

BARLEY VARIETY RESPONSE TO HERBICIDES IN SOUTH AUSTRALIA

Rob Wheeler and Amanda Pearce, SARDI Amanda.Pearce@sa.gov.au

Background

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								
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® + MCPA	Ally	Axial	Banvel M	Boxer Gold®
		2,4-D Amine	Tralkoxydim	Carfentrazone - Ethyl	Metsulfuron-methyl	Pinoxaden +	MCPA + Dicamba	Prosulfocarb + S-
Variety		1993-2013	1993-2013	2006-2013	1993-2013	2006-2013	1993-2013	2009-2013
Bass	2010-2011	-	-	-	-	-	-	-
Baudin	2009-2012	P(2)	P(1)	P(2)	P(2)	P(2)	P(1)	P(2)
Barque	1995-2000	6 (1/6)	N (1/6)	-	P(6)	-	6-10 (5/6)	-
Buloke	2006-2009	P(4)	N (1/4)	12 (1/4)	N (1/4)	P(4)	N (1/4)	P(1)
Capstan	2002-2004	N (1/3)	N (2/3)	-	P(3)	-	N (3/3)	-
Commander	2005-2007	P(3)	P(3)	P(2)	P(3)	P(2)	N (2/3)	-
Fairview	2013	-	-	-	-	-	-	-
Fathom	2012-2013	-	-	-	-	-	-	-
Finniss	2008-2009	P(2)	9 (1/2)	P(2)	P(2)	7 (1/2)	P(2)	N (1/1)
Flagship	2004-2009	10 (1/6)	5 (1/6)	N (1/4)	P(6)	N (1/4)	16 (1/6)	6 (1/1)
Fleet	2004-2006	P(3)	N (1/3)	P(1)	P(3)	P(1)	5 (1/3)	-
Flinders	2013	-	-	-	-	-	-	-
Gairdner	1998-2001	N (3/4)	7 (1/4)	-	P(4)	-	4 (1/4)	-
Granger	2013	-	-	-	-	-	-	-
Hindmarsh	2007-2009	P(3)	P(3)	N (1/3)	N (2/3)	11 (1/3)	8 (1/3)	P(1)
Keel	1998-2001	P(4)	P(4)	-	P(4)	-	4 (1/4)	-
La Trobe	2013	-	-	-	-	-	-	-
Maritime	2003-2005	P(3)	N (1/3)	-	N (1/3)	-	P(3)	-
Oxford	2009-2012	P(2)	P(1)	P(2)	P(2)	P(2)	N (1/4)	P(2)
Schooner	1993-1997	P(5)	P(5)	-	P(5)	-	9-46 (2/5)	-
Scope	2010-2012	P(2)	-	P(2)	P(2)	9 (1/4)	P(2)	P(2)
Sloop	1994-2000	N (2/7)	P(7)	-	9 (1/7)	-	12-24 (3/7)	-
Sloop SA	2009-2010	P(2)	P(1)	P(2)	P(2)	P(2)	P(1)	P(2)
Torrens	2001-2003	P(3)	N (1/3)	-	P(3)	-	N (2/3)	-
Vlamingh	2009-2010	P(2)	P(1)	P(2)	P(2)	P(2)	P(1)	P(2)
Westminster	2012-2013	-	-	-	-	-	N (1/3)	-
Wimmera	2010-2012	P(2)	-	P(2)	P(2)	P(2)	P(2)	P(2)
Yarra	2004-2007	5 (1/3)	P(3)	P(2)	N (1/3)	P(2)	N (1/3)	-
Rates (product/ha)		1.4L	380g	100mL + 500mL	7g	250mL	1.4L	2.5L
Crop stage at spraying		2 node	4 leaf	4 leaf	4 leaf	4 leaf	6 leaf	IBS

Herbicide	Years Tested	Broadstrike	Bromoxynil MCPA	Cadence	Decision	Diuron + MCPA Amine	Eclipse	Glean
		Flumetsulam	Bromoxynil + MCPA	Dicamba	Diclofop-methyl +	Diuron + MCPA	Metosulam	Chlorsulfuron
		1993-2013	1994-2013	2006-2013	2005-2012	1993-2013	1993-1995	1993-2009
Bass	2010-2011	-	-	N (1/2)	-	-	-	-
Baudin	2009-2012	P(1)	P(2)	N (1/3)	P(2)	P(2)	-	P(1)
Barque	1995-2000	P(6)	7-8 (2/6)	-	-	P(6)	P(1)	P(3)
Buloke	2006-2009	P(4)	10 (1/4)	9-11 (2/4)	12 (1/4)	13 (1/4)	-	P(2)
Capstan	2002-2004	8 (1/3)	P(3)	-	-	N (1/3)	-	P(3)
Commander	2005-2007	P(3)	P(3)	12 (1/2)	P(3)	P(3)	-	P(3)
Fairview	2013	-	-	-	-	N (1/2)	-	-
Fathom	2012-2013	N (1/3)	-	N (1/3)	-	-	-	-
Finniss	2008-2009	10 (1/2)	P(2)	N (1/2)	N (1/2)	N (1/2)	-	-
Flagship	2004-2009	P(6)	12 (1/6)	14 (1/4)	P(5)	N (1/6)	-	P(4)
Fleet	2004-2006	P(3)	N (1/3)	N (1/1)	N (1/2)	7 (1/3)	-	P(3)
Flinders	2013	-	-	-	-	-	-	-
Gairdner	1998-2001	P(4)	7 (1/4)	-	-	6 (1/4)	-	P(3)
Granger	2013	-	-	-	-	N (1/2)	-	-
Hindmarsh	2007-2009	N (1/3)	6 (1/3)	P(3)	7 (1/3)	10 (1/3)	-	P(1)
Keel	1998-2001	P(4)	3-8 (2/4)	-	-	P(4)	-	N (1/3)
La Trobe	2013	-	-	-	-	-	-	-
Maritime	2003-2005	5 (1/3)	N (1/3)	-	P(1)	N (2/3)	-	N (1/3)
Oxford	2009-2012	P(1)	P(2)	P(2)	P(2)	P(2)	-	P(1)
Schooner	1993-1997	14 (1/5)	N (1/4)	-	-	N (2/5)	P(3)	P(1)
Scope	2010-2012	P(2)	P(2)	P(2)	P(2)	P(2)	-	-
Sloop	1994-2000	16 (1/7)	3-4 (2/7)	-	-	P(7)	8 (1/2)	P(3)
Sloop SA	2009-2010	P(1)	P(2)	P(2)	P(2)	P(2)	-	P(1)
Torrens	2001-2003	N (1/3)	N (1/3)	-	-	P(3)	-	P(3)
Vlamingh	2009-2010	P(1)	P(2)	P(2)	P(2)	P(2)	-	P(1)
Westminster	2012-2013	-	-	-	-	N (1/3)	-	-
Wimmera	2010-2012	P(2)	N (2/4)	P(2)	P(2)	P(2)	-	-
Yarra	2004-2007	4 (1/3)	N (2/3)	N (2/2)	P(3)	P(3)	-	P(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

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		1993-2004	1993-1995	1997-2009	1993-2004	1996-2008	1993-2005	1996-2013
Bass	2009-2010	-	-	-	-	-	-	-
Baudin	2009-2012	-	-	-	-	-	-	P(2)
Barque	1995-2000	4 (1/6)	P(1)	P(3)	3-11 (2/6)	3 (1/5)	1-4 (2/6)	5-8 (3/5)
Buloke	2006-2009	-	-	P(2)	-	P(3)	-	P(4)
Capstan	2002-2004	N (1/3)	-	P(3)	P(3)	5 (1/3)	11 (1/3)	10 (1/3)
Commander	2005-2007	-	-	P(1)	P(1)	P(3)	P(1)	P(3)
Fairview	2013	-	-	-	-	-	-	-
Fathom	2012-2013	-	-	-	-	-	-	-
Finniss	2008-2009	-	-	P(2)	-	P(1)	-	P(2)
Flagship	2004-2009	N (1/1)	-	P(4)	N (1/2)	P(5)	N (1/2)	8 (1/6)
Fleet	2004-2006	N (1/1)	-	P(2)	P(2)	P(3)	N (1/2)	7-8 (2/3)
Flinders	2013	-	-	-	-	-	-	N (1/2)
Gairdner	1998-2001	6 (1/4)	-	P(3)	P(4)	6 (1/4)	8 (1/4)	3 (1/4)
Granger	2013	-	-	-	-	-	-	-
Hindmarsh	2007-2009	-	-	P(2)	-	P(2)	-	8 (1/3)
Keel	1998-2001	P(4)	-	6 (1/3)	P(4)	4 (1/4)	P(4)	4-6 (3/4)
La Trobe	2013	-	-	-	-	-	-	N (1/2)
Maritime	2003-2005	9 (1/2)	-	P(3)	P(3)	4 (1/3)	4-7 (2/3)	7 (1/3)
Oxford	2009-2012	-	-	-	-	-	-	P(2)
Schooner	1993-1997	9 (1/5)	18 (1/3)	P(1)	P(5)	P(2)	P(5)	P(2)
Scope	2010-2012	-	-	-	-	-	-	P(2)
Sloop	1994-2000	22 (1/7)	P(2)	P(3)	N (1/7)	5 (1/5)	P(7)	4-9 (2/5)
Sloop SA	2009-2010	-	-	-	-	-	-	P(2)
Torrens	2001-2003	P(3)	-	P(3)	P(3)	P(3)	P(3)	P(3)
Vlamingh	2009-2010	-	-	-	-	-	-	P(2)
Westminster	2012-2013	-	-	-	-	-	-	-
Wimmera	2010-2012	-	-	-	-	-	-	P(2)
Yarra	2004-2007	-	-	P(1)	P(1)	P(3)	5 (1/1)	P(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

Research Site Location:

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:

507mm

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