



CORNELL Cooperative Extension

The year in review 2001–2002

New York State Integrated Pest Management Program



Working together



Michael P. Hoffmann, Director,
NYS IPM Program

For every dollar we receive in state funding, we're able to attract another dollar—mostly from federal agencies.

In cooperation with many others at Cornell University and across the state, region, and nation, the New York State Integrated Pest Management Program continues to help address the pest management challenges facing our farmers and urban dwellers. Each year, new pests, new issues, and new constraints on pest control options challenge our IPM practitioners, and we are here to respond.

At the regional and national level, we are helping to develop and lead new initiatives and to set a national agenda for IPM. The relatively new Pest Management Center for the Northeastern States, co-led by Cornell and Penn State, is fostering multistate cooperation. Cornell continues to compete well for regional and national IPM resources, assisted in part by the grants provided through our program. These address immediate needs but also lay the foundation for larger resources from other sources. In the past few years, NYS IPM staff alone have generated over \$2.5 million in competitive IPM dollars.

We do not do it alone, and to recognize the special contributions of others, each year we present Excellence in IPM Awards. For 2001, we recognized Professor Tom Zitter for his many contributions as a Cornell plant pathologist, Deborah Sweeton, a commercial greenhouse operator, for leading the way with IPM adoption, and John Gibbons for his dedication to helping farmers use the latest weather information to predict pest problems. Within the program we recognized leadership by promoting Jennifer Grant and Jana Lamboy to coordinators of community and ornamental IPM, respectively, and we are very pleased to have Juliet Carroll joining the program as our new fruit IPM coordinator.

To ensure that we are doing the best job possible, last fall, and at our invitation, the program was reviewed by a USDA–CSREES team of IPM specialists. The review was successful, thanks to the many faculty, Extension staff, and stakeholders who met with the panel and provided their insights. The team was especially impressed by our enthusiastic and talented staff. Their overall assessment was that the program is “world class.”

We are looking forward to another productive year. Please read on to learn about some of the contributions that we, together with many others, made to the citizens of New York this past year.



... across the state

This past year, the NYS IPM Program reached over 9,700 people face-to-face through more than 180 workshops, presentations, and demonstrations in the state and beyond. Specific projects are represented here with dots. In addition, our website was accessed 360,000 times and networks we affiliate with (sweet corn trap network, Northeast Weather Association, Turfgrass Hotline, Vegetable MD Online, and the newsletter *Branching Out*)—plus other Cornell Cooperative Extension educators—reached thousands of additional people with IPM information.





There are more than 3.3 million schoolchildren in New York State. What pests are in their schools and how do districts manage those pests?

School survey points to successes, gaps

New York State's school districts collectively spend over \$3 million each year to control pests. Parents and teachers are increasingly concerned about the potential risks that pesticides may pose to students. A new law requiring schools to notify parents and staff 48 hours in advance of pesticide applications in school buildings and on school grounds went into effect in July 2001.

How can we best serve schools, given the lack of hard data on which pests are most problematic and which pest management practices they already use? Where do the information shortfalls lie?

Researchers surveyed about 580 New York State school districts representing thousands of schools to get a general picture of which pests troubled them and what pest management practices they employed. The results? Among others, a straightforward account of which pests bug school staff the most.

“Know the enemy” is fundamental to correct and careful pest management. With the survey's reliable baseline data in hand, we are better equipped to direct research on innovative pest management solutions, examine and fine-tune the efficacy of new products in a school environment, and develop educational programs that help school staff and administration understand and use the least toxic, least expensive options in pest management.

Project leaders: L. Braband, E. Horn, and L. Sahr

These plants are afflicted with cankers, leaf spots, viruses, rusts, mildews—or salt, spray, frost, overwatering—and the symptoms look so much the same. How to tell what's wrong, then prescribe a treatment or cure? A series of clinics reaching horticulturists around the state helped them recognize what's a plant disease and what's not. Photos: V. Altman.



Diagnostic road show is expressway to IPM

Road salt, frost damage, herbicide drift, overwatering, insect damage—each can mimic the symptoms of plant disease. Yet horticulturists don't always have easy access to the diagnostic help that's essential in knowing how to read symptoms or which treatment to choose. But with good training and a few essential tools, professionals can quickly learn what to ask homeowners about their plants, how to diagnose some common diseases and the conditions that resemble them, and when to seek help.

IPM's “2001 diagnostic road show” went to six sites around the state, bringing these skills to 175 horticulturists from 13



If you've got the materials at hand, making sweep nets takes a mere 15 minutes each. Then it's out to the fields to put them to work, sampling for the pests that damage crops. These Mennonite farmers in Yates County learn how to monitor for potato leafhoppers in alfalfa. Project leader and photos: M. Stanyard.



counties—teaching a systematic five-step technique based on recognizing the patterns of stress-related disorders and developing new “search images” for the pest damage characteristic of each season.

Project leaders: J. Lamboy and K. Snover.

Tiny wasp takes on sweet corn pest

It's not even as big as this comma, but that doesn't stop *Trichogramma ostrinae*, a microscopic wasp from Asia, from tackling a far larger prey. Its target? European corn borer, the number one pest of New York's 63,000-acre sweet corn crop. This wasp is an “egg parasitoid” that completes its life cycle inside the eggs of European corn borers, devouring them in the process.

Recently IPM researchers have found that a single release of 30,000 wasps per acre “inoculates” the field and provides good suppression of corn borers for the entire season. Only one release is necessary and it is made when corn is about knee-high. And because the wasp disperses exceptionally well, only one release site per acre is required.

The results have been impressive: the wasps decrease the number of infested corn ears by 50%, on average. Releasing *Trichogramma* should result in fewer sprays, and the cost of the wasps is competitive with an application of insecticide.

Project leaders: M. Hoffmann, M. Wright, and T. Kuhar.



How has the IPM Program helped me? By targeting problems. It makes sense, and I'm a more responsible farmer because of it.

—Cal Snow, dairy farmer
Brooktondale, New York

The tiny *Trichogramma ostrinae* wasp tackles European corn borer, the number one pest of sweet corn, by parasitizing the borers' eggs. Photo: S. Pitcher.

Bacterial and fungal diseases—perennial problems in New York’s 27 million square feet of greenhouses—can take down crops worth tens of thousands of dollars in a matter of weeks, or even days. But treatment methods have to be fine-tuned for each crop and even for each variety of a crop. This year we tested seed treatments and healthy growing mixes for zinnias, a crop that has long been a mainstay of New York’s booming cut flower and bedding plant industries. Project leaders: J. Lamboy and N. Call. Photo: J. Lamboy.



Fatal distraction: synthetic sex scent confuses peach pest

It’s scent, not sight, that the female peach tree borer and its cousin, the lesser peach tree borer, use when luring potential mates. It doesn’t take much—we can barely measure the amount of chemical pheromones that females emit, let alone smell them. But if we attach synthetic pheromone dispensers to some of the trees—in effect, flooding the orchard with scent—it’s like pulling the curtains; the males can’t find the females. This is mating disruption: if borers can’t mate or procreate, their pest potential drops below the threshold for treatment, and that’s good news for New York’s \$5.4 million peach crop. IPM-funded research over the past two years shows mating disruption to be just as effective and no more costly than insecticides in dealing with these highly damaging pests.

Project leaders: A. Agnello and D. Kain

Smoothing management bumps with “BMPs”

Most of New York’s 1,100 greenhouse operators want to be environmental stewards. After all, greenhouse wastewater may seep into ground water or discharge to surface water—and while microorganisms in the soil break down many of the organic chemicals in wastewater, others may remain to pollute the environment. Growers care about their employees and customers, about their relationships with communities and environmental agencies, and about getting the most out of their resources.

This past year, IPM, Cooperative Extension, and Cornell researchers worked with greenhouse owners to explore and define a set of efficient routines that

- reduce the impact of fertilizers and pesticides on surface water;
- reduce the risk of accidental spills;
- promote the use of integrated pest management (everything from the latest in biocontrols to good sanitation) which, in turn, reduces reliance on chemicals.

Together, they are fine-tuning a set of “best management practices.” These “BMPs” help smooth out the bumps that beset any grower who’s trying to make a living while investing in a future that’s good for the environment, good for people, and good for the bottom line.

Project leaders: J. Lamboy, M. L. Cummings, and T. Weiler



BMPs are an action plan as opposed to a reaction plan. You spend more time scouting and less time spraying. It’s all about getting in front of the problem instead of running after it.

—Mary Alyce Kobler
Growth Facility Manager
Boyce Thompson Institute for
Plant Research

Three-branched approach smothers fire blight potential

Ask any apple grower which scourge looms more starkly than the rest, and chances are they'll say fire blight. This aptly named bacterial disease afflicts blossoms and shoots, leaving the trees looking scorched; if it gets into the rootstock it can kill a tree. Heavy infestations are like brush fires, flaring up here and there every few years or so. In bad years, some growers of New York's 50,000 acres of apple orchards have lost up to half of their trees. With establishment costs running about \$6,000 per acre, that's no small loss.

Unfortunately, many of the new apple varieties so popular with consumers—and thus with growers—are particularly susceptible to fire blight, as are many of the rootstocks upon which they are grafted. Meanwhile the pathogen that causes fire blight can become resistant to streptomycin, a control that works well on blossoms but not so well on growing shoots. So researchers have developed a new integrated approach that reduces tree loss through careful nutrition, the use of new fire blight resistant rootstocks, and—perhaps most novel—late spring applications of a growth retardant that suppresses fire blight in shoots while retarding its spread.

Project leaders: T. Robinson, H. Aldwinckle, and J. Norelli

Fescue tees-off turf weeds

Maintaining golf courses in top form is an expensive business—and keeping weeds in check accounts for almost as much pesticide use as the amount required for insects and plant diseases combined. Even keeping lawns looking good can be a spray-intensive operation. Now public concern about watershed health and pesticide exposure has golf course managers, landscapers, and homeowners seeking alternatives to herbicides.

Researchers have developed several cultivars of fine-bladed fescues that provide visually appealing turf and disease resistance while—best yet—suppressing weeds. They've even found that substances from the roots can keep weed seeds from germinating. Indeed, these fescues might someday be the sources of natural herbicides.

Project Leader: L. Weston



Because of the IPM Program, we understand the biology of the orchard, and we have new tools to deal with pests. That's been really important with the Food Quality Protection Act.

—Darrel Oakes, apple grower
Lyndonville, New York



A twist-tie it is... and isn't. Actually, this bright red tie is so saturated with sex pheromones that male oriental fruit moths can't figure out where in this scent-filled "landscape" the females await them. Boy *doesn't* meet girl means fewer damaged apples, cherries, or peaches. Project leader and photo: D. Breth.

Can IPM greens compete with the best? Preliminary research at Bethpage in Long Island—home of the '02 U.S. Open—says yes. Frequent ball roll tests like this showed researchers that they were maintaining superlative playscapes—even as they cut pesticides by 33 percent. Project leaders: J. Grant and F. Rossi. Photo: F. Rossi.

We've shown that farmers can grow beautiful peppers like these with a very low impact on the environment. How? By choosing varieties that resist bacterial leaf spot, allowing natural enemies to take a bite out of aphid populations, and spraying for European corn borer only during peak moth flights. Project leader: A. Seaman. Photo: J. Lamboy



Soybean aphid was the new bug on the block in New York this past summer. In fact, this tiny yellow pest was found in the U.S. only two years ago. IPM researchers are monitoring this newcomer's distribution and determining how badly it may damage New York's 4.7-million-bushel soybean crop. Project leaders: J. K. Waldron, J. Losey, and R. Hoebeke. Photo: USDA.

Shrugging off an old pest in a new fashion

These days, farmers know the aggressively invasive western corn rootworm as *the* insect pest of feed corn. Seventeen years ago, only 168,000 acres of New York's million-plus acres of feed corn were treated with soil insecticides for rootworm. But now it's over 336,000 acres. In fact, of those fields that are in continuous corn, close to 70 percent are treated. How can we reduce insecticide use for this pest?

Rotating fields out of corn and into another crop works well—except that often rotation doesn't meet the farmer's cropping and livestock feeding needs. Now trials with insecticide-coated seeds and transgenic corn varieties show that these options work as well as soil insecticides. The seed coatings, effective for low to moderate rootworm infestations, can cut the amount of insecticide used per acre by close to one hundredfold, and planting the new corn varieties—available commercially in the near future—can entirely eliminate the need for surface applications of insecticides.

Project leaders: J. K. Waldron, B. Cox, and E. Shields



Blemishes like these didn't end up affecting quality this past year, when all of New York's apple growers had access to predictive tests that told them when apple scab was about to strike. That meant they could time fungicide sprays precisely to periods of greatest risk or avoid them when the coast was clear—while preventing as much as \$5 million in unmarketable crops. Project leader and photo: D. Rosenberger.

Vinegar herbicide passes acid test

It takes only ten minutes on your knees to learn that dealing with weeds on any scale at all is no easy task. While there's no "one size fits all" approach to managing weeds, people who might be tempted to use a broad spectrum herbicide—say, for preparing a new lawn or garden site, or for getting weeds out of walkways or gravel drives—may now have recourse to that all-time classic remedy: vinegar.

IPM-funded research looked at spraying acetic acid (the essential constituent of vinegar) on dandelions, plantain, crab grass, and more. Spray concentrations ranged from 5 percent (household vinegar) to 25 percent (two new commercial herbicides). All worked—though some worked much better than others. Household vinegar offered the least lasting control, while higher concentrations of acetic acid were almost as effective as glyphosate (Roundup), a common commercial weed-killer.

Project leader: D. Chinery

Getting products on the shelves for IPMers

Almost 75 percent of the people who call the Cooperative Extension horticulture hotline in Allegany and Cattaraugus Counties want help with pests. Their next question, once they've learned about least-toxic solutions and products for their problem, is always "Where can I get this?"

With IPM's help, the area's master gardener volunteers went looking. They surveyed product lines in garden centers, department stores, hardware stores, and commercial greenhouses in townships throughout both counties. By the time they were done, they had a list of over 200 pesticide products. Even so, the reduced-risk products that people have a hard time finding weren't always on the shelves.

So the group found out how store managers preferred getting new information and what information they needed for their employees, put them on Cornell Cooperative Extension's mailing list, and gave them information on least-toxic products. They also distributed IPM fact sheets at soil test clinics around the area and—perhaps most importantly—provided the opportunity for garden center employees to attend IPM's diagnostic road show.

Project leader: D. Swaciak



Erin M. Crotty, Commissioner
NYS Department of Environmental
Conservation

"IPM combines innovative science, environmentally sensitive technologies, and natural solutions for managing pests. It's making a difference in our schools, parks, public buildings, gardens, city housing... all over New York."

Funded Projects—Community*

Demonstration/Education

- Stinging insect IPM for schools (Year 2)—L. Braband, NYS IPM, C. Klass, Ent., Ithaca, J. Rodler, CCE—Suffolk, and J. Gangloff-Kaufmann, NYS IPM
- Improving diagnostic skills through regional training sessions and web site improvement (Year 2)—K. Snover, Plant Disease Diag. Clinic
- Organic management of turfgrass: a comparison of composts (Year 3)—J. Lamboy and J. Grant, NYS IPM, and J. Gruttadaurio, Hort.
- IPM education of garden center employees (New)—D. Swaciak, CCE—Allegany/Cattaraugus
- Great Lawns/Great Lakes: Providing integrated pest management education to municipalities in the Genesee River/ Lake Ontario watershed (New)—B. Eshenaur and S. Rosenblum, CCE—Monroe County
- Community education and outreach to increase awareness and adoption of landscape IPM practices in support of the requirement of the Pesticide Notification Law (New)—M. Roth, CCE—Tompkins County
- School athletic field assessment in Orange County (New)—R. Baglia, CCE—Orange County, and G. Couch, NYS IPM
- Control of white grubs with beneficial nematodes on school athletic fields and golf turf (Year 2)—J. Gangloff-Kaufmann, NYS IPM, and J. Burns, CCE—Suffolk
- School IPM education program (New)—M. Russo, CCE—Rockland
- The Cornell Turfgrass Hotline: A pest management decision-making tool for extension staff and turfgrass managers (Year 3)—F. Rossi and E. Gussack, Hort.

Research

- Evaluation of golf turf management systems with reduced chemical pesticide inputs (Year 2)—J. Grant, NYS IPM, and F. Rossi, Hort.
- Continued examination of organic fertilizers/microbial products and their possible role in disease suppression on golf course turfgrass in the Capital District of New York State (Year 3)—D. Chinery, CCE—Rensselaer
- Mowing height effect on disease incidence and severity in lawn and golf course turfgrass (New)—J. Grant, NYS IPM, E. Nelson, Plant Path., Ithaca, and F. Rossi, Hort.
- Impact of scarab grub management tactics on non-target soil fauna (Year 2)—M. Villani, N. Consolie, and P. Robbins, Ent., Geneva
- The impact of pest management systems on surface and ground water quality (Year 2)—A. M. Petrovic, Hort.
- Plant, pathogen, and soil factors affecting performance of microbial inoculants for disease control (New)—E. Nelson, Plant Path., Ithaca, and F. Rossi, Hort.
- Evaluation and utilization of allelopathic *Festuca rubra* turfgrass cultivars for alternative weed management strategies (Year 2)—L. Weston, Hort.

* Because of the state's financial challenges in 2001, budgets for some community IPM projects were curtailed or the projects were cancelled. We have not listed cancelled projects.

Abbreviations in our project listings: CCE: Cornell Cooperative Extension; CSS: Dept. of Crop and Soil Sciences; Ent.: Dept. of Entomology; Hort.: Dept. of Horticulture, Ithaca; Hort. Sci: Dept. of Horticultural Sciences, NYSAES, Geneva; Plant Path.: Dept. of Plant Pathology.

Funded Projects—Agriculture



Nathan L. Rudgers, Commissioner
NYS Department of Agriculture
and Markets

“The Department of Agriculture and Markets proudly supports the New York State IPM Program, a program that has received esteemed recognition and support from the industry as well. I vow to continue to strengthen our partnership with Cornell and the IPM Program so that New Yorkers can continue to enjoy locally-grown, quality produce with less cost to our producers and more protection for our environment.”

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Demonstration/Education

- Albany County IPM education initiative (New)—Terry Lavigne, CCE—Albany
- Building the perfect sweep net: Learn how this IPM tool can help save money and improve alfalfa quality (New)—M. Stanyard, CCE—NWNYS DL and FC Team
- Integrated pest and crop management Tag Teams in Northwestern NY (New)—N. Herendeen and M. Stanyard, CCE—NWNYS Dairy Livestock & Field Crops Team
- An integrated approach to managing fly pests in dairy calf greenhouses (Year 2)—D. Rutz and P. Kaufman, Ent., Ithaca, and J. K. Waldron, NYS IPM
- Expanding the implementation of integrated pest management and integrated cropping management through the use of host farms and improved use of communication technology (New)—J. Miller and M. Dennis, CCE—Oneida
- Integrated pest and field crop management outreach project (New)—L. Fields, CCE—Schoharie
- Demonstrating new technologies for improved corn rootworm management (Year 2)—J. K. Waldron, NYS IPM, B. Cox, CSS, and E. Shields, Ent., Ithaca
- Using apple scab pseudothecial squash mounts for timing early scab sprays (New)—D. Rosenberger, Plant Path., Highland
- Biological mite control in Hudson and Champlain Valley apple orchards through the distribution and conservation of *Typhlodromus pyri* (New)—K. Iungerman, CCE—Northeastern NY Fruit Program, and P. Jentsch, Ent., Highland
- Controlling oriental fruit moth in peaches using pheromone disruption (Year 2)—D. Breth, CCE—Lake Ontario Fruit Program
- Implementing a management program for Phytophthora blight of cucurbits (New)—M. McGrath, Plant Path, Riverhead; C. MacNeil, J. Kikkert, CCE—Ontario/Wayne/Yates County; A. Erb, CCE—Lake Plains Vegetable Program; and T. Blomgren, CCE—Capital District Vegetable Program
- Small IPM demonstrations and field research projects in the Capital District (New)—J. Mishanec, NYS IPM
- Western New York vine crops integrated pest management workshop (New)—W. Erb and A. McFaul, CCE—Lake Plains Veg. Program; S. Reiners, Hort. Sci.
- Further additions to the Vegetable MD Online web page on identifying and managing diseases of vegetable crops in New York (Year 2)—T. Zitter, Plant Path., Ithaca, and M. McGrath, Plant Path., Riverhead
- An in-field evaluation of onion management practices as they relate to levels of *Aspergillus niger* (Black mold) and development of IPM scouting protocols for black mold (Year 3)—J. Mishanec, NYS IPM
- IPM demonstrations in pepper (Year 3)—A. Seaman, NYS IPM
- Eval. of pepper cultivars for tolerance to *Phytophthora capsici*; impact of Actigard on tolerance (New)—A. Rangarajan, Hort.; M. McGrath, Plant Path., Riverhead
- WNY sweet corn pheromone trap network (Year 8)—A. Seaman, NYS IPM
- Demonstrate to growers and consultants how to effectively use *Trichogramma ostrinae* to biologically control European corn borer in fresh market sweet corn (New)—A. Erb, CCE—Lake Plains Vegetable Program, and A. Seaman, NYS IPM
- Thrips biological control demonstration in Orange, Ulster, and Erie Counties (Year 3)—S. MacAvery and T. Rusinek, CCE—Orange/Ulster; G. Couch, NYS IPM
- Monitoring root system health in Capital District poinsettia greenhouses (New)—C. Logue, CCE—Schenectady
- IPM demonstration and implementation plan for Christmas tree growers (Year 3)—S. Mallozzi, CCE—Dutchess, and G. Couch, NYS IPM
- Capital Region IPM ornamental planting demonstration plots (New)—K. Carnes, CCE—Albany
- Prevention of diseases in zinnia plug production (New)—J. Lamboy, NYS IPM, and N. Call, Flower Fields, Elba
- Branching Out, an integrated pest management newsletter for trees and shrubs (Year 4)—G. Hudler, Plant Path., Ithaca

Research

- Feasibility of sanitizing apple field bins to eliminate postharvest pathogens (Year 2)—D. Rosenberger, Plant Path., Highland
- Management of obliquebanded leafroller damage and insecticide resistance with a biorational insecticide program (Year 3)—H. Reissig and A. Agnello, Ent., Geneva, and R. Straub, Ent., Highland
- Control of blossom, shoot, and rootstock fire blight in young, dwarf apple trees through nutrition, pruning, and growth regulators (Year 3)—T. Robinson, Hort. Sci.; H. Aldwinckle and J. Norelli, Plant Path., Geneva
- Development of integrated pest management strategies for apple fruit russet (New)—T. Burr, Plant Path., Geneva
- Organic apple production system for NY (New)—T. Robinson, Hort. Sci., A. Agnello, Ent., Geneva, I. Merwin, Hort., H. Reissig, Ent., Geneva, D. Rosenberger, Plant Path., Highland, J. Schupp, Hort. Sci., Highland, and R. Straub, Ent., Highland
- Evaluation of pheromone disruption in combination with insecticide applications for control of peachtree borers in peaches (Year 2)—A. Agnello and D. Kain, Ent., Geneva
- Mechanisms underlying resistance of strawberry cultivars to tarnished plant bugs (New)—G. English-Loeb, Ent., Geneva
- Biodegradable films for establishment year weed suppression in matted row strawberries (New)—C. Weber, Hort. Sci.

Developing damage and econ. thresholds for foliar disease mgmt. in plantings of strawberry (New)—W. Turechek, Plant Path., Geneva, and M. Pritts, Hort.

A new, low-toxicity slug control material for strawberries (New)—B. Caldwell, CCE—South Central NY Vegetable and Fruit Program

Seed treatments for cabbage maggot control: Development of a safer alternative management strategy (New)—A. Shelton, Ent., Geneva, and A. Taylor, Hort Sci.

Control of diamondback moth and imported cabbageworm in cabbage through the use of trap cropping (New)—A. Shelton, Ent., Geneva, and S. Reiners, Hort.

Introgression and characterization of black rot resistance derived from *Brassica carinata* in cole crops (Year 2)—P. Griffiths, Hort. Sci.

Breeding and evaluation of squash and pumpkin with multiple disease resistance (Year 5)—R. Robinson, Hort. Sci.

Eval. of two commercially available composts for managing Phytophthora fruit rot of pumpkin (New)—A. Rangarajan, Hort.; M. McGrath, Plant Path., Riverhead

Evaluating new nozzles and an air assist sprayer for improving spray coverage and powdery mildew control on underleaf surfaces (Year 2)—M. McGrath, Plant Path., Riverhead, and A. Landers, Ent., Geneva

Cucurbit pest and crop management systems evaluation (Year 2)—C. Petzoldt and J. Engel, NYS IPM

On-farm trials of alternative controls for striped cucumber beetle on summer squash (New)—B. Caldwell, CCE—South Central NY Vegetable and Fruit Program

Comparing the effectiveness of selected cover crops incorporated as green manures (New)—G. Abawi and J. Ludwig, Plant Path., Geneva

The implementation of a smart sprayer to reduce pesticide use in the NY vegetable industry (New)—A. Landers, Ent., Geneva

Evaluation of fall planted cover crops on muck soils (New)—J. Mishanec, NYS IPM

The role of natural enemies in sweet corn insect control (New)—F. Musser and A. Shelton, Ent., Geneva

Relationship of sweet corn silking stage to oviposition by the corn earworm (New)—R. Straub, Ent., Highland

Sweet corn herbicide management trial in Ulster County (New)—T. Rusinek, CCE—Ulster, and R. Bellinder, Hort.

Enhancing the efficacy of *Beauveria bassiana* for bedding plant insect pests (New)—J. Lamboy, NYS IPM, M. Brownbridge, Ent. Res. Lab, Vermont, K. Hall, CCE—Erie County, and E. Lobdell, Syracuse

Composts as container media amendments: Their potential for disease suppression in rhododendron production systems (New)—G. Good, Hort.

Biological control of viburnum leaf beetle (Year 2)—P. Weston, Ent., Ithaca

Evaluation of acetic acid-based herbicides for use in broad-spectrum turfgrass and weed control (New)—D. Chinery, CCE—Rensselaer

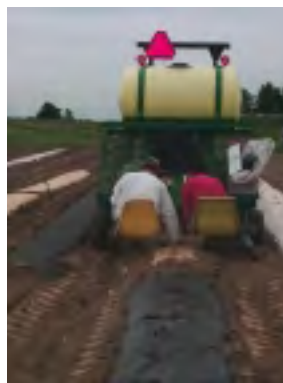
Biological control of ground ivy using a rust fungus (New)—A. DiTommaso, CSS, and L. Weston, Hort.

Reduced rates of Roundup Ultra and tank mix partners for herbicide resistance management (Year 2)—R. Hahn, CSS

Roughstalk bluegrass suppression in alfalfa-timothy seedings (New)—R. Hahn, CSS

Developing an IPM response to a new wheat health threat in New York: Wheat soilborne mosaic virus (Year 2)—G. Bergstrom, Plant Path., Ithaca, M. Sorrells, Plant Breeding, and S. Gray, USDA-ARS Plant Path., Ithaca

Targeted releases of susceptible house flies to reduce insecticide resistance in New York poultry facilities (New)—J. Scott, D. Rutz, and P. Kaufman, Ent., Ithaca

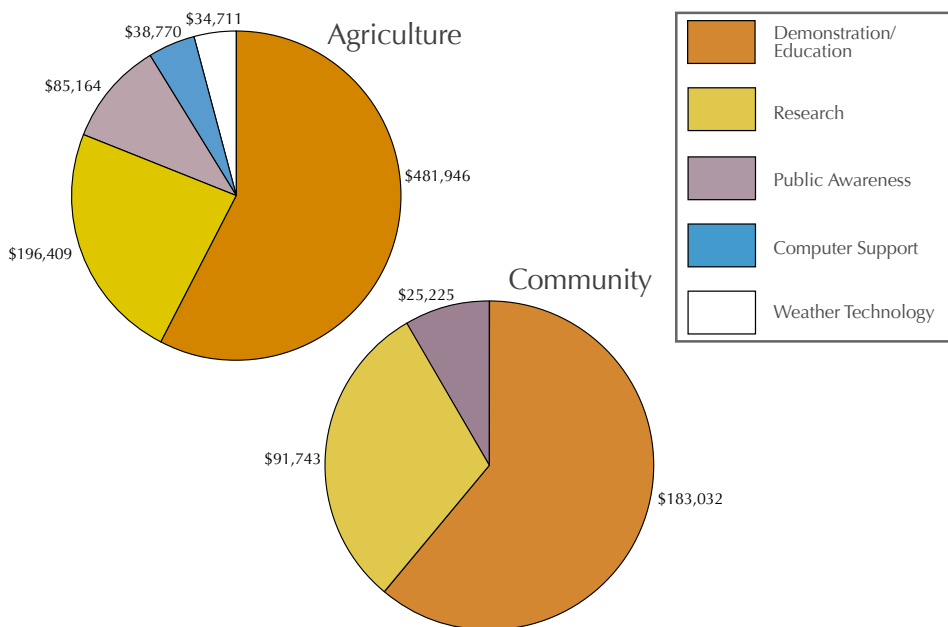


Chugging along in the rumble seat of a transplanting machine, researchers place strawberry sets into holes punched into a biodegradable mulching film. They are testing several types of mulches for strawberry plantings to find out which one's best at beating the weeds while outperforming herbicides. Project leader: C. Weber. Photo: E. Bihn.

We've got an excellent program here and need to spread the IPM story to non-ag people. They don't understand why we do what we do."

—Donald (Skip) Jensen
Field Advisor, NY Farm Bureau

Distribution of funds for the NYS IPM Program, 2001-2002



New York State IPM Program

Our mission is to develop sustainable ways to manage pests and help people use methods that minimize environmental, health, and economic risks. Program staff, listed below, partner with many others to accomplish this goal.

Silhouetted against an August sky, participants in Cornell's 2001 Turf and Ornamentals Field Day view hundreds of different ground covers. Matching plants to site conditions is one of the golden rules of IPM. Photo: C. Koplinka-Loehr.

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