

SOUTH AFRICAN SUGAR INDUSTRY
AGRONOMISTS' ASSOCIATION

Cat.No. : 1794
Project No. :
Code No. : HW 414/91

Title: Chemical control of Cynodon dactylon.

Objectives: To continue testing treatments for control of C. dactylon.

1. Particulars of project:

This crop	: Fallow	Soil analysis Date	: No sample taken
Site	: Hillhead		
Region	: North coast - coastal	Dates	: 20/11/1991 - 11/2/1992
Soil System	: Berea	Rainfall	: 158 mm
Soil form / series	: Joubertina	Irrigation	: Nil
Design	: Randomised block	Total	: 158 mm
Variety	: N/A		
Fertiliser (kg/ha)	: N/A		

2. Objectives:

To test some new and currently used herbicides for their control of mature C. dactylon.

3. Treatments:

	Rates (l product/ha)
T1 Roundup	6
T2 Roundup + Armoblen 650	6 + 0,3
T3 Dalapon + Gramoxone (mixture)	12 + 2,5
T4 Dalapon / Gramoxone (split)	12 / 2,5
T5 Combine + MSMA + Armoblen 650	2 + 3 + 0,45
T6 Eptam Super	10

4. Design:

Design : Randomised block
No replications : 6
Net plot size : 2,5 8m = 20m²
Row spacing : N/A
Breaks : 1m between plots

5. Chemical formulations used:

Product	Formulation	Active ingredient
Roundup	359 g/l (SOL)	glyphosate
Armoblen	[500 g/l	alkoxylated - fattyalkylamine
	[polymer
	[550 g/l	ethoxylated sorbitan ester
Dalapon	850 g/kg (SP)	proprop
Gramoxone	200 g/l (SOL)	paraquat
Combine	500 g/l (SC)	tebuthiuron
MSMA	720 g/l (SOL)	mono - sodium methane arsenate
Eptam Super	720 g/l (EC)	EPTC (thio carbamate)

6. Application details

Treatment date : 20/11/1991
Time : 8.15 - 9.30am
Applicator : Battery operated knapsack
Nozzle : APM (green)
Pressure : 150 kpa
Output : 40 ml/sec
Output : 32 ml/m
Method : Full cover

7. Weather conditions:

Treatment date : 20/11/1991
General : Cool/overcast
Dew : Nil
Soil surface : Damp
Wind : Nil
Sunshine hours : 2,8
Temperature (°C)
 08h00 : 22,7
 14h00 : 24,2
Relative humidity (%)
 08h00 : 79
 14h00 : 79
Rainfall (mm)
 On day of spray : 8
 No. days to first rain : 6 hrs
 At first rain : 8
 In first 14 days : 45
 Total for duration of trial : 158

8. Results:

Table 1: Treatment effects on mature Cynodon dactylon when sprayed in November, expressed as percentage kill.

Treatment	Rate (l or kg product/ha)	Days after spraying			
		15	30	44	83
T1 Roundup	6	82	93	91	83
T2 Roundup + Armoblen 650	6 + 0,3	94	95	91	84
T3 Dalapon + Gramoxone (mixture)	12 + 2,5	54	26	10	6
T4 Dalapon / Gramoxone (split)	12 / 2,5	99	98	85	23
T5 Combine + MSMA + Armoblen 650	2 + 3 + 0,45	17	14	8	.3
T6 Eptam Super	10	51	56	48	30

9. Comments:

Cynodon dactylon cover at the trial site was even and heavy before spraying. The Eptam Super plots were rotavated with a hand operated rotavator immediately after spraying.

Roundup and Roundup + Armoblen 650

These were the only treatments that gave acceptable long term control of this grass. Initially, the addition of 0,3 l/ha of Armoblen to Roundup caused a slightly faster effect, but the product on its own was as effective as the mixture one month after spraying.

Dalapon + Gramoxone

Weed efficacy was very poor where these products were applied as a mixture. Excellent control of the grass was achieved when the two were applied separately (Gramoxone five days after Dalapon), but effects were shortlived and unacceptable after approximately six weeks.

Combine + MSMA + Armoblen 650

Efficacy on this grass was minimal with this treatment.

Eptam Super

Control of this grass with EPTC was extremely variable due to some difficulty encountered with rotavating, which resulted in insufficient incorporation in some plots. The results indicate that high rates of this product show promise, as control levels ranged from 20% to 98% depending on the success of the rotavating operation.

Conclusions

Roundup still appears to be the most dependable product for controlling this creeping grass, and there does not seem to be any further advantage in the addition of Armoblen 650.

Eptam Super is very effective at high rates if incorporation is complete.