

ALL ABOUT ALMONDS

ESTABLISHMENT



AUSTRALIAN ALMOND VARIETY - MAXIMA

Maxima is a highly spur bearing tree that is suited to planting in traditional or higher density orchards. The hull flares away from the shell in a 'banana' fashion and has a very large kernel that may be suited to markets where large size attracts premium pricing.

KEY POINTS

- ▶ Cross-pollination needed
- ▶ Spur bearing
- ▶ Late pollinator for Nonpareil
- ▶ Very large kernel size



POMOLOGICAL TRAITS

Growth habit Spreading
 Branching density Medium high
 Nut location Spurs and one year old wood
 Flowering time Medium, full bloom 4 days later than Nonpareil
 S compatibility genotype S3S8
 Pollination Cross-pollination needed
 Compatible Pollinators Nonpareil, Carmel, Monterey, Capella, Wood Colony, Mira
 Flowering density High
 Length of flowering Medium, approx. 3 weeks
 Bearing precocity Precocious
 Cropping capacity Very high
 Cropping regularity Good. Little to no alternate bearing
 Bacterial spot tolerance Initial screening resulted in tolerance equal to Nonpareil.**
 Harvest season Early mid
 Harvest ease Good
 Husking ease Good. Hull is easily separated from shell

COMMERCIAL TRAITS

Nut shape Cordate
 Kernel size Very large (2.05 g)
 Crackout percentage 26.1%
 Shell texture Semihard
 Double kernels No doubles
 Kernel appearance Attractive, skin colour light and bright
 Kernel composition Oil 62.4%; oleic acid 59.9%; Vitamin E 51.7 mg/100g oil

GLOBAL ASSESSMENT

Maxima is a semi-hard shelled variety that has consistently out yielded Nonpareil by 20% over eight years of yield assessments. It has superior fruit characteristics with a semi-hard shell, fully sealed shell and very large, sweet tasting, lightly coloured kernel. Maxima's two main outstanding qualities are its early precocity to crop on spur wood and its large kernel size, approximately 2 grams. The full enclosed shell seal provides protection against insect and bird damage, whilst the hull detaches easily at harvest. The growth habit is slightly spreading similar to Nonpareil but bears mostly on spur growth. Maxima can be used as a late pollinator for Nonpareil, replacing Carmel and Wood Colony. Maxima needs cross pollination to successfully bear fruit.

** Initial Bacterial Spot testing was conducted on the leaves only. Further assessment is currently being conducted on the fruit and leaves following strong visual symptoms in one of the commercial trials during the 2017-18 growing season.

TRAIT	ASSESSMENT CRITERIA	RATING (/10)	
		NON PAREIL	MAXIMA
PRODUCTION			
Flowering date	Preferable same as Nonpareil, -3 to +14 days for sf, -3 to +7 for non-sf	5	5
Flowering	Spur bearing, flower to fruit set ratio	6	6
S Incompatibility group	Self-compatible pollen, flower autogamy, bag sf's, bring bees	0	0
Precocious	Precocious, first crop year 3, yield to canopy volume ratio	6	8
Vigour	Intermediate to high but must be balanced with fruitfulness	7	7
Growth habit	Upright, limbs at 40° from vertical, non-weeping, no blind wood	8	8
Branching density	No blindwood	6	6
Ease of training and pruning	Non-weeping	8	8
Harvest Time	No later than Nonpareil plus 30 days (i.e. < Monterey)	6	4
Fruit retention - Minimal windfalls	Minimise food safety risk, facilitate shake and catch	6	8
Fruit retention - Minimal mummies	No stick tights	3	3
High yielding	2.5 - 3.0 tonnes/ hectare, yield to canopy volume ratio	7	9
Regular production	No alternate bearing	7	N/A
PEST & DISEASE RESISTANCE			
Rust		6	6
Hull rot		0	7
Bacterial spot		8	8^^
Anthraco nose		6	6
Monilinia		7	7
NIBF		6	*
Carob moth		0	7
Mites		5	5
Black Peach Aphids		5	5
PROCESSING			
Hulling and shelling ease	Thin hull, easily removed with minimal damage to kernel	8	6
Shell type	Less than or equal to "hard"	5	7
Shell seal	Well sealed to avoid insect damage and mould contamination	0	9
Crackout ratio	Good kernel to waste (hull and shell) ratio	7	7
Roasting	Good after roasting in terms of flavour; flesh colour; life	7	*
Blanching	Easily blanched	7	*
PRODUCT QUALITY			
Double kernels	Less than 5%	7	7
Kernel size/ weight	Minimum 1.24g; optimum range 18-24 kernel per ounce	7	9
Kernel shape	Oval, smooth	8	8
Testa colour	Golden testa; "clean" & "clear"	9	9
Testa pubescence	Smooth, "clean", no "dusty" appearance	9	9
Kernel meat	White, no brown areas	9	9
Staining propensity	Shell and kernel	0	7
Oil content	High but not quantified (Nonpareil 56.5% in 2013 Riverland)	7	9
Flavour	Sweet, strong almond flavour, typical, non-bitter	6	6
Storage life	Shelf life of processed product	6	*

* Yet to be assessed.

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^^ Currently undergoing re-assessment.

MORE INFORMATION

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E:AustralianAlmondVarietiesMaxima(UPDATE)

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