

# SARDI Hay Oat Trial Results 2006

In 2006, trials to assess hay yield and quality were sown at eight locations in SA, three in Victoria and three in WA. Grain yield & quality and disease assessment trials were sown at an additional twelve locations in SA, and one in WA. Unfortunately, due to the dry season experienced across Australia, information on hay yield could not be obtained from two trial sites and in the late hay series was limited for any lines cut later than Glider.

Hay yields in the 2006 trials were well down on previous years and were close to half that of the long term average. On the up side, varieties which yielded higher than their long term average were generally early maturing and included the SARDI bred Brusher in all states, Swan, Wallaroo and the SARDI breeders line SV96025-7 in SA and Victoria, and the SARDI bred Wintaroo in SA. Any lines later than Wintaroo to cut for hay struggled in the hot dry conditions experienced across all states.

Results from the 2006 trials have shown that the SARDI hay oat lines of Wintaroo, Kangaroo and Brusher are performing well in all states. This result is interesting given the fact that the growing season rainfall for the trial sites last year were well down on average.

The 2006 trials in SA saw Brusher, Swan and Wintaroo yield 109% of the Marloo yield. Wallaroo was 111% with Glider and Riel 97%. In Vic Wallaroo again performed well at 110% with Brusher 104% and Kangaroo and Wintaroo at 103%. WA results were interesting with Brusher at 104%, Wintaroo 103%, Swan and Wandering 102%, Kangaroo 100% and Carrolup and Winjardie at 98% of Marloo yields.

When considering yield results in all states over the long term, SARDI lines are again performing well. Hay yields results for trials conducted between 1999 to 2005 have Wintaroo at 106%, Kangaroo at 104%, Brusher and Swan at 103% and Carrolup, Wallaroo, Wandering and Winjardie at 102%.

When considering quality attributes, Eurabbie is proving to be a benchmark for digestibility at 70.6 % in the 2006 trials. Vasse performed well

at 71.1% Wandering 69.1% and Winjardie a 68.9%. Full results are available on the AFIA web site listing under Trial Results. ([www.afia.org.au/information/trial\\_results/](http://www.afia.org.au/information/trial_results/))

Hay quality results reaffirm that hay yields should not be looked at in isolation if you are delivering hay to an exporter. There is always a compromise between yield and quality and in 2006 it was no different. Dwarf lines such as Eurabbie, Vasse and Wandering have excellent hay quality and this was again the case in 2006.

Managing nitrogen inputs in varieties such as Kangaroo will improve WSC. A trial to look at seeding and post seeding nitrogen applied to this variety in 2005 showed that most or all of the nitrogen needs to be applied at seeding with only a minimal amount at tillering if required. NDF can also be improved by either cutting higher from the ground or cutting earlier. More information about managing quality in oaten hay is presented in the book 'Producing Quality Oat Hay' available for purchase from the RIRDC website [www.rirdc.gov.au/eshop](http://www.rirdc.gov.au/eshop).

Variety selection for hay end-use doesn't only involve assessing lines for hay yield and/or hay quality. Other parameters such as disease resistance, grain yield and grain quality also play a part in making a variety acceptable for release. To this end the National Oat Breeding Program also sows trials to assess these characteristics. For more detailed information on individual site yields, grain yields, hay and grain quality and disease resistance profiles visit the SARDI website [www.sardi.sa.gov.au](http://www.sardi.sa.gov.au) to obtain a copy of the Oat Newsletter or the sowing guide which is also published each year in the October/November edition of the Grain Business Magazine.

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Table 1: Hay yield in 2006 compared to the long term yield in SA, Vic and WA for 14 varieties and three breeders lines (*no. of sites in italics*).

Variety/Line	Maturity for hay cutting <sup>1</sup>	Hay yield (% Marloo) 2006				Hay yield (% Marloo) '99 - '05							
		SA	Vic	WA	All states	SA	Vic	WA	All states				
BETTONG	M					100	37	100	8	100	12	100	57
BRUSHER	EM	109	3	104	1	104	2	105	6	103	52	103	17
CARROLUP	EM			98	2					102	3	102	3
EURABBIE	M	89	3	94	1	92	2	92	6	98	52	98	16
GLIDER	L	97	3	103	2			100	5	99	47	99	17
KANGAROO	ML	96	3	103	1	100	2	100	6	104	52	104	17
MARLOO	M	100	3	100	1	100	2	100	6	100	52	100	17
RIEL	VL	97	3	92	2			95	5	103	2	103	1
SV95137-6-3	ML	87	3	93	1	93	2	91	6	102	13	102	5
SV96025-7	M	104	3	107	1	99	2	103	6	103	20	103	5
SV96098-24	ML	81	3	89	1	91	2	87	6	102	21	102	5
SWAN	M	109	3	108	1	102	2	106	6	103	52	103	17
VASSE	ML					98	2	98	2			101	3
WALLAROO	E	111	3	110	1	93	2	105	6	102	52	102	17
WANDERING	EM					102	2	102	2			102	3
WINJARDIE	EM					98	2	98	2			102	3
WINTAROO	M	109	3	103	1	103	2	105	6	106	52	106	17
Marloo's yield		4.40		5.47		5.24				9.10		9.58	
												10.37	
													9.68

<sup>1</sup> Maturity: E = Early, EM = Early-mid, M = Mid season, ML= mid-late, L= late and VL = Very late

Table 2: Hay quality in 2006 for 13 varieties and three breeders lines (*no. of sites in italics*).

Variety/Line	Hay quality 2006									
	Digestibility		Crude protein		NDF		ADF		WSC	
BRUSHER	66.8	5	9.1	5	49.9	5	28.8	5	26.8	5
CARROLUP	68.2	2	10.3	2	49.2	2	28.0	2	27.2	2
EURABBIE	70.6	5	9.3	5	45.0	5	24.5	5	30.9	5
GLIDER	63.7	4	8.2	4	51.3	4	28.2	4	22.8	4
KANGAROO	67.1	5	10.1	5	52.4	5	29.9	5	21.9	5
MARLOO	66.3	5	9.5	5	51.1	5	29.3	5	24.1	5
RIEL	65.4	3	7.7	3	49.1	3	27.1	3	27.7	3
SV95137-6-3	69.0	5	10.6	5	50.6	5	28.3	5	24.1	5
SV96025-7	64.7	5	9.2	5	53.0	5	31.2	5	24.7	5
SV96098-24	68.3	5	10.3	5	49.8	5	28.0	5	25.0	5
SWAN	67.2	5	9.2	5	49.2	5	28.4	5	27.1	5
VASSE	71.1	2	10.5	2	48.4	2	26.5	2	27.5	2
WALLAROO	66.9	5	9.7	5	50.5	5	29.3	5	25.7	5
WANDERING	69.1	2	10.2	2	49.8	2	27.9	2	24.9	2
WINJARDIE	68.9	2	9.7	2	50.0	2	28.4	2	25.6	2
WINTAROO	68.3	5	9.7	5	49.7	5	28.4	5	25.4	5