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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PROMISING ORNAMENTALS FOR MINNESOTA

by Leon C. Snyder, Head, Department of Horticulture, University of Minnesota

The following ornamentals, now under test at the Fruit Breeding Farm, at the Landscape Arboretum and on the St. Paul Campus, show sufficient promise as hardy ornamentals for this area to warrent further testing. Nurserymen are urged to become better acquainted with these materials and to propagate them in limited quantities to determine their public acceptance.

1. Berberis thunbergi minor (Box barberry). This dwarf variety of the Japanese barberry is very compact, with fine-textured foliage and small red berries.

2. Betula nigra (River Birch). The River Birch is especially attractive when grown in clumps. The flaky, reddish bark is especially attractive in winter. It does well in wet sites or on well drained soil.

3. Betula pendula fastigiata (Pyramidal European White Birch). This narrow, upright tree gives an interesting accent in border plantings.

4. Buxus microphylla koreana (Korean Boxwood). This is one of the few hardy, broad-leaved evergreens. It is slow growing, forming a compact mound about two feet tall.

5. Caragana brevifolia (Shortleaf Caragana). This is a small, compact shrub about two feet tall that produces small yellow flowers in May. The foliage is dark green and very fine textured.

6. Caragana frutex globosa (Globe Caragana). This dwarf variety of the Russian Peashrub is very compact, reaching a height of about four feet.

7. Cornus alternifolia (Pagoda Dogwood). This native is not new but deserves to be used more widely than it is. The horizontally spreading branches, the cream-colored flowers and the bluish-black fruits are attractive features of this large shrub or small tree.

8. Cotoneaster multiflora (Many Flowered Cotoneaster). This medium, spreading shrub produces attractive white flowers in May and bright red fruits in September and October.

9. Cotoneaster racemiflora soongorica (Sungary Rockspray Cotoneaster). Very similar to C. multiflora except the leaves are a little smaller and bluish green. The fruits are also a trifle smaller but equally showy. An excellent shrub for the border.

10. Crataegus 'Toba' (Toba Hawthorn). A hybrid hawthorn from the Morden Station developed by crossing the English Hawthorn with a native species. The flowers are fully double, at first white aging to pink, and are produced in flat-top-ped clusters. The tree appears to be fully hardy.

11. Deutzia lemoninei (Lemonine Deutzia). Of the many species and varieties of Deutzia we have tested, this is the only one that has proven hardy. The showy, white flowers are produced in profusion in upright clusters in late May. The shrub is fairly compact reaching a height of five feet.

12. Dirca palustris (Leatherwood). The Leatherwood is an attractive native that does equally well in full sun or partial shade. Except in deep shade the plant is very compact and neat in appearance. The stems are very flexible with a tough bark. The Indians used strips of the bark for sewing strips of leather together, hence the name Leatherwood. The flowers are yellow, opening in late April, ahead of any other shrub.

13. Euonymus alatus koreana (Korean Winged Euonymus). This is a compact form of the Common Winged Euonymus. The lower branches face the ground, thus making the shrub very attractive either in a foundation planting or in the border. The fall color is similar to that of the species. The red fruits are produced in abundance and are very showy.

14. Euonymus nanus turkestanicus (Dwarf Euonymus). This is an upright form of the Dwarf Euonymus. The narrow leaves are dark green and cling to the stems all winter after first turning purple and then brown. The pink fruits are large and very showy in late August and early September. Plants should be pruned back heavily at planting time to form a bushy plant.

15. Fraxinus mandshurica (Manchurian Ash). A vigorous, round-topped ash with dark green foliage. A mature specimen at Morden, Manitoba is particularly attractive. Young trees in our trials are shaping up nicely. This should prove to be very hardy and a desirable tree for this area.

16. Ilex verticillata (Winterberry). This is another native that makes an attractive ornamental. It grows well in partial shade or in full sun but requires an acid soil. The clusters of red fruits cling to the plant all winter or until eaten by birds. The plant is dioecious so it is necessary to include both male and female plants in a planting.

17. Ligustrum vulgare 'P.I. 107630' (European Privet). This selection of European Privet was the only privet that came through last winter in our test plantings at the arboretum without serious winter injury. Ligustrum amurensis (Amur Privet), which had been considered the hardiest privet for this area, killed back nearly to the ground in the same planting.

18. Lonicera maximowicze sacchalinensis (Sakhalin Honeysuckle). The Sakhalin Honeysuckle is a compact, medium-sized shrub with dark green,

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leathery leaves. The flowers are rather small and purplish in color, followed by red fruits. The fall foliage color is a golden yellow.

19. Lonicera syringantha (Lilac Honeysuckle). A vigorous, compact, spreading shrub growing to a height of about three feet. The flowers are showy and very fragrant in late May.

20. Lonicera tellmannian (Tellmann Honeysuckle). A vigorous vine producing large yellow flowers in showy clusters. The vine is spectacular when in bloom in early June. Because of its hybrid origin, this honeysuckle produces little or no fruit.

21. Pachistima canbyi (Canby Pachistime). This is a dense evergreen ground cover with small holly-like leaves. The leaves turn purplish in the fall but green up as soon as growth starts in the spring. This plant will tolerate some shade but does best in full sunlight.

22. Phellodendron amurense (Amur Corktree). The Amur Corktree is a large spreading tree with a low crown. The leaves are pinnately compound and dark green. The bark is spongy, suggesting cork.

23. Philadelphus 'Purity' (Purity Mockorange). This mockorange, developed by Dr. Frank Skinner at Dropmore, Manitoba, resembles Virginal but is much hardier. The plant produces an abundance of large, single, white flowers in June and has a good upright habit of growth.

24. Philadelphus lemoine 'Enchantment' (Enchantment Mockorange). This variety produces a profusion of large, white partially double flowers in June on compact plants.

25. Prunus 'Muckle Plum'. The Muckle Plum is a hybrid between the Russian Almond (Prunus tenella) and Canada Plum (Prunus nigra). This variety forms a compact bush with attractive deep pink flower buds and flowers in late April.

26. Prunus 'Prairie Almond'. This is a hybrid developed by the Experimental Farm at Morden, Manitoba, from a cross between Prunus triloba simplex and Prunus pedunculate. The flowers are semi-double, pink with red centers, and last several days longer than Prunus triloba (Flowering Plum). The shrub also produces red fruits in July.

27. Prunus virginiana 'Schubert' (Schubert Chokecherry). This large shrub is similar to the common chokecherry except the mature leaves are a purplish red color. The bright green new leaves at the tips of the branches offer a pleasing contrast to the purple color of the older leaves. The fruits are very large, deep purple and borne on purple pedicels.

28. Rhododendron spp. The following species of Rhododendron: R. canadensis (Rhodora), R. mollis (Mollis Azalea), R. roseum (Roseshell Azalea), R. schlippenbacki (Royal Azalea), R. mucronulatum (Korean Rhododendron), and R. yedoense poukhanense (Korean Yodogawa Azalea) have shown enough promise in our tests to warrent further testing. All of these species except R. mollis bloom early in May. R. mollis blooms in late May or early June. Flower color ranges from lavender in R. canadense, R. mucronulatum and R. yedoense poukhanense to yellow, orange and red in R. mollis and clear pink in R. roseum.

29. Rose 'Prairie Youth' (Prairie Youth Rose). This complex hybrid developed at Morden, Manitoba, from at least four parents is fully hardy without protection. The flowers are large, fully double, and clear pink. This is one of our most attractive shrub roses.

30. Sorbus decora (Showy Mountain Ash). This native from the North Shore of Lake Superior has showy fruits that are a brighter red than those produced by the more common European Mountain Ash. The fruits are readily eaten by birds and may disappear before winter.

31. Spiraea trilobata (Threelobe Spirea). This species resembles the Vanhoutte's spirea in every respect except the shrub is smaller, more compact, and much hardier.

32. Syringa microphylla superba (Littleleaf Lilac). This fine lilac has small leaves and fragrant pink flowers that are produced in late May and again in late August.

33. Tamarix pentandra 'Summerglow' (Summerglow Tamerix). This is a very hardy Tamerix with silvery green, fine textured foliage. The flowers are bright pink and produced intermittently throughout the summer and fall.

CONTROL OF VARIOUS ORNAMENTAL DISEASES

by
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Cedar-Apple Rust on Crabs and Apples

Many varieties of crabapples and apples are susceptible to cedar-apple rust caused by species of Gymnosporangium.

Common susceptible varieties include Bechtel, Whitney, Siberian, Dolgo and others. Among the apple varieties especially susceptible are Beacon, Wealthy, Prairie Spy and Cortland.

A logical control measure for this disease is to avoid planting susceptible crabapple varieties near concentrations of the alternate host, various species of Juniperus.

Ferbam and zineb can be used to control the rust on susceptible varieties--ferbam at the rate of 1½ lbs., or zineb at the rate of 2 lbs. in 100 gallons of water. If apple scab is also a problem, the ferbam (at ½ to 1 lb.) or zineb (at 1 lb.) may be used in combination with full-strength captan or glyodin. Actidione is another possible chemical for controlling cedar-apple rust.

The timing of the spray is very important. The first spray should be applied during the blossom period (fungicide only) and an additional application may be made at petal-fall.

Cedar-Apple Rust-Resistant Strains of Juniper

Eastern red cedar (Juniperus virginiana) is very susceptible to cedar-apple rust. Many of the horticultural varieties of red cedar such as Burki, Canaerti and Hill's Dundee juniper are susceptible. The Rocky Mountain juniper (J. scopulorum) and mountain juniper (J. sibirica), horizontal juniper (J. horizontalis), common or dwarf juniper (J. communis), Oldfield juniper (J. communis depressa) and Savin juniper (J. sabina) are also susceptible.

Juniper Blight Controls and Resistant Varieties

Acti-dione RZ has successfully controlled Phomopsis blight in experiments conducted at the Rhode Island Agricultural Experiment Station. The spray was applied July 3, 14, 28, August 25 and September 27 in one year and June 27, August 3, 27 and September 21 in another year. In the first year 16 percent of the seedlings were infected (27 percent for the check plot) and in the second year 7 percent were infected (40 percent for the check plot). The concentration used was 1.2 ounces of Acti-dione RZ in 10 gallons of water.

Other control measures would be to avoid planting junipers near older trees that are already infected; avoid excessive overhead watering; plant in a new area not previously used for junipers; avoid overcrowding or dense stands of seedlings; and rogue out infected trees as soon as possible.

Eastern red cedar, Rocky Mountain cedar and their horticultural varieties are particularly susceptible. Other species and varieties are less susceptible.

Cytospora Canker on Colorado Blue Spruce

Cytospora canker or spruce canker is a common disease on Colorado Blue Spruce growing in Minnesota. Eventually it may be possible to develop a strain that is more hardy in this state and the use of such a variety will limit the damage caused by the fungus, Cytospora kunzei.

In the interim the only practical control measures are to plant Colorado Blue Spruce in good soil in protected sites, avoiding dry exposed southwest facing slopes, particularly where the soil is light and moisture supply critical. North and east facing exposures, particularly where trees are planted in groups, are more favorable sites. Supplementary watering and fertilization probably help.

Possible spray programs have been tested in Michigan and New York but have been a little value in protecting infected trees. Bordeaux mixture applied at one to two week intervals starting in spring and continued through the growing season has been recommended by other stations.

It has been recommended that infected parts of the tree should be pruned, using sterile tools, and that the work be done only when the weather is dry. It is our opinion that this approach is of little value because the inoculum is omnipresent and is abundant on even healthy branches.

UNIVERSITY OF MINNESOTA
Institute of Agriculture
Agricultural Short Courses
St. Paul 1, Minnesota

GARDEN STORE OPERATOR'S SHORT COURSE

Tuesday, March 15, 1960

North Star Ballroom, Student Center,
St. Paul Campus

a.m.

8:30 Registration, North Star Ballroom. Fee $2 per person

R. A. Phillips*, Moderator
Assistant Professor
Horticulture Department

9:00 Vegetable Varieties for Transplanting.....
O. C. Turnquist*
Professor and Extension Horticulturist,
Horticulture Department

9:25 Lawn Needs.....R. J. Stadtherr*
Instructor, Horticulture Department

9:50 Handling Container and Dormant Nursery Stock.....A. G. Johnson*
Instructor, Horticulture Department

10:15 Fruit Varieties for Minnesota.....
.....E. T. Anderson*
Instructor, Horticulture Department

11:05 Question and Answer Period

12:00 Lunch. Dining Center (Second floor, Student Center)

C. G. Hard*, Moderator
Assistant Professor and Extension Horticulturist
Horticulture Department

p.m.

1:00 Insecticides for the Garden.....
..... L. K. Cutkomp*
Associate Professor,
Entomology and Economic Zoology

1:25 Fungicides for the Garden.....
H. G. Johnson*
Associate Professor and Extension Plant Pathologist, Plant Pathology

1:50 Growth Regulators, Weed Control and Miscellaneous Chemicals..... D. C. Nelson*
Research Fellow, Horticulture Department

2:15 Fertilizers for the Lawn and Garden.....
.....L. D. Hanson*
Instructor and Extension Specialist,
Soils Department

2:40 Rates and Methods of Application.....
..... J. A. Lofgren*
Assistant Professor and Extension Entomologist, Entomology and Economic Zoology

3:05 Question and Answer Period

* University of Minnesota

NURSERY AND TURF RESEARCH, 1960*

by R. J. Stadtherr, Instructor, Horticulture
University of Minnesota

Soaking of rose roots in water for 12 or more hours prior to planting gave more blooms per season than non-soaked plants. Tests were conducted in five consecutive years. Using a nutrient solution in which the roots were soaked gave more average blooms per season, though the number was not significantly greater than for those soaked in plain water. Nurserymen should advise customers to soak the roots of roses overnight before planting.

In the overwintering studies with roses, only those beds which were covered entirely to a depth of 2 feet with leaves gave high survival percentages of 95 percent or more.

The conventional method of mounding with soil to a depth of 10 to 12 inches plus about 2 feet of hay over the tops after the soil had frozen had only a 50 percent survival percentage.

This experiment is being continued this year but more research will be needed to help solve this complex problem. It appears that all plants must be covered at least 2 feet horizontally from the base of the plant. Date of covering studies have not been undertaken. Potted roses subjected to 0°F. were injured but recovered, whereas those subjected to -4°F. were killed. A low of 10°F. did not injure the plants.

All attempts to germinate seeds of the Sungary rockspray contoneaster have proved futile. Small percentages of hardwood cuttings, taken in late February, rooted. Softwood cuttings, taken in mid-July treated with Hormodin #2, gave an average of about 60 percent rooting. The softwood cuttings appeared to have more root initials than the hardwood cuttings which often had only a single one which developed into a root system.

In the study to prevent chlorosis in ornamental plants at the Crookston station, Geigy RA-157, an experimental product, was best in two year's tests. Geigy 330 and Versenol 120 proved to be good, too. Hybrid snapdragons and Peking Cotoneaster were the test plants. Some treatments showed carry-over effects into a second growing season.

Preliminary weed control studies were conducted at the Bailey Nurseries. Simazine at 4 lb. per acre looked very promising for weed control in various shade trees, Black Hill spruce, Mugho pines and arborvitae. An experiment was begun in September to control weeds in potted nursery stock. Degree of weed control with tolerance levels of various herbicides is under investigation.

Lead and calcium arsenate and products containing one of these materials have proved to be very effective in preventing crabgrass from becoming a problem in the lawns. A single application made April or May has given good control that has lasted for more than one season. Zytron, a new herbicide from Dow, and Dactal, a new herbicide from Diamond Alkali Company, looked very promising in o[illegible] year's tests.

For post-emergence control the methyl arsonates have given best results in recent years. The ammonium methyl arsonates were best in last year's tests. These herbicides should be applied about once every 7 to 10 days to be effective. At least three applications are necessary for seasonal control.

Mixtures of some of the pre-emergence and post emergence herbicides after the crabgrass plants were about in the four-leaf stage were very successful with a single application in controlling crabgrass throughout the season. More experimentation is necessary before recommendations can be made.

In preventing the occurrence of mouse-eared chickweed in the second year after application, only PAX and neburon were successful. Many other contact herbicides killed the existing plants but seeds which were already in the soil germinated and reinfested the area.

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* Paper No. 1045 of Miscellaneous Journal Series, Minnesota Agicultural Experiment Station.

EDITOR'S COMMENTS

Traditionally the nursery industry has followed close on the heels of population movement. As the frontier moved west, so did the industry. As the people came to cluster in cities, so did the industry. As "suburbia" developed, the industry moved to meet this challenge.

The nursery industry has always served the needs of the community. The public is seeking more information in order to grow better ornamentals. This information goes beyond the selection and planting of landscape materials. The public expects nurserymen and their sales staff to be able to give recommendations on weed control, insect diseases, fertilizers. Information of this type places new responsibility on the nursery industry. Nurserymen must be equipped to answer these questions.

An excellent source of such information is the Garden Store Operator's Short Course. In order that the nursery industry may provide a more complete service, this short course is being provided.

JUST OUT--
Recommended Vegetable Varieties for Minnesota - 1960
Dr. O. C. Turnquist
Folder No. 154

Write to Bulletin Room
Institnte of Agriculture
University of Minnesota
St. Paul 1, Minnesota

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