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'Harrow Diamond' Peach

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'Harrow Diamond' is an attractive, cold-hardy, productive, peach [*Prunus persica* (L.) Batsch] that ripens 1 day before 'Candor' and 'Earlired' and is being introduced for the early fresh market. The name was chosen to commemorate the 75th anniversary of the founding of the Harrow Research Station. 'Harrow Diamond' has performed better than 'Candor' or 'Earlired' at Harrow. It is more cold-hardy, productive, vigorous and resistant to perennial canker (*Leucostoma* spp.) than 'Candor', and is more productive and substantially more resistant to split pits than 'Earlired'. It is more resistant to flesh browning than 'Candor' or 'Earlired'.

'Harrow Diamond', introduced in 1984 for the Ontario fresh market, is regarded as a possible replacement for 'Candor' and 'Earlired', both of which have been marginally adapted to southwestern Ontario. 'Harrow Diamond' is performing well in regional trials in Ontario and is adapted to regions where 'Redhaven' is successfully grown.

Origin

'Harrow Diamond', selected in 1975 from hybridizing 'Redskin' x 'Harbinger' (Fig. 1), was propagated by the Western Ontario Fruit Testing Association (WOFTA) and placed in regional trials in 1977, 1978, and 1984 under the designation HW 213. It was propagated in 1984 by the New York State Fruit Testing Cooperative Association (NYSFTCA), and several commercial nurseries in Ontario.

Performance

'Harrow Diamond' was placed in a 2nd test at the Harrow Research Station in 1977 as budded trees propagated on Siberian C peach seedling rootstock. Its performance from 1980 to 1984 was compared with that of 'Candor' and 'Earlired' which ripen in the same season and with which it will compete (Table 1). The data are based on the best

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surviving tree of each cultivar located in the same orchard and arranged in a completely randomized design. The overall performance of 'Harrow Diamond', based on 15 traits, was superior to 'Candor' and 'Earlired'. 'Harrow Diamond' had good ratings (scores ≥ 7) for 5 of 15 characters evaluated and average ratings (scores > 5 to < 7) for 9 of the remaining characters. It had slightly more red pigment in the flesh than 'Candor' or 'Earlired'. 'Harrow Diamond' survived 2 test winters in 1981-82 and 1983-84 with re-

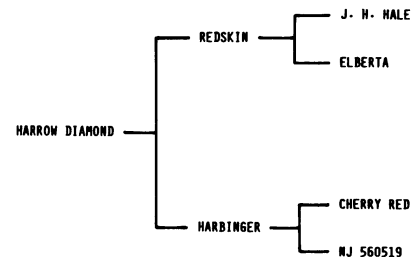


Fig. 1. Pedigree of 'Harrow Diamond' peach.

spective minimum temperatures of -26° and -28°C , and produced full commercial crops that required thinning in both years. By contrast, both 'Candor' and 'Earlired' produced very light to light crops that required no thinning in either year. Flower bud mortality in 1982 following exposure to -26° outdoors, was 43.1% for 'Harrow Diamond' compared with 94.2% for 'Candor' (2).

Table 1. Performance of 'Harrow Diamond' in comparison with 'Candor' and 'Earlired' (1980 to 1984).

Characters evaluated	Mean rating ^z		
	'Harrow Diamond'	'Candor'	'Earlired'
Tree vigor	7.0	5.2	7.0
Winter hardiness	7.2	5.2	7.0
Perennial canker	4.8	3.2	6.0
Bacterial leaf spot	10.0	10.0	9.8
Bacterial fruit spot	10.0	10.0	9.8
Productivity	6.6	5.2	4.8
Uniformity of ripening	6.8	6.0	7.0
Fruit size	6.4	5.5	6.8
Attractiveness	6.8	6.0	7.0
Blush	6.4	6.0	7.8
Flesh firmness	6.2	5.8	6.5
Flesh adherence to pit	5.8	5.3	4.0
Red pigment in flesh	6.8	10.0	7.3
Flavor	6.2	7.0	6.3
Split pits	8.8	7.0	4.3
Total score (15 characters)	106.7	97.4	101.4
Mean ripe date	25 July	26 July	26 July

^zRatings were subjective on a scale of 1 (least desirable) to 10 (most desirable). Trees were propagated on Siberian C rootstock and tested in the same orchard at the Harrow Research Station.

Table 2. Ratings of browning potential of early season peach cultivars.^z

Cultivar	Polyphenol oxidase test (1-5)	Nitroso test (1-5)	Total (Max. = 10)
Harrow Diamond	1	1	2
Sunhaven	1	2	3
Harland	2	2	4
Candor	2	2	4
Earlired	2	2	4
Sweethaven	2	2	4
Garnet Beauty	2	3	5
Earliglo	1	4	5
Harbelle	1	5	6

^zBrowning potential is low if total score is less than 2, moderate if between 2 and 4, high if between 5 and 7, and very high if above 7 (1).



Fig. 2. Fruit of 'Harrow Diamond' peach (scale in centimeters).

Description

Trees of 'Harrow Diamond' are of medium vigor, open, spreading, and have medium to wide crotch angles. They have moderate tolerance to perennial canker, based on natural infection outdoors, with ratings intermediate between 'Candor' and 'Earlired' (Table 1). Leaves and fruit appear resistant to bacterial spot [*Xanthomonas campestris* pv. *pruni* (Smith) Young et al.]. No symptoms of the disease have been observed in 5 years when adjacent trees of other cultivars were infected. The fruit appear resistant to brown rot [*Monilinia fructicola* (Wint.) Honey], split pits and preharvest drop, thereby resulting in few culls at harvest.

Flowers are showy, pink, and bloom mid-way between 'Candor' and 'Earlired'. Leaves, lanceolate and wavy with crenulate margins, are typically 15.2 cm long and 3.7 cm wide. There are usually 2 globose leaf glands at the junction of the leaf blade and the petiole.

Fruit, attractive in color and shape (Fig. 2), are larger than 'Candor' and slightly smaller than 'Earlired' (Table 1). They readily attain 6 cm in diameter if thinned early and about 15 cm apart. A solid, bright red blush covers 60% to 70% of the skin surface and is superimposed on a bright yellow background color. Pubescence on the skin is short and sparse resulting in a smooth fruit appearance. The blossom end of the fruit is dimpled, the suture distinct but shallow, and the cavity deep and flaring. The flesh is yellow, melting, medium firm, moderately sweet and juicy, and, when fully ripe, separates readily from the pit. The texture and flavor are fully acceptable for the early season. The flesh is resistant to oxidation and therefore does not brown readily on exposure to air. Browning tests during the technique of Kader and Chordas (1) showed that 'Harrow Diamond' had the lowest browning potential of 9 early season cultivars (Table 2).

Pits, medium in size and typically 3.2 cm long and 2.5 cm wide, are plump, and have an acuminate apex and obtuse base. The walls are deeply sculptured and pitted and there is a shallow keel on the ventral suture, but wings are absent.

'Harrow Diamond' is being introduced for the Ontario fresh market because it seems better adapted to the peach growing regions of southern Ontario than 'Candor' or 'Earlired'. It is more cold-hardy than either cultivar, more productive, has fewer split pits,

is more resistant to flesh browning, and ripens a day earlier.

Availability

Budwood of 'Harrow Diamond' from virus-indexed trees is available from the Harrow Research Station in limited quantities, and is distributed by WOFTA, Harrow, Ontario NOR 1GO. Trees in limited quantity will be available in 1986 from WOFTA;

NYSFTCA, Geneva, N.Y.; and several commercial nurseries in Ontario.

Literature Cited

1. Kader, A.A. and A. Chordas. 1984. Evaluating the browning potential of peaches. Calif. Agr. (March-April) p. 14-15.
2. Layne, R.E.C. 1982. Cold hardiness of peaches and nectarines following a test winter. Fruit Var. J. 36:90-98.

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'Centennial Spirit' Crapemyrtle

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'Centennial Spirit' crapemyrtle, *Lagerstroemia indica* L., is a vigorous upright shrub with strong stems which may reach 2 to 3 m. Leaves are smaller and thicker than the species, and are dark green and red-orange in the fall. Inflorescences are 20 to 30 cm tall and 10 to 20 cm wide. Petals are dark wine-red. 'Centennial Spirit' is cold-hardy to -20°C and is very resistant to drought and powdery mildew.

Origin

'Centennial Spirit' was selected from a 2nd generation population of seedlings from parent plants that expressed mutant characteristics. An original lot of about 4000 seeds was collected from 16 seedling plants and treated with a 4% solution of ethylmethane sulfonate (EMS) for 1 hr in Feb. 1978 (3). About 1200 seedlings resulted, of which 60 were selected as having promising form and flowering and mildew resistance characteristics. Seeds from 32 plants that showed pronounced mutant characteristics (thick leathery leaves and variegated flowers) (1) were collected in Nov. 1981. No control of pollination was attempted; therefore, the 2nd generation seedlings were probably the progeny of the mutant parent crossed with a normal parent. The seeds were planted in the greenhouse on 12 Mar. 1982 with no further chemical treatment. After the seeds germinated, powdery mildew was introduced from susceptible seedlings in large containers. About 4000 seedlings survived with little or no powdery mildew and were transplanted into the field. 'Centennial Spirit' was selected from this population.

'Centennial Spirit' has thick leathery leaves typical of most of the original mutants and 2nd generation seedlings. However, unlike the mutant 'Prairie Lace' (3) which is sterile and was selected from the original treated seedling population, 'Centennial Spirit' produces viable seed, and blooms over a much longer period of time than most cultivars.

Description

'Centennial Spirit' is a vigorous upright shrub or small tree with generally 3 to 5 stout major stems with few secondary branches or suckers from the base. Leaves are smaller and thicker than the species average, and are dark green and red-orange in the fall. Inflorescences are 20 to 30 cm tall and 10 to 20 cm wide (Fig. 1). Individual petals are dark wine-red (spiraea red; Royal Horticulture Society Color # 025) (2) and discolor very little with age before falling. In con-

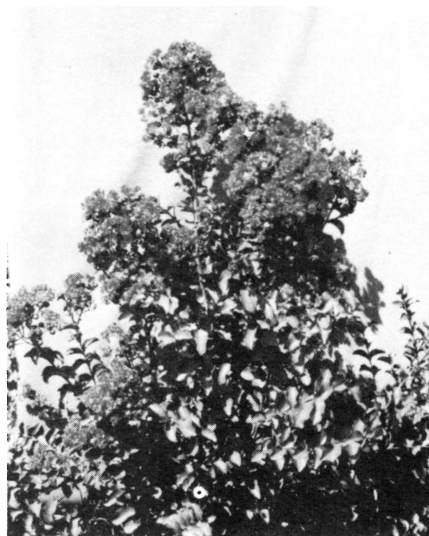


Fig. 1. 'Centennial Spirit' crapemyrtle.

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