



5. ResultsTable 1. Weed control ratings taken 33, 47 and 61 days after spraying

Treatments	Rate in kg or ℓ product/ha	C. escu.			P. olera.			C. bengh.		
		33	47	61 <sup>2</sup>	33	47	61	33	47	61
Lasso (38,4) + atrazine (50)	6 + 2	28	29	7	27	5	80	4	3	50
Diuron (80) + Sencor (70)	2 + 2	33	20	44	6	4	83	3	2	79
Butisan S (50) + diuron	2 + 3	6	4	77	2	4	77	2	3	30
Modown (25)	5	20	29	34	2	3	66	4	4	40
Modown	7,5	33	45	36	3	2	96	4	4	37
Mowdown + Lasso	5 + 5	17	25	26	1	1	90	2	4	37
Mon 097 + ametryne (50)	3 + 3	22	16	35	3	4	82	3	3	41
Mon 097 + diuron (70)	3 + 3,4	22	18	30	4	7	70	3	5	49
UC 77179	2,8	33	28	39	3	3	86	3	3	95
UC 77179	5,6	18	5	85	3	3	93	4	2	99
Lasso + diuron	6 + 3	18	29	0	9	21	34	10	3	30

1. Ratings are of percent ground cover at 33 and 47 day assessments.
2. Ratings are of percent weed control at 61 day assessment.

6. Comments (a)

6. 1 Grass weeds were sparse in the trial area but were generally poorly controlled with the slight exception of Butisan S + diuron.
6. 2 The main weeds were *C. esculentus* and *Portulaca oleracea* and in spite of good conditions (eg. application one day after planting, the rain during and after application, good soil tilth) relatively poor control of *C. esculentus* was achieved again with the exception of Butisan S + diuron and also subsequently UC 77179 at the high rate.
6. 3 *Portulaca oleracea* was well controlled by all treatments except Lasso + diuron whereas *Commelina benghalensis* was only well controlled by UC 77179 and diuron + Sencor.
6. 4 The standard treatments diuron + Sencor and Lasso + atrazine both performed poorly with regard to *C. esculentus*.
6. 5 Butisan + diuron was far superior to standards for *C. esculentus* control but similar for broadleaf weed control.
6. 6 Modown was similar to standards (ie weak) on *C. esculentus*. The addition of Lasso had very little extra effect.
6. 7 MON 097 was slightly better than Lasso + atrazine for *C. esculentus* control.
6. 8 UC 77179 at the high rate was excellent for control of *C. esculentus* but weak at the low rate. Both rates however were excellent for control of *Commelina benghalensis*.

Table 2 Crop growth measurements taken 90, 122 and 182 days after planting.

Treatment	Rate in kg or ℓ prod/ha	Overall weed rating*	Stalk length (cm)			Stalk popu. (1 000/ha)		
			90	122	182	90	122	182
Lasso (38,4) + atrazine (50)	6 + 2	28	38	77	177	122	250	184
Diuron (80) + Sencor (70)	2 + 2	26	37	76	183	126	257	172
Butisan S (50) + diuron	2 + 3	5	30	73	190	177	323	195
Modown (25)	5	24	34	76	172	148	270	176
Modown	7,5	39	35	72	176	138	257	180
Modown + Lasso	5 + 5	21	36	75	180	144	241	181
Mon 097 + ametryne (50)	3 + 3	19	35	74	184	125	266	176
Mon 097 + diuron (70)	3 + 3,4	20	36	76	179	128	261	184
UC 77179	2,8	30	37	72	180	132	241	170
UC 77179	5,6	11	28	68	173	131	198	175
Lasso + diuron	6 + 3	23	35	69	167	139	289	153
Hand weeded control			26	74	175	128	268	181

1 = % ground cover of *C. esculentus* (mean of two dates)

#### 7. Comments (b)

7. 1 Weed competition in most plots caused an increase in stalk length and corresponding decrease in populations at the first assessment. Butisan S + diuron provided good control of *C. esculentus* and had correspondingly high cane stalk populations but reduced elongation.
7. 2 Most treatments which showed similar poor weed control to the standard treatments, had similar cane growth measurements. However UC 77179 caused slightly reduced populations at the low rate of 2,8 kg/ha and both reduced populations and stalk length at the higher rate. This occurred in spite of good weed control and hence can be considered to be due to chemical effects and not weed competition.
7. 3 Lasso + diuron provided very poor weed control but cane growth also appeared to be worse than occurred in other treatment plots. Both cane stalk lengths and populations were reduced by this treatment.
7. 4 Hand weeded control plots were weeded at an early stage but not again and this resulted in short stalks originally but also low populations initially.

#### 8. Conclusions

9. 1 Butisan appears to be superior to other surface applied products for the pre-emergence control of *C. esculentus*.
9. 2 UC 77179 at rates which were satisfactory for *C. esculentus* weed control was phytotoxic to plant sugarcane.

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