



LongReach **Dakota** wheat



WHEAT

NEW SOUTH WALES

KEY FEATURES

- ▶ Consistent good yield potential in main season sowings
- ▶ Medium maturity, similar to Sunco in Northern NSW and Diamondbird in Southern New South Wales
- ▶ Australian Hard (AH) classification in all regions of NSW & Queensland
- ▶ Solid rust resistances which do not depend on VPM resistance genes
- ▶ Acid soil tolerant
- ▶ Resistant to CCN
- ▶ Strong straw with an upright upper leaf canopy



BREEDING

Pedigree: A complex multi-cross including Janz & Cook

Dakota (LPB-0780) was selected from early generation wheat germplasm bred by the Victorian Department of Primary Industries. Since 2002 further selection and testing has been conducted by the LongReach Plant Breeders technical team led by Dr Bertus Jacobs. Dakota has also been evaluated in GRDC NVT trials during 2005-2007.

OPTIMUM PLANTING TIMES AND REGIONS

Dakota has demonstrated good adaptation and yields in main season sowings in Northern and Southern NSW (See Table I). Dakota is suited to the medium to higher rainfall areas and has also performed well under irrigation. Molecular marker data suggests Dakota has a gene that confers acid soil tolerance, which supports the field performance of the variety under acid soil conditions, over the past 5 years.

TABLE I. DAKOTA OPTIMUM PLANTING TIMES

Region	Planting Times By Weeks															
	April				May				June				July			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
NSW North West Slopes					E	O	O	O	O	O	L					
NSW North West Plains					E	O	O	O	O	O	L					
NSW South West Slopes						E	O	O	O	O	L					
NSW South West Plains						E	O	O	O	O	L					

E = Earlier than ideal, but acceptable O = Optimum planting time L = Later than ideal, but acceptable



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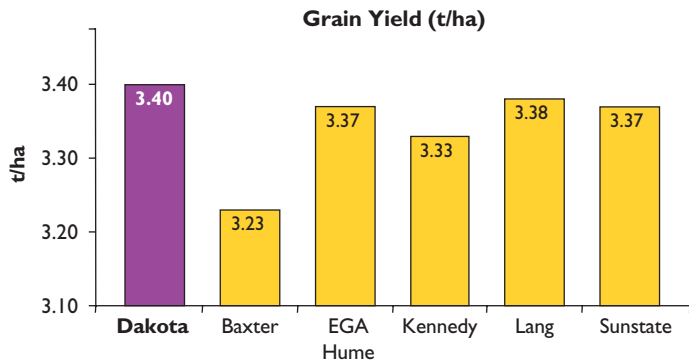




YIELD PERFORMANCE – NORTHERN NEW SOUTH WALES

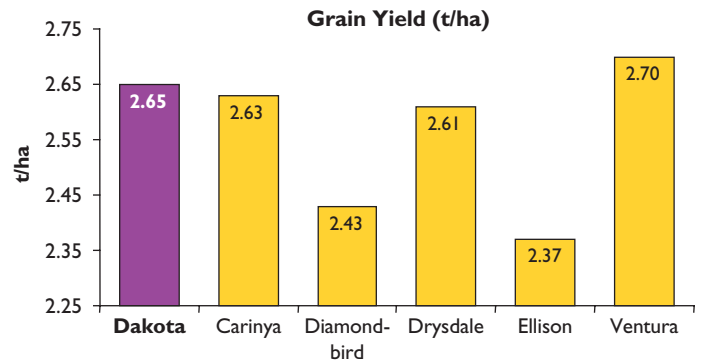
Dakota has out-yielded most comparable varieties in LPB and GRDC NVT trials in Northern NSW during 2004-2006. For these varieties with comparable yield potential, Dakota provides a superior package of disease resistances. (See Graph 1)

Dakota versus commercial varieties in Northern NSW trials**



**Data derived from LPB trials 2004-2006 and GRDC NVT trials 2005 & 2006.

Dakota versus commercial varieties in Southern NSW trials**



**Data derived from LPB trials 2003-2006 and GRDC NVT trials 2006.

YIELD PERFORMANCE – SOUTHERN NEW SOUTH WALES

Dakota has out-yielded most comparable varieties in trials in Southern NSW during 2003-2006 seasons. For those varieties with comparable yield potential, Dakota provides a superior package of rust, crown rot and nematode resistances. (See Table 2)

MATURITY

Dakota is a main season variety with maturity similar to Sunco in Northern NSW and Diamondbird in Southern NSW.

STRAW STRENGTH

Dakota has good straw strength and lodging resistance.

SHATTERING

Dakota is moderately resistant to shattering.

GRAIN QUALITY

Dakota has final classification of Australian Hard (AH) in all regions of NSW and Queensland. It has good physical grain characteristics and has been one of the best performed varieties in AWBI's North African market customer trials. Dakota is moderately resistant to Black Point, comparable with Sunco, based on preliminary data.



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DISEASE RESISTANCE - TABLE 2

Stem Rust: Moderately resistant

Stripe Rust: Moderately resistant to moderately susceptible

Leaf Rust: Moderately resistant to moderately susceptible

Dakota has a sound rust resistance package that does not rely on VPM.

Yellow Spot: Some resistance

Crown Rot: Moderately Susceptible to susceptible

PEST REACTIONS – TABLE 2

Dakota is resistant to Cereal Cyst Nematodes (CCN).

Table 2. Disease and Pest Resistance Ratings: Dakota and commercial varieties (NSW)								
Variety	Disease Ratings						Pest Ratings	
	Stem Rust	Leaf Rust	Stripe Rust	Stripe Rust	Crown Rot	Yellow Spot	Root Lesion Nematodes	Cereal Cyst Nematodes
			WA pt	WA+YR17			Pratylenchus thornei (<i>P.thornei</i>)	
	Res	Res	Res	Res	Res	Res	Tol	Res
Baxter	R-MR	R-MR	MS	MS	MR-MS	MS-S	T-MT	-
Carinya	R-MR	MR-MS	R	MR-MS*	MS-S	S	-	S
Dakota	MR	MR-MS	MR-MS	MR-MS	MS-S**	S	MI	R
Ellison	R-MR	R	R	MR-MS	S	R-MR	MI-I	-
EGA Hume	MR-MS	R	R	R	MS	S	MI-I	-
Kennedy	MR	MR-MS	MR-MS	MR-MS	MS	MR	MT	-
Lang	R	MS	MR-MS*	MR-MS*	MR-MS	MS	MI	
Sunbrook	R-MR	R	MR-MS	MR-MS	MR-MS	S	T-MT	-
Sunco	R	MS	MR-MS*	MR-MS*	MR	MS-S	MI-I	-
Sunstate	R-MR	R	R	MS	MS-S	MS-S	MT	-
Sunvale	R	MR	R	MR	MS	MS-S	T-MT	-
Ventura	R-MR	R-MR	R	MS*	MS	MS-S	MT	S

Resistance rating: VS = Very Susceptible (1) S-VS = Susceptible-Very Susceptible (2), S = Susceptible (3), MS-S = Moderately Susceptible - Susceptible (4), MS = Moderately Susceptible (5), MR-MS = Moderately Resistant - Moderately Susceptible (6), MR = Moderately Resistant (7), R-MR = Resistant - Moderately Resistant (8), R = Resistant (9).

Tol Rating - T (Tolerant) = 8-9, T-MT (Tolerant Moderately Tolerant) = 7, MT (Moderately Tolerant) = 6, MT-MI (Moderately Tolerant-Moderately Intolerant) = 5, MI (Moderately Intolerant) = 4, MI-I (Moderately Intolerant-Intolerant) = 3, I (Intolerant) = 2, VI (Very Intolerant) = 1.

Data provided by Australian Cereal Rust Control program December 2007, NSW DPI&F 2008, Qld DPI&F Feb 2008 and LPB 2008.

** Preliminary Data Based on limited data set

* These varieties can be expected to show more rusting in certain situations such as above average moisture, high fertility and early disease onset.



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END POINT ROYALTY (EPR)

Each time a grower purchases seed of Dakota, the grower agrees to comply with the Variety Licence and Royalty Agreement, including agreement to pay the EPR of \$2.42 per tonne (GST inclusive). EPR is payable on all grain production, except on seed retained by the grower for replanting by the grower. The majority of the EPR will be paid by Pacific Seeds to the Breeder (LongReach Plant Breeders) for investment in future wheat breeding programs.

SEED AVAILABILITY

Please contact one of the following Pacific Seeds Associates or your local seed supplier to place an order.

QUEENSLAND

Philp Brodie Grains
Toowoomba, QLD
Ph: 07 4690 6400

Woods Seeds
Goondiwindi, QLD
Ph: 07 4670 0400

NEW SOUTH WALES

Agrigrain
Narromine, NSW
Ph: 02 6889 2200

Auswest Seeds
Forbes, NSW
Ph: 02 6852 1500

Hart Bros. Seeds
Junee, NSW
Ph: 02 6924 7206

McGregor Gourlay Agricultural Services
Moree, NSW
Ph: 02 67573838

VICTORIA

Baker Seeds
Rutherglen, VIC
Ph: 02 6032 9484



ACKNOWLEDGEMENTS

Dakota was developed with the assistance of numerous independent professional contract service providers and public agency researchers. The support of farmer co-operators in all parts of the Australian wheat belt who have provided trial sites since 2001 is also acknowledged.

For other sales enquiries, please contact Pacific Seeds Distribution centre on 07 4690 2701

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