

A PLANT INTRODUCTION SCHEME FOR NEW AND RECOMMENDED PLANTS FROM BRITISH COLUMBIA, CANADA

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During 1981 the Plant Introduction Scheme of the University of British Columbia Botanical Garden (P.I.S.B.G.) was initiated by an executive committee consisting of representation from the British Columbia Nursery Trades Association (B.C.N.T.A.) and the British Columbia Society of Landscape Architects (B.C.S.L.A.) (1). The structure and objectives of the P.I.S.B.G. program was documented by Roy L. Taylor, former Director of the Garden (2).

The aim of this paper is firstly to relate some of the important criteria the Botanical Garden has subsequently experienced for the program to be successful and, secondly, describe the plant releases made available to the 15 participator nurseries within the P.I.S.B.G. program.

Evaluation Panel - Final Plant Selection Procedure. The 30-member evaluation panel, representing the wholesale and retail nursery industry, landscape architects and contractors, and parks boards have met annually to evaluate selected plants. The panel is asked to review some 12 to 15 plants established within different components of the Garden and complete a questionnaire relating mainly to the plants' market potential, uses the landscape, and ease of production (Figure 1).

Following the subsequent analysis of the questionnaire, the five-member introduction and release sub-committee then determines the final choice of plant. The number is reduced to 2 to 3 plants per year as experience has shown that a major reason why many introduction programs have failed is because too many plants were released at one time, resulting in the plants being rarely taken up by the nursery industry.

Test Sites. At the time of release for each introduction the information provided to the industry is based on the plant's performance (normally a minimum of 5 years) at the Garden. The 6 test sites across Canada and the 3 test sites across the United States provide a diverse range of hardiness zones for the plant. The information in the evaluation test site is returned to the Garden and, when appropriate, is released to the nursery and landscape industries through newsletters. How-

ever, it is important to appreciate that the information cannot always be conclusive due to the relatively small number of plants being evaluated at the test site and the degree of cultural care which the test site is able to offer.



Figure 1. Plant selection for PISBG program by the evaluation panel at the Botanical Garden, University of British Columbia, Vancouver.

Publicity. For an introduction program to be successful it is essential that funds are set aside for publicity. Publicity is the responsibility of both the research establishment and the nursery and landscape industries. The Garden provides at cost one-page coloured fact sheets which both illustrate the plant and document information as to market potential, use in landscape, propagation, and culture. Large coloured posters have been printed for use in retail outlets. Through the Garden's staff involvement with the media, incorporating television, radio and newspaper columns, the public is kept informed of the plants and encouraged to purchase them at their local retail outlet. A special picture-tag label has been produced for each plant which each participator nursery is required to use for sales to retail outlets. This enables the homeowner to identify easily plants which have been released from the program.

The Garden has been very fortunate in being invited to participate with the B.C.N.T.A. at nursery trade shows across North America — these have included shows in Ontario, California, Oregon, and Idaho. These large trade show exhibits highlight the P.I.S.B.G. program and the released plants.

Public Plantings. Written into the contract with the participator nurseries is a clause which permits the sale of plants for a public landscape project prior to the date of public release. The public site has to be approved by the introduction

and release sub-committee of the P.I.S.B.G. program. This pre-release enables established plantings to be initiated at an early stage so that landscape architects, contractors, and municipalities can evaluate the effect created by massed plantings of P.I.S.B.G. plants.

Funding. To enable the P.I.S.B.G. program to commence the Garden has been very fortunate in obtaining financial support through matching grants from the Science Council of British Columbia and the Devonian Group of Charitable Foundations, Calgary. Participator nurseries also financially support the program through purchase of the 500 to 1000 mother plants of each introduction and the royalties paid to the Canadian Ornamental Plant Foundation (COPF). Royalties on recommended plants are processed directly by the Garden and not through COPF.

Future Releases. For the continuation of a successful plant introduction program it is essential that there are plants on-line for at least the next 3-4 year period.

The Garden has now commenced its own plant breeding program to ensure continuing of P.I.S.B.G. material. Through its world-wide contacts, the Garden is continually searching for potential material of new and recommended plants. It is important that Botanical Gardens do not just use their collections as collectors items and not collect with no overall goal in mind. A plant for an introduction program must have a wide appeal in its market potential and use.

It would be foolish to think that every introduction will be successful, because it will not. At the time of public release, market trends may well have changed since the plant was initially selected by the evaluation panel or unforeseen problems may have been experienced with the plant's commercial production.

Released P.I.S.B.G. Plants [C.O.P.F. registered, except Microbiota decussata]

Documented below are outline descriptions of the plants currently released to participator nurseries for general release in 1985 and 1986. Also summarised are their uses in the landscape and their method of propagation.

- (1) *Genista pilosa* 'Vancouver Gold' (Vancouver gold broom)

This excellent selection was found by the late Mr. E.H. Lohbrunner in Victoria, British Columbia, and was subsequently acquired and named by the UBC Botanical Garden. This low, spreading shrub eventually attains a height of around 30 cm and a spread of 1 m. During May it produces a

mass of bright golden flowers (Figure 2). Besides its habit and flowers, another asset is that, unlike *Genista pilosa* seedlings, it does not produce a mass of seed pods. Following flowering the dead flowers quickly become covered by the new vegetative growth.

This plant should be sited in full sun on a well-drained soil. It is particularly suited as a colourful ground cover or as a specimen plant. Probably hardy for climates to USDA Zone 5.

It is readily propagated from semi-hardwood cuttings around 7.5 cm (3 in.) in length from July through to October. Rooting hormone is not necessary. It lends itself readily to direct sticking.



Figure 2. *Genista pilosa* 'Vancouver Gold'

(2) *Arctostaphylos uva-ursi* 'Vancouver Jade' (kinnikinnick or bearberry)

This selection was made by the late Mr. E.H. Lohbrunner, Victoria, B.C., and then acquired and named by the Botanical Garden. This plant was chosen as there was a need for the B.C. nursery trade to grow a locally selected clone which rooted readily, had good flowers, vigorous habit, and performed well within the landscape site. Currently nurseries were relying on local wild collections for cuttings which subsequently performed irregularly.

The leaves are bright green during the early spring, the stems bear fragrant clusters of attractive pink flowers. At the Garden it has been more tolerant to leaf spot pathogens, mildew, and galls than other forms grown in the collections. Since its release, this selection has already been planted up in some major landscape sites within British Columbia. Probably hardy to USDA Zone 4.

It is ideal for direct sticking and over 90% success is achieved by taking cuttings from July to January and applying 0.8% I.B.A. in talc.

(3) *Rubus calycinoïdes* 'Emerald Carpet' (Taiwan creeping rubus)

This clone arose from collections made for the Garden at elevations of around 2900 m in Taiwan. This rapid-growing evergreen spreads 30 cm per year. The attractive bright green leaves have a marbled texture. The white flowers borne in June are inconspicuous (Figure 3).

This ground cover provides an alternative to ivy in many sunny and shady locations. If winter damage occurs, it should quickly regenerate the following spring.

Propagation can be carried out the year round as nodal or internodal cuttings. Rooting hormone is not necessary. It is an ideal plant for direct sticking.



Figure 3. *Rubus calycinoïdes* 'Emerald Carpet'

(4) *Viburnum plicatum* 'Summer Snowflake' (double file viburnum)

This selection was obtained by R.F. Michaud, Surrey, B.C. from wild collections in Japan and was subsequently acquired and named by the Botanical Garden.

This deciduous cultivar reaches a height of 2 m and spreads to 1.5 m. A large flush of very attractive flowers arises in May and then continues to flower throughout the summer. A secondary flush appears during late September-early October. An added ornamental feature is the dark red-purple shades of the fall leaf colour (Figure 4).

This compact cultivar is an excellent garden or landscape plant for both sunny and shady sites — some light shade being best.

It is readily propagated by softwood cuttings using 0.3 to 0.5% I.B.A. in talc during the summer — optimum period being mid-July and August. Rooting later than this means that the cuttings are less likely to overwinter successfully. It readily lends itself to direct sticking. It is important that rooted cuttings are not potted until the new spring growth occurs, otherwise losses are likely to occur.



Figure 4. *Viburnum plicatum* 'Summer Snowflake'

(6) *Anagallis monelli* 'Pacific Blue'

This form was selected for its intense gentian-blue coloured flowers, also for its use as a ground cover, bedding plant, and for planting in patios and in hanging baskets. Although it is a short-lived perennial (around 3 years) it can be treated as an annual — particularly in colder climates. It is readily rooted from softwood cuttings. Rooting hormone is not necessary. Hardy to U.S.D.A. Zone 8.

(7) *Microbiota decussata* (Russian or Siberian cypress) UBC Clone #12701

This conifer originated in Siberia in 1921 and was received by the Trompenburg Arboretum in Holland during 1968. This will be introduced as a recommended plant for the

B.C. nursery trade as it offers a very viable alternative for junipers in cold localities. Hardy to U.S.D.A. Zone 2 (possibly 1).

The clone chosen for the P.I.S.B.G. program came from material sent by Royal Botanic Garden in Edinburgh. It will not be given a cultivar name unless it is sufficiently distinct from current material available.

It has a low, spreading habit attaining a width of 3 to 4 metres. During the summer the attractive fern-like foliage is bright green while during the winter it attains a coppery-brown colour.

It readily roots from cuttings taken from August to January. During the preparation of the cuttings 2.5 cm of the previous year's wood should be retained at the base of the cuttings. Rooting is improved with 0.8% I.B.A. in talc or a liquid preparation.

LITERATURE CITED

1. Macdonald, A.B. 1983. British Columbia establishes new plant introduction program. *Amer. Nurs.* 158(6):45-49.
2. Taylor, R.L. 1984. 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.* 34:121-125.

HANDLE WITH CARE

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The object of my paper is to relate my observations concerning the materials handling and work organisation aspects of plant propagation.

We may naturally think of materials handling and mechanisation in connection with field and container production of hardy nursery stock. In the context of plant propagation these aspects are often considered less important than subjects such as propagation environments, improving the rootability of our cuttings, fogging or mist systems, treatment of cuttings, rooting media, or direct sticking. Perhaps I could suggest that materials handling and work organisation are equally important if we are to make maximum use of our expensive propagation facilities and our labour resources. At the moment labour costs represent in the region of 25 to 30 pence in every