



WILLIAMS

OATS



350mm+



4.5-8.0



Most Soil Types



\$2.30/t



\$2.00/t



PBR

KEY FEATURES

- Early maturing, mid-tall oat
- Flowers slightly earlier than Carrolup and 7-10 days earlier than Kojonup
- Highest yielding milling oat variety across NVT trials in Australia
- 23% higher yielding than Carrolup & 13% higher than Wandering (mean % for WA zones)
- Preferred milling variety
- Export Hay Approved
- Improved disease resistance package
- Good straw strength and standability

DESCRIPTION

Williams is a mid tall, high yielding line adapted to Western Australia. It flowers slightly earlier than Carrolup and about a week to 10 days earlier than Kojonup. Williams is moderately resistant to stem rust and resistant to leaf rust in WA. It also has improved septoria resistance compared to Carrolup and Wandering. Williams is a potential milling variety. Hectolitre weight is similar to Kojonup and slightly lower than Carrolup. Screenings are similar to Carrolup and groat percent slightly lower than Carrolup and Mitika.



DISEASE RESISTANCE / TOLERANCE

	Western Australia			
Variety	Stem rust ¹ Field	Leaf rust ¹ Field	BYDV ² Field	Spetoria ¹ Field
Williams (tall)	MR	R	MR-MS	MS

¹ Disease reactions from field trials conducted in WA where R= resistant, MR=moderately resistant, MS=moderately susceptible, S= susceptible, VS=very susceptible. Rust reactions may vary in different regions depending on the prevailing pathotypes.

VARIETY MANAGEMENT / AGRONOMY

Williams should be treated in a similar way to other milling and feed oats except where reference has been made to specific issues in this brochure. Annual rainfall - suitable for low (350mm) to medium (800mm) annual rainfall areas. Areas of adaptation – Williams has performed well in all rainfall locations where cereal cyst nematode and stem nematode are not a problem. It is a potential milling variety and can be used as feed oats in all WA AgZones. Williams has consistent high yields and improved stem and leaf rust resistance.

SOWING RATE

A formula can be initiated to calculate sowing rates – taking into account target plant density, germination percentage, seed size and establishment rates.

Example

1000 seed weight in grams = 30
 Target plant population / sq metre = 140
 Establishment % = 80
 Germination % = 90
 Sowing Rate = $30 \times 140 / 100 / (0.8 \times 0.9)$
 Sowing Rate = 58 kg/ha

PERFORMANCE

Long term average Oat yields (t/ha) for WA in all Ag zones from 2007 to 2013.

Variety	Ag Zone 2	Ag Zone 3	Ag Zone 6
Williams	3.461 (36)	4.056 (37)	4.858 (7)
Bannister	3.418 (43)	3.857 (45)	4.902 (9)
Carrolup (tall)	3.051 (50)	3.283 (51)	3.770 (10)
Kojonup	3.167 (50)	3.526 (51)	4.705 (10)
Mitika	3.160 (50)	3.447 (51)	4.506 (10)
Wandering	3.429 (50)	3.530 (51)	4.397 (10)

Data courtesy National Oat Breeding Program, NVT Programs in SA, Vic and NSW and CVT Program in WA. Analysis by SAGI.

Average physical & chemical grain quality (measured using NIR) characteristics for 6 oat varieties (combined SA, Vic, WA & NSW data), 2005 to 2011.

Variety	Hectolitre weight kg/hl	1000 grain weight g	Screenings %<2 mm	NIR Protein %	NIR Oil %	NIR Groat %
Williams	48.1	30.4	16.1	11.1	6.8	71.7
Bannister	48.8	31.6	12.0	10.8	7.3	72.8
Carrolup (tall)	50.8	31.8	16.7	12.7	5.8	73.4
Kojonup	48.2	31.8	11.8	12.7	5.8	75.9
Mitika	49.9	33.8	8.7	12.4	6.6	73.8
Wandering	47.8	30.9	14.6	12.0	6.3	71.9
No. Trials	70	44	29	65	59	57

Data courtesy National Oat Breeding program and analysis by Chris Lisle, SAGI.

Average hay yield (t/ha) for 7 oat varieties in 9 years averaged for 3 states.

Variety	2005	2006	2007	2008	2009	2010	2011	2012	2013
Williams	9.8	4.9	7.4	6.9	9.7	8.5	10.7	9.2	9.2
Bannister	9.8	4.8	7.4	7.0	9.6	8.3	10.5	9.3	9.9
Brusher	10.4	5.3	7.7	7.5	10.1	8.8	11.2	9.3	9.6
Carrolup	9.4	5.3	7.3	6.7	9.5	8.6	10.5	9	9.5
Wandering	9.2	5.3	7.2	6.4	9.4	8.7	10.4	9.4	9.5
Winjardie	9.9	5.1	7.5	7.0	9.8	8.5	10.7	9.1	9.6
Wintaroo	11.5	5.3	8.5	7.7	10.9	9.0	11.5	9.7	10.3
No. sites	7	6	6	5	8	5	8	8	8

Data courtesy National Oat Breeding program and analysis by Chris Lisle, SAGI.

Average hay quality for 7 oat varieties in 3 states during the period 2005 to 2011.

Variety	Digestibility (%dm)	WSC* (%dm)	ADF* (%dm)	NDF* (%dm)	Metabolisable Energy (MJ/kg DM)	Crude Protein (%dm)
Williams	63.9	24.4	30.6	50.8	9.2	9.2
Bannister	65.2	25.9	29.5	49.2	9.4	8.7
Brusher	65.0	27.8	30.4	49.1	9.4	8.4
Carrolup	63.1	26.9	31.0	49.5	9.1	8.5
Wandering	65.4	25.7	29.7	48.9	9.5	9.1
Winjardie	64.2	25.8	31.0	50.5	9.3	8.5
Wintaroo	63.0	25.3	32.2	50.9	9.0	8.2
No. Sites	39	39	39	39	40	37

Data courtesy National Oat Breeding program and analysis by Chris Lisle, SAGI.

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