Alternative 2nd Knocks for Grass Weeds

Trial ID: RB1819 **Location:** Goondiwindi **Trial Year:** 2019
Investigator: Richard Black

Objective:	**To evaluate alternative second knock options for grass weeds**	
Situation:	**Fallow**	
Application:	**A (1st Knock)**	**B (2nd Knock)**
Application Date:	**8/01/2019**	**16/01/2019 (8 Days after Application A)**
Weed Stage at Application:	**Flag Leaf**	
Weed Population at Application:	**6/m²**	
Weed Diameter:	**20cm**	
Keywords:	**Awnless barnyard grass, knockdown, double knock, fallow**	

1st Knock was a commercially applied tank mixture of Roundup + Clethodim + Starane + MCPA LVE + Banjo.

Pest Scientific Name					***Echinochloa colona***	
Pest Name					**Awnless Barnyard Grass**	
Assessment Date					**29/01/2019**	**13/02/2019**
Assessment Type					**BURNDOWN**	**COUNT**
Assessment Unit					**%**	**/m²**
Treatment-Evaluation Interval					**5 DAB**	**28 DAB**
ARM Action Codes					**AA**	**AA**
Trt No.	**Treatment**	**Product Rate**	**Appln. Code**	**Spray Volume**		
1	1st knock only	-	-	-	80e	0.9-
2	Gramoxone	800ml/ha	B	100L/ha	90d	0.8-
3	Gramoxone	1600ml/ha	B	100L/ha	95bc	0.1-
4	Gramoxone	2000ml/ha	B	100L/ha	96b	0.8-
5	Gramoxone	2400ml/ha	B	100L/ha	99a	0.5-
6	Gramoxone Sharpen	1600ml/ha 9g/ha	B	100L/ha 100L/ha	96b	0.4-
7	Gramoxone Sharpen Hasten	1600ml/ha 9g/ha 1% v/v	B	100L/ha 100L/ha 100L/ha	96b	1.2-
8	Gramoxone Basta	1600ml/ha 2000ml/ha	B	100L/ha 100L/ha	95bc	1.4-
9	Paratrooper	1600ml/ha	B	100L/ha	94bcd	0.9-
10	Alliance	3200ml/ha	B	100L/ha	95bc	1.7-
11	Gramoxone Balance	1600ml/ha 100g/ha	B	100L/ha 100L/ha	96b	0.4-
12	Sprayseed 250	1600ml/ha	B	100L/ha	92cd	0.9-
13	Basta	3750ml/ha	B	100L/ha	94bcd	0.9-
14	Experimental Hasten	3300ml/ha 1% v/v	B	100L/ha 100L/ha	95bc	0.4-
				LSD =	4.2t	4.61t
				Treatment Prob.(F)=	0.0001	0.6412

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.
DAB = Days after Application B

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Assessment Type
BURNDOWN = % Burndown/brown out
ARM Action Codes
AA = Automatic arcsine square root % transformation

DAB = Days after Application B

Conclusions:

The trial was conducted near Goondiwindi on a population of ~6 barnyard grass/m^2. Majority of weeds were at flag leaf emergence with first flowers visible on ~20% of the population. Average weed size was ~20cm diameter and 15cm tall.

The 1st knock application was applied commercially (Roundup + Clethodim + Starane + LVE + Banjo) with 2nd knock treatments applied 8 days later.

All 2nd knock treatments significantly increased % weed burndown, when assessed 5 days after application with Gramoxone 2.4 L/ha providing significantly increased burndown compared to all other treatments.

Assessment of regrowing barnyard grass was conducted 28 days after the 2nd knock application. The 1st knock alone had provided ~85% control with no significant improvement in control from any 2nd knock treatment. In this situation, when sprayed on advanced barnyard grass growth stages, there was no significant improvement in control from any 2nd knock treatment.

Application Description		
	A	B
Application Date:	8/01/2019	16/01/2019
Application Start Time:		6:00 AM
Application Stop Time:		9:00 AM
Application Method:	COMMERCIAL SPRAY	SPRAY
Application Placement:	FOLIAR	FOLIAR
Air Temperature, Unit:		25 C
% Relative Humidity:		40
Wind Velocity, Unit:		12 km/h
Wind Direction:		N
Dew Presence (Y/N):		No
% Cloud Cover:		0

Pest Stage at Each Application		
	A	B
Pest:	*Echinochloa colona* Awnless Barnyard Grass	
Stage Majority, %:	Flag Leaf 60%	
Stage Minimum, %:	4 Tillers 20%	
Stage Maximum, %:	First Flower 20%	
Diameter, Unit:	20 cm	
Height, Unit:	15 cm	
Density, Unit:	6/m^2	

Application Equipment		
	A	B
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	WATER
Spray Volume, Unit:	60 L/ha	100 L/ha