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

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OFFICERS FOR 1960 - Minnesota State Nurserymen's Association

Lawrence Bachman, President
Bachman's Inc., Minneapolis
Don Wedge, Vice President
Wedge Nursery, Albert Lea
Edward S. Reid, Secretary-treasurer
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Board of Directors include:

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Terry Cashman, Cashman Nursery, Owatonna
Leo Snyder, Fillmore County Nursery, Canton

Members of the Minnesota Nurserymen's Research Corporation are: Dick Andrews, Chairman, Harry Francis, Secretary-treasurer, Harold Reid, William Elling, Frank Seifert, Gordon Bailey, and Kenneth Law. This group is "a non-profit group appointed by the president of the Minnesota Nurserymen's Association to encourage and support research in problems related to the nursery industry. We propose to do this through the payment of royalties to the Horticulture Research Fund in the Greater University Fund on all new introductions of fruits and ornamentals by the Department of Horticulture of the Institute of Agriculture."

"The Minnesota Nurserymen's Research Corporation will control the propagation and increase of these new varieties and will collect the royalties for the University from all nurseries propagating these varieties. Nurseries that propagate these new varieties must agree in advance to the payment of the royalty and must agree to sell plants on an equitable basis to all nurseries requesting plants." (These quotes were taken from the articles of corporation.)

DIRECT MAIL IS EVERYBODY'S SALESMAN

Martin Baier

Direct mail is one advertising method which brings the nurserymen's business directly to the customer's door. To use this method effectively, the nurseryman must keep the following points in mind:

- Choose a mailing piece to suit your customer and product.
- Make it easy for the customer to act.
- Strive to get the mailing piece into the home on a day when the mail is not cluttered by other mailing pieces. The middle of the week seems better.
- Time your mailer so that the customer's interest is high.
- Don't waste money on a non-responsive group. (Those which are apartment dwellers, etc).
- Keep an up-to-date mailing list.
- Repeat mailers to responsive customers.
- Be prepared to follow through on gift offers.

(Summary of Convention Presentation)

CONTROL OF VARIOUS INSECTS

Rudolph T. Franklin, Forest Entomologist
Minnesota Department of Agriculture,
Dairy and Food

Dr. L. K. Cutkomp, Department of Entomology
University of Minnesota

Dr. David French, Department of Plant Pathology
University of Minnesota

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

LEAF MINERS OF BIRCH, ELM, AND OAK

The birch leaf miner Fenusa pusilla causes pale blotches of varying sizes and shapes on the leaves. When examined carefully, the upper and lower surfaces may be found to be intact and the tissue between them eaten away.

The adult sawflies emerge from their overwintering cocoons in the soil not long after the leaves appear. Eggs are deposited singly. Hatching takes place in a week and the larvae begin to feed at once, first forming kidney-shaped blotches. The blotches are then much enlarged, when the larvae finish feeding they emerge from the leaves and pupate in the soil. There may be two or more generations per year.

The gregarious oak leaf miner, Cameraria cincinnatiella, is a tiny moth which emerges in the spring and lays its egg on the new oak leaves. Several larvae may be found in one mine or several separate mines may occur on one leaf. There are two generations in a year.

The two-winged elm leaf miner, Agromyza ulmi, mines the leaves of American elm. This species has a single generation, overwintering in the leaves and emerging as an adult fly early in the spring.

Control of leaf miners is often very difficult. Timing is very important. When possible, spraying should be timed with the emergence of the adults. Two applications of malathion plus DDT should give control. Lindane or malathion may be used when the mines or blotches first appear in the leaves.

Dosages:
4 lbs. of 25% wettable powder or 2 pints of 57% malathion emulsion plus 2 lbs. of 50% wettable powder DDT.

OR

2 pints of 57% malathion emulsion

OR

1 pint of 20% emulsion or 1 lb. of 25% wettable powder Lindane.
On birch, a second spraying will probably be necessary for the second generation about six weeks after the first spray.

Lilac Borer

This insect attacks lilac, privet, and ash, and less commonly, mountain ash. The adult of this insect is a clear-winged moth, which resembles a wasp. Its front wings are dark brown and the transparent hind wings are yellowish. The legs are brown and yellow. In most years these moths emerge in late May and June from the borer tunnels. The moths lay eggs on rough bark areas. The tiny white larvae bore into the sapwood producing irregular mines. They move to the heartwood as they grow larger. Dark, moist borings may ooze from the holes on the branches. The leaves on the infested shoots usually show wilting by midsummer. Occasionally the shoot may break. By late September or October the burrows are plugged and the $1\frac{1}{4}$-$1\frac{1}{2}$ inch white larvae overwinter in the cell. Pupation takes place in the burrow in April or early May.

Cut and burn infested shoots before the first of May.

On valuable specimens inject carbon bisulfide into tunnel before May, plugging up hole.

Bark spraying with DDT can prevent some egg-laying if repeated during the early summer.

Use one gallon of 25% DDT emulsion or 4 lbs. of 50% DDT wettable powder per 100 gallons starting shortly after mid-May and repeating at 3 week intervals until 3 or 4 sprays have been applied.

Hackberry Nipple Gall-Pachysylla celtidis-mamma

Conspicuous growth on the under sides of hackberry leaves are signs of an infestation of this insect. Formation of each gall is stimulated by a tiny insect that feeds and lives inside the gall. The small, yellowish-brown adults pass the winter in bark crevices of trees or in the debris under trees. About the time leaf buds unfold, the female deposits eggs on the under sides of leaves. When the eggs hatch, the young insects settle down and begin to feed through a short beak. The leaf tissue grows around the insect in characteristic fashion to form a gall. The insect completes its development by September and emerges as an adult through a slit in the base of the gall. At this time of the year, insects of this species may make nuisances of themselves by flying into houses.

Control is best obtained by a malathion plus DDT spray at the time the leaves begin to unfold. (Same dosage as for leaf-miners)

Spruce Needle Miner - Recurvaria piceaella

This insect mines spruce needles, leaving the dead needles and frass held together in a web.

The full grown larvae are reddish-brown with a light brown head and thoracic shield. The adult moths appear in late spring, and the eggs are deposited on the needles. The young larvae bore into the base of the old needles and hollow them out. The nest gradually enlarges as mined needles and frass are added to it. In the fall, the insects hibernate as larvae in the nest or within mined needles. When warm weather returns, they become active again and may feed for a period. Then pupation occurs, and the adults emerge.

Control may be obtained by washing the webs from the trees with a strong jet of water, then raking and burning the debris.

The trees may be sprayed with malathion (2 pints of 57% emulsion per 100 gallons of water) in the spring when the larvae become active. It is quite difficult to spray the second generation at the proper time, this would usually be in the early part of August.

Spider Mites

The mites we refer to as spider mites or red spiders belong to the family called Tetranychidae. At least two genera and several species in each genus may be involved in our over-all spider mite problem. However, in Minnesota, by far the most troublesome pest of all of these is the two-spotted mite, Tetranychus telarius. The adult female is an eight-legged pale-yellow or greenish mite about 1/60 of an inch long. The male is slightly smaller. Two dark spots, composed of food contents, show through the body wall. The body is rather oval and covered with spines. These pests are mites and not spiders but derive their name from the fact that they can spin a silken thread on the leaves of the plants upon which they feed. The threads are not noticeable until the population becomes quite high. The spider mites have a wide host range among coniferous and deciduous nursery stock. In this instance, we are concerned mainly with their presence on evergreens, especially junipers, arbor vitae and spruce. Chlorosis, or loss of the full green color of the plant, is one of the first symptoms that becomes apparent after infestation. A deciduous tree that was peculiarly affected last year was the green ash. The pest attacked the terminal shoots of these trees, causing chlorosis and delay in growth of the shoots.

Kelthane - 2 to 3 pounds of 18.5% W.P. per 100 gallons of water.
Ovex plus malathion - 2 pounds 50% ovex W.P. plus $1\frac{1}{2}$ pints 57% E. malathion.

Tedion - 2 pounds 25% W.P. per 100 gallons of water.
Chlorobenzilate - 2 pounds 25% W.P. per 100 gallons of water.
There are also other effective miticides.

PRAIRIE FIRE - A NEW ROSE

Prairie Fire is very floriferous, having 2½ - to 3-inch red flowers borne in large clusters on vigorous canes. Each cane will produce from 35 to 55 individual blooms. The flowers are a very bright red with the outer petals slightly darker than the inner ones. The base of the petals is white thus having the effect of highlighting the red in the flower. The blossoms are long-lasting and age slowly to a lovely, clear pink and the brighter and deeper color of the buds and fresh blooms give a brilliant fiery effect.

The plant is very vigorous, producing numerous succeeding canes throughout the season. These canes are very sturdy and upright. The plants will reach a height of 5 feet in a single season. The foliage is a dark, glossy green.

Prairie Fire has demonstrated outstanding winter-hardiness for a floribunda rose in Minnesota. During five succeeding winters of testing, this plant has survived without special winter protection. However, the winter of 1958-59 with its penetrating cold and little or no snow cover demonstrated the need for some protection. Therefore, it is recommended that a 6-inch leaf or hay mulch without earth mounding be provided.

Prairie Fire is especially useful as a showy flowering shrub for landscape plantings. It can be used very appropriately as a background for a flower border or a border of garden roses.

A NEW FRUIT INTRODUCTION FOR 1960
THE 'TRUMPETER' STRAWBERRY

The 'Trumpeter' strawberry is a new June-bearing variety which ripens rather late in the season. It produces handsome fruit with exceptional qualities for market and freezing as well as home use. The berries are firm and maintain their fresh condition and their beauty in the box for a relatively long time. Their fine flavor, intense red flesh color, and ability to hold their shape contribute to their dessert value whether fresh or frozen.

The berries are large, well formed, and relatively uniform. They are rounded heart-shaped and may be described as "fully inflated"; that is, free from creases or wrinkles. Their attractive red color is heightened by contrast with the large, green "caps" and yellow seeds. The berries make an excellent appearance in the box or as individual specimens. The flesh is red throughout, succulent, juicy, and of very good flavor.

EDITORS COMMENT

Your editor up to 1960 will be concentrating on completing his requirements for his doctor of philosophy degree thus Dr. C. G. Hard, extension horticulturist, is your new editor.

NOTES TO THE NURSERYMAN

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

Fruit List

Many people calling our office and the office of Department of Horticulture, University of Minnesota, have had difficulty securing some varieties of tree fruits from Minnesota nursery sources. We contemplate issuing a list of such available stock as we did last year, which can be submitted in answer to these queries. Any Minnesota nursery that has substantial supplies of tree fruits may be listed upon request, provided that we feel the amount of stock available justifies listing. All nurseries whose names appeared on the list last year will soon receive a questionnaire in the mails. The information thus received will enable us to bring our list up-to-date.

Barberry Permit

Any nurseryman doing an interstate barberry business, regardless of the amount of his business, should apply for a federal barberry permit. There is no charge involved. Application blanks may be obtained from the regional Plant Pest Control Office, ARS, USDA, 34 South Fifth Street, Minneapolis, Minnesota.

The Use Of Pesticides

Recent publicity in regard to the use of pesticides causes us to review a few general suggestions that might be helpful to the nurserymen as they prepare to deal with pest problems which may confront them during the next growing season.

Plant Protection During Spraying Operations

(1) Choose a spray material that is relatively non-injurious to plants. Among the miticides several may be chosen that are very effective, yet non-phytotoxic. The same is true of some insecticides.

(2) Avoid spraying with materials likely to be phytotoxic when the temperature is above 85°, especially when the humidity is high.

(3) If emulsions are used, run a little of the spray material through the spray hose before applying it to the plant as you begin the days work. This should eliminate any concentration of oil that may have remained in the hose.

(4) Wettable powders and emulsifiable concentrates do not always mix properly. Mixing malathion emulsifiable and ferbam wettable powder is an example. Like formulations should be used together when possible.

(5) Use a clean sprayer. Separate sprayers for the application of herbicides are advised, at any rate avoid contamination through use of herbicides prior to the use of insecticides or fungicides without proper precautions.

Safety Precautions In Using Pesticides

(1) Read the directions and follow all of the safety precautions on the label.

(2) Avoid spilling poisonous material on your skin. Some chemicals may be absorbed through the skin. If these materials come in contact with the skin, wash immediately with soap and water. This is especially true of the concentrate before it is mixed with water. Wear a respirator and goggles when applying toxic materials.

(3) Avoid inhaling fumes or dusts. Do not smoke or eat during the operation. Maintain your position on the windward side of the spraying operation in order to avoid drift.

(4) Store poisonuous materials in closed containers and in a dry place where children, animals and people, unaware of the dangers involved, cannot come into contact with them. Be sure that containers remain properly labeled. Empty or nearly empty containers should be destroyed. Burying is perhaps the safest method of disposal.

In case of an accident or undue exposure of toxic chemicals, there are a number of poison information centers located in various towns in Minnesota. The main office is located at the following address:

Poison Information Center
Division of Special Health Services
Minnesota Department of Health
Minneapolis 14, Minnesota
Telephone Number: FEderal 9-7751

A telephone call, by your physician, to this office will give him the information he needs and if necessary, they will refer him to the center nearest you.

NEW USDA LABORATORY

A new field laboratory for the U.S. Department of Agriculture was begun last June at Delaware, Ohio. The new $350,000 laboratory is to be completed next spring.

Research personnel from the Agricultural Research and Forest Service will study improved methods of controlling diseases and insects of ornamentals, shrubs and forest and shade trees by the use of systemic chemicals. They will endeavor to find methods of controlling Dutch Elm and other shade trees diseases. Development of new ornamental varieties is another phase of their proposed program.

PROTECTION OF NURSERY STOCK FROM RODENTS

The fine article by Professor Winter in a recent newsletter received very favorable comments. Some have asked about the use of dried blood to repel rabbits. We have seen it used on a small scale and it has seemed to be effective. However, it doesn't remain effective very long if there are rains or much wet snow to wash it off. What are you using and what are your results?

Reports made in tests that were run in Delaware, Massachusetts and Virginia indicated that "Arasan" 42-S a liquid suspension of thiram, a fungicide, was effective against rabbits, other rodents and deer damage for an entire season from a spraying. The addition of a supplemental "sticking" agent improved adhesion. "Arasan" 42-S has been used on small fruit trees and roses thus far. Extensive testing will be done this winter.

BLEEDING HEARTS PROPAGATION

Harry Brostrom, Jewell Nurseries, Inc.
Lake City, Minnesota

Bleeding hearts are propagated by cuttings of the forced shoots. The mother plants are put in soil benches in the greenhouse about February 15th and mulched with peat. When the new shoots are about three or four inches tall, we carefully cut them off down in the peat and stick them in sand for rooting. They are later potted and are ready for field planting about May 15th.

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