

TOPIC: HERBICIDE OPTIONS TO CONTROL BUT-TON GRASS DURING SUMMER

Group:
Mullewa 2011

ABSTRACT

Controlling Button Grass in summer is difficult with limited desirable spraying conditions and stressed weeds. Larger farms and few spray hours per day mean much of the spraying is done in sub-optimal conditions.

Herbicide choices are limited for the successful control of this weed. Of the herbicides tested, Glyphosate is the most cost effective and reliable herbicide. 'FOP' grass selectives appeared to give poor control at the rates used on mature button grass. Intervix appeared to give poor results at the rates used on mature grass.

A tankmix of Glyphosate with other broadleaf and melon herbicides reduced control by 13% at 17 days after spraying. Spraying in the dark appeared to give the best control, spraying in the early morning daylight gave no significant improvement in control.

Choice of adjuvant proved important, with LI700 and Amsul giving the best performance by 17 days after application. The use of Hot-Up oil and Supercharge oil + Amsul gave slightly poorer control of Button Grass. Paraquat at 1L & 2L/ Ha and Alliance at 3L/Ha achieved impressive initial burndown at 10 days, but weed regrowth occurred shortly after and was unacceptable at 17 Days after application.

TRIAL DETAILS RESULTS

Property	Koorinya Farms, Weir Family , Tenindewa
Soil type	Red Loamy Sand
Crop	Summer – no crops planted
Treatments:	3 treatments x 3 reps – plots 20m x 2m Trials sprayed with hand boom – 2m wide, with Agrotop airmix 110 01 nozzles at 2 bar, 4 km/hr at 98L/Ha. Dark - Herbicides applied from 3.45am-5.45am with no visible daylight, conditions were Delta T of 7.6 through to Delta T of 6.0, Rel humidity 47 through to 52%, temp 23C through to 22C. Light – Herbicides applied from 6.00am – 6.30am with good visible daylight, conditions were Delta T 6.0, Temp 21.4C, Rel Humidity 53%.
Replicates:	3 reps
Weeds :	Button Grass (Dactonium Radulans) – flowering and approximately 15-30cm height, 20-50cm diameter, fresh and actively growing, significant available soil moisture, wet to 2cm below soil surface.
Herbicides:	Glyphosate 450 g/L, Gramoxone 250g/L, Basta, Alliance (paraquate + Amitrole), Ally, Garlon, Estericide 680, Atrazine 600g/L, Verdict 520 (haloxyfop 520g/L, Intervix (Imazapyr and Imazamox), LI700 adjuvant, Liase (Ammonium Sulfate) at 2% volume, Hot-Up adjuvant, Supercharge Oil, Wetter TX. – Total application volumes – 98L/Ha.
Growing Season Rainfall	Total yearly rain 552.20. Total rain May-Oct (inclusive) 400.8

Graph 1 – Table 1 – Ratings of Herbicide efficacy at 10 and 17 days after application (DAA) when sprayed in the dark and in daylight . (Control Ratings 10%=poor, 100%=excellent)

TREATMENTS								Control (%)		
								10daa	17daa	
1	GLYPHOSATE	2L	HOTUP	1%				70.00	78.33	
2	GLYPHOSATE	2L	AMSUL	1%	SCHARGE	1%		0.70	71.67	
3	GLYPHOSATE	2L	AMSUL	1%	WETTER TX	0.20%		75.00	85.00	
4	GLYPHOSATE	2L	AMSUL	1%	LI700	0.50%		68.33	93.33	
5	GLYPHOSATE	2L	VERDICT	100ml	AMSUL	1%	LI700	0.50%	73.33	83.33
6	BASTA	4L						85.00	78.33	
7	GLYPHOSATE	2L	FLEXI N	2L				66.67	86.67	
8	GLYPHOSATE	2L	ESTER 680	500ml	GARLON	120ml	ALLY 7g	AMS LI700	75.00	80.00
9	PARAQUAT	1L						76.67	68.33	
10	PARAQUAT	2L						83.33	75.00	
11	ALLIANCE	3L						73.33	70.00	
12	ATRAZINE	2L	SCHARGE	1%				13.33	1.00	
13	INTERVIX	800ml	SCHARGE	1%	AMSUL	1%		35.00	1.00	
14	INTERVIX	800ml	VERDICT	100ml	AMSUL	1%	SCHARGE	1%	10.00	1.00
15	GLYPHOSATE	2L	INTERVIX	800ml	AMSUL	1%	SCHARGE	1%	75.00	90.00
16	VERDICT 520	100ml	SCHARGE	1%				10.00	1.00	
17	GLYPHOSATE	2L	AMSUL	1%	LI700	0.50%	Daylight	73.33	83.33	
18	GLYPHOSATE	4L	AMSUL	1%	LI700	0.50%	Daylight	73.33	91.67	
19	GLYPHOSATE	2L	AMSUL	1%	SCHARGE	1%	Daylight	70.00	68.33	
20	PARAQUAT	2L					Daylight	81.67	65.00	
							LSD 5%	7.08	16.69	
							Lsd 1%	9.53	22.48	
							cv	6.75	15.74	

DISCUSSION:

This trial shows that in good spraying conditions with excellent coverage (high water rates, large droplets and low ground speed), that 2l/ha of Glyphosate CT is close to a lethal dose (93.33%) on mature button grass. A rate of 2.5L/Ha should be sufficient at this later growth stage. The other modes of action did not provide acceptable control by 17 days after application. In this trial, there appeared to be no measurable improvement in control by applying glyphosate in the daylight when plants start to actively photosynthesize. No rainfall was received after this trial was conducted, and so any regrowth was achieved on plentiful stored soil moisture. Growers have had difficulty controlling this weed over vast areas, particularly when several follow up rainfall events occur after spraying. Adjuvant choice is important, with an improvement in control of 21% between the worst (supercharge +ams) and best (LI700 + ams) performing adjuvant treatments.

ILLUSTRATIONS

Fig 1: 2L Glyphosate CT+AMS+LI700



Fig 2: 2L Glyphosate CT +1% Hot-Up



Fig 3: 100ml Verdict 520 + 1% Schрге



Figure 4: Glyphosate+AMS+LI700 control



Figure 5: Paraquat regrowth



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