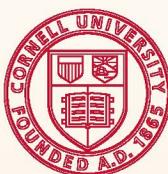


New York State
Integrated Pest Management
Program

The year in review

2013—2014



Cornell University
Cooperative Extension



Director's Message

Many of you see IPM specialists in the field during the summer months — setting up demonstration trials, teaching pest identification, or talking with growers and school grounds managers. In the winter we cross paths at conferences, IPM workshops, and advisory meetings. But you may wonder what else we do when the snow is deep ...

- Our Ornamentals IPM educators presented a series of webinars, teaching upward of 200 viewers about pesticide resistance and how IPM can help them.
- Crunch, crunch, crunch! That was the sound of our fruit IPM coordinator crunching data from the spotted wing drosophila (SWD) statewide monitoring network. It paid off both in delivering that info to growers and in supporting several grant proposals for continued work on management alternatives.
- The Christmas season brought attention to a root rot that plagues the beloved Fraser fir. Our IPM specialists educated journalists throughout the country about *The Blight Before Christmas* and how growers deal with it the IPM way.
- The Nassau County Bed Bug Task Force was hard at work with our IPM educators — highlighting our *Bed Bugs Illustrated* resource and teaching landlords, social workers, housing managers, and maintenance staff about new developments in bed bug management.
- 199 talks and workshops later, we reached nearly 10,000 people. Our interviews on six TV broadcasts reached thousands of viewers. And our presence at events such as Empire Farm Days and Farm Aid reached many hundreds more.

We always say that IPM is a year-round process, whether you're a grower, a pest manager, or an IPM specialist. Please take a look inside and see how IPM research, demonstrations, and training sessions from last year can help you plan for better pest management and lower impacts next year.

Last — hardly least — this past winter we bid a fond farewell to Curt Petzoldt, co-director and 29-year veteran of the NYS IPM Program. We thank him for his insights, hard work, and dedication — and wish him well in retirement.

Jennifer Grant, Director



Front cover: Cabbage is King: \$106 million. That's the farm-gate value of the king of vegetables in New York — and New York leads the nation. New York's growers rely on IPM techniques to help them battle the myriad of insects, weeds, and diseases that attack this crop.

Highlights of 2013–2014

Got Asthma? Try IPM

Cockroaches, mice, mold: all produce asthma triggers. And if you're not on top of the simple ways to exclude these pests (technically, even mold is a pest), you've got a problem. Especially since preventing pests is usually simpler than dealing with an outbreak.

So when the landlord for 10,000 people decides it's time to learn about — and adopt — core IPM practices, that's great news. The city? Albany, New York. The players? Albany Housing Authority (AHA) managers and maintenance staff; educators from Cornell Cooperative Extension (CCE); and experts from Albany's Asthma Coalition and St. Peter's Hospital. The audiences? AHA maintenance staff, and residents.



Gotta Sweat the Small Stuff:

Even well-maintained buildings can open the door to pests. That small dark crevice above that pipe — it provides easy access for even a well-fed mouse. Good thing small crevices like these are easy (mostly) to fix.

Once you've found them, that is.

Most maintenance staff trainings took place one-on-one and sought answers to these questions: Are there pests in the building — and where? How did they get in and what keeps them there? And: how to make them unwelcome?

Take shelter, for instance. It's one of the three universal needs for cockroaches, mice, and arguably even mold. But access to shelter, so easy for the eye to miss, is easy for a pest to find. When you plug their access points, you're denying pests those two other needs: food and water.

The outsides of most buildings were in great shape. So trainees looked closely at the little things. Vent pipes — were they screened? Often not; or screens were damaged. Some drain covers to boiler rooms — missing. Some air conditioners with holes in their grates. Pipe chases (the holes where pipes enter buildings) in need of a caulk job to fill them in. Lidless recycling bins.

Meanwhile, empty apartments were routinely sprayed for ants and roaches. But why not use sticky traps to find out if the pests are even there? Saves money — and sprays.

Up next? One-on-one training sessions for households — especially households that include someone afflicted by asthma. So far these sessions have been well received, with attendees delighted by the takeaways they received — small trash cans with lids, trash bags, storage containers with tight lids, mouse traps, and the like.

Project leader: N. Lerner

2014

**Production Guide for
Organic Carrots
for Processing**



NYS IPM Publication No. 133



Cornell University
Cooperative Extension



Integrated Pest Management



New York State
Department of
Agriculture & Markets

The Numbers Tell the Story:

New York is one of the top 10 states for organic production, with gross income hovering around \$572 million. But that number belies the staggering amount of work involved in successful organic agriculture — and the scarcity of comprehensive, up-to-date guidance in everything organic.

NYS IPM's organic guides have filled that void since we issued the first four in 2009. The numbers tell the story almost better than we could — these free guides, funded by New York State Ag and Markets and updated yearly, have been downloaded well over 10,000 times by users in New York and around the world. And if that's not a welcoming vote of confidence, what is? With eight detailed crop-specific guides encompassing 12 major organic vegetable crops — and guides for fruit too — solutions

are just a few clicks away. Even dairy farmers have their own guide, as do growers who need crop-by-crop storage advice to meet customer requests for local winter produce.

The guides dwell on IPM basics, starting with a focus on interrelated biological, mechanical, and cultural tactics — tactics such as cover crops, crop rotation, field selection, soil quality, and nutrient management — then go deeper, delving into a host of pest management options.

“Before these guides, about all that growers had was a hodgepodge of materials from around the country: incomplete, inadequate, and rarely if ever updated,” says extension educator Robert Hadad. “The organic guides are one-stop shopping for farmers — and for me. I'd be lost without them.”

Project leaders: A. Seaman with many Cornell faculty and CCE field staff collaborators

Vote of Confidence: IPM's organic guides comprise 798 (count 'em) pages packed with the solid information that growers so deeply need — and are carefully updated each year to reflect the latest research on pests, resistant varieties, preventive tactics, the works.

Which is why these guides have been downloaded over and over again — 10,000 times at the last count.



We Reward Excellence

You can't put a dollar value on recognition — especially recognition by your peers. Each year, our Excellence in IPM awards recognize the exceptional work of people or groups who live and breathe IPM — whose dedication and support for IPM make real differences in their workplace or community. Would that we could tell each story; but these two must serve for the rest.*

First up: Mark Zittel. He'd used core IPM practices for years, but using beneficial organisms to control pests on his 240 acres was a hard sell. It wasn't until pests in his peppers started rebounding

Getting the Bugs Out of Nassau's Beds

Though Nassau County on Long Island ranks among the wealthiest counties in the U.S., its residents represent a huge range of incomes and lifestyles. And all of them need help and guidance on bed bugs. Because — where bed bugs are involved, money alone won't make you immune. Because — it hardly matters where you live; bed bugs are just about everywhere now. Because — they're not going away anytime soon.

So when the county's District Attorney and Department of Health created the Nassau County Bed Bug Task Force in 2008, they considered bed bugs a public health issue from day one; their reps have attended every meeting since. The task force focuses on existing policies like compelling landlords to ensure "warranty of habitability" each time they rent a property. Plus they provide workshops and training sessions for everyone from apartment dwellers and health care providers to school nurses and maintenance staff.

Which is where IPM comes in. Our program is respected regionally and nationally for its expertise in all things bed-bug — expertise delivered with a common touch. IPM workshops and training sessions reach hundreds of people across Nassau County every year and improve the lives of thousands. The ripple effect, in other words. Indeed, it's the combination of this proactive push for equality in bed-bug management, regardless of circumstance, that makes Nassau's task force the standout it is.

Project leader: J. Gangloff-Kaufmann



Tools of the Trade: On the macro scale, it's trash bags. On the micro scale, it's magnifiers. Both are essential at hands-on IPM workshops for combatting bed bugs.



out of control that he finally put his toe in the water. His success made him an instant convert. Now he advocates for IPM in his farm community.

Our second example? Christmas tree growers face an evolving array of pests. Killer diseases. Bad-news bugs. Even weeds. Which is why they proactively seek IPM programming and open their farms to IPM research. "IPM programming has been a huge help to my members," says Mary Jeanne Parker, executive director, Christmas Tree Growers Association of New York.

Indeed, our deepest appreciation extends to the thousands of IPM growers, practitioners, and researchers who make our work such a joy. We couldn't feel more appreciated.

*Others who received awards this year: Michael Fargione, Ron Gardner, and Elizabeth Lamb.

Watchwords for Keeping an Adaptable Pest at Bay

The symptoms were telling: large swaths of corn suddenly flat to the ground with goose-necked stalks, badly pruned roots — and nothing else to blame it on. The larvae that most likely pruned the roots had, by then, grown and flown. But long experience pointed a finger at corn rootworm — CRW for short.

A natural insecticide, *Bt*, has been incorporated in some genetically modified corn to battle CRW since 1996. It works great if managed correctly. But pests (and CRW is a great example) have a long history of becoming resistant to most any pesticide. Growers can *and should* use IPM tactics that greatly lessen the likelihood of resistance.

Crop failures associated with *Bt* corn surfaced as far back as 2007 in America's corn belt. Still, it was a surprise to find the first probable instance of *Bt* resistance in corn in the Northeast this past year — in a cornfield in upstate New York.

For those grown accustomed to the convenience of high-yielding, almost pest-free corn — well, you can see why some farmers might let down their guard.

For these growers, three IPM watchwords:

- Give It a Break: *continuous corn means continuous pests*
- Rotate! *plant soybeans, alfalfa or wheat — corn rootworm doesn't eat them*
- Plant a Refuge: *a belt of non-Bt corn with your main crop slows the risk of CRW resistance*

Source: E. Shields and J. K. Waldron



Drama From on High:

Corn contributes more than \$685 million to New York's economy. Which is why IPM strategies for halting the spread of corn rootworms newly resistant to *Bt* corn are critical. Because — *this* could happen to you.

Different Pest, Similar Watchwords

A new pest, western bean cutworm — WBC for short — has corn growers in the Midwest and Canada worried. With potential yield losses up to 40 percent from feeding by this moth's larvae, it's got us worried too. We've scouted for WBC since it was first found in New York in 2009. Each year, trap catches go up — especially in western New York near the Ohio border and the North Country, straight across the St. Lawrence River from Ontario.

This pest is full of puzzlements we have yet to decode. For instance, we've not seen signs of heavy damage — yet. *Yet*. Because last year one field in Jefferson County outscored all others with a total catch of 853. And that's a lot. Yet despite our careful looking, WBC egg masses haven't been easy to find. But to employ the IPM thresholds now in use in the Midwest and Canada, we need those egg counts.

Now we've nearly doubled our trapping in areas where WBC numbers have been highest. Meanwhile, it bears repeating: the best long-term IPM strategy for managing this pest will lie with a combination of tactics rather than relying on any single one — and starting with resistant varieties and careful scouting.

Project leader: J. K. Waldron



Up Close and Personal. We want to spare you sights like this — which is why we and our dedicated cooperators are so diligent in scouting for Western Bean Cutworm.

App Is Ammo in Bug Wars

In the pest-friendly environment of a greenhouse, growers can feel like they spend all their time battling unwanted critters. So more and more are turning to biological control — using beneficial insects, mites, and fungi to control pests. But biocontrol is an information-dense process. You've got to integrate a wealth of details if it's going to work.

Smartphone apps can help do that data-crunching for you. Which is why we built Pocket IPM: Greenhouse Scout, a smartphone app that brings together:

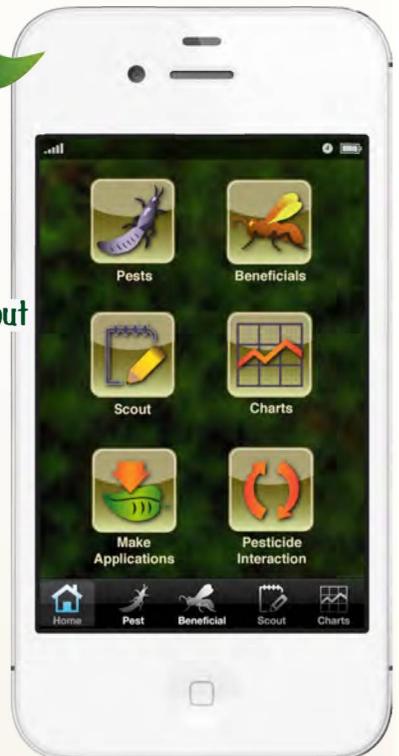
- pest and beneficial ID and biology
- biocontrol application technology
- visual records of greenhouse pest populations throughout the growing season

Not only that, but Greenhouse Scout lets you tweak the system to your own production requirements. And it helps even if you don't use biocontrol yet — the interactive scouting function lets you identify locations with QR codes, then enter and graph information on pest numbers by which greenhouse bench you're at.

Project leader: E. Lamb



**Pocket IPM:
Greenhouse Scout**



Scouting Made Easy: No more carrying a clipboard through the greenhouse or looking for where you jotted down those sticky card counts. Now your smart phone or tablet puts everything you need to know in the palm of your hand. Literally. Find it at your favorite app store.



T. Martinson

Tiny Pest, Huge Impact

SWD. That's the handle for a tiny new pest that wields a big hammer. This fruit fly's true name: spotted wing drosophila. Indeed, it'll be a long time before we stop hammering on SWD — it's that bad. What makes it such a menace? Unlike our native fruit flies that zero in on fruit that's overripe and is clearly unsalable, SWDs find that ripening berries and other soft-skinned fruits provide perfect *out of sight, out of mind* nurseries for their eggs. Why? The sawlike egg-laying device on SWD females slices into perfect fruit, depositing those eggs in a protected and nourishing environment.

Yet growers may only find the hidden larvae during harvest after the hard work of production is done. By then, there's little they can do but dump the whole crop — worth as much as \$17 million for New York's direct-market farmers.

Now fruit growers everywhere are on guard. This puts us on guard too; we're part of a national IPM scouting network to report both first and sustained captures in every berry-growing region of the country.

Which crops are most at risk? Fall-bearing raspberries, mid- to late-season blueberries, and blackberries are in the bulls-eye right now. These growers sorely need nonpesticidal IPM practices — right now. For with over 44,000 acres of fruit at risk from SWD in New York, farmers could be forced to ramp up insecticide applications — a lot. Meanwhile, the majority of small-acreage, direct-market berry farmers are ill equipped to spray repeatedly. Most have stopped putting in new plantings; many are even ditching those they have. If we can't stop this pest, there'll be fewer locally grown berries to go around.

Project leader: J. Carroll

The Wildlife Hotline Begins Here

Maybe it's the chipmunk stashing a winter's-worth of nuts and seeds in the cellar. Or momma raccoon bringing up baby in the attic (the latrine she made is conveniently nearby). Or any of 20-plus critters that set up shop where we want them least.

Nationwide, Cooperative Extension's Master Gardener volunteers are IPM-trained and equipped to field pest questions of every stripe and hue. Well — nearly. Striped cucumber beetle? No prob. But striped skunk?

Wildlife professionals have IPM resources at their fingertips. But none of these resources are geared for nonprofessionals. Now a team of Extension scientists and educators based at Cornell and the University of Nebraska have crafted a first-time-ever guide giving master gardeners from coast to coast a wealth of carefully presented, commonsense advice they can share with those who turn to them for help.

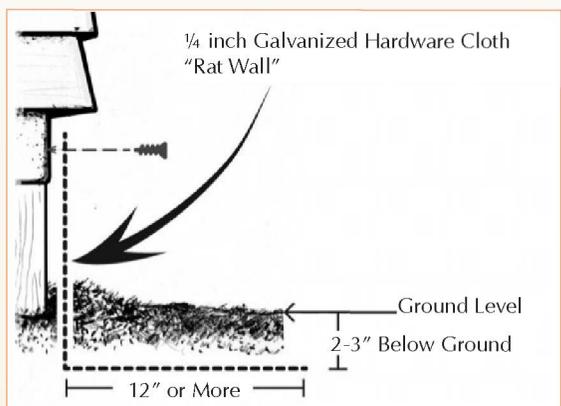
Project leader: P. Curtis



Master Gardener
Volunteer Training:
tinyurl.com/l2hqhpe

Make Prevention Your Mantra:

Chipmunks and rats can get through holes the size of a quarter — and mice, a dime. Ask for a roll of galvanized hardware cloth at your local hardware or lumber store, then build a "rat wall" to protect your crawl space or cellar.





On the Trac Train: Long, mellow summers tempered by the ocean that surrounds it have made Long Island a premier agricultural area. Now wine growers are joining the apple, ornamental, and vegetable farmers that have made the island their home. From one small vineyard 25 years ago, the wine industry on Long Island has taken off — more than 50 vintners making world-class wines on 3,000 acres. IPM's Trac workshops have brought yet another important tool into these growers' "sustainability toolkit."

Trac'king Farm Data

Food safety auditors. Produce brokers. Organic and eco-certifiers. Food processors. State and federal oversight agencies. Each has a stake in knowing that, farm to table, the food and drink that ultimately end up on the consumer's plate meets their standards. And careful record-keeping is key.

But each auditor, broker, or certifier has a different set of forms. And filling out forms is tedious work.

Since 2003, IPM's Trac Software for 15 fruit crops has made form-filling way easier with dropdown lists and ready-made tables — forms that practically write themselves regardless which buyer or agency they're going to.

More than 500 fruit growers have acquired Trac Software, and 98 percent say they'll keep using it. But farmers new to Trac like a little handholding their first time out of the gate. After a survey showed that 76 percent of growers want more training, we presented eleven workshops over a two-year span, reaching about 200 growers and a smattering of extension and industry people. Seeing Trac in action — how it improves accuracy, streamlines reporting, and helps analyze pest-management strategies, all while cutting down on paperwork — well, the software practically sells itself.

Project leader: J. Carroll



Order Trac Software:
tinyurl.com/qbrh9e2

BMPs and More for Safer Schools, Healthier Kids

The word is out: kids are far more vulnerable to pesticides than adults are. Yet pests too pose health hazards, with debilitating asthma and allergies topping that list. After all, schools include settings as varied as classrooms, cafeterias, laboratories, locker rooms, auditoriums, playing fields, playgrounds, gardens — the list goes on. Settings that could appeal to cockroaches, wasps, bed bugs, mice, rats — that list goes on too.

How to walk the line in our schools: to get the bugs out and keep schoolchildren safe? We're old hands at school outreach, actually, but now we're amping up. Our NYS IPM educators and 36 collaborators statewide — and scores more nationally — have come together to promote safer pest management options both in New York and across the country. Statewide, there's the Child Safe Playing Fields Act and the Neighbor Notification Law. Regionally and nationally, there's the push to get verifiable IPM into the nation's schools by 2015. With scads of school districts and a kazillion kids across the country, all needing IPM knowledge and technical support, we took the local-global approach.

In New York we've provided dozens of IPM workshops reaching hundreds of school maintenance and grounds workers (six hundred for one webinar alone). These workshops teach preventive tactics that, in the long run, can cut pesticide use dramatically — and save money. And in the Northeast and across the country, we and our colleagues have helped create IPM management guides for staff, and IPM K-12 materials for students.

Our latest contribution? A school IPM Best Management Practices (BMP) website housed online at the Northeastern IPM Center's website. It's chockablock with the information schools need — from basic introductory materials to the nitty-gritty on keeping schools pest-free inside and out, model contracts for pest control companies, and a compendium of state laws for the entire Northeast.

Project leader: L. Braband

BMPs for School IPM:
tinyurl.com/mjq2frd



Safer Turf for Safer Schools: Any turfgrass manager will confirm — sometimes the most damaging pests are people. When this school rented space to an outside agency, the school was told 1,000 people would come to the school for exams. Thinking this meant 500 people in the morning, 500 in the afternoon, they knew their parking lot could fit that many cars. But when 1,000 people showed up at once, someone started directing cars onto athletic fields just thawing from a cold winter.

A playfield turned to muck is a magnet for weeds (and technically, weeds are pests). Luckily a local company donated the equipment to renovate the field, because weeds make for slick footing — which in turn makes for sports injuries. Which is why these fields stayed closed until the grass was ship-shape again.

Taking the Temperature on Healthy-Crop Tactics

Heating costs, ever on the upswing, can make for a downswing in profits if you're a greenhouse grower with naught but plastic protecting your crops from the cold. Turning down the thermostat would seem a no-brainer. But greenhouse profits are temperature-dependent — mainly since bedding plants need steady warmth to look great in time for Mother's Day.

Yet pests too are partial to constant warmth. And they like having plenty of posies to pick on.

So if you do turn down the temperature, will your crops mature quickly enough? Will diseases and other pests slow down, or does it just give them more time to do damage? And — what about the beneficials that make their living by picking on pests?

Knowing that some growers are trying the low-temperature trick, we designed a two-year, cool-greenhouse experiment pitting our beneficial of choice, a tiny, wormlike nematode, against our pest of choice, the fungus gnat.

What did we find? Dialing down the thermostat slows fungus gnats — lots. In fact, at 55°F it takes them an extra month to reach peak populations, giving growers an extra month to get their control programs in place. Better yet, cool temperatures don't slow down nematodes. In fact, our studies show that while nematodes at 75°F knock back fungus gnats by 40–75 percent (not so bad), at 55°F those nematodes — *Steinernema feltiae*, should you wish to know — slash gnat populations by 60–90 percent (pretty darn good).

Project leader: E. Lamb



Tiny nematodes come in small packages: In fact, this little box held, oh, a million or so. It takes attention to detail to order them at the right time and use them quickly — before they croak — but they're easy to apply.

With a ½ acre under glass, grower Jen Jennison wants to save energy costs. She also wants healthy crops. So she dialed down the thermostat in one of her greenhouses — and did an experimental nematode drench on her crops. Results? Fungus gnats were down two-to-one in cool greenhouses. And those nematode-drenched plants showed fewer gnats: three versus five, averaged over all crops and temperatures.

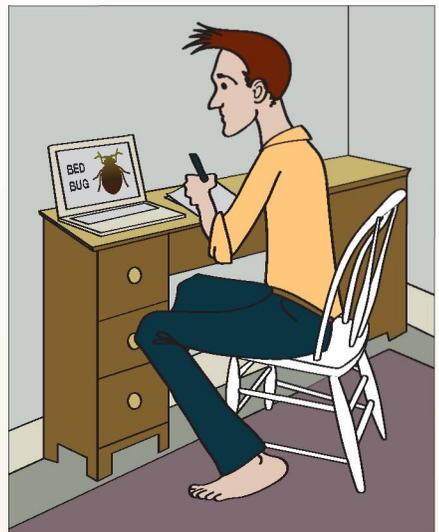
Bed Bug Info Made Easy

The bed-bug diagnosis isn't one householders or building managers want to hear. But these new resources from the NYS IPM Program make it just that much easier to explain what to do — or not to do.

And since a picture is worth a thousand words, these resources do it in a new, pictorial format that transcends language and literacy barriers. From diagnosis to treatment, the illustrations cover it step-by-step with next-to-no words.

Pest control operators with printouts on their clipboard — or bookmarks on their tablet, laptop, or smart phone — will find it that much easier to literally walk the talk while teaching their clients how best to help keep bugs at bay.

Project leader: M. Frye



Help Others Help Themselves: Overwhelming — that's what the bed-bug diagnosis is. And no matter what tools you use, knowledge tops the list. Because the better equipped a client or householder is to understand what makes bed bugs tick, the better equipped they are when it's time to take action.

Bed Bugs Illustrated series:
tinyurl.com/pg8gkkj



Trap Network Traps Knowledge for Sweet Corn Growers

You could think of NYS IPM's sweet-corn trap network, up and running since 1993, as New York's longest trapline. With 24 sites in 18 counties, the network provides a weekly heads-up on where the pests are and in what numbers — pests that might be harmless as adult moths, but their larvae are dreaded “worms” that tunnel into the ears. And nobody, *but nobody*, likes wormy corn. Still — how well does this network inform fresh-market growers' choices in pest management? It was time to take the industry's pulse. Again. So we surveyed growers (and other network users), tweaking a 2006 survey to establish 2013 needs.

Then we crunched the data — comparing our results with that 2006 survey. Both years, roughly 85 percent of growers said that losing access to the network would affect how they coped with pests. But the difference in how they would cope was revealing. Because in 2006, 26 percent said they'd need to spray more and 15 percent said they'd get their own traps. This time the “spray more” group fell by 35 percent — while the “get my own traps” crowd doubled.

What about establishing those “2013 needs”? While we had their attention, we also asked a couple of questions on bird damage and if we built a smart-phone scouting app, would it find a market? Good thing we asked, because the answers were clear. Yes, birds cause economic damage for 80 percent of growers — a call to action for sure. And yes, 65 percent of growers and 75 percent of consultants *want that app*.

And now for a shout-out to our farmer, consultant, and extension collaborators — this network would be impossible to monitor and maintain without your dedication and hard work. Thanks!

Project leader: M. Zuefle



Monitoring Moths? This Little Box Is a Big Help: These four pairs of adult moths (L) don't eat sweet corn. But their larvae do. Yet at about $\frac{3}{4}$ inch long, even the largest moth is easy to miss as it wafts along on the breeze. The IPM answer? A network of “pheromone traps”: of powerful lures that trick, then trap male moths with the false promise of plentiful female dates. A cadre of volunteers checks traps weekly to alert farmers when it's time to scout for egg masses and hatching “ear worms” — before they can damage the corn.

But with so many little brown moths out there, including look-alikes (R) that sometimes blunder into the traps, even a practiced eye sometimes needs a refresher. These mini-display boxes — easy to carry into the field — help volunteers quickly compare size, color, and markings for an accurate ID.



Knowledge Trumps All: Our fast-paced “Pest Pinochle” game had a steady stream of Farm Aid concert-goers matching Trouble and Solutions cards (spiked with the occasional Wild card or Joker) to learn what’s involved in safely dealing with pests. Our “What Would a Farmer Do?” mapping quiz introduced many more to classic IPM tactics growers rely on: prevention, scouting, trap crops, and the like. And our looping slideshow, “Bad Little Buggers,” had still more peering over each others’ shoulders for an up-close-and-personal look at pests now rocking farm communities coast to coast.

Channel Your Inner Farmer

Since 1985, Farm Aid has taught music lovers about family farms and what it takes to produce local food ecologically. Yes, the concerts are a huge draw — but so is Farm Aid’s educational mission. So when NYS IPM was invited to interact with 25,000 concert-goers at Farm Aid’s Homegrown Village, we knew it was a perfect fit.

Our mission? To give concert-goers a feel for the sweeping range of decisions farmers must make all day, every day — and the array of IPM tactics that help inform them.

As in — *Really? Mums can trap bugs?* You bet. Scores of people saw how savvy greenhouse growers put out early flowering mums to attract a tiny pest called thrips, ensuring it won’t bedevil their main crop. It’s a variation on *seek and destroy*. Thrips seek the pollen mums provide; growers destroy infested mums along with their burden of thrips. And it takes just a few to do the trick.

Was it fun? Oh yes. Was it educational? Believe it. Would we do it again? In a heartbeat. *Wouldn’t you?*

Project leaders: M. Woodsen and K. English



2013 Projects

All projects were funded, in part or in full, by the New York State IPM Program. We leveraged additional funds from outside sources. Unless otherwise noted, departments listed are part of Cornell University. nysipm.cornell.edu/grantspgm/projects/proj13

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Brewer, L., Horticulture. *Promoting Adoption of IPM Strategies in Plant Selection and Design of Lawns, Gardens and Landscapes.*

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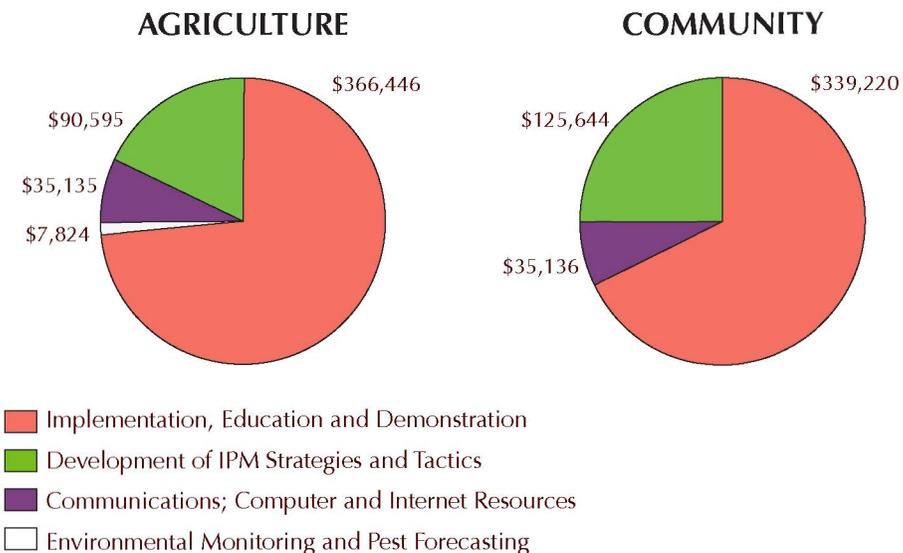
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