

## Oat varieties response to herbicides in Western Australia 1997-2014

*This research has been conducted in WA wheatbelt to determine if new and existing varieties of oat vary in tolerance to commonly used herbicides.*

**The sensitivity of the variety is summarised, using the following symbols based on the yield response across all trials:**

– not tested or insufficient data

√ no significant yield reductions at the label recommended rates in (Z) trials.

N (w/z) narrow margin, significant yield reductions at higher than the label recommended rate, but not at the label recommended rate. Significant event occurring in w trials out of Z trials conducted. Eg (2/5) = tested in 5 trials, 2 trials returning a significant yield loss.

x% (1/z) yield reduction (warning) significant yield reduction at recommended rate in 1 trial only out of z trials conducted.

x-y% (w/z) yield reductions (warning) significant yield reductions at recommended rate in w trials out of z trials conducted.

*Always follow label recommendations. The organisation involved in this research do not endorse the use of herbicides above the registered rate or off label use of*

Herbicides			Pre-emergent			
			Dual® Gold	Dual® 720	Diuron 500	Diuron 500 + Dual® 720
			s-Metolachlor	Metolachlor	Diuron	Diuron+ Metolachlor
Variety	Years Tested	Site	2007	2006	2006-07	2006, 2011-14
			A	A	A	A
Bannister	2011-13	A	–	–	–	√ (3)
Carrolup	97, 00, 10-12	ABD	–	–	–	16 (1/3)
Coomallo	2000	D	–	–	–	–
Dalyup	2000	D	–	–	–	–
Hotham	1997- 00	BCD	–	–	–	–
Kojanup	2006-07	A	√ (1)	√ (1)	√ (2)	√ (1)
Mitika	2006-07	A	√ (1)	√ (1)	√ (2)	√ (1)
Mortlock	2000	D	–	–	–	–
Mulgara	2010	A	–	–	–	√ (1)
Needilup	1997	C	–	–	–	–
Pallinup	2000	D	–	–	–	–
Possum	2006	A	–	√ (1)	√ (1)	√ (1)
Toodyay	1999	D	–	–	–	–
Wandering	00, 06-07	AD	√ (1)	√ (1)	√ (2)	√ (1)
Williams	2012-14	A	–	–	–	9 (1/3)
Yallara	2010-11	A	–	–	–	√ (2)
Rates (product/ha)			0.5 L	0.5 L	1 L	1 L + 0.5 L
Crop stage at spraying			Incorporated by seeding	Incorporated by seeding	Incorporated by seeding	Incorporated by seeding

			Pre-emergent		Early Post-mergent (Z12-Z13)	
Herbicides			Diuron 500	Diuron 500 +	Barrel <sup>®</sup>	Broadstrike <sup>®</sup>
			Diuron + s-Metolachlor	Diuron + Metolachlor	Bromoxynil + MCPA + Dicamba + Metosulam	Flumetsulam
Variety	Years Tested	Site	2007	1998-2000	1997	97-98, 06-07
			A	D	B	ABCD
Bannister	2011-13	A	—	—	—	—
Carrolup	97, 00, 10-12	ABD	—	√ (1)	√ (1)	—
Coomallo	2000	D	—	√ (1)	—	—
Dalyup	2000	D	—	√ (1)	—	—
Hotham	1997- 00	BCD	—	√ (4)	—	13 (1/4)
Kojanup	2006-07	A	√ (1)	—	—	√ (2)
Mitika	2006-07	A	√ (1)	—	—	√ (2)
Mortlock	2000	D	—	√ (1)	—	—
Mulgara	2010	A	—	—	—	—
Needilup	1997	C	—	—	—	√ (1)
Pallinup	2000	D	—	√ (1)	—	—
Possum	2006	A	—	—	—	√ (1)
Toodyay	1999	D	—	√ (1)	—	—
Wandering	00, 06-07	AD	√ (1)	√ (1)	—	√ (2)
Williams	2012-14	A	—	—	—	—
Yallara	2010-11	A	—	—	—	—
Rates (product/ha)			1L + 0.5 L	1L + 0.5 L	1 L + 5 g	25 g
Crop stage at spraying			Incorporated by seeding	Post Seeding Pre-emergent	Z12-Z13	Z12-Z14

  

			Early Post-mergent (Z12-Z13)			
Herbicides			Brominil <sup>®</sup> M + Eclipse <sup>®</sup>	Eclipse <sup>®</sup> + Uptake <sup>™</sup> oil	Glean <sup>®</sup>	Glean <sup>®</sup>
			Bromoxynil + MCPA + Metosulam	Metosulam	Chlorsulfuron	Chlorsulfuron
Variety	Years Tested	Site	1997	1999-2000	1997-00, 06	1997-00, 06, 11-14
			B	D	ABCD	ABCD
Bannister	2011-13	A	—	—	—	√ (3)
Carrolup	97, 00, 10-12	ABD	21 (1/1)	√ (1)	√ (1)	10 (1/3)
Coomallo	2000	D	—	√ (1)	√ (1)	—
Dalyup	2000	D	—	√ (1)	√ (1)	—
Hotham	1997- 00	BCD	—	√ (2)	20 (1/6)	19 (1/5)
Kojanup	2006-07	A	—	—	√ (1)	√ (1)
Mitika	2006-07	A	—	—	√ (1)	√ (1)
Mortlock	2000	D	—	√ (1)	√ (1)	—
Mulgara	2010	A	—	—	—	24 (1/1)
Needilup	1997	C	—	—	√ (1)	√ (1)
Pallinup	2000	D	—	√ (1)	√ (1)	—
Possum	2006	A	—	—	√ (1)	—
Toodyay	1999	D	—	√ (1)	√ (1)	√ (1)
Wandering	00, 06-07	AD	—	√ (1)	√ (2)	√ (1)
Williams	2012-14	A	—	—	—	8 (1/3)
Yallara	2010-11	A	—	—	—	10 (1/2)
Rates (product/ha)			1 L + 7 g	7 g + 1 %	12.5 g	20 g
Crop stage at spraying			Z12-Z13	Z12-Z13	Z12-Z13	Z12-Z13

			Early Post-mergent (Z12-Z13)	Post-mergent (Z13-Z15)		
Herbicides			Logran®	Affinity® + MCPA (amine)	Affinity® + MCPA (amine)	Amber® Post + Tigrex®
			Triasulfuron	Carfentrazone-ethyl + MCPA	Carfentrazone-ethyl + MCPA	(Terbutryn + Triasulfuron) + (Diflufenican + MCPA)
Variety	Years Tested	Site	1997-99, 07, 10 ABCD	2000, 06-07 AD	2010-14 A	1997 B
Bannister	2011-13	A		—	√(3)	—
Carrolup	97, 00, 10-12	ABD	—	√(1)	√(3)	√(1)
Coomallo	2000	D	—	√(1)	—	—
Dalyup	2000	D	—	√(1)	—	—
Hotham	1997- 00	BCD	12 (1/4)	√(1)	—	—
Kojanup	2006-07	A	—	√(2)	—	—
Mitika	2006-07	A	—	√(2)	—	—
Mortlock	2000	D	—	√(1)	—	—
Mulgara	2010	A	—	—	15 (1/1)	—
Needilup	1997	C	15 (1/1)	—	—	—
Pallinup	2000	D	—	√(1)	—	—
Possum	2006	A	—	√(1)	—	—
Toodyay	1999	D	—	—	—	—
Wandering	00, 06-07	AD	—	27 (1/3)	—	—
Williams	2012-14	A	—	—	√(3)	—
Yallara	2010-11	A	—	—	√(2)	—
Rates (product/ha)			15 g	50 g + 0.5 L	60 g + 0.5 L	250 g + 0.3 L
Crop stage at spraying			Z12-Z13	Z13-Z14	Z13-Z14	Z13-Z14

  

			Post-mergent (Z13-Z15)			
Herbicides			Barrel® / Broadside®	Buctril® MA	Conclude®	Diuron + 2,4-D
			Bromoxynil + MCPA + Dicamba	Bromoxynil + MCPA	Florasulam + MCPA	Diuron + 2,4-D
Variety	Years Tested	Site	97-00, 2010-14 ABCD	2006-07 A	2010-13 A	2000 D
Bannister	2011-13	A	√(3)	—	√(3)	—
Carrolup	97, 00, 10-12	ABD	√(5)	—	15 (1/3)	√(1)
Coomallo	2000	D	√(1)	—	—	√(1)
Dalyup	2000	D	√(1)	—	—	√(1)
Hotham	1997- 00	BCD	16 (1/6)	—	—	√(1)
Kojanup	2006-07	A	—	√(2)	—	—
Mitika	2006-07	A	—	√(2)	—	—
Mortlock	2000	D	√(1)	—	—	√(1)
Mulgara	2010	A	√(1)	—	14 (1/1)	—
Needilup	1997	C	√(1)	—	—	—
Pallinup	2000	D	√(1)	—	—	√(1)
Possum	2006	A	—	√(1)	—	—
Toodyay	1999	D	√(1)	—	—	—
Wandering	00, 06-07	AD	√(1)	√(2)	—	√(1)
Williams	2012-14	A	8-9 (2/3)	—	7 (1/3)	—
Yallara	2010-11	A	√(2)	—	√(2)	—
Rates (product/ha)			1 L	1.4 L	0.7 L	0.5 L + 0.25 L
Crop stage at spraying			Z13-Z14	Z13-Z14	Z13-Z14	Z13-Z14

			Post-emergent (Z13-Z15)			
Herbicides			Diuron + MCPA (amine)	Diuron + MCPA (amine)	Eclipse® + MCPA LVE 500	Flight® EC
			Diuron + MCPA	Diuron + MCPA	Metosulam + MCPA	Picolinafen + Bromoxynil + MCPA
Variety	Years Tested	Site	1997-2000, 2014 BCD	2006-07, 10-13 A	2006-07 A	2011-14 A
Bannister	2011-13	A	—	5-15 (3/3)	—	12-16 (2/3)
Carrolup	97, 00, 10-12	ABD	√ (2)	√ (3)	—	11 (1/2)
Coomallo	2000	D	√ (1)	—	—	—
Dalyup	2000	D	√ (1)	—	—	—
Hotham	1997- 00	BCD	√ (6)	—	—	—
Kojanup	2006-07	A	—	√ (2)	√ (2)	—
Mitika	2006-07	A	—	√ (2)	√ (2)	—
Mortlock	2000	D	√ (1)	—	—	—
Mulgara	2010	A	—	√ (1)	—	—
Needilup	1997	C	√ (1)	—	—	—
Pallinup	2000	D	√ (1)	—	—	—
Possum	2006	A	—	22 (1/1)	29 (1/1)	—
Toodyay	1999	D	√ (1)	—	—	—
Wandering	00, 06-07	AD	√ (1)	23 (1/2)	√ (2)	—
Williams	2012-14	A	√ (1)	17 (1/2)	—	11-12 (2/3)
Yallara	2010-11	A	—	9 (1/2)	—	√ (1)
Rates (product/ha)			0.35 L + 0.4 L	0.5 L + 0.5 L	5 g + 0.5 L	0.720 g
Crop stage at spraying			Z13-Z14	Z13-Z16	Z13-Z16	Z13-Z14

			Post-emergent (Z13-Z15)			
Herbicides			Igran® + MCPA (amine)	Precept® 300 + Hasten™	Precept® + Hasten™	Tigrex®
			Terbutryn + MCPA	Pyrasulfotole + MCPA	Pyrasulfotole + MCPA	Diflufenican + MCPA
Variety	Years Tested	Site	2006, 2014 A	2007, 2014 A	2010-13 A	1997-00, 06-07, 10-14 ABCD
Bannister	2011-13	A	—	—	6-12 (2/3)	10 (1/3)
Carrolup	97, 00, 10-12	ABD	—	—	√ (3)	√ (4)
Coomallo	2000	D	—	—	—	√ (1)
Dalyup	2000	D	—	—	—	24 (1/1)
Hotham	1997- 00	BCD	—	—	—	26 (1/6)
Kojanup	2006-07	A	√ (1)	√ (1)	—	√ (2)
Mitika	2006-07	A	√ (1)	√ (1)	—	√ (2)
Mortlock	2000	D	—	—	—	√ (1)
Mulgara	2010	A	—	—	√ (1)	√ (1)
Needilup	1997	C	—	—	—	26 (1/1)
Pallinup	2000	D	—	—	—	√ (1)
Possum	2006	A	23 (1/1)	—	—	√ (1)
Toodyay	1999	D	—	—	—	√ (1)
Wandering	00, 06-07	AD	√ (1)	√ (1)	—	√ (3)
Williams	2012-14	A	6 (1/1)	9 (1/1)	√ (2)	√ (3)
Yallara	2010-11	A	—	—	√ (2)	√ (2)
Rates (product/ha)			0.85 L + 0.6 L	1L + 1%	2L + 1%	1 L
Crop stage at spraying			Z13-Z16	Z13-Z14	Z13-Z14	Z13-Z14

			Z22		Z15-Z16 and later	
Herbicides			Tordon® 242	Tordon® 75D	Paragon®	MCPA Amine 500
			MCPA + Picloram	2,4-D + Picloram	Picolinafen + MCPA	MCPA
Variety	Years Tested	Site	1997 B	1997 B	2007 A	2006-07 A
Bannister	2011-13	A	—	—	—	—
Carrolup	97, 00, 10-12	ABD	√ (1)	15 (1/1)	—	—
Coomallo	2000	D	—	—	—	—
Dalyup	2000	D	—	—	—	—
Hotham	1997- 00	BCD	—	—	—	—
Kojanup	2006-07	A	—	—	√ (1)	√ (2)
Mitika	2006-07	A	—	—	11 (1/1)	√ (2)
Mortlock	2000	D	—	—	—	—
Mulgara	2010	A	—	—	—	—
Needilup	1997	C	—	—	—	—
Pallinup	2000	D	—	—	—	—
Possum	2006	A	—	—	—	√ (1)
Toodyay	1999	D	—	—	—	—
Wandering	00, 06-07	AD	—	—	√ (1)	23 (1/2)
Williams	2012-14	A	—	—	—	—
Yallara	2010-11	A	—	—	—	—
Rates (product/ha)			1 L	0.4 L	0.5 L	2 L
Crop stage at spraying			Z22	Z22	Z15-Z16	Z15-Z16

			Z15-Z16 and later			
Herbicides			2,4-D Amine 500	2, 4-D Amine 625	Kamba® 500	2, 4-D Amine 700
			2,4-D	2,4-D	dicamba	2,4-D
Variety	Years Tested	Site	1997-2000 BCD	2006-07, 2011-13 A	2007 A	2011-12, 2014 A
Bannister	2011-13	A	—	5 (1/3)	—	√ (2)
Carrolup	97, 00, 10-12	ABD	√ (1)	13 (1/3)	—	N (1/2)
Coomallo	2000	D	√ (1)	—	—	—
Dalyup	2000	D	√ (1)	—	—	—
Hotham	1997- 00	BCD	24-43 (3/6)	—	—	—
Kojanup	2006-07	A	—	49 (1/2)	√ (1)	—
Mitika	2006-07	A	—	√ (2)	√ (1)	—
Mortlock	2000	D	√ (1)	—	—	—
Mulgara	2010	A	—	√ (1)	—	—
Needilup	1997	C	17 (1/1)	—	—	—
Pallinup	2000	D	√ (1)	—	—	—
Possum	2006	A	—	32 (1/1)	—	—
Toodyay	1999	D	21 (1/1)	—	—	—
Wandering	00, 06-07	AD	√ (1)	√ (2)	9 (1/1)	—
Williams	2012-14	A	—	13 (1/2)	—	10 (1/2)
Yallara	2010-11	A	—	√ (2)	—	12 (1/1)
Rates (product/ha)			1 L	1.3 L	0.4 L	1.15 L
Crop stage at spraying			Z15-Z16	Z15-Z16	Z15-Z16	Z31

			Z15-Z16 and later
Herbicides			Logran <sup>®</sup> + Uptake <sup>™</sup> oil
			Triasulfuron
Variety	Years Tested	Site	2006-07
			A
Bannister	2011-13	A	—
Carrolup	97, 00, 10-12	ABD	—
Coomallo	2000	D	—
Dalyup	2000	D	—
Hotham	1997- 00	BCD	—
Kojanup	2006-07	A	√ (2)
Mitika	2006-07	A	√ (2)
Mortlock	2000	D	—
Mulgara	2010	A	—
Needilup	1997	C	—
Pallinup	2000	D	—
Possum	2006	A	√ (1)
Toodyay	1999	D	—
Wandering	00, 06-07	AD	√ (2)
Williams	2012-14	A	—
Yallara	2010-11	A	—
Rates (product/ha)			10 g + 1 %
Crop stage at spraying			Z69+

**Note:** Higher than the label herbicide rates to work out crop safety margins (N) were used in some trials and/or for some for products only.

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Research site loc	Katanning (A)	Merredin (B)	Mullewa (C)	Newdegate (D)
Site soil type	Gravely Sandy loam to loamy sand	Red loam over clay	Red sandy loam	Gray sandy loam and duplex sand over clay
Site pH (CaCl <sub>2</sub> )	5.1-5.2	—	—	4.8
Site annual average rainfall (mm)	422	327	337	375