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'Aylés', 'Guara', and 'Moncayo' Almonds

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Three new self-compatible, late-blooming cultivars of almond [*Prunus amygdalus* Batsch, syn. *P. dulcis* (Mill.) D.A. Webb] have been released from the almond breeding program that is being developed at the Unidad de Fruticultura of Zaragoza (1). One of the main objectives of this program is to obtain late-blooming, self-compatible cultivars in an attempt to solve widespread problems of inadequate cross-pollination and spring frosts. The shell of these almonds is hard, fitting very well into the Spanish market, which is almost exclusively based on hard-shelled cultivars.

The finding of self-compatibility within the species (2, 3) has fostered almond breeding programs to develop self-compatible cultivars (4). These three cultivars are the first released from one of these programs. The late-blooming date of these cultivars is compared to other widely grown almond cultivars (Fig. 1).

These three cultivars are named after geographical sites in Aragón, the Spanish region whose capital city is Zaragoza, located in the middle Ebro Valley.

Origin

'Moncayo' is a seedling from the cross 'Tardive de la Verdrière' x 'Tuono' obtained in 1974. 'Aylés' is an open-pollinated seedling of 'Tuono', also obtained in 1974. Both were tested in a selection plot as B-5-3 and C-9-5. After this first screening they were evaluated in a collection plot.

'Guara' is a scion of unknown origin. Introduced under a wrong name, it was found to be different from other cultivars, and it was infected with *Prunus necrotic ringspot* virus. Freed from known viruses, it was tested with other selections, as scions grafted on an almond x peach rootstock, in a collection plot for 6 growing years and three production seasons.

The three selections have been planted in

more than 10 extension plots throughout the region, with more than 10 trees per plot and selection, thus far with highly satisfactory results.

Description

'Aylés'. The tree is medium in size and

spreading, with a relatively compact growth habit and short internodes, bearing fruit mostly on spurs. The tree is easy to train. There is a very high density of medium to large flowers. The stigma is at the same level of the anthers, indicating both natural autogamy and good self-compatibility (5). The blossoms have low sensitivity to late frosts occurring during the blooming period. The fruit matures late (third to fourth week of September in Zaragoza). The kernel is heart-shaped, medium to large (Table 1). There are few double kernels. Kernels have good commercial quality (Fig. 2).

'Guara'. The tree is medium in size and spreading, with a relatively compact growth habit, but less so than 'Aylés'. Fruit are mostly borne on spurs. The tree is very easy to train and has a high density of medium-sized flowers. The stigma is at the same level of the anthers. The blossoms have low sensitivity to late frosts. The fruit mature early

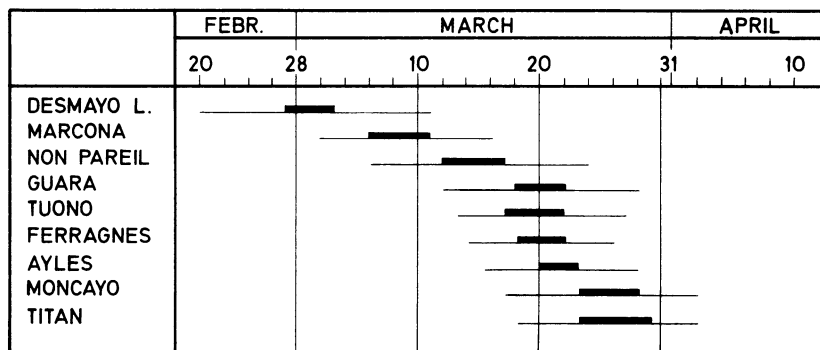


Fig. 1. Average blooming dates of the new cultivars as compared to other almond cultivars (1983-86). Percentages indicate the amount of flowers opened.

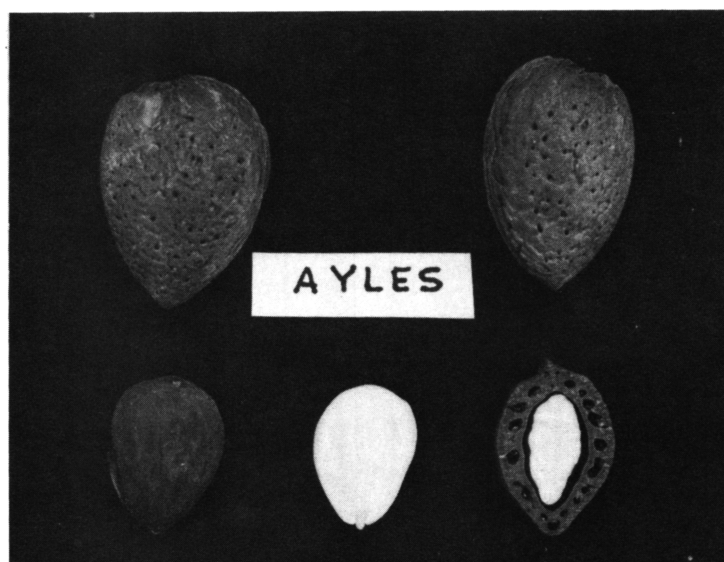


Fig. 2. 'Aylés' nuts and kernels.

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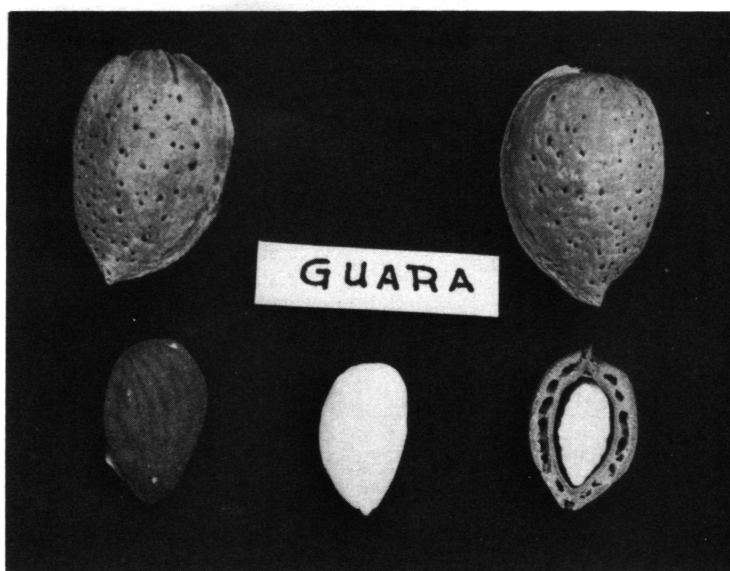


Fig. 3. 'Guara' nuts and kernels.

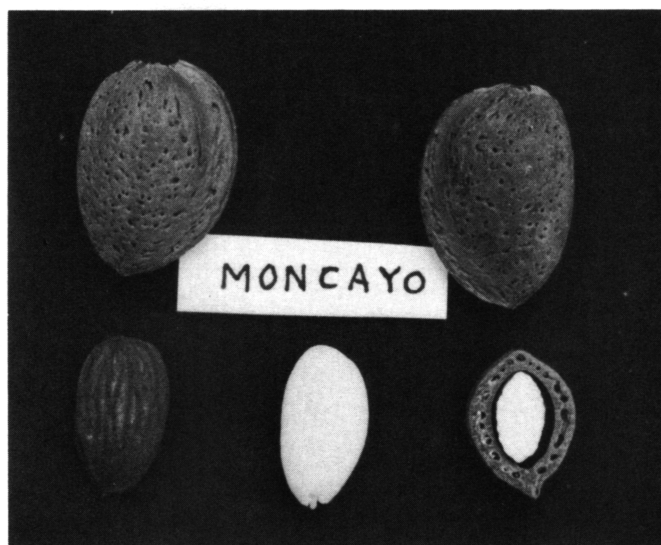


Fig. 4. 'Moncayo' nuts and kernels.

Table 1. Kernel characters of the new cultivars.

Cultivar	Average wt. (g)	Width/length (%)	Average thickness (cm)	Shelling percentage
Aylés	1.56	64	0.87	30–34
Guara	1.38	59	0.84	32–35
Moncayo	1.41	56	0.81	25–28

(first week of September). The kernel is ovate, medium to large (Table 1) and of good commercial quality (Fig. 3). There are few double kernels.

'Moncayo'. The tree is medium to large and spreading to drooping and easy to train. Fruit are borne on spurs. There is profuse blooming of medium-sized flowers. The stigma is at the same level of the anthers. Blossoms have low sensitivity to late frosts. Fruit mature at medium season (second week of September) and the shell is very hard. The kernel is oblong, medium to large (Table 1) and considered of good commercial quality (Fig. 4). There are few double kernels.

Although all are self-compatible, the three cultivars also can be cross-pollinated by other simultaneously blooming cultivars ('Ferragnés', 'Ferraduel', 'Tuono', 'Cristo-morto', etc.).

Availability

Limited amounts of virus-test budwood for research purposes are available at our Department (Unidad de Fruticultura, SIA-GDA, Apartado 727, 50080 Zaragoza, Spain). A Spanish patent is pending.

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