Organic weed control in cranberries

Kim Patten
WSU
“Organic Weed Control”

- Manuka oil @ 8, 16, 32 and 64 oz/ac on lotus with 2 surfactants
  - Higher rates were OK, but Lotus will grow out of treatment effects relatively quickly. Frequent re-treatment needed
  - Surfactant emulsion problem, make sure that you have an emulsion before spraying.
  - Stuff is expensive
  - Might work on young weeds.
“Organic Weed Control”

• Soil pH/ elemental Sulfur
  – See following figure.
Concerns with using soil sulfur

• Hydrogen sulfide generate if wet condition
  – Toxic to cranberry roots
  – Best timing to avoid H2S
    • Low rates (100-200 lbs) elemental sulfur (organic label)
    • Frequent applications (4-6 weeks) until pH drops
    • Wait until beds are well drained, avoid wet spots

• May take 1-2 years for weed control,
• both granular and spray S work
  – Make sure the granular is readily dissolvable
  – Spray S is fast acting and work well

• Likely to work best on upland weeds
Elemental sulfur for Lotus control

Threshold ~ 4.5

Level of weed coverage as a function of soil pH modification with sulfur treatments
Summary – three years of vinegar experiment

- Timing – late April
- Rate – 4 to 5% acetic acid
- Volume – 7500 gpa
- Washoff- 2500 gpa
- Inconsistent effects occurred on highly saturated and poorly drained peat or muck soils.
- Most consistent efficacy occurred on sandy well drained soils.
Vinegar for False lily-of-the-valley control
Best treatments of several experiments

<table>
<thead>
<tr>
<th>Date of treatment</th>
<th>% Acetic acid</th>
<th>Application volume (gpa)</th>
<th>Washoff Volume (gpa x10³)</th>
<th>Lily (% control)</th>
<th>Vine damage rating*</th>
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<tbody>
<tr>
<td>3/25/04</td>
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<td>2500</td>
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*1=none, 5=dead

2006 Treatments – 3, 4 & 5 % acetic acid @ 7500 gpa; 5% @ 5000 gpa, all with 2500 gpa washoff (late March/early April).
False lily-of-the-valley control and cranberry vine damage

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Cranberry phytotoxicity rating

1- none, 5= dead

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<td>2</td>
<td>4</td>
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% lily control - 2006

Acetic acid concentration

- Site 1
- Site 2
- Site 3
- Site 4

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- 4% 7500 gpa
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