

New York Berry News

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Barc small fruit industry. A proposal to close the Barc small fruits lab and it companion lab in Chattsworth, NJ has generated untold dismay in the small fruit industry. Our lead story details information on the proposal and pending closure, followed by an article on how you may voice your opinion in support of the lab and its world class small fruit breeding and research programs.

Other briefs include information on the new 2006 Pest Management Guidelines for Berry Crops which is now available, 2005 small fruit production facts and figures from NASS, a review of the 2005 small fruit growing season by Dena Fiacchino, resources for developing a farm safety plan by Betsy Bihn, and highlights from the berry sessions at the Empire Fruit and Vegetable Expo, and finally, updates to the Cornell online nursery guide both by yours truly, Cathy Heidenreich.

Our in-depth articles are written by some of our most regular NYBN authors/contributors. The first is an article on gooseberries by Steven McKay, followed by a double hitter from Marvin Pritts on winter pruning of blueberries and brambles, and finally more on year round marketing of your agricultural enterprise by Bob Weybright and Wen Fei Uva.

UPCOMING MEETINGS

March 2-12, 2006- Annual Florida Strawberry Festival, Plant City, Fla. (813) 752-9194, http://www.flstrawberryfestival.com/.

March 3, 2006- Northern Piedmont Specialty Crops School, Person County Extension Center, Roxboro, N.C. Carl Cantaluppi, (919) 603-1350, carl-cantaluppi@ncsu.edu.

March 3-4, 2006- U.S. Highbush Blueberry Council Spring Meeting, Crowne Plaza, Seattle, Wash. (206) 464-1980.

March 8-9, 2006- Farmers' Market Coalition Regional Workshop. Loyola University, New Orleans, La. (413) 529-0386 ext. 14, fmc@nafdma.com, http://www.nafdma.com.

March 13-16, 2006- 2006 Florida Postharvest Horticulture Industry Tour Gainesville, Fla. Adrian Berry, (352) 392-1928, adberry@ifas.ufl.edu.

March 17-18, 2006- Michigan Family Farms Conference. McCamly Plaza Hotel, Battle Creek, Mich. (517) 432-0712, miffs@msu.edu, http://www.miffs.org/.

April 5-7, 2006- 35th New York Wine Industry Workshop. Lakefront Ramada Inn, Geneva, N.Y. http://www.nysaes.cornell.edu/fst/asev.

April 22-27, 2006- Refrigerated Warehousing & Logistics Convention & Trade Show, Orlando, Fla. (703) 373-4300, email@iarw.org, http://www.iarw.org.

April 26-29, 2006- Fresh-Cut Expo, Baltimore Convention Center, Baltimore, Md. (703) 299-6282, http://www.freshcutexpo.com/.

BELTSVILLE FRUIT LAB TARGETED FOR CLOSURE

ue to budget constraints the Beltsville Fruit Lab has been targeted for closure. Please read the following letter from John Hartung, the research leader at the Fruit Lab in which he describes the current situation.

The Presidents budget was announced on February 6. The budget proposal for the Agricultural Research Service, contained therein, had an overall reduction of 11%. This figure included the elimination of many earmark funds from previous years as well as the elimination of 16 current base-funded projects spread around the nation. Among the base-funded projects slated for elimination was the entire small fruit program at Beltsville, MD. ARS officials assure me that the decision had nothing to do with the quality of the research performed by the Fruit Laboratory or the importance of the mission. It seems likely that the list of laboratories targeted for elimination was driven more by the budget cap proposed by the President than by priorities for agricultural research.

This is the first step in the annual federal budget cycle, and the Congress will ultimately decide the fate of the Fruit Laboratory between now and October 1. The Fruit Laboratory has many programs and talented scientists dedicated to the improvement of the small fruit industry in the United States: Programs include:

- 1. Breeding programs emphasizing cultivar and germplasm development of blueberries, strawberries and brambles adapted to the eastern United States. These varieties have high levels of disease resistance, flavor and horticultural characteristics that make them ideal for the industry. Ground- breaking cultivars include: 'Blakemore' strawberry (1929), which helped develop the shipped strawberry industry; 'Surecrop' strawberry (1956), which helped save the strawberry industry from red stele; 'Earliglow' strawberry, the worlds gold standard for flavor; the first thornless blackberry cultivars in 1966, and 'Chester' Thornless blackberry (1985) currently grown on 85% of the eastern US blackberry acres.
- 2. Advanced molecular genetic technologies are being used to accelerate the applied breeding programs. These include marker assisted selection for traits of horticultural value such as disease resistance, winter and spring frost tolerance and repeat blooming; genome wide mapping and sequencing of blueberry, strawberry, blackberry, and raspberry; transformation; and regeneration technologies. Molecular markers from the mapping research have been used by public and private sector researchers in several countries for cultivar identification and genetic mapping.
- 3. Research programs focusing on important diseases of strawberries, blueberries and cranberries have always been a focus of the research program. Emphasis is on the identification of resistant germplasm for the production of finished varieties that can be profitably produced with a minimum of pesticides. Diseases include anthracnose fruit rot of strawberry and blueberry, angular leaf spot of strawberry, root rots of strawberry, stem canker of blueberry and several viral diseases of strawberry and blueberry.
- 4. Physiological and molecular research on the basis of cold tolerance and winter hardiness are a focus of research on blueberry, with a goal to increase the range and yield of highbush blueberry cultivars.
- 5. Physiological and molecular research on the basis of high temperature stress is another focus of research on strawberry. Researchers seek to understand the role that temperature plays in reducing fruit set during summer months. This effort complements a long-term goal of the breeding program to expand the harvest season for the eastern strawberry industry to include a major portion of the year by developing repeat blooming cultivars.
- 6. Research focusing on the nutrient composition of berry fruits, and the specific roles of nutrients found in berry fruit in healthful living, have become a focus of the laboratory in recent years. This program enjoys extensive collaborations in the biomedical community and has recently demonstrated a protective effect of blueberries against a form of cancer in laboratory and animal studies.

Nearly all the strawberry breeding programs in the US can trace their origins, both in management and germplasm, to our Fruit Laboratory. At nearly 100 years old, the Beltsville strawberry breeding program is the oldest continuously running crop breeding program and the oldest continuously running strawberry breeding program in the country. Our strawberry germplasm is used by breeders all around the world for superior disease resistance and flavor. Our blackberry germplasm is used as a source of thornlessness, cold-hardiness, berry quality, flavor and high yield. Although the current strawberry breeding program is restricted to adapting cultivars to the eastern U.S., cultivars and germplasm produced by the program are used in breeding programs in California and in the Pacific west, Canada and Europe as sources of disease resistance and superior flavor. The Fruit Laboratory has recently released the first strawberry germplasm with resistance to bacterial angular leaf spot. This disease is of great importance in the upper Midwest, Canada, and California, with potential in all strawberry producing regions. The germplasm has been incorporated into commercial varieties by Driscoll's Berry Company.

The blueberry breeding program is based in Chatsworth, NJ in close association with the industry that it serves. Although located in New Jersey, the blueberry breeding program is also national in scope and impact. This program benefits by its

location at a facility operated and staffed by scientists from Rutgers University. Blueberry varieties developed by the USDA/ARS Fruit Laboratory have been and continue to be the industry standards.

The laboratory based research programs in the Fruit Laboratory are excellent. Researchers in the Fruit Laboratory have received three significant research grants in the past year from the USDA National Research Initiative. The success rate nationally for this grant program is about 8%. This demonstrates the high quality of research in progress at the Fruit Laboratory. Scientists in the Fruit Laboratory are among a very small group of scientists carrying out molecular genetic research on small fruits.

If the Fruit Laboratory is closed, all of this will be lost, and the berry industry in the U.S. will lose their most essential technological asset: mission driven and focused research on berry fruits. This would come at a time when the public, more than ever, desires the availability of fresh berry fruit, year round, because of recent findings that berries are among the most nutrient-dense and health promoting foods. The void left by our program cannot by filled by existing programs at the University of Maryland, Cornell University, the University of North Carolina, at a time of declining funding for university plant breeding programs nation-wide. The industry simply will not survive in the long or even medium term without continuous support from vigorous and focused research programs.

What is to be done? If funding to the laboratory is to be restored, the stakeholder community must make their representatives in the House and Senate aware of the importance of the laboratory. Organizations of berry producers, nurserymen, retailers and university collaborators must initiate a letter writing campaign from their membership to their respective Congressional Representatives. It would be particularly beneficial to focus on members of the subcommittees on appropriations for agriculture, as well as the full appropriations committees in both the house and the Senate. Personal visits and telephone calls to the politicians would of course be very helpful as well when possible. In addition to demanding that funding for the Fruit Laboratory be restored, why not ask for an additional one million dollars annually to replace research programs in the Fruit Laboratory that had to be closed in 2006 due to lack of funds?

This matter must be handled quickly, since the agriculture committees appropriations hearings begin in March. E-mails are preferred over letters, since letters are subject to a very long delay for anthrax screening. My staff and I will be available to provide information to anyone as needed on this matter. However the law requires that we do this sort of thing on our own time, and never at work. So, to begin, contact me at johnhartung@comcast.net and 410-531-1985 (home) or 240-461-1329 (Cell).

Sincerely, John S. Hartung

HOW YOU CAN HELP TO KEEP THE BARC FRUIT LAB OPEN

he following is a message from John Maas the NASGA research chair on how you can help in the fight to keep the fruit lab open.

"Unfortunately, the USDA Fruit Laboratory, Beltsville, Maryland, is not included in the 2008 Federal Budget. This means that without your help the Fruit Lab will cease to exist, as will its satellite blueberry research station in Chattsworth, New Jersey.

Small fruit growers and nurserymen have greatly benefited from the research and varieties developed by the USDA Fruit Lab over the years. Strawberry, thornless blackberry, raspberry, and blueberry varieties from the Beltsville campus and from its satellite station in Chattsworth have expanded economic opportunities for fruit producers and nurserymen nationwide. It is now your turn to help the Fruit Lab.

The Federal Budget is scheduled to be voted on by Congress in March. There is not much time to lobby for the Fruit Lab. We at NASGA and the NASG Research Foundation implore you to contact your U.S. Congressmen as quickly as possible. Individual input of growers and nurserymen is essential for positive results: Congressmen pay more attention to voter needs than to organization letterhead appeals.

What you can do is to succinctly write about how the small fruit research and/or variety development from the Fruit Laboratory has benefited you economically; local adaptation, and/or customer preferences, and introduction of disease-resistant varieties has enabled small-fruit fruit production possible where previously not profitable due to disease. Come to the point quickly in your messages, remembering that it is often staffers inexperienced with agriculture that actually read constituent mail and then summarize it for their Congressman.

The following Congressmen should also be included on your contact list:

Representative Stenny Hoyer, Representative from the 5th Congressional District in Maryland and Democratic Whip. Mail: Representative Stenny Hoyer, House Democratic Whip, H-306 Capitol Building, Washington, D.C. 20515. (Phone: 202-225-3130: FAX: 202-225-4300).

Email from Hoyer's web site at: http://hoyer.house.gov/contact/index.asp.

The 5th Congressional District in Maryland is where the Fruit Lab is located in the Beltsville Agricultural Research Center. Hoyer in the past has been very supportive of the Center and, I believe, would be sensitive to and supportive of keeping the Fruit Lab, and the Phytonutrients Lab, in the '08 budget.

Senator Robert C. Byrd, Appropriations Committee.

Senator Robert C. Byrd, 300 Virginia St. East, Suite 2630, Charlston, WV 25301, or

Senator Robert C. Byrd, 311 Hart Building, Washington, D.C. 20510.

FAX (Charleston, WV office): 3043437144.

Email on ByrdsWeb page:

http://byrd.senate.gov/issues/byrd_contact/byrd_contact.html.

Thank You, John Maas willowsend@earthlink.net

NEW TREE FRUIT AND BERRY CROPS PRODUCTION GUIDELINES PROMOTE ENVIRONMENTALLY SENSITIVE APPROACH TO PEST MANAGEMENT

THACA, N.Y. February 13, 2006 - Cornell Cooperative Extension has released the latest edition of its Tree Fruit Guidelines and its Berry Crops Guidelines, both of which encourage an integrated approach to pest management, balancing cultural pest control methods with judicious use of chemicals.

The 2006 edition of the <u>Pest Management Guidelines for Commercial Tree Fruit Production</u> is now protected by a new, laminated cover to resist water damage and stains, and continues the product improvement trend set by most of the other Cornell University Guidelines titles.

This 247 page, spiral-bound document promotes the use of Integrated Crop and Pest Management (IPM), and demonstrates the possibilities for organic tree-fruit production. IPM is a pest control strategy that promotes the use of a variety of tactics including pest-resistant cultivars and biological, cultural, and physical controls. Though chemical pest control is a valid tactic as well, pesticides are used preferably only in combination with, and only when other approaches alone become inadequate. An IPM approach requires a combination of long and short term production strategies to maximize net profit while minimizing risks of undesirable environmental impacts of practices. Applying multiple control tactics minimizes the chance that pests will adapt to any one tactic, and allows growers to choose the most environmentally sound, efficacious, and economically efficient pest management program.

The first section in this guide introduces information about pesticides, sprayer calibration, and references to the efficacy and use characteristics of 90 different crop protectants for diseases, weeds, insects, and wildlife. Information on forecasting, sampling, and monitoring is included for selected pests.

Next, general pest management considerations are addressed for apples, pears, cherries, peaches, nectarines, apricots, plums, and prunes. Pest biology, cultural notes, monitoring and forecasting, biological and non-chemical control, pesticide application, pesticide resistance, and pesticide use for each pest are included. Pesticide spray tables follow with specific product use by trade-name. Weed control guidelines are listed separately for each crop.

A separate section focuses specifically on nutrient management and fertilizer recommendations for apple orchards.

Within the 247 pages, readers will find 53 Tables, dozens of photographs, 13 diagrams, general pesticide safety information, tips for laundering pesticide-contaminated clothing, and pesticide emergency numbers. An appendix section includes common names, product names, EPA registration numbers, Personal Protective Equipment guidelines, and spray mixture compatibility suggestions. Other fruit reference materials, diagnostic services, a guide to abbreviations, as well as faculty and extension program contact information are added to round-out this indispensable text.

The 2006 edition of the <u>Pest Management Guidelines for Berry Crops</u> is now spiral bound and protected by a new, laminated cover, following the improved usability tradition set by most of the other Cornell University Guidelines, making it more resistant to water and stains, and easier to use in the field.

This 84 page guide helps berry growers by providing general nutrient guidelines, general site selection and preparation information, as well as insect, mite, disease, and weed management decisions. Detailed cultural and chemical management practices are provided for blueberry, raspberry, blackberry, and strawberry production. The currant and gooseberry production sections have been expanded to include stages of development, and pests to scout for and their respective control measures. Insect pests and diseases are associated with stages of plant development in table form to aid in timeliness of identification and treatment.

Bird, rodent, and deer management supplements are included in this manual, as well as harvesting, handling, and transportation guidelines, postharvest considerations, and information on transporting berries to market. 21 data tables, a listing of useful websites and publications, contact information for extension berry crop specialists, general pesticide safety information, tips for laundering pesticide-contaminated clothing, and pesticide emergency numbers round-out this practical and information packed guidebook. Chemicals regulated in New York State include brand name/formulation, EPA registration numbers, and restrictions.

Information regarding integrated pest management for grapes can be found in a separate text, the New York and Pennsylvania Pest Management Guidelines for Grapes: 2006, which will be available in March 2006.

The price for the *2006 Pest Management Guidelines for Commercial Tree Fruit Production* is \$29.95, while the *2006 Pest Management Guidelines for Berry Crops* is \$17.95. Each may be ordered from The Resource Center, publications enterprise of Cornell Cooperative Extension. Please add \$5.00 shipping for the first item and \$1.00 for each additional copy, plus 8% NYS sales tax (8.25% CA, or 7.25% Canadian). Orders may be placed on-line at www.cce.cornell.edu/store, by e-mail at resctr@cornell.edu, by phone at (607) 255-2080, or by fax at (607) 255-9946. Checks and money orders payable to Cornell University may be mailed to The Resource Center, 365 Roberts Hall, Ithaca, NY 14853.

The 2006 Pest Management Guidelines for Commercial Tree-Fruit Production was prepared by Arthur M. Agnello and Andrew J. Landers, Cornell University Department of Entomology; David A. Rosenberger, Department of Plant Pathology; Terrence L. Robinson, Department of Horticulture Sciences; Juliet E. Carroll, NYS IPM Program; Lailiang Cheng, Department of Horticulture; Paul D. Curtis, Department of Natural Resources; Deborah I. Breth and Stephen A. Hoying, Cornell Cooperative Extension Lake Ontario Fruit Team.

The 2006 Pest Management Guidelines for Berry Crops and supporting material was developed, written and prepared Marvin P. Pritts and C. Heidenreich, horticulturalists, College of Agriculture and Life Sciences, Cornell University, Ithaca, NY; G. English-Loeb, extension entomologist; J. Carroll, IPM Specialist and W.F. Wilcox, extension pathologist, Cornell University's New York State Agricultural Experiment Station, Geneva, NY.

Information for the integrated production and maintenance for both of these commodity categories is drawn directly from decades of Cornell University research, extension demonstrations, and on-site experience. Commercial growers, those who advise, sell, or provide services to these professionals, as well as small-scale growers can use this text as a guide to choosing safe and effective weed, insect, wildlife, and disease management programs for berry crops and tree fruit crops.

The Cornell Cooperative Extension educational system mission enables people to improve their lives and communities through partnerships that put experience and scientific knowledge to work.

The Resource Center is the publications enterprise of Cornell Cooperative Extension, serving its education outreach efforts by marketing and distributing publications of research-based knowledge to Cornell Cooperative Extension Association Offices, and to the general public.

NEW YORK STRAWBERRY AND BLUEBERRY PRODUCTION DOWN

Strawberry production in New York was down 22 percent from 2004 to 5.20 million pounds, according to Stephen Ropel, Director of USDA's National Agricultural Statistics Service, New York office. The value of utilized production is estimated at \$8.06 million, down 23 percent from the \$10.4 million in 2004. New York ranks seventh in strawberry production. Nationally, the strawberry crop for 2005 was placed at 2.32 billion pounds, up 5 percent from 2004.

Production of blueberries for the Empire State was at 1.50 million pounds. The 2005 crop is valued at \$1.96 million, an 18 percent decrease from \$2.32 million in 2004. The U.S. estimate for blueberries is 233 million pounds, up 2 percent from the 229 million pounds produced in 2005.

The combined value of New York's berry crops totaled \$10.0 million. This compares with the \$12.7 million in 2004.

BERRY PRODUCTION AND VALUE 2003-2005

Crop	Season	Acres of Bearing Age	Production (million pounds)		Unit Price (dollars)	Value of Utilized Production (\$1,000)
			Total	Utilized		
Blueberries	2003	700	2,100	2,000	1.29	2,578
(1,000 lb)	2004	700	2,000	1,700	1.36	2,315
,	2005	700	1,500	1,400	1.40	1,963
Strawberries	2003	1,500	50	50	155	7,750
1,000 cwt.	2004	1,500	65	65	160	10,400
	2005	1,500	52	52	155	8,060

NEW YORK FRUIT YIELD

	Pounds per Acre				
Fruit Crop	2003	2004	2005		
Apples	23,800	28,400	23,100		
Peaches	7,640	7,060	4,700		
Tart Cherries	3,600	5,350	3,750		
Sweet Cherries	1,720	2,580	2,280		
Pears	22,200	23,600	12,140		
Grapes	12,780	9,160	11,480		
Blueberries ¹	2,860	2,430	2,000		
Strawberries	3,300	4,300	3,500		

¹Yield based on utilized production.

AN OVERVIEW OF THE 2005 SMALL FRUIT GROWING SEASON

Dena Fiacchino, Tree Fruit and Small Fruit Extension Educator, Cornell Cooperative Extension of Oswego County, Mexico, NY 13114

verall, the winter preceding the 2005-growing season was quite typical. Subzero temperatures occurred in December and January. Injury to plants occurred where snow coverage was limited. March was cool month, followed by a fluctuating warm/cool April with about 5 ½ inches of rain, accelerating plant growth. May was cooler than normal, with a cold snap that dipped down into 22-25 °F during bloom. Damage to fruit buds was experienced across the region on apples, pears, and strawberries. The extent of damage varied from location.

Warm, dry weather ruled the remainder of the growing season and most soils were completely dry by the end of May. By the end of the season drought stress was evident on many crops throughout the region. Because of dry growing conditions diseases were not a major problem, due to a lack of infection periods. Insect pests, however, were a problem. Insect pests came in early and produced an extra generation during 2005.

Small fruit yields were reduced due to low available water.

Blueberries suffered a little winter injury but there was tip dieback, which may have been Phomopsis or winter cold injury. As the season progressed, cane collapse due to Phomopsis was widespread especially in the northern growing regions.

Early varieties had enough soil moisture for multiple pickings but mid season varieties in non-irrigated fields only yielded one picking. Growers with irrigation were usually able to size the smaller berries for later pickings. Non-Irrigated fields experienced burning and can take several years to recover.

Generally diseases were well controlled. The bloom pests <u>Cherry fruitworm</u> and <u>Cranberry fruitworm</u> were delayed and continued to lay their eggs long past bloom. The adults do not immediately lay eggs, so detection of adults does not necessarily mean eggs are laid. It is important that growers begin examining fruit and leaves for eggs in early-May, this will provide information on larvae hatch infecting fruit.

Blueberry maggot was also a big issue this past season. Due to the warm weather, maggot emergence came early. Incorrect

timing was a problem for control. Blueberry maggot is easy to detect with yellow sticky traps in the field.

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In **Strawberries** king blossoms were killed due to a late spring frost (May 13). Frost protection should be seriously considered for those who did not use any. Heat moved the harvest quickly along and after renovation plants were slow to take off and grow. Mites were a common problem, especially after renovation as new growth struggled to grow.

In **Raspberries** growth was poor as the season began but generally plants recovered and yields were good. White drupelets from the heat were a common problem.



IT'S WINTER AND TIME TO WORK ON YOUR FARM FOOD SAFETY PLAN

Betsy Bihn, National GAPS Program Coordinator, Depart of Food Science, Ithaca, NY

It has been awhile since I have pestered you about food safety, but now is the time. I am hoping many of you have thought about food safety in the past, so all you need to do now is look at your current food safety plan and think about what good agricultural practices (GAPs) you plan to implement this year. If you still have not created a farm food safety plan, the time is now while the fields are still quiet.

The National GAPs Program at Cornell University has created several educational materials to make developing a farm food safety plan and implementing GAPs a little easier. If you are just beginning, I recommend A Grower Self Assessment of Food Safety Risks. This document will walk you through many important areas and highlight things that are important for reducing microbial risks. If you already have a program and are looking for new educational materials for worker training or to educate the groups coming on to your farm, I would like to tell you about several NEW educational materials that have been finished in the last six months.

Good Hygiene Protects Everyone is a bi-lingual field hygiene-training booklet printed in full color. It is 20-pages long and discusses ways workers can protect themselves and the fresh produce they harvest and pack. It covers the need for drinking water and proper hydration, proper use of field toilets and hand washing facilities, and how workers can protect themselves and the crops they harvest.

Did you know? In the field there is a need for hygiene too! and Did you know? Your kitchen could be a source of illness! are two new bi-lingual photo novels created for farm workers. A photo novel is similar to a comic book, except that it uses actual photographs instead of illustrations to tell a story.

Did you know? In the Field there is a need for hygiene too! follows Paco, Luis, and Carmello as they work and take their lunch break. Carmello and Luis discuss their personal experiences, Paco's hygiene mishaps, and their friend Lalo's illness. Topics covered include the importance of toilet use in the field, proper hand washing, fruit and vegetable handling, safe food storage, and washing clothes after working in the field.

Did you know? Your kitchen could be a source of illness! discusses safe food preparation techniques by following the Valdez Family as they learn first hand the perils of food borne illness and how to prevent food contamination. This guide provides food safety tips for all stages of food preparation, including shopping, kitchen cleaning, hand washing, defrosting foods, separating raw meats from fresh produce, fruit and vegetable preparation, cooking times and temperatures, proper refrigeration, storing leftovers, pest control, kitchen sanitation and more.

A bi-lingual coloring book entitled *Fun Fruit and Very Vegetable Tour* was also finished in the fall of 2005. This book follows three children as they learn how fruits and vegetables are grown, harvested, and sold. The *Fun Fruit and Very Vegetable Tour* teaches the importance of hand washing and describes in detail how to properly wash hands. The coloring

book also reinforces the nutritional value of fruit and vegetable consumption. These books were created for children of farm workers and come packaged in a vinyl envelope containing crayons, soap, and a washcloth to encourage interactive play and learning. Quantities are extremely limited.

For ordering or more information about any of these materials, visit www.gaps.cornell.edu. If you need assistance or have additional questions, please contact Betsy Bihn at eab38@cornell.edu.

EMPIRE FRUIT AND VEGETABLE EXPO 2006- BERRY HIGHLIGHTS

Cathy Heidenreich, Small Fruit Extension Support Specialist, Department of Horticulture, Cornell University's College of Agriculture and Life Sciences, Ithaca, NY

Dr. Courtney Weber, small fruit breeder, talks with a small fruit grower from Tioga County.



Nine hundred twenty-two exhibitors were represented at the trade show.



More than 100 people attended the day long berry session on Thursday.



Nourse Farms was one of the exhibitors representing the berry industry at trade show.



Farm equipment exhibits, including the Regii weeder (right) used in strawberry weed management



Dr. Marvin Pritts, small fruit horticulturalist, speaks with growers during a session break.



Anna Dawson, of Hometown Foods, LLC helps participants taste small fruit food products 21st Century Style, after her presentation.



The North American Bramble Growers Association sponsored a Wednesday afternoon session on the ABC's of Bramble Production, with a record 85 people in attendance.



Dr. Thomas Bookman loads his presentation with the assistance of Dena Fiacchino.



The New York Berry Growers Association wishes to thank the corporate sponsors of the 2006 berry session, and all those who helped organize and/or participated as speakers.



CORNELL FRUIT PAGE SMALL FRUIT NURSERY GUIDE UPDATED FOR 2006.

Cathy Heidenreich, Small Fruit Extension Support Specialist, Department of Horticulture, Cornell University's College of Agriculture and Life Sciences, Ithaca, NY

erhaps you are wondering where to get those 'Jewel' strawberry plants for your new planting, or which nursery might stock the new 'Prime-Jan' blackberry. A good place to start is the Cornell online small fruit nursery guide, located at: http://www.hort.cornell.edu/extension/commercial/fruit/Berries/nurseries/index.html.

The guide is made available courtesy of Dr. Marvin Pritt's small fruit extension program and is open to nurseries who sell small fruit planting stock. Growers may go directly to the nursery listing to find contact information for a particular nursery, or may skim individual variety lists for each crop to see which nurseries carry the cultivar or cultivars they are looking for. Cultivars new for the 2006 season are listed in red for each crop. Small fruit listings include June bearing and day-neutral strawberries. Also included are summer fruiting red, black and purple raspberries, fall-bearing red and yellow raspberries, blackberries (thorny and thornless), and blackberry/raspberry hybrids such as dewberry, loganberry, Marion berry, boysenberry, tayberry, and wyeberry. The blueberry page includes highbush blueberries, bearberry, cranberry, ligonberry, and huckleberry. The Ribes nursery guide page includes cultivars of black, red, white and pink currants, gooseberries and jostaberries.

Sixteen nurseries are currently participating in the online guide, which lists varieties and the nurseries which carry them.. This year four new nurseries have asked to be included in the guide, including TY-TY Plant Nursery, One Green World, Miller Nurseries, and Spooner Farms Nurseries.

Other changes include an expanded section on small fruit specialty crops (other small fruit) which now includes things like beach plum, haws, medlars, mountain ash, persimmons, pawpaws, Elaeagnus, highbush cranberry, mulberry and quince, as well as previous listings for aronia, Cornelian cherry, elderberry, hardy kiwi, honeyberry, Saskatoon, and sea berry.

THE GOLDEN GOOSEBERRY (AND PURPLE, AND GREEN, TOO!)

Steven McKay, Extension Educator, Hudson Valley Commercial Fruit Program, Cornell Cooperative Extension of Columbia County, Hudson, NY 12534

n agriculture we often talk about the fact that there is no "silver bullet", or ideal crop to grow that's without flaws. Gooseberries are in that category...there are many benefits to growing the berry as a crop, and of course some drawbacks. And the fable about the goose that laid the golden egg? Well, there are gooseberry plants that do grow golden gooseberries. And maybe the parallel to the story is that if grown in amounts that the market will bear, one will make money with the crop. But if one gets greedy and plants many acres, the price (and fortune) will drop.

So what are the benefits of growing gooseberries? The first is that gooseberries are a crop not widely planted. There is room in the market for both frozen and fresh. Fresh gooseberries will command a higher price, and during the past five years there have not been enough to satisfy demand. In addition, these berries can be stored for long periods, up to months if done properly. Gooseberries also have relatively few pests to contend with in the Northeast. One insect, the imported currant worm, and two fungi, mildew and leaf spot. All three can usually be controlled with only four spray applications during the season, either organic or conventional. Resistant and immune varieties can also be chosen. Finally, if trained to the cordon system, they are easy to prune and harvest.

The disadvantages of growing the berries can begin with the thorns; if thorny, the plants are difficult to work with. If disease or the insect pest gets out of control, the plants can be debilitated rapidly. The general population in the US is not educated about gooseberries which limit the market. Consumer education will be necessary to push along and grow the market as more farmers grow the crop.

So back to the golden...and purple, and green, etc. Yes gooseberries come in a variety of colors sizes shapes, and textures. Colors include transparent and opaque yellow, red, pink, purple, black-red, antique-red, green, white. The texture can be completely smooth to hairy. Shapes include ovals, round, teardrop. Sizes range from pea-sized to the size of a golf ball. Finally the combinations of these characters can make a berry either suited for culinary art, fresh dessert use, or cooking.

You may ask about flavor. When one bites into a gooseberry, a rush of juice, either sweet or slightly sour touches the tongue. The sour skin is then sensed. Finally the unique aromatic flavors are savored. Most gooseberries are either musky or with a light fresh stone fruit type of fruit flavor. The riper they get, the stronger the aromatics become. Gooseberries can be ripened to full flavor off the bush if picked at the green mature stage, and ripened in the refrigerator or at room temperature.

I recently returned from England where I collected a group of 21 of the best gooseberry varieties I have experienced over the past ten years. An assortment of types as described above is included. They were donated by the National Fruit Trials in Faversham. They will be available after going through about three years of quarantine, and then can be propagated by nurseries. I have been asked what my favorites are, and I can list a few here. 'Langley Gage' is the sweetest tasting, and it ripens white. A good flavored golden tear-dropped berry is 'Cousen's Seedling. The largest berries have come from a green variety called 'Lord Elco'. Finally one of the heaviest bearing varieties is an oblong red berry called 'Ingall's Red Prolific'.

What varieties are available now? 'Invicta' is a large sized- green berry which is sweet, but not with a lot of other flavor. 'Captivator' is a tear-drop, antique red variety which is late, but very flavorful. Finally 'Hinnomaki Red' is a red variety that is well worth eating. My recommendation is to experiment, and to discover your favorite berry.

(**Editor's note**: The two pruning articles which follow below were featured in earlier issues of the NYBN and are offered again by way of review of pruning techniques for blueberries and brambles.)

BLUEBERRY PRUNING AND REJUVENATION

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egular pruning is an essential component of blueberry management, yet its importance is often misunderstood because the costs to the neglectful grower are not immediate. Pruning is required to maintain the vigor and productivity of bushes, to aid in disease and insect management, to maintain large fruit size and quality, and to develop an appropriate growth habit for harvesting.

A young blueberry plant will produce many canes for the first several years. Cane production will gradually slow as bushes become tall. Yields will decrease because of the absence of new growth on which flower buds will form. An increasing amount of leaf area will be required to satisfy the respirational demands of both fruit and wood. Furthermore, light penetration into the canopy will diminish, resulting in a shift of fruit production to the exterior of the bush, causing a decrease in bearing surface. Appropriate pruning practices can maintain a blueberry bush in an efficient and productive state, without the detrimental changes described.

Selecting canes for removal

When selecting canes for removal, first look for any winter-injured or broken canes, or canes with disease and insect damage. If injury is severe, remove that particular cane. Cankers and scales are common pests that can be partially controlled through pruning. Second, remove any cane that is rubbing against another to prevent canker infections. Third, remove those that are interfering with movement through the alley. Aim for a plant with an upright growth habit, yet with a sufficiently open canopy to allow for light penetration. Mechanically harvested bushes should be trained to a more upright habit and narrower crown than those that are hand harvested. Finally, remove short, branched canes that never receive much light. If these canes produce fruit, it will ripen late and will rarely be harvested.

Care should be taken to remove canes as close to the crown as possible. Do not leave 6 to 8 inch stubs. These will rot and act as a source of disease inoculum.

Time of pruning

Early spring is the best time to prune blueberries. Although some growers begin pruning immediately after harvest, it is thought that this makes plants more susceptible to winter injury and reduces the long-term productivity of bushes. By pruning in early spring, one can identify winter injured wood and remove it. Carbohydrates produced in autumn will also have had sufficient time to move into the roots and crown for storage.

Pruning young bushes

Little pruning is required on young bushes. Remove flower buds for the first two years to promote vegetative growth. This can be achieved by rubbing off the fruit buds, or by pruning the tips of shoots where the flower buds are located. At the beginning of the third year, remove any twisted or low-growing canes to promote new cane production.

If more than two new canes were produced the previous year, remove all but the two healthiest at the crown level. In subsequent years, continue light pruning until the plants reach full size, removing all but 2 or 3 of last season's canes. When plants are about 8 years old, they should contain between 10 and 20 canes of many different ages. Some cultivars produce many more canes than others, so the amount of pruning that is required on young bushes will vary with cultivar.

Mature bushes

Eight year old canes start to lose their productivity as more leaves are required to support a given amount of fruit on those canes. In addition, canes have branched considerably, and the most recent growth on which flowers form is usually thin and weak. Removing one or two of the largest canes in a mature bush will promote new cane growth. If bushes contain a mixture of canes of different ages, then annual removal of canes that have reached 8 years of age will allow for a minimal reduction in productivity, as 7-year-old canes grow to replace those that were removed. Regular renewal will allow for consistent long-term productivity.

Canes larger than one inch in diameter are not as productive as younger canes, and eventually should be removed. If one or two of the largest canes in a mature bush are removed annually, and one or two new canes are permitted to grow, then an even age structure among canes can be maintained. In general, up to 20% of the older wood can be removed from a bush without adverse effects on yield. Although berry numbers will be reduced, larger fruit will compensate for this decrease.

Regularity of pruning

Annual pruning is essential for stable production and high productivity. When bushes are pruned irregularly, young canes are produced in great numbers the year after heavy pruning. These canes will age together, and become unproductive at the same time. If one then wants to prune out the unproductive canes, nearly the entire bush will have to be removed. Also, no young growth is present to make up for the loss of fruiting wood. Therefore, irregular pruning results in erratic yields from year to year, and tall bushes will develop as individual canes elongate to compete for light. Research has shown that annual, moderate pruning produces bushes with the fewest canes, but with the greatest yields.

Detailed pruning

Removing injured wood should be the primary objective of detailed branch pruning in the tops of the canes. Branch pruning can result in higher fruit quality because berry numbers are reduced. Also, branch pruning can help relieve drought stress in hot climates where plantings are un-irrigated. However, if one has done a good job removing whole canes, then little detailed pruning will be required.

Weak bushes require more pruning than vigorous bushes because pruning stimulates vegetative growth. Also, special consideration must be given varieties with spreading habits. Sprawling canes should be removed, but care should be taken to leave sufficient canes for fruiting.

Rejuvenation

When rejuvenating an old planting, remove 1 or 2 old canes for every 5 or 6 younger canes. In following years, remove up to 20% of the wood until new cane growth occurs. Keep only 2 or 3 new canes and continue to remove up to 20% of the oldest canes. Eventually, the bush will become more productive, cane numbers will decrease, and bush stature will decline. In old, poorly maintained plantings, some growers have had success cutting all the canes to ground level; harvesting begins 3 years later. However, for this system to be most effective, canes must be thinned to the most vigorous 6 - 10. Others find that summer hedging immediately after harvest, coupled with selective dormant cane removal, works well.

Summary

Pruning is an investment in the future productivity of the blueberry planting. Regular annual pruning will spread costs throughout the life of the planting, ensure stable production from year to year, and serve as a useful tool for managing pests, fruit load, and quality.

PRUNING SUMMER- AND FALL-BEARING RASPBERRIES

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Plant growth can be manipulated by growers to achieve long-term increases in production of quality fruit. Pruning and trellising affect plant growth rate, fruit quantity and size, soluble solids (sugars), disease susceptibility, ease of harvest, and spraying efficiency. Brambles respond significantly to pruning and trellising, but these practices are usually the most expensive and time-consuming part of an operation. Growers must use care when choosing pruning and trellising strategies.

The following discussion presents different types of pruning and trellising methods for primocane-fruiting and floricane-fruiting brambles. Each different type of bramble will be discussed in relation to the specific pruning and trellising methods that best promote high yields of high quality fruit.

Primocane-Fruiting (fall-bearing) Raspberries

Primocane-fruiting raspberries produce fruit at the top of first-year canes in late summer. If allowed to overwinter, these same canes will produce fruit again in early summer of the second year. However, the quality of this early summer fruit is inferior to both the late summer primocane crop and summer crops of floricane-fruiting types. Also, harvesting the early summer second-year crop is difficult because of interference from new primocanes. Likewise, harvesting the late summer primocane crop is difficult because the primocanes are thinner and taller when the second-year canes are allowed to grow, too. Most growers sacrifice the early summer second-year crop in favor of a smaller, but higher quality late summer primocane crop.

Pruning

The smaller yield of a single late summer primocane crop is offset by the ease of management. To prune primocane-fruiting raspberries for a single late season crop, the canes need only be cut to the ground in early spring. New canes will grow each year and fruit in late summer, the canes will be cut early the following spring, and the cycle continues.

It is important to cut old canes as close to the ground as possible so that buds will break from below the soil surface. If canes are not cut low enough, fruiting laterals may form on any remaining cane portion. These fruiting laterals are not healthy; they are entry sites for insects and disease pathogens. Also, any fruits that form will most likely rot, attracting pathogens and creating a source of inoculum (disease-conducting material) for the late summer crop. All canes that are cut from the planting should be removed from the area and destroyed. In warm climates, the primocane crop can be delayed by mowing the young primocanes a second time when they are approximately 1 foot tall. Pinching the primocanes (removing the growing tip) in July to stimulate growth of laterals will also delay fruiting. This is sometimes done to delay harvest until after the intense heat of July.

The timing of cane cutting is also important. Carbohydrates move from plant leaves into the crown in autumn, and from the crown to the buds in early spring. If canes are cut before all the carbohydrates reach the crown in autumn, the new canes may not be as vigorous the following year. Canes can also be cut too late, after carbohydrates have moved into the buds. From December through February, most carbohydrates are in the crown, so this is the ideal time to cut canes.

Yield of primocane-fruiting types is influenced mainly by (1) the number of canes per unit area and (2) the number of berries per lateral. Growers can influence the number of canes produced by plants. Since large numbers of canes do not seem to decrease fruit size in the fall crop of primocane-fruiting raspberries, growers should try to produce as many canes per area as possible. This can be done by planting narrow rows and more rows per acre. Row widths of 12-18 inches are considered ideal for harvesting. The distance between rows should be wide enough to allow available equipment to pass. The other factor influencing yield, the number of berries per lateral, generally depends on the particular cultivar being grown. The grower has little control except to choose productive cultivars.

Floricane-Fruiting (summer-bearing) Raspberries and Blackberries

Floricane-fruiting brambles produce fruit only from buds on second-year canes. Unlike primocane-fruiting raspberries, these canes must remain intact throughout the winter and following growing season, until the completion of harvest. Also, during second-year flowering and fruiting on floricanes, new first-year primocanes are growing. These primocanes interfere with spraying and harvesting, shade the leaves and laterals of floricanes, and compete for water since they share a single root system. This interference must be minimized to obtain a high yield of fruit each year.

Pruning

Five general methods of pruning floricane-fruiting brambles are described below. Each method will produce different results in the growth of primocanes and floricanes of floricane-fruiting crops. Also, with the following methods, row widths should be maintained at no greater than 18 inches.

Conventional: No Mowing or Suppression of Primocanes

This training system is traditionally used by bramble growers in the Northeast. Primocanes emerge and are permitted to grow throughout the season. The following year, they become floricanes, flowering and fruiting as new primocanes. Immediately after fruiting, however, the floricanes are cut at ground level and destroyed. Some carbohydrates are lost by cutting canes in summer. However, this loss is offset by the advantages of reduced disease inoculum and a reduction in dormant season pruning. In early spring, all remaining canes are topped (headed back) to a convenient height for picking, since little vegetative growth occurs in the second season. Canes are thinned to a desired number, usually 3-4 canes per square foot. When thinning, the most vigorous canes should be selected to produce the next crop -- those with good height, a large diameter, and no visible symptoms of disease, insect damage, or winter injury.

Alternate Year Mowing

Primocane interference among floricanes is reduced by alternately mowing half of the planting to the ground each year during the dormant season. In the spring after mowing, primocanes will emerge and grow without interference from fruiting canes. The following year, the floricanes will flower and fruit. Although primocanes will also grow in the fruiting year, all canes will be cut to the ground during the next dormant season. Advantages of this method are that no detailed cane thinning or pruning is required, and spray material costs are reduced approximately 50%. Disadvantages include a

reduction in fruit quality, berry size, and yield of approximately 30% for most cultivars, since only half the planting is fruiting in any one year.

Mowing with Primocane Suppression

The reduction in yield caused by alternate year mowing can be recovered over the short-term by removing all primocanes from the plant row during the fruiting year. The elimination of primocanes after they begin growth is called "suppression." After the first few flushes of growth are removed, primocanes eventually will be allowed to grow.

A system that involves mowing in one year, followed by primocane suppression in the second year, is truly biennial -primocanes grow without interference from floricanes, and floricanes grow without interference from primocanes.
Removing primocanes, however, is not easy. Dinitrophenol products can no longer be used, so growers must find other ways to remove primocanes until new products are developed. Some growers have reported success with Gramoxone, Scythe and Goal.

The advantages of this method are the ease of pruning when done in early spring, and a reduction in spray materials cost. Disadvantages are a reduction in yield over the long-term, since only half the planting is fruiting in any one year, and the cost of primocane suppression (labor, materials).

Primocane Suppression without Mowing

The highest long-term yields and largest berry sizes have resulted from a combination of selective floricane thinning and suppression of primocanes in late. If primocanes are suppressed when 6-8 inches tall, shading on the lower portions of floricanes is reduced. Harvesting is easier because smaller primocanes cause less interference. Primocane suppression has also been reported to increase hardiness.

Since there is less shading and fewer demands for water, fruit size and productivity of lower laterals are increased. Primocanes of vigorous cultivars can still grow to a sufficient height for adequate fruiting the following year.

Primocanes should not be suppressed until the planting is at least three years old. Primocanes contribute large amounts of carbohydrates to the bramble plant, and repeated suppression will reduce carbohydrate levels. Therefore, suppression should be skipped every third or fourth year to allow the planting to recover from the general reduction in vigor. Weak hills or sections of rows should not be suppressed at all.

There are conditions under which suppression of primocanes is not recommended. If a fruit crop load is particularly heavy, primocane growth may decrease naturally as developing fruit demands all the plant resources. Also, if primocanes are suppressed in regions with short growing seasons, they may be too short at the end of the growing season. Suppression is not recommended under the above conditions, or whenever the plant is stressed, such as from a lack of moisture or a nutritional imbalance.

Advantages of primocane suppression are: (1) increases in fruit size and quality, (2) increases in production, and (3) reduced cane numbers. Disadvantages are: (1) long-term reductions in stand vigor and (2) expenses involved with primocane suppression or elimination.

Partial Primocane Suppression

Yield and quality may be increased without suppressing all the primocanes in a planting. Removing all but 4 or 5 primocanes per linear foot of row will increase yield and fruit quality in floricanes of some cultivars.

For this method, growers select the primocanes in late spring which will be carried into the following year for fruiting. Rejected primocanes are cut to ground level when 8 inches tall. The raspberry plant uses resources for the current fruiting canes and the remaining primocanes, rather than for many primocanes which would eventually be removed.

Primocane regrowth is ignored until the dormant season when these short canes are removed. Advantages of this system are: (1) selected primocanes grow for an entire season instead of the partial season permitted in complete primocane suppression, (2) rejected primocanes are removed when small, succulent, and easy to handle, as opposed to large and thorny, and (3) fruit size and quantity of current season is increased. The major disadvantages are: (1) primocane selection is difficult when leaves are on the plant, and (2) suppression of undesirable canes requires much labor.

YEAR-ROUND MARKETING OF THE SEASONAL AGRICULTURAL ENTERPRISE- TIPS AND TECHNIQUES

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ell, here we are in the midst of the crazy midwinter conference season. Driving from one conference to another, you can spend a considerable amount of windshield time (a phrase meaning non-productive time in the world of sales) during this time of the year, and depending on your cell phone coverage and roads driven to meetings, you may have some time that you cant be in the barn, in the field or on the phone. You can make those miles productive and work to your advantage by taking the time to discuss and brainstorm ideas with your business partners. As a follow-up to the January 2006 Smart Marketing article, the focus of this article is around some specific year round marketing techniques, strategies and ideas for your farm that you can consider.

Keep in mind that good ideas do not necessarily have to be new. Very few true NEW ideas surface each year. Often a modification, improvement in delivery, or a little personalization of a strategy already in place can make it more effective for your particular business. The fact that these thoughts are discussed in this article means there could be more than one farm evaluating the same idea at the same time.

So, let's begin with some ideas for:

Promotional Materials

- Select a format for your direct mailing or print materials so that they will be read. Regardless of method, technique, strategy or message chosen, take the time to personalize it and tie it to your business. For example, if you send a personalized greeting card during the winter holiday season, it will more likely be opened and not thrown out with the junk mail.
- Design the delivery schedule and promotional materials to be appropriate and timely. This means knowing when it is vacation season, shopping season, tax season. Think back to the exercise equipment flyers that you received right around the first of the year to help you work off those extra holiday pounds. During this time of year, consumers are tired of the cold and dreary winter so many sale ads are featuring spring merchandise to appeal to our emotional needs.
- Consider varying slightly the look of the marketing materials you use to avoid looking the same and being screened as repeats and thrown away. However, be careful with this technique as you don't want to confuse your image and message in your customers mind.
- Utilize true greeting cards and have them mean something to your customer. You can send an anniversary card to your best customers on the date of their first encounter with your business and use your database to personalize it with the number of years they have been a customer. They will be surprised and delighted that you care enough about them to know these details.
- Remember that many of your customers shop your business for other than buying something. Share your agricultural life with them. You can send out postcards showing the life you take for granted on your farm, such as beautiful orchard blooms, or you or your employees working hard plowing, pruning, planting, weeding, preparing for harvest, or cleaning up after the season. A dairy farm can show cows walking in fresh show, new baby cows, or a truck picking up milk for the processor. Don't forget to make it human. You can also show customers how they can enjoy your product just before your season starts as a means by which you invite them back for the year. It reminds them of the great times they had and gives them something to look forward to.

Off-Season Promotion

- Develop a portfolio of value-added products that your customer can use throughout the year. This will extend your season and get your name in front of your customers more often.
- Participate in activities in your community during the off-season, such as county/regional tourism meetings, spring home shows, events at malls during Valentines Day, St. Patrick's Day, etc.

- Find ways to use your space during off-season. Maybe someone will want to rent it for parties, corn roasts, etc. If
 you have a particularly scenic setting, consider hosting weddings and events.
- Collaborate with your neighbors. Organize a county-wide local food tasting involving farms throughout your county or region. This could be in partnership with the tourism agency that supports your region.
- Become a speaker for social organizations, such as boy/girl scout meetings, fraternal organizations (Lions, Rotary, etc.) and garden clubs. These groups meet regularly and want new topics. Once in the talk show circuit, you will become famous, and they will find you.

Creating Excitement and Teachable Moments

- Start a serial newsletter detailing stories of your operation, the history of the farm and family, and information about your products.
- Do educational events such as apple, strawberry or cheese tasting, and yes, you can do it with vegetables such as broccoli, carrots and lettuce. You know there are different varieties with different tastes but your customers may not. It doesn't have to be exotic, maybe just a forgotten fruit or vegetable, such as rutabagas, turnips, etc.
- Look for free or relatively low-cost press opportunities. In my home town region of Michigan, we always looked forward to an annual auction of the first flat of strawberries for the year (it meant summer was here) by local farmers. The first fruit event doesn't have to end in an auction. It could include presenting the flat or fruit to the oldest person living in the county, to the county executive, a government official, etc. you get the idea.
- There are always the tried and true school tours and educational events. If you have camps close by, they might be interested in having an agricultural component in their offerings. Experience has shown it could be very rewarding when you help to turn on the light for a young farmer to be!! Moreover, can anyone with kids say that they haven't been heavily influenced by their kids when making some purchase decisions?
- Start a sign campaign by your fields explaining to those passing by what is happening in the fields during the growing season. Lots of people love the idea of farming, and you can help them tie themselves to agriculture. If you are using interesting harvest equipment, you might consider doing an event around it so customers can come and watch. Combining, potato digging and hay bailing can be very exiting for non-farm customers. Step outside yourself to see what others see and to see what you take for granted.
- Plant new or experimental crops/varieties and offer free tastings, or invite customers to stop in and monitor their progress with you.
- Cross-merchandise and market at other venues such as dig-your-own potatoes at pumpkin picking, u-pick fruit with spring lawn and garden sales, or Christmas tree operations with corn chowder tasting. This can be particularly effective if you have a neighbor who complements your operation. You both win.
- Participate in regional and statewide awareness programs that relate to your industry. One of the most successful exhibits at the Iowa State Fair included a pig birthing exhibit with a webcam that allowed the public to check in on the status of the mother-to-be and her piglets any time, day or night. Our local county fair has a cow birthing exhibit that has people running to see the magic event when word spreads around the grounds that the calf will make its appearance at any moment.
- Contests always seem to stir up excitement with customers, especially if they become personal and include their expertise such as a recipe contest where you can have customers take your product, make the recipe and bring it back for judging. Other fun events we have seen include cherry pit and watermelon seed spitting, pumpkin carving, corn shucking, and zucchini cannon ball.

Regardless of what you choose to try, there are some critical details to attend to; otherwise, your time, effort and money will be less effective. You need to keep your database up-to-date and accurate, and monitor and use the database regularly. Also, it is helpful to keep an historical database. Only sending material to last year's customers means you are missing a significant number of customers from prior years. You can survey past customers who don't come again to find out why they didn't return. Maybe there is something you are missing when evaluating your business operations that could be improved upon.

Above all, try to look for individuals, other producers, small businesses or organizations with whom to collaborate as many of these activities as possible to avoid burning yourself out. And finally, it is more effective to be creative and not necessarily expensive. If you can use your marketing resources (time as well as money) well, you can spend more resources on fewer efforts to do them right, rather than developing a lot of less effective efforts.

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Check out the NYSAES Tree Fruit and Berry Pathology web site at: www.nysaes.cornell.edu/pp/extension/tfabp

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