



Two-year-old plants of *Syringa x hyacinthiflora* 'Pocahontas' (left) lined out in the field. The fastest-growing 75% of plants have already been discarded. One-year-old seedlings of *Syringa oblata* 'Cheyenne' (right) illustrating the range of plant heights and differential growth.

Selection of Dwarf Lilacs With Low Winter Chill Requirement and Extended Bloom Period

J. Giles Waines

Lilacs (*Syringa* hybrids and species) are desired flowering shrubs in California and the United States. Drawbacks for lilac gardeners in urban southern California are:

- the size of the bush (6 to 8 ft) is too large for many small gardens
- many cultivars leaf and flower poorly because they do not receive the threshold level of winter chill
- the bloom period of most cultivars is only 4 to 6 weeks, from mid-March through April

For smaller modern gardens, it is desirable to have dwarf (2 to 4 feet) high plants that have low winter chill requirement and a range of cultivars that flower from February to June, and possibly also in the fall.

Starting before 1986, Dr. L.C. Erickson made a collection of lilacs that will grow and flower well at Riverside (Sunset zone 19). The collection is housed in

the UCR Botanic Gardens and on the adjacent Agricultural Experiment Station (AES) and numbers 30 different cultivars. These include desirable plants from Walter Lammer's earlier program at Descanso Gardens, La Cañada-Flintridge, and from the collections of other enthusiasts in southern California. In 1988, Erickson collected selfed seed of 'Pocahontas', which flowers in late April to early May at Riverside, and the resultant seedlings were planted out on the AES. One plant is dwarf, 3 to 4 ft high, and consistently flowers the last week of February through March. The flower and inflorescence structure are very good. Erickson's results with a small population (20) of selfed seedlings demonstrates that Pocahontas is heterozygous and that dwarf habit is obtainable from this parent, along with good flower and inflorescence shape and deep flower color.

Procedures

Selfed and open-pollinated seeds from several different cultivars were collected when mature in late July and early August 1996 from plants in the Botanic Gardens' collection. Seeds were cleaned and sowed in September and October in a cool glasshouse. Seeds germinated over several weeks, and the resultant seedlings were potted on into 1-gallon plastic pots and placed in a glasshouse open to ambient winter temperatures. Most seedlings lost their leaves in Winter 1996-1997 but produced new leaves in Spring 1997. Seedlings grew at varying rates during Spring and Summer 1997.

The tallest 75%, which ranged from 2 to 4 feet high were separated from the shortest 25%. The tall selections were discarded in Spring 1998. Short selections were transplanted to a field in Spring 1998, when 142 seedlings from Pocahontas were lined out. Any that exceed 4 ft high will be discarded. A further 85 slow-growing seedlings from several different cultivars remain to be planted in the field in late Summer 1998. One selfed, tall, seedling of 'De Mirabell' flowered in late June 1998 at Riverside, after which it leafed out. If this flowering and leafing pattern is repeated in future years, it may mean that the flowering season can also be extended into June (or July) by selecting seedlings that do not produce leaves and flowers until later in the Spring. This plant had good flower size and inflorescence shape, although the color was pale lilac. Other seedlings that flowered in Spring 1998 (about 20) had poor-quality flowers, color and inflorescence shape. Some of these did, however, set many fruits, and were

presumably self pollinated.

Future work

Seeds from other desirable cultivars that grow well in southern California will be collected and germinated in future years, and the slowest-growing ones transplanted into the nursery field. When plants come into flower, notes will be taken on start and end of bloom time, flower size, color, and inflorescence shape and of plant height and growth habit. In this way, I expect to select a range of dwarf plants requiring low winter chill that have a range of flower colors and bloom times. Later, these selections will be propagated by cuttings and shoot sprouts from the base of the plant to be made available to the nursery trade and the general public.

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