



## Nelmak D Macadamia

- Nelmak D is a precocious macadamia cultivar that can produce 0.5 - 2kg nuts per tree in year 3. It produces big nuts with outstanding quality. It is characterised by its long inflorescences and the high number of nuts per inflorescence.
- The tree has a semi-upright growth habit and is suitable for closer spacing. Nelmak D also responds well to pruning. It is more cold resistant than the integrifolia cultivars and thus suitable for planting at higher altitudes. Out of season flowering has not yet been observed.
- Nelmak D is the first South African Macadamia cultivar to be patented officially. It was registered in 2002. It is owned by D. Nel, Nelspruit, South Africa.

### Origin

It is believed that Nelmak D is a natural hybrid which was derived from the open pollination of a female parent of the cultivar Nelmak 2. Nelmak 2 in itself is a hybrid between *M.integrifolia* x *M.tetraphylla*. The cultivar was originally noticed as an off-type tree in a Nelmak 2 orchard. The Nelmak 2 graft possibly broke off, allowing the seedling rootstock to grow to a tree.

This seedling rootstock was propagated from Nelmak 2 seed obtained from the Soekmeaar area and the ARC in Nelspruit. Nelmak D was discovered in 1994 by Mr Danie Nel on his farm "Uitkyk" in the Nelspruit district. In the following year 600 trees propagated from this mother tree were planted at three different localities in the Nelspruit area. These plantings proved the selection to be superior and deserving of cultivar status.

### Leaves

Leaves are mostly arranged 3 per node. Sometimes 4 and even 5 leaves per node can be found. Leaves of Nelmak D are bigger than the leaves of the integrifolia varieties. They are less shiny and dark coloured. Leaf margins are wavy and spiny. The flush is light green with a brownish tint on new growth. Leaf length: 221 mm. Leaf width: 52 mm. Undulation on margin absent or very weak. Shape of apex: obtuse. Length of petiole: 9 mm. Serrations on margin: moderately expressed.

### Flower

The racemes are white coloured and very long (35 - 45 cm). No out-of-season flowering occurs. Flowering is less dense on the tree than A4 and tends to be hidden on the inside of the lower half of the tree which makes it less susceptible to damage from light hail. Thickness of main axis: 4,5 mm

### Fruit

A pronounced characteristic of Nelmak D is the good fruit set per raceme. The number of nuts per raceme ranges from 10 - 20. Thickness of pericarp: 3,6 mm. Mean fruit length: 55 mm. Mean fruit width: 35 mm. Fruit neck: absent. Apical point: 5 mm.

### Nut

Nuts are oblate with a length/width ratio of 0,95. Length: 27,1 mm. Width: 28,4 mm. The surface of the nut is rough with a dark brown colour and pale specks. The micropyle is closed. Thickness of shell: 2,3 - 3,7 mm. The weight of the nut is about 11 - 12 g.

### Kernel

The kernel averages about 34 % of the weight of the nut at 1,5 % moisture content. The oil content of the kernel is about 75 - 77 %. The main colour of the kernel is cream with medium discolouration of the distal part of the kernel. The weight of the kernel is about 3,5 g.

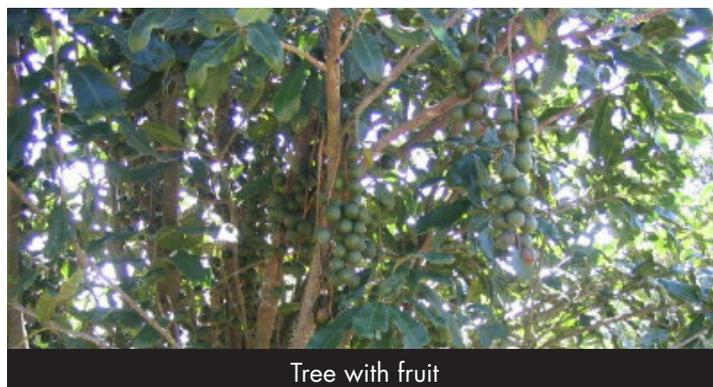
### Performance

Nelmak D is an excellent early producer and the following yields per tree have been recorded:

- 3 years: 0,5 - 2 kg/tree
- 4 years: 2,6 - 4,5 kg/tree
- 5 years: 8,7 - 13,5 kg/tree
- 6 years: 15 - 20 kg/tree



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Tree with fruit



Leaf shape



Fruit shape and size

## Nelmak D Macadamia

<b>Hybrid</b>	Natural hybrid derived from Nelmak 2
<b>Origin</b>	Uitkyk Farm, Nelspruit Mpumalanga, South Africa
<b>Ownership</b>	Mr. D Nel, Nelspruit Mpumalanga
<b>Selected</b>	1994
<b>PBR registration</b>	ZA 20022760
<b>Status</b>	Commercial

<b>Tree</b>	Semi-upright
<b>Canopy</b>	Medium density
<b>Vigour</b>	Strong
<b>Precocity</b>	Short 3 - 4 years
<b>Leaf No. Axis</b>	3,4 (10 %)
<b>Leaf Shape</b>	Broad, oblong
<b>Flower Colour</b>	White
<b>Flowering</b>	Mid - Late
<b>Duration</b>	Medium
<b>Raceme Density</b>	Medium dense
<b>Raceme Length</b>	Very long

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<b>Husk Thickness</b>	2,5 - 3,6 mm
<b>Nut Shape</b>	Oblate
<b>Nut Diameter</b>	25 - 30 mm
<b>Kernel Weight</b>	3,5 g
<b>Kernel %</b>	34 %
<b>Nuts/Raceme</b>	10 - 20
<b>Tree Characteristics</b>	Medium density semi-upright grower. Vigorous. Medium - short juvenile phase. Mid to late season fall.
<b>Adaptability</b>	Adaptable to cooler areas and higher altitudes.
<b>Nuts</b>	Nuts are oblate, dark brown with a rough surface. Nut diameter 25 - 30 mm, nut weight 11 - 12 g. The kernel is ovoid, cream-white and a mean weight of 3.5 g.
<b>Roasting Parameters</b>	Optimum roasting temperature is 121° C. 6,5 - 7 minutes at 128° C.
<b>Kernel Storage</b>	8 months
<b>Sound Kernel Recovery</b>	30 %. Grade 1 kernel > 95 %
<b>Tree Yield</b>	Year 3: 0,5 - 2 kg Year 4: 2,6 - 4,5 kg Year 5: 8,7 - 13,5 kg Year 6: 15 - 20 kg



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