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Garibaldina, an additional promising self-compatible Apulian almond variety

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SUMMARY – Between 1974 and 1990, 29 self-fruitful sweet and bitter almonds have been individuated within the Apulian native germplasm. The essential characteristics of the above cultivars have been presented at the GREMPA meetings of Bari (1977), Salonika (1985) and Nîmes (1990). In the present paper the essential traits of cv. Garibaldina, an additional self-fruitful Apulian sweet almond are reported. Garibaldina is grown by time immemorial on the surroundings of Bari and populates an environment where olives is the major crop. Besides self-fruitfulness Garibaldina possesses several traits of horticultural interest, such as medium-late blooming, high and consistent yield, good kernel shape and taste, absence of doubles.

Key words: Almond, Garibaldina, self-compatible, yield, quality.

RESUME – "Garibaldina, une variété d'amandier additionnelle, prometteuse et autocompatible provenant des Pouilles". Entre 1974 et 1990, 29 amandiers doux et amers à autofructification ont été individualisés parmi le germoplasme autochtone des Pouilles. Les caractéristiques essentielles des cultivars cités auparavant ont été présentées aux réunions du GREMPA de Bari (1977), Salonique (1985) et Nîmes (1990). Dans le présent article sont reportés les caractères essentiels du cultivar Garibaldina, un amandier additionnel des Pouilles à autofructification et à fruits doux et amers. Garibaldina est cultivée depuis des temps immémoriaux aux alentours de Bari et se trouve dans un environnement où les olives sont la récolte principale. Outre l'autofructification, Garibaldina possède plusieurs caractères d'intérêt horticole, tels que la floraison moyenne-tardive, un rendement élevé et régulier, une bonne forme et goût de l'amandon, et l'absence de doubles.

Mots-clés : Amandier, Garibaldina, autocompatible, rendement, qualité.

Introduction

Between 1974 and 1990, twenty-nine self-compatible sweet and bitter almond varieties have been identified among the germplasm native of Apulia and their characteristics have been described in several GREMPA meetings of Bari (1977), Salonika (1985) and Nîmes (1990) (Godini, 1977; Reina *et al.*, 1985; Godini *et al.*, 1992). Since generally speaking most of these self-compatible almonds possess poor horticultural characteristics, only a few become popular in the Mediterranean basin. That is the case of Falsa barese, Genco and Tuono.

In the present paper the essential traits of an additional, promising self-compatible Apulian sweet almond variety called Garibaldina are described. Garibaldina has been grown since time immemorial in the district of Modugno, in the surroundings of Bari, and populates an environment where olive is the major crop. Garibaldina came into notice at the end of the sixties because of the absence of doubles (Casella, 1970) and was introduced in our almond varietal collection at Valenzano (Bari) in 1982. During a thirteen-year cropping under rainfed conditions, Garibaldina confirmed the absence of doubles and displayed interesting bearing precocity and relevant and consistent yield. In fact, cumulative 1986/1998 kernel yields compare Garibaldina with four well known almonds, i.e. the above three self-compatible apulian varieties and the French-Italian- self-incompatible Ferragnès (Fig. 1).

Essential phenological, biological and morphological characteristics

(i) Phenological characteristics. Blooming time: intermediate (50% of flower open: 2nd half of February); harvesting time: intermediate (end of August-beginning of September).

(ii) Biological behaviour: self-compatible.

(iii) Morphological characteristics (Fig. 2). Tree habit: spreading; tree vigor: moderate; fruiting habit: mainly on spurs; leaf blade: small, green, elliptic, apex and base round; petiole length: short; petiole glands: 1-2; anthocyanin: absent on one-year shoot tips; immature fruit weight: light; sun dried nut: light; nut shape: oblong and pointed; shell colour intensity: light; marking of outer shell: moderately pored; suture opening of the shell: excellent seal; softness of shell: hard; kernel size: uniform, medium (about 25 kernel in one ounce); kernel shape: ovate to elliptical; W/L ratio: 60.2; pellicle: brown, pubescent, veins distinct, moderately wrinkled (Tables 1 and 2).

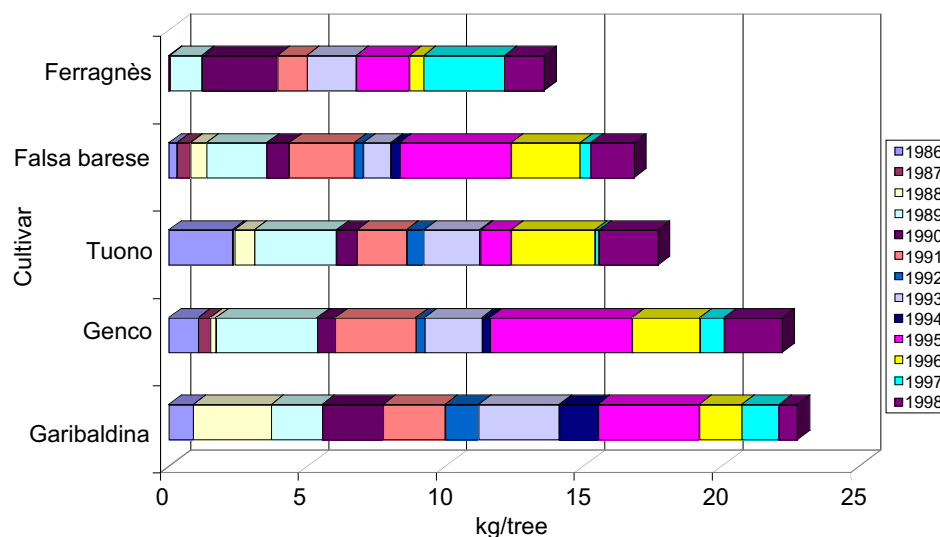


Fig. 1. Cumulative 1986-1998 kernel yield (kg/tree).



Fig. 2. Garibaldina: tree, flower, fruits and fruiting branch.

Table 1. Garibaldina: leaves and fresh fruit

Leaf				Fresh fruit							
Blade			Petiole length (mm)	Whole fruit		Hull		Shell		Kernel	
Length (mm)	Width (mm)	Ratio		g	%	g	%	g	%	g	%
64.3	18.8	3.42	24.3	11.23	100.0	5.46	48.6	4.20	37.4	1.57	14.0

Table 2. Garibaldina: sun dried fruit (av. 1986/1998)

Nut (g)	Shell (g)	Kernel (g)	Doubles (%)	Shelling (%)	Dried kernel to whole fresh fruit (%)
3.67	2.60	1.07	0.0	29.1	9.5

Overall comments

We believe that Garibaldina, which has been neglected so far, should be taken into consideration because of its many interesting horticultural traits, such as early cropping, self-compatibility, high and constant yield, good kernel output and acceptable shelling, absence of doubles, kernel uniformity as to shape and size. The tendency to produce moderately wrinkled kernels is to be intended as a consequence of the rainfed growing conditions.

Garibaldina possesses a lighter kernel and shows a slightly lower shelling percentage than the other four almond varieties; nevertheless, because it is a heavy bearing variety, its cumulative 1986/1998 kernel yield was 2.5%, 22.3%, 26.0% and 40.3% higher than that of Genco, Tuono, Falsa barese and Ferragnès, respectively. In conclusion, we believe that it would be of interest to test Garibaldina in diverse ecological environments where almond is commonly grown.

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