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<h2>Wild Oat Management in Chickpeas</h2>
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Trial ID: RB1803	Location: Moree	Trial Year: 2018
	Investigator: Richard Black	

Objectives:	To screen residual herbicides for suppression of wild oats in Chickpea To evaluate the impact of soil levelling during planting on herbicide efficacy To evaluate the impact of pre-emergent herbicides on efficacy of post-emergent applications
Application Date:	22/05/2018
Variety:	PBA HatTrick
Application Timing:	Pre-Plant with Incorporation by sowing
Application Volume:	100L/ha
Levelling:	Furrow levelling was carried out using chains behind each tyne at planting
Planting Equipment:	Commercial Tyne Planter
Row Spacing:	56cm
Planting Date:	23/05/2018
Planting Rate:	70 kg/ha
Target Plant Population:	25-30/m <sup>2</sup>
Planting Depth:	10cm depth with 5cm soil coverage in 'non-levelled' treatments
Keywords:	Wild oats, Chickpeas

**NB:** No weed data generated from this trial due to extremely dry conditions

**NB:** Trial was designed and analysed as a Factorial

	In Simple Terms:
Table of A Means:	Mean of 'herbicide' performance with ALL 'levelling +/-' treatments
Table of B Means:	Mean of 'levelling +/-' performance with ALL 'herbicide' treatments
Table of A x B Means:	'herbicide' performance with EACH 'levelling +/-' treatment

**How to Interpret?**

Is there a significant difference for A x B Means ?

**If YES**

Table A x B Means analysis is the key information

**If NO** (ie nsd)

Table A or Table B Means analysis is the key information

## Wild Oat Management in Chickpeas

Trial ID: **RB1803**      Location: **Moree**      Trial Year: **2018**

Key information highlighted in grey

Crop Name Crop Variety Assessment Date Assessment Type Assessment Unit Plant-Evaluation Interval ARM Action Codes			Chickpea PBA HatTrick 18/06/2018 EMERGENCE /m <sup>2</sup> 26 DP 1 T1
Trt No.	Treatment	Product Rate	
<b>TABLE OF A MEANS (Herbicide)</b>			
1	Untreated	-	5.3ab
2	Sakura	118g/ha	5.1ab
3	Boxer Gold	2500ml/ha	4.4bcd
4	Experimental Gp K	1800ml/ha	4.4abcd
5	Avadex Xtra	1600ml/ha	3.9bcd
6	TriflurX	1700ml/ha	3.2cd
7	Avadex Xtra TriflurX	1600ml/ha 1700ml/ha	2.8d
8	Outlook	1000ml/ha	6.3a
9	Rustler	1000ml/ha	4.9abc
10	Bladex	2200g/ha	4.7abc
11	Rifle 440	2500ml/ha	3.9bcd
12	Terbyne Xtreme	1200g/ha	4.3bcd
<b>TABLE OF B MEANS (Levelling +/-)</b>			
1	No Levelling		5.6a
2	Levelling		3.2b
<b>TABLE OF A x B MEANS (Herbicide x Levelling +/-)</b>			
1	Untreated No Levelling	-	7.7ab
1a	Untreated Levelling	-	2.9ef
2	Sakura No Levelling	118g/ha	7.1bc
2a	Sakura Levelling	118g/ha	3.0ef
3	Boxer Gold No Levelling	2500ml/ha	5.4b-e
3a	Boxer Gold Levelling	2500ml/ha	3.3ef
4	Experimental Gp K No Levelling	1800ml/ha	4.9c-f
4a	Experimental Gp K Levelling	1800ml/ha	3.9def
5	Avadex Xtra No Levelling	1600ml/ha	5.0c-f
5a	Avadex Xtra Levelling	1600ml/ha	2.8f
6	TriflurX No Levelling	1700ml/ha	3.9def
6a	TriflurX Levelling	1700ml/ha	2.5f
7	Avadex Xtra TriflurX No Levelling	1600ml/ha 1700ml/ha	2.7f
7a	Avadex Xtra TriflurX Levelling	1600ml/ha 1700ml/ha	2.9ef

Means followed by same letter do not significantly differ (P=.05, LSD)

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Crop Name Crop Variety Assessment Date Assessment Type Assessment Unit Plant-Evaluation Interval ARM Action Codes			Chickpea PBA HatTrick 18/06/2018 EMERGENCE /m <sup>2</sup> 26 DP 1 T1
Trt No.	Treatment	Product Rate	
8	Outlook No Levelling	1000ml/ha	9.7a
8a	Outlook Levelling	1000ml/ha	2.8f
9	Rustler No Levelling	1000ml/ha	6.3bcd
9a	Rustler Levelling	1000ml/ha	3.6ef
10	Bladex No Levelling	2200g/ha	5.4b-e
10a	Bladex Levelling	2200g/ha	3.9def
11	Rifle 440 No Levelling	2500ml/ha	4.4def
11a	Rifle 440 Levelling	2500ml/ha	3.4ef
12	Terbyne Xtreme No Levelling	1200g/ha	4.8c-f
12a	Terbyne Xtreme Levelling	1200g/ha	3.9def

COMPLETE FACTORIAL AOV Chickpea - PBA HatTrick 18/06/2018 EMERGENCE /m <sup>2</sup> 26 DP 1 T1						
Source	DF	Sum of Squares	Mean Square	F	Prob.(F)	LSD (.05)
Total	71	364.181968				
R	2	30.518962	15.259481	6.672	0.0056	
A	11	58.325251	5.302296	2.268	0.0491	1.8
RA	22	51.425925	2.337542			
B	1	102.040816	102.040816	65.449	0.0149	1.3
RB	2	3.118191	1.559095			
AB	11	68.093644	6.190331	2.688	0.0232	2.6
RAB	22	50.659180	2.302690			

Plant-Evaluation Interval

26 DP1 = 1 CIEAR 23/05/2018

ARM Action Codes

T1 = [C1]\*1/1.12

DP 1 = Days after Planting

## Wild Oat Management in Chickpeas

Trial ID: RB1803      Location: Moree      Trial Year: 2018

Application Description	
Application Date:	22/05/2018
Application Start Time:	11:00 AM
Application Stop Time:	3:00 PM
Application Method:	SPRAY
Application Timing:	IBS
Application Placement:	SOIL
Air Temperature, Unit:	18 C
% Relative Humidity:	35
Wind Velocity, Unit:	12 km/h
Wind Direction:	SW
Dew Presence (Y/N):	No
Soil Moisture:	DRY
% Cloud Cover:	0
Next Moisture Occurred On:	5/07/2018

Application Equipment	
Operation Pressure, Unit:	300 kPa
Nozzle Type:	AIXR
Nozzle Size:	110015
Nozzle Spacing, Unit:	50 cm
Boom Length, Unit:	3 m
Boom Height, Unit:	50 cm
Ground Speed, Unit:	7.2 km/h
Carrier:	WATER
Spray Volume, Unit:	100 L/ha

Conditions at planting were dry with chickpea seed planted at ~10cm below the soil surface with ~5cm of soil pressed over the seed. The soil removed from the furrow at planting was very cloddy. This soil was returned to the planting furrow in the 'levelled' treatments by chains dragged behind each tyne. No rainfall was received until ~6 weeks after planting.

In the 'non-levelled' treatments, TriflurX, Avadex Xtra, Rifle 440, Terbyne Xtreme and the Group K experimental all had significantly reduced emergence compared to the Untreated. In the 'levelled' treatments, there was no significant difference in emergence between any herbicide and the Untreated, however crop emergence was only ~3-4/m<sup>2</sup> for all treatments. Under these conditions, the cloddy soil returned to the planting furrow had reduced crop emergence regardless of herbicide application.

As a result of the limited rainfall, only trace levels of wild oats emerged and numbers were insufficient to warrant assessment or post emergent management. No data was obtained on residual or knockdown wild oat control.