



Macadamia Conservation Trust

Conserving our Wild Macadamia Trees

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New Macadamia Variety Profile Sheet – MCT1

An elite macadamia variety that could raise productivity by up to 50% has now been released. It is one example of the potential of the wild macadamia's rich genetic diversity and represents the advances of breeding and selection of new generation cultivars that will transform the industry's future. It has been named **MCT1** and is owned by the Macadamia Conservation Trust.

MCT1, a variety of *Macadamia integrifolia*, is a compact hardy tree, very precocious, highly productive, with 42 – 50 % kernel recovery, good quality kernel and no known flaws.

MCT1 has Provisional Protection under the Plant Breeder Rights Act and is being licensed to a number of reputable nurseries where there may be limited availability from Spring 2018.

A royalty of \$4.00 (+GST) will be added to the tree price. The royalty will be used for the ongoing conservation of our wild trees. ANFIC will manage the Intellectual Property (IP) and commercial aspects of this variety including licencing nurseries, collecting royalties and enforcing compliance of variety ownership.



The Tree

MCT1 has been evaluated over the past 25 years as breeder codes M407 and M416. It was selected from a seedling progeny trial planted in 1982. Its origin is from the northern distribution of *M. integrifolia* and it has distinct genetic markers. The tree is vigorous, hardy, of a desired compact size and has a slightly spreading open canopy.

The Crop



MCT1 is very precocious as it flowers and produces a commercial crop after Year 3.

- Most nuts are held singularly or in small clusters.
- Nut fall pattern is middle to slightly late [May to August in Gympie]. Husk is very thin, the nut-in-shell (NIS) is medium to slightly large, and the kernel is uniform, attractive and slightly flattened.
- The percentage of whole kernel is towards the high range of industry varieties.
- Pre-germination has not been observed.

With your help we can do much more



Varietal Trial.

The varietal trial (**MC09017: *Supplementary grower trial of Elite Macadamia Selections***) was planted on 15th November, 2011 and is managed by Lindsay Bryen at "DeCortes" Welcome Creek, Bundaberg.

Three Industry standards were planted in this trial (741, 816 and A16) in addition to fourteen elite selections including MCT1 (Breeder code: MC407). The trial includes four replicated sites consisting of six trees per site with twenty-four individual trees per selection.

- **At 3.5 years after planting MCT1 averaged 3.0 kg NIS at 45% Total Kernel Recovery (TKR).**
- **At 4.5 years after planting MCT1 averaged 6.7 kg NIS at 49% TKR.**
- **At 5.5 years after planting MCT1 averaged 9.1 kg NIS at 44 % TKR.**
- **At 5.5 years this is equivalent to 1248kg of TKR/ha or 2839 kg NIS/ha @312trees/ha**

General



The **MC09017: *Supplementary grower trial of Elite Macadamia Selections*** has been characterised by a high standard of cultural management.

- **Note:** *As the 17 selections were planted in groups of six trees ("DeCortes" trial), this provides optimal cross pollination and therefore these results may not be replicated if the selection is grown in solid blocks with only one other macadamia selection for cross pollination.*

Other evaluations have been conducted over 25 years in Gympie, in both irrigated and non-irrigated trials and at Bundaberg over 12 years. Each year at Gympie the trees and crop were compared to over 20 commercial and experimental varieties.

The long term average kernel recovery for non-irrigated trees at Gympie was 43.8 % TKR, commercial Kernel Recovery (KR) 0.6% and Reject 0.3%. First grade kernel averaged 98%. Irrigated and non-irrigated trees have remained hardy and consistently produce large crops being ranked in the top three of 20 varieties each year.

Whilst ongoing trials are required MCT1 appears tolerant of husk spot and the tendency to Abnormal Vertical Growth (AVG). Responds well to Ethephon [Ethrel]. MCT1 has not been assessed in the northern Rivers of NSW. Whilst shown to be hardy, MCT1 like other very high performing varieties could react to severe stress by not fully maturing all kernels.

More information is available and when in season the trees and crop may be inspected. Enquiries should be made to the Macadamia Conservation Trust at the AMS office or for propagation licensing enquiries to ANFIC.

For all Nursery Propagation Licensing enquiries please contact Dr Gavin Porter at the Australian Nurserymen's Fruit Improvement Company (ANFIC) Ltd Office on:

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