

Delivering Cornell Grape and Tree Fruit Extension Education Resources on www.fruit.cornell.edu

Project Leaders

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Members of the College of Agriculture and Life Sciences, Viticulture and Enology Steering Committee

Members of the Cornell Cooperative Extension Grape Program Work Team

Members of the Cornell Cooperative Extension Tree Fruit and Berry Program Work Team

Type of Grants

Federal Formula Funds, Smith Lever, Cornell Cooperative Extension, 10/1/2008 to 9/30/2011

Federal Formula Funds, Smith Lever, Cornell Cooperative Extension, Tree Fruit and Berry Program Work Team, 10/1/2009 to 9/30/2010.

This project addressed the Federal Plan of Work Areas of Agriculture/Natural Resources, Business Management, Producer Alternatives and New Ventures, Agriculture/Natural Resources, Production Practices, Biodiversity and Natural Resources Protection, Food Resource Management, and Food Safety.

Summary

The Cornell Fruit Resources website, www.fruit.cornell.edu, was thoroughly upgraded and re-organized to place fruit information at the fingertips of growers and Extension educators. A steering committee consisting of Juliet Carroll, Marvin Pritts, Timothy Martinson, Catherine Heidenreich, and Craig Cramer guided the direction of the upgrades and selection of featured content. Coordination of effort was also achieved with the Tree Fruit and Berry Program Work Team (PWT) and the Viticulture and Enology PWT. The three major commodity-specific sections are Tree Fruit, Grapes, and Berries. Content within each commodity section is grouped under three sub-sections: Production, IPM, and Post Harvest. There are six common sections: Food Safety, Value-Added, Enology, Business Management, Marketing, and Labor Management & Worker Safety. “News & Events”, http://www.fruit.cornell.edu/news_events/, features statewide and regional events and provides newsworthy briefs about new fruit resources. “Newsletters”, <http://www.fruit.cornell.edu/newsletters.htm>, provides a listing of all the fruit-farming-related newsletters published by Cornell University and Cornell Cooperative Extension. “More Cornell Websites”, <http://www.fruit.cornell.edu/links.htm>, provides easy access to other Cornell University Resources of interest to our fruit growers and extension personnel, such as diagnostic and analytical laboratories. Collaborating with the New York State Horticultural Society, we created and linked to over 200 individual articles from the New York Fruit Quarterly journal, published online since 2000. Special emphasis was spent on sourcing and organizing

organic production and organic pest management information for fruit crops. We coordinated efforts with extension viticulture to develop web-based resources for new growers. Interest in growing vineyards and orchards has increased among people who have no prior experience in agriculture. This clientele poses a unique challenge to our regional and county-based fruit extension educators. Presentations about the Cornell Fruit Resources website were given at the Great Lakes Fruit Workers Conference, the Canada, New England & New York Fruit IPM Meeting, and the Cornell Summer Fruit Tour to showcase the expanded website as a source of information for growers, extension educators and crop consultants, and to increase interest in the site and its resources. Widespread promotion of the website is planned for January 2012.

Cornell Cooperative Extension has developed a high quality source of information for fruit growers in the Northeast USA. Outcomes include: complete information on fruit at one internet site; a showcase for Cornell University's tree fruit, grape, and berry resources; assembled vital resources on food safety, value-added, enology, business management, marketing, and labor management & worker safety; a library of fruit content for Cornell Cooperative Extension; statewide and regional issues, news and events, and access to newsletters; improved efficiency for extension personnel in responding to inquiries; less duplication of extension resource materials; content for new farms, organic growers, cider and winemakers. Cornell Fruit Resources supports and advances information delivery on fruit topics and upholds the sustainability of fruit farms, their environmental awareness and profitability. Consumers and state residents are indirectly benefitting by having knowledgeable growers producing their food and managing their environment. The Cornell Fruit Resources website indexes vital content on food safety, value-added, enology, business management, marketing, and labor management & worker safety for the fruit industry. Expanded organic production resources now assist growers transitioning to organic production and support the increasing demand for local, organic foods. The development of the tree fruit and grape resources web pages has facilitated delivery of essential information to new growers who have limited to no farming background. On average, Cornell Fruit Resources receives per month 730 unique visitors, 795 visits, 1600 pages viewed, and 6,525 hits. The website contains 306 webpages, 669 images, and 262 files (250 pdf and 12 documents). Now that the site is complete and achieving its goal we can focus efforts on promotion of the website's informational resource to foster the impacts and outcomes listed.

Background & Justification

Finding information at Cornell is difficult, because information is organized by department, rather than areas of interest. For example, a visitor needing information on replanting apples needs integrated information from horticulture, IPM and soils. Countless hours can be saved by organizing information into easily accessible forms without department boundaries. The Cornell Fruit Resources website was created to integrate fruit information and the berry webpages exemplify this. Yet, tree fruit content falls short of fully tapping Cornell information and grape content needs repurposing and new grower information.

Grapes and tree fruit are valuable NY commodities with 82,000 acres producing \$230 M worth of fruit and ranking second in apple, third in grape, fourth in pear and fourth in tart cherry production nationwide. Our project addresses the Ag & Food Systems priority "Sustainable Agricultural Systems that Minimize Environmental Impact and Maintain Dynamic Farm Profitability." Our project will help achieve this priority because www.fruit.cornell.edu will

integrate knowledge on General Production; IPM; Business Marketing & Labor Management; Post Harvest Handling and Food Safety; Grower Organizations; Enology; and Organic Production and will provide faculty, regional specialists and growers with access to information supporting this priority. To achieve development of the Cornell fruit website, we need a person dedicated to the task for a focused period of time.

Objectives

Our goal is to develop content for the Cornell Fruit Resources webpage to increase extension information delivery to key audiences in New York State, specifically the grape and tree fruit industries.

1. Organize electronic resources for fruit growers into a format that is user-friendly and consistent across commodities (tree fruit, grapes, berries).
2. Develop information for new vineyard growers, organize enology resources, reorganize current viticulture and enology information and produce content for a comprehensive grape resources component of the fruit web site.
3. Develop content related to cultural practices, soil health and fertility, cultivars and rootstocks, IPM, organic production, business management and marketing, and reorganize current content, to obtain a comprehensive tree fruit resources component of the fruit website.

Procedures

A steering committee consisting of Juliet Carroll, Marvin Pritts, Timothy Martinson, Catherine Heidenreich, and Craig Cramer guided the direction of the upgrades and selection of featured content for www.fruit.cornell.edu. Coordination of effort was also achieved with the Tree Fruit and Berry Program Work Team (PWT) and the Viticulture and Enology PWT.

To improve consistency and facilitate the ability of Cornell fruit faculty and staff to publish pdf-content, a Cornell Fruit Resources header and footer was designed for each commodity so that online pdf-content would have uniform appearance and appropriate Cornell University disclaimers. A total of four templates were developed: one for all fruit, one for tree fruit, one for grape, and one for berry. Each document has a Cornell Fruit Resources fruit section banner in the header and the Cornell University disclaimer at the end of the document. A section for title, author(s), date of publication, and source is set up for consistency of font style. After authors write and layout the document it is sent to the webmaster, made into a pdf, and posted to the appropriate location(s) in the website.

The Cornell Fruit Resources website, www.fruit.cornell.edu, was thoroughly upgraded and re-organized to place fruit information at the fingertips of growers and Extension educators. By searching and sourcing content within www.cornell.edu we continuously capture and feature Cornell webpages and organize these into featured resources, the three commodity-specific sections, and the five common sections of Cornell Fruit Resources, www.fruit.cornell.edu.

The three major commodity-specific sections are Tree Fruit, Grapes, and Berries. Content within each commodity section is grouped under three sub-sections: Production, IPM, and Post Harvest. There are six common sections: Food Safety, Value-Added, Enology, Business Management, Marketing, and Labor Management & Worker Safety.

While our project focused on tree fruit and grape content, the berry pages were also re-organized into the new design templates developed for the website. The website template simulates Cornell University webpage design. The main, horizontal menu navigates to the Home page, information "About" the site, News & Events, Tree Fruit, Grapes, and Berries. Each web page provides navigation and anchor content on the left hand side, main content in the center, and featured resources on the right hand side. Archives, accessible at the bottom of each webpage, contain content greater than 5-years-old, to keep main pages fresh and to optimize viewing in a typical browser window.

"News & Events", http://www.fruit.cornell.edu/news_events/, features statewide and regional events and provides newsworthy briefs about new fruit resources. News and Events specific to each commodity are on separate pages. From this model a blog and RSS (Really Simple Syndication) feeds are emerging that will further the work of Cornell Cooperative Extension for fruit.

"Newsletters", <http://www.fruit.cornell.edu/newsletters.htm>, provides a listing of all the fruit-farming-related newsletters published by Cornell University and Cornell Cooperative Extension. Some newsletters are accessible from the Newsletters web page, for others a link to enrollment and subscription information is provided. This effort has paved the way for promoting Cornell Cooperative Extension regional and county-based programs and can tie into blogs and RSS feeds.

"More Cornell Websites", <http://www.fruit.cornell.edu/links.htm>, provides easy access to other Cornell University Resources of interest to our fruit growers and extension personnel, such as diagnostic and analytical laboratories.

Collaborating with the New York State Horticultural Society, we created individual articles from the New York Fruit Quarterly journal, published online since 2000. Over 200 resulting articles were indexed within the Cornell Fruit Resources tree fruit, grape, and berry pages, giving readers access to topic-specific articles.

Special emphasis was spent on sourcing and organizing organic production and pest management information for fruit crops. Organic Production sub-sections are on tree fruit, grape, and berry production pages. Sub-sections for Organic IPM are on tree fruit, grape, and berry IPM pages. Under pesticides, in all commodities, we provide links to OMRI products, to biopesticides (from EPA) and to a biopesticides and organic materials search engine created by the IR-4 Program. The new Organic Production guides for apple, grape, strawberry, and blueberry are included in the Featured Resources on several webpages.

We worked with the College of Agriculture and Life Sciences, Viticulture and Enology Steering Committee to harmonize our website information delivery efforts. Focusing on extension delivery and the grower audience, we linked to and published individual articles derived from Appellation Cornell, Cellar Dweller, and Veraison to Harvest newsletters.

We coordinated efforts with extension viticulture to develop web-based resources for new growers. Interest in growing vineyards and orchards has increased among people who have no prior experience in agriculture. This clientele poses a unique challenge to our regional and county-based fruit extension educators. Supplying web-based information to this audience is an important goal of both Cornell Fruit Resources and the new GRaPE website. Coordinating our efforts has been fundamental to effective utilization of system-wide resources and grant opportunities.

A large amount of viticulture information had been housed on Bob Pool's website on the NYSAES (NY State Agricultural Experiment Station) server, slated for elimination. This content was downloaded, saved, and thoroughly reviewed by appropriate Cornell University faculty. This re-purposed content was posted and indexed on the Cornell Fruit Resources website.

In conjunction with a web re-design project in the NYS IPM Program, we provided comprehensive fruit IPM information through linkage to the three Cornell Fruit Resources web pages, berry IPM, grape IPM, and tree fruit IPM.

Presentations about the project were given at Tree Fruit & Berry PWT meetings and at Viticulture & Enology PWT meetings. These provided opportunity for feedback and guidance from stakeholders. Presentations about the Cornell Fruit Resources website were given at the Great Lakes Fruit Workers Conference, the Canada, New England & New York Fruit IPM Meeting, and the Cornell Summer Fruit Tour to showcase the expanded website as a source of information for growers, extension educators and crop consultants, and to increase interest in the site and its resources. A promotional cardstock bookmarker was made and 5000 copies distributed at fruit worker meetings, winter fruit schools, Agriculture & Food Systems In-Service, and summer tours. Widespread promotion of the website is planned for January 2012.

Impacts and Outcomes

Cornell Cooperative Extension has developed a high quality source of information for fruit growers in the Northeast USA. Extension and agri-business personnel are actively sourcing and sharing information via Cornell Fruit Resources.

Outcomes include: complete information on fruit at one internet site; a showcase for Cornell University's tree fruit, grape, and berry resources; assembled vital resources on food safety, value-added, enology, business management, marketing, and labor management & worker safety; a library of fruit content for Cornell Cooperative Extension; statewide and regional issues, news and events, and access to newsletters; improved efficiency for extension personnel in responding to inquiries; less duplication of extension resource materials; content for new farms, organic growers, cider and winemakers.

Cornell Fruit Resources supports and advances information delivery on fruit topics and upholds the sustainability of fruit farms, their environmental awareness and profitability. Consumers and state residents are indirectly benefitting by having knowledgeable growers producing their food and managing their environment.

Specific impacts and outcomes during the three years of the project include:

- The Cornell Fruit Resources website now provides integrated tree fruit, grape and berry information from Cornell University at a single site.
- The Cornell Fruit Resources website indexes vital content on food safety, value-added, enology, business management, marketing, and labor management & worker safety for the fruit industry.
- We have identified areas where current content is lacking and are now able to fill this with publications from Cornell University Cornell Cooperative Extension faculty and staff.
- Growers are kept up-to-date about events and new findings with the News & Events page and the extension Newsletters resource.
- The re-organization of the IPM sections fostered improved IPM information delivery to help growers and educators quickly and accurately identify fruit pests and diseases and take appropriate action.
- Expanded organic production resources now assist growers transitioning to organic production and support the increasing demand for local, organic foods.
- The development of the tree fruit and grape resources web pages has facilitated delivery of essential information to new growers who have limited to no farming background.

A search in Google shows there are at least 17 different domains that link to Cornell Fruit Resources, including but not limited to:

newa.cornell.edu	www.growingproduce.com
www.smallfarms.cornell.edu	www.savingtheseason.com
www.hort.cornell.edu/garden	ipm.illinois.edu
ing	www.davewilson.com
www.nysipm.cornell.edu	fruitgrowersnews.com
guides.library.cornell.edu	aginfotlgv.org
cce.cornell.edu	fyi.uwex.edu
www.ccedelaware.com	newfarm.osu.edu
ccealleganycattaraugus.org	www.sas.upenn.edu

Testimonials on the impact and utility of Cornell Fruit Resources are included here.

1. "I provide the link to this site for growers new to grape production and for anyone else who may have questions on content that's easily available on the Fruit pages. I find this page to be very valuable because the content remains relevant to the industry and is an easy-to-use website to find information on grape production in NYS. I link to it from my lergp.org site (for growers new to wine grape production) as a valuable resource." Jodi Creasap Gee, Viticulture Extension Educator, Lake Erie Regional Grape Program, Cornell Cooperative Extension.

2. "Growers that have accessed (Cornell Fruit Resources) also tell me regularly that they wish all of Cornell's on-line information was so well laid out and so complete. I use the Cornell Fruit Website (specifically the Berry pages – although I have frequently used the Tree Fruit and Grape pages as well) almost daily with my work as a Vegetable and Small Fruit Specialist with Cornell University Cooperative Extension. The resource allows me to quickly access information that is immediately pertinent to the growers that I work with. It also allows me to send new farmers, or farmers with a specific interest, directly to the pages so that they can look around and find information. I value the Berry webpages because they are updated regularly. They have pesticide label updates; they have links to webinars that showcase national experts on topics that I need to know about. They are the first place I go to find information on emerging pests. I can find resources for nurseries that carry the berry varieties that I need and growers need. Given the constant push for extension

educators to handle larger and larger geographic areas with fewer and fewer resources such as support staff etc., this type of on-line resource is ABSOLUTELY imperative for us to continue to offer up-to-date information to the growers we serve. I work with vegetable growers and often wish the vegetable commodity area had a similar in-depth resource for extension educators and growers alike to access. In terms of importance to my day to day work, I would rank this tool as equal to my car, my cell phone and my laptop computer: A complete necessity. The development and maintenance of this resource has been a huge help to me in working with farmers.” Laura McDermott, Regional Agricultural Specialist, Capital District Vegetable and Small Fruit Program, Cornell University Cooperative Extension.

3. “I use (Cornell Fruit Resources) for pest ID and management options, for variety recommendations, as a quick way to get to the pesticide guidelines on-line, and to the NYS Berry News back issues. It’s handy, easy to use, many quick links to pictures and lots of resources. Very, very useful!!” Amy Ivy, Executive Director/Horticulture Educator, Cornell Cooperative Extension Clinton County.

4. “We publicize these resources in newsletters, pass on directly to producers who request them, highlight anything new from your group onto our ag list. A very valuable resource.” Karen Baase, Association Issue Leader, Cornell Cooperative Extension Madison County.

5. “We don’t have anyone with that expertise in our office. We have links to the website. We use the website to help answer growers and consumer questions. We make copies as handouts for both growers and consumers and have emailed the url to growers for them to use the resource. Considering that we don’t have a staff person with this expertise, it is very valuable to our association.” Jeff Miller, Ag Program Leader, Cornell Cooperative Extension Oneida County.

6. “I use the Cornell Fruit Resources on the net for my own use and for passing onto growers. For example, I wrote a paper for the Fruit Quarterly the other day and used the Fruit webpage for information on trees. Someone asked me about REI on vineyard sprays so I looked at the webpage. When I am speaking in public I often refer people to it as Cornell Fruit is a better web address than the one I have on my web page! It is extremely valuable to me and I support its use amongst growers all over the USA.” Andrew Landers, Spray Technology, Department of Entomology, Cornell University.

7. “Extension educators throughout the country are recommending www.fruit.cornell.edu as a source of excellent information on growing fruit. Extension educators in other countries use and recommend www.fruit.cornell.edu as a source of materials for their programs. End-users occasionally send emails indicating that our website is among the most helpful they have ever found.” Marvin Pritts, Professor and Chair, Department of Horticulture, Cornell University.

8. Email correspondence

From: Andre Isabelle

Sent: Wednesday, April 07, 2010 5:21 AM

To: Office of the President (Cornell University)

Subject: Web Sites

Dear Sir:

I would like to thank you for the use of Cornell web sites. The information that they have supplied me with in the arenas of Viticulture and Horticulture is formatted with an ease of use that should be emulated throughout the world.

Please inform all those responsible, for their diligent efforts and outstanding professionalism that I thank them for a job well done.

Thank You

Andre Isabelle

Burnham, Maine

On average, Cornell Fruit Resources receives per month 730 unique visitors, 795 visits, 1600 pages viewed, and 6,525 hits. The website contains 306 webpages, 669 images, and 262 files (250 pdf and 12 documents). Now that the site is complete and achieving its goal we can focus efforts on promotion and use of the website's informational resource to foster the impacts and outcomes listed above.

Publications

- Carroll, J.E., Martinson, T.E., and Pritts, M.P. 2010. Delivering Cornell Grape and Tree Fruit Extension Education Resources on www.fruit.cornell.edu. NYS IPM Program Project Report. 4 p. <http://nysipm.cornell.edu/grantspgm/projects/proj09/fruit/carroll2.pdf>
- Bucien, T., Carroll, J., Pritts, M., Martinson, T., Heidenreich, C., and Cramer, C. 2010. Cornell Fruit Resources: A web-based library for growers and extension educators., 2009 Great Lakes Fruit Workers online proceedings., MSU, East Lansing, MI, 2 p.
- Heidenreich, C. 2010. "Phase II Complete for Cornell Fruit Website", New York Berry News 9(5):4.
- Heidenreich, C. and McDermott, L. 2009. The Berry Best of Berry Internet. Proceedings Empire State Fruit and Vegetable Expo, Syracuse, NY.

Websites, Videos and Promotionals

- Cornell Fruit Resources, www.fruit.cornell.edu., Website, Coordinator, editor, author., Growers and extension educators, 78,320 hits/yr
- Cornell Fruit Resources: A web-based library for growers and extension educators. Online video, GLFW, Author, Growers and extension educators, 1,000 hits/yr
- Cornell Fruit Resources, www.fruit.cornell.edu., Promotional bookmarker, Coordinator, editor., Growers and extension educators, 5000 distributed during life of grant.

Presentations

- Cornell Fruit Resources: A web-based library for growers and extension educators, 10/28/2009, 30 min, Author, Great Lakes research and extension fruit workers, 45 attendees
- Web-based IPM Resources for Tree Fruit, 11/12/2008, 20 min, Presenter, 2008 Agriculture & Food Systems In-Service, extension educators and faculty, 8 attendees
- Progress on Cornell Fruit Resources tree fruit web pages, 12/2/2008, 10 min, Facilitator, Tree Fruit and Berry PWT stakeholders, 30 attendees
- The Berry Best of Berry Internet, 02/12/2009, 15 min, Facilitator, Empire State Fruit and Vegetable Expo attendee growers, consultants, industry personnel, extension educators and faculty, 125 attendees.
- Progress on Cornell Fruit Resources grape web pages, 8/13/2009, 10 min, Facilitator, Viticulture & Enology Steering Committee stakeholders, 15 attendees
- Phase II Complete for Cornell Fruit Website, 7/28/2010, 15 min, Author, Attendees at the Summer Fruit Tour, Cornell University, Geneva, 122 attendees
- Cornell Fruit Resources: A website indexing information from the Fruit Program Work Teams, www.cornell.edu; 10/18/2011; 15 min; Presenter; New York, New England and Canada Fruit IPM Workshop attendees; 54 attendees
- Cornell Fruit Resources – online access to viticulture and enology information for extension. 11/17/2011, 15 min, 2011 Agriculture and Food Systems In-service, extension educators, graduate students and faculty, 20 attendees