

SUMMER BLOOMING AZALEAS FOR NORTHERN GARDENS

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In the 1930's when our nursery began to expand and shift emphasis from herbaceous plants toward hardy trees and shrubs, a definite need became evident. The flowering season for most woody plants that were appropriate for our type of customers was quite short. Blossoms, with few exceptions, were limited to May and June. Those that bloomed earlier or later often lacked the garden appeal of the "in season" choices. Since we already grew a lot of our plants from seed, we decided to try to breed and select for improvements and to begin with rhododendrons and azaleas.

One of the goals in our earliest selecting and hybridizing programs at Weston Nurseries was to expand the flowering season and color choices for landscape plants. We began primarily with early blooming species, such as *Rhododendron mucronulatum* and *R. dauricum* var. *sempervirens* and *R. carolinianum*. Results of those efforts have been gratifying and have given us incentive to continue. The rhododendron hybrids 'PJM', 'Olga Mezitt', the Shrimp Pink Hybrids, 'Weston's Pink Diamond' and 'Molly Fordham' are among those we consider successful.

The extension of the flowering time towards the later season follows a similar pattern, but with azaleas rather than rhododendrons. Our main azalea choices at the start were *R. arborescens*, *R. viscosum*, and *R. calendulaceum*. The first two are native to northeastern areas of the USA while the latter is a more southern native. We then included *R. bakeri* and *R. × gandavense*, and eventually *R. prunifolium*. Surprisingly, all 6 species apparently have similar winter flower bud and plant hardiness. This good fortune enables the resulting hybrids to be useful even in many colder northern landscapes.

Although my dad, Edmund Mezitt, had performed hybrid crosses since the mid-1930's, he first began keeping records in 1950. That year he recorded 33 crosses, 8 of which were for the purpose of extending azaleas blooms later into the spring. Those first attempts involved trying to intensify flower color among naturally occurring populations of seedling *R. arborescens* azaleas. He selected for improved color and performed crosses again with them. While this did not in itself extend the season, it did create a more colorful starting point with the native species. Since *R. viscosum* was later blooming he used the same procedure with it and also began cross-hybridizing *R. arborescens* and *R. viscosum*.

One of the major breakthroughs occurred in 1957 when he received a group of plants from a collector in the Cumberland

Mountains in North Carolina labelled *R. calendulaceum*. They were June blooming in orange shades, obviously mislabeled, and later identified as *R. bakeri* [syn. *R. cumberlandense*]. His use of these plants with his now improved natives began the cycle of more colorful, fragrant and later blooming hybrids.

In about 1965, Fred Galle, then at Calloway Gardens in Georgia, sent us some plants of *R. prunifolium* he thought might be useful for extending the flowering season in our hybridizing program. His impression was that these July and August blooming southern plants might be hardier than their range indicates. My father had used *R. prunifolium* once before in his 1957 hybrids but was somewhat concerned with the potential for reduced hardiness. Fred Galle's suggestion gave my dad a renewed courage and in retrospect proved valid. Many of the seedlings from Fred Galles' plants (and dad's 1957 attempt) have tested to be flower bud hardy to as much as -24°F .

We began using *R. prunifolium* in our crosses cautiously because we could not be sure of the hardiness. Our thinking at that time was that the proven hardiness of *R. arborescens* and *R. viscosa* would probably help make some of the resulting hybrids hardy enough for northern landscapes. The same thing occurred with *R. bakeri*. While we have not yet tested bud hardiness of *R. bakeri*, it performs well in our fields (USDA Zone 5) every year.

Additionally, its hybrids that have been tested demonstrate hardiness well within the range for northern gardens, often -24°F or colder.

The following will show the color progressions we've observed with various crosses and some of the influences the different parents have had.

1) 'Deep Rose'. This selection blooms in early June. It is a fragrant *R. × gandavense* × *R. viscosum* hybrid, tested in the winter of 1985–1986 at the University of Minnesota Landscape Arboretum and found to maintain flower viability when subjected to temperatures of -24°F . We've listed it in our catalogue since 1971.

2) 'Orange Essence'. A mid-June *R. × gandavense* × *R. viscosum* hybrid, this one is sweet scented and upright growing. It is still being evaluated.

3) 'Pink and Sweet'. This is an outstanding plant and one of our favorites because it is easy to propagate and succeeds almost everywhere. In 1958 we crossed a pink *R. viscosum* with *R. bakeri* and selected some superior plants. One of these was then hybridized with a pink *R. arborescens* in 1963, and 'Pink and Sweet' was one of the results. Its flower buds are hardy to -29°F and it blooms for a couple of weeks in late June. It has a strong spicy fragrance and good summer foliage that turns bronze in fall.

4) 'Lollipop'. This selection blooms in late June and is similar to 'Pink and Sweet', but a little slower growing.

5) 'Independence'. This selection is a predictable Fourth of July blooming plant with red buds, small dark pink flowers maturing silvery pink. Its scent is heavy and spicy and it has a long bloom period. Upright growing, it is probably a grex and is the result of a 1958 *R. viscosum* × *R. bakeri* cross on a dark pink *R. viscosa* in 1963. We named it in 1971.

6) 'Salute'. This selection blooms in early July with sparkling cherry-pink,

tubular flowers and a slight fragrance. It is a *R. viscosum* × *R. bakeri* parent crossed with dark pink *R. viscosum*.

7) 'Summertime'. This plant is a slightly fragrant light pink in early July. It has blue green foliage and stems, and slight mildew susceptibility. 'Summertime' is upright growing and vigorous; flowers are hardy to -29°F .

8) 'Parade'. This selection has lightly vanilla-scented, dark pink flowers for about 2 weeks in mid-July. It shows very little mildew and tests to bloom after -24°F .

9) 'Sparkler'. This outstanding hybrid has a 2 week bloom period from early to mid-July. Its dark pink flowers have ruffled edges and a spicy chocolate fragrance. The foliage is blue-green with striking silver undersides and turns dark wine-purple in fall. Flowers are hardy to -24°F .

10) 'Golden Showers'. This plant is a hybrid we've apparently named before as 'Golden Anniversary'. It blooms in mid-July with peach-yellow flowers, has a slight vanilla fragrance, and is wide growing in youth but becomes upright with age. Its origin is a 1963 *R. prunifolium* × *R. viscosum* by *R. bakeri* × *R. viscosum* cross. Its flower buds have tested hardy to -24°F . This is a beautiful plant, but it is rather susceptible to powdery mildew.

11) 'Lemon Drop'. This selection blooms from mid-to late July. It is a vigorous, stiff, upright grower. Its foliage is green with silvery undersides and turns pink-purple in fall and is mildew resistant. Flowers are pale yellow with deeper buds and lightly lemon-scented. It tests to -34°F flower bud hardiness.

12) 'July Yellow #1' is a newer selection that has a long bloom period in mid-July. Its small, rich yellow flowers have a slight fragrance. It is wide growing with good mildew resistance.

13) 'Pennsylvania' is a 1963 *R. prunifolium* × *R. viscosum* hybrid, that has light pink and slightly fragrant flowers at the end of July. Wide and slow growing, it has mildew resistant foliage that becomes coppery in fall. Even though we've grown this for a number of years, we've just begun propagating it.

The next selections tend to be even later blooming. These all have primarily *R. prunifolium* parentage and lack fragrance. All are vigorous and wide upright growing in Hopkinton, Massachusetts and have bloomed reliably for many years.

14) 'Cherry Bomb'. This plant is outstanding with its large cherry red flowers. Like the others in this group it has mildew resistant foliage. Its flower bud hardiness has tested to -24°F .

15) 'Coral Glow'. This plant is bright orange-pink and blooms from late July into August.

16) 'Tangerine Glow'. This plant is late July blooming with dark orange flowers.

17) 'Everglow'. This plant flowers from late July into August and is dark orange-red. Its foliage is somewhat glossy and its flower bud hardiness has been tested to -2°F .

Typical fall foliage variations for the *R. viscosum* and *R. aborescens* hybrids range from bronze purple to coppery orange. The *R. prunifolium* hybrids tend to remain green until foliage drop in October-November:

As you can see, we have had some good success extending color in azaleas to mid-summer. Some other significant features have also become apparent and should be mentioned for the summer blooming azaleas as a group.

1) Cold Hardiness. Quantitative testing done at the University of Minnesota Landscape Arboretum indicates extreme cold tem-

perature tolerance of flower buds in most of these hybrids. Our own qualitative tests agree. A number of other people throughout the U.S. are also currently testing them in their areas.

2) Shade Tolerance. All grow acceptably in light shade, but flower intensity and profuseness is reduced.

3) Fragrance. Flower fragrance varies from quite intense to none. It seems to be more noticeable on the June to early July blooming hybrids, and also on the less intensely colored hybrids.

4) Heat Tolerance. Many of these hybrids stay in bloom, even in full sun, for upwards of two weeks with daily temperatures in the 80° and 90°F range.

5) Attractive Foliage. Foliage is most commonly green, often has some gloss or a blue or silvery underside. Many appear to be significantly mildew resistant.

6) Autumn Color. Most turn attractive colors in autumn. Mahogany-bronze tones predominate, but copper and yellow are also common. Some, including most *R. prunifolium* hybrids, have no distinctive fall color.

7) Ease of Propagation. Cuttings taken when new growth becomes stiff usually root easily. They grow more easily than many azaleas, and spring bud break is more reliable than Exbury type hybrids. Tissue culture has been successful on most we have tried.

Some of the apparent drawbacks of these summer-blooming hybrids should also be mentioned:

1) All these summer blooming azaleas are deciduous. There is nothing but stems and buds visible in winter.

2) Foliage can partially mask flower color especially on vigorously growing plants.

3) Most of the summer blooming azaleas are not spectacular garden plants in most people's minds because they bloom when everything is in full leaf.

4) They probably require acid soils to perform well, although we have not tested for pH tolerance.

5) The public has little knowledge that such plants are available, so a market will probably have to be created to distribute them.

In recent years other growers in the U.S. and overseas have also begun to offer June-blooming azaleas. Among the ones we know about are *R. "viscosephalum"*, 'Carat', 'Arpege', 'Diorama', 'Jolie Madame', and 'Rosata'. We are integrating these in our testing program and evaluating them along with our own. Some appear to have good features and we intend to incorporate them into our hybridizing program. As of this year we are tracking about 100 of our own hybrids and a couple dozen from other growers. We are currently on the fifth or sixth generation in some of our hybrids.

We see a promising future for summer blooming azaleas and a good opportunity to extend landscape color and interest to more northern gardens. We think the obvious appeal of having reliable

color at the time when people enjoy being outdoors will result in wide popularity of this type of plant. We will be continuing to hybridize and evaluate to extend color through the summer, for improved fragrance, and for optimum foliage and growth characteristics.

NEW PLANT FORUM

JACK ALEXANDER and GARY KOLLER, MODERATORS

ROB NICHOLSON:

Acer saccharum 'Globosum' is a globe-shaped sugar maple. What makes this tree of interest to the nursery trade is its small eventual size. This sugar maple has the same fine fall color as the species. We have two plants at the Arnold Arboretum. One, a 45 year old plant, is about 25 ft high by 18 ft wide and was grafted low to the ground. It could also be grafted as a standard. I don't know about the history of this cultivar but we received our material in 1942 from the Henry Hohman Nursery in Kingsville, MD. I see this cultivar as an excellent tree for lawn, patio or park use.

Betula grossa, the Japanese cherry birch, is a small tree that has shown no pest problems at our arboretum. It is native only to Japan and is found in the lower three islands but seems to be most common in the central provinces of the large island, Honshu. Its bark, while not being a "commercial white", is a fine silvery-maroon color which resembles the bark of some cherries. It is reported to reach over 50 ft in Japan but in Boston our trees have not topped 30 ft. One of our trees is 90 yr old and only 30 ft high. A 30 yr old plant grown from seed is 25 to 30 ft high and shows a nice pyramidal habit. The hardiness of this birch is probably Zone 5.

GARY KOLLER:

Heptacodium of the Caprifoliaceae is a new genus of shrubs, first arriving in North America as a result of the 1980 Sino-American plant collecting expedition of which the Arnold Arboretum was a cooperating institution. *Heptacodium jasminoides* grows 20 to 22 ft tall and forms a large shrub or small tree. The most distinctive ornamental feature is the small, white, fragrant flowers produced from mid-August to early October. Blossoms are followed by rose-purple fruits borne in large terminal clusters which are especially showy when backlit by late afternoon sun. Propagation is easy from softwood cuttings. Growth is 2 to 3 ft or more per year and flowering occurs the second growing season. A full account on the introduction, ornamental features and growth of *Heptacodium jasminoides* can be found in *Arnoldia*. 1986. 46 (4):2-14.

ALAN GORKIN:

The plant I will present here is not new. *Cercis chinensis* was introduced to this country from China in the late 1800's. While it may be grown in the southern portion of the U.S., especially the southeast, one rarely encounters it in the mid-Atlantic to northeast areas. The Chinese redbud is hardy to Zone 5 USDA, (Zone 6, Arnold). *Cercis canadensis* is hardier than *C. chinensis*. *Cercis chinensis* is a multistemmed small tree or large shrub to 12 ft. Redbuds do best on well drained soils and transplant best in spring. They grow well with a pH in the slightly acidic range (6.0 to 6.8). Flowers occur up and down stems in early spring before leaves develop. Leaves are attractive, thick, dark-green, leathery and heart-shaped appendages. The only possible drawback is its retention of seed pods into the winter. Some have germinated fresh