

CONTROL OF GRASS-GRUB, 1966

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Summary

In two trials on light alluvial soil, diazinon applied as granules gave good control of grass-grub (*Costelytra zealandica*) during the season of application. Moderate to heavy rain fell soon after treatments on the first trial were completed. The second trial was put down during light rain which amounted to 2 in. in the subsequent 24 hours.

TRIAL 1: CAREW, ASHBURTON

Applied: March 29, 1966. Assessed: May 30, 1966.

Soil: Lismore Silt.

Dosages: 1 lb and 2 lb of each chemical.

Formulations: Both 5% granules.

Wind: 2 to 3 mph.

DDT resistant grubs — tested at D.S.I.R., Nelson.

Application: By three-point linkage mounted, speed spreader.

Pasture Rating: By two independent observers (10=perfect pasture, 0=bare ground).

Rainfall Since Application

April 1-18	....	....	....	....	....	0.98
April 18	....	....	....	....	....	0.66
April 26	....	....	....	....	....	0.46
April 27	....	....	....	....	....	0.33
April 30	....	....	....	....	....	0.07
May 2	....	....	....	....	....	0.37
to May 30	....	....	....	....	....	1.28
						4.15 in.

TABLE 1

Treatment (as Granules) (lb)	Live Larvae per sq. ft	Pasture Rating (0-10)
Diazinon 2	10	7.2
Diazinon 1	14	6.7
Fenitrothion 2	19	7.0
Fenitrothion 1	21	5.6
Untreated	56	2.5

SUMMARY

- (1) Diazinon at 1 lb gave significantly better ($P < 0.05$) grub reduction than fenitrothion at 2 lb.

- (2) The 2 lb rate of each chemical gave significantly better results than at the 1 lb rate on grub reduction.
- (3) All treatments gave significantly better ($P < 0.001$) pasture recovery and fewer grubs than untreated.

TRIAL 2: REDWOODS VALLEY, NELSON

Applied: March 26, 1966. Assessed: May 10, 1966.

Soil: Light sandy.

Dosages: 1 lb only of each material.

Formulations: All 5% granules.

Wind: Calm.

Plot Size: 10 ft × 10 ft. Replications: 4.

Pasture Rating by 4 independent observers.

Rainfall: 2 in. in 24 hr following treatment. Total 7.33 in. between treatment and assessment.

TABLE 2

<i>Treatment (as Granules) (lb)</i>	<i>Live Larvae per sq. ft</i>	<i>Pasture Rating 0-10</i>
Diazinon 1 	5.5	8.7
Fenitrothion 1 	18	5.0
Stauffer N2790 1 	27	4.8
Untreated 	31	3.7

SUMMARY

- (1) Diazinon at 1 lb was significantly better ($P < 0.01$) than fenitrothion at the same rate.
- (2) Fenitrothion was significantly better ($P < 0.05$) than untreated.

DISCUSSION

Diazinon, applied as granules 5% a.i. by weight, gave good control of grass-grub during the season of application in these two trials. Conditions of soil, rainfall and depth of larvae were all favourable at the time of treatment. In both trials larvae were numerous and were within 1½ in. to 2 in. of the surface when treated, having eaten the deeper roots completely.

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