SX 82610(B) Q

WORKING PLAN

EFFICACY TRIALS FOR SOAP AND THIODAN
AGAINST SPRUCE GALL APHID AT COBBLE HILL

D. Summers
Efficacy trials for soap and Thiodan against Spruce Gall Aphid at Cobble Hill

D. Summers, Pest Management Officer Seed Production

In a small plot of 10 trees at Skimikin Seed Orchard, spruce gall aphid (SGA) populations have varied considerably in the last 2 years. In 1982, 12 galls formed on the 10 trees while in 1983, 690 galls occurred on those same trees (Progress Report SX 826100). If a 'good year' for the gall aphids coincides with a 'good year' for cone induction, there is the potential for a significant loss of cone production in a seed orchard because the galls stop branch growth for that year.

Safer Insecticidal Soap® was applied to control the SGA on one-half of the trees in the plot at Skimikin in 1983. A single application was made just as the new growth was beginning to expand. While this managed to cut the number of galls in half compared to the number on unsprayed trees, galls were still numerous. This trial will investigate the efficacy of multiple sprays of soap and/or Thiodan (also currently recommended) to control SGA.

Methods

In April the small spruce orchard stock in the holding area at Cobble Hill Seed Orchard will be surveyed for overwintering SGA. If this survey indicates a large enough population, 20 trees with SGA will be selected for use in the trial. Treatments will be assigned randomly and will consist of the following:

5 trees will be sprayed with soap (2.5%) or Thiodan 4E (125 ml/100 L) just before the new growth expands.
5 trees will be sprayed as above and one week later
5 trees will be sprayed 3 times at one week intervals
5 trees will receive no treatment

Prior to treatment, 5 random branches will be selected on each tree. In June, the number of galls and the number of new flushes of growth (potential gall sites) will be counted on each branch. The total number of galls on each tree will be recorded as well. If conelets occur, these will be monitored for phytotoxic symptoms due to the spray.

Data will be analysed using contingency tables and chi-square.
<table>
<thead>
<tr>
<th>Activity</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>working Plan</td>
<td>D. Summers</td>
</tr>
<tr>
<td>set up and treatments</td>
<td>D. Summers, D. Rudolph</td>
</tr>
<tr>
<td>data collection</td>
<td>D. Summers, D. Rudolph</td>
</tr>
<tr>
<td>analyses &amp; reports</td>
<td>D. Summers</td>
</tr>
</tbody>
</table>