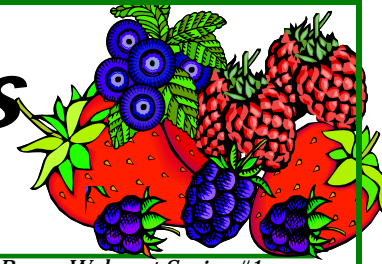




New York Berry News

CORNELL UNIVERSITY



Volume 08, Number 8

August 13, 2009

What's Inside

1. Currant Events

- a. NE IPM Berry Webcast Series
 - b. Raspberry High Tunnel Field Day and Demonstration
 - c. CCE Chautauqua Small Berry Walk
 - d. Hardy Kiwifruit Open House
 - e. New York State Farmers' Direct Marketing Association to Join Empire State Fruit and Vegetable EXPO
 - f. NASGA's Annual Meeting at Great Lakes EXPO
 - g. Gender Evolution in Strawberries
 - h. NYS Requests Assistance for Crop Losses
 - i. New Blueberry Plant Diseases Confirmed in Michigan
 - j. Farm Production Costs Increase
 - l. HHS Secretary Sebelius, Agriculture Secretary Vilsack Announce New Strategies to Keep America's Food Supply Safe
 - m. Update on CNAL Transition to Dairy One
2. The Time to Plan for Next Year's Planting is Now! – Steven McKay
3. August Berry Barometer – Cathy Heidenreich
4. Organic Strawberries at Pleasant Valley Farm – July 2009 – Sandy and Paul Arnold
5. Berry Growers Yield Rewards from Cooperative Extension Support – Rebecca Schuelke Staehr
6. A Research Brief – Cathy Heidenreich
7. Does Your Marketing Program Have a GPS? Part III – Debra Perosio
8. Berries Abound in Fall – Steven McKay
9. Weather Reports

CURRENT EVENTS

September 9, 16, 23, 2009. *Ag in Uncertain Times Webinar Series:* For more information: email westrme@wsu.edu, call John Nelson, 509-477-2176 or visit: <http://www.farmmanagement.org/aginuncertaintimes/>.

September 9, 2009. Chautauqua CCE Small Berry Walk. Details follow below.

September 9, 2009. *NE IPM Berry Webcast Series #1: High Tunnel Strawberries and Plasticulture strawberries for the northeast.* Details follow.

September 22, 2009. *NE IPM Berry Webcast Series #2: Sap beetles, Tarnished Plant Bug, Strawberry Vine Weevil.* Details follow.

September 24, 2009. *Raspberry High Tunnel Field Day and Demonstration.* NYSAES, Geneva. Details follow.

October 2, 2009. *Cornell Hardy Kiwifruit Open House, 1-3 PM, Lansing Orchard, Sweazey Rd, Lansing, NY.* Flyer follows.

October 7, 2009. *NE IPM Berry Webcast Series #3: Strawberry root rots and powdery mildew.* Flyer follows.

October 15, 2009. [Cornell 4th Annual Raspberry and Blackberry High Tunnel Tour](#), 1 to 4 PM, East Ithaca Farm, Maple Avenue, Ithaca, NY. For more information: Cathy Heidenreich mcm4@cornell.edu or 315-787-2367.

October 30, 2009. *NE IPM Berry Webcast Series #3: Strawberry Weed Control: products overview, cultural approaches.* Details follow below.

November 8-10, 2009. *Southeast Strawberry Expo*, Sheraton Imperial Hotel, Research Triangle Park, NC. For information, contact the NC Strawberry Association, phone 919-542-4037, info@ncstrawberry.com.

Dec. 7, 2009. *NASGA Annual meeting as part of the Great Lakes Fruit Vegetable and Farm Market Expo.* DeVos Place Convention Center, Grand Rapids, MI. See news brief below for details.

Dec. 8-10, 2009. *Great Lakes Fruit Vegetable and Farm Market Expo.* DeVos Place Convention Center, Grand Rapids, MI. For more information www.gleexpo.com.

January 25-27, 2010. *Empire State Fruit and Vegetable EXPO/NYS Farmer's Direct Marketing Association Annual Conference.* OnCenter, Syracuse, NY. Mark your calendars – berry session Wednesday January 27th.

February 2-4, 2010. *Mid-Atlantic Fruit and Vegetable Convention*, Hershey Lodge, Hershey, PA. For more information visit <http://www.mafvc.org/html/>.

February 24-26, 2010. *North American Raspberry & Blackberry Conference*, Monterey, California, preceded by preconference tour.

June 22-26, 2011. *10th International Rubus and Ribes Symposium, Zlatibor, Serbia.* For more information contact: Prof. Dr. Mihailo Nikolic, Faculty of Agriculture, University of Belgr, Belgrade, Serbia. Phone: (381)63 801 99 23. Or contact Brankica Tanovic, Pesticide & Environment Research Inst., Belgrade, Serbia. Phone: (381) 11-31-61-773.

LEARN THE LATEST ON BERRY GROWING ONLINE

Experts to share cutting-edge practices through free web seminars starting September 9.



Northeast berry growers can learn about the latest production techniques and integrated pest management practices from university experts in a series of online web seminars this fall and winter. The first of the dozen interactive, hour-long ‘webinars’ is scheduled for September 9 and will focus on growing strawberries on plastic and in high tunnels. The berry IPM webinar series is hosted by the Cornell University Department of Horticulture and funded by the Northeastern Integrated Pest Management Center.

The webinars are free, and participation is easy for anyone with a web browser and a high-speed internet connection. (Pre-registration is required.) If you can’t participate from your home or office computer, group viewings are being organized at selected extension offices and other sites across the northeast region. Webinars will be recorded and archived for later viewing.

Webinar speakers will make their presentations live, and respond to questions and comments that participants type into an online chat box.

The webcasts are divided into 3 mini series focusing on major berry crops: strawberries, brambles, and blueberries/cranberries. Four presentations on each crop group comprise a mini series.

“Alternative Production Methods for Strawberries”, will kick off the strawberry mini series when it airs live September 9th, 2009 at 12:45 PM. Featured speakers for this webcast are Dr. Lewis Jett, West Virginia State University, and Ms. Kathy Demchak, Penn State University. Dr. Jett will be speaking on growing strawberries in high tunnels. Ms. Demchak will be speaking on northeast approaches to growing strawberries on plastic.

The first presentation will be offered at a variety of group session locations throughout NYS including CCE Albany, CCE Chautauqua, CCE Clinton, CCE Jefferson, CCE Oneida, and CCE Suffolk counties. Some of these group sessions may include an additional on site speaker or other berry-related event following the webcast, so please contact individual CCE offices for more information.

Tuesday, September 22nd, 2009 will be the 2nd webcast in the strawberry series, also airing at 12:45 PM. Dr. Greg Loeb, Cornell University, will speak about managing strawberry sap beetle and tarnished plant bug; Dr. Richard Cowles, University of Connecticut, will help growers better understand strawberry vine weevil and its management.

Wednesday October 7th, 2009, 12:45 PM. Dr. Michael Ellis, Ohio State University, will speak on managing strawberry root diseases; Dr. David Gadoury, Cornell University will speak on strawberry powdery mildew management.

Friday October 30th, 2009, 12:45 PM. Dr. Robin Bellinder, Cornell University, will give an overview of strawberry weed management products; Dr. Marvin Pritts, Cornell University, will speak on cultural approaches to strawberry weed management.

There is no charge for webcast participation, but registration is required. Email with URL connection details is only sent to people who have registered. Connection details are sent about two days before the webinars. Please be connected by 12:45 PM.

Connections for each webcast are limited to 70 participants so register now by contacting Laura McDermott, lgm4@cornell.edu or calling 518-746-2562.

Check the web site for additional program and group viewing location details: www.fruit.cornell.edu/webinar.

**Cornell University's College of Agriculture and Life Sciences and
the New York State Agricultural Experiment Station, Geneva, NY**

Raspberry High Tunnel Field Day and Demonstration

Thursday, September 24, 2009, 2 to 6 PM

Cornell University's New York State Agricultural Experiment Station invites you to a Raspberry High Tunnel Field Day and Demonstration featuring a primocane fruiting raspberry trial in a multi-bay commercial tunnel system at the Lucy-Robbins Farm in the town of Geneva, NY.

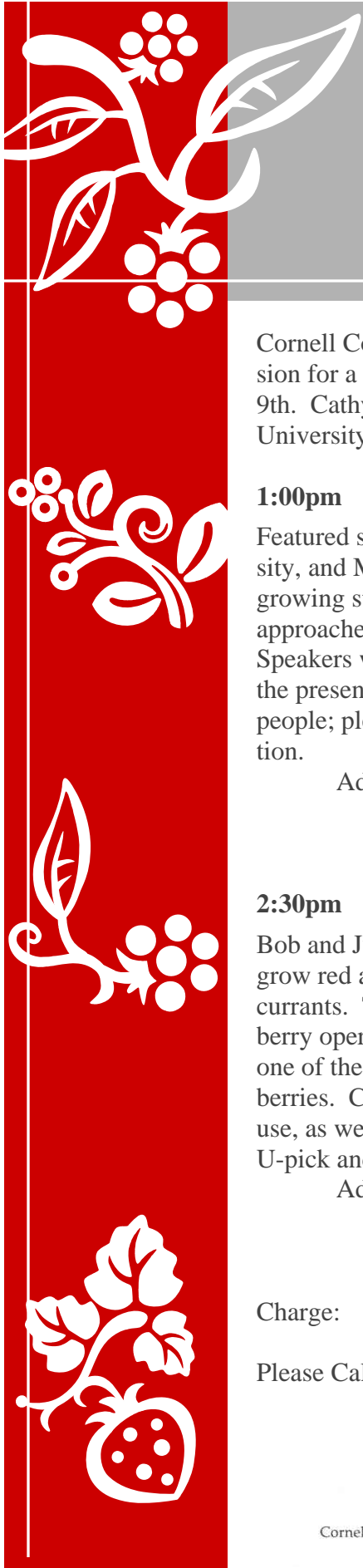
A comprehensive program of production, pest management and pest control approaches for high tunnel raspberry production will be presented featuring Drs. Weber, Pritts, Loeb and Cox as well as area extension specialists. Fruit samples from the trial and from the Cornell Raspberry Breeding Program will be available for observation and tasting.



The Lucy-Robbins farm of the NYSAES is located approximately 2 miles west of the Experiment Station at 3320 Sutton Rd. 0.9 mile south off County Rd. 4 (County Rd. 4 is North St. in Geneva on the North side of the Station). Sutton Rd. runs north and south between County Rd. 4 and NYS Routes 5&20. From Routes 5&20 turn north at the Time Warner Cable Offices approximately 1.5 miles west of the Geneva Walmart.

Registration is requested for logistics and planning. Please register with Lou Ann Rago at (315) 787-2394 or lar38@cornell.edu.

For questions or more information contact Dr. Courtney Weber at (315) 787-2395 or caw34@nysaes.cornell.edu.



2009 Small Berry Walk

Cornell Cooperative Extension of Chautauqua County

September 9 1:00-4:00pm

Cornell Cooperative Extension of Chautauqua County will be hosting a group session for a small fruit webcast followed by a Berry Walk on Wednesday, September 9th. Cathy Heidenreich, Western New York Small Berry Specialist, from Cornell University will be joining us to lead the tour of the farm and discussion.

1:00pm Small Berry Webcast

Featured speakers for this webcast are Dr. Lewis Jett, West Virginia State University, and Ms. Kathy Demchak, Penn State University. Dr. Jett will be speaking on growing strawberries in high tunnels. Ms. Demchak will be speaking on northeast approaches to growing strawberries on plastic. Speakers will answer questions live during and after the presentation. Classroom space is limited to 20 people; please call ahead to confirm your participation.

Address: JCC North County Center
10807 Bennett Road
Dunkirk, NY 14048



2:30pm Berry Walk at The Berry Bush

Bob and Judy Militello, and son James, operate Militello Farms, LLC where they grow red and black raspberries, blackberries, blueberries, strawberries, and red currants. They also grow 260 acres of Concord and Niagara grapes. Their small berry operation will be celebrating their 50th year of operation next year, and is one of the first farms in Chautauqua County to offer customers U-Pick Red Raspberries. Come learn about the production and marketing practices the Militello's use, as well as their future plans for mechanical harvesting and expansion of their U-pick and retail operation.

Address: The Berry Bush
2929 Route 39
Forestville, NY 14062

Charge: \$5 per farm at the door (includes both webcast and farm tour)

Please Call to RSVP before September 1st: Ginny Carlberg, 716-664-9502 x 202

Building Strong and Vibrant New York Communities

Cornell Cooperative Extension in Chautauqua County provides equal program and employment opportunities.

Cornell University's College of Agriculture and Life Sciences

Hardy Kiwifruit Open House

Friday, October 2nd, 2009

1 to 3 PM

Lansing Orchard, Sweazey Road, Lansing, NY.

Cornell University invites you to attend its first hardy kiwifruit open house on Friday, October 2nd, 2009 from 1 to 3 PM at the Lansing Orchard on Sweazey Rd, Lansing, NY.

The open house will include a tour of a large planting of trellised kiwifruit just prior to harvest.

Participants will learn how to grow kiwifruit (planting, training, pruning, pollination, pest management) and be able to taste the vine-ripened fruits.



From Ithaca: Go north from Ithaca on 34. Continue onto 34B in Lansing for about 5 miles. Take a left onto Sweazey Road and drive towards the lake. Turn right into the orchard just before the pavement ends.

From Auburn: Go south on 34 from Auburn. Take 34B south. Turn right onto Sweazey Road shortly after the Milligan Station power plant.

For more information contact Cathy Heidenreich, mcm4@cornell.edu, 315-787-2367.

NEW YORK STATE FARMERS' DIRECT MARKETING ASSOCIATION TO JOIN EMPIRE STATE FRUIT AND VEGETABLE EXPO



Starting in 2010, the New York State Farmers' Direct Marketing Association will be joining the Empire State Fruit and Vegetable Expo! The addition of this group in the Expo is a win-win opportunity for growers attending the Expo, as sessions on marketing and promotion will be added to the current schedule of informative crop and commodity education sessions that already occur at the Expo.

"It's a match made in heaven," said Jeanette Marvin, Exec. Director of the NYS Farmers' Direct Marketing Assoc. "Merging the Fruit & Veg. Expo with the Farmers' Direct Marketing conference will create a learning environment for farmers that covers all the bases from planting to market and everything in between."

"This is a terrific addition for the Expo," says Lindy Kubecka, Executive Secretary and Co-Chair of the Expo. "We are thrilled to have the Direct Marketing Association joining us for the Expo and are looking forward to adding the focused marketing perspective to the show."

The 2010 Empire State Fruit and Vegetable Expo will be held January 25-27, 2010, at the Oncenter Convention Center in Syracuse, NY. The Expo provides growers with a multitude of educational opportunities, Association meeting and networking times, and a commercial trade show which offers the latest services, equipment and advances in the horticultural industry in New York State. Sessions conducted at the Expo include specific commodity sessions, focusing on a variety of crops including sweet corn, potatoes, tree fruit, berries, to name a few, as well sessions on soil health, research, food safety, and more. And, new for 2010, the direct-marketing portion of the Expo will feature a series of day-long sessions focusing specifically on the direct marketing and promotion of fruits and vegetables.



Mark your calendars now and save the dates in January in order to attend the Empire State Fruit and Vegetable Expo. You, and your farm business, will be glad you did!

The 2010 Empire State Fruit and Vegetable Expo is sponsored by the New York State Vegetable Growers Association, Empire State Potato Growers, New York State Berry Growers Association, New York State Farmers' Direct Marketing Association, New York State Horticultural Society, Cornell University and Cornell Cooperative Extension.

For more information, please contact: Jeff and Lindy Kubecka, 315-687-5734 or nysvga@twcny.rr.com or go to: <http://www.nysaes.cornell.edu/hort/expo/>.

NASGA'S ANNUAL MEETING AT GREAT LAKES EXPO

December 7, Great Lakes Expo Dec. 8-10, 2009



This year's **NASGA Annual Meeting and Conference** will begin on December 7 with our workshops and educational sessions for strawberry growers, meeting in **Grand Rapids, Michigan** as part of the starting day of the [Great Lakes Expo](#).

The **Great Lakes Expo** actually gets under way on Tuesday, December 8, through the 10th, and there will be additional berry sessions as part of the expo's program.



This should be an excellent opportunity for our membership to attend our annual meeting as well as **one of North America's largest farm trade shows**. More than 300 exhibitors are available at this conference, along with three full days of educational workshops on a variety of topics, from growing to farmers' markets, to managing your web site.

Online registration for the Great Lakes Expo will be posted in September on the NASGA Website at: <http://www.nasga.org/>.

GENDER EVOLUTION IN STRAWBERRIES

The Doorway to Enhanced Productivity

Stephanie Yao, Public Affairs Specialist, Agricultural Research Service Information Staff, Room 1-2212-A, 5601 Sunnyside Ave., Beltsville, MD 20705-5129

It's no surprise that strawberries are the most popular type of berry fruit in the world. This sweet, juicy, refreshing fruit is the perfect snack or end to any meal, especially on a hot summer day. But have you ever wished you could eat locally grown strawberries all year round? Well, new [Agricultural Research Service](#) research brings us one step closer.

Kim Lewers, a plant geneticist with the ARS Genetic Improvement of Fruits and Vegetables Laboratory in Beltsville, Maryland, and plant evolutionary ecologist Tia-Lynn Ashman, a colleague from the University of Pittsburgh's School of Arts and Sciences, discovered a model system for studying sex chromosomes in plants. This discovery opens up new opportunities for developing novel strawberry cultivars with increased fruit yields all year long.

Lewers and Ashman set out to determine the genetic control of reproductive dysfunction in strawberries because of its importance to fruit yield and quality. Reproductive dysfunction occurs when strawberry flowers do not bear fruit or do not produce enough pollen, resulting in small, misshapen fruit.

Strawberry breeders have long believed that strawberry plants can have one of three reproductive functions: male, female, or hermaphrodite. Male plants bear flowers that produce pollen but cannot set fruit. Female plants produce fruit if their flowers are pollinated, but cannot produce their own pollen. Hermaphrodites contain both male and female functions that enable them to flower, self-pollinate, and bear fruit. According to Lewers, strawberry farmers prefer their plants to be hermaphroditic so they don't have to plant more than one kind of strawberry in the same field in order to have any fruit to harvest.

Many breeders also follow the theory that genetic control of gender in strawberry plants is determined by one gene, and that there are three forms of the gene—scientifically referred to as “alleles”—at a single location on the chromosome that determines a plant's gender. According to this theory, the female allele is dominant, the hermaphrodite is semidominant, and the male allele is recessive.

Researcher Ashman collected plants of the wild strawberry *Fragaria virginiana* and crossbred them to create 200 offspring plants in hopes of better understanding the inheritance of dysfunction. “As our research progressed,” says Lewers, “I began to wonder, ‘What if dysfunction is determined by two separate loci, the places on a chromosome where a specific gene is located?’”

A New Gender Class

In order to answer her question, Lewers had to examine the data piece by piece. The team first inspected the offspring, giving each plant a score based on its “maleness” or “femaleness.” Males were scored “male fertile” if they produced plump, yellow, pollen-filled anthers; those that did not have pollen were scored “male sterile.” Similarly, plants were scored “female fertile” when at least 5 percent of their flowers set fruit, while “female sterile” plants bore less than 5 percent fruit. Plants with strong male and female traits physically demonstrate the dominant sex alleles in their DNA.

The next step involved mapping the genes that control reproductive dysfunction in *F. virginiana*. Genetic mapping is a process by which geneticists determine which genes are next to each other and, therefore, are usually inherited together. The closer together the genes are, the higher the chances of their being inherited together. The process can include physical traits, like reproductive dysfunction, and molecular markers—tools geneticists use as DNA place marks or reference points.

Lewers, Ashman, and Ashman's postdoctoral fellow Rachel Spigler were able to create the first reproducible molecular-marker map of an octoploid strawberry. Most strawberries sold in grocery stores are octoploids—meaning in their natural evolution, the chromosomes have doubled and then doubled again to produce their current genetic makeup.



In a research field at Beltsville, Maryland, geneticist Kim Lewers checks for pollen production in strawberry plants.



Plants that have no pollen and cannot produce fruit, even when pollinated, are neuter.



Plants without pollen that can set fruit if pollinated by another plant are female.

The map the researchers produced can be used by strawberry breeders to help them naturally breed strawberries with better traits, such as disease resistance and year-round fruiting.

Two Genes Are Better Than One

Lewers also found that gender in strawberries is determined by two genes instead of one, and that the different alleles of the genes tend to be inherited together or passed to the offspring in pairs as they exist in the parents; this means they are physically next to each other on the chromosome.

The DNA map of the offspring shows that recombination—a process where chromosomes cross over and produce combinations of genes not found in the parents—occurs. This results in the presence of neuters, a gender class not taken into account by the conventional theory. Neither male nor female in function, neuters occur when the alleles containing male sterility and female sterility combine. Neuters physically look like females in that they flower and do not possess pollen; however, they do not produce fruit when pollinated.

“What we found is really quite extraordinary,” says Lewers. “Before, neuters were not thought of as a possible gender class in strawberry. Our discovery of neuters shows that two loci control gender expression, not one, which means that this strawberry represents a very early stage in the evolution of chromosomes controlling gender in all plants.”

Lewers’s and Ashman’s findings show that the gender determination in strawberries is influenced by two genes with different alleles of each gene on the chromosome. The presence of neuters in the offspring confirms that the two genes can recombine, a key step that has never before been addressed by the traditional theory on strawberry reproduction.

Lewers hopes to use this new research in breeding new strawberry cultivars. Her discovery will help her determine how many seedlings she must grow from crosses involving male or female strawberry parents in order to identify at least some hermaphroditic offspring that contain additional desired traits sought by breeders, farmers, and consumers. This will bring her one step closer to her overall goal: to develop improved disease-resistant strawberry plants that will help farmers grow delicious strawberry fruit for consumers all year long.

This research is part of Plant Genetic Resources, Genomics, and Genetic Improvement (#301) and Plant Biological and Molecular Processes (#302), two ARS national programs described on the World Wide Web at www.nps.ars.usda.gov.

[Kim Lewers](#) is with the USDA-ARS [Genetic Improvement of Fruits and Vegetables Laboratory](#), 10300 Baltimore Ave., Beltsville, MD 20705-2350; phone (301) 504-6768, fax (301) 504-5062.

NEW YORK STATE REQUESTS ASSISTANCE FOR CROP LOSSES

17 New York Counties Suffer Crop Losses from Excessive Rain and Hail This Season

Jessica A. Chittenden, Director of Communications, NYS Department of Agriculture & Markets, 10B Airline Drive, Albany, NY 12235

July 27, 2009. Governor David A. Paterson today requested the United States Department of Agriculture (USDA) designate 17 New York counties as agricultural disaster areas due to bad weather conditions this growing season. Today, New York State Agriculture Commissioner Patrick Hooker toured crop damage on several Long Island farms that have extensive crop losses due to weather, as well as crops impacted by a widespread fungus known as late blight.

Weather conditions have made this an extremely difficult season for New York's farmer families. Too much rain has washed away crops, which have also been damaged by hail stones, and now the harvest is suffering from the effects of late blight, said Governor David A. Paterson. I have asked Secretary Vilsack to recognize our farmers' hardships and consider declaring these 17 counties agricultural disaster areas, which will enable our farmers to receive the financial assistance they need.

Since early this spring, New York farmers have experienced a host of weather related problems that have negatively impacted their crops, most notably excessive rain. In his letter to the USDA, Governor Paterson reported that Albany, Broome, Columbia, Delaware, Dutchess, Greene, Oneida, Orleans, Putnam, Rensselaer, Saratoga, Schenectady, Schoharie, Suffolk, Sullivan, Ulster and Westchester counties all experienced poor weather conditions ranging from excessive rain and flash flooding to devastating hail storms and early in the season, freezing temperatures.

Commissioner Hooker said, The wet weather this season is a double whammy for farmers already feeling the affects of the recession. We appreciate Governor Paterson's leadership in requesting federal assistance that will help our farmers cope with the loss of marketable crops.

Excessive rain presents a host of problems for farmers, ranging from difficulty working in the fields due to mud, to the introduction of pests, fungus and rot associated with wet growing conditions, to the loss of quality and quantity of crops harvested. Crops most heavily affected by the rain this season include hay, field crops and annual vegetable crops.

This season, excessive rain has contributed particularly to the early and widespread detection of late blight, affecting tomatoes and potatoes. The New York State Department of Agriculture and Markets has received confirmation of the fungus in all but 19 of New York State counties that are outside of the five boroughs. While preventable, late blight is very difficult to control once it is established and can devastate an entire crop.

The Commissioner toured four farms today in Suffolk County, the largest agricultural county in New York State, where he saw first-hand the affects of late blight on a tomato crop in Calverton. He also toured weather-related crop damage from hail and severe storms that left fruits and vegetables scarred, hindering the salability on the fresh market.

If the 17 counties are declared a federal agricultural disaster area, farmers will be eligible to apply for low-interest emergency loans from the Farm Service Agency (FSA). FSA will consider each loan application on its own merits, taking into account the extent of losses, security available, repayment ability, and other eligibility requirements.

Agriculture is a \$3.5 billion industry in New York. New York is the second largest apple, cabbage and snap bean producer; third for grapes, sweet corn and cauliflower; and fourth for squash, sweet cherries, and cucumbers.

NEW BLUEBERRY PLANT DISEASES CONFIRMED IN MICHIGAN

State, University Officials Working To Rapidly Protect Michigan Blueberry Industry

July 27, 2009. -- Michigan Department of Agriculture (MDA) Director Don Koivisto today announced two exotic blueberry plant diseases have been identified in Michigan for the first time -- blueberry shock and blueberry scorch. Both viral plant diseases have the potential to cause significant losses to blueberry producers; however, they are not a threat to food safety or human health. MDA and Michigan State University (MSU) officials are aggressively implementing a response plan to eradicate these diseases.

Michigan is the nation's number one blueberry producer with more than 19,000 reported acres producing 110 million pounds of blueberries valued at \$124 million last year.

The MDA Pesticide and Plant Pest Management Division has been diligently watching for these diseases due to their presence in certain West Coast and Mid-Atlantic states and taking steps to prevent them from entering the state through issuance of an external quarantine in 2002 and through routine sampling.

"Although not totally unexpected, we are very disappointed these two serious diseases have been identified in southwest Michigan -- the state's blueberry belt," Koivisto said.

"MDA and its partners are working in concert to quickly eradicate this threat and safeguard this valuable commodity. These viruses do not pose a food safety or health risk, and consumers can select Michigan blueberries with confidence and pride in the product."

Annemiek Schilder, MSU associate professor of plant pathology, was part of the team that identified blueberry shock in a research plot at MSU's Trevor Nichols Research Station in Fennville.

"Blueberry shock symptoms may look similar to spring frost injury or common plant diseases such as Phomopsis twig blight, but rapid testing confirmed our suspicions," Schilder said. "Researchers, regulators and growers have learned about blueberry shock and scorch from Web sites and books, but having it here will help us all learn more. We're going to make the best of this situation by researching optimal testing protocols before the plants are destroyed."

Blueberry scorch virus was discovered at a private farm in west Michigan. The infected plants have been destroyed and MDA agents are testing adjacent areas to verify blueberry scorch disease has not spread.

Blueberry shock-infected plants suffer from loss of foliage and blossoms resulting in yield loss the first year of infection. Fruit production may resume, but MSU researchers believe this disease could be more severe in Michigan's northern climate than in its native region, the Pacific Northwest. The infected plant serves as a source of infection to other nearby plants since blueberry shock is transmitted by pollinating insects.

Blueberry scorch disease symptoms are similar to shock symptoms. In the spring, shoot tips will die back, sometimes on just a few branches. The flowers may blight just as the earliest blossoms open. Scorch-infected plants repeat this symptom cycle each spring until the entire bush becomes infected, typically within three years. Fruit production and shoot growth are seriously reduced on scorch-infected plants. Scorch is transmitted from plant to plant by aphids.

There are no known cures for either of these plant diseases. "We believe that both diseases are restricted to small areas and can be eradicated," Schilder said. "But buying plants from a nursery selling virus-tested plants is the best way to prevent further infection because both plant diseases can be spread via infected cuttings."

FARM PRODUCTION EXPENSES INCREASE

Based upon 2007 Census of Agriculture data, farm production expenses for the State of New York totaled \$3.50 billion. According to Stephen Ropel, Director of USDA's National Agricultural Statistics Service, New York Field Office, this shows an increase of 25 percent over the total expenses reported in the 2002 Census of Agriculture.

Average expenses in 2007 were \$96,372 per farm. Sixteen percent of the 36,352 farms surveyed fell into the expense category of \$100,000 or more. This category made up 83 percent of the total farm expenses for 2007. In contrast, 15 percent of the 37,252 farms surveyed in 2002 fell into the same category, accounting for 78 percent of total expenses. Relative to the 2002 Census of Agriculture, total expenditures on gasoline, fuels, and oils increased dramatically by 95 percent. Expenditures on fertilizers, lime and soil conditioners also saw a sharp increase of 67 percent. In terms of decreased expenditures, rent and lease expenses for machinery, equipment, and farm share of vehicles dropped 20 percent while expenses for livestock and poultry purchased or leased dropped by 4 percent.

The Census, which is conducted every five years, provides facts and figures on virtually every aspect of U.S. agriculture, including number and types of farm operations, the economic aspects of farm production and the demographics of U.S. farm operators.

Details on this and other Census data can be found on-line through the New York NASS web site: www.nass.usda.gov/ny/. U.S., State and County tables are available in PDF, Text, and CSV files. Printed copies will be available along with the CD-ROMS and a searchable database. For further information or assistance, please call the New York office at 800-821-1276 or send an e-mail to: nass-ny@nass.usda.gov.

HHS SECRETARY SEBELIUS, AGRICULTURE SECRETARY VILSACK ANNOUNCE NEW STRATEGIES TO KEEP AMERICA'S FOOD SUPPLY SAFE

Departments Take Steps on Leafy Greens, Tomatoes, Melons and Ground Beef

Friday, July 31, 2009. HHS Secretary Kathleen Sebelius and Agriculture Secretary Tom Vilsack announced today that prevention and partnership will guide their departments' efforts to safeguard the food Americans eat every day. Both Secretaries announced new strategies that focus on prevention and depend on working closely with growers, food processors and consumers to achieve their goals.

As a first step, Secretary Sebelius praised three draft guidances prepared by the U.S. Food and Drug Administration (FDA), an agency within HHS, aimed at minimizing or eliminating contamination in leafy greens, tomatoes, and melons that can cause foodborne illnesses.

"These proposed controls provide a guide for growers and processors to follow so they may better protect their produce from becoming contaminated," Secretary Sebelius told a group of growers, consumers, businesses, food safety advocates, and others gathered at the Eastern Market, a public fresh-food market in Washington, D.C. "This strategy represents the kind of positive change promised by President Obama."

“Making prevention a priority is critical to reducing foodborne illness and one of the three food safety principles of President Obama’s Food Safety Working Group.” said Vilsack. “The actions we are taking today will result in safer food in our country, which means healthier children, longer lives and less costly healthcare.”

Agriculture Secretary Vilsack announced that USDA’s Food Safety Inspection Service (FSIS) is issuing guidance for inspectors to begin conducting routine sampling of bench trim for E. coli. Bench trim are the pieces left over from steaks and other cuts that are then used to make ground beef. FSIS will also be issuing streamlined, consolidated instructions to its personnel for inspection, sampling and other actions to reduce E. coli O157:H7 in beef. FSIS is also issuing streamlined instructions to its inspectors to provide a simplified procedure to find and eliminate E. coli before it reaches consumers.

Unveiled today, the FDA commodity-specific draft guidances are based on the public health principles embraced by the White House Food Safety Working Group. The Working Group is being led by Secretary Sebelius and Agriculture Secretary Tom Vilsack. FDA’s draft guidances are the first step toward setting enforceable standards for produce safety.

“These new food safety guidelines will facilitate the development of enforceable food safety standards and ensure a safer supply of fresh food for all Americans,” said FDA Commissioner Margaret A. Hamburg, M.D. “The three draft guidances are designed to help growers and others across the entire supply chain minimize or eliminate contamination in leafy greens, tomatoes, and melons that can cause foodborne illnesses.”

Commissioner Hamburg said the draft guidances represent a shift in strategy for the FDA, from a food safety system that often has been reactive to one that is based on preventing foodborne hazards. “We must set as our highest priority the creating of enforceable standards for food safety that prevent the food Americans eat from ever becoming contaminated,” she told those gathered at the Eastern Market.

Secretary Sebelius said that consumers play a vital role in ensuring the safety of the fresh produce they eat. She offered the following tips from the Centers for Disease Control and Prevention:

- Buy wisely. Don’t buy produce that is bruised or damaged. When buying fresh cut produce, choose only items that are refrigerated or surrounded by ice.
- Refrigerate promptly. Certain perishable fresh fruits and vegetables (e.g., strawberries, lettuce, herbs, and mushrooms) should be stored in a clean refrigerator at a temperature of 40°F or below. If you aren’t sure whether an item should be refrigerated, ask your grocer. Produce that is purchased pre-cut or peeled should be refrigerated within two hours.
- Prepare produce with clean hands. Wash hands for 20 seconds with warm water and soap before and after preparing fresh produce.
- Wash produce thoroughly. Rinse fruits and vegetables under running water. Scrub firm produce such as melons and cucumbers with a clean produce brush. All unpackaged fruits and vegetables, as well as those packaged and not marked pre-washed, should be thoroughly rinsed before eating. This includes produce grown conventionally or organically at home, or produce from a grocery store or farmer’s market.
- Do not cross contaminate. Don’t give bacteria the opportunity to spread from one food to another. Consider using one cutting board only for foods that will be cooked such as raw meat, and another one for ready-to-eat foods such as raw fruits and vegetables.

For more information, see *FDA Issues Draft Guidances for Tomatoes, Leafy Greens and Melon*:

<http://www.fda.gov/Food/FoodSafety/Product-SpecificInformation/FruitsVegetablesJuices/FDAProduceSafetyActivities/ucm174086.htm>.

To access the key findings and recommendations of the President’s Food Safety Working Group along with more information about its activities, please visit www.foodsafetyworkinggroup.gov.

UPDATE ON CNAL TRANSITION TO DAIRY ONE

Harold van Es and Marvin Pritts, Cornell CALS, Jamie Zimmerman, Dairy One

We wanted to bring you up to date with the transition of the CNAL soil testing activities to Agro-One (Dairy One). As you know we had intended to make the transition July 1, but due to a number of technical issues the date has been postponed until August 15, 2009.

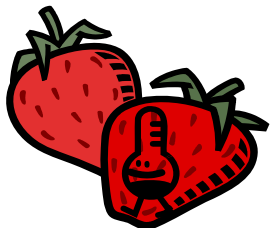
During the past few months we have expanded the number and variety of soils being used to develop the Modified Morgan to Morgan conversion equation and explore further any differences in analytical methods between CNAL and Dairy One. There was a great effort by many involved to collect a wide variety of New York soils that have been analyzed at both labs. Additionally, the CNAL recommendation engine has needed work to provide connectivity to Dairy One and to be tested.

The decision to delay the transition was made so that it was not rushed and as many items as possible have been addressed to insure confidence in analyses and recommendations.

CNAL and Dairy One personnel have been working very closely to insure a smooth transition. We know that in any type of change there will be unanticipated issues that may pop up, however both teams are committed to working through things as they may arise.

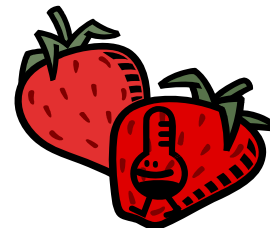
Pre-paid Cornell soil test bags will be honored up to and after the transition as long as they are in circulation. For new Agro-One sample submission forms and sampling supplies, please go to the Dairy One web site (www.dairyone.com) and follow the menu items to Agro-One. Information regarding the Dairy One sample pickup system is also available under the Agro-One tab. Additional information will be posted on the Dairy One and CNAL web sites in the coming days.

Also, the tissue sample analyses will be continued at CNAL for this season, with an anticipated transition date of July 1 next year.



AUGUST BERRY BAROMETER

HELPING TO KEEP YOU UP TO THE MARK!



*Cathy Heidenreich, Western NY Berry Extension Support Specialist,
Department of Horticulture, Cornell CALS, Ithaca, NY 14853*

ALL BERRY CROPS:

1. **Leaf Analysis** – Still time to get this done if you move on it now!
2. **Fertilization** – The window for fertilizing new transplants is pretty much closed for the season. Nothing further with the exception of late season N applications for strawberries. More on that in the next issue.
3. **Weeds** – Hand-weeding or spot applications to control weeds in new plantings through the end of this month; gearing up for fall applications.
4. **Diseases and Insects** – Stay the course- the end is in sight! Make applications promptly when environmental conditions are conducive to disease development/build-up or economic thresholds are exceeded for insect pests. Options for control of both may be found in the berry pest management guidelines (<http://ipmguidelines.org/BerryCrops/>).

STRAWBERRIES:

Established plantings:

1. **Diseases** – Be on the look out for powdery mildew – I saw a new planting last week with 100% infection. Recent humid weather has been great for PM development. Frequent rains may also promote development of leaf diseases (leaf spot, leaf scorch, and leaf blight) in new and renovated plantings. Protectant fungicide applications made to newly expanding leaves may be of some benefit in plantings with a history of disease. Angular leaf spot, a bacterial disease of strawberry leaves, showed up early this season. Cool, wet weather has caused it to persist well into summer. Bacterial ooze on lower leaf surfaces is rain-splashed onto new leaves where infections occur. Copper applications are the only alternative for this problem. Follow label instructions carefully to avoid phytotoxicity.
2. **Insects** – Some fields are showing potato leaf hopper damage. Young plants are most seriously affected by injury resulting in short petioles and small distorted leaves. Look for very active adults and nymphs by brushing foliage. Watch for leaf yellowing starting at the leaf margin and progressing toward the midvein (right). Lots of picnic (sap beetles) around this season. They may be a problem in late season berry crops.
3. **Weeds** - Spot treatments, cultivation, hand-weeding for now followed by Dacthal, Sinbar, or Devrinol for winter annuals next month. September is also the time for thistle control using Stinger.
4. **Straw Mulch** – NY NASS predicts less straw available for this season- down 10% from last year. Be sure to secure sufficient straw to cover your planting early. A general rule of thumb is 2-3 tons/acre, more if you are in a colder area with little snow cover or have plants on raised beds (4-5 tons/A). Be sure straw is glyphosate residue and weed-seed free!



New plantings:

1. **Plant establishment** –Continue to direct runner plants from aisles back into planting row area. Remove blossoms as they open to encourage good plant establishment and growth. Cultivate in mid-August then apply Dacthal (12 lb/A) for weed control.

BLUEBERRIES:

Established plantings:

1. **Soil pH** – If your pH is still above 5.0 remember to schedule a late fall sulfur application (200 lb/A). The prilled form of sulfur takes a little longer to break down in the soil than the powdered formulation but tends to be more user-friendly to work with.
2. **Weeds** – Hand –weeding and spot treatments.
3. **Diseases** – The wet weather continues – if anthracnose is a concern an application during harvest of Cabrio, Pristine, or Switch may be indicated. All three products have a 0 DTH and 12 hour REI.
4. **Insects** –Japanese beetle continues to be a concern. Remember to continue your blueberry maggot monitoring program for late season blueberries. Rufus Issacs and Keith Mason from MSU indicated in their recent newsletter ([MCAT Alert August 11, 2009](#)) that numbers there were low earlier in the season but recent wet weather has made soils highly conducive for maggot flies to emerge. If you are trapping maggot flies you need to continue to protect fruit.

New plantings:

1. **Soil pH** – If your pH is still above 5.0 remember to schedule a late fall sulfur application (200 lb/A). The prilled form of sulfur takes a little longer to break down in the soil than the powdered formulation but tends to be more user-friendly to work with.
2. **Weeds** – Hand –weeding and spot treatments.
3. **Wildlife** – Watch for deer browse on new plants. Take immediate steps to deter feeding.

RASPBERRIES AND BLACKBERRIES:

Established plantings:

1. **Diseases** – The weather continues to be wet - keep ripening fruit protected from gray mold.
2. **Insects** – Insects of concern include Sap beetles, and Japanese beetle. Potato leaf hopper may also be a problem on raspberries, causing leaf yellowing from margin to midvein similar to that in strawberries.

New plantings:

1. **Plant establishment** – Keep weeds at bay with spot treatments and hand weeding.

CURRENTS AND GOOSEBERRIES:

New and Established plantings

1. **Diseases** – Continue to watch for leaf diseases such as white pine blister rust (yellow-orange powdery spots), powdery mildew (white powdery spots), or leaf spots (black necrotic spots) on leaves. Be sure to check both upper and lower leaf surfaces.
2. **Insects** – Postharvest insects of concern include Japanese beetles, and Two-spotted spider mites.

THE TIME TO PLAN FOR NEXT YEAR'S PLANTING IS NOW

Steven A. McKay, Extension Educator, Hudson Valley Regional Fruit Program, CCE Columbia County, Hudson, NY 12534

Many growers begin to think about planting new plots in January after the holidays. Really, the summer before planting is when planning and site preparation need to begin. That's right, if you would like to have a new fruit planting in 2010, you should begin to plan the plot and prepare soil now. Poor planting sites and delayed site preparation lead to weeds and other potential pest problems. These problems can be avoided by proper site selection, preparing the site the year before planting, and ordering desired plants one to two years in advance.

Site Selection: Site selection is critical to the success of a fruit planting. The site should have good air and water drainage. Avoid frost pockets such as low spots or sites uphill of obstructions such as walls, buildings, or hedgerows. Although fruit plants like to be moist, they need oxygen around the roots, so saturated soil in wet, swampy soils is not appropriate. You can test soil drainage by digging cylindrical test holes at various places on the site, and see if they fill with water, or remain dry. If there is a rainstorm, they may fill up, but they should drain in the course of a day. Necessary soil depth varies according to the rooting depth of plants. Strawberry roots penetrate only about six inches, while brambles and bush fruit may have roots as deep as twenty inches. (Grapevines and fruit trees would prefer a soil from three to five feet deep.) Loam soil with three to five percent organic matter is desirable, but different fruit plants have variable

tolerances to different soil textures. Finally avoid soils that have been used for solanaceous crop cultivation since they may have a buildup of wilt fungi.

Advance Site Preparation: Working the soil to get rid of compacted areas and weeds is an important task for the summer before planting fruit plots. (Weeds are of particular concern if berries are being planted, because they are difficult to control in an established planting.) The first step in this task involves breaking up the soil. Compacted soil can be worked by hand with pick and shovel or with rototillers, discs, plows, or chisels depending on the size of the plot and availability of equipment. The area can then be leveled by raking or dragging a leveling implement behind a tractor. During the summer and fall, weeds can be controlled by repeated shallow cultivation, herbicides, or laying a sheets of black plastic. The last two methods are preferred since they disturb the soil less, avoiding further compaction or bringing new weed seeds to the surface of the soil. pH should be adjusted by adding either sulfur to acidify, or lime to make soil more alkaline. The end result should be a pH of 6.5 to 7 for most plants, and about 4.8 to 5.3 for acid-loving plants. A cover crop should be considered for fall planting.

Ordering Plants: One should not delay in making orders for plants! This is because the most desirable varieties often sell out. By ordering far enough in advance, nurserymen can propagate to order if necessary, and you will have the advantage of: a) having the plants available when you want them, and b) a discounted, pre-order price.

ORGANIC STRAWBERRIES AT PLEASANT VALLEY FARM – JULY 2009

Paul and Sandy Arnold - Pleasant Valley Farm, 118 S. Valley Rd, Argyle, NY 12809, (518) 638-6501 phone & fax, email: sparnold@capital.net

(Editor's note: Many thanks to Sandy and Paul for taking time out from a very busy season to write this article for us and also for their candid insights on their annual bed system for organic strawberry production. Thanks also to Laura McDermott for the photos.)

Pleasant Valley Farm grows about 7 acres of diversified organic vegetables and fruits on 10 acres of tillable land, and started the farm in 1989. Produce is sold at local farmers' markets weekly from May 1st through November 20th, and at two weekly winter markets. The farm is located about one hour north of Albany in USDA hardiness zone 4 and has a 4 month frost-free period.

Annual Bed vs. Matted Row Systems:

Since 1997, we have been experimenting with the annual bed system of strawberry production, patterned after the California plasticulture system. We got our start by working with Dr. Joe Fiola of Rutgers University in New Jersey. At that time, it was unknown whether this system would work as far North as we are. The matted row system had been our dominant system for our first 11 years of farming; however the comparison of the two systems shows that the annual bed system is superior for our situation for several reasons:

1. Fall Planted – The strawberry plugs are planted the first or second week of September in our area, which allows efficient use of our land. A cover crop or even two cash crops (such as spinach and beans) can be grown on the same land before the strawberries are planted. In the matted row system, the strawberries are planted in the spring and the land is tied up for a whole year without any income generated from it. In addition, money is spent on labor to pick blossoms, weed, and control runners for that entire first year with the matted row system.
2. Annual System – The entire bed is turned under after harvest, leaving a richer soil high in organic matter due to the addition of straw and grass mulch.
3. Another cash crop can then be planted on this ground such as fall lettuce (or an early cover crop), that could provide additional income that same year, thus increasing the overall efficiency of that acreage.
4. The annual system also allows for good rotations to keep strawberry insect and disease cycles in check.
5. Gray Mold – The open nature of this type of planting allows for good air circulation and keeps gray mold to an absolute minimum with no fungicides necessary even during a wet year like we experienced in 2000.
6. Ease of Picking – The open nature also allows for fast, labor-efficient picking of the crop, since the berries are highly visible. The Chandler variety, which we have experience with, produces larger berries throughout the picking season.



7. High Yielding – The annual bed system gives consistent high yields per acre over a 3-4 week picking season.

Production Procedures for the Annual Bed System:

This system utilizes strawberry plugs or tips, and spring is the best time to order them to obtain the best selection of varieties and quantities. Rooted plugs are what we worked with for the first 9 years and we found them to be quite reliable in the early years, mostly getting high quality plants from the supplier. However, we have come to realize that a high quality plug makes a remarkable difference in production and if the summer temperatures were very hot in August greenhouses where they are grown, then the plugs could be very stressed and not survive or be as vigorous. When we ordered plugs, we asked for a shipping date for the first week of September. One year we experimented with a planting date during the last week of August, and we found it to be a problem. The strawberry plants sent runners out from the main plant and since the plants' main focus is to establish bushy plants with multiple crowns in the fall, the runners would take energy away from the plants. This experimentation of planting earlier was a result of some concern for the strawberry plants not having sufficient time in the fall to make enough crowns in our region (zone 4); as time has gone by this concern was unfounded. Due to weather conditions many years ago, the plugs were not planted until the third week of September and the production was not quite as high, but recent autumns have been exceptionally warm, so planting later has not caused any problems.

In 2006, we experimented with growing our own tips, both from our own plants cut in July and also using some purchased from a grower in North Carolina. All the tips in 2006 did very well, no matter the source. In 2007, we again purchased about ½ our tips from the same grower and cut the other ½ from our own plants. The shipped tips came to us in relatively poor condition due to very hot weather during shipping. We learned that the overnight shipping is worth the extra expense. Higher quality and faster rooting of the tips is achieved from our own plants, however, we want to be cautious concerning possible disease issues when using our own plants year after year.

The tips are taken from the ends of the runners about July 15th to 20th and they should have little or no roots on them (bumps for beginnings of roots is good); we like to leave about ½ to 1 inch of the stem on each tip which helps secure the tip into the soil. After clipping the tips, they are immediately dipped in powder T-22 (a biological fungicide we purchase from Johnny's Selected Seeds) and stuck into the 50 cell trays which have been filled with our standard potting soil mix. The trays are placed on our benches in the greenhouse and we have a misting system over them. The mister is timed to run for 15 seconds every 5 minutes for approximately 2 weeks. The misters are shut off during the nights and on cloudy days. We did grow some trial tips in 2006 without the misting system, and had a worker mist them by hand every hour for days, but the results were not as good, and the mister was a great investment for quality and labor savings. After the tips are rooted well, normal watering (only mornings) is continued until the tips are 5-7 weeks old and ready to plant outside.



To prepare the ground for our berries, for years we hilled rows 4 feet apart with our potato hilling equipment (16" disks) and applied a generous amount (4-6") of weed-free straw or hay to cover the whole area. The straw, grown by a local farmer for us, is cut prior to pollination to assure it is clean. If we use hay, we chop our own hay fields (second cutting) when there are no seeds at all. The equipment we use is a Gehl flail chopper and a self-unloading forage wagon or regular wagon we unload by hand. The mulch helps to suppress weeds, conserve moisture, add organic matter, and produce clean fruit for the customers. We hand planted the plugs on these hills directly through the straw. Each hill had a staggered double row with in-row spacing 12" apart, with the resulting double row being 8-10" apart. Based on soil tests, nutrients are added as necessary at pre-plant and we put about one cup of a disease-suppressive compost in the hole for each plug as we plant. Many of our fields have high levels of soil organic matter and nutrients, and Nitrogen in the form of organic soybean meal or peanut meal is usually the only amendment necessary (except for compost). Fall irrigation is essential during dry conditions to establish the plugs and give optimum growth for formation of multiple crowns.



In the fall of 2008, we used a new system to plant the rooted tips (plugs). We utilized our bed former, which makes a bed about 32" wide. Most of the beds were laid with the Biotello biodegradable black plastic and about 1/3 of the rows were just raised beds (no plastic). Straw mulch was put down the pathways between the Biotello and also over the entire beds/paths where there was no plastic. Strawberry plugs were planted 3 to a bed across and 12" in row.

When night temperatures start to go down to the 40's, a floating row cover (P19 weight) is applied over the field. In past years, we removed the rowcovers in late November before the first snows and applied 4 tons/acre of clean straw. Any material other than straw, such as hay or leaves, used for winter cover could smother the plants. In March, when the straw is no longer frozen to the plants, it is raked into the paths by hand and row cover is re-applied. Over the past six years, we have trialed leaving the rowcover on all

winter and not applying straw. The yields with this trial system are equal to or higher than with our old system, however there could be some concern if there is a very cold winter with no snow cover.

Leaf tissue analysis in the early spring could be done to determine what nutrients should be applied for optimum production. Plants tend to flower about one week earlier in this system compared to matted row plants, so it is important to check for blossoms weekly in April. We take the row cover off when we see 10% bloom. Another benefit of rowcovers is the exclusion of any bugs until the last moment. We use overhead irrigation or row cover (sometimes multiple layers) to protect the buds and blossoms from frost, with row covers being our preference due to not wanting to add excess water. The strawberry picking season can sometimes begin a week earlier also, typically the last week of May.

Yields and Data:

Our simple records of harvest production show that the average yield over the past 12 years using the variety Chandler has been approximately 8,000 pounds per acre. Even with very adverse weather conditions and a very wet spring, the 2000 crop still produced about 3,000 pounds per acre more than the matted row during that year (we planted half of each system that year). The average yields in southern New Jersey are 12-15,000 lb. /acre, with the top growers achieving yields of 25-28,000 lb. /acre in an ideal situation.

Direct marketing our organic berries at farmers' markets for \$3.00 per pint extrapolated out to a value of about \$36,000 per acre on an average year during the years prior to 2008. In 2006, with standard planting densities of 17,400 plugs/acre at an approximate cost of \$2600/acre for plugs, the return was well justified when considering the initial investment. Using tips, which were only 10 cents each, cut the cost way down. In 2003, we planted about 3200 plants which took up an area that was 115' x 150', which is 6,900 square feet. Therefore, $6900/43560 = .158$ acre is the total acreage planted. Our gross income from the strawberries was \$5,367, which works out to \$1.68 per plug and the price of each plug was 22 cents. Also, using the calculation: $\$5367/.158\text{acre} = \$33,968$ shows that the extrapolated value that year per acre is almost \$34,000.

Similarly, in 2004, we had .11 acre of strawberries, but due to clippers (new pest for us), yields were down to 7900#/acre with a value of \$28,700 per acre; they were still quite profitable for us. In 2007, we had a great yield of almost 2000# on .13 acres, which extrapolated out to 15,200 pounds to the acre and almost \$43,000 per acre; we picked almost 2000 pints and sold them for \$3.00 to \$3.50 per pint and had a gross income of \$5536 on them.



For the fall 2008 planted crop, there was a very

noticeable difference in the 2 systems: the plants on the Biotello plastic were much larger and robust earlier in the spring and they started producing 7-9 days ahead of the plugs grown in just the straw mulch. We do not have exact data yields, but we know the black plastic berries produced at least 20% more, so future crops will be all on raised Biotello beds. The total 2009 yield was 1800# on .143 acres (125' by 50'), which extrapolates to 12,589 pounds per acre. Selling the berries for \$3.50 to \$4.50 per pint (about \$4 to \$6 per pound), our total gross income was \$9027 (\$63,129 per acre). If we had purchased our tips in 2009, they would have cost \$350 plus shipping (\$100 per 1000) or plugs would have cost \$735 plus shipping (\$210 per 1000). No labor, soil mix, etc. is in the financials here, but they are a worthwhile crop in our mix and customers love them!!

Diversity of Systems and Supplier:

This strawberry production system can be utilized in many areas of the United States and due to the vast diversity of climates there are also numerous planting methods. Each grower can use his own unique style and equipment to customize for his individual growing conditions. It should be noted that in many areas, the plugs send runners out in the fall and they are typically clipped (by hand) to produce higher quality, multiple-crowned plants. Also, some growers renovate the beds after harvesting is completed by mowing the beds and trimming everything back to the original plants; therefore the original bed can produce for 2 or 3 years. Research needs to be continued for the various production methods to determine the techniques promoting optimum production. Now that there is reliable biodegradable black plastic mulch, we will continue with that and check our yield data.

There are many different varieties now available and new ones are being produced each year, but Chandler is the one we like the best so far with the harvest period typically being 4 to 5 weeks (May 23rd to June 27th in 2009). We are by no means experts in this strawberry system and we would suggest anyone wanting further information should contact a plug/tip producer. Jersey Asparagus Farms (Walker Farms) in Pittsgrove, NJ is the company we had been working with for plugs, and our tips were purchased from McNeil Farms. Walker Farms can be reached by phone at 856-358-2548 or email at: jafarms@jnlk.com and McNeil Farms at 919-499-9706 or skmcneill@alltel.net (Steve is the contact). Many other sources are available and can be found through the internet.

Summary

The annual bed system has proved to work very well for us and has allowed us to utilize our land more efficiently and increase our per acre productivity. Our success with this system has been partly based on our attention to details and our soil management. Only healthy soil with a healthy soil food web can support multiple cropping like we do on several of our fields, and, at the same time, produce consistent, high-quality products. Some excellent information on the importance of organic matter and soil health can be found in the Spring 2000 issue of Northland Berry News in: "Growing Strawberries from the Ground Up" by D.M. Fulks. The record keeping system on harvest production used on our farm is uncomplicated yet is sufficient to provide the information needed to determine the viability of each crop and keep our farm profitable. Strawberries are only one of over 50 different crops we produce and we strive to have consistent production each year for our customers. This high-density production system gives us that ability as well as many other advantages. The popularity of this system is increasing and we will continue to take part in the research to obtain even higher profits on strawberries.

BERRY GROWERS YIELD REWARDS FROM COOPERATIVE EXTENSION SUPPORT

Growing Berries in New York State is Getting a Little Sweeter.

Rebecca Schuelke Staehr, NYFVI communication specialist, with reporting from Marjorie Struckle, NYFVI contributing writer

A new outreach program by Cornell University offers trained berry specialists throughout the state. Since spring 2007, two berry specialists have been providing workshops and one-on-one expertise to help farmers start and improve berry operations, including selecting locations and plant varieties, weeding, pruning, harvesting, marketing and more.

"Berry growers, unlike other fruit farmers, are not located in one region of the state. They're all over," said Cathy Heidenreich, the Extension berry specialist for the counties of the state west of the Interstate 81 corridor.



Her counterpart in the eastern half of the state is Laura McDermott. Both work with Marvin Pritts, a Cornell University professor of horticulture who focuses on berry research.

The outreach effort is supported by a grant from the New York Farm Viability Institute, a farmer-led nonprofit group that awards funds to projects that help farmer improve profitability. The Institute received funding from the state legislature and Department of Agriculture and Markets.



Branching out

Daniel Clement of Dan's Berry Farm in Ithaca, NY started growing berries two years ago. He planted fall-harvest raspberries and blueberries, and plans to plant additional berry varieties in the next year. He plans to sell berries and value-added berry items directly to customers.

Clement, a first-time farmer, worked with Heidenreich, to put in a portable raspberry trellising system, irrigation system, and deer fencing. His farm is hosting a cover cropping field trial, where rye is planted ahead of berries to help suppress weeds.

"We wanted to see if we could learn something," Clement said of his willingness to have a field trial at his farm. "Innovation is really key, especially with small farmers. We have to keep trying

new things."

Clement is one of 500 berry growers in New York State, Heidenreich estimated.

A study by the Cornell berry team in fall 2007 found that more than 70 percent of the state's berry growers had six or less acres in berry production. Many farms grow berries as part of a diversified farm operation, especially vegetables and tree fruit, but also flowers, cash crops, dairy farms and more.

Some growers raised berries to supplement non-farm income, the study found. More than 17 percent of the state growers reported 5 years, or less, of experience growing berries.

'Trialing' work

Interest in growing berries has been on the rise for the past few years, and shows no signs of waning. In the past 18 months, Cornell Cooperative Extension's berry team has hosted 17 regional workshops for berry growers, attracting 543 people.

The Cornell berry project is conducting a dozen or so trials in weed control, conservation tillage, bio-film mulch, and others at commercial berry operations around the state.

Alan Tomion operates Tomion Farm Market in Penn Yan, NY and grows 200 acres of fruit and vegetables, including 30 acres of berries. His farm is participating in a weed control trial.

"We have very few chemicals for weed control. Berries are considered a minor crop, and chemical companies do not want to invest research and development dollars," Tomion said. "We need any help we can get."

Trial and error is an important part of moving the state's berry industry forward, he said.

"You have to keep trying. That's how we learn things," Tomion said.

McDermott said the on-farm trials are designed to provide templates and information all berry growers can use to help make decisions on their own operations.



“All growers benefit from these trials. We are taking the university research and testing whether it is repeatable for a wide variety of farmers. This real field work results shows practices which New York State berry growers may benefit from,” she said.

Sweet Success

Tomion said he first learned of Cornell’s educational outreach program for berry growers, through the New York State Berry Growers Association, where he is a board member. The growers association helped Cornell researchers and educators develop an outreach project that would best meet the needs of the state’s growers.



“Laura and Cathy are, basically, phenomenal. They have gone far beyond anything we anticipated. I can’t say enough good things about them,” said Craig Michaloski, past-president of the NYS Berry Growers Association.

Michaloski grows strawberries, blueberries, raspberries, blackberries, gooseberries, currants, as well as tree fruit at Green Acres Fruit Farm and West Wind Farm in Greece, NY. His farm was used for a workshop where, Michaloski, new growers learned about pesticide application and how to use farm machinery.

“The reason behind this effort was to get some help for sustainability and profitability. These seminars have shown so many agricultural practices to help growers save money, a lot of money,” he said.

Labor efficiency, weed control, and marketing are among New York berry growers’ top challenges, Tomion said, but the diversity of the berry operations means one-size programming does not fit all.

For example, the state’s berry growers market their produce wholesale for the fresh and processed markets, and direct to customers through fresh, value-added, farmstands, farmers markets, pick-your-own, and more.

Production practices, including pesticide application, organic, field-grown, high tunnels, and more, are equally diverse.

Currant news

Cornell educators address the diverse needs through generalized workshops and follow-up with more personalized site visits. They produce a monthly electronic newsletter, New York Berry News, which features production and business management information, event announcements, and more.

The Cornell berry education project has funding from NY Farm Viability Institute through November 2009. Project leaders are seeking additional funding to continue the program into the future, as well as increase the number of educators available across the state to provide growers with support.

On the web:

Cornell Fruit Resources: Berries, www.fruit.cornell.edu/berry.html

New York Berry News, www.nysaes.cornell.edu/pp/extension/tfabp/newslett.shtml

New York Farm Viability Institute, www.nyfyi.org

New York State Berry Growers Association, www.hort.cornell.edu/grower/nybga/

(Photos courtesy C. Heidenreich)

DOES YOUR MARKETING PROGRAM HAVE A GPS? PART III

Debra Perosio, Ph.D., Lecturer, Applied Economics and Management, Cornell University

In two previous articles which focused developing a marketing plan for your business, the first zeroed in on the business as it stands today, and the second drew out the opportunities and needs for the business and articulated them into an objective that serves to guide your marketing plan and future marketing efforts.



The purpose of this third and final component is for you to develop and explain the marketing program for the objective that you have just completed. Here you will explain in detail how the 4 “P’s” of marketing (product, promotion, place and price) are applied to the new initiatives developed for your business.

By following the outline below, you will have the final part of your marketing plan off to a great start!

A. Product

1. Please describe your new product/service in detail.
2. Explain how this new product/service will “fit” into and enhance the existing product/service mix

B. Promotion

Note: when selecting and developing promotional tactics they must be sufficiently well thought so that you could implement them tomorrow without having to do a great deal of additional work.

1. Choose and fully develop **2 promotional tactics** (or more) which will serve to advertise and promote the new product/service you are proposing.
 - a. The following are some ideas to stimulate your thinking: (*NOTE: The tactics that you choose may come from one, several or all of the following categories - or additional categories that you may think of. The choice of appropriate tactics is directly determine by the specifics of your business and the objective that you have previously chosen.*) When deciding on promotional tactics, they should include tactics with **both a short and long term impact** (eg. a combination of promotional events and advertising).
 - Fundraising Activities
 - Public Relations and Publicity
 - Direct Marketing
 - Sales Promotions
 - Third-party Marketing (i.e. cooperative arrangements with companies to act as sponsors)
 - Personal Selling
 - Advertising (Print, radio, TV, etc.)
2. You now need to develop a **full-blown implementation plan for both objectives and their corresponding promotional tactics**. This plan should include both a *timeline* and a *comprehensive list of all of the resources that will be needed to carry out each tactic*. You will also need to include a *budget with reasonable cost estimates*. Preparing these financials will enable you to look more critically at each of the promotional tactics and determine whether or not they are truly feasible.

C. Place

Place refers to the distribution process currently established for the business.

1. How does the business currently distribute its products/services to its customers? Please describe this and include a flow diagram illustrating the supply chain for your business.
2. Describe in detail, any changes in the distribution system you may be considering and utilize flow diagrams (when appropriate) to describe and illustrate these changes.
3. If the new product/service that you are proposing requires a different distribution scheme then already exists for your business please describe that in detail.

D. Price

1. Please describe the current pricing structure and objective of the business. Use examples when possible.
2. For your new product/service, please do the following
 - a. Describe the pricing strategy that you are proposing
 - b. Describe any constraints you foresee with this strategy

Once you have completed this third component of your marketing plan there are a few more details to attend to. If you will be presenting this marketing plan to a bank/potential investor or other interested and/or vested party you should include a cover page, executive summary, table of contents and conclusion.

If you are not familiar with writing an executive summary, typically it should be no more than one page in length and provide an overview of the marketing plan.

As you assemble your marketing plan it should be put together in the following order: cover page, executive summary, table of contents, body of the marketing plan, conclusions, references or works cited and finally, if necessary, add an appendix at the end of the document.

Well, you've done it! Congratulations on developing a marketing plan for your business!

"Smart Marketing" is a marketing newsletter for extension publication in local newsletters and for placement in local media. It reviews elements critical to successful marketing in the food and agricultural industry.

BERRIES ABOUND IN THE FALL

Steven A. McKay, Extension Educator, Hudson Valley Regional Fruit Program, CCE Columbia County, Hudson, NY 12534

Selection and breeding programs have increased the presence of berries in the Fall. This is great news since berries are high in antioxidants and other nutrients, they are colorful, and they taste great. Berries blend well with other tree fruits that are available in the fall. Let's take a look at what can be available from mid-August through October.



Raspberries become available again in the late summer, and are around until the first frosts of the season damage the fruit (protected plants can produce later). High tunnels as well as new varieties have allowed the season to be extended to as late as the first part of December. The fall varieties have their canes develop in the Spring, and their fruit is ready to eat in the Fall. Newer varieties bear fruit earlier than the traditional Cornell variety, 'Heritage'. Some varieties to look for include 'Autumn Bliss and Britten', 'Caroline', and 'Polka'.



Blackberries are late to begin and end bearing. The first berries are available in August, and plants continue to bear fruit through September. 'Triple Crown' is a variety that is a bit sensitive to winter cold, and for that reason has its production limited some years. It has the sweetest berries. 'Chester' is another variety locally available which has fruit that is more tart than sweet. Still, it makes wonderful pies and jam. Newer primocane varieties called 'Prime Jim' and 'Prime Jam' produce berries later than the two previously mentioned varieties, but fruit is borne on canes produced during the current growing season. Canes are thorny, and fruit is susceptible to early freezes if not protected.

Blueberries can have a season that lasts into October thanks to some late bearing varieties that were introduced recently. 'Elliot' is the traditional late season variety, but recently 'Legacy', and 'Aurora' have come on the scene to provide additional late-season fruit. Fruit is medium-large sized with good flavor. Blueberries store well, so some of the late berries you eat could have been picked as long as a month ago. Cold storage temperatures close to freezing maintain the berry's quality.

Strawberries are available all summer due to the expansion in numbers of varieties of day-neutral plants. Most strawberries cut off their production as the summer day length increases. However, 'Seascape', a top producing day neutral berry can produce as late as November with a little protection from the early freezes. 'Tristar' and 'Tribute' are older varieties of day neutral plants; they are small, sweet, and soft. 'Seascape' is larger, and is flavorful and sweet, holding up well in storage. 'Albion' is a new disease-resistant variety that is the firmest of the berries mentioned. *Right: Hydrostacker 'Albion' strawberries, October 2008, Owasco Lake, NY*





Elderberries begin ripening in August and can last through September. The fruit ripens over a two to three week period. This fruit can be harvested along fence lines and roadsides. It makes excellent jam and pie. Fruit can be bitter depending on the plant being harvested. Newer cultivated varieties aren't usually as bitter. 'Samyl' and 'Samdal' are larger-fruited varieties.

After the fall, berries can be enjoyed dried or in various processed products such as juice, pies, and jams. Imported fruit from the Southern Hemisphere is also an option for the winter albeit expensive.

WEATHER NOTES

NEW YORK CROP WEATHER SERVICE NOTES

Week ending July 12th: A persistent upper level trough brought cooler than normal temperatures and periods of rain showers and thunderstorms. Wetter than normal conditions were noted across the St. Lawrence Valley, Adirondack Mountains, Lake Erie Shoreline, and western Catskill Regions. Drier than normal conditions were recorded across the southern tier of New York and over the area from New York City north to Kingston and Poughkeepsie. Elsewhere, precipitation was near normal. Weekly temperature departures from normal were 5 to 6 degrees below normal at Albany, 6 degrees below normal at Buffalo, 6 degrees below normal at Rochester, 5 degrees below normal at Binghamton, 4 to 5 degrees below normal at Watertown, 4 to 5 degrees below normal at Poughkeepsie, 7 degrees below normal at Islip, and 5 degrees below normal at Massena.

Strawberries were 24 percent poor, 27 percent fair, 36 percent good, and 13 percent excellent. In the Capital region, growers reported the good strawberry season ended. The season was shortened by wet weather.

Week ending July 19th: Another cool week was experienced across New York. Temperatures averaged 60 to 69 degrees which was 2 to 8 degrees below normal. Growing degree days fell to as much as 129 less than normal. Precipitation was light in most areas. Totals ranged from 0.05 to 1.33 inch. Total rainfall since April 1st was as much as 5.31 inches above normal. Only a few areas show a deficit.

In the Lake Ontario fruit region, raspberries were ripening. The strawberry harvest was complete and growers were doing some weed control.

Week ending July 27th: Despite a persistent upper level trough over the area, the week started out tranquil with a surface ridge of high pressure overhead and slightly below normal temperatures on Monday. Tuesday featured a low pressure system tracking across New England and brought a widespread rainfall to much of New York State especially across eastern New York and downstate. After a brief break in the precipitation on Wednesday, showers and thunderstorms returned Wednesday night into Thursday mainly across western New York, where a soaking rainfall occurred. Temperatures remained slightly below normal, especially daytime highs. Scattered showers and thunderstorms affected portions of the state once again on Friday, as an upper level disturbance moved through. Some severe thunderstorms including a few tornadoes occurred in western New York on Saturday with mainly dry conditions elsewhere. Additional severe thunderstorms occurred on Sunday with wind damage, some large hail and heavy rain across portions of western, central and southeast New York. Temperatures were very close to seasonal normals during the weekend.

Warmer weather is needed to boost the number of Growing Degree Days.

Week ending August 2nd: During this time period a series of frontal boundaries tracked across the region with occasional showers and thunderstorms. In fact, abundant moisture in the atmosphere brought heavy rainfall for the eastern half of the state where flooding conditions were observed during the second half of the week. There were even several reports of severe weather coinciding with the heavy rainfall events. The western half of the state did not receive nearly as much rainfall and limited severe weather. After a cool start to this past week, temperatures climbed to near normal levels.

In the Lake Ontario fruit region root weevil activity picked up. Rain continued in the Hudson Valley, and small fruits were negatively affected with more rain than normal.

Week ending August 9th: It was a cool and mainly dry week for New York. A cold front brought showers and thunderstorms to region on Sunday with the greatest totals over western and northern New York including the New York Berry News, Vol. 8, No. 8

Adirondacks and the western Mohawk Valley. High pressure quickly moved in from the south and west Monday into Tuesday with dry weather. Another cold front approached from the St. Lawrence River Valley and the Great Lakes region Tuesday night into Wednesday. Some scattered showers and thunderstorms impacted the Niagara Frontier and Finger Lakes region. The front moved through eastern New York with little or no precipitation Wednesday morning. A cool Canadian air mass dominated the weather Wednesday night through Saturday across the northeast with fair and dry weather. Temperatures were below normal for the week impacted by the cool stretch Wednesday into Saturday. Precipitation was below normal except over portions of western New York and northern New York where it was above normal due to the convection with the frontal passages Sunday and late Tuesday.

In the Lake Ontario fruit region, strawberries, root weevil activity continued.

Week ending August 16th: Temperatures averaged above normal across the state. Departures ranged from plus 3 to plus 8 degrees. High temperature for the week was 94 degrees in New York City. Growing Degree Day accumulations were mixed, ranging from 155 below normal in Honeoye to 128 above normal in Oneonta. Precipitation varied from 0.68 inches below normal in Albany to 2.53 inches above normal in Jamestown. Departures from normal since April 1st were above normal in nearly every area of the state. Poughkeepsie has the largest departure at plus 8.18 inches.

Questions or Comments about the New York Berry News?

Ms. Cathy Heidenreich
NYSAES Cornell, 630 W. North Street, Geneva, NY 14456
Phone: 315-787-2367 Email: mcm4@cornell.edu

Editor's Note: We are happy to have you reprint from the NYBN. Please cite the source when reprinting. In addition, we request you send a courtesy [E-mail](#) indicating NYBN volume, issue, and title, and reference citation for the reprint. Thank you.

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

**Cornell University provides equal program and employment opportunity.*

**WEATHER REPORTS OF TEMPERATURES AND PRECIPITATION THROUGHOUT
NEW YORK STATE FOR WEEK ENDING SUNDAY 8:00am, July 12th, 2009**

	Temperature				Growing Degree Days (Base 50)			Precipitation (inches)			
	High	Low	Avg	DFN ¹	Week	YTD ²	DFN	Week	DFN	YTD	DFN
	Hudson Valley										
Albany	80	51	66	-6	116	1090	47	0.87	0.16	14.66	3.38
Glens Falls	80	47	64	-7	97	895	0	1.44	0.81	12.23	1.37
Poughkeepsie	81	54	67	-5	123	1154	59	1.04	0.13	17.59	4.41
Mohawk Valley											
Utica	75	46	60	-7	73	595	-85	1.75	0.84	17.53	2.31
Champlain Valley											
Plattsburgh	79	48	63	-8	91	820	-96	1.77	1.14	10.88	1.02
St. Lawrence Valley											
Canton	79	51	63	-6	92	757	-39	1.79	1.09	12.91	2.55
Massena	82	52	65	-5	107	856	4	1.30	0.60	11.53	2.00
Great Lakes											
Buffalo	83	54	67	-5	117	1002	18	0.30	-0.37	9.02	-1.72
Colden	79	48	62	-5	88	761	-17	1.81	0.98	13.38	0.41
Niagara Falls	83	49	67	-5	117	1006	8	0.48	-0.14	10.65	0.05
Rochester	81	52	65	-5	107	952	-15	0.93	0.33	13.30	3.92
Watertown	83	48	65	-3	109	814	22	0.82	0.40	11.70	3.06
Central Lakes											
Dansville	80	49	63	-8	96	984	21	0.85	0.13	10.09	-0.72
Geneva	82	51	64	-6	108	927	-14	0.70	0.00	11.18	0.36
Honeoye	83	47	65	-7	104	919	-58	0.88	0.23	14.47	3.82
Ithaca	80	46	63	-6	92	827	-22	0.37	-0.40	12.14	0.78
Penn Yan	80	50	65	-5	111	1026	85	0.35	-0.35	10.49	-0.33
Syracuse	83	52	67	-3	123	1061	84	0.52	-0.38	11.77	-0.18
Warsaw	77	48	62	-5	87	721	1	1.79	1.00	14.29	1.75
Western Plateau											
Alfred	78	45	60	-7	71	658	-46	0.99	0.12	11.6	-0.35
Elmira	81	47	64	-6	96	950	44	0.44	-0.35	8.76	-2.28
Franklinville	78	47	61	-4	81	695	57	1.50	0.66	13.37	0.82
Sinclairville	81	48	62	-5	89	845	115	0.74	-0.17	13.64	-0.28
Eastern Plateau											
Binghamton	77	49	64	-6	95	934	58	0.78	-0.03	12.65	1.15
Cobleskill	78	46	63	-6	90	830	19	0.98	0.16	13.12	0.56
Morrisville	77	49	63	-5	93	735	-28	0.80	-0.04	15.13	2.80
Norwich	80	44	63	-6	92	818	9	1.23	0.42	15.53	2.92
Oneonta	78	49	64	-4	96	839	94	0.82	-0.09	14.13	0.58
Coastal											
Bridgehampton	82	48	67	-5	119	985	46	0.59	-0.11	18.54	5.95
New York	85	61	72	-5	153	1415	22	0.72	-0.19	18.63	5.89

1. Departure from Normal

2. Year to Date: Season accumulations are for April 1st to date. Weekly accumulations are through 7:00 AM Sunday Morning

The information contained in this weekly release is obtained in cooperation with Cornell Cooperative Extension, USDA Farm Service Agency, the National Weather Service, Agricultural Weather Information Service and other knowledgeable persons associated with New York agriculture. Their cooperation is greatly appreciated. Visit our website at www.nass.usda.gov/ny and click on "subscribe to ny reports" for instructions on subscribing electronically. you may also visit our website to access all our reports which are available for free online.

**WEATHER REPORTS OF TEMPERATURES AND PRECIPITATION THROUGHOUT
NEW YORK STATE FOR WEEK ENDING SUNDAY 8:00am, July 19th, 2009**

	Temperature				Growing Degree Days (Base 50)			Precipitation (inches)			
	High	Low	Avg	DFN ¹	Week	YTD ²	DFN	Week	DFN	YTD	DFN
	Hudson Valley										
Albany	82	50	67	-6	122	1212	15	1.13	0.43	15.79	3.81
Glens Falls	82	45	65	-6	105	1000	-35	0.81	0.17	13.04	1.54
Poughkeepsie	84	50	69	-4	137	1291	39	1.14	0.23	18.73	4.64
Mohawk Valley											
Utica	75	46	60	-7	71	666	-127	0.57	-0.29	18.10	2.02
Champlain Valley											
Plattsburgh	81	50	65	-6	110	930	-129	0.86	0.20	11.74	1.22
St. Lawrence Valley											
Canton	79	45	63	-7	94	866	-60	1.07	0.31	14.28	3.16
Massena	81	48	65	-6	104	960	-29	1.33	0.63	12.86	2.63
Great Lakes											
Buffalo	79	52	66	-7	111	1113	-19	0.75	0.1	9.77	-1.62
Colden	76	47	62	-7	83	844	-60	0.09	-0.68	13.47	-0.27
Niagara Falls	81	50	65	-7	110	1116	-29	0.42	-0.20	11.07	-0.15
Rochester	80	48	64	-7	100	1052	-59	0.22	-0.34	13.52	3.58
Watertown	77	47	64	-6	101	915	-10	0.34	-0.06	12.04	3.00
Central Lakes											
Dansville	81	47	62	-9	88	1072	-34	0.16	-0.51	10.25	-1.23
Geneva	81	51	65	-6	107	1034	-52	0.04	-0.59	11.22	-0.23
Honeoye	82	46	64	-8	101	1020	-108	0.15	-0.46	14.62	3.36
Ithaca	84	43	63	-7	90	917	-65	0.11	-0.66	12.25	0.12
Penn Yan	83	51	65	-6	109	1135	49	0.17	-0.46	10.66	-0.79
Syracuse	84	54	68	-3	126	1187	65	0.05	-0.79	11.82	-0.97
Warsaw	78	48	61	-7	75	796	-43	0.51	-0.25	14.80	1.50
Western Plateau											
Alfred	80	41	59	-8	68	726	-93	0.20	-0.59	11.80	-0.94
Elmira	87	43	64	-7	96	1046	0	0.19	-0.58	8.95	-2.86
Franklinville	77	44	60	-7	70	765	20	0.12	-0.67	13.49	0.15
Sinclairville	79	47	63	-5	89	934	85	0.27	-0.63	13.91	-0.91
Eastern Plateau											
Binghamton	82	50	65	-6	103	1037	26	0.19	-0.58	12.84	0.57
Cobleskill	81	46	64	-5	101	931	-6	0.83	0.06	13.95	0.62
Morrisville	79	48	63	-6	90	825	-61	0.45	-0.33	15.58	2.47
Norwich	82	41	62	-7	86	904	-31	1.08	0.31	16.61	3.23
Oneonta	82	47	64	-4	98	937	73	0.84	-0.07	14.97	0.51
Coastal											
Bridgehampton	83	53	70	-3	140	1125	32	0.00	-0.64	18.54	5.31
New York	88	65	76	-2	182	1597	17	0.05	-0.90	18.68	4.99

1. Departure from Normal

2. Year to Date: Season accumulations are for April 1st to date. Weekly accumulations are through 7:00 AM Sunday Morning.

The information contained in this weekly release is obtained in cooperation with Cornell Cooperative Extension, USDA Farm Service Agency, the National Weather Service, Agricultural Weather Information Service and other knowledgeable persons associated with New York agriculture. Their cooperation is greatly appreciated. Visit our website at www.nass.usda.gov/ny and click on "subscribe to ny reports" for instructions on subscribing electronically. you may also visit our website to access all our reports which are available for free online.

**WEATHER REPORTS OF TEMPERATURES AND PRECIPITATION THROUGHOUT
NEW YORK STATE FOR WEEK ENDING SUNDAY 8:00am, July 26th, 2009**

	Temperature				Growing Degree Days (Base 50)			Precipitation (inches)			
	High	Low	Avg	DFN ¹	Week	YTD ²	DFN	Week	DFN	YTD	DFN
	Hudson Valley										
Albany	81	57	71	-2	146	1358	6	0.61	-0.09	16.40	3.72
Glens Falls	80	49	69	-2	134	1134	-41	0.57	-0.13	13.61	1.41
Poughkeepsie	83	56	71	-3	145	1436	23	2.30	1.42	21.03	6.06
Mohawk Valley											
Utica	76	51	64	-3	99	765	-147	0.66	0.25	18.76	1.77
Champlain Valley											
Plattsburgh	79	52	68	-4	126	1056	-148	1.02	0.30	12.76	1.52
St. Lawrence Valley											
Canton	80	51	67	-3	121	987	-72	0.56	-0.21	14.84	2.95
Massena	80	54	69	-2	135	1095	-34	0.65	-0.06	13.51	2.57
Great Lakes											
Buffalo	79	54	68	-4	130	1243	-43	2.45	1.75	12.22	0.13
Colden	78	49	65	-4	107	951	-79	1.25	0.48	14.72	0.21
Niagara Falls	80	52	68	-4	129	1245	-52	3.94	3.31	15.01	3.16
Rochester	81	52	68	-3	130	1182	-76	2.12	1.49	15.64	5.07
Watertown	83	52	69	1	138	1053	-5	1.09	0.66	13.13	3.66
Central Lakes											
Dansville	79	50	66	-5	114	1186	-67	1.34	0.71	11.59	-0.52
Geneva	80	54	69	-3	133	1167	-66	0.81	0.18	12.03	-0.05
Honeoye	82	47	68	-4	131	1151	-131	1.98	1.39	16.6	4.75
Ithaca	82	51	67	-3	123	1040	-75	0.13	-0.64	12.38	-0.52
Penn Yan	82	53	69	-2	136	1271	38	0.53	-0.10	11.19	-0.89
Syracuse	83	54	70	-1	143	1330	61	0.43	-0.41	12.25	-1.38
Warsaw	76	49	64	-4	101	897	-61	1.87	1.15	16.67	2.65
Western Plateau											
Alfred	78	45	62	-6	87	813	-125	0.66	-0.11	12.46	-1.05
Elmira	84	50	69	-1	137	1183	-3	0.25	-0.46	9.20	-3.32
Franklinville	77	46	63	-3	96	861	4	1.64	0.87	15.13	1.02
Sinclairville	79	49	65	-3	103	1037	69	2.08	1.21	15.99	0.30
Eastern Plateau											
Binghamton	79	55	68	-3	124	1161	10	0.51	-0.26	13.35	0.31
Cobleskill	80	52	66	-3	118	1049	-15	1.34	0.57	15.29	1.19
Morrisville	77	55	66	-3	113	938	-74	0.85	0.08	16.43	2.55
Norwich	81	51	67	-3	118	1020	-47	0.27	-0.46	16.88	2.77
Oneonta	80	53	67	-1	121	1058	75	0.18	-0.66	15.15	-0.15
Coastal											
Bridgehampton	83	59	71	-1	151	1276	29	3.20	2.55	21.74	7.86
New York	86	65	74	-4	173	1770	1	1.30	0.39	19.98	5.38

1. Departure from Normal

2. Year to Date: Season accumulations are for April 1st to date. Weekly accumulations are through 7:00 AM Sunday Morning.

The information contained in this weekly release is obtained in cooperation with Cornell Cooperative Extension, USDA Farm Service Agency, the National Weather Service, Agricultural Weather Information Service and other knowledgeable persons associated with New York agriculture. Their cooperation is greatly appreciated. Visit our website at www.nass.usda.gov/ny and click on "subscribe to ny reports" for instructions on subscribing electronically. you may also visit our website to access all our reports which are available for free online.

**WEATHER REPORTS OF TEMPERATURES AND PRECIPITATION THROUGHOUT
NEW YORK STATE FOR WEEK ENDING SUNDAY 8:00am, August 2nd, 2009**

	Temperature				Growing Degree Days (Base 50)			Precipitation (inches)			
	High	Low	Avg	DFN ¹	Week	YTD ²	DFN	Week	DFN	YTD	DFN
	Hudson Valley										
Albany	85	57	73	1	161	1519	13	4.08	3.34	20.48	7.06
Glens Falls	84	55	71	1	145	1279	-36	2.62	1.88	16.23	3.29
Poughkeepsie	87	61	74	2	168	1604	30	1.15	0.31	22.18	6.37
Mohawk Valley											
Utica	79	56	66	-1	111	876	-149	1.09	0.16	19.85	1.93
Champlain Valley											
Plattsburgh	85	58	71	2	150	1206	-138	0.96	0.16	13.72	1.68
St. Lawrence Valley											
Canton	83	59	71	3	147	1137	-52	0.78	-0.05	15.54	2.82
Massena	84	61	72	3	154	1249	-14	0.59	-0.18	14.1	2.39
Great Lakes											
Buffalo	82	61	72	1	151	1394	-39	0.13	-0.66	12.35	-0.53
Colden	81	57	68	1	128	1079	-77	0.16	-0.65	14.88	-0.44
Niagara Falls	83	57	72	1	154	1399	-45	0.48	-0.23	15.49	2.93
Rochester	85	59	71	2	149	1331	-67	0.41	-0.26	16.05	4.81
Watertown	85	60	71	3	150	1203	12	0.22	-0.3	13.35	3.36
Central Lakes											
Dansville	83	56	69	-3	134	1320	-76	1.47	0.84	13.06	0.32
Geneva	85	58	71	1	148	1315	-65	1.76	1.13	13.79	1.08
Honeoye	83	56	71	-2	148	1299	-134	1.98	1.35	18.58	6.1
Ithaca	84	53	69	1	137	1177	-71	2.02	1.26	14.4	0.74
Penn Yan	84	59	71	1	148	1419	39	1.01	0.38	12.2	-0.51
Syracuse	87	59	73	3	160	1490	76	1.65	0.84	13.9	-0.54
Warsaw	80	57	68	2	127	1024	-53	0.64	-0.13	17.31	2.52
Western Plateau											
Alfred	81	51	65	-2	106	919	-138	1.37	0.6	13.83	-0.45
Elmira	86	54	70	0	140	1323	-3	1.06	0.36	10.26	-2.96
Franklinville	81	55	67	2	119	980	16	1.83	1.01	16.96	2.03
Sinclairville	82	56	69	3	130	1165	78	1.8	0.89	17.79	1.19
Eastern Plateau											
Binghamton	83	56	69	-1	137	1298	12	2.08	1.31	15.43	1.62
Cobleskill	84	55	70	2	137	1186	-4	2.07	1.31	17.36	2.5
Morrisville	81	56	68	1	131	1069	-67	2.23	1.46	18.66	4.01
Norwich	84	55	69	2	134	1154	-39	4.06	3.36	20.94	6.13
Oneonta	84	56	70	4	139	1197	95	2.19	1.35	17.34	1.2
Coastal											
Bridgehampton	85	65	76	4	180	1456	52	0.4	-0.3	22.14	7.56
New York	89	69	79	3	205	1975	17	3.76	2.85	23.74	8.23

1. Departure from Normal

2. Year to Date: Season accumulations are for April 1st to date. Weekly accumulations are through 7:00 AM Sunday Morning.

The information contained in this weekly release is obtained in cooperation with Cornell Cooperative Extension, USDA Farm Service Agency, the National Weather Service, Agricultural Weather Information Service and other knowledgeable persons associated with New York agriculture. Their cooperation is greatly appreciated.

Visit our website at www.nass.usda.gov/ny and click on "subscribe to ny reports" for instructions on subscribing electronically. you may also visit our website to access all our reports which are available for free online.

**WEATHER REPORTS OF TEMPERATURES AND PRECIPITATION THROUGHOUT
NEW YORK STATE FOR WEEK ENDING SUNDAY 8:00am, August 9th, 2009**

	Temperature				Growing Degree Days (Base 50)			Precipitation (inches)			
	High	Low	Avg	DFN ¹	Week	YTD ²	DFN	Week	DFN	YTD	DFN
	Hudson Valley										
Albany	84	48	68	-5	126	1645	-11	0.07	-0.60	20.65	6.46
Glens Falls	82	44	65	-5	105	1384	-65	0.23	-0.56	16.46	2.73
Poughkeepsie	85	50	69	-3	138	1742	13	0.56	-0.28	22.74	6.09
Mohawk Valley											
Utica	78	48	61	-5	81	957	-179	0.92	-0.09	20.77	1.84
Champlain Valley											
Plattsburgh	83	46	66	-4	114	1320	-159	1.28	0.39	15.00	2.07
St. Lawrence Valley											
Canton	83	45	63	-5	95	1232	-82	1.43	0.53	16.97	3.35
Massena	85	46	66	-3	113	1362	-31	1.41	0.60	15.51	2.99
Great Lakes											
Buffalo	82	53	68	-3	125	1519	-59	0.57	-0.31	12.92	-0.84
Colden	81	49	63	-5	93	1172	-106	1.01	0.17	15.89	-0.27
Niagara Falls	82	54	68	-3	125	1524	-64	0.58	-0.23	16.07	2.70
Rochester	84	52	67	-3	118	1449	-85	0.21	-0.53	16.26	4.28
Watertown	87	43	65	-4	108	1311	-10	0.71	0.06	14.06	3.42
Central Lakes											
Dansville	82	49	64	-7	100	1420	-116	1.11	0.41	14.17	0.73
Geneva	84	51	67	-4	117	1432	-88	0.39	-0.28	14.18	0.80
Honeoye	85	50	65	-6	109	1408	-172	0.31	-0.38	18.89	5.72
Ithaca	83	45	64	-5	100	1275	-102	0.19	-0.58	14.59	0.16
Penn Yan	83	53	68	-3	126	1545	25	0.38	-0.29	12.58	-0.80
Syracuse	89	50	70	0	139	1629	75	0.47	-0.30	14.37	-0.84
Warsaw	79	50	63	-4	89	1113	-77	1.58	0.76	18.89	3.28
Western Plateau											
Alfred	80	43	61	-7	76	995	-174	2.03	1.26	15.86	0.81
Elmira	84	44	66	-4	114	1437	-23	1.02	0.32	11.28	-2.64
Franklinville	80	46	62	-4	85	1065	-4	2.56	1.72	19.52	3.75
Sinclairville	80	49	63	-4	94	1259	56	1.16	0.21	18.95	1.40
Eastern Plateau											
Binghamton	80	50	66	-4	110	1408	-11	0.10	-0.65	15.53	0.97
Cobleskill	82	46	64	-5	102	1288	-27	0.47	-0.30	17.83	2.20
Morrisville	79	50	64	-3	102	1169	-86	0.68	-0.09	19.02	3.60
Norwich	83	44	64	-5	98	1252	-66	0.10	-0.60	21.04	5.53
Oneonta	82	47	65	-3	104	1301	83	0.48	-0.36	17.82	0.84
Coastal											
Bridgehampton	86	57	72	0	157	1613	55	0.00	-0.73	22.14	6.83
New York	89	65	76	-1	185	2160	15	0.63	-0.22	24.37	8.01

1. Departure from Normal

2. Year to Date: Season accumulations are for April 1st to date. Weekly accumulations are through 7:00 AM Sunday Morning.

The information contained in this weekly release is obtained in cooperation with Cornell Cooperative Extension, USDA Farm Service Agency, the National Weather Service, Agricultural Weather Information Service and other knowledgeable persons associated with New York agriculture. Their cooperation is greatly appreciated. Visit our website at www.nass.usda.gov/ny and click on "subscribe to ny reports" for instructions on subscribing electronically. you may also visit our website to access all our reports which are available for free online.

**WEATHER REPORTS OF TEMPERATURES AND PRECIPITATION THROUGHOUT
NEW YORK STATE FOR WEEK ENDING SUNDAY 8:00am, August 16th, 2009**

	Temperature				Growing Degree Days (Base 50)			Precipitation (inches)			
	High	Low	Avg	DFN ¹	Week	YTD ²	DFN	Week	DFN	YTD	DFN
	Hudson Valley										
Albany	89	62	74	4	170	1815	16	0.11	-0.68	20.76	5.78
Glens Falls	87	57	72	4	155	1539	-38	0.32	-0.52	16.78	2.21
Poughkeepsie	89	62	75	4	176	1918	39	2.92	2.09	25.66	8.18
Mohawk Valley											
Utica	84	59	69	5	136	1093	-147	0.81	-0.27	21.58	1.57
Champlain Valley											
Plattsburgh	88	59	72	4	153	1473	-132	1.15	0.19	16.15	2.26
St. Lawrence Valley											
Canton	85	58	70	4	145	1383	-49	0.59	-0.35	17.45	2.89
Massena	87	57	72	5	157	1519	4	0.21	-0.63	15.72	2.36
Great Lakes											
Buffalo	87	64	75	6	177	1696	-20	2.48	1.52	15.40	0.68
Colden	83	59	71	5	150	1322	-72	2.08	1.17	17.97	0.90
Niagara Falls	86	61	74	5	169	1693	-32	2.57	1.69	18.64	4.39
Rochester	86	61	73	6	165	1614	-49	0.60	-0.17	16.86	4.11
Watertown	87	56	72	5	157	1468	24	0.44	-0.29	14.50	3.13
Central Lakes											
Dansville	86	59	72	4	157	1577	-93	1.51	0.81	15.68	1.54
Geneva	86	57	72	4	158	1590	-65	1.39	0.69	15.57	1.49
Honeoye	87	57	72	3	157	1566	-155	0.88	0.17	19.77	5.89
Ithaca	87	56	72	5	156	1431	-69	1.53	0.76	16.12	0.92
Penn Yan	88	60	74	5	168	1713	58	1.00	0.30	13.58	-0.50
Syracuse	88	62	75	7	177	1806	119	1.27	0.50	15.64	-0.34
Warsaw	82	57	70	6	144	1257	-40	1.76	0.91	20.65	4.19
Western Plateau											
Alfred	84	55	70	6	145	1138	-139	1.73	0.96	17.59	1.77
Elmira	90	58	73	6	164	1601	12	0.43	-0.22	11.71	-2.86
Franklinville	85	56	72	8	155	1218	49	3.40	2.50	22.92	6.25
Sinclairville	87	60	73	8	161	1420	107	3.51	2.53	22.46	3.93
Eastern Plateau											
Binghamton	85	62	72	5	157	1565	21	1.25	0.51	16.78	1.48
Cobleskill	87	57	71	5	149	1437	3	0.30	-0.47	18.13	1.73
Morrisville	83	61	71	5	146	1315	-53	0.90	0.13	19.92	3.73
Norwich	89	58	72	6	156	1405	-31	1.81	1.05	22.91	6.64
Oneonta	86	60	72	7	154	1455	128	0.74	-0.10	18.56	0.74
Coastal											
Bridgehampton	89	59	74	3	166	1779	69	0.16	-0.61	22.30	6.22
New York	94	69	79	4	201	2361	35	0.37	-0.47	24.74	7.54

1. Departure from Normal

2. Year to Date: Season accumulations are for April 1st to date. Weekly accumulations are through 7:00 AM Sunday Morning.

The information contained in this weekly release is obtained in cooperation with Cornell Cooperative Extension, USDA Farm Service Agency, the National Weather Service, Agricultural Weather Information Service and other knowledgeable persons associated with New York agriculture. Their cooperation is greatly appreciated. Visit our website at www.nass.usda.gov/ny and click on "subscribe to ny reports" for instructions on subscribing electronically. you may also visit our website to access all our reports which are available for free online.