Integrated Approach in Controlling Japanese Beetles Project # FNE98-216

George Joseph [redacted]

Final Report:

1.Restate your goals of the project:

The goal of the project was to control Japanese Beetles using biological and mechanical methods.

2. Update the information on your farm:

We are farming about 3 acres of Highbush Blueberries and planted them about 16 years ago. No other crops or additional berries have been planted since the grant was awarded.

3. Who were your cooperators?

John Harker from the Maine Department of Agriculture and Dr. James Dill from the University of Maine, Mike Cherim The Green spot Bio-controls, Ford Stevenson local Strawberry farmer were the cooperators. All were used for technical assistance in identifying problem and looking at the results of the trials.

4. Tell us about the project.

We attempted to try to control the damage that we were getting from the infestation of the Japanese beetles. We sprayed Parasitic Nematodes (Heterorhabditis bacteriophora) which was aimed at controlling the beetles at the lava stage. For controlling the beetles that survived the nematodes we tried to control the beetles mechanically by using a vac-blower and finally for long-term control we applied milky spore to the soil 10 to 15 pounds per acre.

5. What were the findings and accomplishments and unexpected results if any?

After two years there appeared to be little or no decrease in the population of beetles. There were several factors that might have effected parts of the project.

a. The First year the milky spore was applied it rained very hard for several days after it was applied. This might have washed away the spores. So in the second year I bought some additional milky spore and reapplied it. This is a long-term treatment but in checking the lava they seem to be healthy and plentiful this spring.

b. As for the Nematodes these were applied for two years. In the second year it was a dry spring and Nematodes need to be driven into the ground with water. We use drip irrigation so we had to rely upon Mother Nature but I feel that there was not enough rain that spring to wash the nematodes deep enough into the soil so that they could get to the depth of the lava.
c. As for the vac/blower many hours were spent trying to vacuum the beetles. In a 3 acre planting this was not a cost-effective method for controlling the damage that the adult beetles were making. As you vacuumed some of the beetles on one side of the plant the others flew off and you captured less that 10 to 20 percent of the number that were on the plant. With a planting of 1600 or more plants this was not an effective method of control.

6. Is there any specific site information relevant?

After watching these beetles for several years I believe that companion planting would be a more effective way of controlling beetle damage. I had observed some wood- vine that was growing in and around some of our plants even though the blueberry plants had beetles on them the beetles appeared to be only eating the wood-vine and not eating the berries or leaves at all or not to any point that would be destructive. We also have some old grapevines around the stone walls and the beetles seem to prefer them over the blueberry plants.

7. Economic Findings:

I would have to say that there was no economic return for the money and time spent.

8. Has the project generated new ideas?

I think that the companion planting might be an effective way to control the damage from the beetles. The beetle infestation was so heavy last summer that I also tried to draw them away form the field using traps I believe that that didn't work well either. It appears difficult to draw the beetles with artificial lure when they have the real thing in front of them.

9 Will I continue to use the practice investigated?

No

10. What do I tell others?

I have been to a couple of meeting with other area farmers and have spoken with them about the problems of the beetles and results of my project.

11. No articles written.