New barley varieties response to herbicides in Western Australia 2009-2014

This research has been conducted in WA wheatbelt (Katanning) to determine if new varieties of barley vary in tolerance to commonly used and new herbicides.

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

– not tested or insufficient data
√ (Z) no significant yield reductions at higher than the label recommended rates in (Z) trials
N (w/z) narrow margin, significant yield reductions at higher than the label recommended rate, but not tested at the label recommended rate. Significant event occuring in w trials out of Z trials conducted. Eg (2/5) = tested in 5 trials, 2 trials returing a significant

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 or tank mixes. It must be emphasied that crop tolerance and yield responses to herbicides are strongly influced by seasonal conditions.

		Pre-emergent			Z12-Z13	Z13-Z14	
Herbicides		Boxer® Gold	Triflur® X 480	Triflur® 400 + Lexone®	Axial® + Adigor®	Achieve®	Affinity® + MCPA (amine)
		s-Metolachlor + prosulfocarb	Trifluralin	Trifluralin + Metribuzin	Pinoxadin	Tralkoxydim	Carfentrazone-ethyl + MCPA
Variety	Years Tested	2009, 11-14	2009, 11-14	2011-14	2011-14	2009, 11-14	2009
Bass	2013-14	√ (2)	√ (2)	√ (2)	√ (2)	**N (1/2)**	–
Baudin	2009, 11-12	√ (3)	√ (3)	√ (2)	√ (2)	√ (3)	√ (1)
Buloke	2011-13	√ (3)	√ (3)	√ (3)	√ (3)	√ (3)	–
Charger	2014	√ (1)	√ (1)	√ (1)	√ (1)	√ (1)	–
Commander	2011-13	√ (3)	√ (3)	√ (3)	√ (3)	**N (1/3)**	–
Compass	2013-14	**N (1/2)**	√ (2)	√ (2)	√ (2)	**N (1/2)**	–
Dash	2009	√ (1)	√ (1)	–	–	√ (1)	√ (1)
Fathom	2012	√ (1)	√ (1)	√ (1)	√ (1)	**N (1/1)**	–
Finniss	2009	√ (1)	√ (1)	–	–	√ (1)	√ (1)
Flagship	2009	√ (1)	√ (1)	–	–	√ (1)	√ (1)
Fleet	2009, 2011	√ (2)	√ (2)	√ (1)	√ (1)	√ (2)	√ (1)
Flinders	2012, 2014	**N (1/2)**	√ (2)	√ (2)	√ (2)	**N (1/2)**	–
Gairdner	2011	√ (1)	√ (1)	√ (1)	√ (1)	√ (1)	–
Granger	2012-14	√ (3)	√ (3)	√ (3)	√ (3)	√ (3)	–
Hamelin	2009	√ (1)	√ (1)	–	–	√ (1)	√ (1)
Henley	2011-12	√ (2)	√ (2)	√ (2)	√ (2)	√ (2)	–
Hindmarsh	2011-13	√ (3)	√ (3)	√ (3)	√ (3)	**N (1/3)**	–
La Trobe	2012-14	√ (3)	√ (3)	√ (3)	√ (3)	**N (1/3)**	–
Litmus	2013-14	√ (2)	√ (2)	√ (2)	√ (2)	√ (2)	–
Macquarie	2009, 2011	√ (2)	√ (2)	√ (1)	√ (1)	√ (2)	√ (1)
Navigator	2012	√ (1)	√ (1)	√ (1)	√ (1)	√ (1)	–
Oxford	2011-12	√ (2)	√ (2)	√ (2)	√ (2)	**N (1/2)**	–
Scope	2009, 11, 13-14	√ (4)	√ (4)	√ (3)	√ (3)	√ (4)	√ (1)
Skipper	2012	√ (1)	√ (1)	√ (1)	√ (1)	√ (1)	–
SYRattler	2012-13	√ (2)	√ (2)	√ (2)	√ (2)	√ (2)	–
Westminister	2009, 2011	√ (2)	√ (2)	√ (1)	√ (1)	√ (2)	√ (1)
Rates (product/ha)		>2.5 L	>3 L	>1 L + 150 g	>300 mL + 0.5%	>380 g	>50 g + 0.5 L
Crop stage at spraying		Incorporated by seeding	Incorporated by seeding	Incorporated by seeding	Z12-Z13	Z13-Z14	Z13-Z14

		Z13-Z14				Z14-Z15	
Herbicides		Affinity® + MCPA (Amine)	Ally®	Broadside®	Tigrex®	Diuron 900 + MCPA (Amine) 500	Hoegrass® 500
		Carfentrazone-ethyl + MCPA	Metsulfuron	Bromoxynil + MCPA + Dicamba	Diflufenican + MCPA	Diuron + MCPA	Diclofop-methyl
Variety	Years Tested	2011-14	2009, 11-14	2011-14	2009, 11-14	2009, 11-14	2009, 11-14
Bass	2013-14	√ (2)	√ (2)	√ (2)	**N (1/2)**	**N (1/2)**	√ (2)
Baudin	2009, 11-12	√ (2)	√ (3)	√ (2)	√ (3)	√ (3)	√ (3)
Buloke	2011-13	√ (3)	√ (3)	√ (3)	√ (3)	**N (1/3)**	**N (1/3)**
Charger	2014	√ (1)	√ (1)	√ (1)	√ (1)	√ (1)	√ (1)
Commander	2011-13	√ (3)	√ (3)	√ (3)	√ (3)	√ (3)	√ (3)
Compass	2013-14	√ (2)	√ (2)	√ (2)	√ (2)	√ (2)	**N (1/2)**
Dash	2009	–	√ (1)	–	√ (1)	√ (1)	√ (1)
Fathom	2012	√ (1)	√ (1)	**N (1/1)**	√ (1)	**N (1/1)**	√ (1)
Finniss	2009	–	√ (1)	–	√ (1)	√ (1)	√ (1)
Flagship	2009	–	√ (1)	–	√ (1)	√ (1)	√ (1)
Fleet	2009, 2011	√ (1)	√ (2)	**N (1/1)**	√ (2)	√ (2)	√ (2)
Flinders	2012, 2014	√ (2)	√ (2)	√ (2)	√ (2)	√ (2)	**N (1/2)**
Gairdner	2011	√ (1)	√ (1)	√ (1)	√ (1)	√ (1)	√ (1)
Granger	2012-14	√ (3)	√ (3)	**N (1/3)**	**N (1/3)**	**N (2/3)**	√ (3)
Hamelin	2009	–	√ (1)	–	√ (1)	√ (1)	√ (1)
Henley	2011-12	**N (1/2)**	**N (1/2)**	√ (2)	√ (2)	√ (2)	**N (1/2)**
Hindmarsh	2011-13	√ (3)	**N (1/3)**	√ (3)	**N (1/3)**	**N (1/3)**	**N (1/3)**
La Trobe	2012-14	**N (1/3)**	**N (1/3)**	√ (3)	√ (3)	**N (1/3)**	**N (1/3)**
Litmus	2013-14	√ (2)	√ (2)	√ (2)	√ (2)	**N (1/2)**	√ (2)
Macquarie	2009, 2011	√ (1)	√ (2)	√ (1)	√ (2)	√ (2)	√ (2)
Navigator	2012	√ (1)	√ (1)	√ (1)	√ (1)	**N (1/1)**	√ (1)
Oxford	2011-12	√ (2)	√ (2)	**N (1/2)**	**N (1/2)**	√ (2)	**N (1/2)**
Scope	2009, 11, 13-14	√ (3)	√ (4)	√ (3)	**N (1/4)**	**N (1/4)**	√ (4)
Skipper	2012	**N (1/1)**	√ (1)	√ (1)	√ (1)	√ (1)	√ (1)
SYRattler	2012-13	√ (2)	√ (2)	**N (1/2)**	√ (2)	√ (2)	√ (2)
Westminister	2009, 2011	√ (1)	√ (2)	√ (1)	√ (2)	√ (2)	√ (2)
Rates (product/ha)		>60 g + 0.5 L	>7 g	>1L	>1L	>222 g + 0.5 L	>1.125 L
Crop stage at spraying		Z13-Z15	Z13-Z14	Z13-Z14	Z13-Z14	Z14-Z15	Z14-Z15

		Z15+
Herbicides		2,4-D LVE 680 (xtra)
		2,4-D LV Ester
Variety	Years Tested	2011-14
Bass	2013-14	√ (2)
Baudin	2009, 11-12	√ (2)
Buloke	2011-13	√ (3)
Charger	2014	√ (1)
Commander	2011-13	√ (3)
Compass	2013-14	N (1/2)
Dash	2009	–
Fathom	2012	√ (1)
Finniss	2009	–
Flagship	2009	–
Fleet	2009, 2011	√ (1)
Flinders	2012, 2014	√ (2)
Gairdner	2011	√ (1)
Granger	2012-14	√ (3)
Hamelin	2009	–
Henley	2011-12	√ (2)
Hindmarsh	2011-13	√ (3)
La Trobe	2012-14	√ (3)
Litmus	2013-14	√ (2)
Macquarie	2009, 2011	√ (1)
Navigator	2012	√ (1)
Oxford	2011-12	√ (2)
Scope	2009, 11, 13-14	√ (3)
Skipper	2012	√ (1)
SYRattler	2012-13	√ (2)
Westminister	2009, 2011	√ (1)
Rates (product/ha)		>0.8 L
Crop stage at spraying		Z15-Z16

Note: During 2010, the crop growth was poor and uneven due to dry conditions at Katanning, thus the trial was not harvested.

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Research site location	Katanning	Katanning	Katanning	Katanning
Year	2009	2011	2012	2013
Site soil type	Loamy Sand	Loamy Sand	Loamy Sand	Sandy loam
Site pH ($Cacl_2$)	5.2	4.7	4.3	5.11
Rainfall (June-Nov)	348.2 mm	375.3 mm	256.4mm	292.2 mm
Site annual average rainfall (mm)	420	420	420	420