Knockdown Control of Wild Oats in Chickpeas

Trial ID: RB1809 **Location:** Crooble **Trial Year:** 2018
Investigator: Richard Black

Objective:	**To evaluate the efficacy of flamprop-m-methyl (Oatmaster), alone or following early post-emergent application, at varied wild oat growth stages**		
Crop/variety:	**Chickpea/ PBA HatTrick**		
Planting Rate:	**70kg/ha**		
Row Spacing:	**56.2cm**		
Weed:	**Wild Oats (*Avena sterilis ludoviciana)***		
Application Code:	**A**	**B**	**C**
Application Date:	**17/08/2018**	**30/08/2018**	**14/09/2018**
Application Timing: (Weed Growth Stage)	**Tillering**	**GS31**	**Oats in boot**
Weed Stage at Application:	**4 Leaf - 2 Tiller**	**Start Stem Elongation – 2nd Node**	**7 Node – mid Boot**
Application Volume:	**100 L/ha**		
Weed Population:	**0.6/m²**		
Keywords:	**Wild oats, knockdown, chickpea**		

NB: Flamprop-m-methyl is only registered for selective spray topping of wild oats in chickpeas. Application should be on wild oats at stem elongation to booting. Chickpea crop stage should be prior to commencement of flowering.

Pest Scientific Name				***Avena sterilis ludoviciana***			
Pest Name				**Wild Oat**			
Description						**Surviving Plants**	**Panicles**
Assessment Date				**30/08/2018**	**14/09/2018**	**19/10/2018**	**19/10/2018**
Assessment Type				**BURNDOWN**	**BURNDOWN**	**COUNT**	**COUNT**
Assessment Unit				**%**	**%**	**/m²**	**/m²**
Pest Stage Majority				**30**	**40**	**69**	**69**
Treatment-Evaluation Interval				**13 DAA**	**28 DAA**	**63 DAA**	**63 DAA**
ARM Action Codes				**AL**	**AA**	**AA T1**	**AA T2**
Trt No.	**Treatment**	**Product Rate**	**Appln. Code**				
1	Status Liase Uptake	500ml/ha 1% v/v 0.5% v/v	A	19abc	53ab	0.0b	0.1b
2	Status Verdict 520 Liase Uptake	500ml/ha 100ml/ha 1% v/v 0.5% v/v	A	14bc	35bc	0b	0b
3	Oatmaster Uptake	1250ml/ha 0.5% v/v	A	0d	9cd	0.6a	3.2a
4	Oatmaster Uptake	1875ml/ha 0.5% v/v	A	0d	1d	0.7a	5.7a
5	Oatmaster Uptake	1250ml/ha 0.5% v/v	B		3d	1.0a	7.4a
6	Oatmaster Uptake	1875ml/ha 0.5% v/v	B		1d	0.6a	4.2a
7	Oatmaster Uptake	1250ml/ha 0.5% v/v	C			0.4a	3.0a
8	Oatmaster Uptake	1875ml/ha 0.5% v/v	C			0.7a	6.0a

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Description						Surviving Plants	Panicles
Assessment Date				30/08/2018	14/09/2018	19/10/2018	19/10/2018
Assessment Type				BURNDOWN	BURNDOWN	COUNT	COUNT
Assessment Unit				%	%	m^2	$/m^2$
Pest Stage Majority				30	40	69	69
Treatment-Evaluation Interval				13 DAA	28 DAA	63 DAA	63 DAA
ARM Action Codes				AL	AA	AA T1	AA T2
Trt No.	**Treatment**	**Product Rate**	**Appln. Code**				
9	Status	500ml/ha	A	26ab	40b	0.0b	0.1b
	Liase	1% v/v	A				
	Uptake	0.5% v/v	A				
	Oatmaster	1875ml/ha	B				
	Uptake	0.5% v/v	B				
10	Status	500ml/ha	A	34a	67ab	0.0b	0.1b
	Verdict 520	100ml/ha	A				
	Liase	1% v/v	A				
	Uptake	0.5% v/v	A				
	Oatmaster	1875ml/ha	B				
	Uptake	0.5% v/v	B				
11	Status	500ml/ha	A	13c	45b	0b	0b
	Liase	1% v/v	A				
	Uptake	0.5% v/v	A				
	Oatmaster	1875ml/ha	C				
	Uptake	0.5% v/v	C				
12	Status	500ml/ha	A	26ab	80a	0b	0b
	Verdict 520	100ml/ha	A				
	Liase	1% v/v	A				
	Uptake	0.5% v/v	A				
	Oatmaster	1875ml/ha	C				
	Uptake	0.5% v/v	C				
			LSD P=	0.3t	20.0t	2.519t	6.688t
			Treatment Prob.(F)=	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
Mean comparisons performed only when AOV Treatment P (F) is significant at mean comparison OSL.

Assessment Type
BURNDOWN = % Burndown/brown out
Pest Stage Majority
30 = Beginning of stem elongation; G_Beginning of shooting
40 = V_Vegetative reproductive organs begin to develop (rhizomes, stolons, tubers, runners, bulbs)
69 = End of flowering: fruit set visible
ARM Action Codes
AL = Automatic log transformation of X+1
AA = Automatic arcsine square root % transformation

DAA = Days after Application A

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Application Description			
	A	B	C
Application Date:	17/08/2018	30/08/2018	14/09/2018
Application Start Time:	8:30 AM	9:00 AM	9:00 AM
Application Stop Time:	10:30 AM	11:00 AM	10:30 AM
Application Timing:	Wild Oat Tillering	Wild Oat GS31	Wild Oat Booting
Application Placement:	FOLIAR		
Air Temperature, Unit:	16 C	18 C	19 C
% Relative Humidity:	35	40	42
Wind Velocity, Unit:	4 km/h	5 km/h	12 km/h
Wind Direction:	WNW	N	NE
Dew Presence (Y/N):	No		
% Cloud Cover:	20	0	0
Next Moisture Occurred On:	25/08/2018		

Pest Stage at Each Application						
	A		B		C	
Pest:	Wild Oats (*Avena sterilis ludoviciana)*					
Stage Majority, Percent:	14	90%	30	75%	40	80%
Stage Minimum, Percent:	12	4%	30	75%	37	10%
Stage Maximum, Percent:	22	6%	32	5%	43	10%
Density, Unit:	0.6 m^2					

Application Equipment			
	A	B	C
Operation Pressure, Unit:	300 kPa		
Nozzle Type:	AIXR		
Nozzle Size:	110015		
Nozzle Spacing, Unit:	50 cm		
Boom Length, Unit:	4 m		
Boom Height, Unit:	50 cm		
Ground Speed, Unit:	7.2 km/h		
Carrier:	WATER		
Spray Volume, Unit:	100 L/ha		

Conclusions:

This trial was conducted ~50km north of Moree to evaluate the efficacy of Oat Master alone or following Group A post-emergent herbicide application. Conditions were very dry at the start of the trial with wild oat counts of ~0.6 plants per m^2 and visually moisture stressed.

All treatments that included Status or Status/Verdict mixtures provided effective wild oat control.

In this situation Oat Master treatments alone did not control the wild oats. There was no apparent rate or timing response to the Oat Master applications. All surviving wild oats produced panicles.

It is unclear what caused the poor Oat Master efficacy but it may have been a result of very dry conditions at application for Applications B and C. Late rain (~55mm) and warm conditions after the last application helped surviving plants produce panicles.