

Section III  
Root-feeding Coleoptera and Symphylans

EFFECT OF VAPAM ON WIREWORMS  
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Vapam<sup>®</sup>, a water-soluble liquid which converts to a gaseous fumigant in soil, was tested to determine its effect on wireworms. In laboratory bioassay tests, Vapam applied to the soil at a rate of 50 gal/acre with 1 acre-inch of water killed sugarbeet wireworms, Limonius californicus (Mannerheim) in 1 day, but did not persist beyond 1 week. In field tests, recovery of caged and buried wireworms exposed to Vapam at the same rate showed 100% mortality of those recovered at depths of 15 and 30 cm in all six tests, at 45 cm in four tests, and at 60 cm in two tests.

In two other tests, ground naturally infested with wireworms was treated with Vapam at a rate of 50 gal/acre with 1 to 1-1/4 acre-inch of water, then planted to potatoes. Regardless of soil type, wireworm species, or time of application, Vapam did not control wireworms adequately to be economically acceptable in potato production. Results were as follows:

College Place, WA, sugarbeet wireworm (3.6/ft<sup>2</sup>)

| Treatment                     | % Tuber damage | % Control |
|-------------------------------|----------------|-----------|
| Vapam, fall application       | 12.8 a         | 31        |
| Untreated check               | 18.5 a         |           |
| Dyfonate, 4 lb AI/A broadcast | 1.1 *          | 93        |

\* Not part of test -- in adjacent plot.

Hermiston, OR, Pacific Coast wireworm (2.2/ft<sup>2</sup>)

| Treatment                     | % Tuber damage | % Control |
|-------------------------------|----------------|-----------|
| Dyfonate, 4 lb AI/A broadcast | 1.0 a          | 94        |
| Vapam, fall application       | 8.8 bc         | 51        |
| Vapam, spring application     | 10.4 c         | 41        |
| Untreated check               | 17.7 d         |           |