

Wheat 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 wheat 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. The organisations 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 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	Broadstrike
		2,4-D Amine	Tralkoxydim	Carfentrazone - Ethyl	Metsulfuron	Pinoxaden + Cloquintocet- Methyl	MCPA+ Dicamba	Flumetsulam
Variety	Tested	1993-2007	1993-2007	2006-2007	1993-2007	2006-2007	1993-2007	1993-2007
AGT Scythe	2004-2005	✓(2)	N (1/2)	-	✓(2)	-	N (1/2)	✓(2)
Barunga	1993-1994	✓(2)	✓(2)	-	✓(2)	-	✓(2)	✓(2)
Carinya	2006-2007	10 (1/2)	✓(2)	✓(2)	10 (1/2)	N (1/2)	N (1/2)	-
Correll	2006-2007	14 (1/2)	✓(2)	✓(2)	11-15 (2/2)	✓(2)	✓(2)	-
Derrimut	2006-2007	N (1/2)	✓(2)	✓(2)	N (1/2)	✓(2)	10 (1/2)	-
Excalibur	1993-1994	✓(2)	✓(2)	-	✓(2)	-	23 (1/2)	✓(2)
Frame	1993-2007	5-18 (3/15)	12 (1/15)	✓(2)	4-21 (4/15)	✓(2)	5-21 (2/15)	7 (1/15)
Gladius	2006-2007	11 (1/2)	✓(2)	✓(2)	9-18 (2/2)	✓(2)	N (2/2)	-
Janz	1993-2000	3-5 (2/8)	3-5 (2/8)	3-5 (2/8)	3-5 (2/8)	3-5 (2/8)	5-15 (2/8)	✓(8)
Kalka	2001-2004	6 (1/3)	N (1/4)	-	✓(4)	-	N (2/4)	✓(4)
Krichauff	1994-2000	5-6 (2/7)	6 (1/7)	-	6 (1/7)	-	6-8 (2/7)	N (2/7)
Kukri	2000-2002	3 (1/3)	✓(3)	-	4-6 (2/3)	-	N (3/3)	N (1/3)
Pugsley	2001-2004	5 (1/4)	12 (1/4)	-	5 (1/4)	-	N (2/4)	N (1/4)
Sliverstar	1998-2000	2-3 (2/3)	7 (1/3)	-	5 (1/3)	-	5-12 (2/3)	4 91/3
Stylet	2001-2002	✓(2)	✓(2)	-	19 (1/2)	-	N (1/2)	✓(2)
Tamaroi	1996-2003	3-4 (2/8)	5 (1/8)	-	11 (1/8)	-	✓(8)	✓(8)
Trident	1993-1997	✓(5)	✓(5)	-	✓(5)	-	13 (1/5)	N (1/5)
Worrakatta	1993-1997	2 (1/5)	✓(5)	-	✓(5)	-	✓(5)	✓(5)
Wyalkatchem	2003-2005	9 (1/3)	N (1/3)	-	4-8 (2/3)	-	✓(3)	4 (1/3)
Yallaroi	1993-1997	✓(5)	✓(5)	-	✓(5)	-	26 (1/5)	✓(5)
Yitpi	1998-2001	2-9 (3/4)	✓(4)	-	2-4 (2/4)	-	✓(4)	2-8 (2/4)
Young	2005-2006	✓(2)	✓(2)	✓(1)	9 (1/2)	✓(1)	4 (1/2)	✓(1)
Rates (product/ha)		1.4L	380g	60g	7g	250ml	1.4L	25g
Crop stage at spraying		2 node	3 leaf	3 leaf	3 leaf	3 leaf	5leaf	5 leaf

Herbicide	Years Tested	Bromoxynil MCPA	Cadence	Diuron/MCPA Amine	Glean	Hoegrass®	Hussar®	Logran
		Bromoxynil + MCPA	Dicamba	Diuron + MCPA Amine	Chlorsulfuron	Diclofop-methyl	Iodosulfuron-Merhylsodium	Triasulfuron
Variety	Years Tested	1994-2007	2006-2007	1993-2007	1993-2007	1993-2004	2005-2007	1993-2007
AGT Scythe	2004-2005	✓(2)	-	N 9(1/2)	8 (1/2)	N (1/1)	✓(1)	6 (1/2)
Barunga	1993-1994	✓(1)	-	✓(2)	✓(2)	N (1/2)	-	✓(2)
Carinya	2006-2007	✓(2)	N (2/2)	✓(2)	✓(2)	-	✓(2)	✓(2)
Correll	2006-2007	✓(2)	✓(2)	✓(2)	✓(2)	-	12 (1/2)	✓(2)
Derrimut	2006-2007	N (1/3)	✓(2)	✓(2)	✓(2)	-	✓(4)	N (1/2)
Excalibur	1993-1994	✓(1)	-	✓(2)	✓(2)	11 9(1/2)	-	✓(2)
Frame	1993-2007	2-7 (5/14)	✓(2)	4-6 (2/15)	6 (1/15)	✓(12)	N (1/3)	2 (1/15)
Gladius	2006-2007	✓(2)	9 (1/2)	✓(2)	✓(2)	-	17-19 (2/2)	✓(2)
Janz	1993-2000	6 (1/8)	-	✓(2)	✓(8)	✓(8)	-	2 (1/8)
Kalka	2001-2004	N (1/4)	-	6 (1/4)	7-14 (2/4)	✓(4)	-	✓(4)
Krichauff	1994-2000	N (2/4)	-	✓(7)	N (1/7)	✓(7)	-	4 (1/7)
Kukri	2000-2002	4 (1/3)	-	✓(3)	6-7 (2/3)	✓(3)	-	8 9(1/3)
Pugsley	2001-2004	✓(4)	-	N (1/4)	N (2/4)	12 (1/4)	-	✓(4)
Silverstar	1998-2000	3-4 (2/3)	-	N (2/3)	4 (1/3)	✓(3)	-	5 (1/3)
Stylet	2001-2002	5 (1/2)	-	✓(2)	5 (1/2)	N 9(1/2)	-	✓(2)
Tamaroi	1996-2003	N (3/8)	-	4 (1/8)	5-10 (2/8)	N (3/8)	-	N (2/8)
Trident	1993-1997	6 (1/4)	-	✓(5)	✓(5)	✓(5)	-	✓(5)
Worrakatta	1993-1997	N (2/5)	-	3 9(1/5)	✓(5)	8 (1/5)	-	✓(5)
Wyalkatchem	2003-2005	✓(3)	-	5 (1/3)	N 9(1/3)	✓(2)	4 (1/1)	N (1/3)
Yallaroi	1993-1997	N (2/4)	-	✓(5)	✓(5)	✓(5)	-	✓(5)
Yitpi	1998-2001	N (3/4)	-	✓(4)	3-8 (2/4)	2 (1/4)	-	6-8 (2/4)
Young	2005-2006	✓(2)	-	✓(2)	✓(2)	-	3 (1/2)	✓(2)
Rates (product/ha)		1.4L	200ml	500g/350ml	20g	200ml	200g	35g
Crop stage at spraying		3 leaf	5 leaf	3 leaf	PSPE	3 leaf	3 leaf	PSPE

Herbicide	Variety	Years Tested	Lontrel	LVE MCPA	Terbutryn	Tigrex
			Clopyralid	LVE MCPA	Terbutryn	MCPA + Diflufenican
			1993-2005	1996-2007	1993-2004	1996-2007
	AGT Scythe	2004-2005	✓(2)	6 (1/2)	N (1/2)	✓(2)
	Barunga	1993-1994	✓(2)	-	✓(2)	-
	Carinya	2006-2007	-	✓(2)	-	✓(2)
	Correll	2006-2007	-	✓(2)	-	N (1/2)
	Derrimut	2006-2007	-	✓(2)	-	N (1/2)
	Excalibur	1993-1994	✓(2)	-	✓(2)	-
	Frame	1993-2007	✓(13)	✓(12)	5 (1/12)	N (4/12)
	Gladius	2006-2007	-	N (1/2)	-	✓(2)
	Janz	1993-2000	✓(8)	✓(5)	✓(8)	5 (1/5)
	Kalka	2001-2004	✓(4)	✓(5)	✓(4)	5 (1/4)
	Krichauff	1994-2000	N (2/7)	N (2/5)	N (2/7)	N (2/5)
	Kukri	2000-2002	N (1/3)	5 (1/3)	4 91/3	9 (1/3)
	Pugsley	2001-2004	✓(4)	12 (1/4)	N (1/4)	✓(4)
	Silverstar	1998-2000	✓(3)	✓(3)	5 (1/3)	3 (1/3)
	Stylet	2001-2002	N (1/2)	✓(2)	✓(2)	22 (1/2)
	Tamaroi	1996-2003	N (2/8)	N (3/7)	6 (1/8)	✓(8)
	Trident	1993-1997	✓(5)	✓(2)	✓(5)	✓(2)
	Worrakatta	1993-1997	7 (1/5)	✓(4)	N (2/5)	3 (1/4)
	Wyalkatchem	2003-2005	✓(3)	✓(3)	✓(2)	7 (1/3)
	Yallaroi	2005-2006	✓(5)	✓(2)	✓(5)	✓(2)
	Yitpi	1998-2001	✓(4)	N (2/4)	N (2/4)	N (3/4)
	Young	2005-2006	✓(1)	4 (1/2)	✓(1)	✓(2)
	Rates (product/ha)		150ml	1.2L	850ml	1L
	Crop stage at spraying		2 leaf	5 leaf	3 leaf	5 leaf

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Research site location:

Hart, 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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