubes. The bait should be mixed just before placement.

The most effective period for application is mid-October to mid-November.

As a precaution, mix baits outside or in a well-ventilated place and wear gloves. After use, carefully wash your hands and all utensils. For additional information, contact the U.S. Fish and Wildlife Service, St. Paul and ask for the leaflet titled Controlling Field Mice in Orchards.

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TRAINING AND DEFRUITING YOUNG APPLE TREES

Training Young Apple Trees

It pays to continue your training program on young apple trees. New shoot growth with sharp crotch angle branches should be eliminated on trees planted the previous spring. Leave the uppermost shoot to develop into the leader. When a significant amount of new growth has developed, well spaced wide, angled scaffold limbs (6 to 8" apart) can be selected up and around the trunks. Pinch back all other branches to encourage growth into the permanent scaffold limbs. The objective is to grow the maximum bearing surface the first 3 to 4 years.

Defruiting Young Apple Trees

Remove fruit from young apple trees to permit growth of potential bearing surface. For every 2 pounds of fruit left on the tree you sacrifice about 3 feet in total shoot growth. Of particular importance is the thinning of fruit from the central leader during the second, third, and fourth years. Otherwise, the tree can very easily be pulled out of shape. Keep the leader strong and dominant. Allow fruit to remain only when the trees are large enough to produce profitable crops. This is usually the fifth year for semi-dwarf and spur type trees.

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NEWS BRIEFS FROM THE HORTICULTURE DEPARTMENT

STRAWBERRY VARIETIES FOR "PICK-YOUR-OWN"

The "Pick-your-own" system of marketing and harvesting is rapidly being accepted as "the method" for Minnesota growers. Many consumers, and especially city people, like to drive to the country to harvest fruit. They know they can get quality fruit at low prices.

When selecting strawberry varieties for a "pick-your-own" enterprise, several factors must be considered. Select high yielding varieties that have large, high quality berries with good freezing quality. Of the berries picked and taken home by the customer, half and often more, will be frozen for future consumption and this practice is expected to increase in the next few years.

The following varieties are productive in Minnesota. However, their processing quality for freezing varies from poor to very good.

| <u>Variety</u> | <u>Processing quality for freezing</u> | <u>Variety</u> | <u>Processing quality for freezing</u> |
|----------------|--|----------------|--|
| . Sparkle | very good | . Dunlap | good |
| . Cyclone | very good | . Trumpeter | good |
| . Redcoat | good | . Badgerbelle | poor |
| . Earlimore | good | | |

So remember, select high yielding, high freezing quality varieties for that new planting next spring.

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SUCKER CONTROL ON APPLES

Mark Brenner, fruit physiologist, reports that a new chemical he has been testing appears to stop the growth of new suckers from apple tree rootstocks. For complete control, the chemical must be applied in a directed spray 3 to 4 times during the growing season. Further studies will be conducted next year to see if several other new chemicals might compliment the presently tested chemical's action to help reduce the number of repeat spray applications and still get the same control.

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FUTURE FRUIT MEETINGS

1. Minnesota-Wisconsin Apple Association's Annual Meeting, LaCrosse, Wisconsin, January 13-14, 1972.
2. Wisconsin-Minnesota Apple Workshop, LaCrosse, Wisconsin, January 30-February 1, 1972.
3. Small Fruit Short Course, St. Paul Campus, University of Minnesota, March 27, 1972.

Trade names are sometimes used in this publication to clearly describe products. The use of a trade name does not imply endorsement by the Minnesota Agricultural Extension Service, nor does omission of other trade names imply nonapproval.

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