

Lang[®]

Milling Wheat

VARIETY SUMMARY

- Preferred APH quality wheat in QLD & NSW
- Golden Rewards—Premium Choice Variety (\$5/Tonne) QLD Central and Northern zones of NSW
- Intermediate maturity with similar adaptation to Sunco
- High yielding variety
- Good straw strength and coleoptile length
- Moderately resistant to crown rot and common root rot
- Good Blackpoint resistance



BREEDING

Lang was bred by JA Sheppard and PS Brennan for release by QDPI in 2000.

Pedigree: Lang (QT7029) has the pedigree: QT3765/Sunco.



SOIL TYPE

Lang is a broadly adapted variety that is suited to most areas of Queensland and New South Wales capable of achieving consistently high grain protein levels. Lang has also performed well in areas of southern NSW, Victoria, South Australia and Western Australia.



DISEASE AND PEST RESISTANCE

Lang has good crown rot resistance, common root rot resistance, and has shown partial resistance to blackpoint in field situations, similar to Sunco.

Table 1: Plant characteristics and disease resistance of Lang wheat in comparison to other main season sown varieties.

Variety	Rust Resistance			RLN Tolerance	Yellow Leaf Spot	Crown Rot	Common Root Rot	Blackpoint	Straw Strength	Maturity
	Stem	Leaf	Stripe							
Lang	R	MR-MS	MS-MS	MI	MS	MR-MS	MR	R-MR	MR-MS	M
Baxter	R-MR	R	MS	T-MT	MS-S	MR-MS	MR-MS	MR-MS	MS	M
Hartog	R-MR	R	MS	MT	MS	MS	MR-MS	MR-MS	MR	E-M
Sunco	R	MR-MS	MR-MS	MI	MS-S	MR-MS	MR	R-MR	MS-S	M

Plant and Disease Terms: T - Tolerant, MT - Moderately Tolerant, MI - Moderately Intolerant, VT - Very Tolerant, I - Intolerant, R - Resistant, MR - Moderately Resistant, MS - Moderately Susceptible, S - Susceptible, VS - Very Susceptible, H - High, M - Medium, L - Low, VL - Very Late, L - Late, M - Medium, E - Early, VE - Very Early



MATURITY

Lang is an intermediate maturing spring wheat of semi-dwarf habit, which comes into head two-three days earlier than Cunningham and approximately the same time as Sunco.



PLANT CHARACTERISTICS

Height of Lang is between that of Janz and Cunningham and the same as Sunco. Lang's lodging resistance is better than that of Sunco.



GRAIN QUALITY

Lang is a hard grained variety with high dough strength, a long mixing time and excellent baking qualities. The milling, physical dough, baking and noodle sheet colour properties of Lang are similar to those of Sunco. Note, Lang is a Premium Choice variety for AWBI.

Lang is considered suitable for Prime Hard classification in Queensland and northern and southern NSW. Lang is classified as Australian Hard (AH) in South Australia and Western Australia and of APW in Victoria.

YIELD

Lang has performed consistently well in trials and commercial plantings across Queensland and Northern NSW compared with other main varieties.

Table 2. Long term grain yield comparisons of Lang throughout the cropping regions of Queensland and Northern NSW. Predicted Yield averages from main season sowings are expressed as a percentage of Lang.

Variety	Southern QLD			Central QLD			NSW		
	Yield	% of Lang	no of sites	Yield	% of Lang	no of sites	Yield	% of Lang	no of sites
Lang	3.324	100.00%	(15)	3.926	100.00%	(10)	3.691	100.00%	(11)
Baxter	3.405	102.44%	(15)	4.053	103.23%	(10)	3.676	99.59%	(11)
Cunningham	3.190	95.97%	(15)	3.975	101.25%	(10)	3.678	99.65%	(11)
Janz	3.350	100.78%	(15)	4.013	102.21%	(10)	3.750	101.60%	(11)
Sunco	3.294	99.10%	(15)	3.850	98.06%	(10)	3.720	100.78%	(11)

Data source: Long term QDPI & NSW DPI yield data 2003-2007

AGRONOMIC GUIDELINES

Sowing

- Optimum seeding rates vary widely across regions. Sowing rates of 25-60 kg/ha should be used for the lower rainfall regions, whilst optimum rates of between 30-120 kg/ha can be used in the higher rainfall or irrigation zones. Aim to achieve plant densities of 75-120 plants/m². Lower densities are recommended in areas of less reliable rainfall.
- Seed treatments should be applied to the seed prior to sowing for the control of smuts and other diseases.
- Due to the variety's seed size we recommend using the formula to correctly determine seeding rate. Speed counts are supplied with newly purchased seed.

1000 Seed Weight (grams)	x	Target Plant Population	=	100	=	Establishment % x Germination %
.....	
= Your Seeding Rate.....kg/ha						

Nutrition

- Australian cereal crops often suffer as a result of inadequate nitrogen supply, but this can be addressed through the application of fertiliser N. The rate of application will depend on the amount of N already present in the soil and the anticipated level of uptake by the crop. Wheat yields of 2, 3 or 4 t/ha at 13% protein requires nitrogen to be available in soils at 90, 35 and 180 kg/ha respectively. Fertiliser is best applied to dryland crops prior to sowing to ensure adequate uptake, even in seasons of sparing in-crop rainfall.

- Phosphorus is of low to moderate availability in the majority of Australian soils used for cereal production, which means that fertiliser applications are necessary to replenish soil reserves. Generally, 3 kg of P is removed from the soil per tonne of grain produced, and this needs to be replenished to at least maintain yields. Quantitative replacement of P removed in grain is one strategy being applied to southern wheat crops, however lower rates of P (4-10kg/ha) appear to provide adequate P supply for most northern cereal soils. Fertiliser is best placed in a band close to the root zone at sowing.

Weed Control

- Controlling weeds in the early stages of crop growth and will remove competition and reduce yield loss. A wide range of pre and post-emergent herbicides are available. Lang has not shown any increased sensitivity or adverse reactions to commonly used herbicides to date.

PLANT BREEDER RIGHTS AND ROYALTIES

Lang 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 \$1.10 per tonne (GST inclusive), which includes breeder royalties, applies to this variety.

ACKNOWLEDGEMENTS

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