

LITERATURE CITED

- 1 Briggs, Bruce 1979 Commercial production of rhododendrons by tissue culture *Proc Inter Plant Prop Soc* 29 90-95
- 2 Jaynes, Richard, A 1975 *The Laurel Book* Hafner Press New York 180 p
- 3 Jaynes, Richard A 1976 Mountain laurel selections and methods of propagating them *Proc Inter Plant Prop Soc* 26 233-236
- 4 McCown, Brent H and R Amos 1979 Initial trials of commercial micropropagation with birch *Proc Inter Plant Prop Soc* 29 387-393
- 5 Cheng, Tsai-Ying and Thanh H Voqui-Dinh 1979 Clonal propagation of selected deciduous trees through tissue culture *HortScience* 14 457 (Abstr)

Friday Morning, December 12, 1980

NEW PLANT FORUM

Jack Alexander and Gary Koller, Moderators

MODERATOR ALEXANDER: Our first speaker today is Dr. Richard Jaynes.

DICK JAYNES: *Kalmia latifolia* 'Pink Charm' was selected from the progeny of a controlled cross (x1078) made in 1970 between two unnamed pink-flowered selections obtained from Weston Nurseries, Hopkinton, Massachusetts. The plant first flowered in the fourth growing season, 1974, and has flowered every year, except one, since then. The flower buds are red in color (RHS Colour Chart 53C), but less brilliant than the red-buds: 'Nipmuck', 'Ostbo Red', and 'Quinnipiac'. The open flowers are a rich pink being more deeply pigmented than the earlier named 'Pink Surprise'. The inside of the corolla is a relatively uniform pink (RHS 54B but a bit lighter and towards 55B, or 67D). A narrow and deeply red pigmented ring occurs on the inside and near the base of the corolla.

In addition to floral traits, 'Pink Charm' was selected for the relative ease by which the cuttings root. Small numbers of cuttings have been stuck for each of the past five years in a humidity case, peat:perlite mix (5:2 v/v), bottom heat 70 to 75°F, and no auxin. Cuttings were taken mostly in October, but also December 30 and January 21 (Table 1). Overall success of rooting averaged 76%, or 82% if only the fall stuck cuttings are considered.

Plant habit and foliage of 'Pink Chrm' are characteristic for the species. Limited quantities of cuttings are available from R.A. Jaynes, Connecticut Agricultural Experiment Station, P.O. Box 1106, New Haven, CT 06504. Also, Briggs Nursery, Olympia, Washington 98501 is propagating this selection by tissue culture, along with three other *Kalmia latifolia* cultivars and is taking orders for small plants.

Kalmia latifolia 'Shooting Star' is a selection from the wild in North Carolina. This cultivar has 5 deeply cut lobes that reflex.

Table 1. Rooting of *Kalmia latifolia* 'Pink Charm' cuttings over a period of five years

Date struck	No cuttings	No rooted	Percent rooting
10/4/74	15	15	100
10/21/75	12	10	83
10/8/76	35	22	63
12/30/77	24	20	83
10/5/77	30	25	83
1/21/79	20	6	30
10/4/79	20	20	100
Total	156	118	ave 76

The cut corolla is a single recessive gene. This cultivar is under tissue culture propagation

Kalmia latifolia 'Goodrich' is a continuous banded type that virtually fills the inside of the corolla. It is difficult to root. This trait is a single dominant gene type.

MODERATOR ALEXANDER. Paul Meyer has 3 plants to show us

PAUL MEYER. *Ulmus parvifolia*, the Chinese elm, has great potential as a medium sized urban street tree. This species ranked highest of the 15 reviewed in a recent Morris Arboretum study of street trees planted in Philadelphia 15 years ago. It is resistant to the Dutch elm disease and most leaf eating insects which frequently plague elms. Also, it is tolerant of the variable soil conditions found in urban environments.

Chinese elms grow quickly when young and mature at about 50 feet. It has a fine texture with small dark green leaves. The bark of young branches exfoliates revealing a mosaic of tan and orange inner bark. The Chinese elm should not be confused with the weedy Siberian elm (*U. pumila*) which is a very weak wood-ed species. Chinese elm, unlike the Siberian elm, flowers in September and its seed ripens by late October.

At the Morris Arboretum Chinese elm seeds have been easily germinated after 3 months moist stratification.

Evodia daniellii Few trees can match the late summer splendor of Korean evodia. In late July large clusters of creamy white flowers appear. These provide a good source of nectar for honey bees at a time when other flowers are scarce. They are followed in mid-August by bright red fruit clusters which persist into early October.

The Korean evodia grows quickly to a mature height of 50 feet. Like most members of the rue family it has few insect or disease problems. Its smooth gray beech-like bark is an asset all seasons of the year. It is reputed to be somewhat weak wood-ed though I have not noticed this to be a problem.

The Korean evodia is propagated easily from seed and re-

quires no stratification.

Acer buergeranum, the trident maple, is an excellent medium sized (45') shade tree with interesting year round character. It has glossy light green leaves which are highly resistant to most disease and insect problems. In the autumn the tree turns to a rainbow of reds, oranges, and yellows. Its tan, shreddy bark slowly peels away as it matures revealing the orange inner bark.

In its native Japan, trident maple is widely planted as a street tree and a few reports indicate that it is similarly adaptable here. It is also well suited as a shade tree in small urban and suburban gardens. Its relatively small size and fine texture make it more useful than the eastern north American maples in confined spaces.

Trident maple seeds germinate quickly after three months moist stratification. It is fast growing as a young tree. It often has a tendency to branch close to the ground but with early pruning it can be trained to develop a high crown.

Seeds of *Acer buergeranum*, *Evodia daniellii* and *Ulmus parvifolia* are available from Paul W. Meyer, Curator, 9414 Meadowbrook Avenue, Philadelphia, PA. 19118. Telephone 315-247, 5777

MODERATOR ALEXANDER: Jeanne Smith, University of Georgia, has a plant to show us.

JEANNE SMITH: I have been observing the native plants in Georgia and surrounding states. One of the plants that I think deserves wider planting for its ornamental bark characteristics is *Clethra acuminata*, the sweet mountain pepper bush. This plant is a large multistemmed plant that will reach 15 to 20 ft. Its most attractive feature is the cinnamon-purple exfoliating bark. The plant blooms in July with white terminal racemes. The fall color is yellow to yellowish-brown. Seeds germinate readily in 10 to 14 days without stratification. The plant appears to grow best in partial shade with moist soil conditions.

MODERATOR ALEXANDER: Ed Losely has some plants to show us.

ED LOSELY: *Fothergilla gardenii* is grown in our nursery and we find that it can be rooted from softwood cuttings in May-June. To successfully overwinter it you must not disturb the plants. We put them in a minimum heat house over the winter.

Lindera angustifolia (Ed. note: see New Plant Forum, Proc. Inter Plant Prop. Soc., 27:494).

Cyrilla racemiflora, southern leather wood, is hardy to perhaps -20°F . I believe that there are different strains varying in hardiness. The plant blooms in the June-July period with white flowers that are very attractive to bees. We propagate it from

softwood cuttings in the summer

Ilex verticillata 'Aurantiaca' is different from the species by having orange fruit

Hamamelis vernalis 'Carne' is a red flowering form.

Exochorda giraldii var. *wilsonii* is a plant that we have observed but have not propagated. It is a very intense spring flowering plant with flowers about 2 inches across. It is hardy at Holden Arboretum.

MODERATOR ALEXANDER: The next speaker is Ray Maleike.

RAY MALEIKE: The southern blackhaw — *Viburnum rufidulum*, is a native American viburnum distributed over the lower half of the United States from Virginia through Southern Illinois and into Texas. It is a large shrub to a small tree and may be trained accordingly. Height may attain 30 ft. (10m)

It is easily distinguished from a close relative *V. prunifolium*, blackhaw, by, first of all, being taller at maturity. The southern blackhaw's leaves are more coriaceous, elliptical to obovate rather than ovate to elliptical and very lustrous. Buds are an intense bright brown and tomentulose.

Flowers are white, flat-topped and cymose, and up to 4" in diameter. They appear with or shortly after the leaves and at the same time as *V. lentago* and *V. plicatum*. The fruit is a large dark blue bloomy drupe which forms an interesting contrast to the autumn coloration.

Hardiness has been estimated zone 5a to 6 depending on the reference. It did survive the winters of 1976-79 in southern Illinois where temperatures were below 0°F for extended periods and fell to -20 to -28°F on occasions. Native dogwood and sweet gum were damaged in these winters.

Landscape characteristics include:

1. Lustrous dark green foliage
2. Very good to excellent flowering characteristics
3. Excellent, consistent fall coloration of very bright red to wine red, not dissimilar to Bradford Pear
4. Large bloomy blue fruit
5. Good bark characteristics
6. Tolerant of both natural wet and dry conditions

Cuttings root easily when taken as soft or maturing wood and treated with 2000-8000 ppm IBA in talc. Growth ceases after the cutting is taken and overwintering may be a problem.

MODERATOR ALEXANDER: Ray Halward from the Royal Botanical Garden has a spirea to show us.

RAY HALWARD: *Spiraea nipponica* 'Halward's Silver' is a seedling selection. It has a good growing form that needs little

pruning and is a consistent performer. The foliage is small and blue-green in color. The flowers are white and like the species.

MODERATOR KOLLER: The next speaker is Michael Dirr.

MICHAEL DIRR: The first plant is *Acer saccharum* subsp. *leucoderme*. The reason I mention this plant is because it is one of the few trees that gives us reliable orange or orange red fall color in the southern United States. It grows on dry areas in its native habitat and may be useful for city conditions. It is also small in stature 20-40 ft.

The next plant is a creamy white flower form of *Paulownia tomentosa* that a graduate student of mine found growing in Georgia. The normal color is pale violet.

MODERATOR KOLLER: The next speaker is David Longland from Garden in the Woods.

DAVID LONGLAND: *Boltonia asteroides* 'Snowbank' is a slower growing form of the species. The species is often 5 to 6 ft. and floppy in growth. The cultivar 'Snowbank' is 3 to 4 ft. high. The flowers are white, about 1 inch across and open in October for 3 weeks. This herbaceous perennial thrives under light shade to full sun in a moist, loamy soil with a pH of 4 to 5.5. Of special merit is the late blooming and prolific flower production that is supported on stiff stems.

Ruellia ciliosa is a strong growing perennial native to the middle and southeastern U.S. This perennial is 8 to 12 inches tall, has a light green foliage and spreads moderately by self-sowing. The plant has an extensive root system. Flowering occurs in July and the color is light violet-blue. This plant may be especially valuable for erosion control due to its extensive root system.

MODERATOR KOLLER: Harold Pellett has some plants to show us next.

HAROLD PELLETT: The reason I am showing you these plants is to make you aware of some hardier plants.

Berberis koreana, Korean Barberry, is a plant that has a lot of aesthetic qualities. It's quite attractive when in flower with its numerous clusters of pendulant yellow flowers. In late summer the plant is quite attractive when the fruit turns red. These fruits hang on all winter. The plant also develops an excellent red fall foliage color. The plant does become leggy with age and responds well to pruning which is not much fun. The plant also suckers freely so should be used where a mass effect is desired.

Tilia mongolica is a tree that's caught my attention. I haven't seen many trees but the ones we have and others I've seen are quite nice. As lindens go it has a rather small leaf similar in size to *T. cordata*. The bark is exfoliating adding an interesting fea-

ture to the tree. Unfortunately, I don't have a photo showing that characteristic. The branches are slightly pendulous and the crown is not quite as dense as that of littleleaf linden.

Populus tremula 'Erecta' — Swedish aspen. If one needs a columnar tree this is far superior to Lombardy or Bolleana poplar. It is more resistant to canker and more uniform in growth. This photo was taken at the Morden Manitoba station. Our trees are much smaller but also quite uniform in growth. Unfortunately, the tree is difficult to propagate by stem cuttings. It can be grafted and I've heard that it will propagate easily by root cuttings if you have it on its own roots.

Prunus maackii — Amur cherry. If you're interested in winter bark color this is a real gem for its copper color smooth bark. The species is native in Manchuria and thus very cold hardy. The white flowers also can be fairly showy. Nurseries in our area are now utilizing this plant.

Acer truncatum. This is one of the Asiatic maple species. I think we should look at this group of trees more closely. There are a number of species of *Acer* native in Japan, Korea and China that are small in stature. From our midwinter hardiness testing it appears that many of these have considerable tolerance to cold temperatures in midwinter and may prove to be hardier than our references would indicate if we find the best source.

Acer ginnala. This is a selection of ginnala maple that we've been watching for its red fruit color in summer. I think selections could also be made of *Acer tataricum* that would add an extra dimension for midsummer fruit color.

Pinus cembra. In the last few years we've been observing our pine accessions quite closely for resistance to winter burn of the foliage. Those that have shown the most resistance include *P. cembra*, *P. peuce*, *P. korainensis*, *P. flexilis* and *P. densiflora*. I'm a little reluctant to widely recommend these, however, as I'm not sure if the resistance is widespread in the species I've mentioned or if our accessions may happen to be from superior sources. Unfortunately, I can't trace the source of our accessions back to their native site.

MODERATOR KOLLER: Our next speaker is Peter Girard.

PETER GIRARD: My first plant is *Acer griseum* 'Girard's Selection' that was selected from seed collected at Rochester Park. This plant has very fine bark, the foliage is bright scarlet in the fall and it has an upright growth habit.

Rhododendron 'Mt. St. Helen's' is a deciduous azalea we have just named. The color is an orange and pink combination and the flowers occur in large clusters.

MODERATOR KOLLER: Jack Alexander has a plant he

would like to present.

JACK ALEXANDER: *Sorbus alnifolia*, the Korean mountain ash, has many unique characteristics and deserves wider distribution. The flowers are profuse and some of the largest in the mountain-ash group. The fruit is also attractive and red in color. The fruit display is generally alternate. In this species the leaves are simple. Winter interest is provided by gray bark similar to beech. *Sorbus alnifolia* is seed propagated and fruit from the earlier ripening fruit is sounder. Seeds germinate best when first given a warm stratification period followed by a cold stratification period

GARY KOLLER: I would now like to present *Schizophragma hydrangeoides*, the Japanese hydrangea-vine. This plant is often confused with *Hydrangea anomala* subsp. *petiolaris*. This plant is very interesting because it flowers after the climbing hydrangea with white flowers that stand out from the wall about 18 inches. The white bracts remain white for 3-4 weeks. It is like the climbing hydrangea in most respects, however, it is not as rank a growing plant. It is fully hardy at the Arnold Arboretum.