

## INSECTICIDE TRIALS AND NOTES ON CONTROL OF THE POTATO TUBER MOTH IN SOUTH QUEENSLAND

The standard control for potato tuber moth (*Gnorimoschema operculella* (Zell.)) in the pre-harvest period of potato crops in South Queensland is three (sometimes two) sprays of 1 lb. DDT per acre applied at fortnightly intervals, and hilling the plants 12-14 weeks after planting (May 1952).

In the spring of 1954, a randomised trial with the variety Monak was set out in the Lockyer district to compare the efficacies of DDT, dieldrin and endrin in preventing tuber moth attack. Under the low pest incidence experienced, statistical differences among insecticidal treatments were not obtained, although all were better than the control.

A somewhat similar trial, differing in the addition of a DDD treatment and the use of the variety Sebago, was set out in the spring of 1956. A plot size of 5 rows x 50 feet was used, and sprays were applied by knapsack so as to wet thoroughly all parts of the plants. Adequate irrigation and hilling of plants were carried out. Results were assessed as larval mine counts in a 6-leaved terminal from each of 50 plants per plot; as weights of tops from 15 plants per plot; and as percentages of infested tubers and yields from a complete harvest. Larval mine counts and weights of tops were taken from the three inner rows of each plot.

Table 1.

RESULTS OF 1956 TRIAL.  
(Larval mines per 50 terminals).

Treatments*.	Pre-treatment (24 Hours Before Spraying).						Pre-harvest.	
	Sep. 12.		Sep. 27.		Oct. 12.		Nov. 5.	
	Trans. Mean.†	Equiv. Mean.	Trans. Mean.†	Equiv. Mean.	Trans. Mean.†	Equiv. Mean.	Trans. Mean.†	Equiv. Mean.
Endrin 0.025% ..	5.11	26.1	2.50	5.8	1.28	1.1	0.93	0.4
Dieldrin 0.05% ..	5.44	29.6	2.53	5.9	1.06	0.6	1.47	1.7
Dieldrin 0.025% ..	5.40	29.2	2.86	7.7	2.01	3.5	1.26	1.1
DDT 0.1% ..	5.32	28.3	2.55	6.0	2.43	5.4	3.20	9.7
DDD 0.1% ..	5.46	29.8	3.56	12.2	2.53	5.9	4.68	21.4
Control .. ..	5.57	31.0	5.30	27.6	6.16	37.4	5.86	33.8
Necessary differences for significance								
5%	1.08		1.24		.60		.82	
1%	1.49		1.72		.82		1.14	

\*Spray strengths as active ingredients.

†  $\sqrt{x}$