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'Argaman': A New, Highly Colored, Productive, *vinifera* Wine Cultivar

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'Argaman' (the Hebrew word for "deep purple") is a new, highly colored, productive, *vinifera* wine cultivar (Fig. 1). Vines of 'Argaman' are vigorous, high yielding, and less sensitive than 'Carignan' to powdery mildew (*Uncinula necator* Burr.). 'Argaman' ripens 2 to 3 weeks before 'Carignan' with medium-sized, moderately compact clusters. 'Argaman' varietal wine is deeply colored with satisfactory to average acidity and tannins.

Origin

'Argaman' resulted from the cross 'Souzao' x 'Carignan' made in 1972. It was selected at Bet-Dagan and subsequently planted in 1984 as selection no. 401 at several test plots. This is the second release of a wine grape from the Agricultural Research Organization, The Volcani Center (after 'Roy' released in 1988; Israel Plant Patent No. 656/84).

'Souzao' is one of the better varieties of the port-producing regions of Portugal. It is vigorous and productive, and its wines are deeply colored with good acidity (Winkler et al., 1974). It can produce good-quality wines from warm sites and is tolerant to fungal diseases (Perold, 1927); however, 'Souzao' was unproductive at local sites. 'Carignan' is of Spanish

with little varietal character (Winkler et al., 1974).

Description

Grafted vines of 'Argaman' (on Richter 110 and Ruggeri 140R rootstocks) are vigorous and productive with annual spur pruning. In three test plots, yields of 21 to 39 t·ha⁻¹ have been obtained. This yield compares favorably with the mean yields of 'Carignan' at the same locations and with the same training systems (Table 1). Leaves resemble those of 'Carignan' as described by Galet (1976), are dark green, and have five distinct lobes. Compared to 'Carignan', the two lower sinuses are shorter and the two upper sinuses are broader. The petiolar sinus is medium-wide, U-shaped with large teeth, and asymmetrical. Foliage and fruit of 'Argaman' are apparently less sensitive to powdery mildew than 'Carignan', as determined by visual observation.

Flowers are perfect and self-fertile. Fruit clusters are medium-sized (280 to 300 g), moderately compact, and cylindrical in shape (Fig. 1). 'Argaman' ripens about midseason (mid-August to early September), ≈1 to 3 weeks before 'Carignan'. Berries are medium-sized (1.48 g), round, and range from blue to black, covered with a white waxy bloom.

Each year for five seasons (1988–92), wine samples from three test plots were made by the

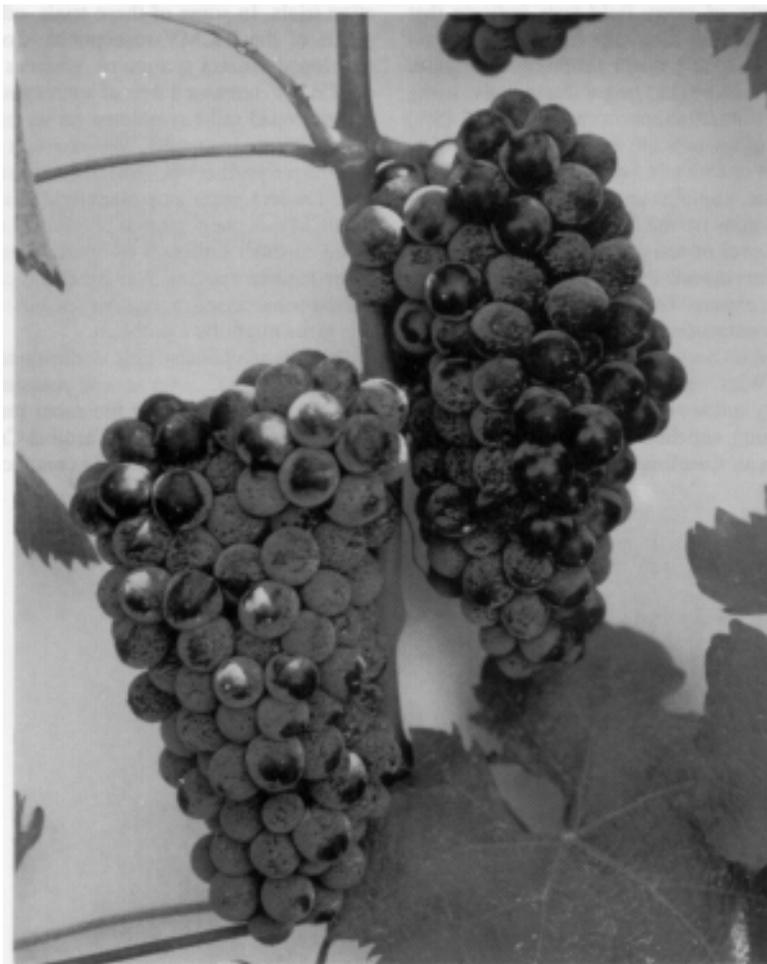


Fig. 1. Fruit clusters of 'Argaman' grape.

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Table 1. Harvest date, yield, and wine analysis of 'Argaman' compared to 'Carignan', for 1988–92 (mean of three test plots, 20 vines in each plot, grafted on Richter 110 rootstocks).

Characteristic	Date harvested											
	1988		1989		1990		1991		1992		Mean (sd)	
	28 Aug.	5 Sept.	24 Aug.	1 Sept.	27 Aug.	14 Sept.	21 Aug.	28 Aug.	25 Aug.	19 Sept.	27 Aug.	14 Sept.
	Cultivar											
	Argaman	Carignan	Argaman	Carignan	Argaman	Carignan	Argaman	Carignan	Argaman	Carignan	Argaman	Carignan
Yield (t·ha ⁻¹)	34.5	32.5	28.7	31.7	33.7	36.7	21.2	23.0	23.0	29.0	28.2 (6.0)	30.4 (5.0)
Alcohol (%)	10.8	11.0	11.3	10.6	10.9	10.0	10.7	10.7	11.3	11.2	11.0 (0.28)	10.7 (0.45)
Titrateable acidity ^z (g·L ⁻¹)	5.5	5.1	4.7	4.3	4.8	4.0	5.3	5.4	5.9	4.5	5.24 (0.49)	4.66 (0.57)
pH ^z	3.8	3.9	3.8	3.9	3.6	3.7	3.8	3.9	3.7	3.7	3.74 (0.09)	3.82 (0.11)
Color (OD 520 nm)	0.41	0.10	0.44	0.10	0.36	0.07	0.38	0.18	0.50	0.13	0.42 (0.05)	0.12 (0.04)
Potassium (mg·L ⁻¹)	1577	1690	1200	1467	907	950	1008	1437	1388	1532	1216 (273)	1415 (278)
Wine rating (scale 0 to 20) ^y	12.35	7.70	12.33	7.43	11.00	6.40	12.35	6.93	11.52	6.80	11.91 (0.62)	7.05 (0.50)

^zPostfermentation.

^yQuality rating composed of: visual evaluation contributing 12%; smell 24%; flavor (mouth feel and aroma) contributing 40%; and overall balance 24%, of the total score.

Israeli Wine Institute. Wine tastings by a professional panel were blind and compared 'Argaman' and 'Carignan' from the same vineyards. The wine quality rating (on a scale of 0 to 20, with 20 being the highest achievable score) was composed of visual evaluation, smell, flavor, and general aroma. 'Argaman' wines received favorable ratings, much higher than those of 'Carignan', in all 5 years (Table 1). 'Argaman' varietal wine is deeply colored with satisfactory to average acidity and tannins, of good body and balance.

'Argaman' has performed well in the first pilot plantings on the midcoastal plains, west to the Jerusalem hills, and was further planted in commercial vineyards, mainly as a substitute for 'Carignan'.

Availability

'Argaman' was registered for breeders' rights as plant patent no. 950 in Israel in 1992. Cuttings, upon agreement, are available from the Dept. for Fruit Tree Breeding and Genet-

ics, The Agricultural Research Organization, The Volcani Center, Bet-Dagan 50250, Israel.

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