

'Mohawk' Strawberry

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Additional index words. *Fragaria xananassa*, *Phytophthora fragariae*, red stele root rot resistance, fruit breeding

The 'Mohawk' strawberry (*Fragaria xananassa* Duch.) was introduced in Feb. 1994 by the U.S. Dept. of Agriculture and the Horticultural Research Institute of Ontario to be available for propagation by American and Canadian nurseries. 'Mohawk' is noted for its attractive, flavorful, early ripening fruit produced on a vigorous plant with resistance to red stele root rot, incited by *Phytophthora fragariae* Hickman. 'Mohawk' ripens earlier and is improved in some important fruit and plant characteristics, when compared to the standard early ripening cultivars Veestar in Ontario and Earliglow at several northeastern U.S. sites. 'Mohawk', in 1994 tests at Beltsville, Md., for example, was superior to its 'Earliglow' parent in total and early yield, fruit size, plant stand, vigor, and leaf disease reaction, while equalling 'Earliglow' in fruit appearance, color, flavor, and "skin" toughness.

'Mohawk' is suggested for trial in southeastern Canada and the northeastern United States as a vigorous, disease-tolerant, high-quality, early ripening strawberry for fresh shipping or local markets. 'Mohawk' was named to honor the Iroquoian native American people whose home centered in the Mohawk River Valley of New York State.

Received for publication 1 Sept. 1994. Accepted for publication 26 Dec. 1994. We thank the following cooperators who evaluated 'Mohawk' strawberry for suitability to their areas: B. Goulart, New Jersey; A. Funk, Pennsylvania; M. Kaps and M. Odneal, Missouri; J. Luby, Minnesota; and C. Chandler, Ohio. We also are indebted to A. Vandenburg and J. Zandstra for assisting in the replicated strawberry selection trials at Simcoe and Vineland, Ont., respectively. The cost of publishing this paper was defrayed in part by the payment of page charges. Under postal regulations, this paper therefore must be hereby marked *advertisement* solely to indicate this fact.

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ite of the red stele root-rot-inciting fungus, *P. fragariae*, in a greenhouse test at Beltsville during Winter 1979-80. Resistant seedlings were transplanted in Spring 1980 to a field at the Univ. of Maryland experimental farm at Wye Research and Education Center, Queenstown, on Maryland's Eastern Shore. 'Mohawk' was selected in 1981 by G.J.G., A.D.D., and H.J.S. Plants of the selection were retested for reaction to the same five races of *P. fragariae*.

'Mohawk' was evaluated at Beltsville during 1983-88 and 1993-94, and was tested also in Pennsylvania, Ohio, Minnesota, New Jersey, Missouri, and Ontario. After the 1988 season at Beltsville, 'Mohawk' was not considered for continued testing, as it did not appear sufficiently superior to its 'Earliglow' parent. In some seasons, 'Mohawk' produced a few somewhat asymmetric ("rough") primary fruit. Subsequent tests in Ontario and a retesting at Beltsville indicated that there was a commercial niche for this selection. 'Mohawk' plants were increased by micropropagation from virus-negative mother stocks, and were released to nursery operators in 1994; it will be introduced commercially in 1995 and 1996.

Origin and testing history

'Mohawk', tested as MDUS 5122, was a seedling from the MDUS-4587 x 'Earliglow' cross made by G.J.G. at Beltsville in 1979 (Fig. 1). Seedlings from this cross were screened for resistance to a five-race compos-

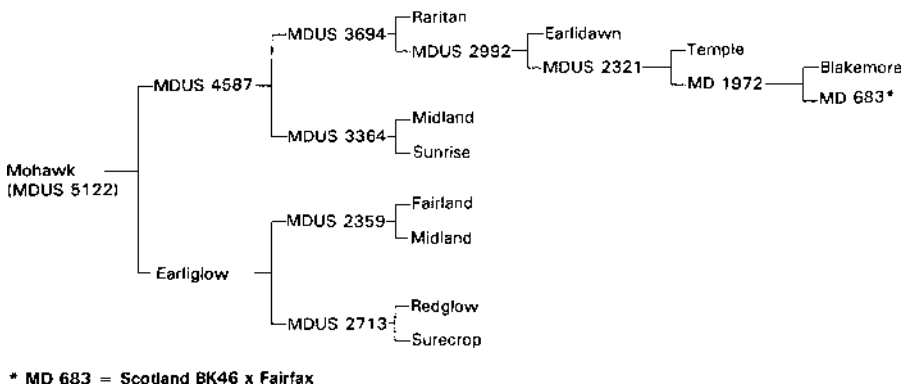


Fig. 1. Pedigree of 'Mohawk' strawberry.



Fig. 2. Fruit of 'Mohawk' strawberry.

Technical description

Plants. Plants are medium to large, with dense crowns bearing many petioles and leaves. Petioles are erect, thick, almost glabrous at maturity. Leaflets are medium in size, medium green on top and light green below with prominent midveins, broadly elliptic with marginal serrations varying from sharp to rounded. There is abundant production of medium-thick runners that have very fine, sparse hairs and bear sharply serrate subtending three-leaflet bracts at the first and the second runner nodes.

Fruit. Fruit (Fig. 2) are medium-large, irregular short conic, glossy, and have a deep scarlet exterior and pink interior. Achenes are yellow and recessed; calyx consists of two whorls of narrow pointed sepals that are clasping to partially reflexed. Flavor is mild, sweet, and subacidic, with a pleasant aftertaste; flesh is juicy but firm-textured; and skin is firm.

Production

'Mohawk' was evaluated at Beltsville with several standard cultivars (Galletta, 1989) in 1.5- or 3-m-long plots, with 1 m between plots, in a matted-row system. Each entry was replicated four times in a randomized complete-block design. At Simcoe and Vineland, Ont., cultivar standards (Dale, 1989) and selections were planted to nine-plant plots with 0.6 m between plants and 1.2 m between rows and permitted to develop into matted rows. Each entry was replicated four times in a randomized complete-block design.

In the Mid-Atlantic region, 'Mohawk' test plots yielded between 14 and 24 t·ha⁻¹ during 1987-94 (Table 1; Goulart, 1990). 'Mohawk' total fruit yield is normally about the same as that of 'Earliglow', 'Redchief', 'Lateglow', 'Raritan', and 'Lester', but usually less than that of 'Allstar', 'Honeoye', 'Glooscap', and 'Kent' (Table 1; Goulart, 1990). In the heat-shortened 1994 season at Beltsville (Table 1), however, 'Mohawk' yielded as well as the normally heavier-yielding 'Allstar' and 'Jewel' (Table 1). At Simcoe, total yields of 'Mohawk' were less than those for 'Veestar' and 'Cavendish' in 1991, and considerably less than all of the other cultivars in 1992 (Table 2). Lower yields of 'Mohawk' in 1992 may have been due to loss of primary flowers following a late freeze (A. Dale, unpublished). At Vineland, 'Mohawk' yielded less than 'Veestar' and nearly the same as 'Redcoat', 'Cavendish', and 'Allstar' in 1991 (Table 2). Yields in 1992 were not significantly different ($P \leq 0.01$) among the cultivars (Table 2). Yields of 'Mohawk' in Missouri (3.8 kg) were somewhat less than those of 'Allstar' (5.1 kg), 'Earliglow' (4.9 kg), and 'Lester' (4.7 kg) and significantly less than those of 'Honeoye' (9.8 kg), 'Kent' (6.9 kg), and 'Redchief' (6.1 kg) for 3 m of row (Kaps et al., 1990), indicating that 'Mohawk' may not be well suited to the South Central region.

Weights of individual 'Mohawk' fruit at Beltsville averaged 11 to 12 g, the same as or larger than those of 'Earliglow' and about the

Table 1. Fruit production of 'Mohawk' and several standard strawberry cultivars at Beltsville, Md., in 1987, 1988, and 1994.

| Cultivar | Yield (t·ha ⁻¹) | Berry wt (g) | | Marketable yield (%) | Cumulative % fruit yielded at harvest | |
|-------------------------|-----------------------------|--------------|--------------|----------------------|---------------------------------------|--------------------|
| | | Fruit | | | 3 | 4 |
| | | Large | Overall mean | | | |
| 1987 | | | | | | |
| Mohawk | 14 b ^z | 23.3 a | 11.9 a | 78 b | 89 a | 96 a |
| Earliglow | 23 a | 16.3 b | 9.7 b | 82 ab | 70 b | 85 ab |
| Lester | 16 b | 21.5 a | 12.3 a | 88 a | 59 b | 77 b |
| Allstar | 28 a | 20.8 b | 13.6 a | 78 b | 18 c | 43 c |
| 1988 | | | | | | |
| Mohawk | 24 ef | 24.2 a | 12.4 b-d | 77 f | 65 a | 86 a |
| Earliglow | 26 ef | 22.5 a | 12.0 b-d | 82 c-e | 51 b | 69 b |
| Lester | 32 bc | 21.4 a | 12.5 b-d | 84 b-d | 32 c | 47 cd |
| Redchief | 24 ef | 18.9 b | 10.3 e | 77 f | 32 c | 54 c |
| Honeoye | 30 c-e | 24.4 a | 13.3 a-c | 78 de | 33 c | 55 c |
| Allstar | 34 a-c | 25.2 a | 15.1 a | 86 a-c | 8 e | 32 c |
| Glooscap | 41 a | 22.1 a | 11.5 cd | 71 g | 12 d | 27 ef |
| Kent | 38 ab | 25.9 a | 13.0 a-c | 77 f | 5 e | 21 fg |
| Lateglow | 22 f | 23.3 a | 12.3 b-d | 87 a | 1 e | 17 g |
| 1994 (condensed season) | | | | | | |
| Mohawk | 17 a | 20.5 ab | 11.2 a-c | 78 cd | 29 b ^y | 55 bc ^y |
| Earliglow | 10 a | 15.0 b | 8.7 c | 70 d | 48 a | 77 a |
| Lester | 14 a | 21.4 a | 10.9 a-c | 84 ab | 30 b | 59 b |
| Allstar | 14 a | 20.5 ab | 12.2 a | 89 a | 12 c | 41 cd |
| Jewel | 15 a | 19.4 ab | 11.6 ab | 80 bc | 8 c | 29 d |

^zMean separation by Duncan's multiple range test. Values in columns followed by the same letter are not significantly different at $P \leq 0.05$.

^yThe dense plant beds and heavier yields of 'Mohawk' in 1994 slowed down its cumulative ripening, but it had a 38% to 107% higher yield than 'Earliglow' over the first four harvests (data not shown); hence, it still had higher early yields than 'Earliglow'.

Table 2. Mean fruit yield, berry weight, and harvest date indices of 'Mohawk' and several standard strawberry cultivars at Simcoe and Vineland, Ont., in 1991 and 1992.

| Cultivar | Yield (t·ha ⁻¹) | | Berry wt (g) | | Harvest index dates | | | |
|---------------------|-----------------------------|-----|--------------|------|-----------------------------|------|----------|------|
| | | | | | 25% ripe | | 95% ripe | |
| | | | | | Harvest date (1.0 = 1 June) | | | |
| <i>Simcoe</i> | | | | | | | | |
| Mohawk | 12 | 9 | 8.6 | 7.7 | 0.8 ^z | 12.3 | 10.3 | 26.1 |
| Veestar | 18 | 18 | 7.0 | 7.0 | 2.9 | 14.7 | 17.2 | 28.8 |
| Cavendish | 20 | 26 | 12.8 | 11.5 | 5.1 | 19.6 | 19.5 | 31.0 |
| Governor Simcoe | 15 | 26 | 8.0 | 8.8 | 7.1 | 21.5 | 18.5 | 38.0 |
| Allstar | 15 | 18 | 8.8 | 10.8 | 7.1 | 19.2 | 19.7 | 36.6 |
| LSD _{0.01} | 4.3 | 7.5 | 1.7 | 2.5 | 1.5 | 2.6 | 1.4 | 3.3 |
| <i>Vineland</i> | | | | | | | | |
| Mohawk | 14 | 13 | 9.3 | 9.3 | 3.7 | 16.4 | 14.2 | 29.4 |
| Veestar | 22 | 18 | 8.5 | 8.0 | 6.5 | 18.9 | 15.3 | 28.4 |
| Cavendish | 17 | 12 | 15.6 | 13.1 | 6.3 | 23.0 | 18.1 | 34.4 |
| Redcoat | 19 | 18 | 8.9 | 7.6 | 7.4 | 20.8 | 16.3 | 31.7 |
| Allstar | 17 | 11 | 11.7 | 13.2 | 9.2 | 22.6 | 20.5 | 34.7 |
| LSD _{0.01} | 6.1 | NS | 2.2 | 2.2 | 1.9 | 3.4 | 3.0 | 5.5 |

^zHarvest date values are the mean number of days after 1 June when 25% or 95% of the crop for a particular cultivar was harvested in the stated year and location; hence, in 1991 at Simcoe, 25% of the 'Mohawk' crop was ripe by 1 June, whereas the same proportion of the 'Veestar' crop was ripe on 3 June.

^{ns}Nonsignificant.

same as those of 'Honeoye', 'Allstar', 'Lester', and 'Kent' (Table 1). The average weight of the largest 'Mohawk' fruit (20 to 24 g, determined from 10- or 25-berry random samples at each harvest) was usually larger than that of 'Earliglow' and about the same as primary fruit of the larger-fruited cultivars such as 'Allstar', 'Lester', 'Lateglow', and 'Kent' (Table 1). At Simcoe and Vineland in 1991 and 1992, mean fruit weights of 'Mohawk' were about the same as those of 'Veestar', 'Governor Simcoe', and 'Redcoat', but less than those of 'Cavendish' and 'Allstar' (Table 2). The mean fruit weight of 'Mohawk' (8.5 g)

at Mountain Grove, Mo., was less than that of 'Allstar', about the same as 'Redchief', and higher than that of 'Earliglow' (Kaps et al., 1990). In New Jersey, 'Mohawk' fruit averaged 8.0 g each, which was less than 'Raritan' (9.8 g) and 'Lester' (8.4 g), but slightly higher than 'Earliglow' (7.6 g) (Goulart, 1990).

The marketable yield (total yield less culls due to disease, insect damage, and small or misshapen fruit) of 'Mohawk' at Beltsville usually was similar to that of 'Earliglow', except in years when it had many rough primary fruit (1988, Table 1), but never as high as that of the very symmetrical and sound-fruited

'Lester'. In Missouri, the marketable yield of 'Mohawk' was 85%, about the same as 'Earliglow', 'Honeoye', and 'Redchief', and higher than 'Allstar', 'Kent', and 'Lester' (Kaps et al., 1990).

'Mohawk' ripens slightly in advance of 'Veestar' and 'Earliglow', the early ripening standards for Ontario and the northeastern United States, respectively (Dale, 1989; Galletta, 1989). At Beltsville in 1988, 65% and 86% of 'Mohawk' fruit was harvested by the third and fourth harvest dates, respectively, whereas 51% and 69% of 'Earliglow' fruit was harvested by the third and fourth harvests, respectively (Table 1). At Simcoe, 25% of 'Mohawk' fruit was harvested 2.1 days earlier than 'Veestar' fruit in 1991 and 2.4 days earlier in 1992 (Table 2), and 2.8 and 2.5 days earlier in 1991 and 1992, respectively, at Vineland (Table 2). In New Jersey, 'Mohawk' ripened 38% of its fruit by the first harvest, compared to 27% for 'Earliglow' and 5% for 'Raritan' (Goulart, 1990).

Fruit characteristics

Fruit of strawberry selections and cultivars are characterized at Beltsville each season for fruit appearance and symmetry, flesh and skin firmness, skin and flesh color, and flavor. In 1988, 'Mohawk' fruit were subpar for appearance and symmetry, similar to those of 'Redchief', 'Honeoye', and 'Kent'; average (7 = good) for firmness, toughness, and skin color; and superior for flesh color and flavor (Table 3). In 1994, which was warmer and dryer than 1988, 'Mohawk' fruit was similar to its high-quality 'Earliglow' parent for every character except symmetry (Table 3). At Simcoe, compared to 'Veestar', 'Cavendish', 'Governor Simcoe', and 'Allstar' at harvest, 'Mohawk' fruit was rated medium red in skin color and equal to the other cultivars; lighter in flesh color and less regular in shape than 'Governor Simcoe', but equal to the other cultivars; firmer and tougher (skin strength) than 'Veestar'; and equal to all the other cultivars in brightness and flavor (Table 4).

In postharvest tests at Simcoe, fruit was stored at 5C for 4 days followed by 1 day at room temperature. Duplicate 1360-g (2-quart) samples from the second and fourth harvests of each cultivar were tested in 1991 and 1992. Values from each year were pooled and averaged. The percentage of sound fruit was estimated as that considered acceptable for dessert use. 'Mohawk' fruit held its quality (percentage of sound fruit) during the postharvest test as well as did fruit of 'Cavendish', 'Governor Simcoe', and 'Allstar', and better than 'Veestar' fruit (Table 5). External and internal color, firmness, brightness, skin strength, and flavor of 'Mohawk' fruit were rated as good as those of 'Veestar' fruit (Table 5), and 'Mohawk' fruit did not change appreciably between at-harvest (Table 4) and postharvest evaluation (Table 5) of these characters. The shelf life of 'Mohawk' fruit appears to be as long as that of 'Cavendish', 'Governor Simcoe', and 'Allstar' fruit, and longer than that of 'Veestar' fruit.

After 7 months frozen in a sugar pack, 'Mohawk' fruit was rated nearly the same as 'Veestar' and 'Cavendish' fruit and slightly lower than 'Allstar' in overall preference. However, in an individually quick-frozen assessment, 'Mohawk' fruit rated somewhat higher than 'Allstar' and much higher than 'Veestar' and 'Cavendish' in overall preference (Wang, 1992).

Plant characteristics

'Mohawk' flowers opened at nearly the same time as 'Earliglow', 'Redchief', 'Lester', and 'Honeoye' flowers in 1988, and as early as 'Earliglow' and 'Lester' in 1994 at Beltsville (Table 6).

'Mohawk' plants grew vigorously and produced abundant runner plants (as judged by plant stand = percent row fill), and were similar or superior to 'Earliglow' and 'Lester' plants in plant stand in 1987-88 and 1993-94, respectively (Table 6). 'Mohawk' plant vigor

was similar to that of the vigorous 'Earliglow', 'Lester', 'Redchief', and 'Allstar' during Fall 1987 and Spring 1988, but 'Earliglow' vigor was less than that of 'Mohawk', 'Lester', and 'Allstar' in Fall 1993 and Spring 1994 (Table 6).

'Mohawk' plants generally rated as high for freedom from leaf diseases in the field at Beltsville as the tolerant cultivar Lester (Table 6). Leaf diseases that were encountered are powdery mildew [caused by *Sphaerotheca macularis* (Wallr. ex Fr.) Jacz. f.sp. *fragariae*], leaf scorch [caused by *Diplocarpon earliana* (Ell. & Ev.) Wolf], and leaf blight [caused by *Phomopsis obscurans* (Ell. & Ev.) Sutton]. 'Mohawk' was less affected by powdery mildew in the fall and in some springs than 'Earliglow' (Table 6). Initially screened as a seedling against a mixture of *P. fragariae* races A-1, A-2, A-3, A-4, and A-6 in a greenhouse bench test (Scott et al., 1975), 'Mohawk' plants were retested as an advanced selection to confirm its resistance to the red stele dis-

Table 3. Field rating scores for fruit characters of 'Mohawk' and several standard strawberry cultivars at Beltsville, Md., in 1988 and 1994.

| Cultivar | Appearance | Symmetry | Firmness | Toughness | Color | | Flavor |
|-----------|------------------|----------|----------|-----------|----------|----------|--------|
| | | | | | External | Internal | |
| 1988 | | | | | | | |
| Mohawk | 6-7 ^z | 5-6 | 7 | 6-7 | 7 | 7-8 | 7-8 |
| Earliglow | 8 | 7-8 | 7-8 | 7-8 | 7 | 7-8 | 7-9 |
| Lester | 7-8 | 7-8 | 7-8 | 7-8 | 7-8 | 6-7 | 7 |
| Redchief | 6-8 | 6-7 | 7-8 | 7-8 | 7 | 7 | 7-8 |
| Honeoye | 6-7 | 6-7 | 6-7 | 6 | 5-7 | 7 | 7 |
| Allstar | 7-8 | 7 | 8-9 | 8 | 7-8 | 6-7 | 7 |
| Glooscap | 7-8 | 7-8 | 7-8 | 6-8 | 7-8 | 7-8 | 7 |
| Kent | 7 | 5-8 | 7-8 | 6-7 | 7-8 | 6-7 | 6-7 |
| Lateglow | 8 | 7-8 | 7-8 | 7 | 7 | 7 | 8 |
| 1994 | | | | | | | |
| Mohawk | 7 | 7 | 8 | 8 | 7 | 7-8 | 7-8 |
| Earliglow | 7 | 8 | 8-9 | 8 | 7 | 8 | 7-8 |
| Lester | 8-9 | 8-9 | 7-8 | 8 | 8 | 7 | 7 |
| Jewel | 7 | 7 | 7-8 | 7-8 | 7 | 7-8 | 7-8 |
| Chambly | 7 | 7 | 6-7 | 8 | 7 | 7-8 | 6-7 |

^zRatings on a 1-9 scale: 9 = outstanding, 8 = superior, 7 = good, and 6 = acceptable for each character.

Table 4. At-harvest fruit quality characters of 'Mohawk' and several standard strawberry cultivars at Simcoe, Ont., in 1991 and 1992.

| Cultivar | External color | Internal color | Firmness | Skin strength | Brightness | Regularity of shape | Flavor |
|---------------------|------------------|----------------|----------|---------------|------------|---------------------|--------|
| Mohawk | 2.5 ^z | 3.5 | 2.8 | 2.9 | 2.7 | 2.5 | 3.4 |
| Veestar | 1.9 | 3.1 | 1.4 | 1.2 | 2.4 | 2.3 | 2.7 |
| Cavendish | 2.1 | 2.7 | 1.9 | 2.0 | 3.0 | 2.9 | 2.9 |
| Governor Simcoe | 3.0 | 2.1 | 3.1 | 3.6 | 2.7 | 3.9 | 3.5 |
| Allstar | 3.4 | 3.0 | 3.1 | 3.3 | 3.3 | 3.0 | 2.9 |
| LSD _{0.01} | 1.1 | 1.3 | 1.3 | 0.9 | NS | 1.0 | NS |

^zFruit color rated on a 1-5 scale: 1 = dark and 5 = pale. All other ratings are on a 1-5 scale: 1 = low and 5 = high quality.

^{NS}Nonsignificant.

Table 5. Postharvest fruit quality characters of 'Mohawk' and several standard strawberry cultivars at Simcoe, Ont., in 1991 and 1992.

| Cultivar | Sound fruit (%) | External color | Internal color | Firmness | Brightness | Skin strength | Flavor |
|---------------------|-----------------|------------------|----------------|----------|------------|---------------|--------|
| Mohawk | 91.7 | 2.7 ^z | 3.5 | 2.9 | 2.5 | 2.5 | 3.4 |
| Veestar | 75.4 | 2.0 | 3.8 | 1.8 | 2.3 | 1.6 | 2.6 |
| Cavendish | 92.4 | 1.8 | 4.1 | 2.7 | 2.9 | 2.6 | 3.6 |
| Governor Simcoe | 93.5 | 3.4 | 2.7 | 2.8 | 3.9 | 3.2 | 3.4 |
| Allstar | 97.4 | 3.4 | 2.2 | 2.7 | 3.0 | 3.4 | 3.2 |
| LSD _{0.01} | 12.4 | 0.7 | 1.0 | NS | 1.0 | 1.2 | NS |

^zRatings are on a 1-5 scale: 1 = low to 5 = high quality.

^{NS}Nonsignificant.

Table 6. Earliness of flowering and plant characters (field rating scores) and resistance to *Phytophthora fragariae* of 'Mohawk' and several standard strawberry cultivars at Beltsville, Md., in 1988 and 1994.

| Cultivar | Flower stage | Plant stand | | Plant vigor | | Leaf diseases | | | <i>P. fragariae</i> resistance |
|-----------|---------------------|--------------------|---------|-------------|---------|---------------|---------|--------|--------------------------------|
| | | Fall | Spring | Fall | Spring | Fall | Spring | Summer | |
| 1988 | | | | | | | | | |
| Mohawk | 6.0 ab ² | 9.0 a ³ | 9.0 a | 9.0 a | 8.6 a-c | 6.1 ef | 7.0 e-g | 6.5b | 8.0 ⁴ |
| Earliglow | 6.8 a | 8.8 ab | 8.8 ab | 8.8 ab | 9.0 a | 5.5 f | 7.0 e-g | 6.5 b | 8.5 |
| Lester | 5.5 bc | 9.0 a | 9.0 a | 9.0 a | 8.6 a-c | 6.1 ef | 7.0 e-g | 6.5 b | 8.0 |
| Redchief | 5.2 b-d | 7.9 a-c | 8.0 ab | 8.4 a-d | 8.0 a-d | 6.9 b-d | 7.6 ab | 7.6 a | 8.5 |
| Honeoye | 6.0 ab | 7.4 bc | 7.2 dc | 7.3 de | 7.5 d | 7.0 b-d | 6.4 gh | 5.3 c | 3.0 |
| Allstar | 4.3 d | 7.9 a-c | 8.2 a-d | 8.5 a-c | 8.8 ab | 6.6 c-e | 7.1 d-f | 5.6 bc | 8.5 |
| Glooscap | 4.8 d | 7.6 a-c | 8.4 a-c | 7.8 bde | 7.6 cd | 6.5 de | 8.3 a | 5.5 c | 7.2 |
| Kent | 4.3 d | 7.0 c | 7.5 cd | 7.8 bde | 7.8 b-d | 7.8 a | 7.5 b-d | 5.5 c | 8.0 |
| Lateglow | 3.0 e | 7.9 a-c | 8.5 ab | 7.2 e | 8.3 a-d | 6.0 f | 6.3 h | 5.3 c | 9.0 |
| 1994 | | | | | | | | | |
| Mohawk | 8.3 ab | 9.0 a | 9.0 a | 8.5 a | 8.5 a | 7.8 a | 7.3 a | ---w | --- |
| Earliglow | 8.8 a | 7.5 bc | 7.3 bc | 7.3 b | 6.8 c | 6.3 c | 5.9 cd | --- | --- |
| Lester | 7.8 ab | 7.0 bc | 6.8 bc | 7.8 ab | 7.5 a-c | 7.0 a-c | 6.5 a-c | --- | --- |
| Allstar | 5.0 c | 6.5 c | 6.3 c | 7.8 ab | 8.0 ab | 7.5 ab | 5.8 d | --- | --- |
| Chambly | 6.8 b | 7.8 b | 7.5 b | 7.0 b | 7.0 bc | 6.8 bc | 7.0 ab | --- | --- |

²Ratings on a 1-9 scale: 1 = few flowers open, 3 = all primary flowers open, 5 = 50% open, 7 = 75% open, and 9 = 100% of flowers open at the rating time. Mean separation in columns by Duncan's multiple range test at $P \leq 0.05$.

³Ratings on a 1-9 scale with 9 being the best quality.

⁴Ratings on a 1-9 scale of 1 = plant dead to 9 = plant apparently healthy.

^wData not taken.

ease. On a scale of 1 (dead plant) to 9 (apparently healthy plant), 'Mohawk' consistently rated 8.0, indicating that it is resistant to at least these five races of *P. fragariae* (Table 6). 'Mohawk' plants were determined in other inoculation tests to be tolerant to race A-7 (J.L. Maas and G.J. Galletta, unpublished data), a race of California origin and now found in parts of Maine (Maas et al., 1988) and Nova Scotia (Nickerson and Murray, 1993).

Plant availability. Canadian growers can contact Adam Dale, Horticultural Research Institute of Ontario, Ministry of Agriculture and Food, Horticultural Experiment Station, Simcoe, Ont. N3Y 4N5, Canada, for 'Mohawk' Canadian nursery sources; U.S. growers can

contact Gene Galletta, U.S. Dept. of Agriculture/Agricultural Research Service, Fruit Laboratory, 10300 Baltimore Blvd., Beltsville, MD 20705, for U.S. nursery sources.

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