

Fig. 2. Fruit of 'Harcrest' peach (scale in cm).

Table 2. Cold hardiness of dormant flower buds and shoot xylem of 'Harcrest' compared with 'Redhaven' and 'Loring' in controlled freezing tests in 1979.

Cultivars	T_{50}^z	
	Flower buds	Shoot xylem
Loring	-22.5	-26.8
Redhaven	-23.5	-26.4
Harcrest	-23.7	-29.3
s_d^y	0.456	0.566

^zTemperature (°C) required to kill 50% of the flower primordia and 50% of the shoot xylem using a standard test (2).

^ySE of the difference between 2 means.

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'Silvan' Blackberry

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'Silvan' is a blackberry cultivar of exceptional quality and yield. In Victoria, the cultivar displays greater tolerance to heavy soils, wind and drought, plus greater productivity, fruit size, and jam processing qualities than other commercial cultivars of trailing blackberries such as 'Boysen', 'Marion', and 'Young'.

Origin

'Silvan' was selected from the progeny of a cross between U.S. Oregon 742 and US-Oregon 928 (Fig. 1). The seed was supplied in 1952 by G.F. Waldo, then a USDA horticulturist at Corvallis, Oregon. US-Oregon

928 subsequently was released as 'Marion' (1). The selection was made by officers of the Dept. of Agriculture, Victoria, in 1964. 'Silvan' has been tested for over 10 years by co-operating growers in the Silvan district of Victoria. Prior to the name 'Silvan' being formally applied, the names 'American Bramble' and 'Scoresby Selection' were used.

Description

Primocanes emerge with a green color, but quickly assume a wine-red tinge; they are

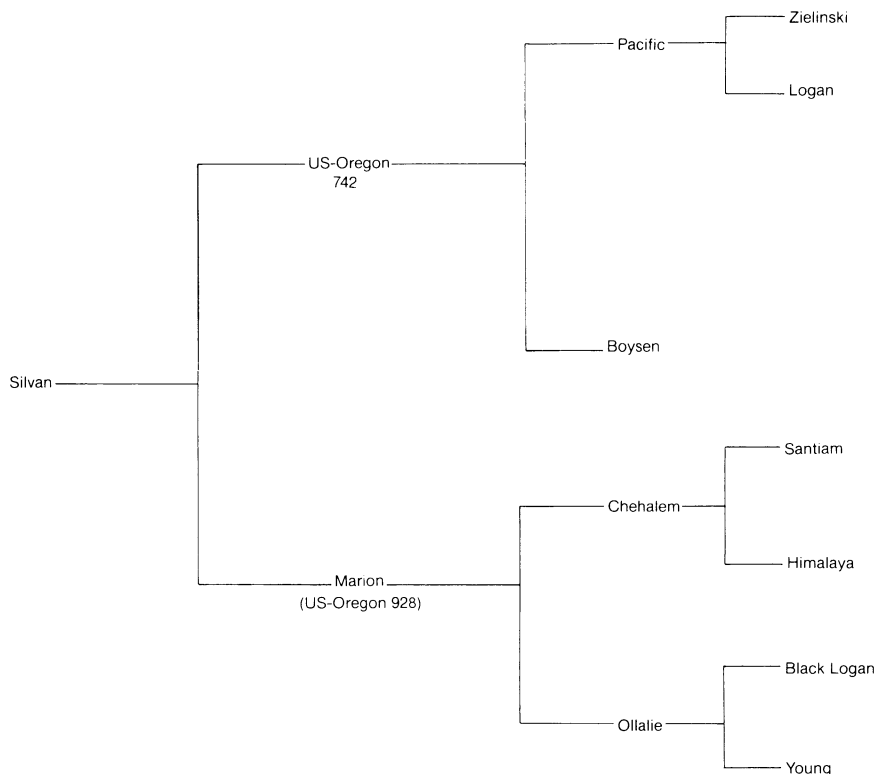


Fig. 1. Pedigree of 'Silvan' blackberry.

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densely armed with brittle 3–5 mm thorns. In commercial practice, the 1st primocanes to emerge in spring (usually 2–5) are shortened to 2 nodes 10 days before harvest, and the subsequent flush of 6–10 canes is allowed to grow unchecked. Primocanes are trailing, and may reach 9 m in length and 20–25 mm basal diameter before growth ceases in winter.

Fruit are borne on thorny peduncles arising from leaf axils along the entire length of the cane and extend beyond the foliage. As berries enlarge and ripen, the color changes from green to wine red and to shiny purple black when fully ripe. The fruit picks easily at firm ripe and fully ripe stages. Fully ripe fruit tend to soften and lose their gloss soon after harvest. In southern Victoria, 'Silvan' is harvested from the 1st week of December to the 1st week of January, at the same time as 'Young', 1 week earlier than 'Boysen' and 2 weeks earlier than 'Marion'.

Characteristics

The most outstanding features of 'Silvan' are its high yield, good fruit quality, and disease tolerance. Under comparable commercial management, 'Silvan' yields (11 t/ha) are about 25% more than 'Boysen' (9 t/ha), hitherto the most productive blackberry cultivar in Victoria, 35% more than 'Young' (8 t/ha), and more than double the yield of 'Marion' (5 t/ha). Growers normally achieve

fruit sizes of 20–25 mm diameter, 40 mm long, with a mean weight of 6–8 g.

'Silvan' has gained favor among consumers and processors because of its excellent flavor, which, when fully ripe, is sweeter and less acid than 'Boysen', 'Marion', or 'Young', and is reminiscent of the flavor of *Rubus procerus* P.J. Muell., the introduced blackberry species which occurs extensively as a weed in Southeastern Australia, and whose flavor is preferred by processors. The texture of 'Silvan' jam resembles 'Boysen' jam in seediness, fruit coherence, and plug (torus) softness. 'Silvan' is particularly well suited to the jam processing market because of its flavor and processing quality; it is also well suited to the pick-your-own market because of its flavor, size, and appearance both on the plant and harvested. While it is well accepted on local fresh fruit markets, its short shelf life precludes shipping long distances.

Under commercial management, 'Silvan' seems to be more tolerant of anthracnose (*Elsinoe veneta* [Burkh.] Jenkins) than other blackberry cultivars, and maintains vigor despite infection by crown gall (*Agrobacterium tumefaciens* [Smith & Townsend] Conn). Only unthrifty plants seem subject to a dry berry condition, similar to *Peronospora rubi* Rabenh. infection of other blackberry cultivars. Viruses were not found in 'Silvan' in a survey of *Rubus* species in Victoria (3); however, tobacco streak virus was isolated from Victorian plants of 'Silvan' sent to New Zealand (4).

Compared to other *Rubus* cultivars, 'Silvan' seems to be more tolerant of wind, drought and heavy soils and in this sense is stress tolerant. Winter hardiness to very cold temperatures has not been evaluated, since the lowest monthly average of daily minimum temperature in the 'Silvan' district is over 2°C (2).

Propagation and Availability

'Silvan' propagates readily by tip rooting primocanes. Cuttings may be struck under mist, but with difficulty. Limited supplies of plants are available from R. Stace-Smith, Agriculture Canada, Vancouver, B.C., and from Knoxfield Horticultural Research Institute, P.O. Box 174, Ferntree Gully, Victoria 3156, Australia.

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BC 72-1-7 Red Raspberry

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BC 72-1-7, a selection from the British Columbia red raspberry (*Rubus idaeus* L.) breeding program, is being released as germ-plasm. It has a unique combination of desirable horticultural characteristics and resistance to several pests which will make it a useful parent. The selection is homozygous for gene *Ag₁* which confers resistance to *Amphorophora agathonica* Hottes, the aphid vector of raspberry mosaic virus. It is the 1st genotype described which is homozygous for the characteristic. The use of BC 72-1-7 as a parent makes it unnecessary to screen for

aphid reaction, since all its seedlings will be resistant. Other useful characteristics of this selection are varying levels of resistance to several diseases including root rot, most likely caused by *Phytophthora erythroseptica* Pethb., postharvest fruit rot caused by *Rhizopus* spp., and probable resistance to pollen transmission of raspberry bushy dwarf virus (RBDV). Useful horticultural characteristics are high yield and bright red, nondarkening fruit color.

Origin

BC 72-1-7 is a selection from a 1972 cross of 'Haida' x 'Canby'. Both parents are of Pacific Northwest origin and are heterozygous for gene *Ag₁*. The selection was selected for *A. agathonica* resistance in the field at Agassiz, B. C. in 1973 by a procedure

previously described (3). In 1974 and 1975 it was evaluated for plant and fruit characteristics and subsequently placed in 1977 in a test plot at Abbotsford, B. C. In 1981 the selection was placed in another test plot at Abbotsford and also in plots at the Western Washington Research and Extension Center at Puyallup, Wash.

Description

BC 72-1-7 produces numerous primocanes which are nonpubescent and nonwaxy. They are erect, develop a compact growth habit, and have relatively few spines. Floricanes show basal cracking. Fruiting laterals are upright and medium in length. Internodes are short and laterals thus are closely spaced. Fruit is presented in a cluster habit at the lateral tips. The medium size fruit is a bright nondarkening red color. The fruit does not separate quite as readily from the receptacle as fruit of 'Willamette', 'Meeker', and 'Skeena'; thus, it is probably less suited to machine harvest than these. Fruit firmness is comparable to that of 'Willamette', 'Meeker', 'Skeena', and 'Chilcotin', commercial cultivars in the Pacific Northwest (4, 5).

The 1983 data (Table 1) are typical of those obtained in earlier years at Abbotsford, where BC 72-1-7 consistently produced higher yields but smaller fruit than 'Willamette', 'Meeker', 'Skeena', and 'Chilcotin'. At Puyallup, where comparisons were made with 'Willamette', 'Meeker', and 'Chilcotin', the selection pro-

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