

# Minnesota Nurserymen's newsletter



Prepared by

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- Agricultural Extension Service
- Horticulture Department

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## PROTECTION OF FRUIT TREES AND BUSHES FROM RABBITS AND MICE

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The protection of young fruit trees from rabbits and mice should be made a regular orchard practice, just as spraying is done at certain times. The most serious rabbit injury usually occurs to trees under 10 years of age (under 4 inches in diameter) while mice attack both old and young trees alike.

Cottontail, snowshoe, and jack rabbits are found in Minnesota--the snowshoe inhabiting the coniferous region, the jack rabbit being predominantly in the prairie sections although encroaching into hardwood regions, and the cottontail being commonly found in the hardwood and prairie regions. Meadow mice are responsible for most of the injury by mice to fruit trees in Minnesota, although recently there has been some serious injury by the pine mouse.

### Hunting and Trapping Rabbits

Consistent hunting or trapping of rabbits during the late fall and winter months should be a regular part of the orchard program where extensive plantings are involved. A trap for cottontail rabbits can be made by taking any box of suitable size (not less than about 22 inches in length) and constructing a drop door at one end to open inward. A piece of salted apple makes an attractive bait. This is placed at the back of the box on a bent wire holder with a string running through a screw eye at the top of the box above the bait to a hook that holds the door open. When the bait is moved the string is pulled and the door falls shut.

### Use of Pruned Branches

When a supply of pruned branches is made available above the snow for rabbits to feed on during the winter months, much damage to trees will be avoided. This is a useful preventive measure.

### Wire and Mesh Guards

Tree guards constitute the most satisfactory and effective method of protecting the trunk injury by rabbits and mice. Galvanized hardware cloth, 3 or 4 inches to the inch, provides long-lasting protection. Window screen wire is very satisfactory if watched closely after 3 or 4 years use for rusted-out sections, although the rodents often find the holes in the screen first. The hardware cloth or wire screen may be purchased in rolls 36 or 48 inches wide, depending on the distance to the lower scaffold branches. Strips 18 inches wide are cut from the roll and each strip is cut

in half, leaving guards 18 x 18 or 18 x 24 inches in size with one smooth edge for the top. The guards should be pressed into the soil to a slight depth when placed in position, with the edges held together by wire. Guards made of wood veneer are not as satisfactory and require more labor because they should be removed each spring. Where snow is likely to become deep, the lower scaffold branches above the tree guards may be protected by wrapping with paper, burlap, aluminum foil, or other material.

A new product, Rabbit-Rap, is made of aluminum mesh and is less expensive than hardware cloth. It is easily applied and expands as the tree grows. It is obtainable from local dealers or from Research Products Corporation, 1015 East Washington Street, Madison, Wisconsin. Builders metal lath also has been used successfully and is readily available and cheaper than hardware cloth.

Small home plantings of raspberries can be protected by fencing with 1-inch mesh chicken wire, about 4 to 5 feet high.

### Wraps of Paper and Other Materials

Wraps usually are effective against rabbits, although instances are known where they have torn paper wrappings from the trees. Various forms of wraps are used such as heavy brown wrapping paper, three thicknesses or more of old newspaper, building paper, asphalt impregnated paper, crinkled waterproof kraft paper, aluminum mesh, and freezer-type aluminum foil. A 50 pound Kraft wrapping paper may be cut into 10 x 24 to 30 inch pieces, folded loosely around the trees, and fastened very rapidly with a plier-type hand stapler, using about 5 staples per tree. Untreated paper material is likely to attract mice.

Aluminum foil, such as used for frozen foods, give excellent protection from rabbits and usually from mice. Strips about 5 inches wide and 18 inches long are suitable for small apple trees. Used foil wrapping from frozen food packages is economical to use. Foil also protects the trunk from "sunscald" injury. All paper and foil wraps should be removed in the spring.

### Repellent Materials

Numerous materials have been used for spraying or painting on the trunks of apple trees. Many have been ineffective and others injurious. Some have been satisfactory until the rabbits are confronted with extreme scarcity of food. The following repellent formulations have proved satisfactory at the Michigan Agricultural Experiment Station against the cottontail rabbit:

Formula 1

Mix 1 gal. asphalt emulsion and 1 gal. water, add 1 pound "Tersan 75" or "Arasan SFX" or like brand of thiram as wettable powder (products of Grasselli Chemical Department of E. I. DuPont and Company). Apply with a brush.

Formula 2

Mix 1 gal. asphalt emulsion and 1 1/2 gal. water, add 10 pounds z. i. p. paste (brand, "Goodrite z. i. p." by B. F. Goodrich Chemical Co.). Apply with a brush.

Formula 3

To 1 gal. ethyl (grain) alcohol add 7 pounds of crushed rosin. Allow mixture to stand in a closed container to dissolve the rosin. Apply with a brush. This is the old Michigan repellent for cottontails. A commercial mixture of this basic formula is sold as "Peter Rabbit Repellent", by Castle Chemical Company, Castle Rock, Minnesota.

Formulas 1 and 2, containing a water emulsion of asphalt, are very adhesive and black. Formula 3 is a varnish-like coating and not so noticeable.

A more expensive but very effective material is Ringwood repellent (trinitrobenzine-aniline). This was developed by the U. S. Fish and Wildlife Service in cooperation with the Ringwood Chemical Corporation. It may be applied as a paint or aerosol spray. When applied with a paint brush, one pint will treat about 20 trees 4 to 6 feet tall. Acetone in the repellent will cause rubber washers in sprayer valves to swell and become ineffective.

Special Precautions for Meadow Mice (when tree guards are not used).

All dead grass and debris should be kept raked away to a distance of 1 1/2 to 2 feet from the trunks. Severe mouse injury sometimes is found as early as August. The snow, when it comes, should be tramped close to the trunk, and it will freeze into a hard cake that the mice will not penetrate. Mounding the soil 6 to 8 inches high around the trunk in the fall often is an effective method of preventing mouse injury, especially when used with wire guards. Plum and cherry trees are not injured by these mice as frequently as are apple and pear trees. In commercial orchards it is advisable to spread a poison bait. A special bait for this purpose is prepared and distributed by the U. S. Fish and Wildlife Service and is available in 10 pound and 25 pound sacks through the Minn. State Horticultural Society at University Farm, St. Paul.

CHEMICAL TREATMENT OF NURSERY STOCK FOR BETTER STORAGE

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The Plant Disease Reporter of November 15, 1958, contained a report by G. J. Stessel of the Rhode Island Experiment Station in which he reported on work he had done in 1957 on the control of grey mold,

caused by the fungus *Botrytis* sp., on rose stocks storage. Results similar to this were reported in a recent issue of the Pacific Coast Nurseryman. This writer has observed the use of various chemicals in the control of nursery storage diseases on stocks other than roses. The chemicals used by Stessel in his work were similarly effective for general use in the nursery storage. With this in mind, it is felt that nurserymen may find it beneficial to have the most effective chemicals identified and their use explained. Perhaps some nursery operators may wish to try these treatments in their own storage.

Captan showed up very well in these treatments. It can be used as a dip, spray or dust. A 7.5% dust produced good results in Stessel's experiments. If such a concentration is not available, it can be made by mixing the standard 50% wettable Captan with ordinary talc. One part of 50% Captan wettable powder mixed with six or seven parts of talc will provide a suitable concentration for a practical application.

Probably the most desirable situation would require that the plants be dusted in bundles at the time that they are placed in storage. This may not be practical in the operations of some of the nurserymen, and in such cases it may be advisable to resort to dipping or spraying the plants. A concentration of 2 pounds of 50% Captan wettable powder per 100 gallons of water can be used in such instances. Captan is a preventive fungicide and consequently it is most effective when applied before infection is apparent.

In actual practice, another material that has shown up very well in stopping outbreaks of grey mold infections in the storage cellar is called Terraclor, or PCNB. This product has been used successfully as a 20% dust when it was applied on the stock after it had been put away in storage. In comparing the various treatments, and considering the growth response of the plants after treatment, the use of Captan dust at the time of storage would be the preferred method to use.

Other factors which would favor the development of disease conditions in storage would be the presence of free water on the plants during storage, storage of plants not completely defoliated and the digging and storage of immature plants. Each of these items is a problem in itself, and we shall not go into these matters at this time but our office will be glad to work with any nurseryman who has such a problem.

EARLY AMERICAN APPLES

L. G. Klein  
The Cornell Plantations 14(5):35-38, Autumn 1958

Frequently there are questions concerned with why certain high quality old apple varieties are no longer available. Varieties such as Roxbury Russet, the "Strawberry Apple" (Chenango), the Snow Apple (Fameuse) and "the Sheepsnose Apple" (Black Gilliflower) have practically disappeared.

Many of the old varieties, particularly King, Esopus, Spitzenberg, Mother, Golden Russet, Swaar and Lady, were of exceptionally high quality but had

many serious horticultural faults which rendered them commercially unprofitable.

Farm orchards had many of the "fine old varieties" for home use with the surplus being sold. A highly specialized fruit growing industry evolved and today only a few areas with relatively few varieties are engaged profitably in commercial production.

Modern varieties must be: productive annually, attractive and have acceptable quality. The trees should not require exacting care and should be fairly disease resistant. The fruits should withstand handling and shipping without bruising. Today's consumers are not nearly as quality conscious as previously. This is borne out in the list of present important commercial varieties.

Currently in New York the following varieties are most important commercially: McIntosh, Rhode Island Greening, Cortland, Baldwin, Delicious (and its color sports) and Rome Beauty (and its color sports). Early McIntosh and Lodi are important early varieties. Monroe and Idared are new varieties which are rapidly gaining popularity as commercial varieties. Monroe is a replacement for Baldwin; Idared, for Northern Spy.

One hundred years ago the important varieties were: Early Harvest, Red Astrachan, Twenty Ounce, Rhode Island Greening, Baldwin, Northern Spy and Roxbury Russet.

At one time, Baldwin and Rhode Island Greening accounted for over one-half the total production in western New York. Rhode Island Greening is still a popular variety. Baldwin is fading in its popularity because of its uncertainty in bearing. Although 10% of the total production now is Baldwin most of the crop is from old trees.

Twenty Ounce, Northern Spy and Wealthy are old varieties which are still being planted.

R. J. Stadtherr

### RENAMING OF STRAWBERRY VARIETIES \*

According to D. H. Scott and G. M. Darrow, Horticultural Crops Research Branch, U. S. D. A., Beltsville, Maryland, some of the newly named varieties that appear indistinguishable from the older ones are as follows, the original name being listed first:

- Ardmore - Red Cluster
- Dunlap - Parish
- Sparkle - Paymaster
- Midland - Crimson Flash, Adonis
- Fairfax - Grandview, Cumberbund
- Gem - Superfection, Brilliant
- Howard 17 (Premier) - Pollar Queen, Golden Bell
- Robinson - Scarlet Beauty, Kardinal King

\* Fruit Varieties and Horticultural Digest 11(3):45 March 1957

## Editors Comments R. J. Stadtherr

### SUMMER TRIP

#### Crookston Chlorosis

While at Crookston your editor checked the shrubs and trees in the hardiness testing program at the University of Minnesota N. E. Experiment Station at Crookston.

Dwarf pea shrub, White Bell honeysuckle, Green Ash and Bailey Dogwood showed no chlorosis whatsoever. Those which showed very little chlorosis included: Morden Orange mockorange (fruit), Canby pachistima, Snow White spirea, Mongolian spirea, hedge cotoneaster, Dropmore honeysuckle, Clavey's dwarf honeysuckle, dwarf Euonymus, Siberian Currant and Boulder flowering raspberry.

Those plants which were very chlorotic included: Manchurian Ash, leadplant Amorpha, Japanese Red spirea, Anthony Waterer spirea, nannyberry, silky dogwood, muckle plum, Siberian crabapple, Ussurian pear and Hansa rose. The Korean boxwoods and Kelsey dwarf dogwoods were dead. Generally, most of the members of the rose family appear to be very susceptible to becoming chlorotic whereas members of the Oleaster (buffalo berry) and Olive (ash) families appear to be somewhat resistant. However, by checking the list here you can see that species from both families appear in both resistant and susceptible classes. Genetical variations and differences in soils contribute to this problem in growing plants in the normally 'high-soluble-salts' soils in the Red River Valley.

Bruce Beresford, horticulturist, at the Crookston station and your editor have been conducting experiments the past few years on preventing chlorosis in hybrid snapdragons and Peking cotoneasters in the Crookston plots. Some of the chelates have looked promising in chlorosis prevention. Soil compaction resulting in poor gas exchange seems to have a very important role, too, in the severity of this physiological disease.

#### Morden Trip

One day is insufficient to cover the selecting, breeding and testing work being done in woody ornamentals at the Morden Experimental Station. Bill Cummings guided your editor around.

There were many outstanding materials; so many that only a few are remembered. The evergreen collection was outstanding. Arcadia and Scandia are two of the low-growing Junipers that are named, but one from High River and another known as Russian #23 were very beautiful too. The Winona arborvitae, Sheridan's red barberry and several silver-leaved willows were very interesting and beautiful.

Chlorosis was evident in some of the specimens; however, variations do exist and nature's selective

forces have been working for many years on many of the trees and shrubs in their fields. Undoubtedly there are hundreds of improved selections which could be made from their collections.

Winnipeg Meetings

The Great Plains Section of the American Society of Horticultural Sciences held their annual summer meetings at the University of Manitoba, Winnipeg, Manitoba on August 5 and 6 and toured the Morden Experimental Farm on August 7.

The work on tree fruits included a demonstration orchard of 150 varieties, two seedling orchards of about 2000 trees and a stone fruit orchard of about 40 varieties. Several hundred open-pollinated seedlings of Ptitsin's #5, #10 and #12 have been planted in the past few years. These Ptitsin varieties have produced healthy, vigorous, hardy trees with fruits of high quality.

Projects underway at the University of Manitoba in ornamentals include hardiness trials, chlorosis studies, establishment of an arboretum, testing of peonies, testing and selecting hardy chrysanthemums and propagation studies. Professor John Walker has done some outstanding work on stratification of various different tree and shrub species and varieties not normally found in the present literature. We will be using this information in getting many of our seeds to germinate.

Dr. M. Ferguson explained the turf trials which they have begun. These trials are similar to ours; however, they have included the creeping bents as well as the lawn and fairway grasses.

Another high point of the tour was the trip to Assiniboine Park. This park on the Assiniboine River covers over 1000 acres. The informal flower border and beds were outstanding. Your editor has never seen such a large garden with so many different flowers all in full bloom at one time.

These remarks have been brief. We thoroughly enjoyed our stay and were unanimous in agreeing that the Canadians are gracious and generous hosts.

COMING EVENTS

There are a few dates to circle on your calendar:

- ➔ Minnesota Nurserymen's Convention, December 7 and 8, Curtis Hotel, Minneapolis.
- ➔ North Central Weed Control Conference, Dec. 8-10, Royal Alexander Hotel, Winnipeg, Manitoba.
- ➔ Plant Propagators Society Annual Meeting, Dec. 9-12, Philadelphia, Pa.
- ➔ Midwestern Chapter, National Shade Tree Conference, Febr. 10-12, 1960. Omaha, Nebraska.

KERMIT OLSON RETURNS

Mr. Kermit Olson is back at the Danish Seed Company in Minneapolis, as manager of the store. Kermit worked there about 10 years ago. Recently he has been at the Excelsior Farm Store.

NO BEAR STORY

The Harry Francis family camping in Yellowstone National Park found that a shaky tent was not caused by a big bear. The quakes and landslides caused considerable damage to many of the park landmarks. The Francis family stopped at the Fruit Breeding Farm on their journey home. Possibly Harry will tell you about their experiences at the coming Minnesota Nurserymen's convention.

CHANGES IN LANDSCAPE JOBS

Landscapers have had an increase in sales volume of 10 to 20% since 1946, according to an article by Lawrence W. Bachman in the Minneapolis Sunday Tribune of September 13, 1959.

The advent of an increased use of container-grown stock has turned a once seasonal business into a year-around operation.

Greater home ownership, more leisure time, and the fact that these homes are largely in treeless areas near the metropolitan cities have contributed to the increased use of trees and shrubs. Although most suburbanites budget their landscape projects over a number of years, many want large trees for shade sooner. Large trees can be moved during the dormant season, creating work to keep crews busy during the so-called "off-season". Truly this is a "year-around" business now!

SEPARATE SEEDS BY ELECTRICITY

Workers at Oregon State College reported a new method of seed cleaning, based on the electrical properties of seed. In using this new separator, all crop and weed seeds are first classified according to electrostatic properties. Then the machine takes out those that differ from the crop seed. Naturally more experimental work will be done in the future, and this may give answers to other difficult separations that are now common in this operation.

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