

Barley variety response to herbicides in South Australia

This research has been conducted across the mid north of South Australia to determine if new and existing varieties of barley vary in tolerance to commonly used herbicides

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

- not tested or insufficient data
- ✓ (z) no significant yield reductions at recommended rates or higher than recommended rates in (z) trials

N (w/z) narrow margin, significant yield reductions at higher than recommended rate, but not at recommended rate

significant event occurring w years out of z years tested. Eg. (2/5) = tested for 5 years, 2 returning a significant yield loss

x% (w/z) yield reduction (warning) significant yield reduction at recommended rate in 1 trial only in z years of testing

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

N (w/z) narrow safety margin observed in preliminary trial w of z years tested. Not tested at the recommended rate in this year. Where tested in 3 or more years testing has also occurred in advanced trials and showed no yield loss at the recommended or higher rate.

Always follow label recommendations. All pesticide applications must accord with the currently registered label for that particular pesticide, crop, pest and region. Any research regarding pesticides of their use reported in this website does not constitute a recommendation for that particular use by the authors, the author's organisations of ACAS. It must be emphasised that crop tolerance and yield responses to herbicides are strongly influenced by seasonal conditions.

Herbicide	Years Tested	2,4-D Amine 500/625	Achieve	Affinity	Ally	Axial	Banvel M	Boxer Gold®
		2,4-D Amine	Trakoxydim	Carfentrazone - Ethyl	Metsulfuron- methyl	Pinoxaden + Cloquintocet- Methyl	MCPA + Dicamba	Prosulfocarb + S-Metolachlor
Variety	Years Tested	1993-2010	1993-2009	2006-2010	1993-2010	2006-2010	1993-2010	2009-2010
Baudin*	2009-2010	✓(2)	✓(1)	✓(2)	✓(2)	✓(2)	✓(1)	✓(2)
Barque	1995-2000	6 (1/6)	N (1/6)	-	✓(6)	-	6-10 (5/6)	-
Buloke	2006-2009	✓(4)	N (1/4)	12 (1/4)	N (1/4)	✓(4)	N (1/4)	✓(1)
Capstan	2002-2004	N (1/3)	N (2/3)	-	✓(3)	-	N (3/3)	-
Commander	2005-2007	✓(3)	✓(3)	✓(2)	✓(3)	✓(2)	N (2/3)	-
Dhow	2001-2003	N (1/3)	✓(3)	-	4 (1/3)	-	N (2/3)	-
Finniss	2008-2009	✓(2)	9 (1/2)	✓(2)	✓(2)	7 (1/2)	✓(2)	N (1/1)
Flagship	2004-2009	10 (1/6)	5 (1/6)	N (1/4)	✓(6)	N (1/4)	16 (1/6)	6 (1/1)
Fleet	2004-2006	✓(3)	N (1/3)	✓(1)	✓(3)	✓(1)	5 (1/3)	-
Gairdner	1998-2001	N (3/4)	7 (1/4)	-	✓(4)	-	4 (1/4)	-
Hindmarsh	2007-2009	✓(3)	✓(3)	N (1/3)	N (2/3)	11 (1/3)	8 (1/3)	✓(1)
Keel	1998-2001	✓(4)	✓(4)	-	✓(4)	-	4 (1/4)	-
Maritime	2003-2005	✓(3)	N (1/3)	-	N (1/3)	-	✓(3)	-
Oxford*	2009-2010	✓(2)	✓(1)	✓(2)	✓(2)	✓(2)	N (1/1)	✓(2)
Schooner	1993-1997	✓(5)	✓(5)	-	✓(5)	-	9-46 (2/5)	-
Sloop	1994-2000	N (2/7)	✓(7)	-	9 (1/7)	-	12-24 (3/7)	-
Sloop SA*	2009-2010	✓(2)	✓(1)	✓(2)	✓(2)	✓(2)	✓(1)	✓(2)
Torrens	2001-2003	✓(3)	N (1/3)	-	✓(3)	-	N (2/3)	-
Vlamingh*	2009-2010	✓(2)	✓(1)	✓(2)	✓(2)	✓(2)	✓(1)	✓(2)
Yarra	2004-2007	5 (1/3)	✓(3)	✓(2)	N (1/3)	✓(2)	N (1/3)	-
Rates (product/ha)		1.4L	380g	60g	7g	250ml	1.4L	2.5L
Crop stage at spraying		2 node	4 leaf	4 leaf	4 leaf	4 leaf	6 leaf	IBS

* Cultivars tested in preliminary trials for 2 years.

Herbicide	Years Tested	Broadstrike	Bromoxynil MCPA	Cadence	Decision	Diuron/MCPA Amine	Eclipse	Glean
		Flumetsulam	Bromoxynil + MCPA	Dicamba	Diclofop-methyl + Sethoxydim	Diuron + MCPA Amine	Metosulam	Chlorsulfuron
Variety	Years Tested	1993-2010	1994-2010	2006-2010	2005-2010	1993-2010	1993-1995	1993-2009
Baudin*	2009-2010	✓(1)	✓(2)	N (1/3)	✓(2)	✓(2)	-	✓(1)
Barque	1995-2000	✓(6)	7-8 (2/6)	-	-	✓(6)	✓(1)	✓(3)
Buloke	2006-2009	✓(4)	10 (1/4)	9-11 (2/4)	12 (1/4)	13 (1/4)	-	✓(2)
Capstan	2002-2004	8 (1/3)	✓(3)	-	-	N (1/3)	-	✓(3)
Commander	2005-2007	✓(3)	✓(3)	12 (1/2)	✓(3)	✓(3)	-	✓(3)
Dhow	2001-2003	✓(3)	15 (1/3)	-	-	✓(3)	-	✓(3)
Finniss	2008-2009	10 (1/2)	✓(2)	N (1/2)	N (1/2)	N (1/2)	-	-
Flagship	2004-2009	✓(6)	12 (1/6)	14 (1/4)	✓(5)	N (1/6)	-	✓(4)
Fleet	2004-2006	✓(3)	N (1/3)	N (1/1)	N (1/2)	7 (1/3)	-	✓(3)
Gairdner	1998-2001	✓(4)	7 (1/4)	-	-	6 (1/4)	-	✓(3)
Hindmarsh	2007-2009	N (1/3)	6 (1/3)	✓(3)	7 (1/3)	10 (1/3)	-	✓(1)
Keel	1998-2001	✓(4)	3-8 (2/4)	-	-	✓(4)	-	N (1/3)
Maritime	2003-2005	5 (1/3)	N (1/3)	-	✓(1)	N (2/3)	-	N (1/3)
Oxford*	2009-2010	✓(1)	✓(2)	✓(2)	✓(2)	✓(2)	-	✓(1)
Schooner	1993-1997	14 (1/5)	N (1/4)	-	-	N (2/5)	✓(3)	✓(1)
Sloop	1994-2000	16 (1/7)	3-4 (2/7)	-	-	✓(7)	8 (1/2)	✓(3)
Sloop SA*	2009-2010	✓(1)	✓(2)	✓(2)	✓(2)	✓(2)	-	✓(1)
Torrens	2001-2003	N (1/3)	N (1/3)	-	-	✓(3)	-	✓(3)
Vlamingh*	2009-2010	✓(1)	✓(2)	✓(2)	✓(2)	✓(2)	-	✓(1)
Yarra	2004-2007	4 (1/3)	N (2/3)	N (2/2)	✓(3)	✓(3)	-	✓(3)
Rates (product/ha)		25g	1.4L	200g	1.0L	500ml/350ml	7g	20g
Crop stage at spraying		6 leaf	4 leaf	6 leaf	4 leaf	4 leaf	4 leaf	4 leaf

* Cultivars tested in preliminary trials for 2 years.

Herbicide	Years Tested	Hoegrass®	Jaguar	Logran	Lontrel	LVE MCPA	Terbutryn	Tigrex
		Diclofop-methyl	Bromoxynil + Diflufenican	Triasulfuron	Diuron + S-metolachlor	LVE MCPA	Terbutryn	MCPA + Diflufenican
Variety	Years Tested	1993-2004	1993-1995	1997-2009	1993-2004	1996-2008	1993-2005	1996-2010
Baudin*	2009-2010	-	-	-	-	-	-	✓(2)
Barque	1995-2000	4 (1/6)	✓(1)	✓(3)	3-11 (2/6)	3 (1/5)	1-4 (2/6)	5-8 (3/5)
Buloke	2006-2009	-	-	✓(2)	-	✓(3)	-	✓(4)
Capstan	2002-2004	N (1/3)	-	✓(3)	✓(3)	5 (1/3)	11 (1/3)	10 (1/3)
Commander	2005-2007	-	-	✓(1)	✓(1)	✓(3)	✓(1)	✓(3)
Dhow	2001-2003	✓(3)	-	✓(3)	✓(3)	✓(3)	N (1/3)	✓(3)
Finniss	2008-2009	-	-	✓(2)	-	✓(1)	-	✓(2)
Flagship	2004-2009	N (1/1)	-	✓(4)	N (1/2)	✓(5)	N (1/2)	8 (1/6)
Fleet	2004-2006	N (1/1)	-	✓(2)	✓(2)	✓(3)	N (1/2)	7-8 (2/3)
Gairdner	1998-2001	6 (1/4)	-	✓(3)	✓(4)	6 (1/4)	8 (1/4)	3 (1/4)
Hindmarsh	2007-2009	-	-	✓(2)	-	✓(2)	-	8 (1/3)
Keel	1998-2001	✓(4)	-	6 (1/3)	✓(4)	4 (1/4)	✓(4)	4-6 (3/4)
Maritime	2003-2005	9 (1/2)	-	✓(3)	✓(3)	4 (1/3)	4-7 (2/3)	7 (1/3)
Oxford*	2009-2010	-	-	-	-	-	-	✓(2)
Schooner	1993-1997	9 (1/5)	18 (1/3)	✓(1)	✓(5)	✓(2)	✓(5)	✓(2)
Sloop	1994-2000	22 (1/7)	✓(2)	✓(3)	N (1/7)	5 (1/5)	✓(7)	4-9 (2/5)
Sloop SA*	2009-2010	-	-	-	-	-	-	✓(2)
Torrens	2001-2003	✓(3)	-	✓(3)	✓(3)	✓(3)	✓(3)	✓(3)
Vlamingh*	2009-2010	-	-	-	-	-	-	✓(2)
Yarra	2004-2007	-	-	✓(1)	✓(1)	✓(3)	5 (1/1)	✓(3)
Rates (product/ha)		1L	1L	35g	150g	1.2L	850ml	1L
Crop stage at spraying		4 leaf	4 leaf	4 leaf	4 leaf	6 leaf	4 leaf	6 leaf

* Cultivars tested in preliminary trials for 2 years.

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Research site location: Hart/ Kybunga, Mid North of South Australia

Site soil type : Friable light clay loam overlying carbonate at varying depths

Site pH : Water 8.2, CaCl 7.5

Site annual average rainfall: 400 mm



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