L'Authentique Orléans

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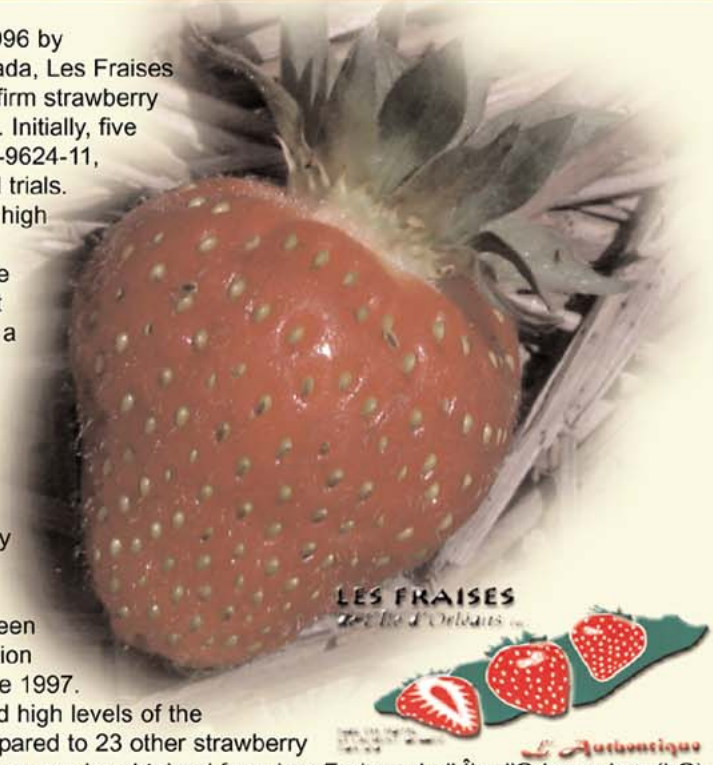
Introduction:

A new project was started in 1996 by Agriculture and Agri-Food Canada, Les Fraises de l'Île d'Orleans Inc. and McGill University to develop firm strawberry cultivars with a long shelf life suitable for transportation. Initially, five selections (FIO-9623-55, FIO-9524-74, FIO-968-1, FIO-9624-11, FIO-9623-40) were retained and entered into advanced trials. FIO-9623-55 was re-selected for its good shelf life and high yields of firm, large fruit. Chemical analysis of the fruit revealed high levels of proanthocyanidins. In a separate project, proanthocyanidins were shown to enhance fruit preservation because of their antifungal properties and a correlation was found between the level of proanthocyanidins in cultivars and shelf life. Selection FIO-9623-55 is being released under the name 'L'Authentique Orléans'. It is a June-bearing strawberry cultivar (Fragaria x ananassa Duch.) bred for Eastern Central Canada and more specifically for Île d'Orleans growing conditions. 'L'Authentique Orléans' is a progeny resulting from a cross between two recently released cultivars from our station, 'AC-L'Acadie' and 'Joliette', made by S. Khanizadeh. 'L'Authentique Orléans' has been tested at the Agriculture and Agri-Food Canada substation in L'Acadie, Quebec and at Île d'Orleans, Quebec, since 1997. It outyielded 'Annapolis' and 'Kent' in both trials and had high levels of the antioxidants ellagic acid, catechin and epicatechin compared to 23 other strawberry cultivars tested. Additional information on this new cultivar can be obtained from Les Fraises de l' Île d'Orleans Inc. (LG) or from Agriculture and Agri-Food Canada (SK).



Performance:

L'Authentique Orléans plants are moderately vigorous with an upright habit and they form medium density matted row beds. The inflorescences are beneath to almost level with the foliage and the fruiting trusses are semi-erect at first picking. The fruit mature a few days after Kent therefore L'Authentique Orléans is considered a late mid-season cultivar. The yield of fruit is very high at both of our testing sites especially in Ile d'Orléans where the marketable yield was more than double that of Kent or Annapolis during the 1999 season. The fruit is large to very large, mainly globose-conic in shape with reflexed sepals and it is fairly easy to hull. The skin is an attractive, glossy red with achenes that are inserted below the surface to almost level with the surface. The fruit has a very good shelf life of over 5 days at 4ºC. The flesh is 80-100% bright red and it is firm to very firm. The flavor is sweet with a pleasant aroma.

Antioxidants:

The levels of free and bound antioxidants (ellagic acid, catechin and epicatechin) were measured using an HPLC method in 23 strawberry cultivars and selections, including L'Authentique Orléans. Free antioxidants are those that are immediately available to the plant and are thought to be useful for plant protection i.e. disease resistance and resistance to various external stresses. Bound antioxidants, which are measured after hydrolysing the samples, are those chemicals which can provide a health benefit after ingestion. Antioxidants such as ellagic acid and catechin have been shown to have anti-carcinogenic and anti-inflammatory properties and they may also be associated with protection against cardio-vascular diseases (Maas et al., 1991). L'Authentique Orléans was high in free epicatechin and ellagic acid and it was above average to very high in bound catechin, epicatechin and ellagic acid compared to the other genotypes tested.

References:
Maas, J.L., G.J. Galletta, G.D. Stoner. 1991. Ellagic acid, an anticarcinogen in fruits, especially in strawberries: a review. HortScience 26:10-14.

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Additional Information on Agriculture and Agri-Food Canada, Quebec fruit breeding and physiology program can be obtained from http://www.pgris.com or contact the author SK (Khanizadehs@em.agr.ca)