

Sentinel[®]

Milling Wheat

VARIETY SUMMARY

- Resistant to current field strains of stem, stripe and leaf rust.
- Mid to long season wheat.
- Acid soil tolerant.
- High and stable yield potential.
- Minimum ASW Classification in all states.



BREEDING

Sentinel is a product of CCBenoist' French spring wheat breeding program. It was selected in 1994 and progressed in their evaluations until 1999. Since 2001 it has been selected and evaluated across Australia by LongReach Plant Breeders, under licence from Syngenta Seeds. CCBenoist is now a wholly owned subsidiary of Syngenta Seeds.

The line was initially evaluated by LongReach, and entered in agronomy and CVT trials in NSW, SA, Victoria and WA under the code W29. In 2003 it was recoded to LR1075 and has been tested in CVT, NVT and private trials since then under that code.



DISEASE RESISTANCE

Table 1: Disease and Pest Resistances of Sentinel compared to several other commonly grown varieties.

Variety	Rust Resistance			Yellow Leaf Spot	CCN	Root Lesion Nematode	Crown Rot	Black Point
	Stem	Stripe	Leaf					
Sentinel	R	R-MR	R	MR-MS	S	MT	MS*	R
Kellalac	S	MR/MS	S	S	MR	MT / S		
Mitre	R	MS-S	MS	S	R	S	S	S / VS
Chara	MR	MS-S	MS	MS-S	R	MT	MS	MS
Marombi	R	R-MR	R	S	S			T

* Limited Data available - official score pending

Disease terms: R – Resistant, MR – Moderately Resistant, MS – Moderately Susceptible, S – Susceptible, VS – Very Susceptible, VT – Very Tolerant, T – Tolerant, MT – Moderately Tolerant, MI – Moderately Intolerant, I – Intolerant, VI – Very Intolerant. **Rust Ratings:** Stripe Rust ratings apply only to adult plant resistance. In addition, the stripe and leaf rust resistances of Sentinel to the current field strains are such that no yield response should be expected from fungicide application.



AREA OF ADAPTATION

Sentinel is suited to production in the following zones;

- North Eastern & South West Victoria
- Southern slopes NSW
- South East South Australia

Seeded at the correct time, Sentinel has also performed well in limited evaluations in South West Western Australia, Northern NSW and under irrigation in the Riverina.



PLANT CHARACTERISTICS / GRAIN QUALITY

Sentinel has excellent lodging and shattering resistance, and is a medium height plant at maturity.

The AWBI Classification Panel classified Sentinel as ASW in all states in October 2004.

It typically achieves low screenings, high test-weights, good grain proteins and high falling numbers.

Sentinel is free of Late Maturing Alpha - Amylase (LMA).

Sentinel has equivalent pre-harvest sprouting resistance to Janz which is rated susceptible.

YIELD

Table 2 : Sentinel has demonstrated a high and stable yield potential within the higher rainfall cropping zones in; North Eastern & South West Victoria, Southern Slopes NSW and South East South Australia.

Variety	2004		2003		2001	
	%SMY	No. Trials	%SMY	No. Trials	%SMY	No. Trials
SNSW* Sentinel	115	10	111.5	4	101.5	2
Diamondbird	100	10	87.75	4	98.95	2
VIC Sentinel	103***	2	104**	4**	--	--
Kellalac	80***	2	100**	4**	--	--

Further yield results are available from www.longreachplantbreeders.com.au

Note: SMY = Site Mean Yield

* AgriTech Trials

** Long Season CVT trials

*** Grainsearch Trials - Nil Treatment

AGRONOMIC GUIDELINES

SOWING

- Sentinel generally performs best when planted in early - mid May in mid-long season environments.
- Sowing rates will vary with region and date of sowing, please refer to your local DPI sowing guide or respective agronomist.
- Aim to achieve plant densities of 150-200 plants/m² for high rainfall zones.
- To accurately determine the correct sowing rate to obtain optimum plant density, use the seed counts provided with your seed purchase to complete the table below to calculate a kg/ha rate.

1000 Seed Weight (grams)	x	Target Plant Population	÷	100	÷	Establishment % x Germination %
.....	

= Your Seeding Rate.....kg/ha

NUTRITION

- In order to supply the correct balance of nutrients to the crop there must first be an understanding of the current soil nutrient status.
- Sentinel is intolerant to high levels of Boron.
- Additional nitrogen requirement will vary with required protein and yield and will decline as soil organic carbon levels increase. However as a rule of thumb 1t of wheat grain @ 10% protein will require 10kg N/ha.
- Phosphorus is essential at sowing to ensure root development and plant establishment. Required additional phosphorus will vary with soil type and residual P levels. As a rule of thumb 1t of wheat grain will require 5kg P/ha.
- Zinc may also be beneficial in heavy clay or highly alkaline soils and when Sulfonyl Urea herbicides are used pre-emergent.

WEED CONTROL

- Controlling weeds in the early stages is essential to minimise competition with the crop and potential yield loss.
- Sentinel has not displayed any sensitivity to any commonly applied pre or post emergent pesticides.
- Coleoptile length is short and caution is recommended for seed dressings and pre-emergent pesticides which warn of harm to coleoptiles.

ROYALTIES

Sentinel is protected by Plant Breeders Rights (Part I), 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 Right 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 \$1.98 per tonne (GST inclusive), which includes breeder royalties, applies to this variety.

ACKNOWLEDGMENTS

LongReach Plant Breeders acknowledges the assistance of Sydney University Plant Breeding Institute Cobbity with the screening and development of Sentinel and the support of farmer co-operators in all parts of the Australian wheat belt who have provided trial sites since 2001.



For more information call **AWB Growers Service Centre** on **1800 054 433**
or visit **www.awbseeds.com.au**

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