Flipper$^{\Phi}$

Desi chickpea

VMP 2009 #02

KEY FEATURES

- Ascochyta resistance superior to Jimbour and Howzat and **MOST** crops should **NOT** require fungicide sprays for ascochyta control in a low to moderate pressure season.
- Missing an Ascochyta spray is unlikely to have serious consequences in any season.
- Moderate susceptibility to Phytophthora root rot.
- Tall plant type, similar to Jimbour with improved harvestability due to increased height of lowest pods and superior lodging resistance.
- Medium size, light coloured seed, well suited to the whole seed and/or splitting markets.

Varietal Description

Breeding and Development

Flipper$^{\Phi}$ (Formerly 93011-1021) was bred by I&I NSW plant breeder Ted Knights, supported by funding from GRDC.

Disease Reaction (Common Desi varieties)

Description	Ascochyta	Phytophthora Root Rot	Botrytis Grey Mould	Virus
Resistant	Genesis 509			
Moderately Resistant	**Flipper**	Yorker		Gully
Moderately Resistant to Moderately Susceptible	Yorker	**Flipper,** Jimbour, Kyabra, Moti#		**Flipper**
Moderately Susceptible		Howzat	Genesis 509, Howzat, Moti#	
Susceptible	Amethyst, Howzat, Jimbour, Kyabra	Amethyst, Genesis 509, Gully	Amethyst, **Flipper,** Jimbour, Kyabra, Yorker	Amethyst, Genesis 509, Howzat, Jimbour, Kyabra, Yorker
Very Susceptible	Gully, Moti#		Gully	

Note: These are provisional Pulse Breeding Australia national ratings.
They are for average disease pressure at the start of the season and average conditions for the disease during the season.
Ratings will vary with inoculum load and seasonal conditions.
Moti is not to be grown south of Theodore, Central Queensland.

Agronomic Features

Variety	Maturity score[1]	Plant height (cm)	Low pod height (cm)	Lodging[2]	Seed Weight (g/100)
Flipper	**6.0**	**63.0**	**37.0**	**1.6**	**18.1**
Yorker	5.7	59.0	31.4	1.6	21.3
Jimbour	4.9	63.2	35.1	1.7	19.7
Kyabra	5.0	66.1	36.4	1.6	24.3
Howzat	5.4	61.1	28.0	2.3	21.2

[1] 1 = very early harvest maturity, 9 = very late harvest maturity
[2] 1= fully erect, 9 = flat

Yield and Adaptation

Grow Flipper in the higher rainfall areas of NSW and adjacent Queensland border districts. If grown in southern Queensland its higher level of Ascochyta resistance needs to be balanced against its later maturity and reduced yield potential.
NOT recommended for Central or Coastal Queensland.

Grain yield (t/ha) in Northern NSW field trials 2004-2008 (number of trials in parentheses).

Variety	2004 NSW [1]		2008 NSW [2]		NSW [3]				
	Low ascochyta pressure	High ascochyta pressure	Low ascochyta pressure	High ascochyta pressure	2008	2007	2006	2005	2004
Flipper	**2.90**	**2.54**	**2.51**	**1.98**	**2.19 (6)**	**0.90 (11)**	**1.52 (11)**	**1.62 (12)**	**1.72 (14)**
Yorker	3.38	2.11	2.68	1.63	2.17 (6)	0.90 (11)	1.51 (11)	1.58 (12)	1.82 (14)
Jimbour	3.12	0.43	2.83	0.02	2.24 (6)	0.97 (11)	1.65 (11)	1.67 (12)	1.90 (12)
Kyabra	-	-	2.72	0.00	2.20 (6)	1.01 (11)	1.76 (6)	-	-
Howzat	3.15	0.62	-	-	-	-	1.65 (11)	1.69 (12)	1.83 (15)

[1] Yield data is from NSW DPI TAC04 trial 2004 inoculated with diseased chickpea residue.
[2] Yield data is from NSW DPI TAC08 trial 2008 inoculated with Ascochyta blight solution of 440,000 conidia/mL @ 100 L/ha
- Low Ascochyta pressure was fully protected with fungicide applications being made every 14 days.
- High Ascochyta pressure has no fungicide sprays for the life of the crop.

[3] Yield data is from NSW DPI stage 3 trials and Pulse Breeding Australia Nation Variety Trials, under low ascochyta pressure (No. of trials)

Management Package

(Consult local grower guides for more detailed information)

Follow the chickpea planting and management recommendations for your area with the following modifications:

Sowing Date and Seeding Rate

Flipper can be planted earlier (up to 10 days) in the planting window due to the combination of improved Ascochyta resistance, better standability and slightly later flowering (4 - 10 days). Earlier sowing will maximize yield potential.
Sow high quality seed at rates calculated to achieve 25 – 30 plants/m^2 establishment, typically 50 to 65 kg/ha depending upon planting conditions and seed quality.

Weed control

Follow strategies used for Jimbour, Howzat and other desi chickpeas.
Residual Herbicide use - **Do not apply if rain is imminent**. Maintain at least 7.5 – 10 cm soil coverage. Avoid leaving a furrow or depression above the seed that could allow water (and chemical) to concentrate around the seed/seedling. Avoid leaving an exposed, open slot over the seed with disc-openers and avoid a cloddy, rough tilth with tined-openers.

Disease management

Follow the seed, paddock selection and hygiene recommendations in the most current publication "Chickpea Disease Management Strategy – Northern Region'. Check the registration/permit status of any pesticide prior to use.

Ascochyta Blight

There is usually no cost benefit in applying a fungicide before Ascochyta is detected.

Effective monitoring is critical if this is to work. Monitor the crop 10-14 days after each rain event and when Ascochyta is detected, apply a fungicide prior to the next rain event.

Use 1 kg/ha of dry formulation product containing 750 g/kg mancozeb (or equivalent liquid) or 1.0L/ha of formulated product containing 720g/L chlorothalonil as per current APVMA Permit 11381.

Continue monitoring and spray again if weather and disease levels indicate Ascochyta is spreading.

In areas where there is a recent (previous season) history of high Ascochyta disease pressure or were effective monitoring or spray application timing may be compromised, a preventative fungicide spray before the first rain event after crop emergence, or three weeks after emergence or at the three branch stage of development (whichever occurs first) should be considered.

Botrytis Grey Mould (BGM)

As fungicide usage for Ascochyta is expected to be less with Flipper than Jimbour or Howzat, monitor for BGM in spring as temperatures and humidity rise. Apply a suitable fungicide as required containing either carbendazim or mancozeb. Fungicides used for ascochyta control may not necessarily be as effective as those that specifically target BGM.

Seed Commercialisation

Flipper$^{\phi}$ is protected by Plant Breeders Rights (PBR).
Growers can retain seed from their production of Flipper for their own seed use only.
Flipper is commercialised by AWB Seeds and is available through local seed suppliers.

Flipper$^{\phi}$
Seed Supply enquiries: AWB Seeds **Phone 1800 054 433**

Agronomic Enquiries

Ted Knights (I&I NSW)	phone: 02 6763 1179	email: ted.knights@dpi.nsw.gov.au
Kevin Moore (I&I NSW)	phone: 02 6763 1133	email: kevin.moore@dpi.nsw.gov.au
Jon Thelander (AWB Seeds)	phone: 07 4637 3070	email: jon.thelander@awb.com.au
Gordon Cumming (Pulse Australia)	phone: 0408 923 474	email: pulse.gordon@bigpond.com

This VMP has been jointly prepared by: Ted Knights and Kevin Moore (I&I NSW) and Gordon Cumming (Pulse Australia)

GRDC Grains Research & Development Corporation — PULSE AUSTRALIA — NSW GOVERNMENT Industry & Investment