New York Berry News

CORNELL UNIVERSITY

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What's Inside

CURRANT EVENTS

July 28-29, 2010. *2010 Cornell Fruit Field Day*, Geneva, NY. Berry and Grape programs Wednesday, July 28th. More information: Amy Andersen, 315.787.2331, Email: ada10@cornell.edu. Or check out the website: http://www.nysaes.cornell.edu/hp/events/detail.php?id=311

July 15, 2010. *Exploring a U-pick Berry CSA***.** Kestrel Perch Berries, 220 Rachel Carson Way Ithaca, NY 14850 (Tompkins County), 10:30am-12:30pm. For more information: https://www.nofany.org/events/field-days/exploring-u-pick-berry-csa.

August 17-18, 2010. *North American Strawberry Growers Association 2010 Summer Tour*, Intercontinental Hotel, Old Montreal. For more information visit www.nasga.org or call Kevin Schooley at 613-258-4587.

December 7-9, 2010. *Great Lakes Fruit Vegetable and Farm Market EXPO*, DeVos Place Convention Center, Grand Rapids, Michigan. For more information: http://www.glexpo.com.

January 6-7, 2011. *NARBA (North American Raspberry and Blackberry Growers Association) Annual Meeting*, Savannah, GA. See news brief that follows for more information.

January 31 – February 3, 2011. *Mid-Atlantic Fruit and Vegetable Convention* at the Hershey Lodge in Hershey, PA. For more information visit www.mafvc.org.

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.

REMINDER: CORNELL FRUIT FIELD DAYS - JULY 28-29

Cornell University will host the 2010 Fruit Field Days at the New York State Agricultural Experiment Station in Geneva, NY, from 8am-5pm each day. Grapes and berry fruits will be the focus on July 28, and tree fruits will be addressed on July 29.

Fruit growers, consultants, and industry personnel are invited to tour field plots and learn about the latest research and extension efforts being carried out by researchers on the Geneva and Ithaca campuses, and on commercial farms elsewhere in the state. The focus will be on all commodities key to New York's $300 million fruit industry: apples, grapes, cherries, raspberries, strawberries, blueberries and other berry crops.

During lunch, equipment dealers and representatives from various companies will showcase their latest products and technologies to improve fruit crop production and protection. The event will be held on the Experiment Station's Fruit and Vegetable Research Farm South, 1097 County Road No. 4, one mile west of Pre-emption Rd. in Geneva, NY. Signs will be posted. Attendees will be brought to the different research plots by bus to hear presentations by researchers on the work being conducted. The cost of registration is $15 per person for single-day attendance and $25 for both days; lunch will be provided each day.

Pre-registration is required, and can be done either online (via credit card) or by mailing in a check plus the registration form, available on the NYSAES home page under "Events" (http://www.nysaes.cornell.edu/), on the Cornell Fruit web page under "News and Events" (http://www.fruit.cornell.edu/), and through Cornell Cooperative Extension regional fruit program newsletters. More program information and the online pre-registration site are posted on the above web pages.

For sponsorship and exhibitor information, contact Debbie Breth at 585-798-4265 or dib1@cornell.edu.

NASGA SUMMER TOUR 2010

The North American Strawberry Growers Association (NASGA) will be hosting its annual annual summer tour out of Montreal, Quebec. Two days of farm tours and market visits are planned for August 17th and 18th.

Join farmers and agribusiness from across the United States and Canada as they visit innovative and successful growers and marketers as wells as some very popular public markets.

DAY ONE

Montreal Central Produce Market. We will depart early and visit this bustling market. Growers bing their berries to this market and sales to buyers such as grcoery stores occur all night. We will be treated to breakfast at the market.

Fraisebec, Ste-Anne-des-Plaines. Fraisebec is the largest strawberry grower in Canada and we will see large day neutral strawberry production under different management systems as well as raspberry production under high tunnels.

D & M Sauriol, Laval. Michel is the president of the growers association and will discuss the branding project launched by the Quebec growers. We will also see a very nice farm market along with production of strawberries and a variety of other crops.

Jean Talon Market, Montreal. This market is the largest of the public markets in Montreal. Growers sell directly to the public at this market and the market features not only fruits and vegetables but flowers, meats and other fine foods.

Participants will return to the hotel for the evening where they are free to walk to area restaurants and night spots.

DAY TWO

Alain Masse' Nursery, St Cesaire. This nursery grows plants for both the northeast as well as the southern market. We will get to see this production and be able to discuss what varieties are the hottest with growers in many regions.
Cidrerie Michel Jodoin, Rougemont. This operation creates a number of cider products derived from apples including traditional cider, ice wine and a variety of spirits. Since its humble beginnings in the late 80's they now produce over 100,000 bottles annually. This area has a long history of apple production and is one of the most innovative areas in Quebec.

Novafruit. St-Paul-d'Abbotsford. Simon Parent is the current NASGA president and he will discuss his plug production systems. Simon is also actively involved in developing new and innovative production systems and has many of these new systems on the farm as demonstrations for us to observe. Testing of some of the European growing systems will be part of these demonstrations.

For lunch we will visit a traditional sugar shack. Quebec is the largest producer of maple syrup in North America. **Machinery and Specialized Equipment Display** – Strawberry growers will have an opportunity to see some of the newest equipment and machinery developed for new and traditional production systems.

Potager Gauvin, Ange-Gardien. This garden market boasts 10 acres of tunnel production with a variety of fruits and vegetables both under tunnel and in traditional outside production.

For more information visit www.nasga.org or contact Kevin Schooley at info@nasga.org or 613-258-4587

Reservation can be made at the **Intercontinental Hotel Montreal,** 360, rue Saint-Antoine Ouest Montréal, QC H2Y 3X4 Canada. HOTEL 1-800-361-3600 FAX -847-8730

Block code UX1

Please let the hotel know you are with the North American Strawberry Growers Association to get the preferred rate of $139.00 a night. Parking is available for $22.00 per day

MARK YOUR CALENDAR FOR NARBA'S 2011 CONFERENCE

The North American Raspberry & Blackberry Conference will be held on Thursday, January 6 and Friday, January 7 in Savannah, Georgia, in association with the Southeast Regional Fruit and Vegetable Conference. The SRFVC runs through Sunday, January 9, and also includes sessions on peaches, blueberries, vegetables, and other crops and topics, as well as a large trade show.

NARBA had its annual conference here in 2006, followed by several regional meetings. Savannah is a wonderful town to visit, and the area's balmy winter weather should be very attractive to members from colder areas. The program will cover both raspberry and blackberry topics, not just those of regional interest; a pre-conference tour on Wednesday, January 6 may also be scheduled.

For more information, contact NARBA, 1138 Rock Rest Rd, Pittsboro, NC 27312, info@raspberryblackberry.com or www.raspberryblackberry.com.

CLEANSWEEPNY SPRING 2010 COLLECTION A GREAT SUCCESS!

Over 51,863 pounds of chemical wastes were collected for disposal from 81 participants in the spring 2010 CleanSweepNY collection event that targeted NYSDEC's Region 5 counties. This included 28 pounds of elemental mercury and 16,403 pounds of chemical pesticides from the farming community and from certified pesticide applicators.

This CleanSweepNY collection event brings the total poundage of chemicals collected since the program's inception in 2002 to over one-million-fifteen-thousand pounds which includes over 660 pounds of elemental mercury and the recycling of over 4,000 empty and triple-rinsed plastic pesticide drums containers.

Many thanks go out to NYSDOT for their continued program support and for the use of their residencies in Plattsburgh, Elizabethtown and Hudson Falls by providing drive-thru garage bays where the spring 2010 collections were staged. The NYSDOT support has been a very important part of the CleanSweepNY success story.

Planning will begin soon for a Fall 2010 CleanSweepNY collection event which will target the following NYSDEC Region 6 counties: Herkimer, Jefferson, Lewis, Oneida and St. Lawrence.

All questions and requests for registration packets should be made via the following:

- Telephone: 877-793-3769
- Email: info@cleansweepny.org

When leaving a voicemail message, please speak clearly and leave a call-back phone number so CleanSweepNY staff can return your call.

EPA MOVES TO TERMINATE ALL USES OF INSECTICIDE ENDOSULFAN TO PROTECT HEALTH OF FARMWORKERS AND WILDLIFE

WASHINGTON - The U.S. Environmental Protection Agency (EPA) is taking action to end all uses of the insecticide endosulfan in the United States. Endosulfan, which is used on vegetables, fruits, and cotton, can pose unacceptable neurological and reproductive risks to farm workers and wildlife and can persist in the environment.

New data generated in response to the agency's 2002 decision have shown that risks faced by workers are greater than previously known. EPA also finds that there are risks above the agency's level of concern to aquatic and terrestrial wildlife, as well as to birds and mammals that consume aquatic prey which have ingested endosulfan. Farm workers can be exposed to endosulfan through inhalation and contact with the skin. Endosulfan is used on a very small percentage of the U.S. food supply and does not present a risk to human health from dietary exposure.

Makhteshim Agan of North America, the manufacturer of endosulfan, is in discussions with EPA to voluntarily terminate all endosulfan uses. EPA is currently working out the details of the decision that will eliminate all endosulfan uses, while incorporating consideration of the needs for growers to timely move to lower-risk pest control practices.

Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), EPA must consider endosulfan's risks and benefits. While EPA implemented various restrictions in a 2002 re-registration decision, EPA's phaseout is based on new data and scientific peer review, which have improved EPA's assessment of the ecological and worker risks from endosulfan. EPA's 2010 revised ecological risk assessment reflects a comprehensive review of all available exposure and ecological effects information for endosulfan, including independent external peer-reviewed recommendations made by the endosulfan Scientific Advisory Panel.

Endosulfan, an organochlorine insecticide first registered in the 1950s, also is used on ornamental shrubs, trees, and herbaceous plants. It has no residential uses.

For more information: http://www.epa.gov/pesticides/reregistration/endosulfan/endosulfan-cancl-fs.html

ENDOSULFAN – TERMINATION OF USE

Kathy Demchak, Department of Horticulture, The Pennsylvania State University

Due to concerns about agricultural worker and environmental safety, EPA is in the process of terminating endosulfan (previously sold as Thiodan and more recently as Thionex) insecticide use. Endosulfan, unfortunately, not only can affect the people working with the pesticide and immediate area, but also tends to

bioaccumulate (i.e., it can be passed on and accumulate in the food chain), and can be found at great distances from the point of application. Details behind the decision can be found on the Web at http://www.epa.gov/pesticides/reregistration/endosulfan/endosulfan-cancl-fs.html.

Endosulfan is classified as restricted use, and within the small fruit "world", re-entry intervals are already quite long (5 days for strawberries and 9 days for blueberries). So, uses are already somewhat limited. However, one gap in pest control may be in materials available for cyclamen mite control on strawberries, where endosulfan is applied after harvest. Various groups with interests in agricultural crop protection will be working to ensure that other safer options are in place for important uses before endosulfan usage is completely discontinued. For the time being, existing stocks can be used.

(Reprinted from: The Pennsylvania State University Vegetable and Small Fruit Gazette, Vol. 14, No. 7, July 2010.)

NARBA TAKES ON THE CREATION OF A RESEARCH AND PROMOTION PROGRAM

At its February meeting, the Executive Council of NARBA decided to look into the feasibility of developing a Research and Promotion Program for blackberries or possibly both blackberries and raspberries. The initial discussions and impetus for this project originated among blackberry producers and marketers, but the Council is open to the possibility that the end result may include fresh market raspberries as well. This action, by which NARBA takes leadership and acts as a catalyst for a process that in the end will need to involve all sectors of the industry, is an exciting development that offers the possibility of great benefit and growth.
Research and Promotion Programs are administered by the USDA Agricultural Marketing Service to help produce and specialty crop industries expand domestic and foreign markets for their commodities. An existing R&P Program that has been very successful is the U.S. Highbush Blueberry Council, and work has been underway for the last couple of years to create one for processed red raspberries. An R&P Program is different from state/regional marketing orders and "check offs" in that the R&P is national in scope, includes both research and promotion, and assesses both imports and domestic production. Including imports is an important aspect, as blackberries from Mexico, and to some degree South and Central America, make up a large share of the blackberry market (see the article on page 8). Commodity groups are able to establish a national board of industry representatives who conduct promotion, market research, production research, and new product development for the benefit of their industries. The programs are funded by assessments collected by the board and, for import assessments, by the U.S. Customs Service.

The possibility of setting up an R&P Program was the topic of one of the sessions at NARBA's regional meeting at the Southeast Fruit & Vegetable Conference in Savannah, GA. The decision to move forward was announced at our Annual Meeting. At both venues, it met with considerable support from growers and marketers.

Nothing is yet decided as to what the program would look like. NARBA is committed to making sure that the process is inclusive of all segments of the industry, and that the program serves the interest of all producers. The road from idea to actuality is a long one, and will involve both involvement and financial support from across the industry.

NARBA will be contracting with Tom Krugman, who has helped the Washington Red Raspberry Commission develop the program for processed red raspberries, and has worked with many different commodity associations, to help us research and develop our proposal to USDA. The Executive Council also appointed Ervin Lineberger, retiring NARBA President, to help get this project off the ground.

Blackberries R & P Update

It's an exciting time, as NARBA works with the blackberry industry to develop a federal Research and Promotion program for blackberries, as a way for the blackberry industry – both domestic and imported – to help build consumer

demand and grow the industry. This process, which NARBA initiated this winter, is now progressing. Tom Krugman, contracted to work on the project, has collected statistics and developed a draft proposal, still with many questions to be resolved. NARBA has developed a Working Group, composed of a number of leaders in the blackberry industry, to consider these questions and issues. A web page with more information and an R&P fact sheet for the project is located at: http://www.raspberryblackberry.com/blackberryRandP/ .

Some of the questions yet to be answered are: what level of production will be assessed? At what rates? What will be the composition of the governing board? And more... If you'd like to be involved in conversations about the R & P project, please join a new E-Forum focusing on this issue.

You can join at http://groups.google.com/group/blackberryrp-forum or email info@aspberryblackberry.com with a request to be added.

CNAL AND AGRO-ONE UPDATE JUNE 16, 2010

Over the past two years, the Cornell Nutrient Analysis Laboratory (CNAL) has been shifting its commercial soil testing to Agro-One Services, forming a strong partnership between Cornell University's College of Agriculture and Life Sciences and Agro-One Services, a division of Dairy One Cooperative, Inc. Growers, farmers, and gardeners send soil samples directly to Agro-One for standard fertility analyses, and Agro-One provides clients with Cornell University's research-based nutrient recommendations.

To ensure that Agro-One provides accurate nutrient recommendations, CNAL and Agro-One have worked closely with a team of Cornell faculty, staff, and extension educators to implement the most comprehensive update to the recommendation process in nearly two decades. During this time, the team has also made considerable updates to the software engine that provides these recommendations. Now, when you submit your samples to Agro-One, you will receive the most up-to-date nutrient recommendations with the latest research findings that Cornell has to offer.

However, while simultaneously transitioning commercial samples to Agro-One and implementing the new recommendation software, some challenges have developed. We thank everyone who brought issues about the new process and recommendations to our attention. In addressing them, we found that these issues are not so much the result of a change in analytical methodology but are mostly software bugs. Cornell and Agro-One are committed to working out these bugs and each of your concerns will be addressed.

Also, beginning July 1, 2010, Agro-One will begin commercial leaf and petiole testing and will be providing fertilizer recommendations based on Cornell's commercial and home fruit growing guidelines. Please remember that most horticultural crops are best sampled *after* July 1, therefore most samples from this years' growing season should be sent directly to Agro-One. After July 1, CNAL will no longer provide fertilizer recommendations for commercial samples. If you wish to receive Cornell University's recommendations, please submit your soil or plant samples directly to Agro-One.

That said, CNAL continues to maintain its analytical know-how and state-of-the-art equipment, and offers a wide-range of additional laboratory tests for stakeholders in New York. For example, CNAL continues to expand its heavy metal testing program, and offers many soil physical and health tests to help complete the understanding of soil fertility and crop performance. Further strengthening CNAL's collaborations with both the public and private sector, the Lab also focuses on the research and development of innovative analytical tests for soil, plant, water, and food materials.

We recognize that in the past CCE staff and crop consultants have added service charges and shipping and handling fees to the price of CNAL soil tests. This practice continues to be at the discretion of the local CCE office or consultant. However, Agro-One's submission forms and formal price structure may not in any way be altered. If CCE staff or consultants wish to add fees to the test price, they should clearly indicate these charges as a separate add-on to the price structure. This way, Agro-One's prices are uniform and additional fees are transparent. To avoid having clients pay two separate fees – one for shipping and handling and one for the soil test –a CCE or consultant account can be opened with Agro-One. To do so, or for any other billing related questions, please contact Gaye Brewer at Agro-One, 1-800-496-3344, ext 2155.

As a reminder to all of our stakeholders, Agro-One will continue to accept and process previously purchased Cornell soil test bags, but these bags are no longer available for purchase.

You will find sampling instructions, submission forms, and free sample pick-up locations throughout the Northeast at the Agro-One website (www.dairyone.com/AgroOne/). To learn about CNAL's services, please visit www.cnal.cals.cornell.edu.

If you have any questions, please don't hesitate to contact us directly.

Sincerely,

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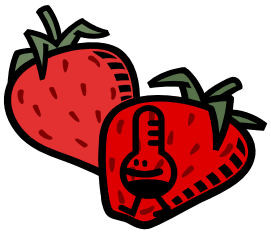
JULY BERRY BAROMETER

HELPING TO KEEP YOU UP TO THE MARK!



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

Strawberry Growers –Renovate!

As in 2009, reports have come in again this season from NY and the Northeastern US and Ontario Canada of what appears to be winter injury on strawberries, especially in 2nd and 3rd year plantings. Damage includes death of daughter plants (runners), weakened mother plants, sparse foliage, poorly filled in planting rows, reduced crop loads, etc.

This injury may be due to delays in renovation the previous season. When renovation is delayed longer than 1-2 weeks after harvest, carbohydrate reserves may be greatly reduced, making plantings susceptible to winter injury. Now is the time to renovate- don't put it off!

Dr. David Handley of University of Maine advises, "Early renovation allows more time for runner plant development, leading to larger crowns and more flower buds for next year. Early renovation also improves weed management by tilling in many weeds before they go to seed, and can help with insect and foliar disease control by interfering with life cycles at a critical stage of development."

We have an excellent opportunity this year to renovate early, due to the advanced season. See the strawberry renovation article that follows by Bruce Bordelon for an excellent review of this important process.

Blueberry Growers – Sound Battle Cry!

Charge! Blueberries are coloring – birds are abundant. Get those bird management tactics in place and operational **BEFORE** they get their first bite!

Use a variety of tactics, and move them/mix them up to keep birds on their toes and out of your blueberries.

ALL BERRY CROPS:

1. **Leaf Analysis –** Late this month would be the time to collect samples for leaf analysis. Results from this analysis will help with next year's fertilizer decisions. With blueberries it is often advisable to do a soil test at the same time; low leaf analysis levels may not adequately reflect soil levels if pH is a continuing problem.

Leaf Analysis	
Strawberries:	Collect 30 leaflets after renovation in July or August.
Raspberries:	Collect 30 newly expanded leaflets from primocanes in early August.
Blueberries:	Collect 30 newly expanded leaves from well-exposed branches in late July.
Currants and Gooseberries	Collect 30 newly expanded leaves from well-exposed branches in late July.

See the news brief preceding this article for more on the CNAL Agro-One transition and where to obtain soil and leaf analysis information and instructions.

2. **Irrigation** - Keep up the good work! Strawberries and blueberries prefer 1 –2" of water (or rainfall) per week. Brambles need a continuous (*but not excessive*) supply of water throughout the growing season – about 1-2" per week. Ribes require less water than many other small fruit crops – about ½ -1" per week. **Note:** On drought-susceptible soils or raised beds more irrigation may be needed.
3. **Weed management** – Hand-weeding or spot applications to control weeds in new plantings.
4. **Harvest/Post Harvest** – Hot summer months are no time for harvested berries to be left sitting in the field. Set up a do-it-yourself forced air cooler and keep those berries moving into the cold chain ASAP! Plans for one do-it-yourself "Forced Air Produce Cooler" are available from Virginia Cooperative extension at: http://pubs.ext.vt.edu/442/442-060/442-060.pdf.

STRAWBERRIES:

Established plantings:

1. **Diseases** – Leaf diseases (*leaf spot, leaf scorch, leaf blight and powdery mildew*) take the forefront after renovation. Mowing and incorporating of leaves after renovation is the cultural approach to reducing populations (alternatively, leaves may be collected and buried or burned). Promoting god air circulation (plant spacing and weed control) will reduce foliage drying time and limit infections. A post-renovation fungicide application made to newly expanding leaves may be of some benefit in plantings with a history of disease or when conditions are favorable for disease development.

2. **Insects –** *Two-Spotted Spider Mite* is probably the chief insect pest of concern after renovation. As with leaf diseases, mowing and incorporating of leaves after renovation is the cultural approach to reducing populations. Regular leaf monitoring is necessary for assessing population growth; a threshold of 5 mites/leaf or 15 out of 60 fully expanded leaflets infested with 1 mite or more merits control action. Remember good coverage is critical for adequate protection.

   Another problem insect that has been reported frequently this season is *Cyclamen Mite*. Cyclamen mites are very small and reside down in the crown of the strawberry plant feeding on the developing leaves. They are very hard to see, even with magnification. Infested plants typically exhibit weak growth and yellow, stunted, malformed, crinkled leaves. Thionex can be effective in Cyclamen mite control, but must be applied in lots of water (200 gal dilute spray/A) to be sure that the material is carried down into the crowns. Apply during renovation after old leaves have been mowed off to better allow material to reach mites in crown leaves.

New plantings:

1. **Plant establishment** –Runners need good soil contact to root. Keep the 18" planting strip weed free by hand weeding or using cultivation equipment for good runner establishment. Direct runner plants from aisles

back into planting row area. Remove blossoms as they open to encourage good plant establishment and growth.
2. **Diseases** - Leaf diseases (*leaf spot, leaf scorch, leaf blight and powdery mildew*). Protect your new plantings from infection prior to when conditions are favorable for disease development.
3. **Insects –** *Two-Spotted Spider Mite* may also be a problem in new plantings. Monitor populations carefully and take action before threshold levels are exceeded.

BLUEBERRIES:

Established plantings:

1. **Diseases** – Anthracnose continues to be the major concern during harvest, especially if temperatures are warm. Take measures to protect fruit now before problems occur.
2. **Insects** – Blueberry maggot, Japanese beetle and blueberry stem borer are pests of concern.

New plantings:

1. **Plant establishment** – Hand –weeding and spot treatments.

RASPBERRIES AND BLACKBERRIES:

Established plantings:

1. **Diseases –** Reports of gray mold are coming in – keep fruit protected during wet weather. Check DTH and REI carefully before making applications.
2. **Insects –** Insects of concern during harvest include Sap Beetle and Tarnished Plant Bug.

New plantings:

1. **Plant establishment** – Avoid cultivation or herbicides until plants are well-established. Apply a dilute liquid fertilizer once new growth appears.

CURRANTS AND GOOSEBERRIES:

New and Established plantings

1. **Diseases –** 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 –**Harvest/postharvest insects of concern include Japanese beetles, and Two-spotted spider mites.

STRAWBERRY RENOVATION

Bruce Bordelon, Department of Horticulture & Landscape Architecture, Purdue University Extension

Matted row strawberry plantings must be renovated after harvest to establish new crowns for next year's crop. For best results, renovation should be started immediately after the harvest is completed to promote early runner formation. The earlier a runner gets set, the higher its yield potential. Harvest is early this year so plantings may be ready for renovation soon in the southern part of the state. Growers should begin renovation as soon as the last marketable berries are harvested. Renovation should be completed by the end of July in normal years. The following steps describe renovation of commercial strawberry fields.

1. Weed control: Post emergent application: Annual broadleaf weeds can be controlled with 2,4-D amine formulations. Check the label as only a few products are labeled for use on strawberries. (e.g. Amine 4 [Dimethylamine salt of 2,4-D (3.74 lb./gal.)] at 2 to 3 pts./acre in 25-50 gallons of water applied immediately after final harvest. Be extremely careful to avoid drift when applying 2,4-D. Even though the amine formulation is not highly volatile, it can volatilize under hot, humid conditions and can cause damage to sensitive plants a considerable distance from the site of application. Some damage to strawberries is also possible. Read and understand the label completely before applying 2,4-D amine. If grasses are a problem, sethoxydim (Poast 1.5 EC) or clethodim (Select 2 EC) will control annual and some perennial grasses. However, do not tank mix these materials and 2,4-D. See the Midwest Small Fruit and Grape Spray Guide and the product label for rates and especially for precautions.

2. Mow the old leaves off just above the crowns 3-5 days after herbicide application. Do not mow so low as to damage the crowns.

3. Fertilize the planting. A soil test will help determine phosphorus and potassium needs, but foliar analysis is a more reliable measure of plant nutrition. For foliar analysis, sample the first fully expanded leaves following renovation. Generally, nitrogen should be applied at 70-100 lbs/acre, depending on vigor. It is more efficient to split nitrogen applications into two or three applications at regular intervals, rather than apply it all at once. A good plan is to apply about half at renovation and half again in late August when flower bud development is occurring.

4. Subsoil: Where picker traffic has been heavy on wet soils, compaction may be severe. Subsoiling between rows will help break up compacted layers and provide better infiltration of water. Subsoiling may be done later in the sequence if crop residue is a problem or if soils are too wet at this time.

5. Narrow rows: Reduce the width of rows to a manageable width based on your row spacing, the aisle width desired, and the earliness of renovation. A desirable final row width to attain at the end of the season is 12-18 inches. Wider rows lead to low productivity and increased disease pressure. This means that rows can be narrowed to as little as 6 inches during renovation. Use a tiller or cultivator to achieve the reduction. Since more berries are produced at row edges than in the middle, narrow rows are superior to wide rows. Narrow rows will give better sunlight penetration, better disease control, and better fruit quality.

6. Cultivate: Incorporate the straw and other plant material between rows and throw a small amount of soil over the row by cultivation. Strawberry crowns continue development at the top, and new roots are initiated above old roots on the crown, so 1/2 - 1 inch of soil on the crowns will facilitate rooting. This also helps cover straw in the row and provides a good rooting medium for the new runner plants.

7. Weed control: Pre-emergence weed control should begin immediately. There are more options today than in past years. Chateau, Dacthal, Devrinol, Prowl H2O, and Sinbar are labeled materials. See the Midwest Small Fruit and Grape Spray Guide and check the product labels carefully. Devrinol must be incorporated by irrigation, rainfall, or cultivation to be effective. Rate and timing of Sinbar or Prowl application is critical. If regrowth has started at all, significant damage may result. Some varieties are more sensitive to Sinbar than others. See the Midwest Small Fruit Pest Management Handbook for a table showing variety sensitivity to Sinbar.

8. Irrigate: Water is needed for both activation of herbicides and for plant growth. Don't let the plants go into stress. Ideally the planting should receive 1 to 1-1/2 inches of water per week from either rain or irrigation.

9. Cultivate to sweep runners into the row until plant stand is sufficient. Thereafter, or in any case after early September, any runner plant not yet rooted is not likely to produce fruit next year and can be removed. Coulter wheels and/or cultivators will help remove these excess plants in the aisles.

10. Adequate moisture and fertility during August and September will increase fruit bud formation and improve fruit yield for the coming year. Continue irrigation through this time period and fertilize if necessary. An additional 20-30 pounds of N per acre is suggested, depending on the vigor.

(Reprinted with permission from: Ohio State Fruit ICM News, Vol. 14 No. 10, June 21, 2010.)

WEEDS IN RASPBERRIES

Dandelions and Quack Grass and Thistle, Oh My!

Molly Shaw, Vegetable and Fruit Specialist, South Central NY Agriculture Program, Tioga County Cooperative Extension, Owego, NY

Weeds are the nemesis of berry growers, the pest that causes the most economic loss. If you're having trouble with them, be comforted that you're not alone. Weed control always comes up high on the list of research priorities among berry growers, and while we all wish someone would come up with a magical new way to control them, some folks do on average win the battle more often than others. A careful review of the tools and techniques currently available should prove useful.

Cornell organized a series of berry webinars last winter. David Handley (University of Maine) and Rich Bonanno (University of Massachusetts) presented on cultural and chemical weed control for berries, and notes from their presentations are compiled here. The full webinar is archived on the Cornell Berry Website (www.fruit.cornell.edu/berry.html/).

Pre-plant weed control is critical for berries because controlling weeds once plants are in is so tough, especially for those perennial weeds. And consider this: 70% of raspberry roots are in the top 8" of soil, *the same zone as grass.* Preplant weed control takes 1-3 years, more for higher weed pressure, especially perennials. Growers who prefer not to use glyphosate (round-up) on perennial weeds will also want to prep the soil a couple years in advance, since it can be tough to get rid of perennial weeds in just one year. Before you turn the soil, make note of weeds that are there. If there is a lot of quack grass, nutsedge, or wild brambles, you might even want to choose a different spot.

If you use Round-Up (or some other brand of glyphosate), fall applications work best because the plant is in "move food to my roots" mode, and the herbicide gets to the target better than in the spring, when the plant carbohydrates are moving up from roots to new leaves. For broadleaf weeds, fall application should be before we get heavy frosts, when the plants are still actively growing. For grasses, you can go as late as Thanksgiving, just wait for a day that is 40 F at noon, and put the glyphosate on then.

Side note: Sparse perennial weeds can be spot-treated in the summer with glyphosate. Particularly tough weeds, woody vines, bindweed and the like, can be treated in the following manner: Mix 2 parts water with one part Round-up, dip cutting sheers in the solution, and cut the base of the weed of any actively growing plant (doesn't need to be fall). Cutting the vine and painting the stub with glyphosate doesn't work as well because the phloem of the plant is in tension, like a vacuum, and when the vine is cut that vacuum is released. If the glyphosate is present on the cutting sheers, it gets sucked down into the stem when the plant is severed. Heartless, yes, but effective.

The planting site for berries can be managed with a combination of cover crops and stale seed bed techniques. Cover crops are good as long as they are managed to deplete the weed seed bank—that would be short term cover crops with tillage in between and no weeds going to seed in the cover. An example would be spring oats followed by buckwheat (one or two rounds), followed by a winter cover crop, or even a fall brassica. Leaving a couple weeks to bare fallow between cover crops can help deplete weeds germinating by seeds, if the soil is moist enough.

If you choose to use a stale seed bed right before planting berries (a good idea), disturb the soil as shallowly as possible during the tillage, and start the stale seedbed process 6 weeks before planting the berries.
If your weeds are pretty well under control and you choose to plant early in spring before it's possible to have 6 weeks of stale seed bedding, you can till just the planting strips of your overwintered cover crop such as killed cereal rye or oats. Don't simply till strips out of a lawn or old field—the grass will come back aggressively. Subsoiling in the planting strips will help with drainage if you have a hard pan (common). You can also establish your ground cover (slow growing grass) the fall before planting and kill (spray) strips for the berries. A commercial grass mix called "Orchard Vineyard Nursery mix" (OVN mix) works well, composed of slow growing fescues and rye grasses. Conservation grass mixes are too aggressive, and lawn mixes will need more mowing.

Mulch new brambles with straw or wood chips, but realized that leaving straw on the planting over winter can keep the soil too wet and cause the berries to get Phytophthora, a nasty root disease. Wood chips 4-8" thick don't hold too

much moisture, pine needles are fine too. Fall leaves keep the soil too wet. Keep track of the pH under wood chip mulch, as they rot they tend to lower the soil pH.

Pre-emergent herbicides work on not-yet-germinated seeds, so they are used in the fall or in the spring before weeds emerge. Casoron is used in late fall, just before snow, when temperature is <50F. If it's too warm, it volatilizes and hurts the plants. Princep (simazine) and Sinbar have the same mode of action and work on broadleaf weeds. Princep can be used ½ rate the year of planting—don't use Sinbar in the planting year. Solicam, Devrinol and Surflan are all effective on grasses (ones that grow from seeds, not quack grass). Devrinol is the safest one to use on new plants. Often Princep or Sinbar is combined with one of the grass pre-emergent herbicides.

Last fall, one of the blueberry farms in the southern tier decided to try various combinations of pre-emergent herbicides and compare them. Normally Princep and Sinbar were used together in March, but pigweed wasn't well controlled. So two more treatments were added: Princep and Chateau (a pre-emergent herbicide) in the beginning of November followed by Princep and Sinbar in March, and Princep and Chateau in November with no spring application. Compared to the "normal" Princep and Sinbar in March, the addition of Chateau in the fall gave better weed control. In the treatment with no spring herbicide, sorrel was becoming a problem and will require more spot spraying than the "normal" treatment.

Kerb and Velpar are two rather new labels for blueberries which I don't have any experience with. Velpar is reputed to be pretty effective, controlling a broad range of annual and perennial broadleaf weeds. Anyone have experience with either of these that you're willing to share? Contact me at meh39@cornell.edu, 607-687-4020.

Post-emergence herbicides are pretty limited. Paraquat and Aim are contact materials—they kill green tissue that they touch, but don't move through the plant. Post, Select, and Fusilade are all grass-specific herbicides. They have no effect on berries or broad-leaf weeds because they act specifically on the growing points of grass when used in spring when grasses are <8" tall. Even quack grass is knocked back, though it eventually regrows from the roots. For herbicides that move in the plant like glyphosate and the above-mentioned grass herbicides, using less water in the application works best. For example, applying a spray using 10 gal/A water will work better than spraying on the same amount of active ingredient in 40 gal/A.

Herbicides are definitely useful in berry production, but they can't be counted on as the only technique. Their efficacy is limited, so it pays to give attention to pre-plant site prep.

FUNGICIDE PROPERTIES AND WEATHER CONDITIONS

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Fungicides can be divided into two groups: **protectant** and **systemic** fungicides. Protectant fungicides are contact materials that remain on the outside of the plant surface and kill fungal spores and hyphae upon contact, thereby preventing infection from occurring. Systemic fungicides are absorbed by the plant cuticle and underlying tissues and can act by killing spores and hyphae as well as incipient infections where the fungus has penetrated the plant surface. When they stop infections and prevent symptoms from developing they are called "curative." However, symptoms that are already present will not be "cured" by the fungicide in question. After symptoms appear, some fungicides can reduce or inhibit fungal sporulation: these are called "anti-sporulants." The term "eradicant" is often used for products like lime sulfur, which kills overwintering fungal structures in woody plant tissues when applied as a dormant spray. However, eradicants seldom eliminate all overwintering inoculum. Occasionally people use the term "eradicant" for very effective fungicides (e.g., Ridomil) that prevent current-season infections to the point that the disease appears to have been eradicated. The term "translaminar" refers to the movement of a fungicide from one side of the leaf to the other, providing disease control on both sides of the leaf.

Systemic fungicides are systemic to different degrees, with some fungicides being locally systemic (they move only a short distance away from the spray droplet, e.g., Elevate), others being more mobile in the plant (systemic) and able to move to the tip of the leaf or shoot (Orbit, Rally, Abound), and yet others being highly systemic and able to move throughout the plant including the roots (e.g., ProPhyt, Aliette). Most systemic fungicides are highly effective against their target pathogens regardless if they are locally systemic or systemic. However, products that are more systemic

tend to have longer post-infection activity because they penetrate deeper into the plant tissues and are able to catch more advanced infections. In the latter case, the higher the rate used, the better the post-infection activity.

Both protectant and systemic fungicides are effective when applied before infection occurs, but only systemic fungicides have efficacy after the fungus has penetrated the plant (for a limited time, e.g., 24 to 72 hours, depending on the fungicide, disease, and rate used). Since systemic fungicides are absorbed by plant tissues and get redistributed in the plant, they tend to be less susceptible to wash-off by rain compared to protectant fungicides, which remain on the outside of the plant. A general rule of thumb that is often used is that one-inch of rain removes about 50 percent of the protectant fungicide residue and over two inches or rain will remove most of the spray residue. However, newer "sticky" formulations (e.g., Bravo Weather Stik, Dithane Rainshield) and fungicides applied with spreader-stickers may be more resistant to wash-off by rain. Also, fungicides and formulations differ a lot in their ability to adhere to plant surfaces. Therefore, research is needed to describe the effect of rainfall on wash-off on specific products.

In addition, protectant fungicide residues naturally decrease over time due to weathering, such as degradation by sunlight (UV radiation), heat or microbial activity, and redistribution over the plant surface by rainfall, dew or irrigation water. Growing tissues will also add to the fungicide dilution effect. In contrast, the concentration of systemic fungicides is reduced mainly due to redistribution and dilution in (growing) plant tissues as well as possible breakdown by the plant itself. A high pH of water used in the spray tank can result in alkaline hydrolysis (breakdown) of some fungicides, notably Captan. Most protectant fungicides are good for about seven to 14 days of protection, and systemic fungicides for seven to 21 days depending on the product, the rate applied, weather conditions, and disease pressure.

Recent research at MSU with fungicides against **Phomopsis in grapes** shows that **one-day-old** residues of fungicides are removed from the grape leaf surface by rainfall at different rates: for instance for Ziram, 0.1 inch of rain removed 25 percent of the residues, 0.5 inch of rain 30 percent of the residues, one-inch of rain 65 percent of the residues, and two inches of rain 75 percent of the fungicide residues. However, fungicide activity remained pretty good despite low residues remaining even after two inches of rain. In comparison, Captec tended to stick better, with a 50 percent reduction after two inches of rain. Efficacy was reduced slightly but was still very good with whatever residue remained. Surprisingly, even residues of Abound, which is a systemic material and considered rainfast, were reduced by rainfall, which suggests that a certain proportion of the fungicides remains on the outside of the plant, probably in/on the cuticle. However, disease control efficacy of the remaining Abound was barely reduced. Efficacy may be reduced more with older (e.g., one-week-old) fungicide residues where less active ingredient remains. We will investigate that this year.

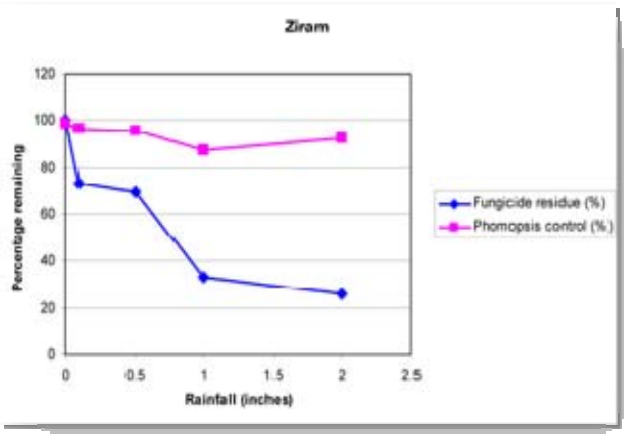
The question sometimes comes up if it is better to apply a protectant fungicide before or after rain, since it can wash off during the rain event. As you can see from the grape study, fungicide efficacy was still good even after two inches of rain in grapes. However, this only applies to new fungicide residues. Older residues may not be as robust. The other problem is that if extended wet conditions or wind prevent fungicide application soon after an infection period, it may be too late to obtain disease control. I would suggest that a recently applied protectant fungicide should be re-applied if more than two inches of rain fell or after 1 inch of rain if the residue is seven days old or older. A little bit of rain is not all bad, as it can help to distribute the fungicide residue over the plant surface. Be sure that the fungicide has dried well before the rain; otherwise it will be lost immediately. Most systemic fungicides are rainfast after a few hours, but a longer period (up to 24 hours) may be needed for some fungicides to get fully absorbed by the leaf or fruit surface.

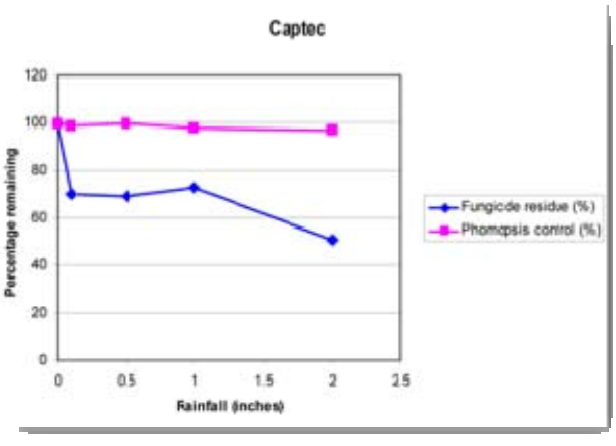
During rainy periods, it is better to use systemic than protectant fungicides or a mixture of the two since systemic fungicides are less sensitive to wash-off by rain. Applying a mixture of systemic and protectant fungicides may be the best compromise. In addition, spreader-stickers can enhance adherence of protectant fungicides, while penetrants may speed up penetration of systemic fungicides. Technological advances ensure that many newer fungicides and fungicide formulations have excellent adhesion or absorption properties.

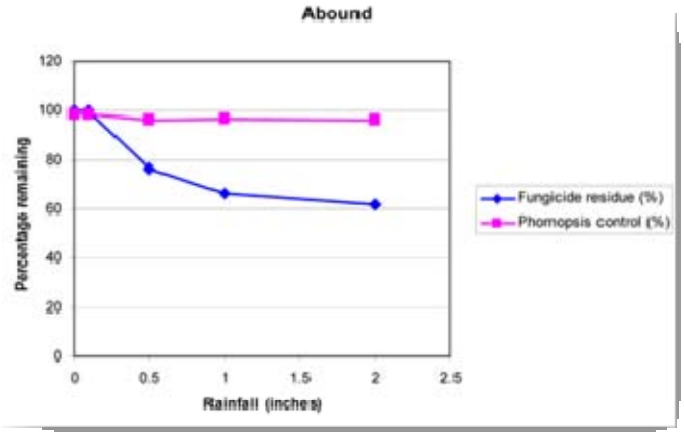
Protectant/Contact	Systemic
Actinovate	Abound
BlightBan A506	Adament
Bravo	Aliette
Captan	Bayleton
Copper	Cabrio
Dithane/Manzate/Penncozeb	CaptEvate (mixture)
Ferbam	Elevate
Gavel	Elite
JMS Stylet Oil	Endura
Kaligreen/Armicarb	Flint
Lime sulfur/Sulforix	Forum
Omega	Indar
OxiDate	Orbit
PlantShield/RootShield	Phostrol/ProPhyt
Prev-Am	Presidio
Serenade	Pristine
Sonata	Procure/Viticure
Sporan	Quintec
Sulfur	Rally
Thiram	Ranman (limited systemic activity)
Ziram	Regalia*
	Revus/Revus Top
	Rovral
	Rubigan/Vintage
	Ridomil Gold
	Scala
	Sovran
	Switch
	Tanos
	Topsin M
	Vangard

* Regalia is not systemic, but the reaction of the plant to Regalia is systemic within the leaf (but not other untreated parts of the plant).

Figure 1. Results of fungicide rainfastness study in grapes with the fungus *Phomopsis viticola*. Fungicide residues were one-day-old when stimulated rainfall applied.







BERRY PRICES IN NY

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In 2009, Cornell conducted a survey of NYS berry growers, asking about their pricing and marketing practices. A very similar survey was conducted by the NYS Berry Growers Association in 2006, so we are able to report both 2006 (48 responses) and 2009 prices (162 responses from all across the state).

A few quick notes about this survey: of the 162 respondents in 2009, 5 were organic. Farms reported berry plantings from less than 1 acre to more than 20 acres, with the 2/3 less than 6 acres, and half less than 3 acres. Strawberries were most commonly grown, with blueberries and raspberries not far behind. Blackberries were grown by 1/4 of the respondents, and ribes (currants, gooseberries) and elderberries reported infrequently.

The complete summary can be found on the NY Berry Growers Association website (www.hort.cornell.edu/grower/nybga/). Below are some pricing tables excerpted from the summary. **Note that the minimum and maximum price is affected by the report of a single farm, whereas the average price includes all farms in the survey.**

Comparison of prices for NYS strawberries ($/lb) from 94 growers in 2009. Only 2 reported on day-neutral strawberries.

Market	Minimum		Average		Maximum	
	2006	2009	2006	2009	2006	2009
U-Pick	$ 0.75	$ 0.83	$ 1.31	$ 1.76	$ 2.80	$ 3.99
Wholesale	$ 1.17	$ 1.50	$ 2.00	$ 2.30	$ 1.60	$ 6.00
Retail	$ 1.66	$ 1.80	$ 2.38	$ 3.40	$ 3.33	$ 7.50

In 2009, growers reported both summer and fall raspberry production; of the 81 raspberry grower responses in 2009, 51 grew both types, 19 grew just summer berries, and 11 grew just fall berries.

Comparison of prices for summer raspberries ($/lb) from 68 NY growers in 2009

Market	Minimum		Average		Maximum	
	2006	2009	2006	2009	2006	2009
U-Pick	$ 2.00	$ 1.67	$ 2.72	$ 4.12	$ 3.64	$ 15.33
Wholesale	$ 2.44	$ 2.00	$ 5.04	$ 4.33	$ 7.11	$ 12.00
Retail	$ 2.00	$ 1.50	$ 7.09	$ 5.31	$ 13.33	$ 13.51

Black raspberries averaged close to the same price as red raspberries, while purple raspberries commanded about $1/lb less.

Comparison of prices for fall raspberries ($/lb) from 60 NY growers in 2009

Market	Minimum		Average		Maximum	
	2006	2009	2006	2009	2006	2009
U-Pick	$ 2.00	$ 1.67	$ 2.99	$ 3.88	$ 5.82	$ 8.99
Wholesale	$ 2.44	$ 1.77	$ 5.21	$ 4.79	$ 8.00	$ 12.00
Retail	$ 2.00	$ 1.50	$ 6.93	$ 6.54	$ 12.00	$ 13.51

Comparison of prices for NYS blackberries, $/lb as reported by 40 growers in 2009

Market	Minimum		Average		Maximum	
	2006	2009	2006	2009	2006	2009
U-Pick	—	$ 2.33	—	$3.89	—	$6.67
Wholesale	—	$ 1.77	—	$ 4.69	—	$12.00
Retail	—	$ 0.93	—	$ 6.26	—	$ 13.51

Comparison of prices for NYS blueberries, $/lb as reported by 95 growers in 2009

Market	Minimum		Average		Maximum	
	2006	2009	2006	2009	2006	2009
U-Pick	$ 1.00	$ 0.99	$ 1.49	$ 2.21	$ 2.25	$ 10.00
Wholesale	$ 1.75	$ 1.30	$ 2.39	$ 2.99	$ 3.00	$ 8.00
Retail	$ 2.17	$ 0.75	$ 3.88	$ 4.21	$ 5.33	$ 12.00

Comparison of prices for NYS currants, $/lb as reported by 10 growers in 2009

Market	Minimum		Average		Maximum	
	2006	2009	2006	2009	2006	2009
U-Pick	—	$ 1.95	—	$3.97	—	$ 8.99
Wholesale	—	$1.00	—	$ 3.33	—	$6.66
Retail	—	$ 2.50	—	$ 5.01	—	$10..66

Reported red currant prices were higher for wholesale markets than black currants, while PYO and retail were similar. Gooseberries were also similarly priced to currants, as reported by 9 growers in 2009.

Conclusions

There is considerable variation in prices charged to consumers. While farms in more urban areas tended to have higher prices, this was not always the case. Often farms in rural areas were able to charge among the highest prices, suggesting that attention to quality and marketing has a high value to customers, irrespective of location. Growers charging prices considerably below the average ought to consider raising their prices. These data suggest that price increases are warranted so long as fruit quality is high. Charging low prices makes it difficult for other farms to charge fair prices.

Average prices increased for most berries over the last 3 years, especially for U-pick, suggesting that the market still has room for growth. The exception to this trend was wholesale raspberries. Although some predicted that the recession would impact berry sales in 2009, this was apparently not the case.

The typical farm has about 3 acres of berries. Berries are grown throughout the state and they bring a very high price per pound. Data from this survey indicated that the berry industry is very healthy and that there is room for further growth in both acreage and price.

TO BUY OR NOT TO BUY…INFLUENCING YOUR CUSTOMER'S PURCHASES

Debra Perosio, Food Industry Management Program, Cornell University

Do you wonder what is going through a customer's mind when they come to your business, pick up a product, look it over carefully, and then put it back and walk out?? Do you ask yourself, "What happened to that sale?" Consumer decision making is a complex science about how consumers make purchase decisions: is it impulse or planned, do consumers do research, do they consult a friend or use their own judgment? Is there a way you can help convert a store visit into a sale? Consumer decision making can be broken down into several simple steps, many of which, as a business person, you can influence.

We all go through a process when making a decision. For routine items we buy every day, we know well, and that have a relatively low price tag, that decision can be very quick. For other items that are more complex, for which we really don't know much about, or that are very important the process can become complex and lengthy.

All buying decisions are sparked by a need (or an "I want"!): I just ran out of eggs, my car broke down, I love that flat screen TV. Marketers further develop our needs and wants. How? Certainly, forms of advertising greatly influence us. Advertising can take many forms, reminders for those everyday items, educational for those new items, or persuasive for those items that you may not really need but would love to have. Often sales promotions help, buy one get one free, new flavors, sizes and packages can grab their attention. Signage at the point of sale is a great tool to draw consumer attention. Loyalty programs also help but make sure it delivers real benefits to your customers (some of the best loyalty programs right now are with supermarkets offering discounts on gas).

Once consumers recognize a need, they begin an information search. For the eggs that I just ran out of that search is relatively easy. I quickly scan my internal memory for how to get eggs quickly and easily, and I think of the closest place I can go to get eggs. Not much thought or involvement there. But what about a need for a medical procedure or a purchase of an expensive new piece of farm equipment? These types of decisions require an "external" search. You might start talking to friends, do some research on the web, visit equipment dealerships. High risk and high prices typically produce longer and more extensive information searches.

How can you, as a marketer, influence your customers' decisions? Make sure your website is up to date and easy to navigate and make sure the resources on it are helpful and easy to read. Today, many people start their information search on the web, and if you don't have a presence there, you may be over looked. Complex decisions require clear information, education, and often extensive customer service. Have educational information readily available, be helpful, offer tours and demonstrations, but maybe most important, offer yourself as a personal consultant for your customer, providing information and follow up throughout the information search process.

Once consumers have collected their information, the next step is to evaluate the alternatives. Which doctor should I select for the procedure, which hospital is best, what farm equipment dealership has the best equipment, which brand has the best warranty, which had the best service department, and who has the most competitive price? Usually in these complex situations we decide what attributes are most important to us and set criteria, say maximum price, or best doctor, as our most important attribute when making the decision. As a marketer how can you help your customers work through the evaluation of all of the alternatives? You can find out from them what is most important and work toward attribute. You can boldly compare your product against your competitors and easily illustrate the differences for your customers (think about insurance companies who do this a lot).

Once consumers have carefully weighed their alternatives, a purchase usually results. Wait! Your marketing commitment is not over yet. Now is the time to help your customers avoid suffering from "buyer's remorse," that nagging feeling you get after making a major purchase; when you start to wonder if it really was a good decision. Consumers want reassurance that they made the right decision, and marketers can help their customers feel confident about their purchases. How about follow-up emails, letters, thank you postcards that can also provide additional information about the product they just bought? And how about a phone call a month or two after the sale...does the customer have any questions, is everything working properly? This is also a good time to remind them of other services/products that you have that may complement or enhance the product they just purchased from you.

Remember, the more complex, risky and/or expensive a purchase decision is, the more "help" a consumer needs in making that decision. As a marketer your chances of converting a visit to a sale is much better if you can influence a customer from need recognition to alleviating buyer's remorse.

(Reprinted with permission from "Smart Marketing". "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.)

WEATHER NOTES *(Courtesy NY NASS)*

Week ending June 13th: It was a wet and unsettled week across New York. A low pressure system moved across New York and Pennsylvania on Sunday with widespread showers and thunderstorms. Some were strong to severe over central and eastern New York. High pressure briefly built in on Monday before an upper level disturbance brought some scattered showers and much cooler temperatures to the region. By the midweek, a complex storm system approached from the Great Lakes region and Ohio Valley with more rainfall. Temperatures were below normal on Wednesday. A strong upper level disturbance associated with the complex storm system produced more showers and isolated strong to severe thunderstorms on Thursday. High pressure briefly moved over the region on Friday before another system approached from the west on Saturday with more rainfall. Rainfall was generally normal to above normal for the week. Temperatures were slightly below normal to below normal due to the wet pattern and cooler air masses from central and eastern Canada dominating.

Strawberries were 12 percent poor, 31 percent fair, 56 percent good, and 1 percent excellent. In the Lake Ontario fruit region, raspberries were blooming. In Ontario County, strawberry harvest continued with reports of the berries being small due to the lack of moisture earlier in the season and low yields due to early May frost damage. In Broome

County, cooler temperatures assisted in slowing down the ripening of strawberries. Pick your own operations were open, since berries were ready 10 days ahead of normal. Heavy rains and the early season limited the number of pickers.

Week ending June 20th: Temperatures averaged above normal by as much as 5 degrees in Jamestown. The high for the week was 89 degrees in Syracuse while the low was 43 degrees at Glens Falls. Growing degree accumulations were all on the plus side by as much as 389 since April 1. Precipitation was mostly below normal. Amounts ranged from 0.02 inch in Bridgehampton to 1.56 inch at Massena.

Strawberries were 10 percent poor, 38 percent fair, 44 percent good, and 8 percent excellent. In Ontario County, harvest continued for strawberries and raspberries. The Cayuga County strawberry harvest was winding down for most farmers. In Albany County, the strawberry crop was good, and pick your own operations were in full swing. Local raspberry and small fruit growers reported good crops in the making.

Week ending June 27th: A series of low pressure systems move quickly across the region in fast flow across the Continental United States. Temperatures were near to slightly above normal for the week, despite the rounds of showers and thunderstorms.

Strawberries were 13 percent poor, 27 percent fair, 56 percent good, and 4 percent excellent. In Albany County, the strawberry season was coming to a close, and it was described as a fair crop.

Questions or comments about the New York Berry News?

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

NY NASS WEATHER REPORTS OF TEMPERATURES AND PRECIPITATION THROUGHOUT NEW YORK STATE FOR WEEK ENDING SUNDAY 8:00am, June13th, 2010

	Temperature				Growing Degree Days (*Base 50*)			Precipitation (*inches*)			
	High	*Low*	*Avg*	*DFN*[1]	*Week*	*YTD*[2]	*DFN*	*Week*	*DFN*	*YTD*	*DFN*
Hudson Valley											
Albany	78	45	61	-5	81	726	266	2.35	1.47	6.21	-1.79
Glens Falls	73	39	59	-5	62	580	194	0.79	0.02	5.60	-2.42
Poughkeepsie	83	42	63	-4	90	778	258	1.19	0.28	4.92	-4.60
Mohawk Valley											
Utica	71	43	54	-7	32	452	174	1.85	0.73	8.90	-2.16
Champlain Valley											
Plattsburgh	70	42	58	-6	59	525	132	1.52	0.79	6.35	-0.65
St. Lawrence Valley											
Canton	70	44	57	-6	48	558	222	1.43	0.66	7.14	-0.10
Massena	72	44	59	-4	64	581	214	0.60	-0.11	4.55	-1.92
Great Lakes											
Buffalo	81	47	63	-3	91	687	248	0.98	0.14	10.72	3.15
Colden	81	41	59	-3	63	544	210	0.95	-0.03	8.46	-0.71
Niagara Falls	85	46	63	-2	93	705	248	0.51	-0.31	8.12	0.53
Rochester	80	47	62	-3	84	728	276	0.42	-0.28	7.35	0.72
Watertown	72	43	58	-4	59	580	245	0.96	0.27	6.20	-0.26
Central Lakes											
Dansville	84	43	60	-5	75	696	258	0.88	-0.03	7.12	-0.24
Geneva	84	48	61	-4	79	680	260	0.69	-0.19	8.32	0.83
Honeoye	87	42	61	-4	76	688	255	0.47	-0.41	8.40	1.01
Ithaca	84	41	60	-3	71	630	257	0.88	-0.01	6.96	-0.87
Penn Yan	84	48	63	-2	90	741	321	0.89	0.01	7.30	-0.19
Syracuse	77	47	62	-3	82	744	286	1.53	0.66	7.16	-1.03
Warsaw	81	42	58	-4	56	542	239	1.27	0.26	11.68	2.95
Western Plateau											
Alfred	85	42	61	1	78	594	297	0.92	-0.17	9.00	1.29
Elmira	90	44	63	-1	91	689	287	1.15	0.27	7.99	0.50
Franklinville	84	38	59	-1	66	487	232	0.43	-0.57	8.87	0.23
Sinclairville	84	42	62	1	84	583	276	0.65	-0.42	9.46	-0.25
Eastern Plateau											
Binghamton	81	46	61	-3	80	707	321	2.16	1.32	8.63	0.58
Cobleskill	76	41	59	-4	62	555	203	2.32	1.34	7.66	-1.10
Morrisville	76	41	57	-4	58	573	244	1.42	0.44	10.04	1.47
Norwich	82	42	59	-4	62	554	200	2.59	1.61	9.16	0.26
Oneonta	77	43	59	-2	68	581	263	1.67	0.69	8.83	-0.78
Coastal											
Bridgehampton	78	47	64	-1	97	668	269	0.58	-0.28	5.90	-3.50
New York	93	59	69	-1	136	1076	378	0.90	0.09	6.35	-2.79

1. *D*eparture *from N*ormal 2. *Y*ear *to D*ate: Season accumulations are for April 1st to date. Weekly accumulations are through 7:00 AM Sunday Morning.

NY NASS WEATHER REPORTS OF TEMPERATURES AND PRECIPITATION THROUGHOUT NEW YORK STATE FOR WEEK ENDING SUNDAY 8:00am, June 20th, 2010

	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	49	67	-1	118	844	251	0.41	-0.43	6.62	-2.22
Glens Falls	84	43	64	-3	97	677	185	0.26	-0.48	5.86	-2.90
Poughkeepsie	86	50	68	0	128	906	263	0.06	-0.81	4.98	-5.41
Mohawk Valley											
Utica	80	47	63	2	89	541	181	1.02	-0.08	9.92	-2.24
Champlain Valley											
Plattsburgh	84	43	64	-3	96	621	117	0.27	-0.48	6.62	-1.13
St. Lawrence Valley											
Canton	83	46	64	1	102	660	229	0.79	0.02	7.93	-0.08
Massena	85	44	66	3	113	694	226	1.56	0.79	6.11	-1.13
Great Lakes											
Buffalo	83	54	69	3	132	819	265	0.33	-0.51	11.05	2.64
Colden	83	50	65	2	105	649	222	0.71	-0.27	9.17	-0.98
Niagara Falls	83	57	70	4	140	845	273	0.38	-0.45	8.50	0.08
Rochester	87	53	68	4	128	856	296	0.96	0.26	8.31	0.98
Watertown	82	44	66	4	115	695	268	0.28	-0.35	6.48	-0.61
Central Lakes											
Dansville	85	50	66	1	116	812	262	0.94	0.03	8.06	-0.21
Geneva	87	51	67	2	122	802	273	1.43	0.52	9.75	1.35
Honeoye	86	49	66	-1	112	800	252	1.32	0.41	9.72	1.42
Ithaca	84	47	65	2	109	739	265	0.48	-0.43	7.44	-1.30
Penn Yan	87	49	67	2	122	863	334	0.51	-0.40	7.81	-0.59
Syracuse	89	51	69	4	133	877	310	1.54	0.63	8.70	-0.40
Warsaw	81	51	64	2	100	642	252	1.18	0.15	12.86	3.10
Western Plateau											
Alfred	84	50	67	5	117	711	330	0.90	-0.22	9.90	1.07
Elmira	87	47	66	2	116	805	297	0.38	-0.53	8.37	-0.03
Franklinville	83	47	65	4	106	593	259	0.95	-0.09	9.82	0.14
Sinclairville	84	50	67	5	118	701	306	0.57	-0.54	10.03	-0.79
Eastern Plateau											
Binghamton	82	51	66	2	114	821	332	0.44	-0.40	9.07	0.18
Cobleskill	84	50	65	2	108	663	216	0.80	-0.18	8.46	-1.28
Morrisville	85	50	65	3	108	681	263	1.27	0.29	11.31	1.76
Norwich	85	50	64	1	100	654	206	1.09	0.11	10.25	0.37
Oneonta	84	50	65	3	107	688	282	0.56	-0.42	9.39	-1.20
Coastal											
Bridgehampton	85	51	69	3	133	801	290	0.02	-0.82	5.92	-4.32
New York	87	65	73	2	162	1238	389	0.53	-0.31	6.88	-3.10

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NY NASS WEATHER REPORTS OF TEMPERATURES AND PRECIPITATION THROUGHOUT NEW YORK STATE FOR WEEK ENDING SUNDAY 8:00am, June 27th, 2010

	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	59	72	4	159	1003	277	0.73	-0.11	7.35	-2.33
Glens Falls	86	51	70	4	140	817	208	0.51	-0.19	6.37	-3.09
Poughkeepsie	93	58	75	6	173	1079	301	0.40	-0.45	5.38	-5.86
Mohawk Valley											
Utica	78	52	65	2	103	644	191	1.29	0.24	11.21	-2.00
Champlain Valley											
Plattsburgh	85	47	68	1	128	749	123	0.94	0.24	7.56	-0.89
St. Lawrence Valley											
Canton	79	51	66	2	117	777	239	1.63	0.86	9.56	0.78
Massena	81	50	68	2	125	819	239	1.15	0.38	7.26	-0.75
Great Lakes											
Buffalo	82	57	71	4	147	966	285	1.19	0.37	12.24	3.01
Colden	83	52	68	4	126	775	245	1.45	0.48	10.62	-0.50
Niagara Falls	84	59	72	4	153	998	301	0.29	-0.48	8.79	-0.40
Rochester	85	58	71	4	147	1003	324	0.86	0.16	9.17	1.14
Watertown	78	50	67	3	121	816	285	1.61	1.03	8.09	0.42
Central Lakes											
Dansville	85	54	69	2	136	948	275	0.62	-0.28	8.68	-0.49
Geneva	85	56	72	5	156	958	307	0.54	-0.30	10.29	1.05
Honeoye	86	53	71	4	151	951	276	0.52	-0.33	10.24	1.09
Ithaca	86	53	70	4	138	877	293	0.08	-0.81	7.52	-2.11
Penn Yan	86	58	71	5	150	1013	362	0.09	-0.75	7.90	-1.34
Syracuse	85	58	72	6	154	1031	343	0.81	-0.10	9.51	-0.50
Warsaw	82	54	67	4	123	765	279	0.90	-0.08	13.76	3.02
Western Plateau											
Alfred	86	53	69	6	136	847	372	0.63	-0.48	10.53	0.59
Elmira	87	53	70	4	143	948	324	0.45	-0.44	8.82	-0.47
Franklinville	84	53	68	6	129	722	300	0.28	-0.70	10.10	-0.56
Sinclairville	86	54	69	6	135	836	343	0.45	-0.60	10.48	-1.39
Eastern Plateau											
Binghamton	83	57	69	4	138	959	356	0.32	-0.52	9.39	-0.34
Cobleskill	82	54	69	5	135	798	244	0.30	-0.68	8.76	-1.96
Morrisville	81	52	68	4	128	809	290	0.76	-0.17	12.07	1.59
Norwich	85	55	68	4	129	783	230	0.24	-0.68	10.49	-0.31
Oneonta	83	56	69	6	137	825	321	0.49	-0.49	9.88	-1.69
Coastal											
Bridgehampton	88	65	75	8	180	981	345	0.27	-0.54	6.19	-4.86
New York	95	71	82	9	228	1466	453	0.22	-0.62	7.10	-3.72

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