



53,3 mm of rain fell in the 2 weeks prior to spraying but no rain fell for the next 3 days prior to spraying and for 12 days afterwards. The first rain on the 13th day after that was 26,6 mm and this was followed by 72,0 on the following day. Wash of surface soil was evident in many plots.

4. TREATMENTS : See results.

5. CHEMICAL FORMULATIONS USED :

Product	Formulation	Active ingredient
Dual	960 g/l ec	metolachlor
Flotrazine	500 g/l sc	atrazine
Harness	900 g/l ec	acetochlor
ICIA 0051	360 g/l	-
ICIA 0179	840 g/kg sp	-
Lasso	384 g/l ec	alachlor
Pivot	50 g/l	imazapyr
Product Z	350 g/l	-
Sencor	480 g/l sc	metribuzin
2,4-D amine	480 g/l sl	2,4-dichlorophenoxyacetic acid

6. APPLICATION DETAILS :

Treatment date	:	20 January 1989
Time of application	:	06h45 - 08h30
Applicator	:	Gas
Nozzle	:	APM Green
Pressure	:	1,9 Bars
Height of cane (leaf bend)	:	Bare soil
Method	:	2 swaths of 1,25m x 8m
Output (ml/s)	:	37,4
Output (ml/m <sup>2</sup> )	:	29,9

7. WEATHER CONDITIONS AT TIME OF SPRAYING

Treatment date	20 January 1989
General	Clear to overcast Hot and humid
Dew	Nil
Soil surface	Dry
Wind	Slight for T13, T14, T15
Sunshine hours	9,2
Temperature (°C)	
08h00	25
14h00	27,6
Relative humidity (%)	
08h00	85
14h00	77
Rainfall (mm)	
On day of spray	0,6
No days to next rain	13
Amount at 1st rain	26,6
Amount in 1st 14 days	99,2

8. RESULTS

Table 1 : Visual ratings of percent weed control taken 49 and 76 days after spraying

Treatments	Rate kg or l prod/ha	C.esc		C.rot		C.hisp		C.nuda		C.beng		C.braz		C.cony	
		49	76	49	76	49	76	49	76	49	76	49	76	49	76
Lasso + atrazine	5 + 2	20	25	-	3	30	0	16	28	5	0	21	6	-	10
Lasso + atrazine	5 + 5	15	42	10	0	64	-	50	46	25	40	39	82	50	73
Harness + atrazine	3 + 4	40	48	20	-	100	-	75	55	60	44	83	75	100	75
Atrazine	2	3	0	-	-	3	0	6	0	4	0	9	30	20	40
Atrazine	5	4	0	-	-	37	0	4	0	55	70	67	90	100	85
2,4-D amine	2	4	10	-	-	8	0	9	10	8	-	9	10	-	10
2,4-D amine	4	3	4	-	-	5	0	2	17	2	10	2	17	-	-
Pivot	1	35	44	-	-	100	-	75	65	65	-	20	24	16	30
Pivot + Harness	1+3	57	75	23	10	100	-	98	96	87	-	91	52	30	44
Product Z	1,5	20	49	3	0	15	20	100	89	8	10	10	60	55	30
Product Z	3	30	66	-	15	100	85	97	97	85	20	90	75	-	30
Dual + Sencor	1,5 + 2,25	51	72	25	4	90	-	89	72	90	95	75	73	100	90
Dual + Velpar	1,5 + 2	68	69	-	0	77	-	94	84	95	100	89	55	8	100
ICIA 0051	4,2	68	58	40	-	95	100	88	84	38	30	68	85	-	95
ICIA 0179	1,2	79	74	80	-	100	-	100	98	100	91	98	100	-	100

9. COMMENTS :

**Lasso + atrazine**

The standard rate of this treatment performed very poorly with respect to watergrass, grasses and broadleaf weeds. The mixture with a higher rate of atrazine performed better on all species but was still not acceptable. Reasons for the poor performance could be the dry conditions (for 13 days) after spraying coupled with the very heavy rainfall after this period.

**Harness + atrazine**

Although only achieving acceptable control of Fimbristylis hispidula and Ageratum conyzoides this mixture performed better on most weeds than Lasso + atrazine.

**Atrazine**

Extremely poor control was achieved by atrazine alone at low rates while the control of broadleaf weeds was considerably improved at 5 l ha<sup>-1</sup>.

**2,4-D amine**

At both rates this chemical on its own was very poor on all weeds.

**Pivot, Pivot + Harness**

Pivot on its own provided better control of sedges and grasses than Lasso + atrazine while control of broadleaf weeds was poor and weaker than Lasso + atrazine except on Commelina benghalensis. Acceptable control was however only achieved on Fimbristylis hispidula.

In combination with Harness, grass and Cyperus control was greatly improved and was for superior to the standard Lasso + atrazine. Control of broadleaf weeds was short lived for Richardia braziliensis and poor for Ageratum conyzoides.

#### Product Z

At the low rate this product provided excellent control of Digitaria nuda and poor control of C.esculentus. At the high rate control of C.esculentus, Fimbristylis hispidula and broadleaf weeds was improved. Conyza sp. was resistant to both rates.

#### Dual + Sencor

Ratings show fair control of C.esculentus, Fimbristylis, Digitaria nuda and broadleaf weeds and this was far superior to the standard Lasso + atrazine.

#### Dual + Velpar

Control from this treatment was fair in C.esculentus. Digitaria nuda and broadleaf weeds although Richardia braziliensis and Fimbristylis hispidula were poorly controlled. In most cases control was far superior to that from Lasso + atrazine.

#### ICIA 0051

Fair control was achieved by this product of C.esculentus, Fimbristylis hispidula and Digitaria nuda. Fair control was achieved of Richardia braziliensis and Ageratum conyzoides but Commelina benghalensis did not appear to be well controlled. Other weeds which occurred in plots treated with ICIA 0051 were E.indica, P.maximum and Eragrostis ciliaris and these appeared to be resistant.

#### ICIA 0179

Excellent control was achieved by this product of all grasses and broadleaf weeds while C.esculentus and even C.rotundus appeared to be fairly well controlled. This product was the most effective treatment under the condition of this trial.

### 10. GENERAL

The dry conditions after spraying are likely to be the reason for the very poor control achieved by the standard mixture of Lasso + atrazine. Leaching from the heavy rainfall after two weeks could have been expected from all products and not only Lasso as the water solubilities of metolachlor, acetochlor and metribuzin are all similar to or higher than that of alachlor.

The very limited degree of lateral displacement of the treated plots down the slope showed the surprisingly low degree of lateral movement of any of these products in the soil in spite of three large rainfall occurrences of 26,6, 72,0 and 156,1 mm. The clay and organic matter contents of the soil were not high.