

MACE ^{PBR}

wheat



Key Features

- Wyalkatchem type with improved grain yield and stem rust resistance
- Very high grain yield across South Australia
- Excellent stem and leaf rust resistance, but variable stripe rust resistance
- Tolerant of boron toxicity
- AH classification in South Australia

Plant Characteristics

Mace is a fully awned spring wheat of moderate height, a little taller (+10%) than Wyalkatchem, similar to Gladius. Mace's maturity is similar to Wyalkatchem.

Adaption and Yield

Mace has shown very similar adaptation to Wyalkatchem and is therefore likely to be a good option in areas where Wyalkatchem has been successful. In AGT trials, Mace has yielded an average 6% higher than Wyalkatchem at non stripe rust affected sites in South Australia from 2005-2008 (Table 2). Mace was tested in the National Variety Trials in 2009, and predicted long term yields from this data set also shows that Mace has a yield advantage over Wyalkatchem (Table 1).

Grain Quality

Mace has received a final quality classification of AH in SA, WA and Victoria. Mace produces large grain with low screenings losses, similar to Wyalkatchem. Preliminary data suggests that Mace is equal to, or better than Wyalkatchem for sprouting tolerance.

Disease Profile

Mace is moderately susceptible to susceptible to the WA+Yr17 stripe rust race; and therefore vigilant monitoring of Mace crops will need to be carried out by growers, as well as the application of appropriate fungicides aimed at preventing infection by this stripe rust race. However, Mace offers high levels of resistance to leaf and stem rust (including the Wyalkatchem attacking stem rust race), and the WA and WA+Jackie stripe rust pathotypes. Mace shows good resistance to root lesion nematode and *Septoria tritici* blotch, as well as intermediate levels of resistance to CCN infection and yellow leaf spot. See Table 3 for detailed disease ratings.

Breeding

Mace was tested as RAC1372, and is derived from a cross involving Wyalkatchem as the major parent, and Stylet (a very high yielding Spear type) as the minor parent. Progeny from this cross were selected for high grain yield, rust resistance and improved quality.

fact sheet for South Australia



S E E D S F O R S U C C E S S

Table 1. Predicted yields of Mace and control varieties (yield % of Wyalkatchem) in SA regions from NVT long term MET analysis (2000-2009).

Variety	Upper EP	Lower EP	Yorke Pen.	Mid North	Mallee	South East
Mace	100	100	103	103	102	105
Axe	97	95	96	99	104	97
Catalina	94	94	95	96	98	97
Correll	100	97	99	99	103	100
Derrimut	96	98	100	100	101	101
Espada	102	100	102	101	104	104
Frame	90	88	91	92	93	93
Gladius	102	99	103	102	106	103
Guardian	98	98	100	100	98	103
Peake	97	97	98	99	102	100
Wyalkatchem	100	100	100	100	100	100
Yitpi	97	93	97	96	100	99

Table 2. Regional mean yield of Mace and control varieties (% of site mean) in AGT trials.

Variety	EP '05-'08	Yorke Pen '06-'08	Mid North '05-'08	Mallee* '05-'08
Mace	128	115	118	111
Frame	93	99	99	101
Janz	85	103	96	100
Wyalkatchem	113	113	112	101
Yitpi	103	114	102	103
Sites	5	3	9	9
Mean Yield t/ha	1.09	2.23	2.22	1.12

* Victorian Murray Mallee sites have been included in this data set.

Table 3. Disease ratings for Mace and control varieties.

Variety	Stem Rust	Stripe Rust WA Pathotype	Stripe Rust WA Yr17 Pathotype	Leaf Rust	CCN	Yellow Leaf Spot	Septoria tritici Blotch	Black Point	RLN (<i>Prat. neglectus</i>)
Mace	MR	R-MR	S-VS	R	MR-MS	MR-MS	MR	MS	MR-MS
Axe	MS	R-MR	R-MR	MR	S	S	S-VS	MS-S	MS
Catalina	MR-MS	MS	MS	R-MR	R	MS-S	MS	S	MS
Correll	MR-MS	MR-MS	MR-MS	MS	MR	S-VS	MR-MS	MS	S
Derrimut	MR	R	MS	R	R	MS-S	MS-S	S	S
Espada	R-MR	R	MR-MS	R-MR	MS	MR-MS	S	MS	MS
Frame	MS	MR-MS	MR-MS	MS	MR	S-VS	MS	MS	MS-S
Gladius	MR	R	MR-MS	MS	MS	MS	MS-S	MR-MS	MS-S
Guardian	R-MR	MS	MS	MS	R	S	MS-S	-	MS-S
Peake	MR-MS	MR-MS	MR-MS	R	R	MS-S	S	MS-S	S
Wyalkatchem	MS	S	S	R	S	MR	MR	MS	MR-MS
Yitpi	S	MR-MS	MR-MS	MS	MR	S-VS	MS	MS	MS-S

R = Resistant, MR = Moderately Resistant, MS = Moderately Susceptible, S = Susceptible, VS = Very Susceptible, - = Insufficient Data. Source: SARDI Cereal Variety Disease Guide 2010.

Seed Availability

Commercial quantities of Mace will be available for 2010 through:

Modra Seeds

Ungarra SA: (08)8688 8094



Plant Breeders Rights

Mace is protected by PBR and all production (except seed saved for planting) is liable to an End Point Royalty (EPR), which funds future plant breeding. Mace growers will be subject to a Growers Licence Agreement that acknowledges that an EPR of \$3.00/tonne plus GST has to be paid on all production other than seed saved for planting.

Acknowledgements

Mace was bred and selected by AGT's Roseworthy Campus wheat breeding program led by current wheat breeder Haydn Kuchel, and previous wheat breeder Steve Jefferies. The name Mace continues in the tradition of naming wheats bred at Roseworthy Campus after bladed weapons.

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