

Make it Vivid with Video: A New Communication Method for IPM Education on Diseases of Ornamentals

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Abstract:

In order to make optimum use of some of the newest communication options, it is necessary for extension educators to keep acquiring new skills. Until now, video has been under-utilized by extension educators in NY, but its potential to demonstrate ideas memorably is far more powerful than that of the standard extension fact sheet. We conducted a two-day IPM workshop at the Long Island Horticultural Research & Extension Center in June 2010 to introduce extension educators who help growers with pest management on their ornamental crops to the basics of preparing short educational videos. The participants will now be able to incorporate videos into their talks and upload them to the web for even wider distribution. Up-to-date information on disease management topics was communicated during the workshop to provide participants with key facts about the top ten disease problems in nursery and greenhouse production. As a result of this program, extension educators are applying their new video skills on their Association's websites and Facebook pages and are serving as multipliers to share their disease management knowledge and video skills with growers as well as other educators across the state.

Background and justification: Extension education today encompasses many different forms of communication: one-to-one communication through phone conversations and email, one-to-many communications at regional training sessions, and global communications via the Internet. This project positioned NYS IPM for ornamentals at the forefront of a new extension delivery method. The video format can show pest problems and management options on location in a way that growers can relate to easily. In addition, via the Web, the information can reach new audiences—at their convenience.

Objectives:

1. Gather examples of good and bad educational videos on pest management, and develop a resource list of good examples for educator use.

2. Teach 10 NY extension educators with horticulture responsibility key facts about the identification and management of the 10 most common disease problems for both greenhouse- and outdoor-grown ornamental crops in the state.
3. Teach 10 NY extension educators how to take good quality educational videos with camera and FlipVideo equipment, and upload them to their powerpoints and to the Internet.
4. Evaluate the program in 2010 and 2011 by surveying participants quarterly on the ways they have used the technology and information and how it has been received by their audiences.

Procedures:

1. Educational videos available on the Internet that focus on integrated pest management for greenhouse and outdoor-grown ornamentals were reviewed prior to the workshop. Web addresses for the most useful of these were shared during the workshop, and examples of the best and worst videos were discussed during a video workshop (see #2).
2. A 2-day workshop was held for extension educators in Riverhead at the Long Island Horticultural Research & Extension Center in early June 2010. This site had ideal facilities for this workshop: a meeting room with free Internet access, microscopes, samples submitted for diagnosis, a greenhouse and a large perennial garden. PowerPoint presentations, videos and handouts were provided on the major disease problems in greenhouse and outdoor plant production. Group discussions allowed exchange of information.
3. The second half of the workshop focused on hands-on experience using cameras and FlipVideo equipment to prepare short video segments. Craig Cramer served as primary instructor for this section, assisting with planning for high photographic quality, editing and how to upload information to the Internet.
4. Participants were polled immediately after the workshop to learn what they had learned about ornamental diseases that would be particularly useful to them in their work, and what they had learned about making educational videos. A second poll, six months after the workshop, requested examples of how the new skills and knowledge had been applied in their work, and what further uses of video as an educational tool they have planned. Participants will be surveyed quarterly to keep track of the impact of the workshop.

Results and Discussion:

Two professors, three senior extension associates and seven cooperative extension educators with horticultural responsibility attended the workshop. Attendees all learned to use the FlipVideo devices, took footage, and practiced editing. The final individual and group efforts were shared and discussed. All participants showed a great improvement in skill level from the beginning of the workshop, when a survey

indicated that most were totally inexperienced with video. Inclusion of video directly within a PowerPoint was found to be awkward, but linking to videos on the same computer worked well. FlipVideo cameras were distributed to some of the attendees after the workshop, with the understanding that they could be shared within or across regions.

Craig Cramer of the Department of Horticulture provided demonstrations and lectures on the skills involved in shooting video. Margery Daughtrey and Nora Catlin gave illustrated presentations on major diseases of roots and foliage of greenhouse and nursery/landscape ornamentals. Participants also were given laboratory sessions to observe disease symptoms using microscopes and to learn how to use Agdia immunostrip test kits for diagnosis of certain diseases such as *Impatiens necrotic spot virus* and *Hosta virus X*. Alexis Alvey presented information on invasive plant alternatives. The attendees were provided with diseased plant samples and greenhouse and garden areas at the Long Island Horticultural Research and Extension Center as subject matter for development of their own videos. These were shown and discussed the last morning of the workshop.

Comments From Evaluations: Attendees particularly appreciated the length of time of the workshop (beginning in the evening, continuing for the next day and a half), which allowed them to learn about the plant disease examples available, and to learn and practice making video. In their evaluations they mentioned that they learned new specifics about plant diseases, as well as how to plan for a successful video, how to bring voice-over or other audio into video, use of Audacity and Picasa software, how to incorporate or extract still pictures when working with video, how to use a monopod to keep the audience from getting queasy, how to edit videos, how to edit in iMovie as well as FlipShare, and a sense of what will work as video and what won't. All participants plan to make good use of this training. One extension educator commented, "I have plans to do much more of this in the coming season, and will use video especially in trainings for the general public."

Workshop participants mentioned learning helpful new information about Armillaria root rot, rose rust, downy mildew on rudbeckia, basil and sunflower, Thielaviopsis (black root rot), powdery mildew, Fusarium wilt on basil, Verticillium wilt on annuals, anthracnose on lupine, pinkster gall on azalea, and decreasing effectiveness of a virus vector control material, and several were especially pleased to be introduced to the use of test strips for virus identification. Several mentioned that they would take advantage of the opportunity to send in images to get assistance with disease diagnosis in future. One attendee commented, "... this was the first time I had the opportunity to look at many organisms up-close under a microscope—my competency continues to grow. It was also my first time seeing an ELISA test in action—I feel I could now conduct ELISA tests myself."

In future, they would like to learn what features hold an audience to a video—what keep them from clicking away?—as well as advanced editing techniques. They were

interested in more plant disease ID tips, and more training on weeds and invasive species.

Project Locations: The workshop was held on Long Island at Cornell's Long Island Horticultural Research & Extension Center in Riverhead. Attendees of the Make It Vivid With Video Workshop were from across the state: Cornell campuses in Ithaca (NYS-IPM and Cornell Departments of Horticulture) and Riverhead (Plant Pathology and Plant-Microbe Biology), CCE-Saratoga, CCE-Schenectady, CCE-Nassau, CCE-Suffolk, the Capital District Regional Vegetable Program, and CCE-NYC.

Samples of Resources Developed and Planned:

Educators are using the techniques they learned for many different aspects of their multidimensional Extension jobs:

An extension educator from Schenectady County reported that she is now using videos to document program success with her students. She has put two Flip videos on her CCE-Schenectady website: the first features the Little Diggers (pre-school) gardening class learning about bees; the other spotlights their TANF (temporary assistance to needy families) students installing wheelchair-accessible gardens at the county nursing home. The NYS 4-H Foundation, which has funded some of their activities, has requested a link to the Little Diggers video. She has purchased two flip video cameras for her office, and she is planning a staff development workshop for co-workers in February. She feels that videos such as those available at her county website: http://counties.cce.cornell.edu/schenectady/agriculture_horticulture.html will encourage her students, build team spirit and allow her to document projects.

An extension educator from Nassau County reported that she would like to use video in a training class for landscapers, showing them how to use the *Cornell Guidelines for Commercial Production and Maintenance of Trees and Shrubs* by filming an example of a person coming into their diagnostic center with a plant problem for diagnosis and advice. She would also like to make video clips about specimens brought in for diagnosis that can be used in presentation throughout the winter.

A professor in the Dept. of Horticulture is planning to make a video of the Long Island Flower Growers Association activities over their 50-year history.

Another professor in the Dept. of Horticulture will be making videos to illustrate nutritional disorders and substrate testing methods as the material becomes available for filming, and these will be available at the www.greenhouse.cornell.edu webpage.

A senior extension associate in the Dept. of Plant Pathology has incorporated clips showing typical garden symptoms of rust on snapdragon and downy mildew

on scabiosa into educational presentations for extension educators and Master Gardeners.

An extension associate at CCE-NYC mentioned that she would like to use her new skills to make videos for their CCE Facebook page, to use video during PowerPoint presentations, and to edit videos taken at events. She would like to use video for marketing, recording material from current programs to reach out to other organizations. One video on a Governor's Island scavenger hunt has been made available on the CCE NYC website and Facebook pages:

<http://www.facebook.com/pages/Urban-Environment-at-Cornell-University-Cooperative-Extension-NYC/94549754476>

And <http://nyc.cce.cornell.edu/URBANENVIRONMENT/Pages/default.aspx>.

A regional extension educator in the Capital District said that she plans to use video clips as a resource for an online course with the Beginning Farmer project. The videos would show growers how to use, for instance, a vacuum seeder, a transplanter, or a bed shaper/plastic layer.

One extension educator in Suffolk County has gotten footage on the technique of raspberry production in high tunnels and of the graduation at the Children's Garden program at the Suffolk County Farm.

Another Suffolk County extension educator is planning to use videos to present questions for a quiz show on IPM at a winter Floriculture Conference.

A third Suffolk extension educator will be uploading a video that she made on invasive plants on a Facebook page blog for her January 2011 posting.

This project will contribute to NYS IPM and Cornell Cooperative Extension's ability to effectively reach many audiences with high quality disease identification and management information. Reductions in pesticide use will be realized as the train-the-trainer educational sessions on important diseases and new video teaching tools lead to improvements in growers' ability to properly identify problems. Failure to properly identify contagious diseases results in unnecessary chemical spray applications. All ornamental growers in NY State could ultimately benefit from this training through further dissemination of the information and video techniques among educators. Efficient and appropriate disease management with an emphasis on disease prevention improves grower profits by reducing crop loss to disease and eliminating the cost of unnecessary fungicide applications. This program should continue to grow in its impact over time as appropriate IPM information is packaged in this new way and delivered during Cooperative Extension programming.