

## THE POMOLOGICAL DESCRIPTION OF ALMOND CULTIVARS CERTIFIED IN 2009

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### Abstract

*Except three cultivars which are cultivated worldwide, every country that is considered a main producer of almonds has its own assortment of varieties, including cultivars that are specific to the various eco-pedological zones in which these species are cultivated.*

*In Romania, after 35 years of improvement at the Oradea station, the almond is the only species that has a national assortment exclusively composed of its own cultivars: Viola, Ana, Sabina, Sandi certified in 1996, April certified in 1997, all five being patented in 2008 and Nico, Cristi and Adela, certified in 2009.*

**Key words:** certification, patent.

### INTRODUCTION

With the exception of three cultivars, that is Tescos, Ferragnes and Marcona, which are cultivated in several countries considered among the main producers of almonds, each country possesses its own assortment of varieties, containing local cultivars, well-adapted to the eco-pedological conditions specific to the different areas in which they are cultivated: from annual rainfall of 200 mm in the Sfax region of Tunisia, to irrigated cultures in the southern part of San Joaquin Valley, USA, from particularly poor soils to black earths, from mild winters in Spain and Portugal to winters with very low temperatures in the Russian Federation (El. Gharbi A., 1990; Felipe A.J., 1976; Garcia J.E., Egea J., 1994; Șcheau V. et al., 2007).

### MATERIAL AND METHODS

During the 1999-2008 period, 55 selected almond elites were studied in field trial micro-cultures, using the Primorski cultivar as a reference lot, with five trees per variant, placed linearly, planted at 5/4 m.

During 1997-1998, the cultivars were tested by the National Institute for the Testing and Trial of Cultivars – Bucharest and in January 2009 the following cultivars were enlisted in the Official Catalogue of Crop Plants of Romania: Nico, Adela and Cristi.

### RESULTS AND DISCUSSION

The Nico cultivar (H14/851/81) has its origins in a double hybrid obtained in 1981 [Ferragnes x (Nikitski Pozdno. X Lovrin 18)]. As to its vigor, it is a medium one, with a surface of the trunk section of 212.3 cm<sup>2</sup> in year X since plantation. The blossoming of the tree is medium; it begins in 13.03 and ends in 28.03.

As to fructification, it is of the spur type, 86.2% on blossoms, 8.7% on clusters of flowers and 5.1% on middle branches. Free pollination reaches a value of 28.8%. The maturity at harvesting is placed at medium intervals during 18.08 and 31.08.

The production of the cultivar is very high, reaching 2337.9 kg/ha of fruit and 930.5 kg/ha of kernels, being positively ensured statistically as very significant in comparison with the Primorski reference lot.

The size of the fruit is of 26.2 mm, while its weight reaches 4.4 g. The output at shelling is of 35.5% kernels and the percentage of double kernels is 3.2%.



Fig. 1 Nico – aspect of fruits

The following cultivar to be described is Adela (H4/1451/82). Regarding its origins, Adela is a simple hybrid obtained in 1982 from Ardechoise x Lovrin 18.

Its vigor is medium - high, having a surface of the trunk section of 250.4 cm<sup>2</sup> in year X since plantation. The blossoming of the tree begins early on in 07.03 and ends in 24.03.

As to fructification, it is of the spur type, 87.5% on blossoms, 6.3% on clusters and 6.2% on middle branches.

Free pollination reaches a value of 32.4%. The maturity at harvesting appears early on, taking place between 15.08 and 28.08.

The production of the cultivar is very high, reaching 3662.5 kg/ha of fruit and 1043.8 kg/ha of kernels, being positively ensured statistically as very significant compared to the Primorski cultivar, which represents the reference lot.

The size of the fruit is of 25.3 mm, while its weight reaches 3.7 g. The output at shelling is of 28.5% kernels and the percentage of double kernels is 5.9%.



Fig. 2 Adela – Aspect of the fruit

The last of the three cultivars is Cristi (H1/2025/84). As to its origins, it is a simple hybrid obtained in 1984 from Ardechoise x Pomorie. Its vigor is medium - small, having a surface of the trunk section of 190.2 cm<sup>2</sup> in year X since plantation.

The blossoming of the tree is medium, beginning in 12.03 and ending in 27.03.

As to fructification, 55.1% is on blossoms, 40.3% on clusters and 4.6% on middle branches. Free pollination reaches a value of 27.6%.

The maturity at harvesting appears late, taking place between 28.08 and 06.09.

The production of the cultivar is very high, reaching 2768.2 kg/ha of fruit and 982.7 kg/ha of kernels, being positively ensured statistically as very significant compared to the Primorski reference lot.

The size of the fruit is of 25.1 mm, while its weight reaches 3.5 g. The output at shelling is of 35.5% kernels and there are no double kernels.



Fig. 3 Cristi – aspect of the fruit

## CONCLUSIONS

Of all the tree species, the almond is the only one that has a national assortment, composed entirely of our own cultivars, which are well-adapted to the specific eco-pedological conditions present in Romania.

The Nico, Cristi and Adela cultivars are recommended because of their record yields of 930.5 kg/ha, 982.7 kg/ha and 1043.8 kg/ha of kernels.

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