'Harblaze' Nectarine

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'Harblaze' nectarine [*Prunus persica* (L.) Batsch] was released for the Ontario fresh market on 11 Aug. 1989. 'Harblaze', besides being cold hardy and disease resistant, bears very attractively colored, high quality, large, firm fruit suitable for long-distance shipping. The name 'Harblaze' was chosen to signify the exceptionally attractive, bright-red skin color of the fruit. 'Harblaze' is recommended by the Ontario Tender Fruit Producers' Marketing Board for trial plantings in the Niagara region and limited plantings in southwestern Ontario. Because its overall performance has been superior to 'Harko'

and 'Nectared 2', this new cultivar has the potential to replace them in Ontario. 'Harblaze' should be adapted to regions where 'Redhaven' peach is successfully grown.

Origin

'Harblaze' was the result of a 1973 cross between 'Stark Delicious' and 'Hardired' (Fig. 1). The seedling was selected in 1978 and tested as HW104. 'Harblaze' was propagated by the Western Ontario Fruit Testing Assn. (WOFTA) and placed in regional trials beginning in 1980. It was propagated by the New York State Fruit Testing Cooperative Assn. (NYSFTCA) and several commercial nurseries in Ontario in 1989. 'Harblaze' is now under test in several provinces of Canada, in the United States, and Europe.

Performance

In 1986, an orchard was established on Fox sand where the performance of 'Har-

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Table 1. Mean performance of 'Harblaze' compared with three other nectarines ripening in the early to midseason (1989-1990).

Characters evaluated	Mean cultivar rating ²			
	Nectared 2	Harko	Hardired	Harblaze
Tree vigor	7 ¹	7	7	7
Winter hardiness	8	8	8	9
Perennial canker	6	9	9	10
Bacterial leaf spot	6	7	9	8
Bacterial fruit spot	4	7	9	8
Productivity	6	7	8	5
Uniformity of ripening	7	6	6	8
Fruit size	7	7	7	8
Attractiveness	6	6	7	8
Blush	9	9	8	9
Flesh firmness	5	7	6	8
Flesh adherence to pit	3	6	7	7
Red pigment in flesh	8	6	8	7
Flavor	5	6	6	7
Split pits	7	9	10	9
Total score (15 characters)	94	107	115	118
Mean ripe date	9 Aug.	13 Aug.	18 Aug.	12 Aug.

¹Ratings were subjective on a scale of 1 (least desirable) to 10 (most desirable). Ratings of 5 or 6 are acceptable and ratings ≥ 7 indicate a good level of performance.

²Means of three replicates. Trees were tested in the same orchard at the Harrow Research Station and arranged in a completely random design.

Fig. 1. Pedigree of 'Harblaze' nectarine.

Fig. 2. Fruit of 'Harblaze' nectarine (scale in centimeters).

'blaze' could be compared with 'Nectared 2', 'Harko', and 'Hardired' ripening just before or after 'Harblaze'. The cultivars were arranged in a completely random design with three replications. 'Harblaze' had the highest

total rating score (118) for 15 characters over the first 2 cropping years (Table 1), exceeding 'Hardired' (115), 'Harko' (107), and 'Nectared 2' (94). Furthermore, 'Harblaze' exceeded the other three cultivars for winter

hardiness, perennial canker resistance, uniformity of fruit ripening, fruit size, attractiveness, flesh firmness, and flavor. 'Harblaze', although less productive than the other three cultivars, had an acceptable rating for productivity.

A standard controlled freezing test (Layne, 1989) was used to assess the cold hardiness of dormant, fully acclimated shoots of 'Harblaze' relative to those of 'Loring' and 'Redhaven'. 'Harblaze' was equivalent to 'Redhaven' in bud and wood hardiness and harder than 'Loring' (Table 2). Thus, 'Harblaze' should be adapted to regions where 'Redhaven' is successfully grown.

Description

Trees of 'Harblaze' are of medium vigor, upright to spreading, and have medium to wide crotch angles. Based on natural field infection, 'Harblaze' has good resistance to perennial canker (*Leucostoma* spp.), bacterial leaf and fruit spot [*Xanthomonas campestris* pv. *pruni* (Smith) Dye], brown rot [*Monilinia fructicola* (Wint.) Honey], and powdery mildew [*Sphaerotheca pannosa* (Walk. ex Fr.) Lév.]. By contrast, 'Nectared 2' is susceptible to these diseases (Table 1). 'Harblaze' trees have sustained very little winter injury (Table 1) and are as hardy as 'Redhaven' in controlled freezing tests (Table 2). 'Harblaze' does not set as heavily as 'Hardired' or 'Harko' and thus requires very little fruit thinning to attain marketable size (Table 1). The fruit appear resistant to pre-harvest drop, split pits, skin cracking, brown rot, bacterial spot, and powdery mildew. Thus, there are very few culls at harvest. This cultivar would likely perform well with a reduced spray program because it is more disease resistant than most nectarines under trial at Harrow.

Flowers are showy, pink, and bloom ≈ 6 May at Harrow, a day before 'Harko' and 2 or 3 days before 'Hardired' and 'Nectared 2'. Leaves are lanceolate and wavy with crenulate margins and with one or more reniform petiolar glands.

'Harblaze' fruit are exceptionally attractive in color and shape (Fig. 2) and larger than those of the other three cultivars included in the replicated planting (Table 1). A solid, scarlet-red blush covers 90% of the fruit surface and is superimposed on a bright yellow-orange ground color. Fruit shape is oblong. There is a distinct suture, especially at the blossom end. Halves are of about equal size, and there is a moderately deep flaring cavity at the stem end. Based on a randomly collected sample of 50 firm-ripe fruit, fruit weight was 152 ± 2.7 g and fruit length and diameter were 66.1 ± 0.4 mm and 65.4 ± 0.4 mm, respectively. The flesh of 'Harblaze' is yellow, firm, melting, freestone, and the flavor is rated good with a good balance of acidity and sweetness.

The pits, medium to large, are elongated, plump, and 35.9 ± 0.2 mm long, 26.3 ± 0.1 mm wide, and 18.4 ± 0.1 mm thick. The walls are deeply sculptured and pitted. There is a shallow keel on the ventral surface

Table 2. Cold hardiness of maximally acclimated dormant shoots of 'Harblaze' nectarine compared with 'Loring' and 'Redhaven' peach (1990)^z.

Cultivar	T ₅₀ ^y (°C)	
	Flower buds	Shoot xylem
Loring	-26.2 a	-29.8 a
Harblaze	-27.1 b	-31.9 b
Redhaven	-27.7 b	-31.0 ab

^zMeans separation within columns by LSD, 5%.

^yTemperatures required to kill 50% of the flower primordia and 50% of the shoot xylem using a standard test (Layne, 1989).

of the pit, but wings are absent.

'Harblaze' is a very promising new nectarine for the Ontario fresh market. It has performed better than 'Nectared 2' and 'Harko' for 11 of 15 important characters (Table 1) and ripens during the same season. On the basis of these early tests, I have concluded that 'Harblaze' has the potential to replace 'Nectared 2' and 'Harko'. It would be the preferred nectarine to precede 'Hardired' in the fruit ripening sequence and likely would be the best of those evaluated in this maturity season for long-distance shipping.

Availability

Budwood of 'Harblaze' from virus-indexed trees is available from the Harrow Research Station in limited quantities and is distributed by WOFTA, Harrow, Ont. NOR 1G0. Trees in limited quantity will be available in 1991 from WOFTA, NYSFTCA (Geneva, N.Y.), and several commercial nurseries in Ontario.

Literature Cited

Layne, R.E.C. 1989. Breeding cold hardy peaches for Canada. *Acta Hort.* 254:73-78.