VEGETABLE CROPS INSECTICIDE AND ACARICIDE TESTS 154

MUSHROOM (COMMERCIAL): Agaricus brunneescens Perk Phorid fly: Megaselia halterata (Wood)
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MUSHROOM PHORID CONTROL WITH POUNCE, 1981: Eight mushroom growing trays (0.37 m² by 0.15 m), each containing 18 kg of deammoniated and pasteurized Phase II wheat-straw-bedded horse manure compost (70% water) were individually spawned with 110 g of mushroom spawn (PSU#148) and placed into each of the three small mushroom production rooms. A total of 8,928 adult female phorids per m² of production surface were released into each production room beginning 7 days after spawning (DAS). Pounce 3.2 EC and 2% Dust were applied at the active rates of 0.0625 lb and 0.06 lb per 35,000 ft² into each of two production rooms, respectively, for 20 daily applications beginning 7 DAS. Both formulations were applied an additional 10 times, with two applications between each break of mushrooms. The third production room served as an infested check. A Pestolite Insect Trap (Model RD-1P), equipped with blacklight fluorescent bulb, was used to monitor fly populations in each room. Mushroom culture conditions were similar to the commercial mushroom industry.

The dust formulation gave better control of the phorid than the EC formulation. Applications of Pounce 3.2 EC during spawn-run and during production reduced phorid numbers by about 68%. The greatest reduction was for first generation phorids—about 87% for the first generation and 62% for the second generation. Pounce 2% Dust formulation applied 20 times during spawn-run and 10 times during production reduced the phorid population approximately 95%. Direct yield loss was not affected by the reduction in fly numbers. The affect of phorid control in relation to vectoring mushroom pathogens was not measured in this test.

<table>
<thead>
<tr>
<th>Treatment and lb (AI)/35,000 ft²</th>
<th>Mushroom yield (kg/m²)</th>
<th>1st Generation emergence capture</th>
<th>2nd Generation emergence capture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pounce 3.2EC 0.0625</td>
<td>5.76a</td>
<td>3,000</td>
<td>31,428</td>
</tr>
<tr>
<td>Pounce 2% Dust 0.06</td>
<td>6.10a</td>
<td>944</td>
<td>4,977</td>
</tr>
<tr>
<td>Untreated Check 0.00</td>
<td>5.27a</td>
<td>23,874</td>
<td>83,640</td>
</tr>
</tbody>
</table>

Means followed by the same letter are not significantly different (p = 0.05), by Duncan’s multiple range test.

MUSHROOM (COMMERCIAL): Agaricus brunneescens Perk Sciarid fly: Lycoriella mali (Fitch)
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MUSHROOM SCIARID CONTROL WITH DIMILIN, 1983: Fifteen mushroom growing trays (0.37 m² x 0.15 m), each containing 22.7 kg of deammoniated and pasteurized Phase II wheat-straw-bedded horse manure compost (70% water) were individually spawned with 110 g of mushroom spawn (PSU#124) and placed into a single small mushroom production room. Dimilin 25W at active rates of 0.05, 0.06, and 0.10 lb per ton wet compost was thoroughly incorporated into the compost just before spawning. Three trays were used for each treatment. The trays were arranged in four columns, regularly spaced and separated by dividers. Each tray unit was enclosed in plastic on the day of spawning and removed 10 days later. A total of 210 gravid female sciarids were released into each tray unit within the first 3 days after spawning. When cased, each tray was covered with 5.36 kg (0.014 m³) peat moss (68.8% water). On the next to last watering, 3 days after casing, 0.176 and 0.211 lb (AI) Dimilin per 1,000 ft² production surface was applied as a drench to the casing layer of the 0.05 lb treated compost and to three trays of untreated compost, respectively. The remaining three trays served as an infested check. Compost and casing material were sampled for larval sciarids using a sugar-flotation and centrifuge procedure (1979 J. Econ. Entomol. 72: 703-705). Mushroom cultural practices were similar to those of the commercial mushroom industry.

Dimilin provided 91, 98, and 99% larval sciarid control in compost incorporated with 0.05, 0.06, and 0.10 lb (AI) per ton wet compost, respectively. In the casing layer, sciarid control was 98% for both 0.176 and 0.211 lb (AI) Dimilin per 1,000 ft² production surface treatments when sampled between breaks 1 and 2. However, sampling of casing material between breaks 4 and 5 demonstrated only 45 and 55% control, respectively. Fresh market mushroom yield was increased up to 164% by the casing treatments.