

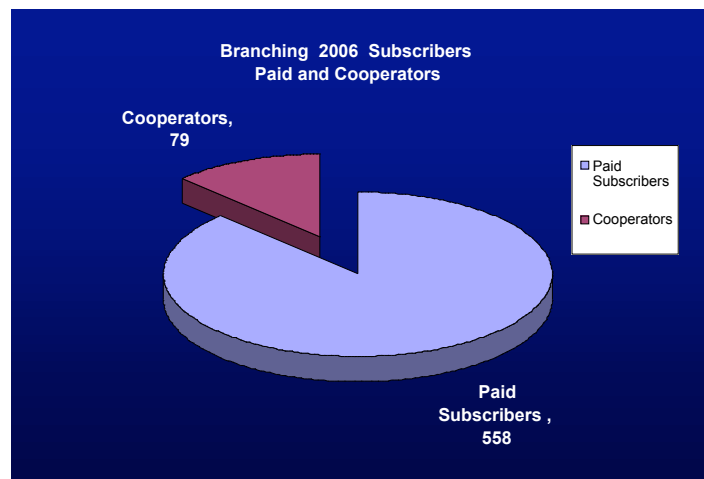
## Final Project Report to the NYS IPM Program, Agricultural IPM 2006-2007

**Title:** *Branching Out*, An Integrated Pest Management Newsletter - An Implementation Proposal for, Christmas Tree Farmers, Nurserymen, and Landscape Managers

**Project Leader:** George W. Hudler, Professor, Department of Plant Pathology, Cornell University, Ithaca, NY

**Cooperator(s):** D.D. O'Brien and S. Tracy, Department of Plant Pathology;  
D. Gilrein, Long Island Horticultural Research Station, G. Couch - IPM Program;  
CCE educators with horticulture responsibilities in selected counties including Monroe, Rockland, St. Lawrence, Suffolk, and Westchester Counties.

**Abstract:** Eleven issues of Volume 13 of *Branching Out - An Integrated Pest Management Newsletter for Trees and Shrubs* were published in 2006. The newsletter was sent to 558 subscribers and an additional 79 cooperators. Readers received timely information for identifying and managing a wide array of insect and disease problems on trees and shrubs. With more counties throughout the state adopting the New York State Neighbor Notification Law, timely information about pests and pest management options has become essential for the industry, and *Branching Out* is one of the few sources of such information.



**Background and Justification:** During the growing season, tree health managers are in constant need of up-to-date information on the occurrence and distribution of potentially damaging insect and disease pests. They also need to know what management options are open to them in the event that intervention is needed. Inasmuch as the need for this information comes at a time when most managers are working 14-16 hour days just to accommodate the needs of their clients, they would most benefit from an instrument that speaks directly to their concerns without the distraction of advertisements and other extraneous information.

In 1994, we sought to improve communication with the tree care industry through publication of a bi-weekly newsletter, *Branching Out*. Publication has continued every year since then with the number of subscribers ranging from 500 - 700 in any given year.



Subscribers can also receive *Branching Out* via the Internet simply by requesting the proper access code from our staff. The electronic version has many more illustrations and numerous links to other internet sites where more information on pests,

pathogens, and pest management strategies can be found. Sixty eight percent of our subscribers requested the password to access the newsletter on the web, and they were able to get our timely information even more quickly.

**Objectives:** *Branching Out* is intended to

1. Improve pest identification and appraisal
2. Maximize timing for scouting and management activities
3. Offer a forum for public dialogue between scientists and pest managers
4. Provide a formal, annual published record of insect and disease occurrence in New York State.
5. Project evaluation – learn how *Branching Out* affects readers' pest management activities.

**Procedures:** Objectives 1-4. Each issue of *Branching Out* is comprised of at least five sections which taken together are intended to achieve the objectives stated above. A Scouting Report, Growing Degree Day and Phenology records, a Feature Article in which issues related to identification and/or management concepts are presented, and a Miscellany section for presentation of important issues not covered in previous sections seem to meet the needs of the audience. Occasionally, questions submitted by readers or generated by our staff to reflect issues raised in personal visits or phone calls are also answered.



1. We use two approaches to improving the diagnostic skills of our audience. First is publication of a “Feature Article” as part of each issue of *Branching Out*. Feature articles address either a group of pests with some feature in common (e.g. Early Spring Defoliators, Eye Catching Late Season Insects) or that address one specific pest (e.g. Walnut allelopathy, Sudden Oak Death). Feature articles are on a one-page insert that can be printed ahead of the actual newsletter run and is planned to include color pictures and descriptive text to improve field identification. When appropriate we draw on the expertise of others to write feature articles. Guest writers for the feature articles this year included Dr. Wayne Sinclair, Daniel Gilrein, Dr. Paul Weston and Dr. Leslie Weston. Second, the Scouting Report tells readers what the scouting crew is finding when and where in hopes of encouraging readers in respective parts of the state to focus their attention on certain plants or certain sites. Thus readers who know from the Scouting Report that a particular pest is prominent on a particular plant will hopefully devote more of their attention to those plants in during their own scouting. It is not uncommon for us to hear later that someone learned what a pest looked like by using information we provided to focus their survey activities.

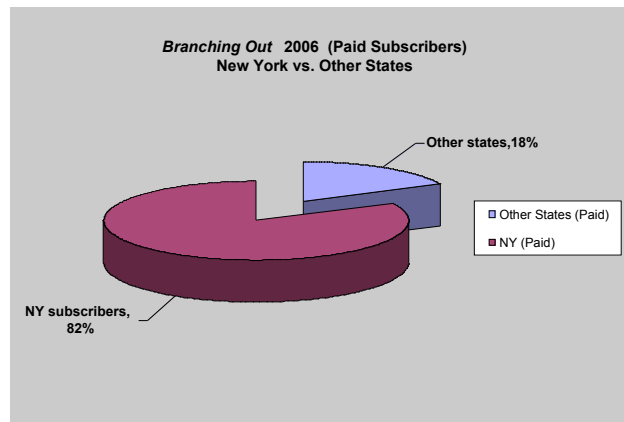
2. To maximize timing for scouting and management activities, we again take a two-pronged approach. One is publication of a table showing the progression of growing degree days at selected stations throughout NY. These reports give “ballpark estimates” of the progress of any given season and are especially valuable when unusually hot or cold weather alters the timing of normal biological events by two weeks or more. The second approach makes use, again, of the Scouting Report. A substantial number of our readers still don't think about whether the pest they are hoping to manage is in a vulnerable life stage. The Scouting Report helps to remind them when management efforts are most likely to have desired outcomes.

3. We are always open to comments from readers. We publish significant and reliable observations from our readers just as we do reports from our own scouting crew. And we invite people to submit questions. Furthermore, we'll often include questions and answers that arose from readers through personal contacts during field visits or at workshops.

4. *Branching Out* is the only formal, sustained record of insect and disease activity on ornamental plants in the Northeast. Each year's issues are indexed and bound and held in our own archives as well as in the archives of major sponsors (NYS Arborists' Association, L.I. Landscape Gardeners, etc.).

### Results and Discussion:

*Branching Out* was published bi-weekly from mid-April through mid-July and tri-weekly from July through September for a total of 11 issues in the 2006 season. 82% of our subscribers are from NY State. The other 18% are from the following states: Colorado, Connecticut, Washington, DC, Delaware, Florida, Massachusetts, Maine, Michigan, New Hampshire, New Jersey, Pennsylvania, Rhode Island, Texas, Virginia and Vermont.



Each issue contained a scouting report-comprised of results from our own bi-weekly scouting trips to sites from Farmingdale, Long Island to Rochester together with reports from county Cooperative Extension agents, Cornell's Insect and Plant Disease Diagnostic Lab, and knowledgeable tree care professionals throughout the state. We also reported growing degree days from published data and from measurements taken at county sites. Phenological observations are results from our observations during the scouting trips. We chose one pest or group of pest for subject of an in-depth feature article. Occasionally, an item that we thought was especially important for our readers to know about was published under "Miscellany" category. The addition of a digital camera to our equipment has enabled us to increase the numbers of photos we have at our disposal for use in the hard copy, as well as the web version of the newsletter.

We added a new feature to our newsletter this year entitled "Weed of the Month" in collaboration with Dr. Leslie Weston, a Cornell weed scientist. Dr. Weston prepared monthly articles to highlight a weed relevant to tree and landscape professionals.

In 2006, *Branching Out* subscribers were especially well prepared to deal conventional insect and disease pests of landscape plants as well as some unexpected problems. We included a thorough description of the winter moth, an up-and-coming invasive pest which has been a serious defoliator of many deciduous trees in New England. The caterpillars are a kind of inchworm that emerges quite early in spring to feed on buds, where severe damage can be done in a short time. Portions of the region have sustained heavy defoliation for several years in a row, including an estimated 34,000 acres in Massachusetts in 2005. Winter moth has spread to some areas of NH, ME, southwest RI and southeastern CT. Reported NY detections from the Hudson Valley and the western part of the state were actually found to be the similar and closely related Bruce spanworm (*O. bruceata*).

High populations of other leaf-feeding caterpillars occurred in various areas of New York this year as well. The forest tent caterpillar caused widespread devastation in many areas around the state. Defoliation along Interstate 81 from Binghamton to Syracuse was massive. Large brown sections of hillsides were common sites in affected areas. The good news is that in many sites, there was clear evidence of larvae having been killed by a disease – most likely a nucleopolyhedrosis virus that commonly follows on the heels of a caterpillar outbreak. There were also hot spots of high populations of gypsy moth in certain areas of the state this year. The well known tents of Eastern tent caterpillar were quite obvious in various areas of the state. Inasmuch as this is likely to be a repeated phenomenon in those areas next year and perhaps spread to nearby areas, we've tipped off our readers to be prepared and not be caught off guard.

Early in the season there was a lot of concern about honeylocust trees that were seemingly late to leaf out. We suspected that a couple of factors are coming into play here. One is after effects of last summer's drought. The other is a heavy infestation of honeylocust plant bug. The affected trees all seemed to recover.

Pest control practices such as carefully washing with a forceful spray can be an effective management strategy for some pests. We noted this several times this season in our scouting report regarding several insects including pine bark adelgid and white prunicola scale. In the case of white prunicola scale we noted that when washing off the scales be sure it isn't just the male scales you are washing off and noted the washing is best done during the spring dormant period.. Sometimes this 'power washing' method alone can help control the pest and it may help reduce the amount of pesticide applications needed.

The use of insect traps to monitor the appearance of specific stages of various pests to then help determine optimal timing of treatment is a long accepted practice of IPM managers. Early in the spring we reminded readers to order their traps if they were planning on using them this season. In addition, our feature article entitled *Insect Traps* provided detailed information about different types of insect traps including time to install the trap, time to check the trap and treatment timing. The easy to read chart design provided a comprehensive review of the subject in a compact format.

We emphasize correct identification of the problem before the treatment. We explained how edema, a physiological disorder, can be confused with shot hole leaf spot (caused by the fungus *Blumneriella jaapii*) on cherry leaves. Edema symptoms include a corky cell proliferation resulting from an imbalance between water in the plant and water in the surrounding environment. This discussion prevented well-meaning managers from making needless fungicide applications.

With the help of Dan Gilrein, Extension entomologist, we helped clear up the confusion regarding availability and use of Di-Syston 15G for Christmas trees, nursery plants and landscapes. *Branching Out* was the perfect vehicle for conveying this information to the tree care audience.

In our feature articles, we highlighted the following topics.

- Cornell Woody Ornamentals Entomology Update
- Eyecatching Late Season Insects
- Honeylocust Pests: Plant Bugs and Beyond
- Insect Traps
- July's Weed of the Month: Veronica Speedwell
- Magnolia Scale & Tuliptree Scale
- Notes from the Front Lines: Professional Meetings & Professorial Thoughts
- Walnut Allelopathy
- Watch for Early Spring Defoliators
- What's Happened to Sudden Oak Death?

Of the 567 paid subscribers in 2006, 100 were randomly chosen to receive evaluation forms in late November. As of December 7, thirty three had responded. Some of their responses are summarized below.

	Excellent	Good-V.Good	Fair	Poor
Timeliness of information	64%	32%	3%	
Clarity of writing	75%	25%		
Usefulness of recommendations	43%	57%		
Readability of text	63%	33%	4%	
Visual attractiveness	43%	43%	14%	
Usefulness of graphics	43%	39%	14%	

In addition, below are several comments on the survey to the question "To what extent, if any, has reading *Branching Out* led you to change any of your pest management practices".

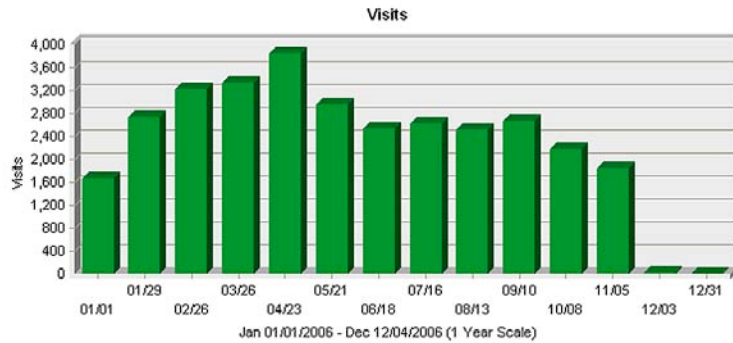
- *Much more careful about timing of sprays and also use other methods whenever possible.*
- *Correct spraying times and what to use*
- *We are more in tune to problems*
- *We look at more options*
- *Made me more aware of new practices and pests*
- *Timing of treatments*
- *I'm more aware of proper timing of applications/growing degree days*
- *We start looking for pests based on observations in other parts of the state*
- *Makes IPM easier*

Most subscribers indicated they were better able to anticipate problems, used less frequent application of pesticides and improved timing of pesticide applications by reading *Branching Out*. The complete survey results will be available on our web site at the beginning of 2007.

**Project location (s):** Ithaca, NY

**Samples of resources developed:**

The Branching Out web site is <http://Branchingout.cornell.edu> (the username and password required to access current year's issues are available to paid subscribers. (2006 username is "pestrx" and password is "Betula#66"). From January 1, 2006- December 4, 2006, the *Branching Out* web site received 41,847 hits, with an average of 123 per day.



As an additional resource we've made the bound sets from the past season (2006) available to the public for \$20. Each set is a collection of the 11 issues from the past year bound together with a spiral binding and includes a laminated color cover. This resource can be a good educational reference to learn about tree and shrub management with detailed information on how to identify and treat a wide array of insect and disease problems on woody ornamentals.

Volume 14 will be published in 2007