Additional index words. fruit breeding, Prunus armeniaca, self-compatibility, shankra resistance, fruit quality

'Selene' is a midseason ripening apricot cultivar (Prunus armeniaca L.) with high productivity, good fruit quality, and an attractive orange skin suitable for the European market. This cultivar is adapted to the climatic conditions in the Southeast of Spain. It has some resistance to shankra disease, showing weak symptoms when challenged with a strong inoculation pressure. 'Selene' is self-compatible and possesses a high degree of autogamy. 'Selene' fruit are free stone with a light orange skin color and a deep orange flesh color that make them very attractive.

ORIGIN

'Selene' resulted from a cross made in 1995 at Murcia, Spain, between the North American cultivar 'Goldrich' (Washington State University) and the breeding selection 'A2564' (Screara x Stark Early Orange) (Institut National de la Recherche Agronomique, Avignon, France) (Fig. 1). The major objective of the apricot breeding program at CEBAS–CSIC in Murcia is to develop new, good fruit quality, shanka-resistant cultivars to replace traditional cultivars in the areas affected by this viral disease (Egea et al., 1999).

DESCRIPTION

Tree characteristics. 'Selene' was originally selected as a seedling tree on its own roots and then grafted onto apricot seedlings (3 replications) and studied five consecutive years. Trees of 'Selene' are large and very vigorous with a moderate spread. 'Selene' has a high density of flower buds (28.9 flowers/cm²) of shoots mainly localized on fruiting spurs of 2-year-old branches (Table 1). 'Selene' is characterized by large fruit with high productivity in comparison with traditional Spanish apricot cultivars. Tree architecture greatly facilitates pruning (reduced branching habit).

Table 1. Comparative analysis of tree and fruit characteristics of 'Selene, the Spanish cultivar 'Búlida', the French cultivar 'Bergeron' and the North American cultivar 'Orange Red'.

| Characteristic | 'Selene' | 'Búlida' | 'Bergeron' | 'Orange Red' |
|----------------|----------|----------|------------|--------------|
| Tree           | Vigorous | Vigorous | Vigorous   | Vigorous     |
| Flower density (flowers/cm²) | 28.9     | 28.9     | 27.8       | 26.8         |
| Flowering date (full bloom) | 7 Mar.   | 8 Mar.   | 13 Mar.    | 15 Mar.      |
| Fruit set (%)  | 44.7     | 31.6     | 39.4       | 39.4         |
| Yield          | Very high| High     | High       | Medium       |
| Fruit          | Ripening date | 8 June   | 26 May     | 19 June      | 28 May |
| Fruit size (g) | 64.7     | 59.8     | 70.7       | 70.7         |
| Sugar ('Brix') | 13.33    | 10.62    | 11.90      | 14.22        |
| Acidity        | 2.45     | 1.29     | 1.73       | 1.23         |

Table 2. Comparative analysis of fruit and flower characteristics of 'Selene, the Spanish cultivar 'Búlida', the French cultivar 'Bergeron' and the North American cultivar 'Orange Red'.

Molecular characterization

Simple Sequence Repeat (SSR) analysis. Eleven SSR markers previously developed in peach were screened for polymorphism of 'Selene' apricot DNA. The DNA fingerprints of 'Selene' and its progenitors 'Goldrich' and 'A2564' are shown in Table 2. UDP96005, UDP96018 and UDP98411 SSR markers were able to distinguish 'Selene' and its progenitors.

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Virus-free budwood is available from CE-BAS-CSIC (Spain). This cultivar is registered in the European Union Community Plant Variety Office with the registration number 2002/2176. Budwood has been tested and is free of the following viruses: prunus necrotic ring spot virus (PNRSV), apple mosaic virus (ApMV), apple chlorotic leaf spot virus (ACLSV), prune dwarf virus (PDV) and plum pox virus (PPV).

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**Table 2.** Molecular characterization of ‘Selene’ apricot cultivar and its parents ‘Goldrich’ and ‘A2564’ using peach simple sequence repeat (SSR) markers.

| SSR marker | Reference            | Size of amplified bands (bp) |
|------------|----------------------|-----------------------------|
|            |                      | ‘Selene’        | ‘Goldrich’ | ‘A2564’ |
| BPPCT 017  | Dirlewanger et al., 2002 | 191/212       | 191/212   | 191/212 |
| BPPCT 020  | Dirlewanger et al., 2002 | 121/121       | 121/121   | 121/121 |
| BPPCT 006  | Dirlewanger et al., 2002 | 76/76         | 76/76     | 76/76   |
| UDP 96003  | Cipriani et al., 1999  | 115/115        | 93/115    | 115/115 |
| UDP 96005  | Cipriani et al., 1999  | 117/124        | 82/124    | 100/117 |
| UDP 96018  | Cipriani et al., 1999  | 242/242        | 242/282   | 242/282 |
| UDP 96019  | Cipriani et al., 1999  | 170/214        | 170/214   | 170/214 |
| UDP 98406  | Cipriani et al., 1999  | 95/100         | 95/100    | 95/100  |
| UDP 98409  | Cipriani et al., 1999  | 124/124        | 124/138   | 124/124 |
| UDP 98411  | Testolin et al., 2000  | 160/164        | 154/164   | 160/160 |
| UDP 98412  | Testolin et al., 2000  | 103/114        | 103/114   | 103/114 |