

Minnesota Nurserymen's newsletter



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

In Cooperation with
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• Minnesota State Horticultural Society

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BEDDING PLANTS FOR MINNESOTA*

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Northrup, King and Company
Minneapolis, Minnesota

Several trends have been noted in the seed business which should be of interest to greenhouse operators.

First point of interest to commercial growers would be the fact that there is a very definite increase in the use of flowers against vegetables in home gardening throughout the United States. Our own packing figures corroborate this; for the past 10-year period, each year successively shows an increase proportionately in the amount of flowers packed and sent out and a corresponding decrease in the vegetables.

We seedsmen note a very decided trend for the gardening public to buy plants instead of seed, both in vegetables and flowers, because it is easier and because, of course, commercial growers do a better job--especially on hard-to-start plants such as fancy petunias, lobelias and salvias.

We have noticed a definite trend of interest towards new, novel and improved varieties, particularly flowers. This is greatly augmented by All-America publicity, by the numerous gardening magazines and by gardening columns in metropolitan newspapers.

Another trend we have noted is the fact that there seems to be a decided preference towards more compact, dwarf and refined flowering plants and varieties against the taller, coarser background plants. This might be evidenced by such newly introduced varieties as Royal Carpet alyssum, Spry marigold and Globe phlox.

On the basis of observations in our trial ground and All-America test garden near Shakopee, we believe the following annuals should be considered by the commercial greenhouse operator who sells bedding plants.

Alyssum
Carpet of Snow
White

Royal Carpet
Violet-purple

Aster

Bells of Ireland

Celosia

Dahlias

Dianthus
(Pinks)

Marigold
(Dwarf French)

Ballet

Mixture or straight color

Dwarf Kirkwell
Mixture

Powder Puffs
Mixture

Cristata Dwarf Empress
Crimson combs, bronze-
reddish leaves.

Pampas Plume
Mixture

Plumosa Golden Fleece
Golden yellow

Toreador
Bright red

Unwin's Dwarf Rainbow Strain
Mixture

Gaiety
Mixture

Brilliant
Mixture

Color Magic
Largest flower of the dwarfs,
a mixture

Lemon Drop
Double, clear yellow

Naughty Marietta
Single, golden yellow, dark
red center

Parisian Hybrids
Double, wide color range
with bicolors

Rusty Red
Double, rust-red

Spry
Anemone, gold and dark red

Tangerine
Double, bright orange

(African)

Cupid
Very large flower, dwarf habit, yellow, golden and orange colors or a mixture

Fluffy Ruffles
Orange

Glitters
Best chrysanthemum type, yellow

Pansy
Color Carnival Mixture

Swiss Giants Mixture

Petunia
Comanche Red

Dwarf Giants of California Mixture

Linda
Silvery salmon-pink

Popcorn
Dwarf, large-flowered white

Prima Donna
Ruffled, bright rose

Theodosia
Rose with yellow throat

Phlox
Globe Phlox Mixture

Star Phlox Mixture

Portulaca
Jewel
Large flower, free-flowering single, bright carmine-pink

Salvia
Fireworks
Slightly earlier than St. John's Fire, but quite similar in other respects.

St. John's Fire
Scarlet

Snapdragons
Magic Carpet
Four to six inches tall, wide, beautiful color range, very uniform, showy.

Verbenas
Dwarf Rainbow Mixed
Very dwarf, compact early flowering, improved color range.

Zinnias

Improved Florists' Strain
Very similar to Dwarf Rainbow Mixed

Blaze
Bright orange

Giant Cactus Flowered
(Also called Giant Fantasy or Burpee Hybrids) Originally pastel shades only. Color has improved each season due to the efforts of hybridizers. Blaze will be included in the mixture for 1955.

Persian Carpet
Best of edging types

* Taken from Minnesota State Florists' Bulletin, December 1, 1954.

THE VALUE OF AN ARBORETUM

Dr. Leon C. Snyder
Horticulture Department, University of Minnesota

The dictionary describes an arboretum as a place where trees and shrubs are grown for scientific and educational purposes. This clearly distinguishes an arboretum from a park, which is primarily for recreational purposes.

The best way to learn how valuable an arboretum can be is to visit one. A visit to such arboreta as the Morton Arboretum near Chicago, the University of Wisconsin Arboretum near Madison or the Morden Experiment Station as Morden, Manitoba, is an inspiration that is never to be forgotten.

Last spring, Ted Weir and I spent two days at the Morton Arboretum. There we saw 835 acres of carefully landscaped grounds with open vistas and collections of woody plants grouped to give a landscape effect. More than 4,800 species, varieties and hybrids from all parts of the world are growing in natural settings. The ultimate goal of the arboretum is to grow every variety that will survive in the area.

It is indeed gratifying to see the use that the public makes of this arboretum. On weekends thousands of nature lovers come to the arboretum to enjoy the beauty and to learn more about the plants. Special classes in nature study, landscaping and yard care are well attended. That the public appreciates the privilege of using the arboretum is attested by the complete absence of refuse on the grounds, a sight all too common in our public parks. In addition to the general use by the public, the schools, garden clubs and youth leaders of the area make wide use of the facilities.

Nurserymen make frequent trips to the area and select materials which they will propagate and sell to the public. The public becomes acquainted with these plants so they are in demand when the nurseryman gets them propagated.

Several small arboreta have been established in Minnesota. The best known of these are the Horne arboretum at Austin and the arboreta at Carleton and St. Olaf colleges in Northfield.

Last spring the Horticulture Department started an ambitious program of testing trees and shrubs not commonly grown in this area. Plantings were made at the Institute of Agriculture in St. Paul, Fruit Breeding Farm near Excelsior and Branch Experiment Stations at Waseca, Morris, Crookston, Grand Rapids and Duluth. This program received some help from a regional tree and shrub-testing program initiated by the Regional Plant Introduction Station at Ames, Iowa. Plants have also been obtained from arboreta, experiment stations and commercial nurseries for these tests.

The plants being tested include over 400 species and varieties of trees and shrubs. Garden groups and nurserymen have shown considerable interest in these plantings. This interest has prompted the Horticultural Society to appoint an Arboretum Committee to investigate the possibility of developing an arboretum in the Twin Cities area. If such an arboretum becomes a reality, it will take a lot of hard work and financial support from all interested groups and individuals.

BUCKTHORN AND THE NURSERYMAN

Dr. Paul R. Fridlund
Plant Pathologist
Minnesota Dept. of Agriculture, Dairy and Food

Recently considerable interest has been shown by a number of nurserymen regarding the propagation and sale of buckthorn. This interest has arisen because we requested Minnesota nurserymen to refrain voluntarily from propagating and selling this plant in Minnesota, although there are no official regulations or laws governing these points. These requests were based on the fact that buckthorn serves the same function in the life cycle of the crown rust of oats as the barberry does in the stem rust of wheat.

Two of the natural questions which the nurserymen have asked are, "Are there any species which are immune and can be substituted for Rhamnus cathartica"? and, "What is the official policy regarding the planting and removal of buckthorn"?

In my opinion, no species of Rhamnus should be planted in Minnesota because apparently none is immune to crown rust of oats. This is based on the best evidence available; that is, information from the foremost research men in the field. Obviously, some species appear immune in the nurseries, but as certain races of the rust will attack only certain species, these observations can be deceiving. Thus apparent immunity of these species could change overnight with the appearance of new races.

So far the official policy of this office regarding the planting and removal of buckthorn has depended upon voluntary participation of all individuals

concerned. It will continue that way unless some unforeseen situation requires a change in policy.

Meanwhile, all nurserymen are again requested to refrain from planting and selling buckthorn. In most cases the customer will be very cooperative when a substitution for buckthorn is suggested, providing he is told why the nursery does not have this plant for sale. It is of course unsound to assume that other species cannot be substituted for buckthorn with equal or better results.

A SPRAY PROGRAM FOR THE NURSERY

Walter P. Trampe, Supervisor
Section of Nursery Inspection
State Department of Agriculture

In the January-February issue of the "Newsletter", we opened our discussion on a spray program for the nursery by listing the host plants to be sprayed and the pests to be controlled. In this issue, we shall compare the equipment which may be used and the relation of this equipment to the various formulations to be used for spraying the nursery stock.

Formulations for Insecticides

Wettable powders - This is usually the finely ground active material mixed with a spreader, sticker and often a filler.

These materials are abrasive in their action on metals. They are in most cases the most desirable formulation to use on plants because they are least phytotoxic of the spray formulations generally used.

Agitation is required to maintain these materials in suspension during the spraying operation.

Emulsifiable concentrates - The active material is usually dissolved in an oil with an emulsifier and possibly a spreader and sticker added.

This formulation is maintained in a stable spray mixture by the action of the by-pass which agitates the mixture in the spray tank. It is not abrasive in its action on metal; consequently it is not harmful to gear-driven bronze pumps.

In summary the equipment used for spraying in the nursery must be capable of handling wettable powder insecticides. Fungicides are also often formulated as wettable powders. The sprayer selected for use in the nursery should be equipped to use these materials.

Spray Equipment

The heart of the sprayer is the pump. Space does not permit a thorough review of the subject. However, a brief description of various types is given on the following page.

Piston-type pumps - These are ordinarily operated by a self-contained power unit. They will handle any of the formulations ordinarily used and are commonly chosen where high pressure and high gallonage delivery is required. Shade tree sprayers may require such pumps because the sprays must often be forced up into trees that are 50 feet high or higher. Such a thrust will require a machine which will deliver large quantities of water at a very high pressure per square inch.

Close tolerance clearance of moving metal parts is not required because the pistons are fitted with a leather or plastic material that obtains the close tolerance required between the piston and cylinder wall. Units of this equipment may be obtained in practically all necessary sizes.

Gear-driven bronze pumps - Gear-driven pumps are not satisfactory for use with wettable powder formulations. Therefore, they are undesirable for general use in a nursery.

Rubber impeller or paddle-type pumps - Paddle pumps such as are referred to here are not designed for high-pressure use. They do not generally meet the requirements for use in the nursery.

Nylon impeller pumps - Nylon impellers are a new development in pumps. They are becoming very popular where the operator desires a machine which may be powered by the power take-off on a tractor. These units are of small size, capable of delivering as much as 15 gallons of spray material per minute at a pressure of 350 lbs. per square inch. The excess may be diverted as by-pass which can be used as an aid to agitate the mixture in the sprayer. The impeller is advertised as being able to withstand the abrasive action of wettable powders in the spray formulation. It is of simple construction, designed to operate with a rotary action. Moving parts may be quickly replaced if they become worn.

Several nurserymen are at present building sprayers with this type of pump. It is recommended where a general purpose type of sprayer is desired and a power take-off arrangement is to be used.

This discussion will be completed in the next issue of the "Newsletter". Should any nurseryman have a specific problem which he would like to discuss further, he may feel free to contact the writer in the meantime.

EDITOR'S COMMENTS

Richard Stadtherr

Research Committee Meets

Kim Andrews, Bill Elling, Ken Law, Howard Schultz and Orrie Wiebusch, the research committee of the Minnesota Nurserymen's Association, met February 15 with Dr. Leon C. Snyder and your editor

on the St. Paul Campus.

Financial assistance to research conducted at the University was discussed. Avenues of research which were suggested as major problems are listed below:

- (1) Best storage conditions to obtain high-quality spring stock.
- (2) Use of a polyethylene coating of bare-root deciduous materials that are stored.
- (3) Testing new plant materials.
- (4) A substitute for shingletow which is both difficult to obtain and high priced.
- (5) Weed control in the nursery with chemicals and mulches.
- (6) New improved understocks.
- (7) Spring and fall budding and storage of budding stock.
- (8) Anti-desiccants to reduce winter injury.
- (9) Canned nursery stock culture.
- (10) Soil management in the nursery.

Suggestions were made to obtain a coordinated research program on a local, regional and national basis. We are happy to receive the cooperation of the association. We want to work on the problems you have and will ask for your assistance in carrying on this research program.

"Ornamentals: Present and Future"

Dr. Donald P. Watson, head of ornamental horticulture at Michigan State College, presented an interesting lecture on "Ornamentals: Present and Future" March 3 at a meeting of the Twin Cities Nurserymen's Association and graduate students and faculty members of the University's Horticulture Department.

We have asked Dr. Watson to prepare a copy of his address for the next issue of this Newsletter. You will be interested in the statistics he presents- especially your part in the national picture.

Advertise! Increase Sales

Bill Elling, secretary of the Twin Cities Nurserymen's Association, informed your editor of an advertising campaign the association has planned for this spring. Articles will appear in Sunday issues of the Minneapolis and St. Paul newspapers, timed so the information will coincide with the best period to plant certain materials. The June article will discuss canned stock which can be planted throughout the summer.

Let's see more advertising with a stimulation of local buying!