

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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IRIS BORER DOING DAMAGE

Gardeners have reported serious damage to iris plants from the iris borer.

Brown perforations in the leaves and conspicuous flowing of sap are indications of damage.

According to A. A. Granovsky, professor of entomology at the University of Minnesota, the iris borer feeds first on the outside of the leaves and later inside. It works downward till it reaches the iris rhizome or root, excavating it seriously. If the iris is shaded, rot sets in and may injure prize iris plants.

The trouble actually begins in late fall when the borer in the adult moth stage lays eggs on old leaves of iris as well as on any plant stubble in the vicinity of iris. The eggs overwinter on the dead refuse and hatch in the spring, at that time working into the protruding young leaves. The borer eats holes in the leaves which often begin to bleed as a result.

The University entomologist recommends taking these measures at once to control the iris borer: Clip injured perforated and browned leaves, but avoid cutting sound leaves, since they are needed to feed the roots. Clip the leaves into a basket and destroy them. If the rhizomes have been invaded by the borer the decayed portion should be removed and the injured area exposed to the sun. It is also advisable to apply dusting sulphur to the wounds of the rhizomes.

The best and most effective method of control is in the spring, however. Thorough sanitation in early spring in the iris border is a good preventive measure, Dr. Granovsky said. As soon as the ground is workable, dead iris leaves and stubble of other plants should be cleaned up and destroyed. After the spring cleanup, it is advisable to apply to the iris border and adjoining area a 5 per cent DDT dust mixed with copper. The dusting should be repeated two or three times during the growing season, at intervals of about three weeks, as needed.

RECENT DEVELOPMENTS IN STRAWBERRY PRODUCTION

Walter P. Trampe Nursery Inspection

The great decrease in the acreage of strawberries in recent years opposed to the high acre profit

possible in strawberry growing has remained an unanswered question for several years. A few interesting developments have taken place during the past year which should aid in supplying a few suggestions in answer to these troublesome questions.

The Section of Nursery Inspection was concerned with the immediate problem in which varieties of strawberry plants susceptible to the cyclamen mite, were grown in the greenhouse through the winter months, and then sold the following spring as established strawberry plants. Under these conditions, the cyclamen mites built up rapidly. Some means had to be found which would eliminate the mites before shipping in order to comply with the Nursery Inspection Law.

During the winter months of 1952 - 1953, Dr. L. K. Cutkomp of the Department of Entomology and the writer worked with various insecticides in the hope of finding a satisfactory control for this pest. Although several of the chemicals were moderately successful on first trial, they later proved ineffective after continued use. However, the writer was determined to take any necessary measures to remove the dangers of shipping mite infested plants. Consequently, in the fall of 1953, with the cooperation of the grower and Dr. Cutkomp, a mite eradication program was carried out. The results accomplished by using methyl bromide as a fumigant appeared to be revolutionary. However, considerable work must be done before definite recommendations can be made in regard to dosage, temperature, and time of exposure. Another group of plants which was known to be infested with mites was treated with a new chemical called endrin. Three weeks after the writer had instituted treatment on this group, no mites could be found. The work which has been done with this chemical is so preliminary in nature that the details in regard to dosage and methods of application cannot be supplied at this time. The project produced such interesting results that field treatments were continued throughout the past summer.

Dormant plants were treated by the writer at the Herb Schmidt farm, Eureka; Norton Taylor farm, Forest Lake; Ted Houle farm, Forest Lake; and the Sam Inman farm, Hudson Road and Van Dyke Avenue, St. Paul. At the time of this writing, a distinct difference was noted between treated and untreated plants at the Ted Houle farm in Forest Lake. The plants are of the Red Rich variety, and runner production on the treated plot is markedly greater.

Several experiments were carried out on the Inman farm. A number of plots were treated in the



field, using a tarpulin and applying a fumigant to obtain insect and mite control. In addition, applications of certain chemicals (as spray materials) were tried. It must be remembered that this experiment was carried on in conjunction with a going berry and plant production business. Only controls that could be combined with practical results were used.

Three year old berry patches that failed to produce any sound berries a year ago produced a record crop this year after one spraying. Wayzata plants, traditionally poor runner producers, made a good set of runners after fumigation of the dormant parent stock. The results obtained should be of interest to all strawberry growers or others who are interested in strawberry production. Because of the striking results obtained, anyone interested should make a trip to the Inman farm to see these results for himself.

High standards of operation in nursery inspection are often difficult to maintain when we are faced with obstacles such as the cyclamen mite presents. Besides being difficult to detect on routine plant inspection, cyclamenmites are a problem of considerable importance to the berry producer. Our efforts to find a solution were redoubled. The splendid cooperation and technical assistance provided by Dr. L. K. Cutkomp is worthy of comment. It has been gratifying to cooperate with him in working on this problem.

We wish to stress the fact that we are not ready at this time to make definite control recommendations concerning the two chemicals referred to. However, the work shows such promise that we felt some report was in order at this time. It is assumed that additional information in regard to the use of the materials in question will be available at the time of the Berry Growers' short course this fall.

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Christmas Tree Plantations in Minnesota Some Possibilities and Limitations

Dr. Henry L. Hansen - Assoc. Prof.
School of Forestry
University of Minnesota

A new way of growing an old crop

Minnesota has for many years been a leading producer of Christmas trees. Estimates during recent years indicate that as many as five million pieces of evergreen ornamental material, mostly Christmas trees, have been produced and sold for the holiday trade from forests of this state. Several large industries are based on the processing of this material. However, the bulk of the procuring, transporting and retailing of Christmas trees is done by a great many individuals to whom it is only a part time activity supplementing their regular work.

During the past several years there has been a great surge of interest in the planting of evergreens with the idea of their being harvested for Christmas tree sale in the future. Just what factors stimulated this sharp interest is not entirely

clear. However, the development of tree planting machines enabling fast and effective planting without the back breaking job of hand planting has certainly contributed much to make tree planting a popular activity. In addition, wide publicity given to several highly successful Christmas tree growing ventures in eastern states has injected a speculative aspect which has interested some who have an interest in investing money in something novel. As a result of these and other factors the spring of 1954 saw over a million trees being planted in the "sand counties" of central Minnesota. Interviews with many of the private individuals involved with these plantings indicate that future Christmas tree sales is a major motive.

Species preferences

In the northern states the various species of spruce and fir have always been considered the traditional "Christmas trees". Balsam fir and black spruce have always led in numbers of trees sold with Douglas fir from western areas becoming increasingly popular in more recent years. Of special significance to those interested in growing planted crops of Christmas trees has been the increasing popularity of the pines. Norway pine and Scotch pine have been the two most commonly sold pine species, and premium prices have often been paid for good specimens of both. In other sections of the country red cedar, southern pines, and other species have been most popular.

Cultural requirements

The major initial consideration involved in the starting of a Christmas tree crop is the selection of an area with suitable soil, close to roads and as near as possible to market outlets. The site requirements of balsam fir and other firs are not too well understood, and these species are difficult to grow in Minnesota on a large-scale, plantation basis. The spruces, both white and black, have done well on soils of a sandy loam nature unless to droughty. They also appear to do reasonably well on finer textured soils. The various pines in general prefer the lighter soils of a sandy loam or even a loamy sand texture. It is this preference for the soils which are too coarse textured to be considered good agricultural soils which has made Norway pine the most commonly planted Christmas tree in Minnesota.

It should also be recognized in choosing an area for this purpose that the heavier clay and silt loams will require frequent cultivation to keep down competition from a rank growth of weeds which such soils will support. On the sandier soils it is often true that no cultivation is necessary.

Protection of the plantation from insects, fire and disease may require expenditures of time and money sometimes not anticipated by prospective growers. Experience in eastern states where Christmas tree plantations have been established for many years indicate that an annual spraying program much like that needed on orchards is necessary. Sawflies, weevils, gall-forming insects, spittle bugs and other types of insects can cause damage which might not be serious in tree plantations for the growth of timber, but which destroy

or reduce the ornamental value of the trees for Christmas tree purposes. Similarly, there are diseases which may either cause mortality or so reduce the ornamental value of the trees as to make them non-marketable.

Devastating fires which burned over thousands of acres of meadow, forest and farm land in Anoka County in the spring of 1954 spectacularly demonstrated the need for adequate protection against this destructive agency. Firelanes at intervals throughout the plantations plus constant vigil during times of high hazard and fire danger must be provided.

Shearing for quality trees

Plantation-grown trees can be of better quality than wild trees from unmanaged forests if proper shearing techniques are practiced. The market is placing increasing emphasis upon quality trees with good density, color and form. Many species, particularly the pines, balsam fir, and Norway spruce, lack density of foliage because of their rapid height growth and scarcity of branching between the nodal whorls. Such species must be pruned to restrict height growth to a foot or less per year and to stimulate the production of lateral branching. Most species will also respond favorably to a general shearing to increase the abundance of foliage. Proper timing of such shearing and pruning must be observed to prevent dieback of pine terminals and to obtain the beneficial results.

Trees - a long term crop

A major difficulty in growing trees as a business is the considerable length of time required even to produce trees of Christmas tree size. Norway and Scotch pines which grow faster than any other species of any use for this purpose require from six to ten years to reach salable size. Many spruces will require twice this time. From a business point of view this means that considerable expenditures in the form of land costs, taxes, planting costs, and other "out-of-pocket expenses", as well as labor hire or time spent by the owner himself for protection and culture must be met before any income is realized. In addition, present income tax procedures do not equitable prorate the initial income back over the period of time required to produce this income and a heavy tax results.

Prospective growers should evaluate these difficulties in terms of their own situation before going into the business. It should be recognized that tree production is a venture involving greater risk than most crops because of the length of time required during which fire, disease, insects or bad weather may wipe out the crop. Unless returns commensurate with this high risk are forthcoming, growers interested primarily in raising trees for profit might find more profitable investment possibilities elsewhere.

Sources of planting stock

Currently most of the trees being planted for Christmas tree purposes are probably purchased from public agency nurseries. However, there is a definite demand for some trees from private nursery sources. It is also very probable that this demand will increase considerably in future years. Christmas tree growers will want to grow Austrian pine, Ponderosa pine, hardy strains of Douglas fir and of western true firs, Norway spruce, and other species of special interest for this type of market. Public agency nurseries cannot afford to grow these minor species, and they concentrate on a relatively few species of special interest for conventional forest and wild land planting. If the type of stock needed for this purpose can be grown cheaply in private nurseries, it will find an increasingly strong market demand in future years. Growers will be willing to pay extra to get the species they want, the extra quality of larger and older stock, and the convenience of deliveries when wanted.

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University to Introduce New Chrysanthemums

Robert A. Phillips, Assistant Professor
Horticulture Department
University of Minnesota

The Department of Horticulture of the University of Minnesota is planning to introduce two new varieties of garden chrysanthemums developed at University Farm. Names will be selected and the official introduction will take place in time for nurserymen and commercial propagators to include these new varieties in their 1955 catalogues and plant lists.

Because of the limited supply, stock plants (field clumps) of the new varieties will be available on a first-come-first-serve basis to commercial growers only and the number of plants supplied will be rationed so that stock will be available to those who apply for them. Stock plants will be offered free of charge to those who pick them up at the Department of Horticulture, Institute of Agriculture (St. Paul Campus.) Otherwise they may be secured at the cost of digging and shipping.

MINN. 'MUMS TO KOREA

University of Minnesota-developed chrysanthemums will soon be growing in a "Friendship Garden" in Korea, on the campus of the Sook Myung Women's university in Saoul.

According to Leon C. Snyder, head of the horticulture department at the University, seeds from several chrysanthemum selections developed by University Institute of Agriculture research workers have been sent to the Headquarters of the 22nd Signal Group of the United States Army which is collecting seeds of plants, shrubs and flowers typical of each of the 48 states. These will be presented to

officials of the Sook Myung Women's university, who are planning the "Friendship Garden" as a tribute to the cooperation and friendship existing between them and their American friends. Reconstruction of Sook Myung Women's university, badly damaged during the war, is one of the projects of the Armed Forces Assistance to Korea (AFAK) program.

The chrysanthemum was chosen as the plant to typify Minnesota because of the leading work done by the University's horticulture department in breeding and introducing 28 different varieties of 'mums, now widely grown in this and other states. The seed being sent to Korea is the same as that used in the University's horticulture breeding program and from which the different varieties have been selected.

The Minnesota chrysanthemums are especially developed for northern climates and for that reason should be adapted to conditions in Korea, Dr. Snyder said.

Editor
Comments

U TESTING PROGRAM

Recently a large number of different species and varieties of ornamentals have been added to the plantings at the University of Minnesota's Fruit Breeding Farm near Excelsior and University Farm in St. Paul.

Over 300 different ornamental trees and shrubs have been acquired through donations and purchase. These plants are being tested for hardiness and adaptability in Minnesota.

I'm sure that all of you are interested in this program. We would be glad to learn of materials which you have and believe might be of value in our testing program and are not generally recommended for the state at this time.

If you are interested in seeing the plantings we would be happy to show you around. We will report on these plants in succeeding issues of your newsletter.

We wish to acknowledge contributions received from the following:

Dominion Experiment Station, Morden, Manitoba
Morton Arboretum, Lisle, Illinois
Waltham Field Station, Waltham, Mass.
Arnold Arboretum, Jamaica Plains, Mass.
Hills Nursery, Dundee, Ill.
Inter-State Nurseries, Shenandoah, Iowa
Jewell Nurseries, Lake City, Minn.
Wayside Gardens, Mentor Ohio
Regional Plant Introduction Gardens, Ames, Iowa
Carleton Arboretum, Northfield, Minn.
South Dakota State College, Brookings, So. Dak.
Andrews Nursery, Faribault, Minn.

Catalog Wins Award*

A 48-page gladiolus catalog printed in process color, was one of five award winners in a nationwide competition conducted last March by the manufacturers of Mead papers. The catalog was printed for Carl Fischer of Noweta Gardens, St. Charles, Minn., by Trades Publishing Co.

There are 27 full color reproductions of gladiolus arrangements in the catalog.

*Florist Review 114 (2947): 68 May 20, 1954

OWEN CONVICTED ON NURSERY FRAUD CHARGES

On August 25, James W. Owen, operator of a \$3,500,000 mail-order nursery business was fined \$17,000 and sentenced to a year in jail for using the mails to defraud.

The indictment charged Owen misrepresented his stock in ads, sent poor grade stock and tried to stall off dissatisfied customers who sought refunds. It was contended that Owen sent many buyers dead or dying stock and the buyers could not get their money back. U.S. prosecutors spoke of 2,500 letters of complaint received by the government from dissatisfied customers.

Owen's fine was \$1,000 and costs on each of the 17 counts on which he was convicted.

Judge Charles G. Briggles, sitting at Springfield, Illinois heard the case. He took it under advisement July 12, after 23 days of testimony from about 200 persons. Owen's motion for probation was denied, however, a defense motion for a new trial is pending.

E. M. Hunt, Sec'y
Minn. Horticultural Society

HIDDEN BENEFIT IN SAWDUST MULCH

Much has been written about the value of sawdust as a mulch. In view of some recent research results from the Rhode Island Experiment Station it now appears that the beneficial effects of sawdust may not be confined to mulching action alone. There seems to be something in the sawdust itself which is stimulating to plant growth. Test blueberry plants watered with sawdust leachate, obtained by draining water through a cylinder containing sawdust, showed twice as much new growth as similar plants receiving equal amounts of tap water. Boiling the leachate seemed to destroy most of its beneficial character. The benefit did not seem to be associated with any changes in pH. The question of why this is so remains to be solved. (Sawdust mulch--why is it good? R. I. Agr. Exp. Sta. Res. Quart. Rev. 4: 15, 20 Fall 1953).