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'Chambly' Strawberry

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'Chambly' is the first June-bearing strawberry cultivar (*Fragaria* × *ananassa* Duch.) bred specifically for southern Québec conditions. This cultivar is being released by McGill Univ. and Agriculture Canada. 'Chambly' was released because of its high yields of firm, deep red fruit with raised neck, elevated calyx, and uniform well-colored flesh. Therefore, it is recommended for fresh market and processing.

The name 'Chambly' has historical significance in southwestern Québec, for it was a garrison town in the fortification network of the Richelieu Valley, a thoroughfare between the St. Lawrence and Hudson rivers.

Origin

'Chambly' (tested as SJ84187-3) resulted from a 1982 cross between 'Sparkle' and 'Honeoye' (Fig. 1). 'Sparkle', a previously popular commercial cultivar in eastern Canada, is noted for its high fruit flavor (Craig, 1979). 'Honeoye' is a high-yielding cultivar with large fruit size well-adapted to the northeast (Estabrooks and Luffman, 1989).

'Chambly' has been tested at Agriculture Canada, L'Acadie, Québec, since 1984. L'Acadie is located 35 km south of Montreal (45°) at an elevation of ≈46 m above sea level. Climate at L'Acadie is characterized by low temperatures in winter (below -25C), cool, humid conditions in spring, and warm, humid conditions (25 to 35C, 70% RH) in summer.

Description and performance

'Chambly' plants are of low vigor (Table 1), medium in size, with four to six inflorescences per plant, and can tolerate winter temperatures below -25C (with 10 cm of straw mulch cover). Leaflets are slightly folded, medium size, dark green, obovate to

spherical, with sharp serrations. Petioles are moderately long and slightly drooping. Plants have a sparse appearance. Inflorescences are held erect on long, moderately thick peduncles during bloom, becoming arched (semi-erect) as the fruit mature. Inflorescences generally have 10 to 20 flowers. Fruit shape is conic and the calyces are reflexed (Fig. 2; Table 1). Fruit are medium size (8 to 10 g) with a white, raised (2 to 3 mm) neck (Fig. 2; Table 2). Skin is shiny and deep red at maturity, and the flesh is red throughout (Fig.

2; Table 1). Fruit flavor (sweetness) is similar to that of 'Bounty' and 'Sparkle' (Table 1). Fruits are firm, similar to 'Kent', and can be decapped as easily as 'Glooscap'. The calyx does not separate from the fruit at harvest time. Percent juice lost after thawing did not differ significantly ($P = 0.05$, $n = 8$) among cultivars and ranged from 42% to 53%.

'Chambly' has outyielded 'Bounty', 'Honeoye', 'Redcoat', and 'Sparkle' in our trials (Table 2). Plants are partially tolerant of the herbicide terbacil [5-chloro-3-[1,1-dimethylethyl]-6-methyl-2,4(1H,3H)-pyrimidine-dione]. No symptoms of powdery mildew (*Sphaerotheca macularis* Walls ex Fr.), leaf scorch (*Diplocarpon earlina* Ell. and Ev.), or leaf blight (*Dendrophoma obscurans* Ell. and Ev.) were observed during the course of its evaluation (Table 2).

Susceptibility of this cultivar to red stele (*Phytophthora fragariae* Hickman) is not known and further experiments are needed to determine the degree of resistance to different races of *P. fragariae*.

Fig. 1. Pedigree of 'Chambly' strawberry.

Table 1. Ratings for fruit and plant characteristics of 'Chambly' and standard strawberry cultivars.^{a,†}

Variables ^b	Chambly	Bounty	Glooscap	Honeoye	Kent	Redcoat	Sparkle
Fruit color	4.0 a	3.3 b	3.0 b	3.0 b	2.5 C	3.0 b	3.0 b
Interior fruit color	4.0 a	3.0 bc	3.1 b	3.0 bc	2.5 cd	2.8 bc	2.0 d
Flavor	3.7 a	3.8 a	3.1 b	3.0 b	3.0 b	3.0 b	3.6 a
Firmness	3.8 a	2.0 d	2.6 cd	3.0 bc	3.3 ab	2.8 bc	2.0 d
Neck ^c	4.0 a	3.0 ab	3.4 ab	3.0 ab	3.5 ab	3.8 a	2.4 b
Calyx ^c	4.8 a	4.0 a	4.4 a	2.0 c	3.2 b	3.0 b	3.4 b
Ease of decapping	1.8 C	1.8 c	1.3 c	5.0 a	4.0 ab	3.6 b	2.4 c
Achene position ^c	3.0 a	3.0 a	2.0 a	2.0 a	2.3 a	2.8 a	2.3 a
Stolonization and vigor	3.0 c	4.0 abc	4.0 abc	3.3 bc	4.2 ab	4.3 ab	4.7 a
Leaf disease symptoms	4.4 a	3.0 b	4.0 a	3.3 ab	3.6 ab	3.0 b	3.0 b

^aAverage of 2 years (1988-1989), using eight replicates except for flavor, which is the average of 22 determinations, data were transformed using an arcsin transformation prior to performing ANOVA.

^bMean separation within row by Duncan's new multiple range test, $P = 0.05$.

^cFruit color: 1 = pale, 5 = dark; interior fruit color: 1 = pale, 5 = dark; flavor: 1 = bad, 5 = good; firmness: 1 = soft, 5 = hard; decapping: 1 = easy, 5 = difficult; stolonization and vigor: 1 = weak, 5 = vigorous; leaf disease symptoms: 1 = entire leaf area affected, 5 = no symptoms.

[†]For description, see Fig. 3.

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Fig. 2. Fruit of 'Chambly' strawberry.

Table 2. Comparison of the yield and average fruit size of 'Chambly' with standard strawberry cultivars grown at L' Acadie, Québec.¹

Cultivars	Yield (g/2-m row)	Fruit wt (g/fruit)
Chambly	5970 a ²	8.9 a
Bounty	4330 cd	6.9 b
Glooscap	5690 ab	7.5 ab
Honeoye	4940 bc	9.1 a
Kent	5630 ab	8.9 a
Redcoat	3470 e	6.6 b
Sparkle	3780 de	6.5 b

¹Average of 3 years (1987-1989), using eight replicates.

²Mean separation within columns, by Duncan's new multiple range test, $P = 0.05$.

Area of adaptation and uses

'Chambly' is recommended for the southern Québec region. Further investigations are needed to evaluate the performance of this cultivar in other areas.

Availability

Plants of 'Chambly' will be available from nurseries in Québec in Spring 1991. A limited number of plants will be available from the Macdonald College of McGill Univ. or Agriculture Canada

Literature Cited

- Craig, D.L. 1979. Culture du fraisier dans l'est du Canada. Agriculture Canada, Publ. 1585.
 Estabrooks, E.N. and M. Luffman. 1989. Strawberry cultivar evaluation in New Brunswick, Canada. Adv. Strawberry Production 8:58-61.

Fig. 3. Classification of strawberry fruit with respect to their calyx, neck, and achene position.