

# Moti

## Desi Chickpea

### VARIETY SUMMARY

- Early flowering desi chickpea for central Queensland region
- Proven higher yield than Jimbour, Howzat and Amethyst in DPI&F trials between 1999 and 2006
- Tall and erect plant type with good lodging resistance, suited to dryland and irrigated production
- **Suitable for central Queensland only**



### BREEDING

Moti was bred by Dr Tanveer Khan of the Department of Agriculture and Food, Western Australia (DAFWA) from a cross made at NSW DPI, Tamworth. It was evaluated (as WACPE 2012 and 89-05.F5-4W) and developed jointly by the QLD DPI&F and DAFWA. Moti is a Hindu/Urdu word meaning 'pearl' in the variety's target market of the Indian Subcontinent, and also celebrates the pearl industry of Western Australia.



### AREA OF ADAPTATION

Moti has proven to be a top performer in the dryland and irrigated farming systems of Central Queensland (north of Theodore). It is well suited to the regions heavy clay and alluvial soils. Like all chickpea varieties, it is intolerant of waterlogging.

Table 1. Agronomic features

Variety	Days to flowering	Plant height (cm)	Lowest pod height (cm)	Lodging	Seed weight (g/100)
<b>Moti</b>	<b>61</b>	<b>69</b>	<b>36</b>	<b>2.5</b>	<b>20.7</b>
Jimbour	68	64	34	2.4	20.7
Howzat	64	59	31	3	21.1
Amethyst	67	59	33	2.3	16.6



### MATURITY

Moti is the earliest flowering chickpea variety that is commercially available in Australia. This characteristic makes it ideally suited to the short duration, hot Central Queensland winter where chickpea yield potential is limited by terminal drought. Moti typically commences flowering 7 - 12 days earlier than full-season varieties.



### PLANT CHARACTERISTICS

Moti has excellent plant height, lowest pod height and an erect growth habit which improves Harvestability in Central Queensland. Distinguishing characteristics are earlier flowering/pod set and high yield potential.



### QUALITY

Moti grain is similar to that of Jimbour and is suitable for overseas splitting and flour markets.



### DISEASE RESISTANCE

Moti has shown moderate resistance to botrytis grey mould in tests carried in Victoria. It is susceptible to ascochyta blight with disease reaction similar to Amethyst. However, it is less susceptible than the most susceptible chickpea varieties like Lasseter and Kaniva.

 **YIELD**

Moti has demonstrated a significant yield advantage over other cultivars. The sites listed in table 2 include a range of soil types, sowing dates and seasonal conditions ranging from extremely poor to very good.

Early plant situations may increase the risk of exposure to frosts at flowering and early podding. However, in DPI&F trials Moti has consistently out yielded other varieties from planting dates in early May through to late June.

**Table 2. Central Queensland grain yields for desi chickpea expressed as percentage (%) of Jimbour.**

Location	Biloela	Emerald	Gindie
Number of sites	11 Trials	10 Trials	5 Trials
Years conducted	1999 to 2006	2000 to 2006	2001 & 2002, 2005 & 2006
<b>Moti</b>	<b>108</b>	<b>106</b>	<b>113</b>
Jimbour	100	100	100
Howzat	97	95	99
Amethyst	97	105	100

Yield data from DPI&F trials 1999-2006

 **AGRONOMIC GUIDELINES****Sowing**

- The recommended sowing window is through May - June in central Queensland. Moti is particularly well suited to late season plantings due to its early flowering habit.
- Moti produces large seed that is equivalent in size to Jimbour.
- Growers should target an established dryland population of 30 plants/m<sup>2</sup>.

**Irrigation**

- Yields of up to 4 t/ha are achievable under irrigation production. Narrower rows will maximize yield potential and plant population should be increased to 35 - 40 plants/m<sup>2</sup>.

**Disease Management**

- Moti has **zero resistance to Ascochyta Blight** and should not be grown outside of Central Queensland.

**Weed control**

- Use of a post plant, pre-emergent herbicide for weed control is strongly recommended. Consult your agronomist regarding your weed spectrum and for details about re-cropping intervals.

**Insect Control**

- Heliothis (Helicoverpa) management in chickpea is critical. Crops should be checked for heliothis at regular intervals - once per week prior to flowering and at least twice per week after flowering commences.
- A range of registered insecticides are available - consult an agronomist for advice on which product best suits your situation (crop stage and potential, heliothis number and size, application method, withholding periods).

 **PLANT BREEDER RIGHTS AND ROYALTIES**

Moti is protected by Plant Breeder Rights, any unauthorised commercial propagation or any sale, conditioning, export, import or stocking of propagating material of this variety is an infringement under the Plant Breeder's Rights Act, 1994.

Growers are allowed to retain seed from production of this variety for their own use as seed only.

An End Point Royalty of \$2.75 per tonne (GST inclusive), which includes breeder royalties, applies to this variety.

**ACKNOWLEDGEMENTS**

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