

# INTRODUCING NEW AND RECOMMENDED PLANTS—THE BRITISH COLUMBIA WAY

BRUCE MACDONALD<sup>1</sup>

Botanical Garden  
University of British Columbia  
6501 NW Marine Drive  
Vancouver, B.C. V6T 1W5 Canada

## DESCRIPTION OF THE PROGRAM

The University of British Columbia's Botanical Garden Plant Introduction Scheme (P.I.S.B.G.) issued its first three public releases in 1985. These were *Genista pilosa* 'Vancouver Gold', *Arctostaphylos uva-ursi* 'Vancouver Jade', and *Microbiota decussata* (UBC Clone #12701). Each of these plants has made a major contribution in stimulating plant production in the Province's wholesale production, as well as in retail and landscape sales. A further six releases have been introduced since 1985: *Anagallis monelli* 'Pacific Blue', *Diascia rigescens*, *Ribes sanguineum* 'White Icicle', *Rubus calycinoides* 'Emerald Carpet', *Teucrium scorodonia* 'Crispum' and *Viburnum plicatum* 'Summer Snowflake'. To date, over two million plants in total have been produced of these nine introductions.

The objectives, formulation, and management of this introduction program have been described previously in the IPPS Proceedings (1, 2, 3).

## CRITERIA OF THE PROGRAM

Our experience has shown that there are essentially five criteria for a successful plant introduction program. These are:

1. The major groups involved in the professional growing of plants and in their design and utilization in the landscape must be involved in both the evaluation of the plants and in the decision making at committee level. These groups include the wholesale growers, retailers, landscape architects and contractors, parks board members, and botanical garden personnel.

2. The procedure by which plants are evaluated must include such criteria as ease of propagation, suitability for large-scale production, resistance and tolerance to pests and diseases, winter hardiness, ability to withstand hot-dry and warm-humid summers, and determination of both domestic and export sales outlets. It is important that the final choice of a plant to be introduced under the program be made by the professional horticultural industry, not by the botanical garden.

3. One mistake made by some institutional plant introduction

---

<sup>1</sup> Director

programs is that there has been insufficient effort made on the proper promotion of the plants after introduction. Important criteria for promotion include selecting a cultivar name that has international appeal (plant naming is often too parochial); providing publicity through booths at trade shows and the radio and television media; placing articles in both professional journals and newspapers; producing colored information sheets; and attaching easily identifiable point-of-sale tags to the plants for retail sales.

4. Use of impartial test sites, including ones showing extremes in both winter and summer temperatures. Our plant introduction program presently has some seven test sites in Canada and six in the United States. The information from these sites is collated and evaluated and is then distributed through newsletters and presentations.

5. A contract must be signed between the institution and the nurseries growing and selling the plants to ensure that revenue is obtained both to maintain and to develop the plant-introduction program. In Canada, plants cannot be patented or trademarked so we register the plant with, and utilize, the Canadian Ornamental Plant Foundation (COPF). This operates essentially as a "gentleman's agreement" program in which a royalty is paid per cutting stuck. We currently receive a royalty income of some \$30,000 Can. per annum through this program. The P.I.S.B.G. program commenced with some ten nurseries and we now have 31. We have been very pleased with their cooperation in the payment of royalties. In addition, a number of nurseries in the United States and Britain that also belong to COPF have been very responsible in honoring the COPF royalty system. However, once the plants are exported from Canada, in particular to some European countries, it is extremely difficult to monitor the program and to ensure that royalties are being paid. To try to overcome this problem, we are now considering the formulation of contracts and licenses with nurseries in the United States, Europe, Australia, and New Zealand that propagate plants developed and introduced by our plant-introduction program. Unless increasing revenue can be produced, it is difficult to ensure that new and improved plant material can continue to be developed by a public institution.

#### NEW INTRODUCTIONS FROM THE PROGRAM

**P.I.S.B.G. release for fall, 1988:** *Sorbus hupehensis* 'Pink Pagoda'.

*Sorbus hupehensis* 'Pink Pagoda' is a shade tree that has many attributes, and is registered with COPF. The wild species is native to China, and this selection was chosen from the plant collections in the David C. Lam Asian Garden component of the Botanical Garden. It is a deciduous tree growing to about 10 m (35 ft.). The new spring growth is a very attractive reddish-bronze, with the com-



pound leaves turning blue-green shortly afterwards and then becoming an orange-red in the fall. The white flowers arise as clusters during the spring. The outstanding feature of this tree in Vancouver, B.C. is the fall and winter color of the fruits, which turn a glowing pink in late summer and remain on the tree until December. The fruits turn soft and white in late December to early January. This is the only *Sorbus* in our plant collections at the Botanical Garden to retain the fruits for such a long period.

'Pink Pagoda' grows well in full sun or partial shade on average, well-drained soils. Its uses in the landscape are as a specimen tree in lawns for home gardens and for parks, medians and boulevards. The fall and winter color of the fruits will be very eye-catching if the trees are planted in groups adjacent to highways. This tree is not recommended for areas where fireblight (*Erwinia amylovora*) is a problem. It is hardy to USDA Zone 6, but further testing is required in order to evaluate whether it can successfully overwinter in zones lower than this.

The tree can be propagated in the open ground by T- or chip-budding onto rootstocks of *Sorbus aucuparia*. Whip and tongue grafting can be used in late winter should the buds fail. Alternatively, a useful method for container-plant production is bench grafting, using a whip or splice graft, during January to February onto bare-root or pot-grown rootstocks of *S. aucuparia*. The tree's ability to produce the colorful pink fruits during the second season of growth from budding or grafting means that *Sorbus hupehensis* 'Pink Pagoda' has considerable potential for garden-center sales.

**P.I.S.B.G. release for fall, 1989**—*Sorbus reducta* (Chinese dwarf mountain ash)

This dwarf deciduous shrub is not a new plant but is virtually unknown in the Pacific Northwest and many other regions of North America. It was selected by the evaluation panel because it is easily produced from seed and makes an ideal container plant for wholesale and retail sales.

*Sorbus reducta* is native to western China and northern Burma and was introduced into cultivation in 1943 by F. Kingdon Ward. It is a deciduous shrub growing to nearly 1 m (3½ ft.) in height and producing suckers to form a multistemmed plant 1 m (3½ ft.) or more across. The suckering is not rampant, and so it is not invasive. The glossy dark-green leaves turn bright red-bronze in the fall. The white flowers are produced in the spring and are followed by attractive pink fruits that are especially visible after the leaves fall. The species is apomictic and thus fruits without pollination or fertilization.

*Sorbus reducta* grows well in full sun or partial shade in average well-drained but moist soils. The growth is inhibited in hot dry locations so that it forms a much more open habit. The shrub is unsuitable for hot, humid locations. It is an effective plant for

massing on highway berms and slopes but should be sited near the front of borders in parks and home gardens. The shrub is hardy to USDA Zone 3 and has been grown successfully in Edmonton, Canada (USDA Zone 2) with snow cover.

*Sorbus reducta* propagates readily from seed. The fruits should be collected in the fall as soon as they are ripe and the seed extracted by maceration followed by flotation. The seed can be stored in a refrigerator until required. It should receive a 3-month period of cold moist stratification (chilling) at 3°C (38°F) in a medium of 4:1 granulated sphagnum peat and perlite before sowing. Milled sphagnum moss may be used as an alternative stratification medium. It is important to turn the medium and seed and to check regularly for very dry areas. The seed must be sown immediately if the radicle begins to emerge towards the end of the stratification period. Our experiments, and the experience of participator nurseries growing forest and native seedlings under polyethylene greenhouses, have shown that the most efficient way to handle *Sorbus reducta* seed is to direct sow into styrofoam blocks with 198 cavities, each cavity containing one seed. This assumes that the viability rate of the seeds is 90 to 100 percent (the viability rate should be checked before sowing commences). Sowing in early to mid-March produces compact bushy liners ready for potting into 1-gal. containers by mid- to late May. In the lower mainland area of B.C., most of the plants should be salable as quality 1-gal. container plants by October of the same year.

The nursery industry of British Columbia has greatly assisted the U.B.C. Botanical Garden recently by ensuring that there will be new and improved plant material in the years ahead. This cooperation has resulted in the formation of the Henry M. Eddie Plant Development Foundation, named in honor of one of British Columbia's pioneer nurserymen and plant breeders. Fund raising has commenced, and the interest from the endowment fund will be used to support plant breeding, clonal selection, and field collections in the wild. This will go a long way to ensure that the University of British Columbia Botanical Garden will be able to demonstrate international leadership with its innovative plant introduction scheme.

#### LITERATURE CITED

1. Macdonald, A. B. 1985. A plant introduction scheme for new and recommended plants from British Columbia, Canada. *Proc. Inter. Plant Prop. Soc.* 35:411-417.
2. Macdonald, A. B. 1988. Worthy introductions of Western Canada. *Amer. Nurs.* 167:122-124.
3. Taylor, R. L. 1983. University of British Columbia Botanical Garden plant introduction scheme—An opportunity for a new relationship between nurseries and the public garden. *Proc. Inter. Plant Prop. Soc.* 33:121-125.