

Preston

High Rainfall Zone Wheat

VARIETY SUMMARY

- Broadly adapted mid to long season maturity
- High and stable yield potential
- Excellent resistance to Stripe and Leaf rust
- Preston does not have an official milling classification but can produce white milling standard grain

BREEDING

Bred and selected for performance in New Zealand under high disease pressures in a high rainfall district by Plant and Food Research New Zealand (PFRNZ).

Preston was selected and identified in Australia by Drs Richard Richards and Garry Rosewarne. It was first trialled and evaluated in Australia by HRZ Wheats P/L in 2003. The pedigree is "Brimstone*2/

Hartog //3424.11.04.1". Brimstone is a high yielding English bread wheat, Hartog a Mexican derived line common in many Australian wheats and 3424.11.04.1 is an accession common in the parentage of many NZ Crop and Food lines. Preston has been released in NZ under the name Tribute.

The line has undergone breeders' field testing in 2004, 2005, 2007 and 2008, and also entered into the NVT program in 2008 across the high rainfall zones of southern NSW, south west VIC, south east SA and Ag

DISEASE RESISTANCE

Being bred in New Zealand, Preston has good resistance to a range of foliar fungal diseases. It has excellent resistance to leaf rust and stripe rust based on durable Adult Plant Resistance (APR) genes. It is rated MS-S for Stem rust so care should be taken for this disease if Preston is grown in regions of northern NSW or very long season environments such as Tasmania.

VIC DPI Cereal Disease Guide 2010

Variety	Stripe rust		Leaf rust	Stem rust	Septoria tritici	Yellow leaf spot	CCN	Crown rot
	Jackie type	WA+Yr 17						
Preston	R-MR	R-MR	R	MS-S	MR	S*	S	MS-S*
Kellalac	MR-MS	MR-MS	S-VS	MS-S	MS-S	S	MR	-
Bolac	R-MR	R-MR	MS	MR	MS	MS-S	S	S
EGA Wedgetail	MR-MS	MR-MS	MS	MR-MS	MR-MS	MS-S	S	S
Yitpi	MR-MS	MR-MS	MS	S	MS	S-VS	MR	S
EGA Gregory	MR	MR	R	MR	MR-MS*	S	S	S
Wyalkatchem	MS-S	MS-S	R	MS	MR	MR	S	S

*These ratings are less reliable

AREA OF ADAPTATION

Preston has broad adaptation and has performed well in High Rainfall Zone (HRZ) trials in NSW, Victoria, South Australia and Western Australia.

MATURITY

Preston is mid-late season maturity. Ideal sowing times are early to mid May in southwest Victoria and southeast South Australia and early May in southern NSW and southwest WA.

PLANT CHARACTERISTICS

Preston has a unique appearance with an upright growth habit and bluish leaves in the later growth stages. It has very good resistance to Stripe and Leaf rust with its defence mechanisms quite visual with the expression of white flecking in the leaf when disease pressure is high.

Preston also appears to have a longer flowering and maturity period than current wheat varieties giving it a potential advantage in frost damage situations and it is also significantly shorter height than many current varieties providing additional benefits to farmers with stubble retention systems.

 **YIELD**

Preston routinely outperforms all checks in a range of HRZ environments.

2009 NVT Results

South West WA		South West VIC		Sth NSW Early sown	
Mt Barker NVT % site mean		Average 3 sites % site mean		Average 5 sites % site mean	
Preston	104	Preston	121	Preston	122
Wyalkatchem	84	Kellalac	86	Sentinel	117
Calingiri	106	Bolac	102	EGA Gregory	117

Long term Breeder Trials

1. South West WA		2. South East SA & South West VIC		3. South East NSW	
Average 2004,05,07 & 08 % site mean		Average 2004,05,07 & 08 % site mean		Average 2004,05 & 08 % site mean	
Variety	Trials with site mean > 3.5T/ha (6) Mean 5.32 t/ha	Variety	Trials with site mean > 4.0T/ha (9) Mean 5.29 t/ha	Variety	Trials with site mean > 4.0T/ha (6) Mean 4.96 t/ha
Preston	122	Preston	130	Preston	117
Calingiri	115	Yitpi*	113	Sunvale^	101
Bonnie Rock*	111	Chara	100	Janz*	84
Westonia	112	Kelalac	99	Chara	97
Wyalkatchem*	114	Janz*	96	Drysdale*	78

Source: CSIRO *No trials in 2004 ^No trials in 2005

 **GRAIN QUALITY**

Preston wheat produces milling standard grain but has not been given a classification due to the risk that it can express Late Maturity Alpha Amylase (LMA).

Growers are encouraged to obtain a Falling Numbers test for their Preston grain and market it outside the main bulk handling system to maximise price opportunities.

 **PLANT BREEDER RIGHTS AND ROYALTIES**

Preston 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.

Preston wheat has an End Point Royalty of \$2.42 per tonne (GST inclusive), which includes breeder royalties.

**ACKNOWLEDGEMENTS**

Preston was developed by the joint venture between CSIRO, GRDC and Crop & Food Research NZ known as HRZ WHEATS Pty Ltd.

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