New York Berry News

CORNELL UNIVERSITY

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What's Inside

Get ready for an issue jam packed with the latest in berry production news, views, and research results.

News briefs cover a gamut of topics including anti-aging properties of blueberries, root weevil biocontrol possibilities, a new agribook, a supplemental label for Danitol use on bushberries, highlights from the 2006 NY berry production report, food safety, spray adjuvants and the latest on educational opportunities for berry producers.

Feature articles this month include more on the newly emerging ribes industry in New York, a review of Worker Protection Standard do's and don'ts, a report on a NY blueberry canker survey and its preliminary results, an introduction to fire blight disease of brambles, and a strawberry variety trial research results and an accompanying variety review.

CURRANT EVENTS

September 15, 2007. *New York State Agricultural Experiment Station 125th Open House for the public*, Geneva, New York. For more information see news brief below or contact Gemma Osborne -gro2@cornell.edu.

October 5-6, 2007. *US Highbush Blueberry Council Fall Meeting*, Crowne Plaza Northstar Hotel, Minneapolis, Minnesota. For more information: http://www.blueberry.org/calendar.htm.

October 13-14, 2007. *Northeast Small Farm and Rural Living Expo*, Ulster County Fairgrounds. New Paltz, NY. For more information see news brief below or go to: www.smallfarmexpo.org.

Nov. 5-6, 2007. *2007 Cornell Strategic Marketing Conference: "The Northeast Competitive Advantage Increasing Producer Access to Markets"*. Henry A. Wallace Visitor and Education Center at the FDR Presidential Library and Home, Hyde Park, New York. For more information, see news brief below.

Nov. 11-13, 2007. *Southeast Strawberry Expo*. Sheraton Imperial Hotel in Research Triangle Park (Durham), North Carolina. New Grower workshop and farm tour on November 11; trade show and educational sessions on November 12-13. For more information, email ncstrawberry@mindspring.com or call 919-542-3687, or visit www.ncstrawberry.com.

December 4-6, 2007. Great Lakes Fruit, Vegetable and Farm Market EXPO, DeVos Place, Grand Rapids, MI, for more information: www.glexpo.com.

Jan. 29-31, 2008. *Mid-Atlantic Fruit and Vegetable Convention*, Hershey Lodge and Convention Center, Hershey, PA. For more information Contact William Troxell, 717-694-3596.

BLUEBERRY EXTRACTS BOOST BRAIN FUNCTION

Rosalie Marion Bliss, ARS News Service, USDA. (301) 504-4318, rosalie.bliss@ars.usda.gov

A single dietary change has allowed laboratory animals with a genetic tendency toward Alzheimer's disease to perform as well as healthy peers in maze tests. Agricultural Research Service (ARS) scientists noted the diet-induced behavioral differences in the Alzheimer's-prone animals after feeding them blueberry extracts from the equivalent of their early adulthood to early middle age.

Study author James Joseph heads the Neuroscience Laboratory at the Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University in Boston, Mass. He and coauthors reported the findings in Nutritional Neuroscience. ARS is the U.S. Department of Agriculture's chief scientific research agency.

The researchers studied mice that carried a genetic mutation for promoting increased amounts of amyloid beta in the brain. This protein molecule, or fragment, builds up as the telltale neuritic plaque, or "hardening of the brain," seen in Alzheimer's disease.

For the study, beginning with rats at four months of age--which is the equivalent of early adulthood in humans--half of the brain-plaqued group was fed a diet that included blueberry extract for eight months. The other half was fed standard rat chow, as was a control group of mice that didn't carry the amyloid-plaque mutation.

When the rats reached 12 months of age--the equivalent of early middle-age in humans--all groups were tested for their performance in a maze. The brain-plaqued mice that were fed the blueberry extract performed as well as the healthy control mice, and they performed much better than their brain-plaqued peers fed standard chow.

The team found increased activity of a family of enzymes, called kinases, in the brains of the amyloid-plaqued mice that were fed blueberry extract. Two of the kinases found, ERK and PKC, are important in mediating cognitive function, such as conversion of short-term to long-term memory.

Read more about this research in the August 2007 issue of Agricultural Research magazine, available online at: http://www.ars.usda.gov/is/AR/archive/aug07/aging0807.htm

FUNGAL CONTROL FOR ROOT-EATING INSECTS

Laura McGinnis, ARS News Service, Agricultural Research Service, USDA, laura.mcginnis@ars.usda.gov

Editor's note: Root weevils, especially Black Vine Weevils, can be a major problem in strawberry production. "Oh wouldn't it be loverly" if a pre-plant dip as described below were available for controlling these pests on strawberry...

August 9, 2007. Root-eating insects could soon be eating themselves sick--if their favorite food has been treated with a fungal biocontrol agent. Agricultural Research Service (ARS) scientists in Corvallis, Ore., are discovering new ways to use fungal spores for controlling the black vine weevil and other root-eating nursery pests.

Many biological control agents are expensive and ineffective against root-eating larvae. However, entomopathogenic fungi--those that cause diseases in insects--have proved successful.

Current control methods involve applying large amounts of entomopathogenic fungi to the soil in which at-risk plants grow. This approach is both costly and inefficient. ARS entomologist Denny Bruck has discovered that using plant roots as an underground "delivery system" for the fungi is cheaper and more effective than broad distribution.

He and his colleagues in the Corvallis-based ARS Horticultural Crops Research Unit tested several fungal strains and found that some of them thrived in the area immediately surrounding a plant's roots. In fact, some fungal populations were 10 times denser there than in the surrounding bulk soil.

In one study, Bruck and his colleagues dipped plant roots in solutions containing spores of Metarrhizium anisopliae, a fungus that occurs naturally in fields but not in container-grown plants. They observed that black vine weevil larvae died after eating the fungus-treated roots.

Dipping roots in entomopathogenic fungal solutions may prove to be economical and efficient, because growers would only need to treat that specific area.

Another study demonstrated that black vine weevil larvae actually prefer the colonized plant roots, so they are more likely to snack on roots that will harm them. Perfecting a fungal solution to root-eating pests could potentially save the West Coast nursery industry millions of dollars every year.

Read more about the research in the August 2007 issue of Agricultural Research magazine, available online at: http://www.ars.usda.gov/is/AR/archive/aug07/insects0807.htm.

ARS is the U.S. Department of Agriculture's chief scientific research agency.

WITH AN EAR TO THE GROUND: ESSAYS ON SUSTAINABLE AGRICULTURE

Since 1997, Vern Grubinger has been a regular commentator on Vermont Public Radio, where he has talked about food, farmers, and rural life. Now these radio addresses have been collected into book form by the Northeast Sustainable Agriculture Research and Education program.

The essays range from reflections on insects, zoning, school lunches, and pest management to new marketing models for farmers, organic standards, and the nonexistent sex life of potatoes. Arranged chronologically, each essay offers the reader a fresh and often funny take on the complex and interlocking themes of agricultural sustainability, whether the topic is the status of small farms, the life of John Deere, the contents of chicken nuggets, or the productiveness of Vermont's working landscape with its bounty of fresh, local food.

With an Ear to the Ground is available in paperback from Northeast SARE for $10 plus $3.95 for shipping and handling. To order, call 802/656-0471 or send e-mail to nesare@uvm.edu. Discounts for bulk orders are available.

DANITOL NOW LABELED ON BUSHBERRIES IN NEW YORK

Danitol 2.4 EC insecticide is now labeled on bushberries in New York. Danitol is a pyrethroid insecticide that also controls mites and has been used on strawberries in NY for about six years with excellent results.

The new Danitol labeling includes high and lowbush blueberry, elderberry, gooseberry, huckleberry, Juneberry, lingonberry, and salal for control of the following insects: Blueberry Maggot, Cherry and Cranberry Fruitworms, Japanese Beetle, Oblique-banded leafroller and Plum Curculio.

Danitol should be applied in adequate water for uniform coverage: 3-10 gal/A by air or a minimum of 20 gals/A by ground equipment.

Danitol should not be applied within 3 days of harvest; do not exceed 2 pts (32 fl oz, 0.6 lb ai.) total application per acre per season for these crops. Do not make more than 2 applications per season as part of a resistance management program. Use non-pyrethroid products at other timings to control pests.

The new label also includes use on currants for control of cane borer. Danitol should be applied in a minimum of 50 gals of water per acre on this crop. Do not apply within 21 days of harvest; do not exceed 2 2/3 pints (42 2/3 fl oz, 0.8 lb ai) total application per acre per season. Do not make more than 3 applications per season as part of a resistance management program. Use non-pyrethroid products at other timings to control pests.

For all bushberries listed, recommended rates are 10 2/3 to 16 fl oz/acre (0.2 to 0.3 lb ai/A). Applications should begin when pest activity is first noted and repeated as needed, but not more often that every 14 days.

Note: Danitol is a restricted use pesticide for retail sale to and use only by certified applicators or persons under their direct supervision, and only for those uses covered by the applicator's certification. *Copies of the new supplemental label must be in possession of the user at the time of application.*

2006 NONCITRUS FRUIT REPORT: PRODUCTION DOWN, VALUE UP

In 2006, the Nation's utilized production of the leading noncitrus fruit crops totaled 16.9 million tons, down 8 percent from the 2005 utilized production. Utilized production increased from 2005 for prunes and plums (ID, MI, OR, and WA), California prunes, Maine wild blueberries, sweet cherries, cultivated blueberries, boysenberries, California all raspberries, dates, cranberries, strawberries, apples, and pears.

The value of utilized production for noncitrus fruit crops totaled 10.5 billion dollars, up 7 percent from 2005. The value of utilized production for California prunes increased 85 percent, prunes and plums (ID, MI, OR, and WA) increased 60 percent, Maine wild blueberries are up 52 percent, cultivated blueberries increased 45 percent, apples are up 32 percent, and California all raspberries increased 24 percent. However, the utilized value of production for olives decreased 77 percent, loganberries are down 47 percent, red raspberries decreased 44 percent, avocados decreased 41 percent, apricots decreased 26 percent, and tart cherries are down 16 percent.

Strawberries for Fresh Market and Processing: Area Planted and Harvested, Yield, Production, Price, and Value by State and United States, 2004-2006

State	Area Planted			Area Harvested		
	2004	2005	2006	2004	2005	2006
	Acres	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*
CA	33,200	34,300	35,800	33,200	34,300	35,800
FL	7,100	7,300	7,400	7,100	7,300	7,300
MI	1,100	1,100	1,000	900	1,000	850
NY	1,700	1,700	1,700	1,500	1,500	1,500
NC	1,700	1,600	1,700	1,600	1,500	1,600
OH	1,000	1,100	1,100	800	800	750
OR	3,300	3,100	3,100	2,400	2,200	2,100
PA	1,300	1,300	1,300	1,300	1,300	1,300
WA	1,700	1,500	1,400	1,700	1,500	1,400
WI	1,000	900	830	900	800	680
US	53,100	53,900	55,330	51,400	52,200	53,280
	Yield per Acre			Production		
	2004	2005	2006	2004	2005	2006
	Cwt	*Cwt*	*Cwt*	*1,000 Cwt*	*1,000 Cwt*	*1,000 Cwt*
CA	590	600	590	19,588	20,580	21,163
FL	230	245	280	1,633	1,789	2,044
MI	46	52	65	41	52	55
NY	43	35	29	65	52	44
NC	110	130	135	176	195	216
OH	48	53	57	38	42	43
OR	135	115	110	324	250	230
PA	61	54	57	79	70	74
WA	90	100	91	153	150	128
WI	46	51	63	41	41	43
US	431	445	451	22,138	23,221	24,040
	Value					
	Per Cwt			Total		
	2004	2005	2006	2004	2005	2006
	Dollars	*Dollars*	*Dollars*	*1,000 Dollars*	*1,000 Dollars*	*1,000 Dollars*
CA	53.10	54.60	56.40	1,040,900	1,122,834	1,194,379
FL	109.00	110.00	117.00	177,997	196,790	239,148
MI	97.70	93.80	114.00	4,005	4,878	6,285
NY	160.00	155.00	170.00	10,400	8,060	7,480
NC	90.00	95.00	90.00	15,840	18,525	19,440
OH	134.00	137.00	152.00	5,092	5,754	6,536
OR	48.90	54.70	69.10	15,839	13,680	15,882
PA	164.00	183.00	167.00	12,956	12,810	12,358
WA	47.80	46.30	60.40	7,310	6,940	7,728
WI	125.00	133.00	134.00	5,125	5,453	5,762
US	58.50	60.10	63.00	1,295,464	1,395,724	1,514,998

Berries: Harvested Acreage, Yield, Production, and Utilization by Crop, State, and United States, 2004-2006

Crop, State, and Year	Area Harvested	Yield Per Acre [1]	Production		Utilization	
			Total	Utilized	Fresh	Processed
	Acres	*Pounds*	*1,000 Pounds*	*1,000 Pounds*	*1,000 Pounds*	*1,000 Pounds*
Cultivated Blueberries						
AL [2]						
2004	300	1,900	980	570	570	
2005	280	1,860	750	520	520	
2006	270	1,190	440	320	320	
AR [2]						
2004	530	3,400	1,900	1,800	1,800	
2005	530	2,550	1,500	1,350	1,350	
2006	530	3,020	1,650	1,600	1,600	
CA [3]						
2004						
2005 [2]	2,000	4,550	9,100	9,100	9,100	
2006 [2]	2,300	4,350	10,000	10,000	10,000	
FL [2]						
2004	2,300	2,430	6,000	5,600	5,600	
2005	2,500	2,080	5,200	5,200	5,200	
2006	2,600	2,690	7,040	7,000	7,000	
GA						
2004	4,800	4,380	21,000	21,000	10,000	11,000
2005	6,000	4,330	26,000	26,000	12,000	14,000
2006	7,000	4,500	31,500	31,500	16,000	15,500
IN						
2004	600	5,000	3,100	3,000	1,500	1,500
2005	600	5,830	3,500	3,500	2,000	1,500
2006	620	5,480	3,400	3,400	1,900	1,500
MI						
2004	17,400	4,600	80,000	80,000	36,000	44,000
2005	16,800	3,930	66,000	66,000	25,000	41,000
2006	16,700	4,970	83,000	83,000	29,000	54,000
MS [4]						
2004						
2005						
2006	2,000	2,300	4,600	4,600	2,600	2,000
NJ						
2004	7,500	5,200	39,000	39,000	33,000	6,000
2005	7,500	6,000	45,000	45,000	33,000	12,000
2006	7,600	6,840	52,000	52,000	40,000	12,000
NY						
2004	700	2,430	2,000	1,700	1,400	300
2005	700	2,000	1,500	1,400	1,350	50
2006	700	2,860	2,200	2,000	1,950	50
NC						
2004	4,400	5,200	22,900	22,900	16,400	6,500
2005	5,000	5,200	26,000	26,000	16,100	9,900
2006	4,700	5,430	25,500	25,500	17,900	7,600
OR						
2004	3,500	9,710	34,000	34,000	13,400	20,600
2005	4,000	8,630	34,500	34,500	13,800	20,700
2006	4,400	8,090	35,600	35,600	13,900	21,700
WA						
2004	2,400	7,500	18,000	18,000	5,000	13,000
2005	2,800	7,000	19,600	19,600	3,900	15,700
2006	3,400	5,590	19,000	19,000	4,500	14,500
US						
2004	44,430	5,120	228,880	227,570	124,550	103,020
2005	48,710	4,890	238,650	238,170	123,100	115,070
2006	52,820	5,220	275,930	275,520	146,130	129,390
Wild Blueberries						
ME						
2004			46,000	46,000	300	45,700
2005			60,150	60,150	350	59,800
2006			74,600	74,600	400	74,200

[1] Yield is based on utilized production.
[2] Small quantities of processed blueberries are included in fresh to avoid disclosure of individual operations.
[3] Estimates began in 2005.
[4] Estimates began in 2006.

(Reprinted from: United States Department of Agriculture National Agricultural Statistics Service Fr. Nt. 1-3 (07) Noncitrus Fruits and Nuts 2006 Summary, July 2007)

FOOD SAFETY IN THE BERRY PATCH

Sanja Ilic and Jeff LeJeune, Food Animal Health Research Program and Doug Doohan, Department of Horticulture & Crop Science, Ohio State University

Pick-your-own berry operations are becoming increasingly popular, offering growers an additional market outlet and allowing folks of all ages to tour agricultural areas, experience life on the farm and enjoy fresh, locally grown fruit.

Strawberries, raspberries, blueberries, blackberries and other small fruits are also full of vitamins, fiber and compounds such as anthocyanins and ellagic acid -which several studies, including some by Ohio State University researchers, have found to be powerful cancer-fighters.
In spite of their multiple benefits, fresh fruits and vegetables have been recently linked to several cases of food-borne illnesses involving dangerous bacteria and parasites.

When families visit the berry patch for a fun u-pick experience, the last thing you want to have happen is for them to pick dangerous germs instead. To make that experience a safe one, food safety experts with Ohio State University Extension and the Ohio Agricultural Research and Development Center recommend customers follow some basic hygiene and food-handling principles while at the farm, during the trip back home, and in their kitchen.

Simple Tips for Safe Harvesting and Enjoyment of Pick-Your-Own Berries

1. It may sound simple, but washing your hands and making sure the little ones do the same thing is one of the most effective ways to prevent food contamination.

Wash your hands:

When

- Before picking fruit.
- After every visit to the bathroom.
- After a break or meal.
- After hand-to-face contact (e.g., coughing, sneezing, blowing nose).
- After handling any materials other than the berries.

How

- Use proper hand-washing techniques.
- Wet hands, lather soap for 20 seconds (sing “Happy Birthday” twice).
- Scrub well (especially fingernails and knuckles); use fingernail brushes if available.
- Rinse.
- Dry hands and wrists with paper towel.

If there is no water?

- Use hand wipes to remove soil.
- Use hand sanitizer.

2. Use bathroom facilities while in the u-pick operation.
3. Do not pick berries that have fallen on the ground.
4. Place picked berries into clean containers.
5. Do not bring pets to the farm.
6. Remain in the designated picking area.
7. Dispose of garbage in trash bin provided.

After picking (during transportation)
When bringing the berries you picked home, it is important not to break the cold chain. Even though you may see un-refrigerated berries in the supermarket, fresh fruit has to be kept cold. Follow these tips: bring a cooler with ice packs with you, cool your berries as soon as possible, do not drive around with un-refrigerated berries for more than two hours.

At home (preparation)
Many case of food-borne illnesses result from mishandling food at home. The same applies to fresh fruit. Keep the following in mind upon returning from the berry patch: wash berries thoroughly before storing them in the refrigerator, always refrigerate berries, and prevent cross-contamination of berries (and other fresh produce that will not be cooked) from potentially contaminated foods such as raw ground beef.

Nutrition facts
Remember, berries are a great choice to meet the recommended daily servings of fruits and vegetables and maintain good overall health. For example, a cup of sliced fresh strawberries (one serving, 166 grams), has 50 calories, one gram of protein, 11.65 grams of carbohydrates, 3.81 grams of dietary fiber, 23.24 grams of calcium, 0.63 mg of iron, 16.60 mg of magnesium, 31.54 mg of phosphorus, 44.82 mg of potassium, 1.16 mg of selenium, 94.12 mg of vitamin C, 29.38 mcg of folate, and 44.82 IU of vitamin A.

(Reprinted with permission from: Ohio Fruit ICM News, Volume 11 (26), August10, 2007.

SPRAY ADJUVANTS FOR INSECTICIDES AND FUNGICIDES

Steve Bogash, Regional Horticulture Educator, Penn State Cooperative Extension

Adjuvants are chemicals that are added to a liquid spray in order to make it work better. They can be roughly grouped as materials that aid in compatibility with other chemicals, wetting agents, spreaders, stickers and penetration enhancers. Many commercial adjuvants do multiple duties as they carry out several tasks. All pesticides benefit from using the proper adjuvants. Many liquid formulations come with adjuvants included while wettable powders seldom include any adjuvants.

Compatibility agents often adjust the pH of the spray solution in order to reduce alkaline hydrolysis or act as emulsifiers so an oil-based pesticide can be dispersed in water for application. Wetting agents reduce the surface tension of spray droplets on the leaf surface so as to improve coverage. Spreaders are close relatives of wetting agents as they help to build a deposit of the spray solution and improve weather-fastness. Stickers or Spray-Stickers improve the weatherability of pesticides by dispersing the active ingredients in a resin-like film thus holding the chemical on the leaf surface better (think Bravo Weather Stik).

Because of the wide variability of various spray materials and adjuvants, it is extremely important to read each material's label for specific instructions. While substantial research and articles are readily available on herbicide adjuvants, there is relatively very little on adjuvants for fungicides and insecticides.

Below are some specific suggestions from what literature is available (this information came from pesticide labels and an excellent article from the Journal of Plant Disease 2003: "Effect of Commercial Adjuvants on Vegetable Crop Fungicide Coverage, Absorption and Efficacy"):

-Bravo Weather Stik can cause phytotoxic reactions if tank mixed with some fertilizers, other pesticides and surfactants. This is directly off of the Bravo label which states: "Do not combine Bravo Weather Stik with Dipel, Latron B-1956 or Latron AG-98 as phytotoxicity may result...." Most of us use Bravo, but have you read the label thoroughly?

-Rainfastness of maneb and mancozeb can be significantly improved through the use of spreader/stickers as recommended on their labels.

-Wettable powder formulations benefit substantially with the use of the proper adjuvants versus liquid suspensions. Liquids usually already contain considerable amounts of surfactants and the powders do not. As more pesticides become available off-patent, be sure to read the new label carefully as one method manufacturers may use to reduce costs is to eliminate some or all adjuvants from the package.

-Adjuvants have been indicated as improving the control of: powdery mildew in many species, and leaf spotting diseases with several commonly used fungicides.

-Organosilicone surfactants such as Silwet L-77 (there are several others on the market) may significantly enhance the fungicidal activity of sulfur and provide some curative activity.

-One study indicated that as much as 16 times as much fungicide was required in mixes with no adjuvant in order to get the same level of activity as mixes using the right adjuvants.

-Azoxystrobin (Quadris, Amistar...) absorption was significantly enhanced by using Silwet L-77, Latron AG-98, Bond and other Organosilicone and nonionic surfactants.

-Some research has indicated that systemic fungicides such as those in the strobilurin class should benefit even more than protectants due to enhanced absorption / penetration of active ingredient.

-It is very important to know the best pH for each pesticide you are using. Captan and Sevin (carbaryl) both break down very quickly in solutions with pH above 5.5 due to alkaline hydrolysis. Most coppers and spinosad (Spintor) are negatively impacted when added to solutions using adjuvants that buffer the pH to create an acidic spray solution. In order to get the best activity out of copper and spinosad pesticides avoid tank mixes with most fertilizers as they tend to create acidic solutions.

Selecting the proper adjuvant for a specific pesticide is an important part of a grower's decision making process. The interaction between fungicide, insecticide, adjuvant and pathogen is very complicated. There is significant potential for growers to increase their pest control, manage pest management costs and reduce pesticide applications through the careful selection of spray adjuvants.

(Reprinted from: Penn State Vegetable and Small Fruit Gazette, Vol. 11, No. 8, August 2007.)

THE NORTHEAST COMPETITIVE ADVANTAGE – INCREASING PRODUCER ACCESS TO MARKETS

SAVE THESE DATES!!! November 5-6, 2007

The 2007 Cornell Strategic Marketing Conference for members of the agricultural industry will be held on November 5 and 6 at the Henry A. Wallace Visitor and Education Center at the FDR Presidential Library and Home, Hyde Park, New York.

Determining how to better integrate existing and new farm products into emerging markets in the Northeast is often a challenge faced by many local and regional agricultural producers. Do you go it alone? Do you cooperate and combine activities with area producers? Do you contract with national and/or regional distributors? At this year's conference, producers, buyers, distributors, wholesalers, and retailers will share their insights on distribution, market access, and expanding market opportunities in the Northeast and ways producers can capitalize on them. In addition, we are expanding our product foci to include producer panels associated with fruits and vegetables, dairy products, and livestock and meat products to discuss new product and quality opportunities to meet market demands. Representatives from successful joint-producer ventures will also be on hand to discuss partnerships and cooperative arrangements that are making marketing possible.

For more information, contact:

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See more information shortly our web-site currently under construction: http://marketingpwt.aem.cornell.edu/

This year's workshop is sponsored by the Agricultural Marketing and Management Program Work Team and the Dept. of Applied Economics and Management at Cornell University.

CURRANT AFFAIR: ONCE-BANNED BERRY MAKES COMEBACK IN WINE

Mike Maslanik, Finger Lakes Times, Tuesday, August 7, 2007, mmaslanik@fltimes.com

Penn Yan - On a recent sunny afternoon, farm owner Curt Rhodes stepped off his specialty harvester to examine his haul. Two barrels brimming with black currants, which were illegal to grow just four years ago, stood nearby while Rhodes inspected the rows of bushes that produced his first-ever harvest. He estimated the crop will yield at least 1,000 pounds per acre this year, and after the plants have a while to grow, it should jump up to 21/2 tons per acre next year.

"It's going to work for us. I can tell you that much," he said of growing the small, antioxidant-packed berries. "From beets to berries, it was a pretty good move."

Two years after the family-owned R.H. Rhodes & Son Farm Inc. decided to exclusively grow black currants, its first harvest has hit the ground running. Montezuma Winery recently released Dragonfly, a currant wine made using berries grown at the farm, and a deal is being finalized with Forestville-based Walker's Fruit Basket, a nationwide supplier of grapes and wine juice. All in all, not bad for a group who had to learn the ways of the black currant on the fly.

But the triumphant return of the black currant is a bigger story than that of a family farm turning to a new cash crop. At its core, it proves that farms can remain economically viable with a little bit of creativity and a lot of hard work and determination. “You used to see hundreds of acres of green beans, red beets and all kinds of vegetables, but they aren't there anymore,” said Carolyn Sullivan, Curt Rhodes' sister and part-owner of the farm. “The nature of farming is changing, and we have to change with it.”

The federal government outlawed the cultivation of black currants in 1911 because the plant was an intermediate host for white pine blister rust, a disease that attacks pine trees. As science led to disease-resistant currants, the government left the ban up to the states in 1966. New York lifted the ban in 2003, thanks in large part to the lobbying efforts of Dutchess County resident and currant booster Greg Quinn. Quinn believes that the berry, which is packed with nutrients, has the potential to be New York's signature crop.

R.H. Rhodes & Son Farm began its currant experiment in 2004 with a one-acre test crop and then dove in last May, planting 17 acres of currants that were shipped from British Columbia. Previously, the more than 100-year-old farm specialized in row crops, such as beets and beans. Before that, apple orchards covered the property. Sullivan marveled at how easy the plants were to grow.” We just put them in the ground and away they went,” she said.

So far, pests and disease haven't touched the crop, meaning they haven't needed any chemical treatments or sprays. The crop can't be certified organic, Sullivan said, because of the farm's long history of fertilizer use.

On their own, black currants aren't the most delicious berries, tending to be a little on the sour side. Sullivan describes them as “blueberries with attitude.”

They do, however, make very good jams, jellies and salad dressings, she said. With the help of researcher Olga Padilla-Zakour, of the New York State Agricultural Experiment Station's Food Venture Center, Sullivan plans to start a new line of products under the label “Finger Lakes Black Currants.”

So far, they're off to a good start. “The quality of the berries is excellent. They're very flavorful,” said Padilla-Zakour. “They can definitely reach a specialty food market that's been growing in recent years.” Sullivan will unveil the first Finger Lakes Black Currant products at the station's 125th anniversary celebration in September.

After picking the first test crop by hand, Rhodes is happy to have a new Littau-brand harvester - which arrived this spring from Oregon - to expedite the picking process. Somewhat resembling a toy from “How the Grinch Stole Christmas,” the harvester slowly drives alongside the bushes, shaking the berries off with thin metal rods and depositing them in the barrels by way of conveyor belt. “It beats hand-picking, and it works very nicely,” Rhodes said. “Plus, it doesn't hurt the bush any.”

When the farm planted its test crop, its owners sent interest surveys to around 70 area wineries to see if they'd want to buy some currants. One winery that took them up on the offer was Montezuma Winery, and they're glad they did, said Bill Martin, a family owner. “None of us had ever worked with currants before, so we were open to experimentation,” Martin said. “They're pretty high in acidity, but packed with color and flavor.”

The Dragonfly table wine emerged from the Montezuma wine lab in March and is selling well. Winemakers used apple wine to cut down on the acidity and create a balanced semi-sweet with a little kick at the end. Montezuma placed another order with the farm and looks forward to more experimentation in the future. “I think it will be really interesting to see how they do,” Martin said of the farm. “I think there is a market with people looking for something high in antioxidants, but the key is to keep it as a small, niche market.”

Meanwhile two other area wineries expressed interest in buying currants, and Walker's Fruit Basket said it's willing to buy whatever is left, Sullivan said.

With the farm packing away currants by the barrel, the crop's future in New York is looking bright, said Farm Bureau Director Mark James, and so are the prospects of farmers looking to branch out into more unusual crops. “As with any small specialty crop, it's important for farms to diversify, branch out and try new things,” James said. “This is just one instance where farms can grow something different and be successful.”

(Reprinted with permission from: The Finger Lakes Times, Tuesday, August 7th, 2007)

WORKER PROTECTION STANDARD REQUIREMENT BRUSH UP

Debbie Breth, Area Extension Educator - Team Leader, Lake Ontario Fruit Program - Cornell Cooperative Extension, Albion, NY

I had a couple calls from the fruit region concerning drift off orchards on unintended targets. These calls may have also gone to DEC which may have resulted in DEC response to visit growers in the Wayne County area to do a few farm inspections.

Remember, the worker protection standard applies to all farms where agricultural workers and pesticide handlers are employed. It is the employer's responsibility to fulfill all the requirements of the WPS. For a thorough review, pick up the "How to Comply Manual (Revised in 2005) at you local CCE office or visit the web at http://www.epa.gov/agriculture/htc.html.

Here are the basics:
• In an accessible, central location, you must display the EPA WPS poster, the name address and phone of the nearest medical facility, and maintain records of pesticide applications before they occur until 30 days after the application (product name, EPA #, active ingredient, location and description of where treated, time and date of application, and restricted entry interval (REI).

• Tell all workers and handlers on the farm where this information is posted and keep it accessible.

• Train all workers or handlers (without an EPA training card) in pesticide safety before they enter the field and once every 5 years.

• If workers and handlers have an EPA card, record the expiration date and number and worker name for your records. – that is the only proof of previous training. But if not trained on your farm, you will still need to follow up to inform all workers where the central location is.

The Lake Ontario Fruit team does update WPS training for handlers who attend the DEC Special Permit training. Our team has a few of the EPA approved VHS tapes, DVD's, and flipcharts available for loan, but must be returned in a few days. Call Debbie Breth (585-747-6039) or Alison DeMarree if you would like to borrow these materials.

A certified applicator must conduct the training in a language understood by the workers. Use "handler training" material for all who handle pesticides including equipment repair mechanics. Use worker training materials for all who enter the orchards to do any other kind of work.

When you do the training, record the date, the names of all workers, and signatures, on a roster which lists the training materials used, and who conducted the training. Be willing to answer questions.

• Provide **decontamination supplies** within ¼ mile of all workers and handlers (but not in the area to be sprayed except for handlers doing "handling" tasks). If running water is not available, at least 1 gallon of water per "worker" must be provided, and if not sufficient, must be replenished as needed; for handlers, provide at least 3 gallons of clean water for each handler.

If the water supply is a tank used in pesticide mixing, the tank must have anti-siphoning protections (air gap between sprayer tank and water supply). Decontamination kits also require soap and single use towels, and emergency eyewash.

For handlers, you must provide enough water to wash the entire body, and a clean change of clothes (e.g. disposable coveralls) in case the handler's clothes become contaminated, soap and single use towels, and 1 pt. of emergency eyewash water must be immediately accessible.

The water supplied for decontamination can be used for emergency eyewash if it is immediately accessible. An eyewash bottle should be carried in the vehicle while spraying. Decontamination supplies must be in enclosed areas if located in areas being treated.

• After handlers are finished with handling tasks, decontamination supplies must be provided where the handlers remove their personal protective equipment (PPE), including soap, clean towels, and enough water to wash thoroughly after removing PPE.

• You must provide the PPE as required by the pesticide labels and adhere to REI's.

• You must provide transportation and information about the pesticide to any medical facility in case of emergency.

• Handlers working with "skull and crossbones" materials must be monitored every 2 hours by site or by voice communication.

• Review label information relating to safe use of the pesticide with the handler before working with the pesticide and keep the label accessible during handling tasks.

• Notify workers of areas that will be or have been sprayed orally and/or by posting "Danger" signs at the entrances of the fields as directed on each label. There are exceptions to this rule, see page 33- 35 in the Manual.

This is not a complete description of all requirements, but should get you started if any of you have some catching up concerning these requirements.

(Reprinted with Permission from: Fruit FAX, Horticultural and Pest Management Notes, 7/31/07, produced by the Lake Ontario Fruit Program, CCE).

PRELIMINARY SURVEY OF BLUEBERRY CANKERS IN NEW YORK

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A preliminary survey was begun this year in blueberry plantings in New York for canker diseases. Samples were collected June 19 and 21 from seven farms, four in Tioga county, two in Orleans county and one in Niagara county. The focus was to find out the prevalence of Phomopsis canker and Fusicoccum canker in blueberry plantings in NY. Also, to look for Botryosphaeria canker since this disease has not been reported on blueberry from NY.

Samples were kept on ice in a cooler and brought back to the lab. A total of 30 twig and branch samples were incubated in moist chambers and the resulting fungal fruiting bodies were microscopically identified after several days' incubation. Putative identity of the fungi was based on morphology of the fungal fruiting bodies and characteristics and size of the spores. If no species is given, more than one species might have been involved. Results of the canker survey are given in Table 1.

Table 1. Prevalence of canker diseases found on blueberry in June in a preliminary survey of seven farms in south central and north western NY.

Canker Disease	Samples with Disease	Farms with Disease
Fusicoccum canker, *Fusicoccum putrefaciens*	13	5
Phomopsis canker, *Phomopsis vaccinii*	8	3
Anthracnose on twigs, *Colletotrichum*	7	1
Botryosphaeria canker, *Botryosphaeria dothidea*	2	1

Figure 1. Microscopic view of squashed fruiting body and spores of asexual state of Botryosphaeria dothidea. (400X magnification)

Evidence of Botryosphaeria canker was found on one farm, most likely *Botryosphaeria dothidea* based on the botryose, stromatic fruiting body and large elliptical hyaline spores (Fig 1).

Many samples had fruiting bodies embedded in the bark that did not re-sporulate. The morphology of these suggested either *Phomopsis vaccinii* or *Fusicoccum putrefaciens*. Absence of spores suggests that fungal inoculum is being depleted in NY by late June to early July. This coincides with the period of time when shoot elongation is nearing completion and plant resources will go into bud development and fruit ripening.

Preliminary results suggest that Fusicoccum canker is more prevalent than Phomopsis canker in NY blueberry plantings.

Other problems found included mummy berry, Botrytis blight, viral symptoms, micronutrient deficiencies, and cicada-type oviposition injury to branches that resulted in dieback.

On three farms evidence of the mummy berry foliar and twig blight was found, but only on one farm were fruit infections prevalent and easy to find (Fig 2). Lack of fruit infection might have resulted from dry, hot conditions that followed a wet spring, or from flowering time not coinciding well with production of spores on blighted leaves and twigs, or perhaps from early abscission of infected fruit. If you have ideas as to why fruit infection may not be easy to find, though leaf and twig infection is common, contact me.

On one farm, the cultivar Patriot had been declining for several years. Remaining plants showed clear evidence of viral symptoms (Fig 3). The grower sent samples to Agdia for serological assay which returned positive results for Tomato Ringspot Virus. Another cultivar on this farm, Blue Crop, showed symptoms of "blind fruit" where the fruit does not develop, leaving a flat, green disc surrounded by the green, expanded sepals. Entire flower clusters appeared this way. In some case entire plants failed to produce any flower buds and stood taller than neighboring plants. This may be the "fruit drop" problem that Robert Davis showed pictures of at the APS meetings and samples will be sent to him for analysis.

Figure 2. Cross-section of mummies developing in immature blueberries.

Chlorosis and red spots on young leaves were seen as most likely being related to a micronutrient problem. To best determine which micronutrient(s) are lacking, foliar tissue analysis can be done. Best results in determining micronutrient deficiency can often be obtained when symptomatic leaves and healthy leaves from the same planting and age class are analyzed at the same time.

Canker diseases are challenging to manage, particularly when a planting is severely affected. However, when only a few branches are affected, it is a simple matter of pruning them out. In general, plantings that are pruned routinely, irrigated, and fertilized appropriately are less prone to serious canker problems. We will continue surveying NY blueberry plantings for canker diseases. As these preliminary results show, you don't know what you'll find until you go looking!

Figure 3. Viral symptoms on cv. Patriot associated with Tomato Ringspot Virus.

Photo credits

Figure 1, Juliet Carroll, NYS IPM Program, Cornell Cooperative Extension

Figure 2, Molly Shaw, South Central NY Ag team, Tioga County Cornell Cooperative Extension

Figure 3, Molly Shaw, South Central NY Ag team, Tioga County Cornell Cooperative Extension

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1. Caruso, F.L. and Ramsdell, D.C., eds. 1995. Compendium of Blueberry and Cranberry Diseases. 87 pp. APS Press, St. Paul.

FIRE BLIGHT ON RASPBERRIES AND BLACKBERRIES

Annemiek Schilder, Plant Pathology, Michigan State University

While fire blight is most common in pears and apples, it also affects raspberries and blackberries (*Rubus* spp.). Summer red raspberries cultivars K81-6 and Boyne are particularly susceptible. Losses result from berry necrosis and from tip dieback of primocanes. Fruit losses of 65 percent or more have been reported on thornless blackberries in Illinois.

Symptoms

The most obvious and striking symptom are blackened cane tips, which bend over and die, resulting in a "shepherd's crook" appearance. Infections may proceed down the cane for up to 8.0 inches and may produce cream-colored bacterial ooze under high moisture conditions. As the disease progresses down the cane, the veins of leaf veins and portions of the leaf surrounding the midvein turn black. Entire leaves may wither and die. Typically, discoloration and dieback is limited to succulent young growth. In addition, the disease can affect fruit clusters. Infected peduncles (the stalks of fruit clusters) turn black and the young developing berries become brown, dry and very hard. Entire fruit clusters may be infected, but generally a few berries in each cluster remain healthy.

Cause

Fire blight is caused by the bacterium *Erwinia amylovora*. Although this is the same organism that causes fire blight on pear and apple, it is a different strain. Thus the strain that attacks raspberries and blackberries will not infect apple or pear and vice versa. However, it has been found that 'Boyne' raspberries can be infected by the apple strain, but this is an exception. The bacteria are likely spread from plant to plant by insects, wind, and splashing water. Rain, high humidity, and warm temperatures favor disease development. It is not known how and where the bacteria overwinter, although they likely survive in cankers on infected canes.

Cultivar resistance

Fire blight affects both red and black raspberries and blackberries. The susceptibility of purple raspberries is unknown. While there has been no thorough study of resistance to fire blight among commercially available cultivars, Latham, Boyne, K81-6 and Fallgold raspberries are known to be susceptible.

Control

No specific control measures have been developed because of the sporadic nature of the disease. However, the following practices will limit establishment and spread of the disease:

1. Purchase and plant only certified, disease-free plants from reliable nurseries.
2. Remove and destroy diseased canes from the planting as soon as you see them. Pruning is best done during dry weather to avoid spread of the disease. Disinfest pruning shears in a 10 percent household bleach solution (containing one part bleach and nine parts water) between each cut to avoid transmitting bacteria to healthy canes. Isopropyl alcohol (70 percent) or quaternary ammonia may also be used, but the bleach solution is more effective.
3. Manage insect pests to avoid a possible means of moving the bacteria from plant to plant.
4. Avoid over-fertilization. Vigorous, succulent growth is most susceptible to the disease.
5. Orient rows, prune and thin plants to maximize air circulation. This will help lower the relative humidity within the plant canopy.

6. Destroy wild or abandoned brambles growing nearby. These plants may serve as inoculum sources for fire blight and other pathogens, particularly viruses.

(Reprinted with permission from: Michigan State University Fruit Crop Advisory Team Alert Newsletter, Reports Vol. 22, No. 15, August 7, 2007.)

STRAWBERRY VARIETY REVIEW: HEAD-TO-HEAD COMPARISONS

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Strawberries are one of the most variable and temperamental of the fruit crops and the choice of varieties is extensive because individual varieties are often adapted to a relatively small growing region. The most commonly grown varieties in north-central and northeastern North America are June-bearing types and many new varieties have been released in recent years. Most varieties have weaknesses so growers are advised to try new ones on a limited scale to determine how they will perform in each situation. As part of the small fruits breeding program at Cornell University, strawberry yield trials are planted to compare older, standard varieties with new releases. Three trials have been performed recently, the first in 2002-04 comparing 10 varieties, and the second in 2003-04 comparing 7 varieties and the third in 2004-05 comparing 14 varieties.

All of the trials were replicated with three 25 ft. plots for each variety in a completely randomized design. They were established in 2001, 2002, and 2003 in Geneva, NY. A perennial matted row growing system was used (Pritts and Handley, 1988) with an initial plant density of 7,260 plants per acre. Bare root plants were planted at 18 in. spacing within rows and 48 in. between rows. Napropamide (Devrinol) was applied at the labeled rate in the establishment year for weed control followed by supplemental hand weeding later in the season. During the harvest seasons weed control was accomplished using napropamide and sethoxydim (Poast) in the spring and 2,4-D at renovation and in the late autumn after dormancy had set following Cornell Pest Management Guidelines (website). This was supplemented with hand weeding as necessary. No fungicides or insecticides were used during the trials except in 2003 when endosulfan (Thiodan) was used for control of cyclamen mites. Overhead irrigation was used at renovation only.

The soil type in the plots was Honeoye fine sandy loam with approximately 2% slope. After the establishment year, calcium nitrate was applied at the rate of 125 lb per ac in April. During renovation, ammonium nitrate was applied at 180 lb per ac, and SulPoMag (22%K_2O-11%Mg-22%S) with 70 lb per t of 15% borate was applied at 225 lb per ac was applied in late autumn.

The plots were harvested three times per week during the harvest period and total yield per acre was extrapolated based on plot totals. Harvest of each variety ended when the average fruit weight on a harvest day fell below 8 g per berry. In the first trial, samples of 10 fruit were taken from 6 of the varieties during the 2003 season for storage trials **(Table 3)** and 5 varieties were included in a blind taste test with growers during a field day in Geneva **(Table 4)**. In all years, total yield, percent unmarketable yield, and average fruit weights over the season were calculated **(Table 1, 5, 7).** Average harvest dates from were recorded **(Table 2, 6, 8)**, and results from the storage test and taste test are in Tables 3 and 4.

Trial 1

Initial yields in the first trial were very high with Cabot topping 29,000 lb per acre in estimated yield in 2002 and Brunswick, Darselect, Jewel and Eros also over 20,000 lb per acre **(Table 1).** In 2003, yields decreased significantly for most varieties but Clancy and Brunswick increased their yields and L'Amour recorded only a 6% decrease. The remaining varieties decreased in yield between 17% (Sable) and 70% (Eros) **(Table 1)**. In 2004, yields again decreased significantly for most of the varieties with acceptable yields only in Brunswick and L'Amour and marginal yields in Honeoye and Darselect **(Table 1)**. The remaining varieties produced very small yields.

Average fruit weight did not vary widely within varieties over the seasons. Cabot was the highest in 2 of 3 seasons and Earliglow and Sable generally the lowest **(Table 1).** This is common for early varieties to have smaller fruit. The remaining varieties were similar in average weight over 3 seasons. Marketable yield did vary widely among the varieties and from year to year. L'Amour and Jewel had the fewest culls on average with over 80% marketable yield during the trial **(Table 1)**. Eros and Brunswick had the highest cull rate with only 70% average marketable yield over the trial **(Table 1)**.

Harvest dates could be used to group the varieties into early season (Earliglow, Sable, Honeoye, Brunswick), mid-season (L'Amour, Jewel, Darselect) and late season (Eros, Clancy, Cabot) varieties **(Table 2).** The average harvest season length varied from 9 days in Earliglow and Sable to 17 days for Clancy **(Table 2).**

Overall appearance ratings after 6 days of storage were best for L'Amour and Jewel at 4 on a scale of 5 and worst for Darselect and Earliglow at 2.5 and 2.3, respectively **(Table 3)**. A rating of 3 was considered marketable. Firmness, bruising, and sepal appearance all contributed to the overall appearance rating. Cabot, Eros, Sable, and Brunswick were not rated due to logistical problems. Taste test results indicated that Earliglow was the best tasting variety followed by Jewel and L'Amour. However, in overall preference ranking, L'Amour ranked highest followed by Jewel **(Table 4)**. Texture, color and overall appearance contributed to this ranking.

Overall the first trial showcased the potential of several new varieties compared to the standard varieties of Earliglow, Honeoye and Jewel. As a whole, L'Amour exhibited the greatest potential of the new varieties in overall performance with good yields, large fruit with good storage capacity, and high grower ratings for taste and appearance. Darselect and Cabot show good potential but have some significant drawbacks. Darselect stores poorly and may renovate poorly when water management is not perfect. Cabot often has fruit deformities in the primary berries but makes up for this in total yield. Unfortunately, severe susceptibility to cyclamen mites nearly eliminated the plots by the third season. Brunswick showed very good yields all three seasons and was very vigorous but had high cull rates and dark, soft fruit that may not be suitable for many markets. Clancy performed well in the first 2 seasons but crashed due to poor water management at renovation in 2003. The fruit of Clancy is large and stores adequately but may be a bit dark and is not the classic heart shaped berry that is desired. It does have potential as a late season variety because there are few options. Sable did not offer any advantages over Earliglow and had softer fruit. Eros only performed adequately in the first season and went down quickly due to poor renovation and cyclamen mite problems. Its fruit quality was also poor being light and not particularly attractive.

Trial 2

This trial had the first look at Itasca (MNUS 138) and it performed very well, being high yielding and early season with large fruit. Honeoye and Jewel performed as standards are expected to. L'Amour did not perform as well as hoped but did much better in the second harvest season. Commercial sources of plant material should even out the performance L'Amour (Plants for this trial were produced on site which is not ideal.) Ovation performed relatively poorly **(Table 5).** It has been report to do better in a plasticulture system. The matted row system does produce fruit later in the season compared to plasticulture systems thus pushing production into a hotter time frame. This reduces yields in later varieties in many cases as seen with Ovation and Clancy in this trial.

For fruit size, Clancy had the largest fruit with Itasca second **(Table 6).** Honeoye had very good fruit size, 13.2, in 2003 but it dropped off considerably in 2004. L'Amour, Annapolis, and Jewel had similar fruit size. Ovation had the smallest fruit in the trial.

Trial 3

This trial had several of the newest varieties to the U.S. Elsanta has been the standard variety in Europe for 10 years or more but has just recently been available to U.S. growers. Sapphire and Serenity are the newest varieties out of Ontario and Evangeline is relatively new from Nova Scotia. Serenity performed very well with the highest yield by far in 2004 **(Table 7)** and large fruit. Darselect and Honeoye also had high yields in 2004. Evangeline performed the most poorly in both seasons, generally because the majority of its fruit did not reach a commercially acceptable size, 8g **(Table 7)**. The remaining varieties were similar in yield to each other **(Table 7)**.

The season in 2005 was particularly short and harsh. A late freeze in the third week of May destroyed the entire crop of the early varieties, Earliglow, Evangeline, Honeoye, and Northeaster. Their first harvest was below the minimum 8g average size to be considered marketable and so had zero yield **(Table 7)**. The later maturing varieties **(Table 8)** performed much better but many of them had reduced yield as well **(Table 7)**. Allstar and Darselect were the top producers followed by Cabot and Serenity **(Table 7)**.

Conclusions

Overall, some newer varieties show very good promise based on the trial data. L'Amour produced moderate yields but had very high fruit quality. Serenity produced very good yields in the late season, which is a relatively difficult slot to fill. Clancy also shows promise in the late season with very large fruit but may need to be planted at a higher density. A trial in plasticulture may also be warranted. Itasca from Minnesota shows very good promise for the early season with good yields of large good-quality fruit. Darselect also shows good promise with high yields but has some disease susceptibility and storage problems. The standards, Earliglow, Honeoye and Jewel, performed as expected and will continue to be planted for years to come.

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Trial 1

Table 1: Trial 1-Total yield, percent marketable yield and mean fruit weight for 10 strawberry varieties in Geneva, NY. Fruit was harvested until the mean weight was below 8g/berry. Unmarketable fruit included deformed and rotted fruit. Yield was extrapolated from three 25 ft. plots planted at an initial density of 7,260 plants per acre in a matted row system.

Variety	Total Yield (lb/ac)			Unmarketable Fruit (%)			Mean Fruit Weight (g)		
	2002	2003	2004	2002	2003	2004	2002	2003	2004
Cabot	29,070	17,380	32	21	24	23	17.7	15.5	10.9
Brunswick	20,060	21,690	15,940	34	27	28	10.8	12.2	12.6
Darselect	23,530	16,120	8,290	26	24	21	11.5	12.0	12.4
Clancy	15,240	18,680	380	22	15	30	12.3	13.9	10.9
Honeoye	18,280	14,470	7,310	30	16	18	10.7	12.4	10.3
Jewel	20,250	11,650	970	23	13	22	10.5	12.9	12.3
L'Amour	15,930	14,950	9,210	20	23	11	12.3	11.4	11.4
Eros	22,340	6,680	640	23	32	33	12.6	10.9	11.7
Sable	12,650	10,330	2,560	49	25	12	8.7	10.2	10.3
Earliglow	13,040	8,160	1,650	40	25	11	8.6	10.2	11.6

Table 2: Trial 1-Average harvest dates for 2002-04 for 10 strawberry varieties in Geneva, NY.

Variety	First Harvest Date	50% Harvest Date	Final Harvest Date	Harvest Length (days)
Earliglow	June 10	June 15	June 18	9
Sable	June 10	June 15	June 18	9
Honeoye	June 12	June 17	June 21	10
Brunswick	June 12	June 19	June 25	14
L'Amour (NY1829)	June 14	June 21	June 26	14
Jewel	June 15	June 20	June 24	10
Darselect	June 14	June 21	June 29	15
Eros	June 19	June 24	June 28	10
Clancy (NYUS304B)	June 17	June 25	June 30	17
Cabot	June 19	June 29	June 29	11

Table 3: Trial 1-Mean storage ratings for 5 strawberry varieties in Geneva, NY. Ten fruit samples were taken at 3 harvest dates during the 2003 season and stored for 6 days at 1°C. (Scale 1-5; 5=best)

	Firmness		Bruising		Sepal Appearance		Overall Appearance	
Variety	Day 1	Day 6	Day 1	Day 6	Day 1	Day 6	Day 1	Day 6
Honeoye	3.7	2.7	3.7	2.3	4.0	3.7	4.0	3.0
L'Amour (NY1829)	5.0	3.7	4.7	4.0	4.7	3.7	4.7	4.0
Jewel	4.0	3.2	5.0	4.3	3.7	3.2	4.7	4.0
Darselect	4.0	2.0	3.5	2.5	3.0	3.0	3.5	2.5
Earliglow	4.7	2.7	3.7	2.7	3.0	2.7	3.7	2.3
Clancy (NYUS304B)	5.0	4.3	4.7	3.7	4.0	2.8	3.7	3.0

Table 4. Blind taste test results from 11 growers attending a field meeting on 6/24/03 in Geneva, NY. (Scale 1-10; 10=best). (Average rank is in order of preference overall.)

Cultivar	Flavor	Texture	Exterior Color	Interior Color	Appearance	Average Rank
L'Amour (NY1829)	6.5	8.2	8.4	8.2	8.1	2.6
Jewel	6.7	8.3	8.5	8.0	8.2	2.8
Darselect	6.3	7.9	7.9	7.6	7.8	3.1
Clancy (NYUS304B)	5.3	6.9	7.7	7.8	7.2	3.6
Earliglow	7.0	7.1	7.9	7.9	7.1	3.8

Trial 2

Table 5: Trial 2-Total yield, percent marketable yield and mean fruit weight for 7 strawberry varieties in Geneva, NY. Fruit was harvested until the mean weight was below 8g/berry. Unmarketable fruit included deformed and rotting fruit. Yield was extrapolated from three 25 ft. plots planted at an initial density of 7,260 plants per acre in a matted row system.

Variety	Total Yield (1b/acre)		Unmarketable Fruit (%)		Fruit Weight (g)	
Year	2003	2004	2003	2004	2003	2004
Ovation	6,230	6,110	30	8	10.4	10.0
L'Amour	6,640	9,880	23	8	11.9	11.6
Clancy	7,920	2,110	25	0	11.7	17.6
Annapolis	8,260	7,430	16	11	12.1	11.2
Itasca (MNUS 138)	10,440	6,970	17	16	14.2	12.1
Jewel	10,450	7,250	18	6	10.9	11.6
Honeoye	10,990	10,720	13	13	13.2	9.4

Table 6: Trial 2-Average harvest dates for 2003-04 for 7 strawberry varieties in Geneva, NY.

Variety	First Harvest Date	50% Harvest Date	Final Harvest Date	Harvest Length (days)
Annapolis	June 10	June 15	June 18	9
Itasca (MNUS138)	June 10	June 16	June 18	9
Honeoye	June 12	June 17	June 21	10
L'Amour	June 11	June 19	June 24	14
Jewel	June 14	June 18	June 23	10
Clancy	June 20	June 23	June 26	7
Ovation	June 23	June 28	July 2	10

Trial 3

Table 7: Trial 3- Total yield, percent marketable yield and mean fruit weight for 14 strawberry varieties in Geneva, NY. Fruit was harvested until the mean weight was below 8g/berry. Unmarketable fruit included deformed and rotting fruit. Yield was extrapolated from three 25 ft. plots planted at an initial density of 7,260 plants per acre in a matted row system.

Variety	Total Yield (1b/acre)		Unmarketable Fruit (%)		Fruit Weight (g)	
Year	2004	2005	2004	2005	2004	2005
Evangeline	1,440	0	1	N/a	15.0	6.8
Jewel	6,820	6,200	3	18	13.1	11.7
Northeaster	6,430	0	4	N/a	12.6	7.6
Allstar	7,210	9,060	14	36	12.1	11.2
Cabot	8,210	7,890	12	38	20.9	15.8
Earliglow	8,220	0	8	n/a	11.3	5.9
Sapphire	8,410	3,290	6	17	10.0	8.5
Elsanta	8,520	5,420	8	33	12.1	9.3
Winona	9,100	6,210	13	43	13.9	9.2
Raritan	9,120	2,370	7	11	.9.	8.0
Kent	9,370	5,490	12	28	11.7	8.7
Honeoye	10,870	0	7	N/a	11.7	7.1
Darselect	11,403	8,570	8	17	14.2	9.9
Serenity	19,580	7,320	15	56	12.2	11.6

Table 8: Trial 3-Average harvest dates for 2004-05 for 14 strawberry varieties in Geneva, NY.

Variety	First Harvest Date	50% Harvest Date	Final Harvest Date	Harvest Length (days)
Evangeline	June 4	June 6	June 7	4
Earliglow	June 4	June 7	June 9	6
Northeaster	June 4	June 10	June 14	11
Honeoye	June 7	June 11	June 14	8
Raritan	June 11	June 13	June 15	5
Kent	June 11	June 14	June 16	6
Allstar	June 11	June 15	June 19	9
Darselect	June 11	June 18	June 24	14
Jewel	June 12	June 16	June 18	7
Sapphire	June 12	June 16	June 18	7
Elsanta	June 12	June 16	June 19	8
Winona	June 12	June 16	June 19	8
Cabot	June 15	June 19	June 24	10
Serenity	June 16	June 22	June 26	11

The following variety descriptions are based on published reports and trials at Cornell University's New York State Agricultural Experiment Station in Geneva, NY. They are organized by harvest season.

Early Season

Annapolis (Nova Scotia) is a large fruited early season variety. The fruit is pale red and soft with good flavor. Suitable for local retail. It yields well. It is susceptible to powdery mildew and Verticillium wilt.

Earliglow (USDA, MD) is still considered the best tasting berry around. Primary berries are large and attractive and are suitable for retail or wholesale. Berry weight drops off quickly after the primary berries and yields are relatively low. Susceptible to powdery mildew after harvest.

Evangeline (Nova Scotia) fruit is long conical in shape with a pronounced neck. The interior is white and it is susceptible to red stele. The fruiting laterals are stiff and upright which keeps the fruit off the ground and clean.

Honeoye (Cornell University, NY) has reigned as the yield king for many years and produces an abundance of large, attractive, firm, berries that are suitable for all markets. Closer to an early mid-season, the look of this berry sells it, but taste is the major drawback as it can be tart and can develop disagreeable aftertastes when over ripe or in heavy soils. It is susceptible to red stele disease but is manageable.

Itasca (MNUS 138, University of Minnesota) is a cross between Seneca and Allstar. It fruits early to early-midseason in Minnesota or early-midseason in Massachusetts. In Minnesota, fruit was larger than that of Annapolis, medium large in size, conic to blunt wedge shaped. Fruit flesh is orange-red with a classic flavor. Itasca is resistant to five races of red stele, and its foliage is highly resistant to mildew.

Northeaster (USDA, MD) was billed as a replacement for Earliglow and out performs it in all ways except flavor. Yield is higher and fruit size and attractiveness are equal to Earliglow but the flavor is unusual. The grape Kool-Aid like aftertaste can be a turn off to many customers.
or Cabot or if you want to see the latest thing, L'Amour (NY1829) and Clancy (NYUS304B) are new releases from Cornell.

Sable (Nova Scotia) is slightly earlier than Earliglow and is equal or better in flavor. Unfortunately it lacks fruit size and firmness. This variety is only suitable for direct retail and u-pick operations. Frost damage can be a problem because the flowers open very early.

Mid Season

Brunswick (Nova Scotia) has fruit weight and yield similar to Honeoye. However, it has a squat, round shape and tends to be dark and bruise easily. The flavor is good but can be tart when under ripe.

Cavendish (Nova Scotia)is a high yielding, high quality berry in a good year. However, high temperatures during ripening can cause uneven ripening that can be a real problem.

Canoga (Cornell University, NY) was reintroduced in 2005 for plasticulture and ribbon row plantings where drip irrigation is practiced. The berries are very large, firm, bright red in color, with a shiny appearance and good flavor. Plants are vigorous and form branch crowns well in plasticulture. Plants do not runner as freely as most varieties.

Chandler (University of California) is a standard southern variety grown for wholesale markets in plasticulture. High yields have been experienced throughout the Carolinas and California. Not well suited for planting north of the mid-Atlantic region due to lack of winter hardiness. Chandler is also susceptible to anthracnose disease.

Darselect (France) is a large fruited, high yielding variety. The berries are attractive and bright red with a long conical shape. The flavor is very good. However, it tends to be soft. It is susceptible to powdery mildew, which can be a problem in areas with morning fog.

Elsanta (Netherlands) is one of the most widely planted varieties in Europe. It is June-bearing with high yield potential. Fruit is firm and aromatic. It is susceptible to red stele, anthracnose, and Verticillium wilt.

Jewel (Cornell University, NY) continues to be the favorite in this season. The high quality berries are large and attractive with good flavor. Yields are moderate. On a good site, it's hard to beat. It is susceptible to red stele and can have vigor problems in poor or cold sites.

Kent (Nova Scotia) produces medium sized berries with very good yield, especially in new plantings. Hot weather can cause skin toughness to deteriorate. It is very susceptible to leaf spot and scorch and to angular leaf spot. It is very sensitive to Sinbar herbicide. It does not do well in hot weather.

L'Amour (Cornell University, NY) is an early mid-season type with excellent fruit quality. Berries are bright red and firm but not hard, with excellent eating quality and flavor. Fruit is long round conical with a fancy calyx, which makes them very attractive. No significant disease or insect problems have been noted to date.

Mesabi (University of Minnesota) is a very high yielding berry with large berries and good flavor, but does not store well. It is resistant to red stele and tolerant to leaf diseases and powdery mildew.

Raritan (Rutgers University, NJ) is productive with the fine taste of an heirloom strawberry. Raritan is very flavorful. Its small, deep-red berries are easy to pick. Plants are susceptible to a wide range of diseases.

Sapphire (University of Guelph, Ontario) is a late mid season variety with bright red and large. It is reported to be tolerant of the herbicide Sinbar (terbacil).

Late Season

Allstar (USDA, MD) is good yielding, high quality variety with good flavor. Unfortunately, the color is pale to orangish and is unacceptable to an uninformed consumer.

Cabot (Nova Scotia) produces impressive berries. Average fruit weight is larger than any variety currently available. Primary berries often top 40-50 g. The color can be pale throughout the berry and primary berries are often irregular in shape. Yields are very high. It is resistant to red stele but is susceptible to virus infection and cyclamen mites.

Clancy (Cornell University, NY) was developed through a joint venture with the USDA breeding program in Beltsville, MD. Its parents were resistant to red stele root rot. The fruit is a round conical shaped with darker red color and good flavor. The flesh is very firm with good texture and eating quality. The fruiting laterals are strong and stiff, keeping the fruit off the ground until they reach full size. No significant disease or insect problems have been noted to date.

Eros (Italy) is a light colored late season variety with large but somewhat squat berries that are not particularly attractive. Yields are adequate in good stands but it does not renovate exceptionally well. It is susceptible to cyclamen mites.

Ovation (USDA, MD) is extremely late. It doesn't flower after most others are past their peak. Fruit quality is average but there is little to compare it to in its season. Yields are moderate

Seneca (Cornell University, NY) is probably the firmest variety available for the east. The fruit is large, bright red and attractive but the flavor is only acceptable. It doe not runner heavily and can be adapted to plasticulture.

Serenity (University of Guelph, Ontario) is a late season variety that is also tolerant to Sinbar (terbacil). The fruit is large and bright red. The skin tends to be soft. It reported to be moderately resistant to scorch and mildew.

Winona (University of Minnesota) has very large berries and average yields but can not compete with Jewel for fruit appearance. It has good vigor though and might be useful where Jewel does poorly.

Day Neutral

Everest (Great Britain) is a fairly new variety that has large, firm, bright red berries. It does not runner well and is only suited for plasticulture. Over wintering can be a problem with this one.

Seascape (University of California) is a day neutral that is seeing some success in the east. The fruit is large and very attractive. It is firm and good quality. It does not runner and is only suited for plasticulture. Over wintering can be a problem with this one.

Tribute and **Tristar** (USDA, MD) have been the standard day neutral varieties for the northeast for the last 20 years. They are disease resistant, vigorous, and runner enough for matted row production. Both are relatively small fruited and low yielding but off-season fruit may pay off. Of the two, Tribute has better size and Tristar has better flavor.

New Varieties-these have not been tested in Geneva but may be of interest.
Saint-Pierre (Quebec) has large conic shaped fruit that are pale red to orangish, much like Allstar. Fruit firmness and flavor are reported to be very good.

Bish (North Carolina State University) is large and firm. It is resistant to anthracnose. It is a June-bearing variety developed for use in plasticulture systems.

Avalon (Rutgers University, NJ) is an early season berry with large fruit size. The fruit is rounder than Earliglow and somewhat dark. Flavor and firmness are very good. Plants are large and vigorous.

WEATHER NOTES

NEW YORK CROP WEATHER SERVICE NOTES

Week ending July 22nd: It was an active weather week across New York. A cold front sweeping west to east across the state on Sunday produced scattered showers and thunderstorms. A few of the thunderstorms generated damaging winds from the Hudson River Valley eastward. Weak high pressure briefly ridged into upstate New York for Monday and Tuesday with only isolated instability showers occurring on Monday. A warm front lifted northeast from the Ohio valley and the upper Mid-Atlantic with periods of rain and embedded thunderstorms. Some locations in central and eastern New York received 1 to 2 inches of rain. A thunderstorm over Long Island became severe and a tornado touched down near Islip on Long Island Wednesday morning. The warm front stalled over the lower Hudson Valley and southern New England on Thursday. Scattered showers and thunderstorms occurred once again. A wave of low pressure moved over the region dragging a cold front through in the afternoon. A broad area of high pressure built in from the upper Midwest on Friday, and continued into Saturday with cool and dry weather. Temperatures for the week were near normal to slightly below normal. Precipitation was generally above normal by over an inch. In the Lake Ontario fruit region, strawberry renovation was occurring.

Week ending July 29th: It was another active week across New York. A small coastal low pressure system developed off the northern Mid-Atlantic coast Sunday night and moved northwest into northern New Jersey on Monday. This produced moderate to heavy rainfall across western Long Island, southeast and south central New York on Monday, where 1 to 2 inches fell. High pressure across the western Atlantic Ocean then built westward Tuesday through Thursday, providing a humid southerly flow across the state along with scattered showers, mainly across western New York. A slow moving upper level low pressure system tracked east from the Great Lakes Friday and Saturday, triggering numerous showers and thunderstorms mainly across central and western portions of the state. Rainfall amounts Friday into Saturday ranged from 1 to 2 inches across central and western portions of the state, to an inch or less across the southeast. However, localized amounts well in excess of 2 inches fell where slow moving thunderstorms occurred. Temperatures averaged near to below normal across much of the state during the week, mainly due to persistent clouds and showers.

Week ending August 5th: High pressure dominated the weather for most of the week with a low pressure system finally moving into and through the region on Friday and Saturday. It was hot and humid with high temperatures in the 90's across most of the state my mid to late week. In the Lake Ontario fruit region, growers were busy collecting leaf samples to check foliar nutrition.

Week ending August 12th: The week started out sunny and dry with a high centered over northern New York. A series of disturbances moved across the region during the week with significant rainfall on the 8th and again on the 10th. Temperatures for the week averaged near seasonal normal with rainfall well above normal in the Hudson Valley but below

normal in the Finger Lakes, the Niagara Frontier, and the St. Lawrence Valley. In the Lake Ontario fruit region, some rain was received, but dry conditions still existed throughout the region. In the Southern part of the Lake Erie Grape Belt, 2.32 inches of rain was accumulated so far in August. The growing degree days accumulated since April 1 totaled 1640 through August 8. In St. Lawrence County, a little rainfall and plenty of sunshine kept farmers busy and their roadside stands as well. In the Hudson Valley fruit region, conditions look good due to the gentle rains received on Friday. Orange County growers continue to wait for the recent rains to sink into the ground.

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www.nysaes.cornell.edu/pp/extension/tfabp

WEATHER REPORTS OF TEMPERATURES AND PRECIPITATION THROUGHOUT NEW YORK STATE FOR WEEK ENDING SUNDAY 8:00am, July 22nd, 2007

	Temperature				Growing Degree Days (*Base 50*)			Precipitation (*inches*)			
	High	***Low***	***Avg***	***DFN[1]***	***Week***	***YTD[2]***	***DFN***	***Week***	***DFN***	***YTD***	***DFN***
Hudson Valley											
Albany	83	54	69	-4	133	1432	169	2.94	2.24	18.83	6.55
Glens Falls	83	46	66	-5	114	1140	45	1.86	1.19	13.35	1.55
Poughkeepsie	90	56	72	-2	155	1548	227	1.18	0.27	17.51	3.03
Mohawk Valley											
Utica	77	49	62	-5	86	904	60	0.93	0.06	14.10	-2.37
Champlain Valley											
Plattsburgh	80	48	65	-7	104	1055	-67	0.95	0.26	15.61	4.79
St. Lawrence Valley											
Canton	81	47	66	-4	115	1097	114	2.10	1.33	14.62	3.17
Massena	82	50	66	-5	112	1135	86	1.83	1.13	13.07	2.54
Great Lakes											
Buffalo	79	54	68	-4	127	1390	192	1.94	1.26	8.71	-2.98
Colden	77	48	63	-6	94	1020	62	1.16	0.39	10.51	-3.56
Niagara Falls	82	53	68	-4	131	1345	134	1.51	0.88	8.28	-3.21
Rochester	80	52	68	-4	126	1448	274	0.88	0.29	7.74	-2.47
Watertown	80	48	66	-4	111	1099	117	1.99	1.57	8.37	-0.85
Central Lakes											
Dansville	82	48	66	-5	117	1228	59	2.06	1.42	9.35	-2.40
Geneva	81	52	66	-5	117	1269	120	1.32	0.69	9.32	-2.40
Honeoye	79	48	65	-7	108	1174	-20	1.36	0.78	11.99	-0.49
Ithaca	81	45	65	-5	108	1138	99	1.21	0.44	10.22	-2.24
Penn Yan	79	53	68	-4	125	1400	251	1.70	1.07	9.97	-1.75
Syracuse	84	54	68	-4	129	1360	175	1.45	0.61	12.01	-1.14
Warsaw	78	51	64	-4	99	1031	141	0.94	0.21	13.63	0.03
Western Plateau											
Alfred	79	44	62	-6	84	883	13	2.66	1.89	12.21	-0.86
Elmira	83	44	66	-4	117	1220	114	0.54	-0.21	8.83	-3.29
Franklinville	78	42	62	-4	87	932	139	1.76	0.99	10.94	-2.73
Sinclairville	79	45	64	-4	101	1060	160	1.86	0.99	13.51	-1.67
Eastern Plateau											
Binghamton	81	53	67	-3	119	1260	189	2.07	1.30	12.28	-0.32
Cobleskill	81	49	65	-5	103	1100	109	1.15	0.38	17.11	3.45
Morrisville	77	50	63	-6	95	1027	87	1.83	1.06	12.99	-0.45
Norwich	83	49	65	-4	107	1067	76	1.94	1.17	14.14	0.43
Oneonta	88	50	69	2	131	1309	394	1.51	0.63	16.78	1.96
Coastal											
Bridgehampton	85	60	73	2	163	1343	184	1.01	0.38	15.58	2.08
New York	92	67	78	2	200	2019	358	2.88	1.93	23.42	9.34

1. *D*eparture *from N*ormal
2. *Y*ear *to D*ate: Season accumulations are for April 1st to date

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WEATHER REPORTS OF TEMPERATURES AND PRECIPITATION THROUGHOUT NEW YORK STATE FOR WEEK ENDING SUNDAY 8:00am, July 29th, 2007

	Temperature				Growing Degree Days (*Base 50*)			Precipitation (*inches*)			
	High	***Low***	***Avg***	***DFN[1]***	***Week***	***YTD[2]***	***DFN***	***Week***	***DFN***	***YTD***	***DFN***
Hudson Valley											
Albany	87	58	72	0	157	1589	171	1.03	0.33	19.86	6.88
Glens Falls	87	50	70	0	142	1282	47	0.23	-0.47	13.58	1.08
Poughkeepsie	89	60	74	2	168	1716	234	1.84	0.99	19.35	4.02
Mohawk Valley											
Utica	81	53	67	1	122	1026	65	0.82	-0.09	14.92	-2.46
Champlain Valley											
Plattsburgh	86	50	70	0	144	1199	-65	0.40	-0.35	16.01	4.44
St. Lawrence Valley											
Canton	85	49	69	0	134	1231	115	0.55	-0.24	15.17	2.93
Massena	87	50	71	2	150	1285	98	0.60	-0.14	13.67	2.40
Great Lakes											
Buffalo	85	57	72	1	155	1545	196	0.23	-0.50	8.94	-3.48
Colden	82	49	67	-2	118	1138	54	0.17	-0.60	10.68	-4.16
Niagara Falls	84	57	71	0	153	1498	138	0.25	-0.40	8.53	-3.61
Rochester	87	54	71	2	151	1599	281	0.53	-0.10	8.27	-2.57
Watertown	85	47	70	2	141	1240	125	0.04	-0.42	8.41	-1.27
Central Lakes											
Dansville	86	50	69	-2	137	1365	49	0.53	-0.10	9.88	-2.50
Geneva	84	55	70	-2	141	1410	114	0.65	0.02	9.97	-2.38
Honeoye	86	48	68	-4	129	1303	-45	0.44	-0.18	12.43	0.31
Ithaca	84	49	69	0	135	1273	101	1.77	1.01	11.99	-1.23
Penn Yan	85	56	70	-1	144	1544	248	0.53	-0.10	10.50	-1.85
Syracuse	87	54	72	2	153	1513	181	0.49	-0.35	12.50	-1.49
Warsaw	80	51	67	-1	118	1149	140	0.52	-0.23	14.15	-0.20
Western Plateau											
Alfred	81	44	65	-3	104	986	-3	0.32	-0.45	12.53	-1.31
Elmira	85	49	69	-2	134	1354	108	1.15	0.45	9.98	-2.84
Franklinville	82	46	66	1	111	1043	139	0.67	-0.11	11.61	-2.84
Sinclairville	82	47	66	-2	115	1175	156	0.54	-0.36	14.05	-2.03
Eastern Plateau											
Binghamton	81	55	69	-1	133	1393	183	2.21	1.44	14.49	1.12
Cobleskill	85	50	67	-2	122	1222	104	1.39	0.63	18.50	4.08
Morrisville	82	51	68	0	126	1153	87	1.44	0.67	14.43	0.22
Norwich	84	48	67	-2	121	1188	67	1.68	0.98	15.82	1.41
Oneonta	87	52	70	3	140	1449	415	1.17	0.33	17.95	2.29
Coastal											
Bridgehampton	84	60	73	2	163	1506	191	0.25	-0.43	15.83	1.65
New York	88	63	78	1	196	2215	365	1.80	0.89	25.22	10.23

1. *D*eparture *from N*ormal
2. *Y*ear *to D*ate: Season accumulations are for April 1st to date

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WEATHER REPORTS OF TEMPERATURES AND PRECIPITATION THROUGHOUT NEW YORK STATE FOR WEEK ENDING SUNDAY 8:00am, August 5th, 2007

	Temperature				Growing Degree Days (*Base 50*)			Precipitation (*inches*)			
	High	***Low***	***Avg***	***DFN[1]***	***Week***	***YTD[2]***	***DFN***	***Week***	***DFN***	***YTD***	***DFN***
Hudson Valley											
Albany	92	55	76	5	184	1773	201	0.00	-0.77	19.86	6.11
Glens Falls	91	47	73	4	163	1445	72	0.10	-0.67	13.68	0.41
Poughkeepsie	94	58	77	5	189	1905	264	0.02	-0.82	19.37	3.20
Mohawk Valley											
Utica	86	50	70	4	139	1165	92	0.25	-0.71	15.17	-3.17
Champlain Valley											
Plattsburgh	93	47	72	3	155	1354	-49	0.04	-0.80	16.05	3.64
St. Lawrence Valley											
Canton	89	47	72	4	152	1383	140	0.02	-0.84	15.08	1.98
Massena	91	49	72	4	158	1443	123	0.05	-0.72	13.72	1.68
Great Lakes											
Buffalo	93	57	76	5	183	1728	232	0.00	-0.82	8.94	-4.30
Colden	92	56	72	5	156	1294	84	0.25	-0.59	10.93	-4.75
Niagara Falls	94	54	75	5	180	1678	171	0.93	0.18	9.46	-3.43
Rochester	95	55	75	5	175	1774	316	0.00	-0.70	8.27	-3.27
Watertown	90	51	72	4	160	1400	152	0.11	-0.47	8.52	-1.74
Central Lakes											
Dansville	95	52	74	4	169	1534	78	0.00	-0.66	9.88	-3.16
Geneva	95	53	74	4	170	1580	140	0.09	-0.54	10.06	-2.92
Honeoye	93	46	71	-1	147	1450	-46	0.00	-0.65	12.43	-0.34
Ithaca	90	47	71	3	146	1419	114	0.12	-0.65	12.11	-1.88
Penn Yan	95	55	75	5	177	1721	281	0.00	-0.63	10.50	-2.48
Syracuse	95	54	75	5	178	1691	217	0.00	-0.78	12.50	-2.27
Warsaw											
Western Plateau											
Alfred	90	44	69	3	131	1117	12	0.00	-0.77	12.53	-2.08
Elmira	96	49	72	3	153	1507	123	1.18	0.48	11.16	-2.36
Franklinville	90	45	69	4	135	1178	169	0.00	-0.84	11.61	-3.68
Sinclairville	90	49	72	6	152	1327	189	0.00	-0.91	14.05	-2.94
Eastern Plateau											
Binghamton	88	54	73	5	164	1557	214	0.08	-0.69	14.57	0.43
Cobleskill	89	49	71	4	150	1372	128	0.18	-0.59	18.68	3.49
Morrisville	87	52	70	4	142	1294	107	0.54	-0.23	14.97	-0.01
Norwich	91	51	72	4	153	1341	94	0.25	-0.45	16.07	0.96
Oneonta	96	54	75	10	176	1625	472	0.04	-0.80	17.99	1.49
Coastal											
Bridgehampton	92	61	78	6	194	1700	230	0.00	-0.70	15.83	0.95
New York	98	72	83	7	229	244	405	0.97	0.08	26.19	10.31

1. *D*eparture *from N*ormal
2. *Y*ear *to D*ate: Season accumulations are for April 1st to date

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WEATHER REPORTS OF TEMPERATURES AND PRECIPITATION THROUGHOUT NEW YORK STATE FOR WEEK ENDING SUNDAY 8:00am, August 12th, 2007

	Temperature				Growing Degree Days (*Base 50*)			Precipitation (*inches*)			
	High	***Low***	***Avg***	***DFN[1]***	***Week***	***YTD[2]***	***DFN***	***Week***	***DFN***	***YTD***	***DFN***
Hudson Valley											
Albany	88	50	71	0	149	1922	203	1.55	0.78	21.41	6.89
Glens Falls	89	53	69	0	133	1578	73	0.92	0.10	14.60	0.51
Poughkeepsie	90	52	72	0	156	2061	266	2.36	1.52	21.73	4.72
Mohawk Valley											
Utica	79	51	66	0	112	1277	96	0.86	-0.18	16.03	-3.35
Champlain Valley											
Plattsburgh	85	53	68	-1	128	1482	-52	0.45	-0.47	16.50	3.17
St. Lawrence											
Canton	85	49	70	3	139	1522	157	0.12	-0.79	15.20	1.19
Massena	84	54	70	2	138	1581	134	0.33	-0.51	14.05	1.17
Great Lakes											
Buffalo	89	60	75	6	180	1908	270	0.08	-0.84	9.02	-5.14
Colden	86	55	71	4	145	1439	110	0.12	-0.75	11.05	-5.50
Niagara Falls	88	60	74	5	173	1851	203	0.16	-0.68	9.62	-4.11
Rochester	87	59	75	7	175	1949	358	0.38	-0.39	8.65	-3.66
Watertown	84	51	71	4	150	1550	175	0.37	-0.31	8.89	-2.05
Central Lakes											
Dansville	92	53	72	4	159	1693	99	0.19	-0.51	10.07	-3.67
Geneva	89	58	72	3	157	1737	158	0.58	-0.12	10.64	-3.04
Honeoye	89	55	72	2	155	1605	-36	0.31	-0.39	12.74	-0.73
Ithaca	87	55	71	3	145	1564	133	1.55	0.78	13.66	-1.10
Penn Yan	90	58	74	5	168	1889	310	0.43	-0.27	10.93	-2.75
Syracuse	87	55	73	5	165	1856	245	0.32	-0.45	12.82	-2.72
Warsaw	84	55	70	5	144	1439	202	0.20	-0.64	14.35	-1.62
Western Plateau											
Alfred	85	50	69	4	135	1252	35	0.93	0.16	13.46	-1.92
Elmira	90	54	73	5	162	1669	152	0.89	0.21	12.05	-2.15
Franklinville	85	52	70	6	139	1317	204	1.19	0.33	12.80	-3.35
Sinclairville	87	49	70	5	141	1468	217	2.46	1.48	16.51	-1.46
Eastern Plateau											
Binghamton	86	56	72	4	152	1709	236	1.48	0.76	16.05	1.19
Cobleskill	84	50	68	1	125	1497	131	2.31	1.54	20.99	5.03
Morrisville	82	54	68	3	130	1424	120	1.52	0.75	16.49	0.74
Norwich	89	51	69	3	136	1477	108	2.29	1.57	18.36	2.53
Oneonta	92	54	72	7	157	1782	516	1.66	0.82	19.65	2.31
Coastal											
Bridgehamton	89	59	74	3	169	1869	245	1.34	0.58	17.17	1.53
New York	95	59	79	3	203	2647	424	3.19	2.35	29.38	12.66

1. *D*eparture *from N*ormal
2. *Y*ear *to D*ate: Season accumulations are for April 1st to date

The information contained in these weekly releases are obtained from the New York Agricultural Statistics Service (http://www.nass.usda.gov/ny/), who in turn obtains information from reports from Cornell Cooperative Extension agents, USDA Farm Service Agency, Agricultural Weather Information Service Inc., the National Weather Service and other knowledgeable persons associated with New York agriculture.