

Utah IPM/SA Mini-Grant Report for 2009

1. **Project Title:** Comparison of cultural and chemical treatments to deter infestations of flat headed borers in young peach trees
2. **Location of Project (Counties in Utah):** Carbon County
3. **Total Grant Award:** \$687.54
4. **Principal Investigator:** Ron Patterson, USU Extension, Carbon County
5. **Co- Principal Investigator(s):** Diane Alston, USU Extension Entomology Specialist
6. **Cooperators:** Caitlin Patterson, Producer, 4-H member
7. **Objectives of Project:**
 1. Compare the effectiveness of six treatments (five treatments and a control) on deterring flat headed borer infestations in young peach trees.
 2. Establish a demonstration orchard that can be shown to fruit growers, agency personnel, homeowners and the general public.
 3. Share the knowledge gained with other extension personnel and fruit growers by making presentations at state and national association meetings.
8. **Summary of Project:**

Twenty-four PF-24C peach trees were ordered and received in April 2009. They were leafing out and in bloom when the containers were opened so they were immediately planted. Shortly thereafter there were several days of frost that caused most of the leaves to drop and some of the trees were pushed back into dormancy, from which three did not recover. The stems of the damaged trees still had some living tissue going into dormancy this fall, but they never leafed out during the summer. We are waiting to see if the chilling of winter will break their dormancy next spring or if they will die in the winter. The 21 remaining living trees are adequate to apply the planned treatments with a reduction in replication.

 1. January 2009 – all project personnel determined research parameters and location for project.
 2. January 2009 – ordered young bare root peach trees.
 3. April 2009 – received, examined and planted trees.
 4. Summer 2009 – applied appropriate treatments as indicated by research plan. The trees were divided into three blocks of six trees and each treatment was randomly assigned to the trees within the block.

Treatments:

1. Untreated Control
2. Insecticide – apply a registered insecticide to the trunk and lower portion of scaffolding limbs in early to mid June to target the time when adult fhb emerge from trees and seek new trunks for egg-laying
3. Tree wrap – wrap a white-colored vinyl or cotton tree wrap around the trunk up to the lower scaffolding limbs in October
4. Paint – paint the trunk and lower portion of scaffolding limbs with diluted white latex exterior paint in August
5. Insecticide/Tree wrap – combine Treatments 2 and 3
6. Insecticide/Paint – combine Treatments 2 and 4

9. Results of Project:

As it is too early in the life of the project, there is no data to evaluate and present. General health of the trees was determined by examination of leaves, color and texture of the bark, and diameter of the trunk at 12 inches (this information will be compared through the years of the project). Trunks and branches were examined for biotic and abiotic damage. All trees appeared to be healthy going into dormancy. Trees will be inspected again in April and May 2010 to determine their condition as they come out of dormancy. Trunks and branches will be inspected for southwest winter scald damage.

2009 Research Expenditures	Requested	Expended
24 Bare root PF-24C "Cold Hardy" peach trees @ \$23.99 ea + shipping (\$50.47):	\$626.23	\$570.04
Insecticide	8.00	9.99
1 qt latex exterior paint – used personal materials on hand	8.00	0.00
24 36" tree wrap @ \$1.39 ea + Shipping (\$11.95)	45.31	45.31
Travel for Specialist from Logan	200.00	0.00
Total	\$887.54	\$625.34

10. Evaluation:

1. What changes in knowledge and skills of professionals and/or stakeholders were measured as a result of this project?

The data will take up to three years to determine. The evaluation plan is:

- a. The evaluation instrument included at the end of the Request for Proposals will be used as is or modified to fit the specific project to help determine changes in knowledge of presentation and tour participants.
- b. The evaluation instrument will also be used to help the presenters determine if the knowledge gained from this study will be incorporated in the educational programs of other counties.
- c. Information gathered from this study will help direct the county agriculture agent with information to include in newspaper articles and presentations to Master Gardener participants and pesticide applicator training programs.

2. What potential changes are foreseen in your county extension programs as a result of this project?

Once the data have been collected and analyzed it is anticipated the Extension Program will be able to help the local fruit tree growers have better success growing peach trees in the area.

11. Educational Outreach:

1. What was done to assure distribution of educational products and related project materials to other agricultural professionals and stakeholders in the state?

Nothing can be done yet. Once data is collected and analyzed:

Educational materials will be distributed via:

1. Personal presentations
2. Utah State University Extension online publications

2. What professional/producer meeting(s) did you give presentations at?

No data to present this year. Once data is collected and analyzed:

Presentations will be made at professional meetings:

1. Utah Association of County Agriculture Agents
2. Western Region County Agriculture Agents Forum
3. National Association of County Agriculture Agents

12. Educational Products Produced – list the educational products produced from this project (PowerPoint, fact sheet, poster, published article, etc.) (electronic versions required).

No material to present yet. The educational materials resulting from this trial will include, but not be limited to, PowerPoint presentations that can be given various small acreage workshops, and association meetings and the state, regional and national levels. It is expected that a fact sheet detailing appropriate methods to protect trees from the indicated problems, and hopefully a published article will result from this project.

13. What impact did the project have (number of acres, people, or other appropriate units)?

Based on the fruit acreage in Carbon and Emery Counties and nearby counties (Sanpete, Grand and Duchesne), we anticipate that this study will directly impact about 40 home and commercial fruit producers who attend the demonstration tours over the next two years. In addition, the information will be disseminated to approximately 250 home and commercial fruit producers through outreach with a planned fact sheet that will share the results of the study, newspaper articles, and presentations at Master Gardener and other classes and training sessions.