JANUARY 2017

ALL ABOUT ALMONDS

ESTABLISHMENT

AUSTRALIAN ALMOND VARIETY - RHEA

Rhea is an upright bearing tree that is suited to planting in traditional orchard densities. It is a paper shell with a closed shell seal to reduce kernel quality downgrades. The kernel itself has a hint of marzipan similar to Carmel and may be suitable for inclusion in the Carmel market.

KEY POINTS

- Cross-pollination needed
- High crackout percentage
- High cropping capacity
- Papershell

POMOLOGICAL TRAITS

Growth habit Slightly open
Branching density Medium high
Nut location Mainly spurs and one year old wood
Flowering time Early mid, full bloom 3 days earlier than Nonpareil
S compatibility genotype S8S?
Pollination Cross-pollination needed
Compatible Pollinators Nonpareil, Monterey, Peerless, Price, Carina
Flowering density High
Length of flowering Medium, approx. 3 weeks
Bearing precocity Precocious
Cropping capacity High
Cropping regularity Good. Low alternate bearing
Bacterial spot tolerance Not tested as yet
Harvest season Mid
Harvest ease Good
Husking ease Good. Hull is easily separated from shell

COMMERCIAL TRAITS

Nut shape Cordate
Kernel size Medium (1.14 g)
Crackout percentage 36.1%
Shell texture Papershell
Double kernels No doubles
Kernel appearance Attractive, skin colour light plump kernel
Kernel composition Oil 54.7%; oleic acid 67.5%; Vitamin E 48.6 mg/100g oil

GLOBAL ASSESSMENT

Rhea is a paper-shelled variety that has consistently out yielded Nonpareil by 15% after eight years of yield assessments. The paper-shell has a fully sealed shell and, together with a thin hull, has crackouts around 35-40%. Rhea flowers early and is a suitable early pollinator for Nonpareil, replacing Price, Peerless and Monterey. Rhea needs cross pollination to successfully bear fruit. Rhea has a similar growth habit to Carmel, slightly spready and upright. It also has a slight marzipan after-taste similar to Carmel and may be marketed as a Carmel type.

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TRAIT	ASSESSMENT CRITERIA	RATING (/10)	
		NON PAREIL	RHEA
PRODUCTION			
Flowering date	Preferable same as Nonpareil, -3 to +14 days for sf, -3 to +7 for non-sf	5	8
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	9
Harvest Time	No later than Nonpareil plus 30 days (i.e. < Monterey)	6	5
Fruit retention - Minimal windfalls	Minimise food safety risk, facilitate shake and catch	6	7
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	10
Bacterial spot		8	8
Anthracnose		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	8
Shell type	Less than or equal to "hard"	5	7
Shell seal	Well sealed to avoid insect damage and mould contamination	0	8
Crackout ratio	Good kernel to waste (hull and shell) ratio	7	10
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	6
Flavour	Sweet, strong almond flavour, typical, non-bitter	6	6
Storage life	Shelf life of processed product	6	**

** Yet to be assessed.

MORE INFORMATION

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