Section V.
Soil Arthropods

ROLE OF SOIL FUMIGANTS TO CONTROL WIREWORMS IN POTATOES

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An increase in wireworm infestations in the Pacific Northwest has revived interest in the search for effective control options. Telone* II (1,3-dichloropropene) soil fumigant is currently a widely used standard for control of nematodes and soil diseases in a variety of crops, including potatoes. Studies were conducted to determine the efficacy of Telone and combinations with various soil insecticides on the control of wireworms in potatoes.

Various treatments were compared in a split field design in Idaho. Lengths of field 300' long were treated with soil fumigants, soil insecticides, or fumigant/insecticide combinations. Potatoes were inspected at harvest and percent wireworm infestation calculated. Two separate studies were conducted. The first was a spring-applied trial. Fumigants were applied 12MAY99. Two treatments involved post-plant treatments of phorate granules as side-dress applications. The second trial involved fall applications of soil fumigants and a metam sodium/ethoprop EC treatment applied 20NOV99. Ethoprop 10G was applied in 3 treatments as at-plant applications in Spring 2000.

Results:
In spring-applied trials, Telone, Telone/metam sodium, or Telone/phorate provided significantly better wireworm control than phorate granules or metam sodium alone. (Figure 1.)

In fall-applied trials, Telone, Telone/metam sodium or Telone/ethoprop provided significantly better control than ethoprop alone and numerically better control than metam sodium alone. (Figure 2.) Telone/ethoprop was as effective as Telone/metam sodium, and both were better than metam sodium/ethoprop EC. No rate response was noted with Telone at 15, 20, or 25 gpa.

Comparisons between spring and fall-applied treatments are difficult. No conclusions can be drawn on whether spring or fall soil fumigations would be best for wireworm control. However, for both timings, treatments with Telone were significantly better than treatments without. Soil-applied insecticides performed best when preceded with a Telone soil fumigation. The same standard used for nematode and disease control also provides significant wireworm control.

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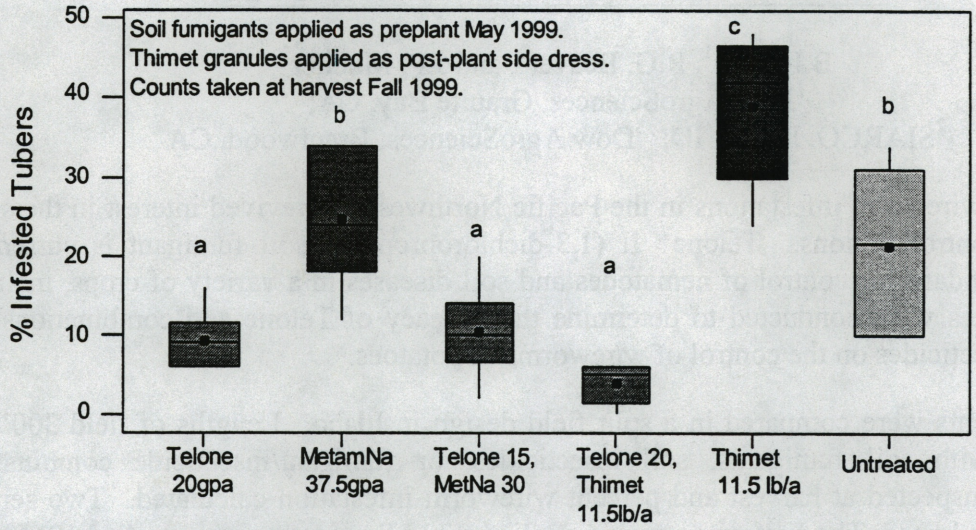
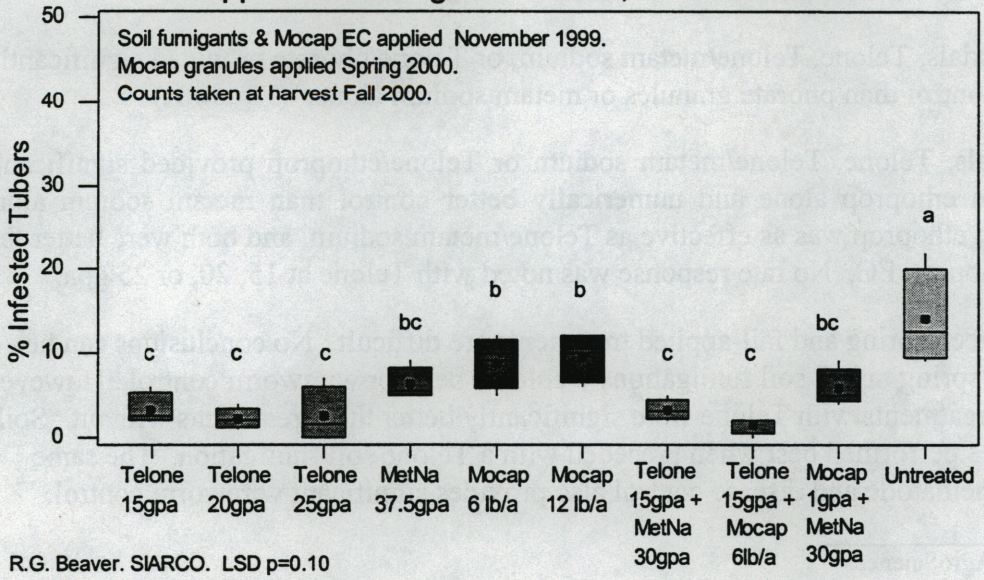
Figure 1. Control of wireworms in potatoes with spring-applied soil fumigants. Parma, ID. 1999.



R.G. Beaver. SIARCO. LSD p=0.10

Figure 2. Control of wireworms in potatoes with fall-applied soil fumigants. Parma, ID. 1999-2000.



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