

**SUMMER CONTROL OF GRAPE-VINE SCALE
(EULECANIUM PERSICAE (F.)) IN THE STANTHORPE DISTRICT, QUEENSLAND**

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SUMMARY

Azinphos-ethyl as a 0.05% spray was shown to be suitable, if required, as a summer emergency control for the grape-vine scale.

I. INTRODUCTION

The grape-vine scale (*Eulecanium persicae* (F.)) as a pest of vineyards is normally controlled by a dormant oil spray application (e.g. Bengston 1961). An additional Departmental recommendation for use in the Stanthorpe district of Queensland is a combination of superior dormant oil 1 in 100 plus azinphos-methyl 0.05%.

Should the dormant spray for any reason be omitted or be ineffective, then, in spite of the routine summer insecticide applications, large numbers of young scales produced during this period could constitute a serious threat to the developing crop. Sooty mould developing on scale exudates reduces fruit quality and the vines themselves may become reduced in vigour. Under these circumstances, an emergency summer control may be required.

A trial was undertaken to evaluate materials of possible value in summer. These were selected after consideration of their value in controlling other grape pests.

II. METHODS AND MATERIALS

The trial was carried out on Purple Cornichon grapes during February 1965. A 5 x 5 randomized block layout with six vines per plot was used. Populations were assessed by counting live scales on 20 random leaves per plot.

The materials used and the percentages of active constituent in prepared sprays were as follows:—

Azinphos-ethyl.—An emulsifiable concentrate containing 40% w/v active constituent : 0.05%.

Azinphos-methyl.—A wettable powder containing 25% w/w active constituent : 0.05%.

Carbaryl.—A wettable powder containing 50% w/w active constituent : 0.1%.

Parathion.—An emulsifiable concentrate containing 50% w/v active constituent : 0.02%.

III. RESULTS

Details of the pretreatment counts and similar counts for 7, 14, 28 and 49 days after treatment are given in Table 1.

TABLE 1
TREATMENT MEANS FOR LIVE GRAPE-VINE SCALES PER 20 LEAVES

| Treatments | Pre-treatment | Post Treatment | | | | | | | |
|---|---------------|----------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| | | 7 days | | 14 days | | 28 days | | 49 days | |
| | | Trans. Mean* | Equiv. Mean | Trans. Mean* | Equiv. Mean | Trans. Mean* | Equiv. Mean | Trans. Mean* | Equiv. Mean |
| 1 Azinphos-methyl 0.05% | 225.46 | 1.215 | 15.4 | 0.885 | 6.7 | 0.808 | 5.4 | 0.464 | 1.9 |
| 2 Azinphos-ethyl 0.05% | 85.49 | 1.027 | 9.6 | 0.910 | 7.1 | 0.630 | 3.3 | 0.844 | 6.0 |
| 3 Carbaryl 0.1% | 361.24 | 1.948 | 87.7 | 1.629 | 41.5 | 1.179 | 14.1 | 1.406 | 24.5 |
| 4 Parathion 0.02% .. | 276.97 | 1.402 | 24.2 | 0.336 | 1.2 | 0.582 | 2.8 | 0.722 | 4.3 |
| 5 Untreated | 87.60 | 1.880 | 74.9 | 1.745 | 54.6 | 2.054 | 112.2 | 2.027 | 105.3 |
| Necessary dif- ferences for significance } 5% } 1% | No sig. | 0.612 | .. | 0.783 | .. | 0.654 | .. | 0.505 | .. |
| | diff. | 0.843 | .. | 1.079 | .. | 0.901 | .. | 0.696 | .. |

* $\log(1 + x)$.

** Analyses were carried out on untransformed data.

IV. DISCUSSION

Azinphos-ethyl, azinphos-methyl and parathion gave comparable and satisfactory population reductions. Carbaryl tended to be slower in action and less effective. Azinphos-ethyl or azinphos-methyl would be preferable to parathion because of its greater efficiency in controlling light-brown apple moth (*Epiphyas postvittana* (Walk.)).

On developing berries, visible residues are undesirable. Azinphos-ethyl 0.05% prepared from an emulsifiable concentrate would be the preferred material, as residues are not conspicuous.

REFERENCE

BENGSTON, M. (1961).—Grape pest control in the Granite Belt. *Qd Agric. J.* 87:255-6.

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