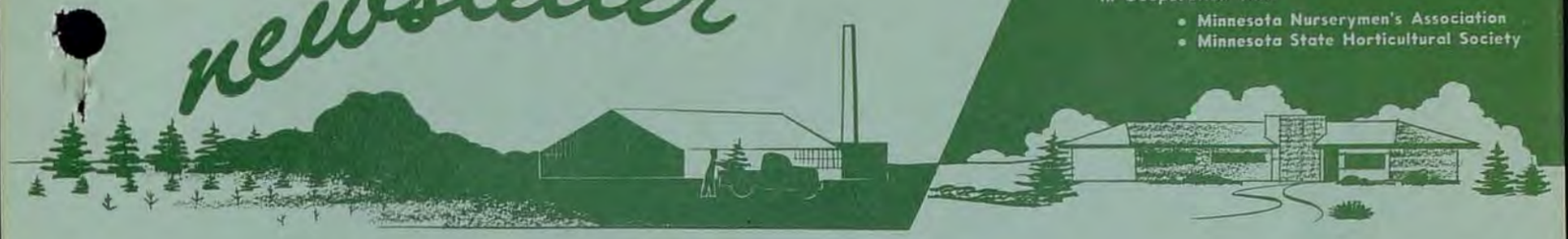
Minnesota Nurserymen's newsletter

Prepared by
UNIVERSITY OF MINNESOTA
Institute of Agriculture
- Agricultural Extension Service
- Horticulture Department

In Cooperation with
- Minnesota Nurserymen's Association
- Minnesota State Horticultural Society



Vol. 4 No. 11 and 12 Nov. - Dec. 1957

MINNESOTA STATE NURSERYMEN'S ASSOCIATION
Thirty-second Annual Meeting
Curtis Hotel, Minneapolis, Minn.
Monday and Tuesday - December 2 and 3, 1957

Monday, December 2, 1957

EDUCATIONAL PROGRAM
Sponsored jointly by
Minnesota State Nurserymen's Association
Department of Horticulture, University of Minn.
Division of Plant Industry, Minnesota Department of Agriculture

Morning Session

8:30 A. M. Registration, coffee hour

9:15 A. M. Opening and President's address

0 A. M. Panel - Winter Damage
-R. J. Stadtherr, Moderator
Melvin Bergeson
Walter Trampe
Dr. Leon C. Snyder

10:15 A. M. Talk - "The Relationship of Architecture and Landscape Design"
-L. Morgan Yost, Architect, Kenilworth, Illinois

11:30 A. M. Report from State Entomologist,
-Thor Aamodt

12:00 Noon Luncheon - Speaker, Robert Hodgson, University of Minnesota Superintendent Southern School and Exp. Station, Waseca, Minn.

Afternoon Session

Richard Stadtherr, Chairman

1:30-2:00P. M. Insect Control - Dr. Larry Cutkomp

2:00-2:30P. M. Plant Disease Control
-Dr. Herbert Johnson

2:30-3:00 P. M. Soil Management in the Nursery
-Dr. Harold F. Arneman

3:00-3:30 P. M. Weed Control in the Nursery
-Kenneth Blanchard

3:30-4:00P. M. Ornamental Varieties
-Dr. Leon C. Snyder
Albert Johnson

4:00 P. M. Committee Appointments

6:30 P. M. Cocktail Hour
Courtesy - Bailey Nursery

7:00 P. M. Banquet

Tuesday, December 3, 1957

Business Sessions

8:30 A. M. Coffee hour

9:00 A. M. "Sales Sense in Retailing",
-M. J. (Mike) McMahon,
Advertising Manager, Red Owl, Inc.

10:00 A. M. "Some Practical Ideas on Garden Store Merchandising".
-Jack Siebenthaler,
Siebenthaler Nursery,
Dayton, Ohio

11:00 A. M Film - "How to Sell Quality"

12:00 Noon A. A. N. Luncheon

1:00 P. M. Washington Report

2:00 P. M. Business Meeting
Committee Reports
Election of Officers and Delegates
Old Business
New Business

Adjournment

Program Committee:
Russ Zakariasen, Chairman
Lawrence Bachman
Jim Weimelt

Come One and All!

An invitation has been extended to all Minnesota nurserymen by President Kim Andrews and the program committee of the Minnesota Nurserymen's Association to attend their Thirty-second Annual Meeting. The time, place and program are given above.

Remember you need not be a member to attend; so come one and all! Let's make this the best meeting yet!

PROTECTION OF FRUIT TREES FROM RABBITS AND MICE *

J. D. Winter, Associate Professor, Horticulture
University of Minnesota

The protection of young fruit trees from rabbits and mice should be made a regular nursery practice, just as spraying is done at certain times to protect the trees from insects and diseases. 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 troublesome 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 nursery program where extensive plantings are involved. A simple 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 that will 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 from injury by rabbits and mice. Galvanized hardware cloth, 3 or 4 mesh 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 about 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 as the wire screen, and require more labor because they should be removed each spring. Where snow is likely to become deep, the lower scaffold branches above the top of the tree guards may be protected by wrapping with paper, burlap, aluminum foil, or other available material.

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

Wraps of Paper and Other Materials

Wraps of various kinds 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, gives 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. One repellent observed effective under extreme food scarcity 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 spray. When applied with a paint brush, one pint ($2.95) 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. The B. and G. Company, 4725 Rising Sun Avenue, Philadelphia, Pennsylvania, makes a sprayer with plastic washers that is not affected by the acetone. Farmer Seed and Nursery Company, Faribault, Minnesota, is a regional distributor for Ringwood repellent.

Special Precautions for Meadow Mice

To protect fruit trees from meadow mice, all dead grass and debris should be kept raked away from the trunks. Severe mouse injury sometimes is found as early as August. If a guard is not used, 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 usually is an effective method of preventing mouse injury. Plum and cherry trees are not injured by these mice as frequently as 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 Minnesota State Horticultural Society at University Farm, St. Paul.

Note -- For information an repairing damage, see circular "Repairing Girdled Trees" October, 1957.

PLASTIC GREENHOUSE TESTING *

R. E. Widmer
Assistant Professor, Horticulture
University of Minnesota

An 18 by 20 foot plastic film greenhouse was erected on the University of Minnesota St. Paul campus in the fall of 1955. Last year Widmer (4) reported that the four mil polyethylene outer covering withstood the winter of 1955-56 in good condition. On August 1, 1956, approximately 80 percent of the plastic still appeared to be in good condition. In September, 1956, the plastic had deteriorated to such an extent that all of it had to be replaced.

Emmert (1) of Kentucky and Thomas and Hafen (2) in Indiana recommended the use of 0.002 inch polyethylene as an outside layer of a plastic greenhouse. The 0.004 inch (four mil) polyethylene was tried in Minnesota, as it was theorized that the heavier film had a better chance of withstanding a heavy snow load.

1956-57

The house was recovered with three thicknesses, 0.002, 0.004 and 0.006 inch, of polyethylene and 0.005 inch Polyflex 230 in early October 1956. The two mil polyethylene was used because the cost is half that of the four mil, and to determine whether it would be as satisfactory as the four mil polyethylene. The six mil film was used to determine whether the heavier material would last through two seasons, thus cutting in half the cost of labor for installation. Wallace (3) reported that Polyflex 230, a transparent plastic, showed considerable promise as a greenhouse covering. Commercial literature states "Weatherometer tests have indicated that it (Polyflex 230) should last at least 10 years under normal changes of weather in a climate such as Washington, D. C."

The four films were applied to wooden rafters, two by two inches, spaced two feet apart and fastened with lath batten nailed at approximately six inch intervals. A layer of 0.002 inch polyethylene film was applied to the inside of the rafters.

According to official Weather Bureau records taken at International Airport in Minneapolis, the winter of 1956-57 was a mild one in several respects. The lowest temperature recorded was -13°F. on January 30. The strongest wind recorded was 47 miles per hour on December 11. Snowfall totaled 39.1 inches compared to an average of 42.4 inches. The greatest amount of snow in any one month of the winter was 9.6 inches in April, and the greatest snowfall in 24 hours was 7.2 inches on April 4.

Results

0.022 polyethylene. Holes appeared in some sections on both the north and south exposures on July 2, 1957. All sections of this material had holes or tears by July 15.

0.004 polyethylene. A hole appeared in one section on the south side of the structure on July 15. By September 11 all sections on the south side and two out of three sections on the north side were torn. The last section broke shortly thereafter.

0.005 Polyflex 230. One section on the south exposure ripped in early February and another section ripped seriously in May. On the north exposure, one of the two sections developed a large break on October 1.

Plant Growth

Garden chrysanthemum plants were grown in the structure in the fall of 1956, and a variety of flowering annuals as well as garden chrysanthemums were grown in the late winter and spring of 1957. Plant growth was good in all instances.

Discussion and Conclusions

Two mil polyethylene appeared just as satisfactory as the heavier films through the winter of 1956-57, but it should be remembered that the thinner material did not get a severe test because of the relatively mild winter. Although some of the six mil polyethylene was still in good condition on October 1, one cannot be certain that this material will survive another winter. The risk of losing part or all of a crop is too great, if during the second year the material should break overnight in cold weather. On the basis of these results, the four mil material would seem to be preferable where polyethylene is used.

The five mil Polyflex 230 did not prove as satisfactory as the polyethylene. In view of the higher cost of Polyflex 230, and the results with the five mil material, it cannot be recommended. Thicker films of Polyflex 230 (also called Sisal-Glaze), or other plastics now available may be more satisfactory under Minnesota climatic conditions. Further testing is necessary to provide the answer.

Although plastic film greenhouses are low in initial cost, the standard greenhouse would still appear to be a better investment over a period of years. A plastic greenhouse would seem preferable where a temporary structure is desired, where the greenhouse is used during part of the year only, in areas of especially high tax rates or in similar situations.

Unfortunately, some persons unacquainted with the culture of plants in greenhouses look upon the plastic greenhouse a means of making a good income with a limited investment. Just as much, if not more, knowledge and experience are required to grow good commercial crops in a plastic greenhouse as to grow them in a conventional greenhouse.

References

1. Emmert, E. M. 1954. Low cost plastic greenhouses --mimeographed. Agr. Exp. Sta., Uni. of Kentucky.

2. Thomas, M. O. and Leslie Hafen. Plastic greenhouses -- mimeographed. Dept. of Hort., Purdue Uni.

3. Wallace, R. H. 1956. Plastic greenhouses. A paper presented at A. S. H. S. meetings August 27, Uni. of Conn.

4. Widmer, R. E. 1956. Plastic film greenhouses. Minn. State Florists' Bul.: 4-6. October 1.

* Paper No. 955 of the Miscellaneous Journal Series, Minnesota Agricultural Experiment Station. Taken from Minnesota State Florists' Bulletin October 1, 1957.

DUTCH ELM DISEASE IN WISCONSIN

Walter P. Trampe
Supervisor, Nursery Inspection
Minnesota Department of Agriculture

The nurserymen of Minnesota appear to be very much interested in the progress of Dutch elm disease in Wisconsin. It is from that direction that Minnesota might expect an invasion of this disease. It should also be of interest to indicate the methods of control which are being employed in Wisconsin. Because of the importance of this matter to Minnesota nurserymen, a brief resume of the program as it is being carried on in Wisconsin is given here.

The Wisconsin Department of Agriculture maintains a diagnostic laboratory for the examination of specimens of elm twigs sent in for determination of the presence or absence of Dutch elm disease. From approximately 800 specimens examined in 1956, sixty-three cases of Dutch elm disease were found. Over 2000 specimens were received for processing during 1957. These were examined, and as a result, 376 trees were declared infected. These were found in 46 municipalities of 7 counties. All of these cases were found to be concentrated in the southeastern section of the state. Although there has been a marked increase in the numbers of infected trees found, the area involved has not appreciably increased in size. Another aspect that may be noted in this connection, is the fact that a greater and better organized effort was made to locate infected trees in 1957 than ever before.

There are several known vectors of the fungus, Ceratocystis ulmi, which causes the disease. The principal vector appears to be the smaller European elm bark beetle, Scolytus multistriatus. Also capable of carrying the disease is the native elm bark beetle, Hylurgopinus rufipes. The native elm bark beetle is distributed quite generally over the state of Wisconsin. The European elm bark beetle is generally concentrated in the southeastern section of the state.

The Wisconsin Department of Agriculture has developed what appears to be an effective control program, which is probably of significant assistance in limiting the spread of the disease. The program consists of three principal steps. They are listed below as follows:

Sanitation

Removal and burning of all trees known to be diseased. Burning or treating wood piles containing elm wood.

(This is a very important phase of the program in limiting the spread of the disease because it destroys the harborage of the vectors.)

Spraying

This should be done for the control of the vectors in areas where the disease is present.

Maintenance

Fertilization and pruning of all elms within municipalities. (This should be done in a comprehensive and well-organized manner for best results.)

In comparison to states which have the disease present but have no organized control program, Wisconsin appears to be making a highly creditable effort to contain the disease. It has moved only one county closer to our borders during 1957 than it was in 1956. In other states, spread sometimes reaches a dozen counties in a year.

Wisconsin authorities feel that a good sanitation program will prevent entry of the disease into an area where the disease is not present.

Editors Comments
R. J. Stadtherr

Participate at the Convention.

Let's all attend the Minnesota Nurserymen's Convention and come with questions for the experts on the program. Systemic insecticides, broad-spectrum fungicides, and fall fertilizer applications as well as new herbicides for weed control and promising different evergreen and deciduous varieties are current topics of much interest to all nurserymen.

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