



Oats pulls through a season like no other in 2015

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The 2015 season was like no other growing season. The SARDI National Oat Breeding Program will remember 2015 with a sense of sadness due to the loss of lives, property and trial sites suffered by our co-operator families in the Pinery fires.

These fires also significantly affected the yield of our trial sites at Turretfield and Riverton which, although not lost to the fires, suffered significant loss from shattering and lodging with the strong, hot winds on that day. Yield at all trial sites was also affected by the dry June.

Once again oat variety performance was very site specific in 2015. Mitika was the highest yielding variety at Paskeville and Kybybolite for the second year running. Unlike 2014, Mitika did not perform as well at Crystal Brook with Wandering yielding the highest at this location by a long way. Bannister did well at Turretfield and Kybybolite and Williams topped the yield for Riverton. Wandering was a consistent performer yielding the highest at Paskeville, Crystal Brook, Bordertown, Frances and Waikerie. Bannister and Potoroo were the only two varieties to yield above the site average at all locations. Conditions at harvest also meant that the two tall varieties Carrolup and Yallara performed well below their long term yields.

The Mid North sites Crystal Brook, Turretfield and Riverton all yielded close to the long term average for the region as did Kybybolite in the South East. Sites at Paskeville, Bordertown, Frances and Waikerie were all well below the average for their respective region.

Long term yield results would suggest that Bannister is the variety of choice when sowing in any region of South Australia.



Sue Hoppo

While this Western Australian bred variety is more suited to Southern Australia than other varieties, grain quality can be an issue. The same can be said for the other WA bred variety Williams. In 2015, this was again the case with Bannister and Williams both averaging more than four times the screenings percentage of Mitika. All of the newer SA bred varieties Dunnart, Mitika, Possum and Yallara all averaged less than 5% screenings, with Wombat and even Echidna averaging

less than 10% while Bannister and Williams averaged over 10%. Hectolitre weight can also be an issue but in 2015 the hectolitre weight of Bannister was comparable to Mitika, Possum and Wombat. Williams was lower and similar to Dunnart. Grain size for Bannister is better than Williams but still lower than Mitika. The same can be said for groat percent with Yallara being the premium quality oat while the dwarf varieties Mitika, Possum and Wombat are all good.

Factors such as grain quality, disease resistance and maturity as well as grain yield should be considered before selecting the variety best suited to your district and end use. The sowing guide published each year in October/November or available on the SARDI component of the new PIRSA website www.pir.sa.gov.au/research provides comprehensive notes on each variety and is your best guide to choosing oat varieties for both grain and hay production. ■

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Oats

SA Oat Variety Yield Performance: 2015 and long term (2011-2015), expressed as a % of site average and as t/ha								
Variety	2015							
	Yorke Pen. Paskeville	Mid North*			South East			Murray Mallee Waikerie
	Crystal Brook	Turretfield	Riverton	Bordertown	Frances	Kyby-bolite		
Bannister	109	102	112	117	102	101	106	125
Carrolup	63	92	79	69	86	99	89	-
Dunnart	96	101	92	88	103	101	100	91
Echidna	101	101	111	115	93	101	96	95
Kojonup	93	93	110	119	82	97	98	95
Mitika	122	97	109	105	113	99	106	112
Possum	109	96	102	94	110	99	104	84
Potoroo	111	109	108	114	104	103	102	136
Wandering	121	124	101	98	126	109	102	153
Williams	98	97	106	120	87	98	103	143
Wombat	90	95	104	106	89	99	99	80
Yallara	86	93	65	56	103	96	96	79
Site Mean (t/ha)	1.93	3.13	2.91	3.55	1.48	2.50	3.42	0.69
Date sown	14 May	13 May	1-Jun	18-May	25 May	26 May	27-May	1 May
Soil type	LS/CFS	CL/LC	CL	CL	red C	brown C	SL	SL
J-M / A-O rain mm	34/212	50/244	64/262	57/329	48/229	45/245	61/228	30/157
pH (water)	7.2	7.1	7.7	6.8	6.9	6.9	6	8.7
previous crop	lentils	wheat	pasture	beans	canola	pasture	pasture	wheat
Stress factors	dl	dl,N	de,w	de,w	de,dl	de,dl	de, dl	dl,f

* 2015 Pinery trial lost to bushfire

SA Oat Variety Yield Performance: Long Term average grain yield across sites within regions (2011-2015) as % site average and number of trials												
Variety	Yorke Pen.		Mid North		South East		Murray Mallee		Lower EP		Upper EP	
	%sites av.	# trials	%sites av.	# trials	%sites av.	# trials	%sites av.	# trials	%sites av.	# trials	%sites av.	# trials
Bannister	137	5	130	18	117	15	179	5	156	3	112	3
Carrolup	109	5	105	18	102	15	109	5	108	3	106	3
Dunnart	121	5	117	18	111	15	167	5	131	3	104	3
Echidna	128	5	113	18	105	15	155	5	128	3	99	3
Euro	108	5	107	18	104	15	138	5	119	3	99	3
Kojonup	128	5	119	18	108	15	138	5	145	3	104	3
Mitika	137	5	123	18	109	15	159	5	145	3	97	3
Mortlock	100	5	100	18	100	15	100	5	100	3	100	3
Numbat	104	5	84	18	77	15	43	5	110	3	61	3
Possum	133	5	122	18	110	15	150	5	141	3	103	3
Potoroo	129	5	120	18	112	15	196	5	138	3	103	3
Quoll	133	5	115	18	106	15	201	5	136	3	91	3
Wandering	126	5	116	18	114	15	245	5	118	3	102	3
Williams	127	5	128	18	117	15	178	5	161	3	110	3
Wombat	127	5	120	18	110	15	142	5	142	3	109	3
Yallara	101	5	108	18	106	15	153	5	119	3	93	3
region mean t/ha	3.44		3.16		3.36		1.23		2.64		1.36	

Soil types

S=sand, C=clay, L=loam, F=fine, K=coarse, M=medium, Li=light, H=heavy, / =divides topsoil from subsoil

Stress factors

d=dry spring, de=drought early, dl=drought late, f=frosts, w=strong hot winds

Data source: NVT, GRDC and SARDI Crop Evaluation and Oat Breeding Programs (long term data based on weighted analysis of sites)

Data analysis by GRDC funded National Statistics Group

SA Oat Variety Yield Performance: Grain quality for varieties sown in eight Stage 4 Grain trials (data are unanalysed means)							
Variety	2015						
	Hectolitre Weight (kg/hl)	1000 Grain Weight (g)	Screenings (% <2mm)	Protein (% db)	Oil (% db)	Groat Percent	Minolta L
Bannister	49.9	34.1	12.9	11.1	7.3	73.2	60.5
Carrolup	52.6	33.9	8.4	12.7	6.1	74.0	61.3
Dunnart	48.4	39.0	4.1	11.1	6.1	72.9	61.1
Echidna	48.5	31.4	9.1	11.2	6.3	72.9	62.2
Kojonup	49.1	35.1	4.3	12.9	6.0	75.5	61.2
Mitika	50.4	36.8	3.1	11.6	6.7	74.5	59.4
Possum	49.7	35.5	3.8	12.0	5.9	74.5	60.2
Potoroo	45.8	32.4	12.7	10.9	7.0	72.9	62.0
Wandering	49.4	36.4	5.4	11.7	6.5	72.7	62.2
Williams	48.8	31.7	11.5	11.5	6.8	72.2	62.2
Wombat	49.6	34.7	7.7	11.5	6.4	74.4	61.6
Yallara	51.2	34.4	4.8	11.5	5.4	75.5	62.7