



The Pennsylvania
**INTEGRATED PEST
MANAGEMENT PROGRAM**



Pennsylvania Department of
AGRICULTURE

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Orchards Work Together to Reduce Pesticides

UNIVERSITY PARK, Pa. – In Pennsylvania, over 400,000 tons of tree fruit such as apples, peaches, cherries and pears are produced each year, with over 50,000 orchards and vineyards spanning the state.

Internal fruit worms such as Oriental fruit moth and codling moth pose a serious economic threat to this valuable industry. According to Jeff Mizer, Penn State extension education in Snyder county, fruit-damaging worms not only reduce marketability of the fruits they infest, but can cause the rejection of entire truckloads of apples at processing plants, which has occurred in Pennsylvania and other states.

“In Snyder County, eleven orchards are working together under a Penn State apple worm monitoring project. The project was previously funded by Penn State and the PA Horticulture Association of Pennsylvania, but starting in 2006 the project was funded by the growers themselves,” says Mizer. The goals of the project are to develop the grower’s insect monitoring skills in order to reduce costs of pesticides and to prevent the rejection of loads of Central Pennsylvania fruit by apple processors.

Insect monitoring skills and other tactics aimed at reducing pesticide use are a part of an integrated pest management, or IPM program. IPM aims to manage pests -- such as insects, diseases, weeds and animals -- by combining physical, biological and chemical tactics that are safe, profitable and environmentally compatible.

“We’re educating growers about IPM programs that reduce the use of older, more toxic insecticides and replace them less-toxic versions. We also use pheromones in traps, which disrupt mating in several types of moth pests,” Mizer explains. Pheromones are chemicals produced by insects to communicate with other individuals of their species. Typically, female insects use pheromones to attract males over long distances.

According to Mizer, growers are using trap count information to make decisions for slightly more than 225 acres. “Collectively, they were able to save more than \$4,250 on insecticide costs and over \$550, approximately \$17 per acre in just one growing season. Four growers estimate that the knowledge gleaned enabled them to change pesticide application practices strategically enough to avert financial losses due to apple worm damage. The estimated monetary savings for these four growers alone amounted to over \$6,750.”

Technical and administrative support is provided by Dr. Greg Krawczyk, senior research associate at Penn State Fruit Research and Extension Center in Biglerville, Pa. "The Lycoming County Extension Association pays the wages of project assistant to monitor the traps in the Lycoming County Orchard, while six of the orchards pay their own staff to monitor the traps and record data. The total time required per farm per season is at least 25 hours. We estimate that each farm then invests several hundred dollars just in staff time required for monitoring," Mizer explains.

Additionally, cooperators report the weekly monitoring data to Dr. Krawczyk, which is published in the "Fruit Times" monthly newsletter and distributed to the growers in the Central Susquehanna Valley. Through this insect monitoring program, fruit growers have become aware that different orchard blocks have different levels of pest pressure, and, armed with the trap data, they can watch the problem blocks more carefully.

The project is also being supported by the Degenstein Foundation, Cadbury Schweppes Americas Beverages, Knouse Foods Cooperative, the Central Pennsylvania Fruit Growers Association, and the Pennsylvania Higher Education Assistance Agency.

Growers involved in the project are more than pleased with the results. "Too much information is gleaned from the traps to drop the practice," said one grower, while another stated they feel the project is almost essential to grow quality fruit.

For more information about the project, contact Mizer at (570)837 4254 or e-mail jwm5@psu.edu.

The Pennsylvania IPM program is a collaboration between the Pennsylvania State University and the Pennsylvania Department of Agriculture aimed at promoting integrated pest management in both agricultural and urban settings. For more information, contact the program at (814) 865-2839, or Web site <http://www.paipm.org>. To view our archived news releases, see Web site <http://paipm.cas.psu.edu/10.htm>.