

Introduction

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This set of papers reports on the progress made in the last several years on the evolution and domestication of *F. chiloensis*. The conference held at the University of Talca in October 2002 gathered researchers from Chile, Japan and the United States. Papers report on the following topics: morphological, phenological, biochemical, and molecular characterization (Becerra et al., Gambardella et al., Lavín et al., 2005), distribution and ecotypic differentiation (del Pozo and Lavín), genetic improvement (Hancock et al.), chemical composition and inheritance of aromas (Carrasco et al.), in vitro propagation (Paredes and Lavín), soluble sugar accumulation in fruit (Nishizawa et al.), horticultural performance (Contreras and Retamales), and current status and research needs (Retamales et al.).

The beach or Chilean strawberry (*F. chiloensis* (L.) Duch. was once extensively cultivated in western South America (Chile, Perú, Colombia and Ecuador), but it is now only grown to a limited extent (Hancock, 1999). The reduction in area planted to this species during the last 50 years is due to the massive introduction of European and, especially, Californian cultivars of the strawberry of commerce *Fragaria ×ananassa* L., which have been bred for higher productivity and horticultural performance, but in the process, the organoleptic quality of the fruit has been reduced.

The native strawberry of South America has a long and rich history (Hancock et al., 1999). It was utilized well over 1000 years ago by the indigenous Mapuche and Picunche in south-central Chile (Hancock, 1999). Strawberry fruits were used by these native Chileans fresh, dried, as a fermented juice or as medicinal infusions against indigestion, bleeding, and diar-

rhea (de Moesbach, 1992). Evidence indicates that the main domesticants were probably the larger white-fruited forms, called Quelghen or Kellen by the Mapuche (*F. chiloensis*, ssp. *chiloensis*, f. *chiloensis*). Some red-fruited forms, called Lahueñe or Llahuén by the native Chileans (*F. chiloensis*, ssp. *chiloensis*, f. *patagonica*), may also have been domesticated, but references are incomplete.

During the period of conquest in the mid to late 1500s, Spaniards spread *F. chiloensis* throughout northwestern South America (Hancock, 1999); thus, industries developed around Cuzco (Perú), Bogotá (Colombia), and Ambato (Ecuador). Plants of *F. chiloensis* from Chile found their way into Europe in the 1700s through a French spy, Captain Amadeé Frézier, who collected and took back to France staminate plants of white-fruited *F. chiloensis* from the coastal area of Penco (Lat. 36° 38' S). One of the plants was maintained in the Jardin des Plantes in Paris, where clones of *F. virginiana* where already growing. The Chilean strawberry was cultivated extensively in the Brittany area of France using *F. virginiana* and *F. moschata* as pollinators, its highest point was reached in the mid-1800s (around 3000 acres). With the advent of Downton, the first *F. ×ananassa* cultivar in 1817 by Thomas A. Knight in England, from clones of *F. virginiana* and *F. chiloensis*, production of *F. chiloensis* rapidly decreased in Europe (Hancock, 1999).

Nowadays, after centuries of cultivation, the area planted to *F. chiloensis* in South America has decreased dramatically to <100 hectares. In Chile, descendants of mapuche people have passed on ancient landraces of white *F. chiloensis* which are been cultivated in coastal areas of south-central Chile (be-

tween Lat. 34° 54' and 39° 06' S); while the red forms are grown in the Island of Chiloé (Lat. 41° 40' and 43° 19' S). Due to the lack of genetic improvement and the restricted use of horticultural practices, yields are low (4 to 6 t·ha⁻¹), and fruit have variable size and quality; plants are often under biotic (virus, fungi, nematodes, etc.) as well as abiotic (moisture, salinity, nutritional, etc.) stresses.

Commercial, ecological and social interests on this ancient species have grown in the last years. Consumers enjoy the complex flavors and rich aromas of the fruit. Scientific information, technical development and market studies are needed to establish a firm basis for the reestablishment of this plant species in the horticultural map of the world. We are confident that the studies included in this colloquium will greatly help towards this goal.

Glancing through the papers, it can be seen that while there has been abundant research on the topic of molecular markers, there are areas that deserve more attention, such as nutrition, reproductive physiology, pest and disease control, postharvest handling and market studies. It is expected that the information presented here, will aid in the long term goal of developing *F. chiloensis* as a new berry crop. This will enable consumers of different latitudes to enjoy its rich flavor and aromas, as native Chilean people have done for over five centuries (Hancock et al., 1999).

Literature Cited

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