'St-Jean d'Orléans' Strawberry

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'St-Jean d'Orléans' is a new June-bearing strawberry cultivar (*Fragaria* × *ananassa* Duch.) released by Agriculture and Agri-Food Canada, Horticultural Research and Development Center, Quebec. 'St-Jean d'Orléans' was introduced because it has large, very firm, light-red (Royal Horticultural Society color chart 43A or 44A) (Royal Horticultural Society, 1995) shiny fruit (Table 1; Fig. 1), with an excellent shelf life and resistance to leaf diseases (Khanizadeh and Cousineau, 2005). The selection was named after the village of St-Jean located on l'Île d'Orléans, where the selection was tested.

Origin

'St-Jean d'Orléans', tested as FIO9623-43, is a selection resulting from a cross (Fig. 2) made in 1996 between 'L'Acadie' (Khanizadeh et al., 1999) and 'Joliette' (Khanizadeh et al., 1996). 'St-Jean d'Orléans' has been tested since 1997 at the Agriculture and Agri-Food Canada substation in L'Acadie, Quebec; in controlled semi-commercial sites by our private partners Les Fraises de l'Île d'Orléans in Île d'Orléans, Quebec (lat. 46°N, long. 71°W); and in Europe by Meiosis Ltd. (Bradbourne House, Stable Block, East Malling, Kent, UK ME19 6DZ). The data presented here are from replicated trials in commercial fields (Les Fraises de

l'Île d'Orléans Inc., St-Laurent, Île d'Orléans, Quebec) from 1999 to 2003.

Description and Performance

Plants of 'St-Jean d'Orléans' are vigorous, have a flat to flat-globose growing habit, and produce four to five inflorescences per crown. They can tolerate winter air temperatures less than -30 °C with a 10-cm straw mulch cover. Petioles are short with three medium to dark-green cupped and obtuse leaflets, with slightly acute teeth. The terminal leaflets have a 1.15:1.20 length-to-width ratio and the flowers are perfect.

'St-Jean d'Orléans' produces attractive medium to large size, light-red, shiny fruit. The fruit shape is mainly globose-conic. The

flesh is light to medium red almost throughout and very firm. Fresh fruit have a long shelf life and can maintain quality and appearance for up to 5 d at room temperature, making it superior to 'Kent' for shipping. 'St-Jean d'Orléans' produces a higher yield compared with 'Yamaska', 'Mira', 'Honeoye', 'Kent', and 'Annapolis' (Table 1). 'St-Jean d'Orléans' is also firmer than 'Kent', with similar flavor but lighter skin color. 'St-Jean d'Orléans' is an early-to-midseason cultivar (Table 1). Fifty percent of the primary fruit ripen by June 27, which is similar to 'Kent' at the substation in L'Acadie, and production peaks were reached on the same day as 'Kent'. It is less susceptible to leaf diseases compared with 'Kent'. The susceptibility to leaf scorch (*Diplocarpon earlina* Ell. & Ev.) and leaf spot [*Mycosphaerella fragariae* (Tul.) Lindau] of 'St-Jean d'Orléans' was ranked as moderate to low in trials conducted since 1997 (Khanizadeh and Cousineau, 2005).

Area of Adaptation and Uses

'St-Jean d'Orléans' is recommended for eastern central Canada, especially in areas where the climate is similar to that of Quebec. Typically, strawberry production (with straw protection) in Quebec occurs in areas with winter temperatures as low as -30 °C and warm and humid summers with an unpredictable mixture of sun and rain (drought some seasons, constant rain during other seasons). 'St-Jean d'Orléans' plants perform very well in heavy or sandy soils in a matted row system. It is also adapted to the waiting bed system using plastic mulch and currently is adapted by a group of growers (Les Fraises de l'Île d'Orléans) who invested in development of this cultivar.

Availability

Canadian Plant Breeder's Rights (certificate no. 1553, www.inspection.gc.ca/english/plaveg/pbrpov/croreport/str/app00003745e.shtml) and a U.S. patent (U.S. patent no. 20060059592) were granted. The plants of 'St-Jean d'Orléans' will be available from licensed nurseries in Quebec. Nonexclusive

Table 1. Total yield, fruit weight, firmness, flavor, skin color, shelf life at room temperature (20 °C) and the ripening season of 'St-Jean d'Orléans' in comparison with selected standard cultivars grown at Agriculture and Agri-Food Canada, substation in L'Acadie, Quebec.

Genotypes	Total yield (kg·ha ⁻¹) ^z	Wt/fruit (g) ^z	Firmness ^y	Flavor ^y	Skin color ^y	Shelf life at 20 °C ^x	Ripening season ^v
St-Jean d'Orléans	16255	13.6	3.7	3.6	2.2	4.0	EM
Yamaska	12040	9.8	3.6	3.5	3.6	5.0	L
Mira	10372	10.7	2.7	1.8	2.0	1.0	LM
Honeoye	8899	9.5	3.2	2.2	3.9	2.0	M
Kent	7910	9.3	2.8	4.0	3.4	0.5	EM
Annapolis	6881	9.3	2.9	2.0	2.0	2.0	E
LSD _{0.05}	3572	3.0	1.2	1.4	1.5	1.8	—

^zAverage of four replicates from 1999 to 2003 harvests of second growing year (first harvest year), data taken from a 1-m long representative portion of a 2-m matted row (width, 50 cm).

^yData were transformed to arcsine before analysis of variance (SAS Institute, 1988). Firmness: 1, very soft; 5, very firm; flavor: 1, poor; 5, excellent; skin color: 1, very pale; 5, dark red.

^xNumber of days at room temperature (20 °C) with more than 95% marketable.

^vRipening season: E, early; EM, early mid season; M, mid season; LM, late mid season; L, late. Designations are based on actual harvest dates.

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Fig. 1. Fruit of 'St-Jean d'Orléans' strawberry.

multiplication licenses can be obtained from Agriculture and Agri-Food Canada, Saint-Jean-sur-Richelieu, Quebec. European nurs-

eries may obtain a multiplication license from Meiosis Ltd. (Bradbourne House, Stable Block, East Malling, Kent, UK

Fig. 2. Pedigree of 'St-Jean d'Orléans' strawberry.

ME19 6DZ). A limited number of plants are available for research purposes from the corresponding author (S.K.).

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