

FRUIT NOTES

Lake Ontario Fruit Program

Volume 13 Issue 3

Every effort has been made to provide correct, complete, and up-to-date pesticide recommendations. Nevertheless, changes in pesticide regulations occur constantly, and human errors are still possible. These recommendations are not a substitute for pesticide labeling. Please read the label before applying any pesticide.

March 13, 2013

Spring? It will come sooner than later! D. Breth

Many of us would prefer a few more weeks of winter. But the Canada geese, swans, blooming crocus, and even the turkey buzzards say that spring is coming soon. It is time to start planning for pest management activities that need to be done in the early spring.

1. **Fungicide applications for peach leaf curl** are necessary if not done in the fall, before the budscales crack (usually mid-late March). In peach orchards with few fungicide applications last season due to reduced crop, leaf curl pressure could be high. Fungicides such as Ziram (4 lb. per acre if light disease pressure or 6-8 lb. per acre for heavy disease pressure), Ferbam, or chlorothalonil (Bravo, Echo) are more effective than copper for leaf curl. But if leaf curl pressure is not so bad, a copper application will be effective and also provide some benefit for bacterial spot control. Dormant applications of copper are also labeled for bacterial canker in apricots, bacterial blast in plums and prunes. Copper can be applied late dormant in sweet cherries for bacterial canker.

2. **Take steps to reduce overwintering scab inoculum,** apple scab ascospores, in orchards that were scabby last year. Apply urea to the orchard floor this spring to help the infected leaves decay. Apply 40 lb. of urea per 100 gallons water per acre and apply uniformly to the orchard floor including the sod row middles. Dissolve the urea in warm water before putting it in the tank. David Rosenberger has addressed other possibilities including lime, lime sulfur, and leaf shredding, but none are as effective as urea in the spring. You will reduce your spring N applications based on the percentage of the 40 lb. of urea that was applied to the tree rows. The portion that treated the sod row middles will just be taken up by the sod.

3. Consider herbicide applications that can be applied very early spring. The first herbicide to be used in the spring is

Casoron 4G which can be applied in apples, pears, and cherries established for 4 weeks. Although the label says it must be applied between Nov 15 and Feb 15, if it is incorporated immediately after application with rainfall, it can be used up until May 1. This herbicide must be applied before the seeds of annual weeds germinate and rainfall (1/2 to 1 inch) incorporated into the weed seed zone when soil temperatures are below 45°F. Casoron will help with a broad-spectrum of annual grasses and broadleaves, as well as some perennial grasses and broadleaves as long as the roots are not very large. You will need to follow with a postemergent such as paraquat to kill weeds already emerged or wait until we get some warmer temperatures for glyphosate for post-emergent control. Casoron is also labeled for use in bushberries, caneberries, and cranberries. Casoron CS can be applied a bit later but still needs to be incorporated by rainfall before weed germination; it is also labeled for use in apples, pears, cherries, and blueberries established 1 year, as well as blackberry and raspberry before new shoot emergence. The next herbicide option would be Goal or GoalTender before buds swell in all tree fruit orchards. They have both pre- and post-emergence contact activity on seedling broadleaf weeds. They will not control established perennials and should be tank mixed with a good grass residual herbicide such as Prowl H2O or Surflan.

4. In orchards with a history of phytophthora root rot (all but plums except those planted on peach or apricot rootstocks), brambles, and strawberry plantings that have some drainage problems and heavy soils, consider an application of Ridomil. See label for rates and how to apply it in various crops.



Cornell University Cooperative Extension

Lake Ontario Fruit Program in Wayne, Orleans, Niagara, Monroe, and Oswego Counties www.fruit.cornell.edu/lof

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Building Strong and Vibrant New York Communities

5. Prune brambles and blueberries and apply lime sulfur for cane disease management at budbreak on brambles (before ½ inch green) and as leaf buds begin to break on blueberries.

6. **Get your sprayers ready for the season.** Of course you all cleaned them thoroughly last fall when you put them away, pulled the nozzles for cleaning and storage, serviced pump parts and pressure gauges. So put it all back together so it is ready for calibrating the next warm spell we have.

7. Get pesticide storages ready for work, make sure proper measuring devices and scales are available for pesticide mixing only. Complete any maintenance on filling stations, pumps, etc. Take inventory and re-stock personal protective equipment. Register non-certified applicators for the DEC Special Permit Training (April 9-10, see details in this Fruit Notes).

8. Get the **WPS central posting area and spray recordkeeping systems** set up for employees. Read all the labels you plan to use in the season. Especially look in the "Agriculture Use" box for the notification of spray application requirements, including posting field entrances. Review drift prevention requirements on all labels.

9. **Purchase an anemometer** to measure wind speed at the site when you are about to spray as required on many labels. Be sure there is a place for the applicator to record this info in the tractor.

10. Get your weather station set up and calibrated and be sure you can access data.

DEC Special Permit Training Class for Non-Certified Applicators and Handlers of Federally Restricted-Use Pesticides

Wayne County Tuesday, April 9, 2013

English Session - 9:00 am to 12:00 pm Spanish Session - 1:00 pm to 4:30 pm

Registration Begins at 8:30 am (English) and at 12:30 pm (Spanish)

Cornell Cooperative Extension Wayne Co. 1581 Rt. 88N, Intersection of Hydesville Rd. Newark, NY Orleans County Wednesday, April 10, 2013

English & Spanish sessions 9:00 am to 12:30 pm

Registration Begins at 8:30 am

Orleans Co. Coop. Ext. Fairgrounds Trolley Bldg. Rt. 31 between Albion and Medina Knowlesville, NY

Certified Supervisors are required to attend the first 30 minutes of training!

Note: In Wayne County, supervisors who attend the first 30 minutes of training in the English session do not need to repeat the training in the Spanish session

\$20 per DEC Special Permit

DEC Special Permit allows non-certified workers to apply and handle federally restricted use pesticides: The Special Permit does not relieve the responsibility of the certified applicator that supervises these employees, but it does relieve the requirement of "onsite, within voice contact" supervision while federally restricted pesticides are being applied. Several of the pyrethroid, organophosphate, and carbamate insecticides such as Warrior, Capture, Diazinon, Lorsban and Lannate, and a few herbicides such as Gramoxone and Atrazine, are federally restricted-use materials. At Special Permit trainings, we review with non-certified applicators Worker Protection Safety (WPS) handler training and for each federally restricted-use pesticide the potential hazards to non-target species and the environment, and how to prevent the risk of exposure. Trainees also receive a packet with summaries of this information.

A DEC Special Permit is <u>valid for one year</u> and needs to be renewed every year unless the pesticide applicator becomes certified. You must pre-register by April 3! Registration form on back page!

New App Helps You Identify That Weed

January 1, 2013, Columbia, Missouri. University of Missouri Extension has released a free app for iPhones, iPads and Android devices to help people easily identify weeds in the field, lawn or garden. Kevin Bradley, MU Extension weed scientist, unveiled the app at the MU Crop Management Conference, Dec. 19 in Columbia. The app, called ID Weeds, has information on more than 400 plant species that could be encountered as weeds in crop fields, pastures, lawns, gardens or aquatic areas in Missouri and surrounding states, Bradley said. ID Weeds lets users narrow the list of suspects with a series of dropdown boxes for various plant characteristics. Don't worry if you're not familiar with technical terms such as "ligules" or "spatulate." For most characteristics, users can click on "what's this?" to see an illustration. Clicking on "Identify" will produce a list of weeds that match the characteristics you've chosen. The more characteristics you specify, the shorter the list will be.

Selecting a weed on the list brings up detailed information and one or more photographs. You can also look up a

weed by searching for its common or scientific name, or select from an alphabetical list, from "Alligatorweed" to "Yucca." "Proper identification of weeds is important so that you choose an appropriate and cost-effective method of control," said Bradley, who is also an associate professor of plant sciences in the MU College of Agriculture, Food and Natural Resources. The app was developed by James Meng, a programmer for MU Extension Technology and Computer Services (ETCS).

ID Weeds is compatible with iPhone, iPod Touch and iPad running iOS 5.1 or later, and devices running Android 2.2 or later. To download:

• iPhone and other iOS devices:

itunes.apple.com/app/id-weeds.

- Android: play.google.com/store.
- A web version is available at weedID.missouri.edu.

(Source: University of Missouri Press Release. extension.missouri.edu.) NY Berry News, Feb, 2013.

Blueberry Pruning And Rejuvenation

Marvin P. Pritts, Dept. of Fruit and Vegetable Science Cornell University, Ithaca, NY 14853

In light of the spray coverage issues you will encounter with the threat of spotted wing drosophila, I thought a review of pruning blueberry plantings was important. (editor's note: D. Breth)

Regular pruning is an essential component of blueberry management, yet its importance is often misunderstood because the costs to the neglectful grower are not immediate. Pruning is required to maintain the vigor and productivity of bushes, to aid in disease and insect management, to maintain large fruit size and quality, and to develop an appropriate growth habit for harvesting. Early spring is the best time to prune blueberries.

A young blueberry plant will produce many canes for the first several years. Cane production will gradually slow as bushes become tall. Yields will decrease because of the absence of new growth on which flower buds will form. An increasing amount of leaf area will be required to satisfy the respirational demands of both the fruit and wood. Furthermore, light penetration into the canopy will diminish, resulting in a shift of fruit production to the exterior of the bush, causing a decrease in bearing surface. Appropriate pruning practices can maintain a blueberry bush in an efficient and productive state, without the detrimental changes described.

Selecting canes for removal

When selecting canes for removal, first look for any winter-injured or broken canes, or canes with disease and insect damage. If injury is severe, remove that particular cane. Cankers and scales are common pests that can be partially controlled through pruning. Second, remove any cane that is rubbing against another to prevent canker infections. Third, remove those that are interfering with movement through the alley. Aim for a plant with an upright growth habit, yet with a sufficiently open canopy to allow for light penetration. Mechanically harvested bushes should be trained to a more upright habit and narrower crown than those that are hand harvested. Finally, remove short, branched canes that never receive much light. If these canes produce fruit, it will ripen late and will rarely be harvested. Care should be taken to remove canes as close to the crown as possible. Do not leave 6 to 8 inch stubs. These will rot and act as a source of disease inoculum.

Pruning young bushes

Little pruning is required on young bushes. Remove flower buds for the first two years to promote vegetative growth. This can be achieved by rubbing off the fruit buds, or by pruning the tips of shoots where the flower buds are located. At the beginning of the third year, remove any twisted or low-growing canes to promote new cane production.

If more than two new canes were produced the previous year, remove all but the two healthiest at the crown level. In subsequent years, continue light pruning until the plants reach full size, removing all but 2 or 3 of last season's canes. When plants are about 8 years old, they should contain between 10 and 20 canes of many different ages. Some cultivars produce many more canes than others, so the amount of pruning that is required on young bushes will vary with cultivar.

Mature bushes

Eight year old canes start to lose their productivity as more leaves are required to support a given amount of fruit on those canes. In addition, canes have branched considerably, and the most recent growth on which flowers form is usually thin and weak. Removing one or two of the largest canes in a mature bush will promote new cane growth. If bushes contain a mixture of canes of different ages, then annual removal of canes that have reached 8 years of age will allow for a minimal reduction in productivity, as 7-year-old canes grow to replace those that were removed. Regular renewal will allow for consistent long-term productivity.

Canes larger than one inch in diameter are not as productive as younger canes, and eventually should be removed. If one or two of the largest canes in a mature bush are removed annually, and one or two new canes are permitted to grow, then an even age structure among canes can be maintained. In general, up to 20% of the older wood can be removed from a bush without adverse effects on yield. Although berry numbers will be reduced, larger fruit will compensate for this decrease.

Regularity of pruning

Annual pruning is essential for stable production and high productivity. When bushes are pruned irregularly, young canes are produced in great numbers the year after heavy pruning. These canes will age together, and become unproductive at the same time. If one then wants to prune out the unproductive canes, nearly the entire bush will have to be removed. Also, no young growth is present to make up for the loss of fruiting wood. Therefore, irregular pruning results in erratic yields from year to year, and tall bushes will develop as individual canes elongate to compete for light. Research has shown that annual, moderate pruning produces bushes with the fewest canes, but with the greatest yields.

Detailed pruning

Removing injured wood should be the primary objective of detailed branch pruning in the tops of the canes. Branch pruning can result in higher fruit quality because berry numbers are reduced. Also, branch pruning can help relieve drought stress in hot climates where plantings are unirrigated. However, if one has done a good job removing whole canes, then little detailed pruning will be required.

Weak bushes require more pruning than vigorous bushes because pruning stimulates vegetative growth. Also, special consideration must be given varieties with spreading habits. Sprawling canes should be removed, but care should be taken to leave sufficient canes for fruiting.

Rejuvenation

When rejuvenating an old planting, remove one or two old canes for every five or six younger canes. In following years, remove up to 20% of the wood until new cane growth occurs. Keep only 2 or 3 new canes and continue to remove up to 20% of the oldest canes. Eventually, the bush will become more productive, cane numbers will decrease, and bush stature will decline.

In old, poorly maintained plantings, some growers have had success cutting all the canes to ground level; harvesting begins 3 years later. However, for this system to be most effective, canes must be thinned to the most vigorous 6 - 10. Others find that summer hedging immediately after harvest, coupled with selective dormant cane removal, works well.

<u>Summary</u>

Pruning is an investment in the future productivity of the blueberry planting. Regular annual pruning will spread costs throughout the life of the planting, ensure stable production from year to year, and serve as a useful tool for managing pests, fruit load, and quality.

Pruning Details for Floricane-Fruiting Raspberries

Marvin Pritts, Cornell University

Red Raspberries

Productivity in summer-fruiting red raspberries is most closely related to the number of canes. Unlike the situation with primocane-fruiting raspberries, however, fruit size decreases as cane numbers increase. Growers must maintain a high number of canes, but not high enough to greatly reduce fruit quality. In general, 3-5 large canes per linear foot of row is the optimal range with a plant row width of 12-18 inches.

On summer-fruiting raspberries, buds at the top of a cane often winter kill because they are less mature and less hardy than buds lower on the cane. Spring pruning should be delayed until winter injury on canes can be identified, usually by mid-March. Canes should be topped as high as the trellis and harvest operations will permit, but below the point of winter injury. Severe topping will increase fruit size but will greatly reduce yield. To prevent a loss in yield, no more than the top one-fourth of a cane should be removed.

Growers may choose any of the five general pruning methods described for summer-fruiting raspberries. Each method will produce different effects on yield and productivity. After pruning, canes are tied loosely to the trellis wire to prevent wind damage of laterals after bud break. Canes should be spaced evenly along the trellis wire, or equally divided and spread between sides of a V-trellis.

Tipping (pinching off the tips) of red raspberry primocanes during the growing season to promote lateral growth is not recommended in the Northeast. This procedure slows cane development, does not stimulate much branching, and makes the plant susceptible to winter injury.

Primocane-fruiting blackberries

Summer tipping of primocane-fruiting blackberries (prior to flower bud formation when canes are about 3 feet tall) has been found to increase yield by as much a three-fold. However, it also delays harvest slightly. In the Northeast, the growing season is sufficiently short that blackberry fruit may not ripen, and any delay is detrimental. We will be studying ways to manage primocane-fruiting blackberries, including fruiting them under a high tunnel to extend the growing season. At this point we do not have good recommendations for pruning them.

Black Raspberries

In contrast to red raspberries, black raspberries respond well to primocane tipping. Many more fruiting buds are produced on black raspberry lateral branches than on the main cane, so primocanes are pinched back at a height of 28 inches to stimulate lateral branching from the main cane. At least 4 inches of tip should be removed during pinching. Several passes through the field may be required since canes grow at different rates. Ideally, primocanes should be tipped just above a bud so very little dead wood is left between the pruning wound and the bud. Dead wood can be a site for cane blight infection, especially if wet weather follows tipping.

Some growers tip black raspberries mechanically by shortening fruiting canes to a height of 22 inches in early spring. Later in the spring, several passes are made with a sickle bar mower at 24 inches. Although this method is less labor intensive than tipping, primocanes will be more susceptible to cane blight infection since there is little control over wound size or the amount of dead wood between the cut and first bud.

At the end of the first year, black raspberry primocanes are branched with long laterals. These lateral branches should be supported by trellis wires before October since wet snow tends to break them off the main cane. Also, canes are more flexible in early autumn than in late autumn and are less prone to breaking from the crown during trellising.

A large portion of the lateral branches may be killed during the winter since black raspberries generally are not as hardy as red raspberries. Black raspberries could be pinched higher, but shorter laterals would result and the winter damage would be greater. If the whole lateral is permitted to fruit, smaller berry size will result. Laterals are shortened (headed back) in early spring to remove winter damaged wood and to maintain berry size. Some growers shorten laterals to less than 10 inches. The choice of lateral length depends on cultivar vigor and the relationship between crop size and fruit size. The relationships among productivity, fruit size, and lateral length are not well known. Whatever general pruning method is chosen, leaving 4-6 canes per crown should give most growers acceptable yields of large fruit. Black raspberries will respond well to partial primocane suppression. Full suppression is not recommended because black raspberries produce few primocanes.

Purple Raspberries

Purple raspberries perform best if pruned similarly to red raspberries. Purple raspberry primocanes may be tipped, like black raspberries, but wounds are often an entry site for cane diseases which kill part of the cane.

If a grower chooses not to tip purple raspberries, the canes will grow very tall, and the trellis should be able to support such vigorous growth. Primocane suppression can be used to control this vigor with good results. Some natural branching will occur near the base of primocanes when growing conditions are favorable. These canes may be removed or allowed to fruit.

If primocanes are tipped to keep the plant short and compact, it should be done when primocanes reach a height of 32 inches. At least 4 inches of tip must be removed. Many lateral buds will break near the the top of the cane, and fewer near the base. Lateral branches should be shortened below any winter damage in early spring.

Tipped plantings without cane diseases will generally produce higher yields, but berries on the long laterals are more difficult to harvest. Also, long lateral branch or cane length generally results in smaller fruit size. Larger fruit can be obtained by shortening canes or lateral branches in early spring, but at the expense of yield.

Pruning methods that leave 3-4 fruiting canes per linear foot of row produce acceptable yield and quality of fruit. Purple raspberries respond favorably to primocane suppression but do not respond well to mowing.

Thorny Blackberries

Thorny blackberry primocanes are tipped when 3-4 feet high to stiffen canes and cause lateral branching. The laterals are shortened to 12-16 inches in early spring, and canes are thinned to two per linear foot of row. Longer lateral branches will produce more but smaller fruit than will shortened laterals. Growers may choose alternate year mowing methods to avoid the difficult task of pruning the thorny canes.

Thornless Blackberries

For two years after planting, thornless blackberry primocanes tend to grow along the ground, like a vine. Growers may have to move trailing canes in the direction of the row to allow room for cultivation. After two years, however, canes become more erect and are naturally branched. Thornless blackberry canes are thicker and more flexible than raspberry canes.

Because of the poor hardiness of thornless blackberries, northern growers must take special precautions to protect canes during winter. Although canes are somewhat flexible, they will not bend to the ground after the third year to be covered with mulch or straw. Some growers tip thornless blackberry primocanes when they reach a height of 24 inches so that low growing laterals are more easily protected during winter.

In spring, the canes should be tied at least 3 feet above the ground to trellis wires. Fruiting canes are either shortened to the top trellis wire or woven around the wire. Woven canes should overlap no more than two or three feet with an adjacent plant. Lateral branches are shortened to approximately 18 inches, and laterals on the lower two feet of cane are removed. Thinning canes to 6-8 per hill will maintain acceptable production. Partial primocane suppression is recommended for thornless blackberries.

Thornless blackberries have been grown successfully using a variety of trellising systems which are required to hold canes above the ground. The double curtain V-trellis has been very successful. Fruiting canes are tied to one side of the V and primocanes to the other. Primocanes and floricanes alternate sides of rows across the field, so each row middle is bordered by canes of the same age. This pattern makes spraying and harvesting easier.

We will be studying a new pruning and trellising technique (rotatable cross-arm trellis) over the next few years that will allow thornless blackberry canes to be laid on the ground during the winter and covered with row cover for protection.

Fruit Fax Subscription - 2013

Preferred delivery (insert X to check choices)	 email with attached file formatted in pdf email in body of message, no attached file Fax only 		
Name			
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County			
Telephone No			
Cell Phone No	ne NoCell Carrier		
Fax No			
Do you want fire blight "text" alerts sent to your cellphone?YesNo			

Fruit FAX, Subscribe Now!

Horticultural and Pest Management Notes, produced by Lake Ontario Fruit Program, CCE

Fruit Fax includes updates and reminders of necessary horticultural practices, pest management activities, disease and pest development status, meeting notices, and important business management reminders. They include information relating to tree fruit crops and berries. *Fruit Fax* subscriptions begin March 19, 2 issues per week during primary scab season, 4-6 times per week during bloom for fire blight warnings, and 1 issue per week unless otherwise needed through September.

Fruit FAX is more time sensitive than newsletters but with less detail. But for the complete LOF program, you need both. To receive the *FRUIT FAX* this season, complete the tear slip registration form above and return to: Cornell Cooperative Extension, Attn: Kim Hazel, 12690 Rt. 31, Albion, NY 14411

Include a check payable to "Cornell Cooperative Extension" for \$50, if farming in Wayne, Monroe, Orleans, Niagara, and Oswego counties. If farming outside those counties, please include a check for \$100.

If you already subscribed through enrollment you do not need to return form. See the registration form above.

Check your enrollment status with your county CCE office.

For those who have not reenrolled in the fruit category in the LOF partner CCE counties of Wayne, Monroe, Orleans, Niagara, and Oswego, or as out-of-region, "Satellite" enrollments, we will stop sending Fruit Notes by April 1. Please re-enroll! This team could not continue to exist without the support from the county CCE partners.

Lake Ontario Fruit Program **Cornell Cooperative Extension** 12690 NYS Rt. 31 Albion, NY 14411

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- Check your enrollment status

DEC Special Permit Training Registration. You must pre-register by April 3!

To register: Contact Kim Hazel: 585-798-4265 x26; krh5@cornell.edu or Mail registration to: Kim Hazel, CCE, 12690 NYS Rt 31, Albion, NY 14411 Or FAX registration to: 585-798-5191, Or call Kim Hazel: 585-798-4265 ext 26 Make check payable to: "Cornell Cooperative Extension"

Registration form: Please Check Date and session

April 9, English AM, Wayne Co.	<u>April 9, Spanish PM, Wayne Co.</u>	April 10, Orleans Co.

DEC Applicator ID#

Grower Name (supervising certified pesticide applicator)

Farm Name

Farm Address

Names of non-certified applicators attending: \$20 each, choose session

		Eng 🗆 Span 🗆
		Eng 🗆 Span 🗆
Number attending	x \$20 =	total submitted