Areawide Organic Pest Management
The Peshastin Creek Project, Three Years

Tara M. Madsen and John E. Dunley
Washington State University, Tree Fruit Research and Extension Center Wenatchee, WA 98801

Introduction
Organic peer production may be highly appropriate for areawide pest management. The major peer pests, codling moth and pear psylla, have management tactics available that make areawide organic management possible, including mating disruption for codling moth (CM), Cydia pomonella, and codling moth traps, for pear psylla (PP), Cydia pellencella, by spraying insecticides. Implementing organic production as an areawide tactic, rather than isolated by block, eliminates opportunities for migration of natural enemies. Most available enemies of PP are generalists, immigrating from surrounding native vegetation. Organic ‘islands’ in conventional production areas may artificially encourage natural enemies—conventional management tends to isolate them from native vegetation. Areawide implementation of softer techniques to enhance water and soil quality, improve worker safety, and reduce pesticide barriers to natural enemy migration.

Objectives
This is a multi-year project to develop an Areawide Organic Pest Management program for pears. In 2002, organic family farms along the Peshastin Creek drainage, Who formed the Peshastin Creek Growers Association, with the mission of increasing use of environmentally-friendly pest management techniques to enhance water and soil quality, improve worker safety, and reduce pesticide applications. Preliminary work was done in 2002 to determine the feasibility of an areawide organic program.

In 2003 and 2004, we continued the pursuit of our two main objectives:
1. Predict and implement management practices with organic or soft areawide pest management.
2. Determine the effects of pest management programs on pest densities and crop damage, natural enemy densities, and costs of pest control. The three programs are categorized as:
   - Organic (soft areawide organic programs) — Organ 03, Organ 04
   - Conventional (conventional production areas) — Conv 03, Conv 04

Results and Analysis
Adult pear psylla populations were lower in 2003 and '04 relative to 2002. PP densities tend to be higher in the ORG than in SOFT and CONV. All programs had lower densities in 2003 and '04 than in '02.

Adults Over the second two seasons, PP populations tended to be higher in 2003 and '04 relative to 2002. PP densities tend to be higher in the ORG than in SOFT and CONV. All programs had lower densities in 2003 and '04 than in '02.

Discussion
Predator densities increased in late-season in the SOFT and ORG programs, which followed increased PP densities. Predator densities were higher in the ORG than in SOFT and CONV. Soft areawide pest management strategies have been successful in managing pests, and initial results suggest chemical costs for SOFT and ORG to be competitive with Conventional. Further analyses to determine the effects on fruit yield, tree health, and environmental impact of the different programs are in progress. These analyses as well as another year of study will provide better determination of the feasibility and benefits of increased pest management techniques in organic and soft programs on an areawide scale.

Conclusion
Over a three-year period, organic and non-organic pest management strategies were successful in managing pests, and initial results suggest chemical costs for SOFT and ORG to be competitive with Conventional. Further analyses to determine the effects on fruit yield, tree health, and environmental impact of the different programs are in progress. These analyses as well as another year of study will provide better determination of the feasibility and benefits of increased pest management techniques in organic and soft programs on an areawide scale.

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