

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. I No. 11 & 12

NURSERY INDUSTRY STEPS AHEAD WITH POLYETHYLENE

MINNESOTA NURSERYMEN'S CONVENTION

Twenty-ninth Annual Meeting
Lowry Hotel, St. Paul, Minnesota

December 6th and 7th, 1954

MONDAY

December 6th, 1954

- 9:30 A.M. --Registration on the Mezzanine Floor
- 12:00 Noon -- Luncheon
President's Address
Treasurer's Report
Appointment of Committees
- 1:30 P.M. --A new film on Roses, produced and shown by Mt. Arbor Nurseries
Roses in this area by Charles Mathes, Park Nurseries
Canned Nursery stock, James S. Wells, D. Hill Nursery Company, Dundee, Ill.
- 6:30 P.M. --Banquet and Entertainment
Committee: Gordon Bailey, Lawrence Bachman, Chas. Mathes

TUESDAY

December 7th, 1954

- 9:30 A.M. --Report of Committees
Report from Richard P. White
Report from Ken Law on the 1954 A. A. N. Convention
"Plant Minnesota"
- 12:00 Noon --A. A. N. Luncheon
Appointment of Delegates and Alternates
- 1:15 P.M. --Report from Prof. Thor Aamodt, State Entomologist
- 1:45 P.M. --Report from Dr. Leon Snyder, Head, Department of Horticulture and other staff members
Executive Board meeting at close of sessions

K. D. Andrews
Andrews Nursery Co., Faribault, Minn.

Only five years ago, if you had said that some-day nurserymen would be shipping nursery stock without packing material on the roots, everybody would have said you were out of your mind. Last spring your prediction became a reality.

For the first time in the 82 years our company has been making spring shipments, we used no packing material of any kind on the roots in our mail order packages.

Experiments had been going on for three years in order to make this possible. The large mail order nurseries in Iowa, together with the Iowa State College at Ames, made hundreds of test shipments in a new substance called polyethylene. Some plants like carnations, mums, strawberries, roses and evergreens were put into polyethylene bags. Other shipments of apple trees, roses and shrubs were wrapped in polyethylene-lined Kraft paper.

These test shipments were sent in all directions from Ames. Upon their return, the plants were checked as to their physical condition. Some of the questions asked were: Did they shrivel from loss of moisture? Were they broken? Did the buds begin to break or were they still dormant? Would they grow as well as the check plants that were packed in the regular way?

The use of this new polyethylene-lined Kraft paper or polyethylene bags wrapped in regular Kraft paper eliminated the use of sphagnum moss which seems to increase in cost every year. So we found one way to help cut our operating costs.

Without packing material, the bundles weighed less; thus we saved postage. In one test case of three 2 to 3 foot birch trees wrapped the regular way, the cost would have been 31¢ postage to their destination. Wrapped the new way, in polyethylene-lined Kraft paper, the postage was 6½¢; so we find quite a saving in postage. Of course, on packages that weigh several pounds, the saving is not so dramatic. In most cases the savings in postage from lighter packages will offset the 36% increase in postal rates which became effective October 1, 1953.

Another feature which resulted from the lighter weight was less breakage. The bundles are lighter and seem to float through the air as the mail clerks throw them into the mail bags when sorting for shipment. This is a nice saving, as some stock is always

damaged in shipment. This year these losses were cut to a minimum.

This new way of packing also eliminates many letters you classify as customer complaints. Usually when a customer complains about his shipment, it's because it arrived in a broken condition or dried out. Packed the new way, the nursery stock arrived in a condition that pleased the customers. We had many fine letters of commendation on this new type of package.

In all of our nursery operations, we are looking for ways to cut costs. The folks in our baling department liked to use this new wrap. It was faster because they did not have to stop and work moss or shingle tow around the roots. More shipments were made per day than previously. The women balers, especially, mentioned that with the new paper their hands were in better condition. Eliminating the wet moss kept their hands dry, so they could work faster, were more comfortable and did not develop sore fingers and hangnails as in other years when their hands were kept almost continually wet from handling the moist moss.

A new product usually is a little more expensive than the product it replaces. Last spring polyethylene Kraft was about five times the cost of regular Kraft, but it made possible faster packing and elimination of packing material.

All in all, the cost worked out about the same as the costs with the older methods, but there was still that saving on postage.

Now, for next spring the cost of polyethylene Kraft is about three times regular Kraft, and it is hoped that in another year, volume production and use will bring the cost down to only double that of Kraft. Then, there will be some real savings on your shipments.

I'd suggest you contact your paper company now for prices for spring delivery--or, better still, if all the nurseries interested would get together and pool their order, we could get a good low price on our entire needs.

Some nurseries in Minnesota do not make very many mail order shipments. There are some features about these new materials that are important for their operations.

At budding time, if you are shipping buds any distance, they need only to be wrapped in thin sheets of polyethylene film, which can be purchased by the roll. You eliminate moist moss on the roots and wet newspaper around them. Simply cut the bud sticks, wrap them in the polyethylene film with the ends tucked in, and make the package tight so no air can get in. Then wrap regular Kraft paper around the outside and the package is ready to go.

Another use I've found for polyethylene bags is to carry an assortment of sizes in the glove compartment of my car. These bags make an ideal way to carry greenwood cuttings or rooted cuttings. How often have you seen some tree or shrub you would like to try to grow, but you have no way to get the

propagating wood home? Simply cut the wood or dig up the rooted cutting--whichever the case may be--slip them into the bag, twist the top of the bag shut and put a rubber band around to hold it tight. Do not put any water in the bag. It is not necessary. Soon you will find the inside of the bag beginning to fog over the small beads of moisture. Do not worry--this moisture cannot escape and the cutting will keep fresh.

This is only the beginning. In the next several years you are going to find many new uses for these materials, for instance, in storing root stocks and scion wood for winter grafting. Packed in boxes lined with polyethylene-Kraft paper, the root stocks and scions will keep perfectly for months and be just as fresh when unpacked as when first cut.

Once you start using these new materials, you will find many places in which they are far superior to other ways of packing and storing. Keep your eye on polyethylene.

THE STORAGE CELLAR

Walter P. Trampe
Nursery Inspector, State Department of Agriculture

Storage losses to nursery stock should be considered at this time of the year. If measures for the preservation of the year's stored crop are to be taken, the effort should be made early enough in order to be effective. The purchase of stock still to be moved into storage must be given careful consideration to avoid bringing in diseased plants which could spread infection during their storage period.

Temperature

Temperature control is perhaps the first step which should be taken to avoid condensation in storage. Condensation with subsequent free water is perhaps the greatest problem to be encountered in the control of storage diseases. At this point our reference to temperature control shall be limited to proper insulation of the storage cellar. Artificial heat, when used in the storage, is likely to create areas of low humidity and cause consequent damage to the plants stored in those immediate areas.

The matter of temperature control here in our discussion specifically becomes one of repair and alteration to the insulation of the cellar itself. Warm air, hitting a cold surface, is responsible for the condensation which drips off a surface or freezes as hoar frost and melts later and falls or runs off at that time.

Areas that are poorly insulated should be taken care of now before damage occurs. Each storage cellar presents a problem of its own; therefore it is difficult to make general suggestions for insulation. Areas of trouble such as frosty ceilings or definitely outlined patches of frost showing up in seasons past should be examined for possible improvement. Ordinarily, glass windows are so difficult to insulate that they have no place in the cellar. Existing windows must be of reduced size and should be double- or

triple-glazed with each sash caulked or weather-stripped.

In general, the storage cellar should be well enough insulated in every detail so that artificial heat may be reduced to a minimum and yet maintain temperatures at a level suitable to the plants in their dormant condition.

An effort should be made to avoid storage overload of areas where condensation occurred during past storage seasons. Condensation sometimes occurs when small concentrations of moisture are unable to move away from a surface because the stock is packed in such a manner that the air cannot take off this moisture. Large ventilating fans can be of considerable assistance in many cases.

Keep in mind that warm air or air of cellar temperature which moves over a surface equally warm eliminates condensation and consequent frosty areas.

Humidity

The control of the humidity of the air which comes in contact with the plants, especially the roots of the plants, is another matter for consideration. This may be done for most of the trees and shrubs by packing the roots in a damp medium such as shingle toe or sphagnum moss. The atmosphere in the cellar should have its humidity maintained at a point where the moisture is not robbed from this material. Replenishing the water in the packing medium is very often the point at which storage cellar diseases begin a rapid spread. Yet it is recognized that this must sometimes be done if this medium is not in condition to keep the roots in a moist condition and the roots consequently viable.

Humidity control in cold storage rooms where extra-sensitive plants are usually kept is usually quite well handled by automatic equipment and requires little elaboration here. We are of the opinion that nurserymen could very easily make use of their humidifiers in such a situation to dispense protective fungicides into the atmosphere of the storage cellar. Assistance with this particular problem should be obtained from some dependable authority, such as Dr. King of the Department of Plant Pathology, before proceeding with plans for this type of treatment.

Chemical Control

Chemical control of storage diseases is a large field which must be covered by further research in the future. From personal observation and contact with nurserymen, it appears to us that some fungicides of value are available which may be applied to various types of nursery stock and under certain conditions instances of disease outbreak appear to be reduced. Commercial men selling the materials are perhaps as good a source of information for the nurserymen as any at the present time. The writer would be glad to discuss this matter further when individual problems are presented.

OAK WILT, A SERIOUS DISEASE IN MINNESOTA

Dr. D. W. French
Assistant Professor, Plant Pathology
University of Minnesota

Oak wilt is a fungus disease that attacks all species of oak found in this state. The disease is now present in all of southeastern Minnesota, extending west to the Blue Earth River and north to Taylors Falls and St. Cloud. A few infection centers are located along highway 218 to Brainerd.

Here is a threat to one of the state's most valuable shade trees that does not just slow down growth or kill part of a tree, but kills an oak quickly and completely. Oak wilt is the only known disease that will kill oaks so quickly. Red oaks are most susceptible and can be killed in as short a time as two weeks, once infected. Wilting foliage will first become evident in the top or near the top of the tree. The leaves will turn a bronze dull color. As the tree dies, sprouting may occur along the main stem. It is rare for red oak to survive infection.

Bur and white oaks are less susceptible but may be killed by the fungus. The symptoms of oak wilt in these trees are not as evident as in red oak. They die gradually (taking from one month to a few years to complete the process). Scattered branches will wilt, the leaves turning yellow or yellow brown. Gradual dieback on these branches will usually continue until the entire tree is dead.

Oak wilt can usually be detected by culturing the fungus from a suspected tree. Sample material for culture work should be in the form of actively wilting branches, at least 1/4 - 1/2 inch in diameter.

Control for oak wilt falls into two categories. The fungus can spread through root grafts between infected and healthy trees. This type of spread can be halted in either of two ways. A series of trenches cut or dug around infected trees will stop it. This trench should be 40" deep. When large numbers of trees are involved, spread can be halted by poisoning the infected trees and the immediately adjacent healthy trees. This can best be done with sodium arsenite (very poisonous to humans), brush killers containing a mixture of 2,4-D and 2,4,5-T, or armmate.

The fungus can also be spread by insects that carry spores from tree to tree (especially to wounded trees). To control this type of spread, current research suggests that recently wilted red oaks should be cut immediately, the tree (main stem) sprayed with a good fungicide such as pentachlorophenol, and the stump poisoned. For example, a red oak that is killed in July will produce spores in September and October, and thus should be treated or removed as soon as possible before this time.

Any control program should include as large an area as feasible. Successful elimination or control of oak wilt is more probable as a community project. More detailed information can be obtained from the Agricultural Experiment Station in St. Paul.

Editor Comments

Richard Stadtherr

Corrections

We wish to correct several errors in the September-October issue of your newsletter. It should have been Volume 1, No. 9 and 10.

The Inter-State Nursery is located at Hamburg, Iowa, not Shenandoah.

Contributions

Several contributors' names did not appear on the list which acknowledged contributions received for our testing program. We wish to express our thanks to these contributors, as well as to those mentioned previously and to new ones.

Plant Introduction Station, Glenn Dale, Md.

Weston Nurseries, Inc., Weston 93, Mass.

Donald Craig, Nantucket, Mass.

Royal Horticultural Society, Surrey, England

Cheyene Field Station, Cheyenne, Wyo.

J. V. Bailey Nurseries, Newport, Minn.

Wedge Nursery, Inc., Albert Lea, Minn.

Daniels Nursery, Long Lake, Minn.

Henry Bachman Sons, Inc., 6010 Lyndale Ave.,
S Minneapolis, Minn.

Eldred Buer, Canby, Minn.

Minneapolis Park Board.

New Position

Your editor has accepted a new position as a research fellow at the University. He will be doing research on nursery crops and turf. We hope to see many of you at the Nurserymen's Convention to learn your problems. Through cooperation, I'm sure we will have a successful program. Thus, let us hear from you if you have problems.

Ken Law To Join Baileys

Ken Law, formerly manager at the Jewell Nurseries, Lake City, will join the J. V. Baileys Nurseries December 1.

The Ken Law family has formed the Law's Valley View Nurseries, Inc., at Hastings, Minnesota.

Prepare for Christmas Sales

During this season of the year, the buyer's resistance is low. What are you doing to compete for his dollars?

Much money is spent for decorations and gifts and the nurseryman should compete for the consumer's dollars. There are many items which logically should be sold by the nursery. Keeping your name in the public eye will also increase your sales. A Christmas display and the advertising you do to sell these items will benefit you next spring and summer when the planting season arrives.

Evergreen trees, wreaths, boughs, holly and mistletoe might be sold. By all means, have stands available for the Christmas tree. Gift certificates could be included for trees, shrubs, perennials and bulbs as well as collections of seeds, gardening books and magazines, power equipment, garden tools, barbecue units and lawn furniture. Delivery of these gifts would be made in spring or early summer, thus giving the nurseryman another contact with customers.

For the bird lover, a bird feeder and bird seeds would be a most welcome gift. Christmas ornaments especially for outdoor decorations would entice many a buyer. Plant containers, plant stands, fungicides, insecticides and potting soil might be other items requested.

Live Christmas trees, flocked trees, and Christmas candles and greens for the centerpiece or mantelpiece would also find a ready market.

If you can compete for the consumer's dollar during the "off-season", you will find an added reward during the normal growing season.

CHRISTMAS GREETINGS TO ALL

HORTICULTURAL
SPECIALITIES
BIG BUSINESS

At midcentury the value of sales and inventory of horticultural speciality goods and services in this country exceeded \$1.5 billion. In addition to flower, nursery, bulb and flower seed production, the horticultural-specialty crop classification includes propagated mushrooms, greenhouse vegetables, vegetable seed and specified small fruits such as blueberries. The labor force of the industry was more than a quarter million persons, with a payroll of more than \$300 million. Cash receipts from horticultural specialties in 1952 surpassed those of such outstanding farm products as potatoes, apples, oranges, sugar beets and cane, wool, turkeys, sheep and lambs.

Good Groundcovers

Here are several deciduous woody ground covers for steep slopes: Native Woodbine or Virginia Creeper, Parthenocissus quinquefolia; Bittersweet, Celastrus scandens; Matrimony Vine, Lycium Halimifolium; Chinese Matrimony Vine, Lycium chinenses; Wild grapes, Vitis sp.; and Rose species.