New York Berry News

CORNELL UNIVERSITY

Volume 09, Number 4 April 15, 2010

What's Inside

CURRANT EVENTS

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.

July 29, 2010. *2010 Cornell Fruit Field Day*, Geneva, NY. Save the date! Program details and registration information forthcoming.

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.

CNAL-AGRO-ONE TRANSITION UPDATE

As you know, all routine CNAL soil sample testing was transferred to Agro-One effective August 18, 2009. Currently samples are being analyzed using the Modified Morgan extraction method. Results are translated into Morgan equivalents using initial equations developed by Cornell. Results are then run through the Cornell recommendations system. Additional studies to validate and fine-tune the initial equations were completed over the winter months. In addition, a decision has been made to also provide the Morgan soil test through Agro-One. This is the same test method as provided by Cornell for many years, so may be used by those less comfortable using Morgan equivalents (derived from Modified Morgan extraction. Agro-One has made additional investments in equipment and processes in concert with input from the Transition Committee and the Nutrient Guidelines Committee. New pricing will be in effect with the implementation of the Morgan test so stay tuned for additional updates in the near future.

Updated sample input forms and other guidelines were added to the Agro-One website http://www.dairyone.com/AgroOne/submittal_forms.htm on January 1 2010. To ensure extension educators receive soil sample results, the sample input sheet MUST include the extension educator's email address. A searchable database is in the final testing stages by Dairy One and should be ready to launch later this spring. This will allow extension educators to access soil test reports for counties they cover using an account and password assigned to them. The database will be searchable by date, farm name, sample number, crop code, etc. allowing greater flexibility in finding a specific report. It will also allow educators to access a single report or multiple reports and a spreadsheet showing results from a single or multiple samples.

Below are a few other items to take note of;

1. Agro-One soil samples can be shipped free of charge from the Dairy One pick up points (see the list of locations at http://24.39.86.20/Truck_Stops.html

2. Pre-paid CNAL sample bags will be honored until the supply is exhausted.

1. Agro-One soil samples can be shipped free of charge from the Dairy One pick up points (see the list of locations at http://24.39.86.20/Truck_Stops.html

2. Pre-paid CNAL sample bags will be honored until the supply is exhausted.

3. Agro-One boxes are now available and can be ordered at supply@dairyone.com. Be sure to indicate how many boxes you need (there are 220 sample boxes per carton). Sample input sheets can be printed directly from http://www.dairyone.com/AgroOne/submittal_forms.htm.

4. Please DO NOT MODIFY AGRO-ONE SAMPLE INPUT SHEETS. Agro One has received several homeowner forms (from more than one county) that have modified prices. The price modifications are presumably to cover shipping and handling costs. Agro-One understands the need to recoup sample handling expenses; however, it should be handled as a separate transaction.

5. Updates to the Cornell Recommendations engine software are nearing completion and most of the glitches in the software program have been identified and fixed. A few issues are still being addressed regarding lime recommendations for tree fruit and grapes.

Your input is valuable so please do not hesitate to contact your representatives to the Transition Committee, the Nutrient Guidelines Committee, Harold van Es, Marvin Pritts, or Jamie Zimmerman with specific feedback or suggestions. We look forward to working with you all as partners in this process.

Harold van Es	1-607-255-5459	hmv1@cornell.edu
Marvin Pritts	1-607-255-1778	mpp3@cornell.edu
Jamie Zimmerman	1-800-344-2697 x2132	jamie.zimmerman@dairyone.com

WIC VEGETABLES AND FRUIT CHECK PROGRAM - FARMER TRAINING

Join us for a Webinar on April 27 from 7 to 9 pm

Beginning in January of 2009 WIC families in New York State began receiving monthly checks to be used exclusively for the purchase of fruits and vegetables from traditional WIC vendors. Through the efforts of the New York State Health Department, New York was the first state in the nation to implement this new feature and a number of other changes to the WIC Program. In keeping with these pioneering efforts the New York State Health Department and the New York State Department of Agriculture and Markets have created a system that will enable farmers participating in the New York State Farmers Market Nutrition Program, (FMNP) to participate in the New York State WIC Vegetables and Fruits Check Program.

To participate in the Vegetables and Fruits Check Program farmers must:

- Be currently enrolled in the New York State FMNP.
- Participate in a mandatory training session such as this webinar.
- Sign a separate agreement provided by the Department of Agriculture and Markets detailing various aspects of the Program.

Join the New York State WIC Vegetables and Fruits Check Program hosted by the New York State Department of Agriculture and Markets in cooperation with the Farmers Market Federation of New York, Cornell Cooperative Extension and the New York State Health Department on Tuesday, April 27 from 7 - 9pm to learn more about this innovative new program and to satisfy your training requirement should you choose to participate in the Vegetables and Fruits Check Program.

Cornell Cooperative Extension of Genesee County will be a host site for the April 27 webinar. It will be held at the CCE office at 420 East Main St., Batavia, NY. Contact Jan Beglinger at 343-3040 x126 to attend. For questions about the WIC program contact Jonathan Thomson from the Department of Agriculture and Markets at 518 457-7076 or by email at Jonathan.Thomson@agmkt.state.ny.us.

NASGA SUMMER TOUR 2010 TO MONTREAL, CANADA

The 2010 North American Strawberry Growers' Association (NASGA) summer tour will be August 17-19th, 2010 ...actually, two of those days, but we are still finalizing the details.

Tour highlights will include a visit to Fraisebec, the largest strawberry grower in Canada; a tour of the Montreal Produce Market; visits to nurseries and plug producers; and visits to some excellent farm markets.

Montreal is a vibrant city with lots of history, fabulous architecture and a great nightlife. Plan now to join us!

NORTH AMERICAN STRAWBERRY GROWERS ASSOCIATION AND NORTH AMERICAN STRAWBERRY RESEARCH SYMPOSIUM

Mark your calendars now: February 8-11, 2011

This very special, combined meeting with be held at the Doubletree Hotel, Tampa Westshore in Tampa, Florida on February 8-11, 2011. There will be a post-conference tour of Plant City Growing area, and the University of Florida Balm Research Center. No pre-conference tour is planned.

For more information, please contact Kevin Schooley, executive director at NASGA. Make your hotel reservations now at the Doubletree Hotel. Registration information for the conference is forthcoming.

COLD STORAGE FACILITIES NOW ELIGIBLE FOR USDA FACILITY LOAN PROGRAM

Producers Can Expand Market Opportunities, Build New Capacity

WASHINGTON, March 17, 2010 - Agriculture Secretary Tom Vilsack today said that the Farm Storage Facility Loan program has been amended to allow producers to build cold storage facilities to store their fresh fruits and vegetables. This program is part of USDA's 'Know Your Farmer, Know Your Food' initiative and uses discretionary authority provided by the 2008 Farm Bill authorizing the eligibility of cold storage facilities for fruits and vegetables.

"Expand the Farm Storage Facility Loan program will provide our nation's fruit and vegetable producers with new storage and marketing opportunities," Vilsack said. "On-farm storage may cost a lot to build, but it can help farmers to maximize profits. USDA's program will help these producers to finance the purchase, construction, or refurbishment of these important farm storage facilities."

USDA's 'Know Your Farmer, Know Your Food' initiative emphasizes the need for a fundamental and critical reconnection between producers and consumers. The effort builds on the 2008 Farm Bill, which provides for increases and flexibility for USDA programs in an effort to revitalize rural economies through the promotion local food systems. Aimed at strengthening the connection between farmers and consumers, the initiative also supports local and regional food systems, to increase economic opportunities for local farmers and expand access to healthy food for Americans.

To be eligible, cold storage facilities must have a useful life of 15 years and include:

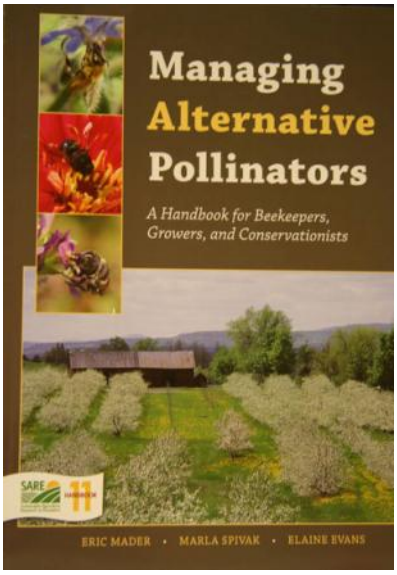
- New structures suitable for a cold storage facility;

- New walk-in prefabricated permanently installed coolers suitable for storing fresh fruits and vegetables;
- New permanently affixed cooling, circulating and monitoring equipment;
- Electrical equipment integral to the proper operation of a cold storage facility; and must be
- An addition or modification to an existing storage facility.

USDA will not make cold storage facility loans for portable structures, portable handling and cooling equipment, used or pre-owned structures or cooling equipment or structures not suitable for a fresh fruits and vegetables' cold storage facility.
The maximum loan amount for a Farm Storage Facility loan is $500,000 per loan. One partial disbursement of up to half the anticipated total cost is available when that portion of the structure has been completed. The final disbursement will be made when the entire structure has been completed and inspected by a USDA representative.
All Farm Storage Facility Loans require a down payment of at least 15 percent. Applications must be approved before construction can begin. Loan terms of 7, 10 or 12 years are available depending on the amount of the loan.
Loans applications should be submitted to the administrative FSA county office that maintains the records of the farm or farms to which the application applies. If the commodities are produced on land that does not have farm records established, the application must be submitted to the FSA county office that services the county where the facility will be located.
For more information on this program or other FSA farm programs please contact your local FSA county office or http://www.fsa.usda.gov.

NRAES ANNOUNCES NEW BOOK

Managing Alternative Pollinators: A Handbook for Beekeepers, Growers, and Conservationists



The new book is now available from NRAES (Natural Resource, Agriculture, and Engineering Service). The handbook is a first-of-its-kind, in-depth, full-color guide to rearing and managing bumble bees, mason bees, leafcutter bees, and other alternatives to honey bee pollinators.

The 162 page book features 130+ color photos, 10 chapters, 7 appendices, nest construction details, parasite and disease management guidelines, and much more. For a detailed description, including sample pages, and instructions on how to order the book: http://www.nraes.org/nra_map.html. Quantity discounts are available.

For more information about NRAES visit http://www.nraes.org, or phone 607 255 7654. The book was published with support from the US Department of Agriculture's Sustainable Agriculture Research and Education program (SARE).

IS THE FARMER-TO-FARMER PROGRAM FOR YOU?

Susan Lang, SeniorEditor/Senior Science Writer, Cornell Chronicle, Cornell University, Ithaca, NY

Hugh Price may be an emeritus professor, but that doesn't mean he is no longer sharing his expertise to make the world a little bit better. Price, Cornell professor emeritus of horticultural sciences at the New York State Agricultural Experiment Station, went on a three-week assignment to Malawi in June 2009 as part of the Farmer-to-Farmer Program funded by the U.S. Agency for International Development.

In Malawi he assessed the horticulture industry as part of a project with CNFA (originally named the Citizens Network for Foreign Affairs), a nonprofit focused on empowering people and enterprises in the developing world.
Despite its lush climate and rich soils, Price found that farmers in Malawi face many challenges in producing and marketing crops, including inadequate irrigation equipment, storage facilities and transportation options. The African nation also needs improved varieties of crops.

Price met with various parts of Malawi's horticulture industry, ranging from smallholder farmers who formed the Kobi Horticulture Association to improve their marketing efforts to corporate exporters and processing entrepreneurs, all of whom were very appreciative of his interest, he said.

"Although I was not there to conduct a school or provide specific training, it was just the fact that I made the effort to go there and visit them," he said. "But the thing that struck me the most was their closing comment: 'Please do not forget us.'"

Price's objective was to identify gaps in the production and marketing of horticultural crops, including tree fruit, vegetables, flowers and ornamentals, and to make recommendations on what kind of volunteers the farmers would most benefit from in the near future.

"They know there is technology that they're not taking advantage of, varieties of fruit and vegetables that they don't have access to, and basically they're saying, 'Help us,'" Price said. "But you can't just take U.S. production technology and transplant that into a developing country like Malawi. You must be there, observe and use your ingenuity and background and training to make suggestions on how to do it better."

He added that the success of his assignment in Malawi will depend on the follow-up by CNFA to recruit volunteers with the expertise and commitment to address the most pressing limiting factors that he described in his report. "The CNFA hosts in Malawi are dedicated to the mission and are anxious and willing to provide assistance to future volunteers," he said.

The Farmer-to-Farmer Program provides voluntary technical assistance to farmers, farm groups and agribusinesses in developing and transitional countries to promote sustainable improvements in food processing, production and marketing. Volunteer opportunities are available abroad! Play a crucial role in making lasting change where it is needed most. CNFA was founded on the principle that empowering people economically gives them the tools and confidence they need to change their lives. We provide opportunities for active and retired businesspeople, farmers, bankers, professors, civil servants, and others to provide people in developing countries with practical technical assistance.

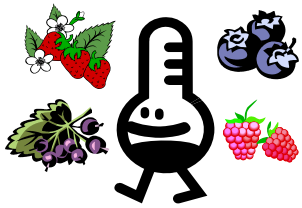
For volunteers, the experience represents a profound cultural immersion, and the chance to have tangible, direct, face-to-face impact. Nearly 1,500 assignments have been completed since 1992. The assignments, which are generally between two and three weeks in length, meet specific and pressing needs within host organizations and are completed with funding from USAIDs John Ogonowski Farmer-to-Farmer program. All expenses are paid by CNFA.

We have assignments in Kenya, Tanzania, Uganda, Angola, Malawi, Mozambique, Georgia, Moldova, Belarus, Tajikistan, and Ukraine. A full list of our currently open assignments can be found at http://www.cnfa.org/ftfvolunteeropportunities . Additionally, more information regarding the program can be found by emailing farmertofarmer@cnfa.org or calling CNFA at (202) 296-3920. Thank you and we look forward to hearing from you!

(Reprinted from Cornell Chronicle Online: http://www.news.cornell.edu/stories/June09/HughPriceMalawi.html.)

APRIL BERRY BAROMETER 2010

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



Welcome to another year of the berry barometer. This series provides a month-by-month review of cultural and pest management considerations for various berry crops during the growing season to help keep you up to the mark. Management considerations are categorized first by berry crop and then by new or established planting.

FROST ALERT!

The heat wave that blanketed our area in late March/early April, with temperatures into the mid to upper 80's, has really pushed the clock ahead in terms of small fruit growth and development. Frost free dates for much of the state are still a month away. Be sure to have frost protection ready to go and monitor temperatures closely.

This may be the one of the out-of-the ordinary years in NYS when blueberry frost protection is needed. See Mark Longstroth's article here http://web1.msue.msu.edu/vanburen/bbsprink.htm on "Using Sprinklers to Protect Blueberries from Spring Freezes" for more information.

For an in-depth look at strawberry frost protection see an excellent OMAFRA paper by Pam Fisher and Rebecca Shortt entitled "Irrigation for Frost Protection of Strawberries" located here: http://www.omafra.gov.on.ca/english/crops/facts/frosprot_straw.htm.

ALL BERRY CROPS:

Established plantings:

1. **Pruning** - Pruning should be mostly finished by now for all berry crops. Finely chop brush in place or remove and burn it.
2. **Berry product update 2010** – Details in the article that follows.
3. **Pest management** – Perform routine sprayer maintenance, check for worn nozzles and replace as needed, do calibrations. Review last year's records for problem pests and pest locations. Were the products used successful? Should you start scouting sooner this year? Or make the first application at a lower threshold? Check product labels for efficacy against target pests. Order products as needed.
4. **Irrigation systems** - Check for problems and/or leaks. Make any adjustments or repairs as needed.
5. **Trellis/fencing** – Examine existing trellis/fencing for problems; make needed adjustments or repairs.

New plantings:

1. **Plant materials** – Did you remember to order your plants? Check the Cornell nursery guide for sources if you still need to do so (http://www.fruit.cornell.edu/Berries/nurseries/index.html). This year's guide has been updated and expanded, as well as having a new look. Verify you indicated a shipping date for plants that will allow you to plant as soon as the soil can normally be worked or danger of frost is past.
2. **Final site preparation** – Hopefully you did your site preparation homework! Depending on the crop this should start 1-3 years in advance of planting for best success. Remember to till under legume cover crops no less than 1 month before planting. Pre-plant herbicide applications are a big help in controlling perennial weeds in new plantings. Roundup is one alternative for this application. Remember Roundup applications need to be made 30 days before planting. Follow label instructions carefully. After weeds die, till to prepare for planting. Amend soil as recommended from your soil test results. Be sure to incorporate amendments to a depth of at least 8" prior to planting. Do a final soil fitting just prior to planting. Purchase seed for sod truck rows or planting borders.
3. **Irrigation systems** -Do you have sufficient irrigation supplies on hand to begin irrigating immediately after planting? This helps to settle soil around roots, reduce transplant shock, and promote establishment.
4. **Trellis/fencing** – Purchase needed materials and supplies. Install new structures for 2009 plantings.

STRAWBERRIES:

Established plantings:

1. **Straw mulch removal** - Late March is typically the time for removing straw mulch depending on your growing region. Many growers removed straw earlier this season in anticipation of the heat wave that blanketed our area in late March/early April, with temperatures into the 80's.
2. **Frost control** – on your mark, get set...GO!
3. **Spring weed control** –*Chateau SW, Chateau WDG* may be applied pre-emergence to dormant strawberries.
4. **Leaf spot diseases** – an early season application is recommended in plantings where leaf disease was pressure was high the previous growing season and conditions are favorable for disease development. Control options include *Cabrio, Captan, copper, Pristine, Rally, Topsin M*.

New plantings:

1. **Plant materials** – Check strawberry plants on arrival to be sure they are in good condition; moisten as necessary. Keep dormant runner plants in cold storage (30 to 32°F) in plastic bags if they cannot be planted immediately.
2. **Preplant weed management** – *Chateau*, *Goal 2XL*, or *Round* up 30 days before planting. *Prowl H2O* 24 hrs prior to planting.
3. **Final site preparation** –
    a. Do final fitting of planting. If planting into killed sod, do not till.
    b. Build raised beds if desired; 8-10" high x 24" wide.
    c. Lay out the field prior to planting day.
    d. Stake rows with wire flags.
    e. Check your row spacing to allow for easy equipment movement and access later on.
4. **Plant spacing** – In-row spacing for matted rows 18-24"; between-row spacing 48-52 inches, depending on equipment size.
5. **Planting** –
    a. If using biodegradable mulch, lay 1-2 days prior to planting. Apply at slightly looser tension than conventional plastics. Do not apply at temperatures above 80°F.
    b. If you use a mechanical planter, have it tuned up and ready to go.
    c. Place roots in water ½ to 1 hour before planting. Keep plants moist during the planting process.
    d. Plants should be set with the center of the crown level with the soil surface.
    e. Check planting depth after planting; firm soil around plants.
    f. Irrigate immediately to settle soil around roots and reduce transplant shock.
    g. *Aim EC, Aim EW* for weed management within 24 hrs after planting.

BLUEBERRIES:

Established plantings:

1. **Spring weed control** – Spring pre-emergent options include A*im, Callisto, Casoron, Devrinol, Sinbar, Surflan, Princep,* or *Velpar*. Post-emergent options include *Gramoxone Inteon* or *Scythe* which should be used before new cane emergence.
2. **Canker Diseases** - Take all possible precautions to minimize early spring frost damage, which is a serious consideration this season. The time for delayed dormant (as leaf buds begin to break) applications of lime sulfur or copper for problem locations may be passed in many areas of the state. Do not apply sulfur within 2 weeks of an oil spray or when temperatures are above 75°F to avoid phytotoxicity.
3. **Botrytis Blossom and Twig Blight** – Plantings with a history of the disease should have a first protective application as buds swell or have loose scales. Options include *captan product*s and *Ziram*. Note: *Ziram* as a stand alone product will not provide sufficient control.
4. **Mummyberry** – see article by Dr. Kerik Cox on mummy berry management in last month's issue of New York Berry News.
5. **Scale insects** - Problems with scale insects last season? Apply an *oil spray* (2-2.5%) during bud swell (after bud scales start to expand, but before first leaf stands out from clusters). Apply in 250-300 gal water/A at 300-400 psi for thorough coverage. Oil may be tank mixed with *Esteem* (5 oz/A) at delayed dormant.

New plantings:

1. **Plant materials** - Two-year old bare root or potted plants are generally the best buy.

a. Potted plants are more expensive than bare-rooted plants but many growers find they establish more quickly.
b. If potted plants are used, check to see if they are pot bound. If so, the root ball should be cut before planting to ensure good root spread and branching. Remove the plant from the pot and lay it's on its side. Cut through the root ball perimeter 4-6 times, rotating the plant between each cut. Firm soil around the plants.
h. Verify you indicated a shipping date for plants that will allow you to plant as soon as the soil can normally be worked and danger of spring frost is past.
c. Check blueberry plants on arrival to be sure they are in good condition; moisten as necessary. Keep bare-rooted plants in cold storage (30 to 32°F) in plastic bags if they cannot be planted immediately. Containerized plants may be kept out doors until planting; keep them well watered.

2. **Preplant weed management** –*Round* up 30 days before planting.
3. **Final site preparation**
   a. Do final fitting of planting.
   b. Layout planting; flag rows. Plow a very shallow furrow setting dormant canes, root cuttings or plug plants into.
   c. Prepare raised beds if desired; 10-12" high x 4-6' wide at the base.
4. **Plant spacing** –
   a. Spacing should be 4-5 feet in-row and 10 ft between rows
   b. PYO rows should be 200 ft or less in length.
5. **Planting** –
   a. Prepare raised beds if desired; 8-12" high and 4 ft wide.
   b. Wait to plant until severe freeze danger has past.
   c. Saturate peat bales and allow them to soak several days before planting.
   d. Layout the planting, flagging plant locations,
   e. Moisten roots ½ to 1 hour before planting.
   f. Planting holes need to be more wide than deep, to allow the roots to be spread out at planting. Incorporate approx 1 gal peat moss into planting hole soil and back fill with the soil/peat mixture.
   g. Set plants at the same depth they were planted at in the nursery. Fill hole with peat soil mix. Firm soil around plants.
   h. Irrigate immediately after planting (1" water) to settle soil around roots.
   i. Mulch with wood chips, sawdust or other materials.
   j. Remove at least 1/3 of top growth of newly set plant and rub off any flower buds to promote establishment and reduce transplant shock.
   k. Plant sod alleys or clean cultivate between rows.

RASPBERRIES AND BLACKBERRIES:

Established plantings:

1. **Spring weed control** - Pre-emergent herbicide options for spring include *Devrinol*, *Princep*, *Sinbar*, *Solicam*, or *Surflan*. Post-emergent options for spring include *Aim*, *Scythe* and *Gramoxone Inteon* applied before cane emergence.
2. **Cane Diseases** - Delayed dormant application of lime sulfur or copper may be beneficial in plantings with a history of disease. Applications should be made on a calm day with sufficient water to soak canes completely. Caution: Sprays applied after ½" green tip may burn leaves, particularly in warm weather. A delayed dormant application is not necessary for fall-bearing raspberries if last year's canes were mowed and removed or thoroughly shredded.

New plantings:

1. **Plant materials** – Check plants on arrival to be sure they are in good condition; moisten as necessary. Keep dormant canes at 35°F in plastic bags if canes cannot be planted immediately.
2. **Preplant weed management** –*Round* up 30 days before planting.
3. **Final site preparation**
   a. Layout planting; flag rows. Plow a very shallow furrow setting dormant canes, root cuttings or plug plants into.
   b. Do final fitting of planting; do not till if planting into killed sod.
   c. Prepare raised beds if desired; 10-12" high x 4-6' wide at the base.

4. **Plant spacing –**
    a. Red raspberries – 2-3' in-row spacing, 9-10ft between-row spacing. Cultivars that sucker vigorously should be set at the 3 ft spacing; those that produce fewer suckers should be set at the 2 ft spacing.
    b. Black raspberries - 3-4 ft in-row spacing, 9-10ft between-row spacing.
    c. Purple raspberries - 3-5' in-row spacing, 9-10ft between-row spacing.
    d. Thorny blackberries - 3-4' in-row spacing, 9-10ft between-row spacing.
    e. Thornless blackberries - 4-5' in-row spacing in a hill system, 9-10ft between-row spacing.
5. **Planting** -
    a. *Dormant canes:* Do not allow roots to dry out before planting. Hold Plant by hand or machine to the same depth as canes were set in the nursery. Be sure plants are set vertically and not at an angle for best growth. Prune back to a height of 5" immediately. Prune back to soil level after new shoots emerge from soil.
    b. *Tissue culture plug plants*: Delay planting of tissue culture plug plants until all danger of spring frost is over. Apply water to transplant holes. Cover the top of the root ball with field soil to a depth of ¾ ".Firm soil around plug plant. Avoid herbicide applications or soil disturbances.
    c. *Root cuttings*: Raspberry root cuttings should be of variable length and 1/10" or larger in diameter. Plant root cuttings about 3" deep with approx. 2 oz of root per hill or 3 ft of hedgerow. Blackberry root cuttings should be 3/8 to 5/8" in diameter and 6" in length.
    d. After planting, a light layer of straw mulch will help reduce weeds and retain moisture. *Remember mulch is applied the planting year only*.
    e. Irrigate immediately after planting.
    f. Plant sod alleys or clean cultivate between rows.

CURRANTS AND GOOSEBERRIES:

Established plantings:

1. **Spring weed control** - Product options include *Aim, Devrinol, Rage, Surflan, Gramoxone Inteon*, or *Scythe*.
2. **Powdery mildew** – Powdery mildew overwinters on currant and gooseberry twigs. Initially, white powdery patches of mycelium and spores appear on the leaves and shoots in early spring. In plantings where disease historically occurs, apply the first spray before disease onset. Conventional control options include *Rally, Cabrio, JMS Stylet Oil* or *Sulfur*. Organic options include *Organic JMS Stylet Oil*.
3. **Scale Insects** – If scale were a problem last season, the recommendation is a *dormant crop oil spray* (4 gal) in 10 gal water applied before the buds swell and burst in the spring.
4. **Currant stem girdler** - Currant stem girdler is a sawfly that emerges in late April or early May. Adult sawflies lay eggs in young, succulent shoot tips, then girdle tips below the eggs. Shoot tips die, reducing cane length. Sanitation is currently the only control strategy available for this insect pest in NY. Cut off affected tips below evidence of insect activity and destroy prunings.

New plantings:

1. **Plant materials** –
    a. Vigorous 1 year old plants are generally easier to transplant and less expensive to purchase.
    b. Bare-rooted plants may be preferable as containerized plants become root bound very quickly.
    c. Cut through circling roots of pot bound plants with a sharp knife before planting.
    d. For bare root plants, prune out dead or diseased roots and thick, wood roots that are kinked, twisted or point inward toward root collar. Shorten roots to fit planting holes.
2. **Preplant weed management** –*Round* up 30 days before planting.
3. **Final site preparation**
    a. Do final fitting of planting.
    b. Layout planting; flag rows.
    c. Prepare raised beds if desired (18" w x 12" h); cover with landscape fabric or black plastic mulch.
4. **Plant spacing** –
    a. Red and white currants, and gooseberries
        i. Fresh fruit spacing 3-4 feet in row, 10 ft between-row.
    b. Black currants
        i. Fresh fruit spacing 4-5 ft in row, 10 ft between-row.
        ii. Mechanically harvest fruit spacing 2.5 -3 ft in –row, 10 ft between rows.

5. **Planting** -
    a. Dig planting holes 12" deep and 18" in diameter. Make a shallow cone of soil in center (8' high). Spread roots over cone.
    b. Set plants slightly more shallowly than grown in the nursery. Firm soil around plants. *Do not add amendments to the planting hole.*
    c. For larger plantings, plow a 12" deep furrow centered on the plant row and set plants into the furrow. Spread roots along furrows and firm soil around plants.
    d. Shorten canes to 1-2 buds above ground.
    e. Irrigate immediately.
    f. Mulch if desired.

GENERIC FUNGICIDE OPTIONS

Annemiek Schilder, Department of Plant Pathology, Michigan State University

Following the trend in human medicines, "generic" versions are now available for some common fungicides used to treat plant diseases. This is due to the expiration of patents on various proprietary fungicide products. Generic products by law have to have the same amount of active ingredient as the original fungicides. However, there may be differences in inert ingredients or formulations.

Generic products tend to be more economical than brand name products, but most have not have been separately evaluated for disease control efficacy in Michigan and may not be mentioned in the crop sections of E-154 (Michigan Fruit Management Guide). However, most of them are briefly described in the "Fungicides and Bactericides for Fruit Crops" section of the guide. For more information on individual products, check out their labels or material safety data sheets on the following website: www.cdms.net. Generic products are presumed to be similar in disease control efficacy to their brand name counterparts. However, minor variations in efficacy, behavior or even phytotoxicity may occur due to formulation differences.

Do not assume that the labels of generic products are exactly the same as the brand name fungicides that you are used to. Sometimes there are differences in the crops that the product is labeled for or in the label instructions or restrictions. An example is Iprodione (iprodione), which is labeled for blueberries, whereas the brand name product Rovral (iprodione) is not. Also, Tebuzol (tebuconazole) is labeled for apples and pears, but other tebuconazole products such as Elite, Tebustar, and Orius are not. The table below lists generic versions of common fungicides. Read the fungicide label carefully before use as you would for any new product.

Brand name	Active ingredient	Generic versions
Aliette	fosetyl-Al	Legion
Aliette	phosphites (same breakdown product as fosetyl-Al)	ProPhyt, Phostrol, Agri-Fos, Rampart, Fosphite, Fungi-Phite, Topaz
Elite	tebuconazole	Orius, Tebuzol, TebuStar, AmTide Tebuconazole
Rally/Nova	myclobutanil	AgriStar Sonoma
Orbit	propiconazole	Bumper, PropiMax, Propiconazole E-AG, AmTide Propiconazole,
Ridomil	metalaxyl	MetaStar, Metalaxyl
Bravo	chlorothalonil	Chlorothalonil, Echo, Equus
Rovral	iprodione	Iprodione, Nevado
Topsin M	thiophanate methyl	Thiophanate Methyl, T-Methyl
Agri-Mycin	streptomycin	Ag Streptomycin, FireWall
MycoShield	tetracycline	FlameOut

(Reprinted with permission from: MSU Fruit Crop Advisory Alerts, March 30, 2010.)

BERRY PEST MANAGEMENT UPDATE 2010

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

Not a lot of new products entering the playing field so far this season. None-the-less, what follows is an overview of the latest registrations, label changes, discontinued products etc. which hopefully will be of some assistance to you as you plan your pest management strategies for 2010.

Start with the Basics

Remember the label is the law. A DEC inspector visiting your operation will ask to see a *current* copy of the label for the product you are applying. Be sure to have readily available copies on hand. Ask yourself, "Do the EPA registration numbers match? Is this the most recent label version?"

Where can I get a current copy of the NYS label for a product? How do I know if a product is labeled for use in NY State on berry crops? The answer is PIMS! The NYS Pesticide Product, Ingredient, and Manufacturer System(PIMS) is an excellent resource for extension educators, crop consultants and growers alike, providing current listings of products registered in NY State, along with their product labels. The data base, accessible here: http://magritte.psur.cornell.edu/pims/, may be searched by product name, active ingredient, EPA registration number, or product manufacturer. Labels are available for printing.

Disease Management Products

More on Generic Fungicides

First, our thanks to Annemiek Schilder from Michigan State University for letting us reprint her article on generic fungicides which precedes this update. After cross checking her list what follows is a list of generics labeled for berry crops in NY State (Table 1). Click on the product name to see the NYS label for the product (PIMS).

It is important to note this is by no means a complete listing of available generics for use on berry crops in NY. It is also important to note berry crops listed, usage restrictions, REI and PHI intervals may vary from formulation to formulation or brand name to generic product. **Always read the label before making an application.**

In putting together the table for NY I discovered many of the generic products were registered during the 2009 growing season. Moreover, two generics with the same break down product as fosetyl-Al (Alliette) were just recently registered for use on berry crops in NY: Agri-Fos (1/8/10), and Rampart (3/17/10). In fact, Rampart is so new the label is not yet posted in PIMS. The federal label for Rampart includes berry crops. Be sure to check the link in the table below to verify the NY label includes berry crops when it posts. Like Aliette, these products have activity against Phytophthora root rot, red stele, and leather rot.

Table 1. Generic Fungicides Labeled for Use on Berry Crops in NY State.

Brand name	Active ingredient	Generic version	NYS label date	Berry crops labeled in NYS
Aliette	*fosetyl-Al*	**Legion**	**5/27/09**	blueberries, blackberries, cranberries, raspberries, strawberries
Aliette	*phosphites (same breakdown product as fosetyl-Al)*	**Agri-Fos**	**1/8/10**	bushberries, caneberries, strawberries
		Fosphite	5/26/09	blackberries, blueberries, cranberries, currants, elderberries, gooseberries, raspberries, strawberries
		Fungi-Phite	9/20/07	berry crops
		Phostrol	3/1/07	blueberries, blackberries, cranberries, raspberries, strawberries
		Prophyt	11/17/08	blueberries, blackberries, cranberries, raspberries, strawberries
		Helena Prophyt	11/7/05	blueberries, blackberries, cranberries, raspberries, strawberries
		Rampart	**3/17/10**	NYS label not yet accessible

Brand name	Active ingredient	Generic version	NYS label date	Berry crops labeled in NYS
		Topaz	9/14/05	blackberries, blueberries, cranberries, currants, elderberries, gooseberries, raspberries, strawberries
Rally/Nova	*myclobutanil*	**AgriStar Sonoma**	**12/2/09**	blackberries, currant, gooseberries, raspberries, strawberries
Orbit	*propiconazole*	**Bumper 41.8 EC**	8/15/08	bushberries, caneberries, strawberries
		PropiMax	9/10/09	blueberries, blackberries, cranberries, raspberries
		AmTide Propiconazole*	3/4/09	bushberries, caneberries, strawberries
Ridomil	*metalaxyl*	MetaStar, Metalaxyl	--	No NYS label for either generic product on berry crops
Bravo	*chlorothalonil*	**Chlorothalonil***	8/19/09	blueberries
		Equus*	5/11/09	blueberries, cranberries
Rovral	*iprodione*	**Iprodione***	9/18/09	bushberries, caneberries, strawberries
		Nevado	4/10/09	bushberries, caneberries, strawberries
Topsin M	*thiophanate methyl*	**Thiophanate Methyl***	9/15/09	strawberries
		T-Methyl*	5/22/09	strawberries

*Other generic formulations with or without similar product names may be available.

Arthropod Pest Management Products

New Product Registrations

Altacor (2/25/10) is a newly registered restricted use pesticide for use on caneberries. The active ingredient for this product is chlorantraniliprole. This is a particularly exciting registration for NY as it is the first product labeled for raspberry crown borers for the State. It is important to note this product may not be applied within 100 feet of a body of water in NYS. For best results, apply this product in 100 to 150 gallons per acre. REI is 4 hours, DTH = 3 days. Other restrictions may apply. See label for details.

Label Changes/Restrictions

Avaunt, previously labeled only on cranberries in NY, now includes labeling for bushberries such as highbush blueberries, currants, gooseberries, elderberries, Jostaberries, Aronia, and Sea buckthorn, among others. Target pests include cranberry and cherry fruitworms, Winter moth and Bruce spanworm.

Guthion 50 WP Previously established phase-out guidelines include the following restrictions for blueberries for 2010: No aerial applications, 1.5 lb maximum application rate. **Note:** This product may not be used on highbush blueberries after 9/30/2012.

Weed Management Products

Label Changes/Restrictions

Prowl H_2O (11/16/09) has a new supplemental label for strawberries. This label expires 12/21/2011.

Stinger (7/28/04) the Special Local Needs label remains in effect until 12/31/2010.

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COPPER PRODUCTS, CHARACTERISTICS, AND USES

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Copper is a metal widely used in agrichemical products to control a wide range of fungal, bacterial and other pests. This article provides a general summary of copper compound categories as pertinent to fruit crops. For further information, see the reference section at the end.

Categories and Products

Practically speaking there are two broad categories of copper compounds. Copper sulfate (bluestone, copper sulfate snow), a completely soluble copper form, and various "fixed" coppers that are less soluble. Copper is toxic to bacterial and fungal spores when in the dissolved form. Dissolved copper is the greatest risk of phytotoxicity to green plant tissue. Dissolved copper is very prone to rain wash off.

Copper sulfate is generally used in combination of spray lime as Bordeaux, which helps to stick copper to plant surfaces and reduce the amount of dissolved copper. Copper sulfate is compatible with oil and lime. Since copper sulfate is very soluble with water, there is greater potential for phytotoxicity than the fixed coppers.

Fixed coppers are much less soluble than pure copper sulfate. Fixed coppers are compatible with lime. Types of fixed coppers are copper hydroxide, copper oxychloride sulfate (COCS), basic copper sulfate is also known as tribasic copper sulfate (cupric sulfate, tricupric hydroxide, hemihydrate), and mixtures of two or more copper types.

Another type of "fixed" copper is the copper salts of fatty and rosin acid, sold as liquid compounds. These are not compatible with lime.

Fixed copper and lime should not be used with Guthion, Imidan, Sevin, Thiodan, Bayleton, Captan, Carbamate, Syllit, or phosphorus acid fungicides, because of compatibility and hydrolysis concerns.

Bordeaux Mixing Procedure

A typical rate is 8 lb of copper sulfate, 8 lbs spray lime, and 1-gallon miscible superior oil per 100 gallons of water.

Dissolve copper sulfate in one-half tank water. Once completely dissolved, add the spray lime (make sure it is fresh) with constant agitation as the tank fills. Add the oil last but before completely filling the tank. The mixture must be agitated continuously. Never combine copper sulfate alone with dormant oil.

Properly made Bordeaux mixture should be near neutral pH (7.0) for safe use.

The Copper Compound Table

The table summarizes characteristics of commonly used copper compounds, both dry and liquid products. The metallic copper content is the active ingredient and should be used to compare various compounds. In addition, it is important to note that copper sulfate and CS 2005 are both copper sulfate pentahydrate types. CS 2005 is used in the citrus industry and has been heavily promoted in Michigan.

Table 1. Copper Product Summary

Product	Copper form	Amount of formulation	Metallic copper equivalent	Unit type	Metallic copper per unit
Copper sulfate = bluestone = blue vitriol	Copper sulfate pentahydrate*	99%	25%	1 lb	0.25 lb
Kocide 101	Copper hydroxide	77.0%	50%	1 lb	0.50 lb
Champ WP	Copper hydroxide	77.0%	50%	1 lb	0.50 lb
Nu-Cop 50DF	Copper hydroxide	77.0%	50%	1 lb	0.50 lb
Kocide 2000	Copper hydroxide	53.8%	35%	1 lb	0.35 lb
Kocide DF	Copper hydroxide	61.4%	40%	1 lb	0.40 lb
Kocide 3000	Copper hydroxide	46.1%	30%	1 lb	0.30 lb
Basic Copper 53	Basic copper sulfate	95.0%	53%	1 lb	0.53 lb
Cuprofix Ultra 40D	Basic copper sulfate= $CuSO4 \cdot 3Cu(OH)2 \cdot H20$	71.1%	40%	1 lb	0.40 lb
Basicop	Basic copper sulfate	95%	53%	1 lb	0.53 lb
Cuprofix Disperss	Basic copper sulfate	36.9%	20%	1 lb	0.20 lb
C-O-C-S WDG	Copper oxychloride sulfate	79.0%	50%	1 lb	0.50 lb
COCS 53%	Copper oxychloride + basic copper sulfate	53.0%	53%	1 lb	0.53 lb
Champ 2F = Champ liquid copper = Champium Formula 2	Copper hydroxide	37.5%	24.4%	1 gal	3.00 lb
Tenn-Cop 5E	Copper salts of fatty and rosin acids	58.0%	5.14%	1 gal	0.43 lb
Copper-Count-N	Copper ammonium carbonate	31.4%	8%	1 gal	0.784 lb
CS 2005	Copper sulfate pentahydrate*	19.9%	5%	1 gal	0.418 lb

**Note: Check labels for crops listed. Copper sulfate pentahydrate forms are more soluble than other types and thus are more prone to phytotoxicity and washoff. Fatty and rosin acid forms are not compatible with lime.*

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(Reprinted with permission from: MSU Fruit Crop Advisory Alerts, April 13, 2010.)

SPOTTED WING DROSOPHILA

Kathy Demchak, Department of Horticulture, The Pennsylvania State University

Some of you have been hearing and reading about the spotted wing drosophila, most recently in the Spring 2010 newsletter from Nourse Farms. This has prompted some calls and caused some concern, so I'd like to follow up with some points.

First, a brief recap: Spotted wing drosophila (*Drosophila suzukii*) is an invasive fruit fly, previously called the "cherry vinegar fruit fly". It's been a pest in Japan since 1916, was first identified as a pest in California in 2008, and since has become a large problem along the West Coast from California to British Columbia. This pest was found in Florida in 2009. It can be a problem on any soft fruit, and has been problematic on strawberries, raspberries, cherries, blueberries, nectarines, etc. It is different from other fruit flies in that it lays its eggs under the skin of the fruit. Larvae can hatch very quickly – in as little as a day or two, depending on the temperature. The problem is similar to that of sap beetles – the direct damage to fruit is a problem, but the bigger problem is that the harvested fruit can have larvae in it.

Before we all go into a panic, there are some things I'd like to point out, and what we don't know is just as important as what we do know. First, there is concern that with fruit being shipped all over the country, the spread of spotted wing drosophila could be hastened. This is a valid concern – but at the same time, it also appears that the larvae and eggs can be killed by temperatures close to freezing for 4 days (at least for strains in Japan), and fruit shipped at cold temperatures may be less of a concern than fruit shipped at warmer temperatures. Also, while it's likely that this pest will show up in here at some point (and it may already be here for all we know – we just may not have noticed yet), how well it will survive in our environment is not known. Climate could also play a role, as might man-made overwintering sites, and beneficial predators may as well – at least one species of parasitic wasp is reported to parasitize the larvae in Japan.

Now, what should you do, either as a precaution, or in case the "worst case scenario" is the one that happens? For now, keep using all the cultural controls you normally would do anyway to keep your plantings as clean as possible – as if you thought sap beetles could be a problem. Keep fruit as well-picked as possible, and destroy or bury unused fruit - don't just throw it in piles. Minimize the amount of old fruit that accumulates in the planting – any fruit that is left there is a good place for problems to multiply. As far as chemical control goes, many insecticides will kill this pest, though not labeled specifically for spotted wing drosophila. If you spray anyway for other insects such as tarnished plant bugs, you may be affecting spotted wing drosophila as well. A big difference between various insecticides is how long they last, and unfortunately, the ones that are safe to use during harvest because they break down quickly don't have very long residual activity on the fruit flies either.

If you want to try to figure out if any of the fruit flies you have around are spotted wing drosophila, they are about the size of many other fruit flies, are tan or light brown, have red eyes, and the males have a spot at the tip of each wing – that last detail is what distinguishes them from other fruit flies. You probably won't be able to tell the females of these from any other fruit fly, but it's not necessary to know if you are looking at a male or female – you just need to know if any of the fruit flies' wings have a spot at the tip. If you want to make a trap, they are attracted to vinegar and ripe bananas, but you should place the trap away from your planting or market place, since you want to attract any fruit flies away from your planting, not to it. Also be aware that you will attract more than just the spotted wing drosophila.

Here are some web sites with info on the spotted wing drosophila and additional details for the above topics:

- U.C. Davis: http://www.ipm.ucdavis.edu/EXOTIC/drosophila.html
- Oregon State University: http://swd.hort.oregonstate.edu/documents
- The Florida Department of Agriculture and Consumer Services http://www.doacs.state.fl.us/pi/enpp/ento/drosophila_suzukii.html
- The European and Mediterranean Plant Protection Organization http://www.eppo.org/QUARANTINE/Alert_List/insects/drosophila_suzukii.htm

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Questions or Comments about the New York Berry News?

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