Implementation

BUILDING A MULTI-TACTIC PHEROMONE-BASED PEST MANAGEMENT SYSTEM IN THE WESTERN UNITED STATES- AREAWIDE II APPLE PROJECT

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Abstract: This Areawide II-Apple project compares a pheromone-based no-OP with pheromone-based OP pest management program in apple. This follow-up to the highly successful Areawide Codling Moth Management Program is supported by the USDA-CSREES and funded through the Initiative for Future Agriculture and Food Systems (IFAFS) and FQPA Risk Mitigation for Major Food Crop Systems (RAMP) programs. Fifteen paired apple sites of 20 to 40 acres have been established throughout WA. Orchards were monitored for codling moth, leafrollers and lacanobia fruitworm, as well as secondary pests and natural enemies.

Pest populations at different apple sites have varied from low to high based on monitoring results. At harvest there was no difference in the level of fruit injury from codling moth and lacanobia fruitworm (cutworm) in the OP (0.11%±0.06%) or no-OP (0.05%±0.02%) pheromone-based management programs. However, there was less damage from leafrollers in the no-OP (0.09%±0.03%) compared to the OP (0.28%±0.11%) pheromone-based program. Secondary were monitored in all apple blocks at regular intervals during the growing season. There were no differences between the OP and no-OP pheromone-based programs for any of the secondary pests or their natural enemies. There was variability between sites, and sprays were applied for aphid and mite control in a few instances. The extensive counts made this year provide baseline information as we evaluate changes that may occur in secondary pest populations in subsequent years. There was no statistical difference in the number of pesticides applications made in the OP (8.7±1.0) and no-OP (9.3±1.3) pheromone-based programs and also no difference in the cost of these programs (OP - $223±23 versus no-OP - $253±28).