



SEEDS FOR SUCCESS

Key Features

- Very wide adaptation
- High relative yield from very low yield potential through to high yield potential areas
- Mid season maturity
- Good stem rust resistance
- Boron toxicity tolerance
- Good robust grain size

Synonym: Gladius was tested as RAC1262

Plant Characteristics

Gladius is a mid season maturing fully awned spring wheat variety. Gladius is moderate to moderately short in plant height under medium to high rainfall conditions but under drought stress it is relatively tall in comparison to most other varieties. Gladius has an ability to maintain plant height under drought stress. Gladius produces broad erect leaves with a heavy wax cover after exposure to high temperature and/or drought stress.

Grain Yield and Adaptation

Gladius has been tested for two years in National Variety Trials (NVT). Table 1 presents the mean yield of Gladius and control varieties in South Australian NVTs in two very different years (not including South East – low trial number). The excellent performance of Gladius in both years highlights its broad adaptation.

Table 1. Mean yield of Gladius and control varieties in SA NVTs 2005 and 2006.

	Upper Eyre Peninsula		Lower Eyre Peninsula		York Peninsula		Mid North		Murray Mallee	
	'05	'06	'05	'06	'05	'06	'05	'06	'05	'06
AGT-SCYTHE	87	115	94	102	87	113	97	100	84	98
CORRELL	92	115	95	106	94	102	104	99	99	98
Frame	100	91	98	90	93	93	94	91	97	90
GLADIUS	92	127	95	113	106	107	114	105	106	108
PUGSLEY	101	95	105	96	111	98	113	98	105	82
Wyalkatchem	88	115	92	110	93	107	92	107	82	100
Yitpi	100	100	100	100	100	100	100	100	100	100
YOUNG	97	129	91	110	96	97	102	110	90	101
<i>Mean Yield</i>	1.35	0.39	3.68	1.81	3.20	1.58	4.17	1.95	2.04	0.92
<i>Number of Sites</i>	7	5	3	3	3	3	4	3	6	4

Disease Resistance

Gladius is rated moderately resistant to current races of stem rust, moderately resistant to current races of stripe rust (subject to field assessment against new race in 2007), and moderately susceptible to the VPM attacking leaf rust race (Table 2). Gladius is moderately susceptible to yellow leaf spot, CCN, and root lesion nematode (*P. neglectus*) and is susceptible to very susceptible to septoria tritici and crown rot.

	Stem Rust	Stripe Rust	Leaf Rust	CCN	Yellow Leaf Spot	Septoria tritici
AGT-SCYTHE	7	4	4	3	3	4
CORRELL	7	6	5	7	2	6
Frame	5	6	5	7	2	5
GLADIUS	7	8#	5	5	5	2
PUGSLEY	4	8#-4*	5	5	3	5
Wyalkatchem	5	4	7	3	7	6
Yitpi	2	6	5	7	2	5
YOUNG	7	7#-5*	6	9	6	5

1 = VS
2 = S-VS
3 = S
4 = MS-S
5 = MS
6 = MR-MS
7 = MR
8 = MR-R
9 = R

Notes:

* reaction to the VPM attacking race of stripe rust

unknown reaction to new (2006) stripe rust race (WA race with VPM virulence). To be assessed in 2007.

Grain Quality

The AWB quality classification process will be completed in early March 2007. At this time Gladius has received a preliminary APW classification. Gladius produces large grain with low screenings losses (similar or slightly better than Yitpi) and tends to maintain relatively large grain size under drought stress. Due to the shape of the grain, Gladius produces moderate test weights, slightly lower than Yitpi. Gladius has good levels of tolerance to blackpoint.

Breeding

Gladius was selected from a complex cross involving elite breeding line RAC875, Excalibur, Kukri, Krichauff and possibly a Trident derivative. All early generation grain yield selection was undertaken under drought stressed conditions in South Australia. The variety came from a collaborative project partly funded by the SA Grains Industry Trust and the SA Premier's Drought Relief Fund. The project involved AGT's Roseworthy Campus wheat breeding team led by current senior wheat breeder Haydn Kuchel and previous wheat breeders Steve Jefferies and Gil Hollamby in collaboration with Neil Howes, formerly with SARDI.

Plant Breeders Rights

Gladius is protected by PBR and all production (except seed saved for planting) is liable to an End Point Royalty (EPR) which funds future wheat breeding. Gladius growers will be subject to a Growers License Agreement that acknowledges an EPR of \$2.50/tn plus GST has to be paid on all production other than seed saved for planting.

How to Order and Further Details

Further details on commercialisation of Gladius will be made available by end of February 2007. *For any other details please see www.ausgraintech.com*

Disclaimer

The information contained in this brochure is based on knowledge and understanding at the time of writing (29/1/2007) and will be subject to change based on new information, race changes and other specific local conditions.