'Rojo Pasión' Apricot

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'Rojo Pasión' is an early ripening apricot cultivar (*Prunus armeniaca* L.) with a high productivity, good fruit quality, and an attractive red-blushed fruit appropriate for European markets. This cultivar is also characterized by its adaptation to climatic conditions in south-eastern Spain and its resistance to sharka [plum pox virus (PPV)], a serious limiting factor for apricot fruit production in affected areas (Kölber, 2001). To date, all apricot cultivars traditionally grown in Europe are susceptible to this disease, while several apricot cultivars from North America including 'Goldrich', 'Sunglo', 'Stark Early Orange', and 'Orange Red' showed resistance and are frequently used as progenitors in breeding programs (Egea et al., 1999).

ORIGIN

'Rojo Pasión' resulted from a cross between the North American cultivar 'Orange Red' (Hough and Bailey, 1982) and the Spanish cultivar of unknown origin 'Currot' (Fig. 1). This cross was made in 1996 within the apricot breeding program at CEBAS-CSIC in Murcia (Spain) with the objective of obtaining good fruit quality and sharka resistant cultivars to replace traditional cultivars in areas affected by this viral disease (Egea et al., 1999).

DESCRIPTION

Tree characteristics

Tree description. Trees of 'Rojo Pasión' are large, very vigorous and moderately spreading. 'Rojo Pasión' produces a high density of flower buds mainly localized on short fruiting spurs on 2-year-old branches. 'Rojo Pasión' is a tree characterized by medium-size fruit with high productivity in comparison with traditional Spanish apricot cultivars. Tree architecture greatly facilitates pruning because of low ramification and few long shoots.

PPV resistance. Evaluation of PPV resistance in controlled greenhouse conditions (Martínez-Gómez and Dicenta, 1999) for three cycles of study, showed the resistance of 'Rojo

Pasión' to PPV Dideron-type isolates. Resistance has also been tested by grafting buds on trees affected by sharka in field conditions and no symptoms of the disease were observed.

Time of bloom. 'Rojo Pasión' needs around 900 chilling units (Richardson et al., 1974) to break dormancy. At Murcia, Spain (37° N latitude, 1° W longitude, and 450 m altitude), 'Rojo Pasión' full bloom is 2 Mar. (± 4 d as averaged from 3 years), a medium flowering date among traditional Spanish apricot cultivars.

Self-compatibility. The self-compatibility of this cultivar was demonstrated in the field where an average from two different years of $25.5\% \pm 1.2\%$ fruit set has been obtained with bagged branches, and in the laboratory by observing ≈ 6 pollen tubes entering the ovaries of each pollinated flower.

Fruit characteristics

Fruit size, firmness, and color (Fig. 2). 'Rojo Pasión' bears medium and oblong fruit with an average weight around 55 g, an axial diameter of 4.6 cm, a transverse diameter in suture plane of 4.4 cm, and a transverse diameter at right angles to suture plane of 4.7 cm. Fruit of 'Rojo Pasión' are also characterized by a high firmness (2.1 ± 1.1 kg·cm⁻², as average from two years and 30 fruit/year) at commercial ripening, low skin cracking, and a free stone without pit burning problems. Fruit have a yellow skin color (color space coordinates of the background color out of the red blush $L^* = 67.6 \pm 0.4$, $a^* = 5.6 \pm 1.6$, $b^* = 46.2 \pm 1.5$, as average $\pm$ SE of 2 years, with 10 fruit per year and three measurements per fruit, with a chromatometer (model CR-300; Minolta, Ramsey, N.J.) with most of the surface ($\approx 33.6\%$) covered by an intense red blush and a light orange flesh color ($L^* = 67.9 \pm 1.1$, $a^* = 9.9 \pm 1.4$, $b^* = 46.3 \pm 1.3$). The attractiveness of 'Rojo Pasión' fruit reached 8.5 in a scale between 0 and 10 as average from subjective rating from three different evaluators.

Fruit organoleptic characteristics. 'Rojo Pasión' fruit are moderately sweet ($11.5 \pm 0.1^\circ$ Brix on average from 2 years, 30 fruit/year) with an intermediate titratable acidity of 1.41 ± 0.02

Fig. 1. Pedigree of 'Rojo Pasión' apricot.

Fig. 2. Fruit of 'Rojo Pasión' apricot. Scale bar in centimeters.

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and a consistently very good eating quality. 'Rojo Pasión' fruit have a mild aroma.

Maturation time. 'Rojo Pasión' has a very uniform maturation and is harvested around 18 May (± 4 d) at Murcia, at the same time as 'Castelbrite' or around 10 d earlier than 'Orange Red'. At that time in the season, there is no competition with apricots from other European countries. 'Rojo Pasión' is more attractive, firmer and has better taste than 'Mauricio' and 'Palabras', the Spanish cultivars maturing at the same time (Table 1).

AVAILABILITY

Budwood will be available in 2003 from CEBAS-CSIC (Spain). This cultivar is registered in the European Union Community Plant Variety Office with the registration number 2001/1288. 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).

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

Characteristic	Rojo Pasión	Búlida	Bergeron	Orange Red
Tree				
Vigour	Very vigorous	Very vigorous	Very vigorous	Vigorous
Flower density (flowers/cm ²)	67.5	42.0	31.1	5.1
Flowering date (full bloom)	2 Mar.	8 Mar.	13 Mar.	15 Mar.
Fruit set (%)	40.1	31.6	39.4	13.6
Yield	Very high	High	High	Medium
Fruit				
Fruit size (g)	55.0	59.8	70.7	61.0
Attractiveness	8.5	6.7	7.2	9.0
Sugar (°Brix)	11.5	10.6	11.9	14.2
Acidity ^a	1.4	1.3	1.7	1.2
Ripening date	18 May	26 May	19 June	28 May

^aTitrateable acidity expressed as grams of malic acid per 100 mL.

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