



Fruitful delusion

By JOHN VOGEL

THINK fruit production isn't sexy? You haven't been around a fruit orchard lately. Today's state-of-the-art-technology, Integrated Pest Management programs employ female insect pheromones to distract males and reduce egg laying.

This summer, 13 fruit growers in Adams County, Pa., have picked up on Brad Hollabaugh's enthusiasm over the control method to reduce codling moth and oriental fruit moth populations. Since these internal fruit feeders fly, area-wide mating disruption is one of the best defenses, contends this Biglerville grower and president of the State Horticultural Association of Pennsylvania.

Hollabaugh Brothers worked mostly with Isomate M100, Rosso and CM/OFM-TT (twin tube) pheromone ties on about 250 acres in 2005. This year, the project expanded to about 900 acres, according to Larry Hull, director of Penn State's Fruit Research and Extension Center at Biglerville. While mostly apples, this area-wide project includes peaches, pears, nectarines and cherries.

How it works

Think of pheromones as a cross between "her hormones" and "perfume," and you'll get the idea. Synthetically created in labs for specific insects, such as CM and OFM, they're packaged in permeable wirelike plastic dispensers, then tied to fruit trees where they attract and preoccupy newly developed males.

That's why the IPM concept is called "mating disruption," explains Hull. The practice is rapidly growing in the Pacific Northwest, Michigan and Ontario.

Trapping (catching the insects) goes hand in hand with mating disruption, says Hollabaugh. "Monitoring populations and closely following the predictive computer models is the state of the game," he adds.

"But it requires effort on the grower's part to put out at least two to three traps for every 10 acres for the best



PREMIUM FRUIT: "That's our goal," Brad Hollabaugh of Hollabaugh Brothers Inc. says. They use insect traps and orange-red pheromone mating-disruption ties to reduce insect damage.

Key Points

- Mating disruption holds promise for control of fruit moths.
- High first-year cost for Integrated Pest Management pays off in year two.
- Thirteen fruit growers have joined the area-wide control effort.

data. Then you have to check them every week," he says.

Hollabaugh and Hull see mating disruption as a tool to reduce CM and OFM populations to noneconomic levels, and eventually to reduce insecticide applications. But they admit that first-year costs can be budget-disrupting.

"Growers will undoubtedly take a big gulp. You'll spend \$140 to \$150 an acre just for the CM/OFM combo treatment," explains Hollabaugh.

"If moth populations are high that first year, you'd still have to spray to limit fruit damage. It takes mating disruption for two generations of codling moth before it effectively reduces populations or delays mating to reduce egg survival."

Come year two, adds Hull, mating disruption is up and running — and effective. "Growers should be able to cut back sprayings."

Hull says 10-acre treatment blocks are about the minimum. "A square block is best [would be most effective at the

center], but we don't have too many square blocks," he adds.

Hanging ties on the trees is labor-intensive and costly. Sprayable pheromones, particularly for OFM, are an option, he adds.

"Sprayables mean multiple sprayings," notes Hollabaugh. "But if M100s are running out of effectiveness, you can use a sprayable as a supplement to get to harvest."

Return on investment in the fruit business is razor-thin — next to nothing on processing apples — laments this grower. That's why his family's business focuses on retailing and premium wholesaling. To get those premiums, "no internal feeders are allowed."



The corn with the built-in bug zapper.

