AGRICULTURAL EXTENSION SERVICE UNIVERSITY OF MINNESOTA

FRUIT GROWERS' LETTER

October 1974

By Leonard B. Hertz, extension horticulturist

MULCHING STRAWBERRIES

Strawberry buds for the spring crop are formed in the fall. Exposure of these buds to temperatures as low as 20° F. seriously reduces the yield of good quality berries. You must mulch plants before severe winter weather, but don't apply the mulch until plants have been subjected to a few good frosts; they help to harden them off. The time to apply the mulch varies with the season and location. Normally, early November is right in the Twin Cities area.

For mulching, use straw or marsh hay that is free from weed seed. Apply it to a 2- or 3-inch depth over the entire planting.

Leave the mulch on as late in the spring as possible to hold back bloom until after frost. Check plants frequently. If leaves start to turn yellow, remove the mulch at once.

When removing the mulch, lift the straw from the rows and place it in the picking aisles. Leave some of the finer mulch materials in the row. The plants can then push up through a light covering, and the berries will be kept clean during the picking season. If a late spring frost threatens plants in bloom, use the mulch in the picking aisles to cover them.

Since the mulch covers the space between the rows, no cultivation is needed during the second season until after harvest. If weeds come up through the mulch, pull them at once.

Recently, interest has been generated for using clear polyethylene mulch on strawberries. This, of course, would replace the normal straw or hay mulch. Demonstrations of this technique in Minnesota in the winter of 1973-74 showed that clear polyethylene does give the desired amount of winter protection. Besides protecting the plants from cold temperatures, using polyethylene advances plant growth (including flower development) at least 1 week and in some instances as much as 2 weeks. Consequently, early growing strawberries are potentially susceptible to late spring frost injury. This was the case in the spring of 1974. Frost injury and the resulting loss in yield and quality of fruit was very high. Therefore, this mulching technique cannot be recommended at this time as a sound cultural practice for strawberries grown in Minnesota.

* * * * * * * * * * * * * * * *

WATERCORE AND INTERNAL BREAKDOWN IN APPLES

Watercore, a nonparasitic disorder of apples, has again become a concern to some Minnesota apple growers. Watercore has been detected in some of the red sports in Haralson, as well as the varieties Regent, Beacon, and McIntosh.

Watercore generally appears as water-soaked spots in the flesh of the apple. If the condition is severe, a large proportion of the flesh becomes affected, and the disorder often becomes visible externally as a greenish, glassy condition.

It is generally agreed that fruit maturity is the prime factor affecting the development of watercore. The more mature a fruit, the more severe is the occurence of watercore. So, for those varieties that show evidence of watercore, early harvest usually is suggested.

What can be done with apples suffering damage from watercore? Fruit with slight watercore should be suitable for long-term storage. Severely watercored fruit should be disposed of soon after harvest. Apples with moderate watercore can be stored for short periods of time and sold early in the storage season.

Although growers can't prevent watercore except by harvesting at an immature stage, they need not suffer substantial losses from the disorder.

* * * * * * * * * * * * * * * *

SUCKER CONTROL AFTER PRUNING

At the 19th international horticulture meeting in Warsaw, Poland, research on sucker control was reported by workers from East Malling. They stated that, "where large pruning cuts were made, shoot regrowth from this area was reduced by painting the stubs with 'tree-coat' (same as a water soluble grafting compound) containing 1 percent NAA. This appears to be a practical method, especially where several large branches are removed or reduced from a tree. Pruning and painting during March appeared to be an effective time." (From "Compact Fruit Tree," October 1974.)

* * * * * * * * * * * * * * * *

PLUM POCKET: A DISEASE OF STONE FRUIT

A fungus disease called plum pocket afflicts stone fruits and was common this year in Minnesota. A fungicide spray such as Bordeaux mixture, Captan, or lime sulfur, applied before the buds open in the spring can prevent this disease. Once fruits contact the fungus, however, all infected fruit near the tree must be removed. The disease affects plums, cherry-plums, and chokecherries. Although the fungus causes leaves to turn color and die, the fruits are usually the only diseased tissues noticed. Infected plums first show whitish spots that gradually enlarge to cover the whole fruit. The developing seed soon withers and dies, leaving a hollow cavity surrounded by the enlarging fruit.

* * * * * * * * * * * * * * * *

POCKET GOPHERS

Pocket gophers live in an underground burrow system. Their activity can be identified by the presence of fresh mounds of dirt. Most mounds are made in late summer and fall, when gophers are digging shallow burrows to get roots, including the roots of apple trees, for the winter.

Control of the pocket gopher is effective during the spring and fall. If only a few animals are involved, hand baiting is effective.

There are two toxicants registered for use in treating bait materials for the control of pocket gophers. They are Strychnine at 0.25-0.6 percent and Gophacide at 0.1-0.2 percent in the finished bait.

Two baiting methods are effective. One method involves dropping baits by hand into the underground runways. With the other method, a tractor-drawn machine called a "burrow builder" is used to make artificial burrows and automatically drop baits into them.

* * * * * * * * * * * * * * * * *

CHALLENGE FACES GROWERS OF WINE GRAPES IN PENNSYLVANIA

Apparently, the greatest challenge facing the growers of wine grapes in Pennsylvania is controlling bird damage, especially that done by robins, starlings, and grackles. According to C. W. Haeseler at Penn State, very susceptible varieties include Marechal Foch, Cascade, Leon Millot, Aurora, and Baco Noir. In southern Pennsylvania, black rot could be a serious problem if spray schedules are not followed closely. (From Penn State Horticultural Reviews.)

* * * * * * * * * * * * * * * * *

FIELD MICE AND FRUIT TREES

Field mice cause serious losses in fruit trees each year. The losses come in the form of root pruning and trunk and root girdling.

Certain cultural practices are helpful. These include elimination of the vegetation in a 3-foot radius around the base of the tree trunk. With large acreages and hundreds of trees, however, this cultural practice is often impractical.

Tree guards are helpful in reducing summer and early fall damage. They should be constructed from hardware cloth with no larger than $\frac{1}{4}$-inch mesh. Guards should enclose the tree trunk and extend several inches below to at least 18 inches above the soil.

Plastic tree guards do appear to provide tree protection from girdling by mice or rabbits and from sunscald, although they provide a shorter protection period (3-4 years) than hardware cloth.

Now is the time to use grain or apple baits treated with zinc phosphide in the orchard. The most effective period for application is just before snow cover and after the grass cover is down from frost and the fruit is rotted. Caution: when mixing baits, work outside and avoid breathing the zinc phosphide dust. Work outside and wear gloves when preparing and distributing baits.

* * * * * * * * * * * * * * * * *

APPLE GROWING COSTS UP IN 1974

A 31 percent increase in apple growing costs is expected for 1974, according to Rodney Bull of Casnovia, Michigan, speaking at the recent annual meeting of the International Apple Institute. The cost of producing 100 pounds of apples in 1973 was $4.48 at Bull Brothers Orchards. In 1974, the cost is expected to be $5.86 for tree-run fruit. Freight has increased 27 percent, labor 18 percent, rent and equipment 16 percent, taxes 30 percent, interest 40 percent, fuel 85 percent, cartons 30 percent, and chemicals 18 percent. Bull indicated that the era of cheap fruit is over. Apples in the 1974 crop are going to have to be around $6.50 to $7.50 per box at the warehouse level. (From Penn State Horticultural Reviews.)

* * * * * * * * * * * * * * *

Issued in furtherance of cooperative extension work in agriculture and home economics, acts of May 8 and June 30, 1914, in cooperation with the U. S. Department of Agriculture. Roland H. Abraham, Director of Agricultural Extension Service, University of Minnesota, St. Paul, Minnesota 55108. We offer our programs and facilities to all people without regard to race, creed, color, sex, or national origin.