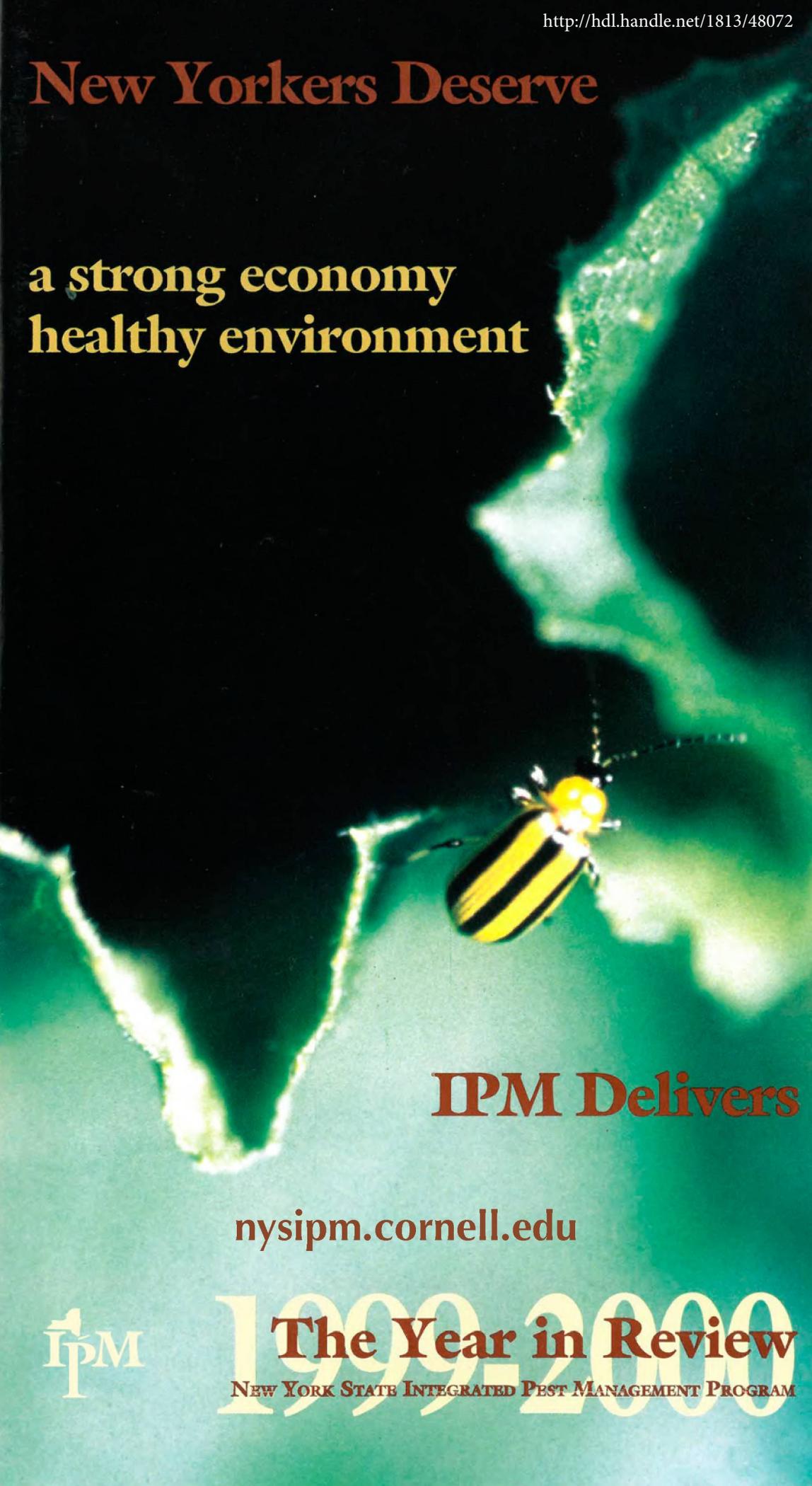


New Yorkers Deserve

a strong economy
healthy environment

A close-up photograph of a yellow and black striped beetle, likely a Colorado potato beetle, on a green leaf. The leaf has a large, irregular hole, and the beetle is positioned near the edge of this hole. The background is dark, making the green leaf and the beetle stand out.

IPM Delivers

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IPM

The Year in Review
NEW YORK STATE INTEGRATED PEST MANAGEMENT PROGRAM

NYS IPM Annual Report 1999-2000

New Yorkers Deserve A Strong Economy, A Healthy Environment; IPM Delivers

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DISTRIBUTION OF STATE FUNDS FOR THE NYS IPM PROGRAM, 1999

NYS IPM DELIVERS

FUNDED PROJECTS

We invite you ...

The New York State Integrated Pest Management (IPM) Program is an important part of Cornell Cooperative Extension's agricultural focus. And what do we offer? For producers, IPM means knowing the correct identification of a pest—then knowing, too, all the options for control. For a dairy farmer plagued by alfalfa weevils, it may mean using cultural controls: harvesting early while the crop has its highest nutritional value. For strawberry growers, it could mean using mechanical controls: new cultivating equipment that knocks back weeds early. For growers of nursery stock, it may mean scouting for fungal diseases, then trying the new biologically-derived fungicides.

Greenhouse growers, vegetable farmers, orchardists—producers from Niagara to Montauk Point who are faced with insect pests, diseases, and weeds can save thousands of dollars over the course of a season. Not only that, but crop quality is maintained—and we minimize environmental risk.

Yet profits aren't the whole story. How did New York's IPM Program get where it is today? Through innovative research and education in cooperation with many others. Each year dozens of collaborating farmers and crop consultants around the state team up with IPM-funded researchers and Extension staff to find out which potential new methods work—and which don't. Other growers host workshops and demonstrations that draw many participants. Still others participate in scouting and forecasting networks that tell farmers which pests may pose a risk in their region. And IPM guidelines help them determine if and how to respond.

We invite you to take a closer look at the potential and the promise of IPM.



**Michael P. Hoffmann, Director,
NYS IPM Program**

Ten years ago, when I joined the New York State College of Agriculture and Life Sciences, I was glad I had one of the country's top Integrated Pest Management Programs to tap into. This past November I had the honor of becoming director of that IPM Program. This is an exciting time of change and innovation, with limitless opportunities for new discoveries as well as for new partnerships within Cornell Cooperative Extension and among researchers and producers statewide. I'm glad to be part of it.



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

In 1999, I was honored to be appointed by Governor George E. Pataki as Commissioner of Agriculture and Markets. My experience growing up on a dairy and cash crop farm in Wyoming County, working in agribusiness, and serving in the Department since 1995 has provided me with an appreciation of the diversity and importance of agriculture in the state. To sustain and promote agricultural growth into the next century, it is critical that we foster the development of integrated pest management strategies that are practical, cost effective, and based upon environmentally sustainable methods and technologies. The New York State IPM Program is a vital and necessary component in achieving this goal.

What we discovered

E-PESTS KEEP VINEYARDS CURRENT

Grape growers use the NYS IPM Program's "Vineyard Update" to stay on top of potential pest problems before they become serious. This twice-weekly email series reports on disease and insect patterns as they unfold throughout the growing year and provides 130 subscribers with the up-to-date information they need.

EARLY WARNING SYSTEM AIDS SWEET CORN GROWERS

This past year, cooperators at monitoring stations in 13 counties used attractant-based traps to alert their fellow growers, crop consultants, processor field staff, and local Extension educators that insect pests were flying and crops were at risk. Data interpretations and threshold recommendations helped 400 subscribers, who received weekly updates, to manage more than 35,000 acres of sweet corn.

"This was the first year my farm was a station on the sweet corn monitoring network, and I'm really glad we were. Madison County got slammed with some infestations that just didn't happen anywhere else. If we'd used information from the next county over, we'd have been in big trouble. The great thing about the network is that you get a good prediction of what's coming down the pike."

—Jeff Kubecka, sweet corn grower



IPM Extension educator Abby Seaman (at right) works with growers to identify and manage sweet corn pests. Photo: J. Gibbons

APPLE IPM SHINES IN TWO-COUNTY DEMO

Apples are afflicted by many pests and diseases, and producing blemish-free fruit commercially without chemical sprays is nearly impossible. Sprays can be reduced when growers follow IPM scouting methods as well as threshold protocols—but growers need to be confident that these protocols really work. Demonstrations this past year in Orange and Ulster Counties satisfied participating growers that IPM works and saves them money.

"Many growers were so happy that they are convincing their neighbor farmers to participate, and enrollments are on a sharp rise."

—Maire Ullrich, Cornell Cooperative Extension, Orange County

EGG PRODUCERS PLEASED WITH REDUCED PESTS—AND COSTS

When New York State’s two top egg producers—with a combined production of close to 400 million eggs per year—are able to cut insecticide use in their poultry barns by 75% or more, that’s worth crowing about. Instead of applying chemicals, they purchase beneficial parasites to keep pesky fly populations down—and they still save money.

Now an additional biological control tactic has emerged from within the poultry facilities—the hister beetle. Egg producers are learning how to trap, transfer, then release naturally occurring hister beetles to areas where better control is needed. This technique has the potential to further reduce fly populations and save tens of thousands of dollars for New York’s egg producers.

“Hister beetles can be very prolific and don’t become pests by migrating. If we are able to perfect techniques for moving them, we should be able to save yet more money.”

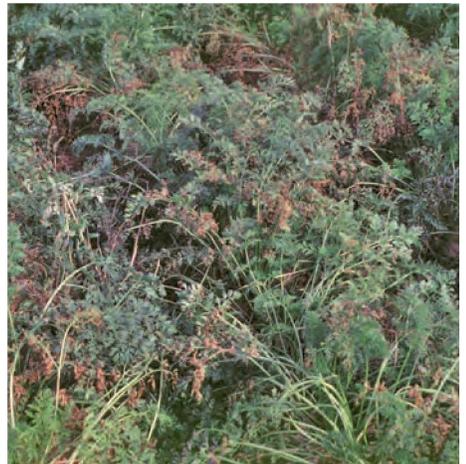
—John Gingerich, production manager, Egg Farm Division of Wegmans Food Markets



Hister beetle eating a fly larva. This beneficial beetle will also eat fly eggs, which look like white grains of rice. Photo: Cornell Veterinary Entomology Program

CARROT RESEARCH GETS TO THE ROOT OF A PEST PROBLEM

Growers of New York’s annual 28-thousand-ton carrot crop typically apply fungicides multiple times a year to control fungal leaf blights. Recently researchers have demonstrated guidelines that tell growers whether or not their crop is in danger of disease. They’ve also demonstrated disease incidence thresholds that, when reached, may trigger the first treatment. Together, these methods could allow growers to cut fungicide applications by 50 to 100%. Scientists have also shown that carrot varieties differ greatly in their resistance to blight. “Carson” and “Bolero” are among those that were highly resistant.



Carrot leaves afflicted by fungal leaf blights turn brown, dry out, and eventually drop. Photo: G. Abawi

WHAT MAKES A WASP WELCOME?

A parasitic wasp, introduced over 15 years ago in New Jersey to control the tarnished plant bug on alfalfa, now shows promise for controlling the same pest in strawberries, a \$7 million crop in New York State. IPM researchers are investigating the sorts of environmental conditions that favor long-term, stable populations of the wasp.

GREENHOUSE GROWERS BATTLE A DEADLY DUO

Greenhouses are the perfect environment for insect pests: lots of food and ideal temperatures. Many growers now face epidemics of thrips—tiny insects that disfigure plants and transmit Impatiens Necrotic Spot Virus, a deadly and untreatable plant disease. And like so many other insects, thrips can quickly develop resistance to insecticides.

But insect pests don't develop resistance to a predator. So IPM educators are working with greenhouse owners to test *Neoseiulus cucumeris*, a predacious mite that thrives on thrips. The results? Good control—and no worry over health hazards or environmental contamination.

“We used to do the ‘spray and pray’ routine every week. But chemicals are expensive. Spraying is no fun. Besides, I live here. It’s a no-brainer—we should use predators whenever we can.”

—Deborah Sweeten, Techni-Growers Greenhouse

HAIRY ALFALFA MOST UNAPPEALING TO DESTRUCTIVE PEST

IPM-funded research trials show that alfalfa cultivars covered with tiny hairs on stems and leaves have not only consistently less leafhopper damage but also higher feed value and earlier maturity dates—an unexpected consequence of breeding.



One of the hairy alfalfa cultivars that deters leafhoppers. Photo: J. Miller-Garvin

HOW TOUGH ARE BENEFICIALS?

When farmers spray pesticides, what happens to beneficial organisms—those insects and diseases that help suppress noxious insects, diseases, or weeds? Not much information is available to guide farmers, and the EPA doesn't require it for pesticide registrations. IPM researchers recently tested 65 commercial pesticides for mortality against five commonly available beneficial insects. The results could be indexed for use in evaluating the overall environmental impact of pesticides.

“BRANCHING OUT” KEEPS READERS CLUED-IN

photo of tree Branching Out, a newsletter for tree care professionals, Extension educators, and pest managers, provides information on current issues in tree pathology, insect pests, and plant care. Some recent topics: invasive beetles on the move... is your tree suffering from fireblight—or frostbite?... and new alternatives in pesticides. Branching Out also includes information on pesticide registrations and exemptions. Last year, 700 subscribers learned that although the linden bark borer was present en masse, its numbers still didn't warrant sprays... that once they saw curled foliage on balsam firs, it was too late to treat for balsam twig aphid... and that the best way to treat that new threat, the viburnum leaf beetle, is by pruning away the visible egg masses. “Correct identification before treatment” is the watchword for this newsletter, which is supported in part by the NYS IPM Program.

USERS TAP HOTLINE TO EXPERTS

Take a look at what the Turfgrass Hotline is doing. This weekly conference call provides up-to-date advice and analysis from turfgrass specialists, agronomists, meteorologists, and extension field staff. The transcribed content is broadcast via email and fax to extension offices, industry leaders, and (new this year) paid subscribers.

MILDEW-EATING MITE: TOMORROW'S VINEYARD SUPERHERO?

Wine producers grow 71 million pounds of grapes each year. Some cultivars—Chardonnay and Riesling, for example—are highly susceptible to fungal diseases such as powdery mildew, and growers must spray several times during the season. Now researchers are investigating a tiny mite that eats powdery mildew. These mites seem to do their best work early in the growing season, when the fruit is most susceptible to disease.

“This past year was a rough year for mites on wild grapes because it was so hot and dry—but mite populations in the experimental vineyard increased anyway. And the mites did significantly reduce leaf infection of powdery mildew. The big test will be to see if the mites can reduce fruit infection, which is the most serious threat of powdery mildew.”

—Greg Loeb, entomologist, NYSAES



Specific beneficial mites, such as the one magnified here, eat powdery mildew and could potentially reduce the use of certain fungicides.



Monitoring for diseases and other pests continues throughout harvest. Here scout Kelly Caci (left), Extension IPM coordinator for Orange County Teresa Rusinek, and NYS IPM area Extension educator John Mishanec examine a grower's onions. In 1999 Extension staff looked at the connection between traditional preharvest practices and the occurrence of Black Mold—a disease that makes onions unmarketable. Although they'll continue this study, preliminary data suggest that growers may want to adopt practices that minimize damage to onions before harvest. Photo: M. Ullrich

NATURAL ENEMY AND BREEDING MAY SUPPRESS APHID PEST

Corn leaf aphids, besides reducing sweet corn yields, transmit several diseases—including maize dwarf mosaic and barley yellow dwarf virus. Lately, insecticides haven't always provided good control. But biological control offers promise. Researchers are assessing the aphid's natural enemies and have found that sweet corn lines resistant to European corn borer also seem to possess resistance to corn leaf aphids.

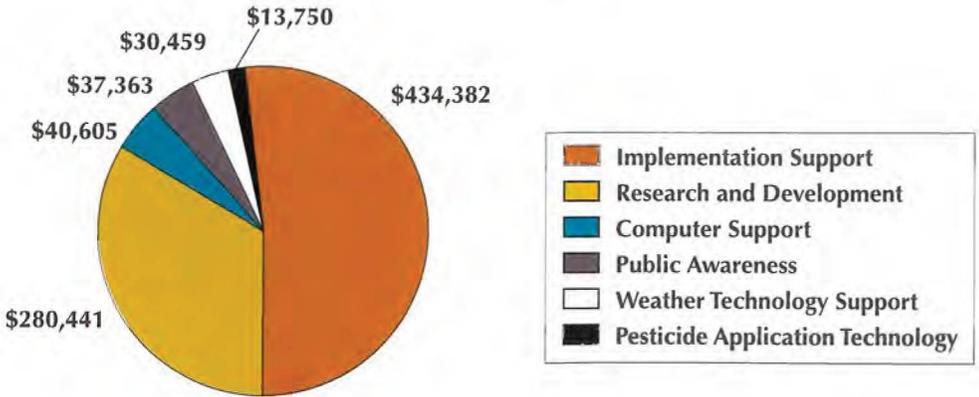
WEEDS IN YOUR TURF? HERE'S FESCUE TO THE RESCUE

New IPM research indicates that seed mixes that suppress weeds naturally may soon provide control for annual weeds in turf. Weeds are the major pests in turf management regimes, and herbicides are generally more widely used than other types of controls. Now researchers have discovered several fescue cultivars that suppress more than 90% of weeds in experimental plots. Even when plowed under, these fescue residues may inhibit weed growth for weeks—even months—afterward.

Each year, by late spring, greenhouse growers usher out their bedding plants and anticipate poinsettias. Poinsettias are vulnerable to Pythium root rot, a disease that can seriously damage the crop. IPM-funded research has enabled a team of Extension field staff and plant pathologists to explore environmentally friendly alternatives to chemical fungicides—such as microbials (which contain living microorganisms or the toxins they produce). Photo: J. Lamboy



Distribution of State Funds for the NYS IPM Program, 1999



NYS IPM Delivers

The 2000 Annual Report of the New York State Integrated Pest Management Program marks the 14th year of public support for this statewide effort. Since the Program's inception it has funded more than 750 research and implementation projects that have reached thousands of producers. In fact, roughly 90% of New York's growers use some form of IPM. Whether they're in dairy and field crops, vegetables, fruits, or ornamentals, our state's 36,000 agricultural producers have a network of private consultants and more than 160 research and Extension professionals they can turn to for help and advice on problems. The \$837,000 that New York State allocated for the IPM Program from 1999 to 2000 has been wisely used, and we all reap the benefit.

Funded Projects

These project reports reside in the NYS IPM Project Reports collection in eCommons. Please go to <https://ecommons.cornell.edu/handle/1813/41245> and search by Year 1999.