New York Berry News

CORNELL UNIVERSITY

Volume 07, Number 2 February 7, 2008

What's Inside

For those of you who were eagerly anticipating the article on blueberry nutrition listed in last month's "What's Inside", my apologies! I included the article in the index, but forgot to add it to the text...It will appear in next month's edition.

CURRANT EVENTS

February 12-14, 2008. *Empire State Fruit and Vegetable Expo – "Growing for the Health of New York"*. Oncenter Convention Center, Syracuse, NY. Program and registration information: http://www.nysaes.cornell.edu/hort/expo/. For general Expo information, please contact Jeff and Lindy Kubecka, New York State Vegetable Growers Association, 315-687-5734, nysvga@twcny.rr.com.

February 19, 2008. *Ontario Berry Growers Annual Meeting*, Four Points Sheraton, St. Catharines, Ontario, Canada. For more information: Kevin Schooley, 613-258-4587, or kconsult@allstream.net

February 20, 2008. *Ontario Fruit and Vegetable Convention: Berry Day*, Brock University, St. Catharines, Ontario, Canada. For more information: Kevin Schooley, 613-258-4587, or kconsult@allstream.net

February 26, 2008. *Introduction to Berry Growing*, Livingston County CCE, Mount Morris, NY. For more information: David Thorp, 585-658-3250 or dlt8@cornell.edu.

February 28, 2008. *The 2008 Hudson Valley Fruit Grower School - Berry Session*, Holiday Inn, Kingston, NY. Tree Fruit sessions will take place on February 26th & 27th. There will be a Trade Show on the evening of the 26th. Information will be made available at our web site (http://hudsonvf.cce.cornell.edu/calendar.html#fruitschool), or contact Steve McKay for more information.

March 6-8, 2008. *Professional Farmers Market Training Workshop***,** Rochester, NY. Scholarships are available for market managers to participate in Professional Farmers Market Training Workshops. Deadline for scholarship applications is January 15, 2008. For more information on the Professional Farmers Market Managers Training Workshop, call the Farmers Market Federation of NY at 315-475-1101 or log onto www.nyfarmersmarket.com/workshops.htm to view the workshop program, download the registration form and the scholarship application.

March 8, 2008. *Introduction to Berry Growing*, Ontario County CCE, Canandaigua, NY. See poster below for more information.

March 10, 2008. *Diagnosis, Visual Assessment And Management Of Plant-Parasitic Nematodes Of Vegetables And Small Fruit In The Northeast*, First united Methodist Church, Batavia, NY. Contact: Beth Gugino at (315) 787-2412 or bkg9@cornell.edu

March 25, 2008. *Berry Pest Management Workshop – Taking the Pain Out of Berry Pest Management* 8:30 am -4:15 pm, Jordan Hall Auditorium, NYS Agricultural Experiment Station, Geneva, NY. For more information: .Nancy Long, 315-787-2288 or npl1@cornell.edu.

NEW YORK STRAWBERRY AND BLUEBERRY PRODUCTION INCREASES

Strawberry production in New York was up 5 percent from 2006 to 4.60 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 $7.59 million, up 1 percent from the $7.48 million in 2006.

Table 1: New York Berry Yields

	Pounds per acre		
Kind	**2005**	**2006**	**2007**
Blueberries [1]	2,000	2,860	3,290
Strawberries	3,500	2,900	3,100

[1]Yield based on utilized production.

New York ranks seventh in strawberry production. Nationally, the strawberry crop for 2007 was placed at 2.50 billion pounds, up 4 percent from 2006.

Production of blueberries for the Empire State was at 2.50 million pounds. The 2007 crop is valued at $3.37 million, a 21 percent increase from $2.80 million in 2006. The U.S. estimate for blueberries is 283 million pounds, up slightly from 2006.

The combined value of New York's berry crop totaled $11.0 million. This compares with $10.3 million in 2006. The information in this release is available by free email subscription by subscribing to New York reports at http://www.nass.usda.gov/ny.

NEW DEER MANAGEMENT EXTENSION ASSOCIATE AT CORNELL

Dr. Jay Boulanger joined Cornell University Cooperative Extension in early December as a new Extension Associate working with deer management programs. Dr. Boulanger conducts white-tailed deer research and management activities with the Department of Natural Resources at Cornell University. He received a Ph.D. in Wildlife Science from Cornell University in 2007 and an M.S. in Wildlife and Fisheries Sciences from South Dakota State University in 2001. His research interests include human-wildlife conflicts, wildlife fertility control, wildlife disease, and human dimensions of wildlife.

Dr. Boulanger served six years as a Wildlife Biologist with the New York State Animal Health Diagnostic Center at Cornell University and three years as a Wildlife Specialist with USDA Wildlife Services. His past research has included surveys of archery and muzzle-loader deer hunters and the development of a bait station to vaccinate suburban raccoons against rabies. Dr. Boulanger is a Certified Wildlife Biologist with The Wildlife Society.

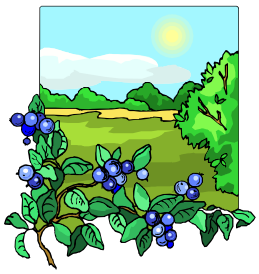
Contact information: **Dr. Jay Boulanger**, Extension Associate/Deer Program Coordinator, Department of Natural Resources, Cornell University, Room 106, Rice Hall, Ithaca, New York 14853-3001, e-mail: jrb69@cornell.edu

NYS BERRY GROWERS SURVEY UPDATE

Thanks to all of you that responded to the NYS Berry Growers Survey and for taking the time to give such thorough responses. We received surveys from all around the state with representation from a range of production systems, farm sizes, and experience.

We are very excited about the results and are looking forward to sharing them with you soon! The next step is to start the interview process. We will be contacting some of you who indicated you would be interested to set up a time to conduct the interview.

Thanks again for all of your participation!



Introduction to Berry Growing

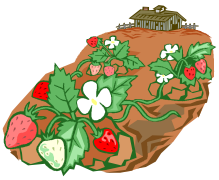
Saturday, March 8, 2008
8:30 am to 11:00 am
Cornell Cooperative Extension Center
480 North Main Street
Canandaigua, NY 14424

This workshop will be most useful to beginning berry growers and home gardeners. Strawberries, brambles, blueberries, currants and gooseberries will be included in the discussions.

Presenter: Cathy Heidenreich, Cornell Berry Extension Support Specialist
Department of Horticulture, College of Agriculture and Life Sciences, Cornell University

The workshop will cover keys to successful berry growing:

- •Marketing
- •Startup costs
- •Site selection
- •Preparation and layout
- •Cultivar selection and planting
- •Crop production and management
- •Labor and profitability



Topics include:

- •Nutrient management
- •Weed, insect and disease management
- •Trellising
- •Irrigation and more

Fee: $10.00 per family. To register or for additional information, contact Cornell Cooperative Extension at 585-394-3977 x 427 or 436.

Registration Form for Introduction to Berry Growing

Name: _____

Address: _____

City, State, Zip: _____

Phone: _____

Amount enclosed: _____

Make check payable to: Cornell Cooperative Extension
Mail to: Cornell Cooperative Extension
Berry Workshop
480 North Main Street
Canandaigua, NY 14424

NEW POSSIBILITIES FOR BLACK CURRANTS

Elizabeth Keller, Staff Writer, Communication Services, NYSAES Cornell University, Geneva, NY 14456

When Curt Rhodes of RH Rhodes and Sons, Inc. in Penn Yan, NY first contacted the New York State Food Venture Center (FVC) in 2004 for assistance with value-added black currant products, FVC director Olga Padilla-Zakour realized she had a unique opportunity. Black currants are making a comeback in New York after Congress banned then in 1911 as a contributing factor to the spread of white pine blister rust. In 1966, the availability of disease-resistant varieties made Congress relax its position and made lifting the ban a state issue. New York, once the number one producer of currants in the US, lifted the ban in 2003 through the efforts of Hudson Valley grower Gregg Quinn.

Working with the Rhodes family, Padilla-Zakour had an opportunity to encourage the reintroduction of black currants by creating formulations for value-added recipes that make the crop more profitable and offer alternative marketing options.

There were two serious challenges to overcome in processing the fruit. While Black currants have four times more vitamin C than oranges and twice the antioxidants of blueberries, they are high in acid and pectin, so formulations for jams, jellies, and dressings have to be altered and existing methods adapted to produce a quality product. These challenges were overcome and Rhodes has several new products to market and a co-packer to make them. The products were debuted at the 125th Anniversary Open House at the (Geneva Experiment) Station where they made a big hit.

The black currant craze is gaining momentum. Rhodes is selling his crop to wineries that use it primarily for blending. Through Padilla-Zakour, Rhodes also gained a link to Bellwether Hard Cider. Bill Barton, of Bellwether, wanted to blend black currant juice with his hard cider, but commercially available juice concentrate did not produce the desired results. Padilla-Zakour told put him in contact with Rhodes and the FVC produced a test batch of 100 gallons of fresh black currant juice for blending under the sponsorship of the NY Farm Viability Institute. “The difference in quality between concentrate and fresh pressed juice manufactured using optimal conditions is what makes the final black currants products so distinctive, full of flavor and color”, said Padilla-Zakour. The fresh juice worked like a charm, and Bellwether’s newest product, ‘Black Magic’ is one of their top sellers, going for $3 a bottle more than regular hard cider. Thanks to contacts like these, and through products formulated by Padilla-Zakour, Rhodes’ entire 2008 crop is already spoken for.

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A "BERRY" GOOD BEE FOR POLLINATING BLACKBERRIES AND RASPBERRIES

Marcia Wood, ARS News Service, Agricultural Research Service, USDA, (301) 504-1662

February 7, 2008. Bringing grains of pollen to waiting blackberry and red raspberry blossoms may be the special talent of a small, emerald-green bee called *Osmia aglaia*. That's according to Agricultural Research Service (ARS) entomologist James H. Cane, who--in outdoor experiments in Oregon and Utah--has studied the pollination prowess of this 3/8-inch-long bee perhaps more extensively than any other scientist.

The hardworking bee, native to Oregon and California, may help with pollination chores, augmenting the work of America's best-known crop pollinator, the European honey bee *Apis mellifera*. In recent years, hived honey bees across the country have been hit hard by a mostly mysterious condition known as colony collapse disorder. That problem--and others caused by mites, beetles, diseases and Africanized honey bees--has added even more urgency to the need to find proficient pollinators among America's wild native bees, noted Cane.

He's based at the ARS Pollinating Insect Biology, Management and Systematics Research Unit in Logan, Utah.

In one series of experiments, Cane showed that *O. aglaia* bees work quickly, visiting just as many red raspberry flowers, and nearly as many blackberry blossoms, as do honey bees, in the same amount of time.

Both kinds of berries are mostly self-pollinating, meaning that they can form fruit without the need for insects to bring pollen to them. But better berries result if honey bees or *O. aglaia* visit red raspberry flowers, Cane found. The plump, well-formed fruits were 30 percent bigger than those on red raspberry plants not visited by either bee species.

Read more about this research in the February 2008 issue of Agricultural Research magazine, available online at: http://www.ars.usda.gov/is/AR/archive/feb08/bee0208.htm

SIL-MATRIX REGISTERED FOR USE IN NEW YORK STATE

January 25, 2008. The New York State Department of Environmental Conservation has accepted Sil-Matrix (EPA Reg. No. 82100-1) for registration in New York State

Sil-Matrix contains 29% of the active ingredient potassium silicate and is labeled for use as a fungicide, miticide, and insecticide. Specifically, Sil-Matrix is labeled for the control of the fungal disease powdery mildew and for the suppression of mites, whiteflies and other insects on pome fruits, stone fruits, nut crops, berries, vine crops, vegetables (root, bulb, leafy, brassica, legume, cucurbit, and fruiting), citrus fruits, cereal grains, and ornamentals.

Additionally, Sil-Matrix is labeled for the suppression of gray leaf spot, brown patch, and dollar spot on turf.

Potassium silicate is an inorganic compound present in many natural systems in the environment. As such, it was classified as a biochemical pesticide by the Biopesticides & Pollution Prevention Division of the United States Environmental Protection Agency (USEPA). As such, PQ Corporation was exempted from the requirement of establishing tolerances for all crops treated with potassium silicate.

Sil-Matrix is to be applied as a broadcast foliar spray with maximum use rates of 10 quarts of product (7.5 pounds of active ingredient) per acre per application and 20 gallons of product (60 pounds of active ingredient) per acre per growing season.

PROMOTING LOCAL FOODS PAYING OFF, CU RESEARCH SHOWS

In northern New York, more food is going directly from farm to consumer, cutting out the middleman and saving thousands of miles in food shipments.

But, "there is tremendous room to grow the local share of the total food bill for New York's North Country region," says Duncan Hilchey of Cornell's Community and Rural Development Institute (CaRDI).

Hilchey, a senior extension associate, studies agriculture and food system indicators to set a comparative baseline for the North Country Regional Foods Initiative to use to evaluate anticipated growth of the local foods sector in northern New York.

"In 2002, the direct-to-consumer share of the total regional food expenditure of $936 million was almost $3.4 million -- that is only one-third of 1 percent of the total," Hilchey says.

His analysis of the latest U.S. Department of Agriculture Census of Agriculture shows that:

-- in 2002, 11 percent of northern New York farms sold directly to consumers, up from almost 7 percent in 1992, increasing direct-to-consumer farm sales to more than $3 million, up from $1.3 million;

-- From 1997 to 2002, the number of fruit and vegetable farms increased almost 6 percent in the North Country.

Furthermore, farms and farm stands participating in grant-funded promotions through one regional program, Adirondack Harvest, report 19 percent more customers on average and an average increase in gross sales of 16 percent compared with past years.

Farmers' markets reported similar numbers: 21 percent more customers, 17 percent more gross sales. And stores taking advantage of promoting local products saw a 10 percent increase in customers with 11 percent more in gross sales in 2007, says Kathryn Lang, coordinator of the North Country Regional Foods Initiative.

The numbers reflect a growing trend of buying locally and "going green."

"North Country agricultural producers also have growing opportunities for increasing direct wholesaling, such as selling to restaurants, resorts and colleges," Hilchey notes. "It is great to see innovative programs helping to make the links between the producers and buyers."

Chambers of Commerce and regional agencies have embraced the local products promotion effort that drove visitors to regional farms in 2007 for spring open houses at greenhouses and fall harvest season tours.

"As our society learns about the benefits of eating locally, they want to enjoy the 'local food experiences' of their destinations as well," says Carol Joannette, the Lake Placid/Essex County Convention and Visitors Bureau vice president. "By educating restaurants on the benefits of serving locally grown foods and by promoting the farmers' markets, we provide outlets for our visitors to experience the flavors of the Adirondacks, thereby enhancing their visit."

The North Country Regional Foods Initiative project team includes representatives of each Cornell Cooperative Extension office in northern New York and CaRDI. The team has a $60,000 federal Economic Development Administration University Center grant from the U.S. Department of Commerce.

(Reprinted with permission from: New York Ag Connection - 01/23/2008, located at: http://www.newyorkagconnection.com/.

SCHAFER SWORN IN AS SECRETARY OF AGRICULTURE

January 28, 2008. Ed Schafer was sworn in as the 29th Secretary of the U.S. Department of Agriculture (USDA).

Secretary Schafer brings a record as an innovative two-term governor of North Dakota to USDA along with extensive private sector experience as both an entrepreneur and a business executive.

Schafer served as North Dakota's governor from 1992 to 2000 and made diversifying and expanding North Dakota's economy, reducing the cost of government and advancing agriculture his top priorities in office.

He worked to normalize trading relations with China and develop that nation as an export market for North Dakota farm products. He also led efforts to upgrade North Dakota's communications infrastructure and make high-speed voice and data networks available to farmers, ranchers and rural businesses.

To expand the state's job base, he encouraged the growth of value-added agricultural industries such as pasta and corn sweetener manufacturing.

As governor, Schafer managed a state workforce of 12,000 people, oversaw a budget of $4.6 billion, and led the state's response to emergencies such as the severe floods that hit the Grand Forks area in 1997.

As chair of the Western Governors Association, Schafer led regional efforts to demonstrate how technology could improve the efficiency and lower the cost of delivering government services such as health benefits and food stamps. He also worked to make telemedicine more available and affordable in rural areas.

Schafer was elected chair of the Republican Governors Association in 2000 and that same year he co-founded and co-chaired the Governors Biotechnology Partnership to increase public understanding and support for the benefits of agricultural biotechnology.

He has had a lifelong interest in conservation and helped arrange the U.S. Forest Service's May 2007 purchase of the 5,200 acre Elkhorn ranch in North Dakota. The site was where Theodore Roosevelt had his home and operated a cattle ranch in the 1880s. It is near the preserved town of Medora-the state's leading tourist attraction.

Born and raised in Bismarck, North Dakota, Schafer graduated from the University of North Dakota in 1969 with a bachelor's degree in Business Administration and earned an MBA from the University of Denver in 1970.
Secretary Schafer's grandfather immigrated to North Dakota from Denmark and homesteaded land in Hettinger County that he turned into a wheat and livestock farm. Schafer spent summers there while growing up. He helped his uncles with chores, tinkered with engines and learned firsthand about agriculture.

Before entering public life, Schafer was an executive with the Gold Seal Company in Bismarck, a successful marketer of nationally-known consumer products such as "Mr. Bubble" bubble bath, "Glass Wax" glass cleaner and "Snowy Bleach." The company had been founded by his father, Harold Schafer.

Secretary Schafer joined Gold Seal after he earned his MBA and held a series of management positions with the company before becoming president in 1978. Under his leadership, Gold Seal's sales climbed to $50 million through acquisitions and new product introductions and its net worth tripled. It was sold in 1986. Schafer then went on to launch several new businesses, including a commercial real estate development company, a fish farm and a classic car dealership.

After leaving office in 2000, he co-founded Extend America, a venture capital-backed company, to provide wireless voice and high-speed data services to commercial and residential customers in five rural Midwestern states.

He also served as a director of the Theodore Roosevelt Medora Foundation that oversees the historic town's operations and became active in leading several other nonprofit and citizens advocacy groups in North Dakota.

Secretary Schafer enjoys the outdoors and his hobbies include bicycling, hiking, scuba diving and restoring classic automobiles. He and his wife, Nancy, have four children; Tom Schafer, Ellie Schafer and Eric Jones and Kari Jones; and eight grandchildren.

CLEANSWEEP NY 2008 SPRING PROGRAM

CLEANSWEEPNY is an Environmental Benefit Project, which provides environmentally safe, economical collection and disposal of unwanted or unusable pesticides, school chemicals, elemental mercury, and mercury-containing devices (e.g. manometers and thermometers).

CleanSweepNY also collects and recycles triple-rinsed HDPE plastic or metal pesticide containers from agricultural and certain non-agricultural entities. The NYS Department of Environmental Conservation administers the overall CleanSweepNY project, through its Albany, NY Central Office Pesticides Program. Funding for this environmental benefit project is administered by the Natural Heritage Trust.

To date, CleanSweep has collected and disposed of over 545,500 pounds of hazardous chemicals, more than 400 pounds of elemental mercury, and approximately 2,000 plastic and metal containers that could have wound up in landfills across New York State. CleanSweep results in enhanced stewardship of the environment, through improved management of those materials, which can pose human health risks upon exposure and a significant hazard to water resources.

A **SPRING 2008 CLEANSWEEP collection**, targeting *Nassau and Suffolk Counties*, will build on the success to date. The collection will occur during the week of March 31, 2008. Collection site locations will be posted at http://www.cleansweepny.org, when arrangements are final. Farmers who participated in earlier CleanSweep events are welcome to contribute unwanted pesticides in 2008. Holders of pesticides and materials specified above, who are located in other counties may also participate, if they transport their materials to the collection sites.

Accepted free of charge or at low fee. CleanSweep funding was originally earmarked for the benefit of New York agriculture. Farmers and former farm owners can bring unwanted pesticides to CleanSweep, at no charge and with no quantity limit.

CleanSweep also accepts, free of charge, 100 pounds or less of unwanted pesticides from these sources: •non-agricultural certified pesticide applicators; •retail establishments selling either agricultural, commercial, OR home/garden pesticide products, •schools, and •cemeteries. For those same holders, a nominal fee is charged for the following materials accepted at CleanSweep: each pound of pesticides above 100 pounds, any quantity of school chemicals and mercury. The rate will be substantially less than typical fees for privately negotiated, legal disposal (check website for updates).

NOTE: CleanSweepNY does *not* include homeowner participation. Information about household hazardous waste collections can be accessed at http://www.dec.state.ny.gov/chemical/8780.html.

PRE-REGISTRATION & INFORMATION. Pre-registration is **MANDATORY** to participate in CleanSweep. Spring 2008 Registration deadlines: March 3 for holders of unlabeled or unknown products, and March 14 for all other participants. Request a registration packet and information by telephone at 1-877-793-3769 or e-mail to info@cleansweepny.org.

Additional information on the Spring 2008 CleanSweep is also available by contacting pesticides program staff in DEC Region 1 (1-631-444-0340). To help make sure you are included in CleanSweep, please provide full contact information (company/school name, first name, last name, street, city, state, zip code, and phone number). NOTE: Information received by CleanSweep is confidential. There is no enforcement potential for any product turned in as part of this collection project. NO enforcement has been taken on any of the 1,143 registered participants in nine CleanSweepNY events since 2002.

Please participate and help properly manage unwanted pesticides and chemicals in the State!

EPA MOVES FORWARD TO PROPOSE A RULE REQUIRING PESTICIDE CONTAINER RECYCLING

January 25, 2008. EPA is moving forward to propose regulations that once finalized, would require registrants of agricultural and professional specialty pesticides to recycle plastic pesticide containers.

After careful deliberation and consideration of all possible options, the Agency is moving forward expeditiously with a proposed pesticide container recycling rule. Given the extensive time necessary for the rulemaking process, EPA is following an aggressive schedule that allows publishing the proposed regulations by the fall of 2008.

The Agency will provide the public a 60-day comment period on the proposed rule. For more information: http://www.epa.gov/pesticides.

SIMPLIFIED BLUEBERRY IPM FOR UPLAND AND SMALL ACREAGE BLUEBERRY GROWERS

Dean Polk, Professor and Statewide Fruit IPM Agent, Rutgers Fruit R&E Center, 283 RT 539, Cream Ridge, NJ 08514 and PE Marucci Center for Blueberry & Cranberry Research, 125a Lake Oswego Rd, Chatsworth, NJ polk@aesop.rutgers.edu.

More than a dozen arthropod pests and an equal number of diseases can attack highbush blueberries. Most wholesale commercial farms are located on porous soils with high organic matter, and shallow water tables. Since the blueberry is a native fruit, it is common for commercial plantings to be surrounded by wild blueberry pests, and other alternate hosts for pest that attack cultivated plants and easily disperse into commercial fields. This kind of movement affects insect pressure and IPM practices for such peats as cranberry weevil, blueberry maggot, sharpnosed leafhoppers, and aphids as well as disease pressure from blueberry stunt disease, and blueberry scorch virus. Most growers on upland soils, with diverse crop plantings have a slightly different pest complex. This is party due to the diversity of crops that are grown, the smaller and more isolated plantings, and different mixtures of plant species that may surround the farm. The most important key pests are those that can be found inmost areas where blueberries are produced. Those pests that are most likely to be found on smaller, diverse farms are discussed below in rough order of seasonal appearance.

Mummyberry – This is one of the most common diseases that can occur in blueberry production. There are 2 phases of the disease, primary and secondary infections. Overwintering mummies near the soil surface produce miniature mushroom-like cups (apothecia) in the early spring in which ascospores are formed. During infection periods, ascospores shoot up form the ground and land on expanding leaf tissue. As these leaves wilt form primary infection, conidia or secondary spores are formed. Infection periods and pollinators, which land on infected leaves, can carry the conidia to open blossoms thereby infecting the fruit. The infected fruit will 'mummify' and over time looks like a little gray pumpkin. Upon cutting the fruit open a white fungal mass can be seen developing in the fruit.

Scouting should start with ground examinations for mummies, especially in wet areas between the time green tissue first starts to show and ½" of growth. An average of one or more cups per bush usually indicates moderate to severe disease pressure. Primary shoot strikes should be scouted for prior to and during bloom. Looked for flagged, necrotic leaves. A dark brown to gray sporulation can often be seen on the leaf surface. The count can be based on 200 fruit clusters or approximately 2,000 fruit. Nothing for the season can be done at this point, but the information can be used as an

indicator where disease pressure may be highest during the following season. This would be similar to monitoring mummified fruit on the ground during the dormant period.

(Editor's note: Cranberry Weevil is currently not a problem in New York State. We included information on Cranberry Weevil from the original article as the sampling methods described for this pest may also be used in monitoring for other insects and diseases. It is also a good idea to be familiar with potential pests as insect occurrence may shift with changing weather patterns. Keep us posted if you see any of these in your blueberry planting...)

Cranberry Weevil – There are 1-2 generations per year in most of New Jersey and the Mid-Atlantic area. Adults are 1/16" long and brown, with a few white markings on the wing. The snout is about 1/3 as long as the body. Overwintering weevils disperse into fields from wooded areas, hedgerows, weedy areas, or debris early in the spring. The cranberry weevil is active on warm, sunny days. Females puncture a hole in the developing bud or flower, laying an egg inside. Both expanding buds and bloom may be heavily damaged. The larva develops in the flower and the adults emerge in the summer. Most activity occurs near field edges bordered by woodlands. Therefore monitoring should be concentrated on fields that border wooded areas. If weevils or weevil injury is found on field edges, sampling should continue into the interior of the field to define the area of weevil activity. Monitoring should start at bud swell, and continue through bloom, particularly on warm, sunny days. If monitoring on a cloudy day, concentrate on weevil injury. If the day is warm and sunny, look for both injury and adult weevils. Bud injury or presence of adults prior to bloom is particularly important to catch, since insecticides cannot be applied during bloom.

Cranberry weevil populations and injury can be recorded by examining 10 entire bushes and reporting the number of weevils per bush. Since this is a lengthy process, an alternate method is to use a 3 ft square beating tray beneath each bush, and beat half of each bush, catching all insects that drop. This should be done on 20 bushes, since only half of each bush can be monitored with this procedure. Blossoms and blossom clusters should be monitored for a number of pests at once. Use a 10 bush sample, and inspect 20 blossom clusters per bush. Examine 5 clusters on each of 4 shoots per bush. Sampling is done from the mid to upper areas of each bush. Data collected from each site is a composite from the data collected from all 200 clusters (about 2,000 estimated fruit), but is divided by 10 bushes for an average per 20 clusters. Most varieties range from 10+ berries per cluster, so a simple percentage of infestation may be calculated when needed. The percent of injured blossom clusters is reported. A blossom cluster is rated as injured if at least one blossom of the cluster has a weevil puncture. Treatment thresholds are set at 5 weevils per bush or 20% of blossom clusters (at least 1 injury or puncture per 5 clusters) with reported injury.

Leafrollers – While various species of leafrollers can occur at different times of the season, the first larvae or 'worms' are often seen during bloom, so they are dealt with here.

Redbanded Leafroller (RNLR) – RBLR pupae overwinter in leaf litter and trash. Adults emerge during the early spring before flowering, and deposit egg masses on bark and leaf surfaces. Adults have a wingspan of about ½", and have silver, gray and orange markings with prominent cinnamon colored band across each wing. Larvae are green with a green head and thoracic shield. Like other leafrollers, RBLR larvae produce a shelter made of spun together leaf pieces. During the early part of the season, these may be found on the tips of growing shoots, around developing blossoms or fruit clusters. First generation larvae feed on leaves and surfaces of young berries. There are 3 generations per year. The first flight can start in early April, with the second flight starting in mid June and peaking by the end if June to early July. The third flight usually peaks by early to mid August. Egg laying period occurs roughly at the same times as peak trap catches.

Obliquebanded Leafroller – Half grown larvae overwinter under bark scales, around the crown, and in other protected places. During the spring, larvae feed on developing buds, leaves, and berry clusters. Larvae are easily recognized. They are up to ¾" long and robust, with a green body, and a dark brown to black head capsule, legs and a prothoracic shield (just behind the head capsule). Larvae feed for several weeks before pupating at the feeding site. The first adults usually start to emerge by mid to late May, but may appear by late April. OBLR adults are larger than RBLR adults, and are tan with a darker band of tan to brown on the front wing. Eggs are laid on the foliage, and hatch after 1 to 2 weeks, depending on the temperature. Summer larvae are usually found from late June through July. Larvae feed on foliage and fruit. Second flight adults start to appear in late July to mid August, with larvae feeding briefly before finding overwintering sites. Larval habits and damage are similar to other leafrollers.

Fruittree Leafroller (FTLR) – This leafroller may be common during some seasons. The adult is rusty brown with gray and silver markings. Larvae are similar in appearance to OBLR larvae. However, the prothoracic shield is slight lighter in color and the larvae less robust.

Green Fruitworm (GFW) – There are several species which may appear in blueberries. The humped green fruit worm is the most common. Adults are large with a wingspan of 1.5". Larvae have a dorsal hump on the posterior end, are a medium shade green with a pair of lateral white stripes and many small spots extending the length of the body, which may be up to

1.5" long. Larvae may be found feeding in the growing shoots, or on the fruit itself, but do not tie leaves together with silk the way leafrollers do.

During pre-bloom to bloom, as well as other times when larvae are active, flower and fruit clusters can be monitored as previously described. Adults should be monitored with pheromone r=traps. During bloom and shortly thereafter, a treatment threshold of 1 larva per 100 clusters (or .2 per 20 clusters) may be used. Since damage is similar among most leafrollers, the treatment level is an aggregate for all the worms present. The only exception is Gypsy Moth, which is not a leafroller, and may be blowing in from surrounding trees if populations are high. Gypsy moth larvae should always be treated prior to attaining the third INSTAR LARVAKL STAGE, NO LARGER THAN ½ TO ¾". Past experience has shown that even 1 Gypsy moth larva per bush, especially the very young larvae, represents a high population.

Anthracnose – Usually considered a post harvest or even late season rot, the real problem occurs much earlier in the season. The fungus overwinters on twigs, especially bud scales. Most infections occur during bloom and on young fruit. Therefore, good fungicide programs are important during this period. The infection cycle is highly dependent on variety. 'Bluecrop' drops bud scales late, and is very susceptible to infection, and therefore needs a longer period of fungicide use. Post bloom sprays on other varieties have little value as long as the field is well managed and disease pressure is low. The most easily recognized symptom for scouting is infected fruit. Field counts maybe made using the 20 cluster x 10 bushes sample method (approx. 2,000 fruit – see cranberry weevil above), and record the percent fruit showing anthracnose symptoms. If infected fruit are seen during the early ripening phase, then additional fungicides applications should be made, and presence noted for an improved disease control program the following year. Fruit infections first show up as sunken areas, then progress into masses of salmon colored spores.

Fields may also be monitored prebloom and postharvest. During the dormant period a field can be assessed for its approximate risk to anthracnose and judgments made for potential use of fungicides in that field. Depending on the number of fields being monitored, collect from 10 to 100 shoots, about 18" long, per field. Mist them with water and enclose in a plastic bag. Maintain at room temperature for 2-3 weeks then remove and look for orange sporulation. Count the branch as positive if there is at least one sporulating lesion, and record the number of branches that have one or more sporulating lesions. Heavy disease pressure is indicated if at least 20% of the shots are positive. During harvest, collect at least one pint per field per picking. Incubate at room temperature in plastic clamshell containers for 7 days. Count berries with anthracnose symptoms and calculate the % infected fruit. Infected berries will have sunken areas with concentric rings of orange sporulation. The incubation method is more accurate, but both are used only as an indication of disease pressure for the following year, as well as an assessment of the current season's spray program,

Plum Curculio – Curculio are active once per season, but twice per season in the southeast. They overwinter as adults mostly in nearby woods. Adults become active in the spring when temperatures reach 50-60^{o}F for several days or 75^{o}F for 2 or more days. The spring flight is the most critical, when adults disperse into fields to feed on buds and developing fruit, mate, and lay eggs. Individual eggs are laid in holes eaten in the fruit. The female then makes a crescent shaped cut beneath the egg, which kills the tissue in that area and protects the egg. The grub spends the entire larval period in one berry, and then drops to the ground to pupate. Larval development is usually complete by mid July. Therefore, while any variety maybe injured, only early maturing varieties are subject to having grubs in harvested fruit. Most injury on later varieties simply causes fruit to prematurely drop. Injury is usually found along field edges, or in fields that border wooded areas. Weedy and brushy hedgerow areas also serve as alternate host sites for this pest. Sampling should be biased toward border fields of early maturing varieties such as 'Weymouth', 'Earliblue', and 'Bluetta'.

Cranberry Fruitworm (CBFW) – CBFW overwinters as a larva near the soil surface, pupates in the late winter to early spring, and usually starts to emerge by early May. During some years emergence may be as early as April, but generally coincides with the end of bloom and fruit set. Adults are small moths with gray-brown wings. Young adults have 2 white spots on each wing. Eggs are flat and white, and are laid in the calyx end cup of developing berries. Developing larvae usually move through 3 to 6 berries, leaving webbing and frass as they go. The frass hangs on, and is the distinguishing characteristic of its damage. Larval development is usually finished by the end of May to mid June, at which time they drop to the ground to spin a cocoon and pupate. There is one generation per year. Monitoring is done with pheromone traps and by monitoring fruit clusters for the presence of larvae or infested fruit.

Blueberry Maggot (BBM) – BBM overwinters in a puparium in the soil, and the adults emerge by early to mid June. Adults continue to emerge throughout the remainder of the season. After 7 to 10 days eggs are deposited on green or ripening fruit just under the skin. Maggot larvae hatch in 2 to 7 days, and develop inside the fruit for about 3 weeks. Infested berries are soft and often have a depressed area at the point where the egg was laid. Infested fruit may drop, where the mature larva emerges and pupates in the ground. The adult is about the size of a small housefly, with a small white to yellow mark on the back of the thorax and thin yellow to white bands across the back of the abdomen. The most distinctive characteristic is the inverted "W" or"M" pattern on each wing. Depending on the market there is low to"0" tolerance for maggot larvae in fruit. Therefore, most controls are directed towards the adult flies. Monitor with baited

yellow sticky boards hung in an inverted "V" in the top 6" of the bush canopy along field edges. Monitor at least once per week, preferably 2 times per week, and change the traps every 2 weeks.

General Monitoring with Pheromone Traps – Pheromone traps are used for leafrollers and cranberry fruitworm adults. Traps should be hung 6" to 8" above the bush canopy on poles that are bent at a 90° angle to serve as hangers. If trapping for several different insects, the traps should be at least 30' apart within a row. RBLR pheromone should be placed prior to bloom, while OBLR can wait until fruit set. Pheromone caps for CBFW should be replaced at petal fall. While attractant caps for RBLR and OBLR should be changed every 6 weeks, only a single placement is required for CBFW, since there is only one generation per year.

Sources for Scouting Supplies – Distributors, Dealers, and Manufacturers -

- Phero Tech, Inc. 7272 Progress Way, Delta, BC Canada V4G 1E9 800-665-0076 , www.pherotech.com
- Scentry Biologicals, Inc., 610 Central Ave, Billings, MT 59102, 800-735-5323, www.scentry.com
- Suterra, LLC., 213 Southwest Columbia St., Bend, OR 97702 866-326-6737, www.suterra.com
- Trece, Inc., 7560 Highway 28 West, P.O. Box 129, Adair, OK 74330, 866-785-1313, www.trece.com
- Great Lakes IPM, 10220 Church Rd. NE, Vestaburg, MI 48891, 800-235-0285, www.greatlakesipm.com
- IPM Tech. Inc., 4134 N. Vancouver Ave, #105, Portland, OR 97217, 888-476-8727, www.imptech.com
- Gempler's, P.O. Box 270, Mt Horeb, WI 53572, 800-382-8473, www.gemplers.com
- AgBio, Inc., 9915 Raleigh St., Westminster, Co 80031, 877-268-2020, www.agbio-inc.com
- ISCA Technologies, Inc., P.O. Box 5266, Riverside California 92517, 951-686-5008, www.iscatech.com

Further Reading:

- Cornell Pest Management Guidelines for Berry Crops, http://ipmguidelines.org/BerryCrops/
- The Mid-Atlantic Berry Guide, www.pubs.cas.psu.edu/FreePubs/pdfs/agrs97.pdf
- The Blueberry Bulletin, www.njaes.rutgers.edu/pubs/blueberrybulletin
- Michigan State Blueberry Information, http://web1.msue.msu.edu/fruit/blueberry.htm

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NYS COUNCIL ON FOOD POLICY LENDS AN EAR

Laura McDermott, Berry Extension Support Specialist, Eastern NY, Cornell University's College of Agriculture and Life Sciences, Department of Horticulture, based at Washington County CCE, Hudson Falls, NY

On Tuesday, February 5th , in conjunction with the Farm Bureau lobby day, the NYS Council on Food Policy held it's first of 6 sessions at the Capitol Building in Albany. I was pleased to be able to read a statement prepared by the NYS Berry Growers association, and hope to encourage readers to participate in other sessions that will be held around the state this spring.

The Council has been tasked by Gov. Spitzer with coordinating current state agriculture policy and then developing new food policy that will ensure safe, fresh, nutritious and affordable food for all New Yorkers, especially low income residents, senior citizens and children. The Council will also be looking at ways to increase sales of NY agricultural products to NY consumers. This last task will hopefully encourage the council to recommend funding for the NYS Berry Growers as they attempt to garner support for logo development and consumer awareness campaigns.

At this first listening session the NYS Berry Growers were joined by the NYS Wine and Grape Council and NOFA-NY as the only three grower organizations speaking. The rest of the speakers included representatives from CSA farms, Honest Waite food coop, Capital District Community Gardens, several farmers and individual citizens.

The speakers' requests ranged from specific, such as lowering the gross sales minimum for Ag assessment on property and encouraging a country of origin labeling policy to more general concerns about eliminating "food deserts" in rural and urban low-income areas. "Food deserts" are places that have no access to supermarkets or other year-round food stores. Low income urban areas often fall into this category as do small rural villages. Residents are forced to drive 20-30 miles one way to gain access to food.

Additional concerns included education of consumers about food prep, food purchasing, nutrition and food safety. Environmental impacts of farming were also a concern of several speakers.

The four key issues that the council is examining are issues related to the following:

- Maximizing participation in food and nutrition assistance programs.
- Strengthening the connection between local food products and consumers.
- Supporting efficient and profitable agricultural food production and food retail infrastructure.
- Increasing consumer awareness and knowledge about healthy eating and improving access to safe and nutritious food.

Members of the council come from a variety of food system backgrounds. Included are a few people that growers will recognize immediately - Diane Eggert, Executive Director of the Farmers Market Federation of NY; Dr. Susan Henry, Dean of CALS, at Cornell University; Julie Suarez, Director of Public Policy for NY Farm Bureau; Sen. Catharine young, chair of the Senate Ag. Comm. and Patrick Hooker, the Commissioner of the Dept of Ag and Markets. There are also members that are dietitians, food bank coordinators, representatives from groups working to help consumers, business, and the poor.

I urge you to be pro-active if you are interested in New York Food Policy. Attend a listening session. Speak for your industry or express your own concerns. Be prepared to do this in less than 5 minutes and provide a written copy of your statement.

Upcoming sessions will be in Syracuse at the Empire Expo in the OnCentre on Feb. 14th from 11-1pm; in NYC on April 3 at Dept. of Health on 90 Church Street from 10-12noon and then 2-4pm; in Binghamton on April 11th at the Broome County Cornell Cooperative Extension office, from 2-4pm; at the Food link Food Bank in Rochester on May 5th time TBA, and then in Long Island in May, location, time and date TBA.

If you cannot attend any of these sessions you may still email your statement to Mary Ann Stockman at mayann.stockman@agmkt.state.ny.us or call her at 518-485-7728 for additional information.

For more information about the work that NYS Berry Growers are doing on the behalf of the berry industry, contact Paul Baker at goodberries@roadrunner.com or call him at 716-754-4414.

PROVIDING SUMMER-LONG BERRIES FOR 'LOCALVORES'

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We have noted an increasing demand and eagerness to pick berries of all kinds and colors at our farm in recent years. A major dictionary publishing company declared their new word for year 2007 to be 'Locavores or Localvores': People who avidly support local production and marketing of food near their community by their purchases of it. This trend is widely evidenced by an increase in sales at local farmers markets, U-Pick enterprises and retail on-farm markets.

It seems to us that more and more Americans are now getting the message being presented by our government, medical and nutritional researchers and horticulturists: Berries of all types are good for your health! The more varied the colors the better, to increase the range and types of antioxidants plus dietary fiber and potassium. An ancient philosopher wrote "you are what you eat". Now, nutritional scientists have proven it so! Also, our public schools are going towards more healthy meals with less fat, more fruits and vegetables for our children, great news for our berry, tree fruit and vegetable growers! An example of berries being more visible to the public while they are shopping: Look at cereal boxes in supermarkets. Many have very attractive color photos of raspberries, blueberries, blackberries or strawberries on the box fronts showing them atop a cereal bowl as serving suggestions. We note that a cup of raspberries on cereal, such as from our freezer from which we eat all year long, contains only 52 calories while adding 7 grams of dietary fiber plus 151 mg of potassium! Figures are very similar for one cup of blackberries, one cup of blueberries or one cup of strawberries, greatly increasing the nutritional power of a mere bowl of breakfast cereal. Consumers are getting this message!

Here at our U-Pick farm featuring blueberries, blackberries, late summer primocane raspberries (red and yellow) and seedless grapes (red, white and blue fruit colored varieties), plus retail sales of fresh green asparagus, we now offer season-long production of 6 colors of berries and vegetables. Our season begins about mid-April to mid-June with asparagus, then into U-Pick blueberries from mid-June to early August; blackberries begin in early August and pick until mid-September; seedless table grapes pick through the month of September, primocane raspberries begin in early August and pick continuously until early October. *Note*: Due to increasing customer demand for more blueberries, we have recently completed new plantings of blueberries that will pick from mid-June until early October, ripening continuously in

succession through the summer, by selecting an array of early, mid-and late season ripening varieties now available to growers.

Another trend we note is the high percentage of lean, fit and trim, health-conscious folks who come to pick. They are eager to sign onto our berry pickers' list-serve to notify them when our various berries are in season and for instant updates on picking schedules. This direct communication with our customer base has totally replaced our use of expensive newspaper ads and all other forms of media advertising, saving us several thousand dollars each year in advertising costs! Our 'Localvores' tell us they consider our U-Pick berries to be a great service to our community, which makes us feel honored to be able to provide this service and encourages us to continually strive to improve our production for them.

We growers need to make plans to increase our variety of offerings to meet this rising consumer demand for all types and colors of fresh berries! For example, in this region, I sincerely believe there should be at least one season-long, multiple berry crops grower near every town and city. Look at my home state of Virginia, for example: There are over 1,100 towns and cities listed in our official state highways map, some small, some large, but only a pitifully small number of strawberry, blueberry, blackberry and raspberry farms exist in this state. To me this makes no sense in this rapidly urbanizing region of increasingly health-conscious (read berry conscious) citizens! Traditional farming enterprises are time-honored here, but I believe it is high time for more farmers to consider these new crop opportunities driven by consumer interest in healthy eating!

Note: Berries farming, to offer consumers season-long varieties and types of berries harvested in succession from spring into early fall, is a full-time job, not a part-time or "supplemental" enterprise. Please plan to give focused, full-time management and operational effort to this business. Where can traditional or non-berry growing farm families find the needed information to learn the nuts and bolts details of berry crops production/marketing they must have to transition into successful berry enterprises? I believe that our berry growers' associations such as we have assembled at this convention must take a major responsibility to catalyze change by recruiting more farm families to learn about and enter this business of berries production!

An excellent example of such efforts by berry growers associations is the educational conference such as this that specializes in providing information on berry crops. Such conferences bring together interested farmers as well as experienced berry farmers, industry suppliers and research/extension berry workers presenting and exchanging ideas and information including latest research results to benefit our berries industry. Such meetings are "complete buffets" for the mind and soul of berry growers and those wanting to learn how to grow berries successfully. Making such educational buffets readily available and widely publicized to county and area Extension Agents and their administrators serve as valuable agent in-service training to provide them resources to work with their clientele awakened to berries growing/marketing potentials.

To stay in the educational, informational and social loop of berry crops growers, a vital step that more growers and supporting industries must take is to join and support berry grower's organizations dedicated to improving the berry crops industry of growing and marketing these tasty, nutritious crops. For example, if your interest is in growing and marketing raspberries and blackberries, you should consider joining The North American Raspberry and Blackberry Growers Association (NARBGA). Contact www. raspberryblackberry.com or email nabga @mindspring.com.

For strawberry growing interest, you should consider joining the nationwide strawberry growers association, The North American Strawberry Growers Association (NASGA). Contact info@NASGA.org. In the Southeast region, an example of a fine regional strawberry growers meeting is the SE Strawberry Expo, held annually sponsored by the NC Strawberry Association, the North Carolina Department of Agriculture, NCSU Cooperative Extension Service and other cooperating Land-Grant universities in the states of South Carolina, Georgia and Virginia. Contact ncstrawberry@mindspring.com.

If your interest is in blueberry farming, you should consider joining the national US Highbush Blueberry Council (USHBC), contact www.blueberry.org. In the southeast region, an excellent growers' meeting is held annually by the NC Blueberry Council in cooperation with NCSU Extension blueberry specialist, Bill Cline. Contact www.ncblueberrycouncil.org. Also, this convention features excellent blueberry educational information and speakers, as do blueberry educational meetings in many states such as Georgia, Florida, New Jersey, Kentucky, Michigan, Oregon, and others. Check with your state land-grant university for berries information and berries educational meetings for your area.

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RECENT AND PAST FOOD SAFETY INCIDENTS – WHAT WENT WRONG?

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The Center for Disease Prevention and Control estimates that each year foodborne illnesses result in 76 million cases of illness; 325,000 people hospitalized, 5,000 needless deaths and economic losses between 10 and 83 billion dollars in the United States. The United Nations World Health Organization estimates that 130 million Europeans suffer from foodborne illnesses each year, which is 15% of the population. These are not just from produce, but all sources i.e. meat, eggs, fish, etc. There have been 8,040 reported illnesses related to produce from 1996 to 2005. The Food and Drug Administration (FDA) estimates that for every illness reported approximately 40 go unreported which translates to 321,600 illnesses.

Seventy-one produce outbreaks have been reported between 1996 and 2006 with five commodity groups making up 76% of the outbreaks (lettuce/leafy greens-30%, tomato-17%, cantaloupe-13%, herbs-11%, and green onions-5%). Other crops implicated in the outbreaks include cabbage, berries, mango, almonds, green grapes, snow peas, squash, and sprouts.

The following is a partial list of outbreaks:

1996-97	2,400 people sick from *Cyclospora* in Guatemalan raspberries
March 1997	Michigan students and teachers contract Hepatitis A from Mexican frozen strawberries
2000-02	Four *Salmonella* outbreaks from Mexican cantaloupe kill 2 people and hospitalize at least 18
October 2003	Two die and 16 sick from E. coli-tainted spinach in California
November 2003	Three die and at least 650 cases of Hepatitis A from Mexican green onions
May 2004	13 million pounds of raw almonds recalled after 8 cases of *Salmonella* were reported
June 2004	12 cases of Salmonella in sprouts
July 2004	429 cases of *Salmonella* from tomatoes on deli sandwiches
	September 2005
September 2005	Dole Fresh Vegetables recalls bagged salads after 2 dozen people contracted *E. coli*
September 2006	An *E. coli* 0157:H7 outbreak in spinach grown in California affected the whole produce industry when the FDA recommended that consumers not eat spinach
September 2006	Carrot juice infected with botulism
November 2007	Tomatoes contaminated with Salmonella grown in the Eastern shore of Virginia
November/December 2006	71 illnesses and 53 hospitalized from shredded lettuce contaminated with *E. coli* 0157:H7 at Taco Bell restaurants
December 2006	Curly spinach grown in Texas with *E.coli*
December 2006	81 illnesses and 26 hospitalized from shredded lettuce contaminated with *E. coli* 0157:H7 at Taco John

There are few organisms that are responsible for most of the outbreaks. According to the United States Food and Drug Administration from 1996 to March 2007, twenty-one outbreaks were attributed to *E. coli* 0157:H7; 28 to *Salmonella* sp.; 16 to *Cyclospora*; 2 to Hepatitis A and 2 to *Shigella*. *E. coli* 0157:H7 and *Salmonella* sp. mainly come from animals while *Cyclospor*a, Hepatitis A and *Shigella* come from humans. When they tracked outbreak sources 28 outbreaks were domestic, 19 foreign, and 23 unknown.

What went wrong at times is hard to determine. As mentioned in the previous paragraph, 23 of the confirmed outbreaks were from an unknown source. Unless the source can be identified, what caused the outbreak cannot be determined. The spinach *E. coli* 0157:H7 outbreak in September 2006 is an example of where the source could be determined with cooperation among the various local, state and federal agencies. Bags of spinach were found in refrigerators form individuals who were sick. *E. coli* 0157:H7 was identified from the samples and traced to three fresh processing firms in California. It was determined which ranches provided produce to the packing firm on the day when the refrigerator samples were packed. The response teams collected 900 environmental samples (water, soil/sediment, cow and wild pig feces, field product and finished product) from four ranches.

What were the results? *E. coli* 0157:H7 was found on all four ranches and cattle feces were found in three of four; nine isolates from one ranch were indistinguishable from the outbreak strain (1 stream water, 1 wild pig and 7 cow feces). The ranch is primarily a beef cattle operation that leases land for crop production. A stream runs through the property and includes riparian areas where wildlife resides. Well water is used for irrigation, but the well is shallow and is located in a slight depression. Finally, a large population of wild pigs is located in and around the ranch. So the outbreak was narrowed down to the possible sources- water, cattle, pigs or a combination. The exact source was not identified. This process could take from weeks to months. In the spinach case from the time a person ate contaminated spinach until the case was confirmed buy “DNA fingerprinting” took approximately 23 days. Remember this was a case where almost everything fell into place in a short time!

Food safety is everyone's responsibility whether you are a farmer, shipper or consumer. What goes wrong in a foodborne illness outbreak can be anyone's fault. Growers are more and more being pulled in to the food safety arena and must be actively involved. Prevention is the key to reduce contamination. Growers cannot control all aspects of food safety but they can lower the risk to their operations by implementing preventative measures.

1. **Water** – Water can carry many organisms such as *Escherichia coli, Salmonella* spp., *and Shigella* spp. And Hepatitis A. Know your water source. Drinking water, such as municipal water, is considered the safety source. Ground water is better than surface water which may be contaminated at any time during the year. Water is one of the first and last things to come into contact with produce. Make sure the source used is not contaminated from livestock operations or sewage treatment facilities. Water sources should be sampled at least yearly to determine if a microbial problem exists. Test surface water more frequently (spring, mid summer and at harvest).

2. **Worker Hygiene** – Some past outbreaks of foodborne diseases have been traced to poor worker hygiene. The Occupational Safety and Health Act mandates that growers need to have restroom facilities in the field when working more than ¼ mile from another restroom. The facility must have soap, fresh water and single use towels for hand washing and washing stations must be outside the portajohn. Having these facilities does not mean they are properly used. Workers must be trained on the reason for and proper use of the facilities. Training may be done on a one-on-one basis or as a group as the season begins. Positive reinforcement throughout the season is critical.

3. **Manure and Municipal Biosolids** – These are potential sources for *E. coli* 0157:H7, Salmonella and other pathogens. Manure and biosolids including slurries and teas must be managed to ensure produce does not come contaminated. Fresh manure should be incorporated at least two weeks prior to planting or at a minimum of 120 days before harvest. Manure and biosolids are best applied to agronomic or perennial crops. If composted manure is used, it must be properly composted to reach the correct temperature to kill pathogens. Composted material; must be protected from recontamination and an analysis for pathogens is recommended prior to application.

4. **Field, Facility, and Transport Sanitation** – Clean and sanitize all equipment prior to harvest. This includes previously used bins and containers. Make sure all animals are excluded from the packing area. This is a difficult task if the packing shed has large overhead doors, but at least keep the building closed at night so birds do not roost and rodents are excluded. The packing shed and storage areas should be cleaned and sanitized on a regular basis. When using water to clean or cool produce check for the proper concentration of the disinfectant on a timed basis. Maintain the cold chain once the produce is cooled to reduce the opportunity for pathogens to grow. Sanitation is critical whether the produce is delivered to the roadside stand, processing plant, or loaded on a truck for shipment. Inspect the truck for cleanliness, odors, obvious dirt, or debris. Make sure the refrigeration unit is working properly and the field heat has been removed from the produce before loading. Units on trucks are designed to maintain temperature, not remove field heat. If more than one product will be in the truck, avoid incompatible refrigeration requirements.

5. **Traceback** – The FDA would like a program that will make it easier to trace a package from the field to the consumer. FDA would like documentation on the date of harvest, packing date and farm identification.

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IS THIS SAFE TO EAT? –HANDLING TOUGH QUESTIONS FROM THE PRESS AND PUBLIC

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An improper response to questions from the media can hurt more than your pride, it can hurt your business. In my eighteen years of working with growers and colleagues, I have seen businesses negatively impacted from seemingly logical responses to questions from reporters. For example, during the droughts in our state in 1999 and 2002, farmers were interviewed for newspapers and television. Some growers responded it would be a very difficult year and they were concerned that yields and profits would be reduced by the drought. The consumer reaction to the interviews was not one of sympathy, they started shopping elsewhere. Consumers' interpretation of the media coverage was that the quality of local products was reduced due to the weather. Some direct marketers lost a great deal of income due to public response to negative press coverage.

In the past two years, food safety has become a major topic for media coverage and in turn has sparked major concerns by the public. These concerns translated in to major economic losses for many spinach growers in 2006, as consumers

changed their purchasing behavior. As a result, some people stopped buying spinach during the crisis, regardless of the origin of the product and were frightened away from buying spinach, long after the crisis was over.

(Picture by William T. Hlubik, Rutgers University 2007).

Figure 1. *Farmer Jim Giamarese, of East Brunswick, NJ being interviewed by ABC for a segment on food safety in the spring of 2007. Jim emphasized all of the practices he uses on his farm to maintain high quality standards and assure safety of local products. Bill Hlubik works with local growers to help them prepare for upcoming interviews.*

Although the spinach *E. coli* crisis occurred in California, the reverberations were felt throughout the nation as sales plummeted. In our age of instant media communication, the day after the outbreak, the issue grew into a major story that thrust reporters onto local farms throughout the country to question the safety and quality standards for local farm products. The responses from local farmers and other agricultural professionals played a major role in calming or inflaming the concerns of consumers over the safety of local produce. Some farmers chose to ignore reporters. Refusing to be interviewed or being evasive during interviews, gave the impression that growers had something to hide. Brave souls that were interviewed in our county worked together with Cooperative Extension to prepare for questioning by the media.

Growers should seize the opportunity to assure consumers that their produce is safe and healthy. It is very important for growers to establish and maintain appositive relationship with their local community and especially their customers.

The following are some tips to help guide growers through a successful interview with a reporter.

1. **Accept the Challenge** – Don't be afraid of being interviewed by reporters. No one can tell their side of the story better that those directly affected by it. You can depend on your Extension agent for guidance when dealing with the media.
2. **Be Prepared** – Gather as much information about the topic to avoid being taken by surprise. Know what is going on locally and nationally with the topic at hand.
3. **Stay Focused** – Be ready to emphasize key positive points that you would like to focus on and be ready to redirect questions to emphasize those key points. Prepare key "sound-bites" that can be used repeatedly to direct the focus of the interview on positive aspects of your farm management practices.

4. **Stay Positive** – Reporters often want to sensationalize the negative or emotional aspects of an issue to attract readers. Growers are often too willing to provide information to support the gloom and doom aspect of the story. Stay positive and confident in your ability to produce high quality farm produce that you are proud of.
5. **Avoid the Blame Game** – Don't be pulled into blaming others for the problems at hand. Talk from your own perspective and stay on topic with the things that you have control of on your farm. For example, if reporters ask about why USDA or other agencies have not done more to help resolve the problem at hand, focus on the positive things that are being done and the fact that our food supply is the safest in the world.
6. **Put Yourself in Their Shoes** – Be aware that during instances such as E. coli contamination, parents are concerned about the health of their families. In the case of the bacterial outbreak on spinach in 2006, three people died from eating contaminated product. For consumers, this is a risk beyond their control and one that is unnecessary.
7. **Set the Stage for the Interview** – Before reporters appear at your farm, select a location and surroundings that helps to emphasize positive aspects of your farm practices. For instance, during the spinach crisis, we selected an area for television interviews that was near a beautiful field of spinach yet to be harvested. Nearby was an irrigation system that drew its water from an underground well that was tested annually for water quality. This helped set the stage for a positive interview.
8. **Be Clear and Genuine** – Reporters and the public can easily sense if interviewees are genuine in their responses. Maintain clarity in answering questions and be honest if you do not know the answer to a question. An honest and heartfelt approach to an interview can really help to get your message across to the public. Use positive emotion to drive your key points home.
9. **Avoid Providing Too Much Information** – Sometimes reporters will keep asking the same question over in different ways until they get the answer they want. You may be tempted to provide more and more information about the subject at hand but this could lead to an off the wall comment dominating the whole interview. Too much information is never a good thing during an interview. Remember you are in control and you can simply repeat the point you need to emphasize in the interview.
10. **Practice** – If possible, practice answering interview questions with friends or relatives before the reporter arrives. This will give you a chance to practice and hear your responses before the reporter arrives in order to emphasize your main points.

Always On Camera – Don't think that because the reporter says the camera is not rolling that you are free to say what you want. One of our specialists was told he was off camera and was casually talking to the reporter about food safety. Little did he know that the camera was still rolling and they used his supposedly off-camera comments for the final cut. Lesson learned- assume the camera is always rolling and that anything you say to reporters can be used by the media.

(Reprinted with permission from: 2008 Mid-Atlantic Fruit and Vegetable Convention and North American Berry Conference Proceedings, January 29-31, 2008. Hershey, PA.)

RAILEX FACILITY BRINGS NATIONAL FOOD DISTRIBUTION SYSTEM CLOSE TO HOME

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Last winter, several groups of Eastern NY farmers and Ag professionals toured the Railex LLC facility located in Rotterdam, NY – right near the Price Chopper warehouse. Rotterdam is a suburb of Albany, located near the juncture of Rt. 88 and Rt. 90. The growers and extension agents were interested to see this facility because it posed some obvious market threats, but it was rumored that Railex was interested in providing new market options for eastern US growers.

The Railex LLC is part of a larger distribution company called Ampco Distribution Services Management LLC. Railex is the actual rail and road transportation company that works with Union Pacific and CSX Transportation to provide fresh produce to grocery retailers all along the east coast. This produce comes primarily from the Pacific Northwest, but also Alaska and Asia and includes other perishable food items like seafood and, very occasionally, wood products.

The Rotterdam facility joins other transportation hubs in Nova Scotia, ME, PA, NC, GA and FL. The facility in Rotterdam includes a 200,000 sq ft., state of the art, refrigerated storage and packaging warehouse. Additionally, upgrades were done to the rail system itself to allow room for a 55-car train to dock and unload and load in a protected structure. This train is nearly a mile long and carries 5500 tons of produce, more than 220 truckloads. The "bullet " train will take only 4-6 days to make the journey across the country as it has been given a high-priority Z-train symbol. It is the first train of its kind on the Union Pacific system to be so designated. This train will cross the country at least once a week, with plans to

add a second train by early 2009. The first train arrived on October 22nd, 2006 after leaving Washington on October 19th. Railex estimates that the train will save 84,000 gallons of fuel per week, approximately 5 million gallons for the entire year.

Speed and volume of this distribution system is amazing, but the revolutionary aspect of the facility is the loading and unloading process. During our tour, Railex officials demonstrated how the Rotterdam facility and its twin in Wallula, Washington, which is located near Pasco, minimize temperature fluctuations and physical handling damage to the produce. On one side of the 1500 foot long warehouse, truck doors connect to cold storage rooms and a packing room. On the other side of the cold rooms, so that they move directly from the box car into storage, is an unloading dock that can unload 14 rail cars at one time – the entire train can be unloaded in less than 24 hours. The train stays intact through the entire journey and during the loading and unloading, another major difference from traditional rail shippers. This means that produce is not disturbed during the switching process. The box cars even have a leveling system so that loaders don't jar the palletized product as it moves out of the train onto the dock. All of the train management at the two distribution centers is handled by Frontier Rail Corp.

I found this tour absolutely fascinating, a concrete example of the efficiencies and technology involved in our food system. The tour clarified the challenges we have in prioritizing a local food movement. Still, the growers that were in attendance did not see the Railex facility as an immediate threat to their business. One potato grower was going to investigate the option of using the local Railex truck distribution along with their storage facility for a more predictable means of getting deliveries done up and down the Hudson River corridor. A maple syrup producer planned to talk with neighboring producers about pooling stock and sending a shipment west. Railex officials made no bones about it – they are looking for produce first, but almost anything to fill those boxcars as the train makes its return across the country will be important to the economic success of this venture.

If you are interested in touring this facility, there is an opportunity on the afternoon of March 10th. This is a pre-conference tour, but if people are interested in just the tour, that might be a possibility. The conference is on March 11-12 and is the North East Cooperative Annual Leaders Forum. This meeting offers an excellent opportunity to learn more about current strategies of cooperatives and interact with cooperative leaders from across the region. More information on the conference, tour and registration can be obtained at http://cooperatives.aem.cornell.edu/. If you have additional questions about the tour, please contact Brian Henehan at bmh5@cornell.edu.

To contact the Rotterdam Railex facility directly, call 518-347-6040 and ask to speak to an account representative. Remember that this firm offers access to truck distribution throughout the northeast as well as further flung possibilities. They are eager to talk with growers about how Railex might fit into your current or future distribution plan.

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