

MASSACHUSETTS BERRY NOTES

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Message from the Editor:

Subscription Renewals: OK. Last reminder to renew for 2002. I've received many renewals already, but some have not yet come in. If you are intending to renew for 2002, please send me your check, made out to the Univ. of Massachusetts, for \$30 and your subscription will continue. Many of you are choosing to receive your Berry Notes via email or online at the UMass Extension Fruit Team website at www.umass.edu/fruitadvisor/. Given our budget situation, we may have to go 'all electronic' next year.

Brambles

Pruning Black Raspberries and Purple Raspberries

Ray R. Rothenberger, University of Missouri - Columbia

Raspberries produce fruit on 2-year-old canes, which die after the crop has matured. The pruning of black and purple raspberries consists of:

1. Tipping the new canes when they reach a height of 18 to 20 inches, thus forming a branched cane that is capable of producing more fruit than an unbranched cane. Branched canes are also more able to support the crop off the ground than unbranched canes.
2. As the buds break in the spring, the branches on the canes should be shortened to 8 to 12 inches (longer if the plant is supported by stakes or a wire trellis).
3. After the crop is harvested, the old fruiting canes should be removed at the soil line. (The removal of the old canes as soon as the crop is harvested is a good disease control practice since it removes an important source of infection.)

Pruning red raspberries

Red raspberries should be allowed to produce long, unbranched canes rather than branched canes like the black and purple varieties. The new canes are, therefore, unpruned during their first season's growth. At the start of the second

season, they are topped to a height that will permit them to support themselves and keep the fruit off the ground. If the plants are supported by stakes or a wire trellis, they can be pruned to permit more fruiting wood. The old canes die after the crop is matured and they should be removed as early as possible in order to remove sources of disease.

Pruning upright blackberries

Standard American varieties of blackberries are usually able to support themselves without stakes or a trellis. Pruning is similar to that of black and purple raspberries except the canes grow taller. It consists therefore of:

1. Tipping the new canes at a height of 24 to 30 inches to form branched canes.
2. As growth starts, remove all dead and weak canes or branches and head the branches back to a length of 12 to 15 inches or to the degree that the canes can support the expected crop.
3. After the crop is harvested, remove the 2-year-old wood to stimulate the new canes and remove sources of diseases.

Pruning trailing blackberries (Dewberries, Boysenberries, etc.)

Trailing blackberries are not grown extensively in Missouri because of a lack of hardiness and their susceptibility to bramble diseases.

Like other brambles, they bear fruit primarily on 2-year-old wood.

The one-year wood is usually allowed to grow on the ground where it can be mulched for winter protection. As growth starts in the spring, these canes can be lifted up and tied to a trellis or stakes for fruiting. Weak canes

should be removed as well as all dead wood and the stronger canes shortened to fit the trellis or stakes (usually 36 to 40 inches high).

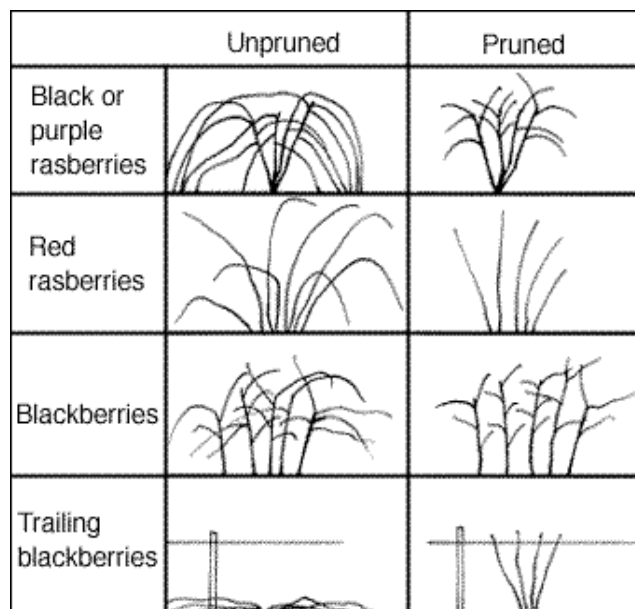
After the crop is harvested, the old fruiting wood is removed while the new wood is permitted to remain on the ground until the next spring (see Figure 1).

Figure 1. Pruned and unpruned raspberries and blackberries

Additional suggestions

- In tipping the new growth of black and purple raspberries and upright blackberries, each cane should have the growing tip pinched out as it reaches the desired height. If several inches of the cane are removed, the side branches are severely stunted.
- Trailing blackberries and red raspberries should be supported by stakes or a wire trellis to produce maximum crops. The same is true of black and purple raspberries, especially for the first crop (2-year-old plants). These will support themselves fairly satisfactorily after the second year.
- All brambles in Missouri are subject to several serious plant diseases that are difficult to control. As a result, the plantings are usually short-lived and require frequent replacement.
- Upright blackberries are frequently affected with a sterility condition in which the plant blossoms normally but produces no fruit. There is no control for this condition and such plantings should be removed.
- A thorough spray program will assist in producing satisfactory crops of both raspberries and blackberries.

(Source: University of Missouri Ag. publication G6000, <http://muextension.missouri.edu/xplor/agguides/hort/g06000.htm>)



Blueberries

Blueberry Pruning Tips

Vernon Grubinger, University of Vermont

Eric Hanson from Michigan State University gave these pointers at the NEVBC. The goal when pruning young bushes is to encourage vigorous, upright growth by removal of damaged wood, spindly growth, and prostrate branches from the base of the plant. As bushes approach and reach maturity, pruning goals change to managing bush size, shape and fruiting capacity. Since the most fruitful canes are 4 to 6 years old, some of the oldest canes should be removed regularly (at least every second year) to stimulate growth of new replacement canes. This keeps the bush in balance where 15 to 20% of the canes are in the young and old categories, and the rest

are productive, intermediate aged canes. It is often difficult to determine how many older canes to remove, and this varies by variety and location, but it is helpful to remember that branches must receive at least 15% of full sun to initiate flower buds. Bushes need to be open enough to allow sufficient light to penetrate to support flower bud and fruit growth well into the canopy. If bushes produce fruit only in the periphery of the canopy, heavier pruning is needed. More aggressive pruning also tends to increase fruit size which is important for PYO marketing. (*Source: Vermont Vegetable and Berry News, February 1, 2002*)

Grapes

Retraining Grape Vines

Mark Chien, PennState Univ.

Last spring many late season varieties, especially vinifera, were damaged by winter injury. Most of the vines were killed to the ground and threw numerous suckers this year. What a mess! Retraining vines is not a fun job. You have large roots system feeding a few shoots - talk about out of balance - those shoots usually grow from here to Tim Buk Tu.

Many of you saved as many suckers as you could stand to look at through the summer. Good idea. Some of you even trained suckers in a fan shape. Also a good idea. However, I still saw plenty of canes that had foot long internodes and 3•4 inch diameter. These are candidates for cold injury and are not the choice fruiting wood for next year.

As you reestablish your trunks, it's essential to pick the best canes when pruning - for both your new trunks and fruiting arms. May I suggest training two to three trunks this winter. Pick canes that have internodes in the 4-5 inch range and diameter of 3/8 to 1•2 inch. These would be ideal. Search backwards from here. I have been asked if I would prefer thinner canes over the fat bull canes. I think both are at risk so my conservative nature would lead me to leave both, and see who survives the winter. If you get past bud break and all looks well, I would remove the bull canes. Any small canes you leave should be at least pencil thickness at the tips. If the canes you have selected have well developed lateral, you can already begin to establish spurs if you are cordon training. Cut these back to one or two buds - use balanced pruning numbers as your guide for a total bud count. As always, try to develop your trunks as straight as possible. Use a training stake and tie the canes at frequent intervals to the stake. Make sure the gap

between canes or cordons as they intersect the wire is a small as possible. You want to fill every inch of trellis.

Remove all the excess canes from the base of the vine. You may choose to leave one two bud spur to supply replacement wood for the following winter, just in case. It's vitally important to make your cuts close to the trunk or stump. Don't leave a spur or a large nub. Besides looking bad, you'll have suckers sprouting out the next year which are expensive and a hassle to remove and a huge clump of stubs makes future pruning difficult. Take the time now to cut clean, it will save you time and money later on.

If you have canes that will fill the trellis and the vine is three years or older I would feel comfortable cropping it this season. If the vine is younger, treat it as you would any young vine by either reducing the crop or removing all of the clusters in the spring. You will be surprised how quickly a reestablished vine will return a full crop.

Do everything possible to prevent cold injury to your vines. That means practicing sound viticulture - creating a balanced vine - do not: overcrop, overfertilize, overirrigate. Keep vines healthy and free of disease. Retraining vines is expensive and hard work. If you practice sound eastern viticulture, you should reduce your chances of needing to retrain vines.

Final Thoughts: In my job I get to travel around a lot - its one of the perks (I think). Over the past two years I have been all around the eastern vineyard area. From Ontario to southern Virginia, there are pockets of great viticulture and the wines that grow from it. But nowhere in the east is there a culture of fine grapegrowing as I witnessed on Long Island. High quality viticulture is no longer really a choice on Long Island, it's an imperative brought about by the expectation and necessity of growing expensive, fine wines. This is

demanded by wealthy owners who have paid a king's ransom for land and desire a certain life style that emanates from wine. But they also expect to make great wine and have the wisdom to squeeze the quality from the grapes. My hat is off to the dedicated individuals in the production side of the industry - they do a great job. And to my colleague, Alice Wise, who gives them the

information they need to grow great grapes. I urge everyone in the Pennsylvania wine and vineyard community to visit Long Island some time in the near future. Just by driving around you will learn. Tasted the wine and you will be inspired. It's where we need to go.

(Source: The Grapevine Newsletter, Fall 2001)

Pesticide Updates

New Fungicides are Labeled for Use on Strawberry

Mike Ellis, Ohio State University

Switch 62.5%WG fungicide is a product of Syngenta Company and has full label registration for use on strawberry in Ohio. Switch is a package mix (combination) of two fungicides (Cyprodinil plus fludioxonil). It is registered for control of Botrytis fruit rot and has provided excellent disease control in Ohio fungicide evaluations. Research in Florida indicates that it provides some level of control for Anthracnose fruit rot. To use Switch most effectively for control of Botrytis, it should be applied at the rate of 11 to 14 oz per acre on a 7 to 10-day interval through bloom. It is important to maintain good coverage throughout bloom. Switch has a preharvest interval of 0 days. Do not apply more than 56 ounces of product per acre per year (4 applications at the maximum rate) and do not plant rotational crops other than onion or strawberry for 12 months following the last application of Switch.

Quadris 2.08F fungicide is a product of Zeneca Corporation and has received full label registration for use on strawberry in Ohio. The active ingredient in Quadris is azoxystrobin and is the same product as Abound fungicide, which has been registered for use on grapes for several years. Quadris is registered for control of Anthracnose and powdery mildew on strawberry. Although Botrytis fruit rot is not on the label, research in New York has shown that Abound (azoxystrobin) provides good to fair control of Botrytis. In addition, azoxystrobin has good activity against Phytophthora fungi on several other crops. Therefore, it may provide some level of leather rot (a fruit rot caused by Phytophthora cactorum) control when applied for control of Anthracnose fruit rot on strawberry. To repeat

this point, although Quadris is only registered for control of Anthracnose and powdery mildew, it may provide some level of control against Botrytis fruit rot (gray mold) and leather rot as well.

Quadris is the first fungicide that I am aware of that is registered for control of Anthracnose. This is very important because the incidence of Anthracnose fruit rot appears to be increasing in several Ohio strawberry plantings, and it can be a devastating disease.

Quadris is registered for use at the rate of 6.2 to 15.4 fl. oz. per acre and may be applied the day of harvest (0-day PHI). For fungicide resistance management, do not apply more than two sequential sprays of Quadris before alternating with a fungicide that has a different mode of action. Do not make more than four (4) applications per acre per crop year. Do not apply more than 1.92 quarts per acre per season. This is four applications at the maximum rate.

Special Note: The active ingredient in Quadris (azoxystrobin) is very phytotoxic to McIntosh apples and other varieties related to McIntosh. We recommend that Quadris not be used in the same sprayer or equipment that will be used on apples. It is also important to prevent any drift from strawberry to apple. Apple varieties related to McIntosh are: Bancroft, Bromley, Cortland, Cox, Discover, Empire, Gala, Janamac, Kent, McIntosh, Spartan and Summared. *(Source: Ohio Fruit ICM News, Volume 6, Issue 2, January 31, 2002)*

New Fungicide Labeled for Use on Blueberry

Mike Ellis, Ohio State University

Abound 2.08F fungicide is now registered for use on blueberry, currant, elderberry, gooseberry, huckleberry, lingonberry and juneberry. Abound is the same fungicide as Quadris (azoxystrobin). At present, it is not registered for use on brambles (raspberry and

blackberry). It is registered on the above mentioned crops for control of mummy berry, Alternaria fruit rot, Phomopsis stem canker, and Anthracnose fruit rot. It is registered at the rate of 6.2 to 15.4 fl oz per acre. Do not apply more than two sequential sprays of Abound before alternating with a

fungicide that has a different mode of action. Do not make more than three (3) applications of Abound per acre per crop year. Do not apply more than 1.44 quarts per acre per season. This is three applications at the highest label rate. Abound may be applied the day of

harvest (0 day PHI). (*Source: Ohio Fruit ICM News, Volume 6, Issue 2, January 31, 2002*)

Loss of Benlate 50WP Fungicide

Mike Ellis, Ohio State University

Dupont has requested a voluntary registration cancellation for Benlate 50WP fungicide on all crops. The sale and distribution of Benlate will not be legal after December 31, 2002. Growers may use labeled product after this date; however, they will not be able to purchase additional material.

Topsin-M WSB fungicide is very similar in activity to Benlate and is an excellent alternative to Benlate on labeled crops. Topsin-M (Thiophomate-Methyl) is labeled on apples, pears, stone fruit, strawberries, and grapes. Therefore, the loss of Benlate on these crops is not serious. Topsin-M is not labeled for use on brambles (raspberry and blackberry) or blueberries.

Benlate was an important fungicide on brambles, and its loss is important. At present, Rovral is the only remaining fungicide on brambles that provides good control of Botrytis fruit rot (gray mold). We also have a

24-C registration for the use of Captan in Ohio. We are hopeful that Abound and Switch will be registered on brambles in the near future.

Benlate was also important for use on blueberry. We are attempting to obtain a section-18 registration for the use of Topsin-M on blueberry in Ohio for 2002. (*Source: Ohio Fruit ICM News, Volume 6, Issue 2, January 31, 2002*)

Editor's Note: If you have questions about any of the information presented here or other questions about the use of fungicides on fruit crops in Massachusetts, Contact me at 413-545-4347 or via email at sgs@umext.umass.edu.

General

The Massachusetts Drought Management Task Force Issues Statewide Drought Advisory

Last month, the Massachusetts Drought Management Task Force issued a statewide drought advisory, indicating a level of dry conditions across the state that warrant closer tracking by state, federal, and local agencies. Steadily declining precipitation since August and particularly in November have resulted in these dry conditions statewide. Though fall and winter months are not peak water use periods, they are typically the time when reservoirs and groundwater are recharged. Continued dry weather over the winter could quickly lead to more serious drought conditions when warmer weather and increased water use begin in the spring. The National Weather Service has noted that historically, the most severe droughts in New England have begun with drier than normal winters.

The most severely affected areas of the state include Cape Cod and the islands, the northeast, and the central regions of the state. Some smaller reservoir systems in these areas are near record lows for this time of year. However, the Massachusetts Water Resources Authority supply system is still within normal operating range. The Drought Management Task Force is meeting on a regular basis to assess conditions across the state,

coordinate dissemination of information to the public, and help state, federal, and local agencies coordinate any responses that may be needed.

To respond to this drought advisory, the Drought Management Task Force recommends that water conservation efforts be made over the winter months to guard against potential water shortages in the spring and to reduce the drought's impact on aquatic ecosystems. Public water suppliers should implement drought response plans as necessary to respond to their system requirements and assure water supply availability in the event of below normal spring recharge. Homeowners with private wells are advised to monitor local conditions accordingly. If not already in place, municipalities are urged to develop water use restriction bylaws and ordinances to allow for system demand management when the spring and summer peak water use period begins.

For further information and updates, visit the website:

www.mass.gov/dem/programs/rainfall/drought.htm.

Seminars Will Help Food Entrepreneurs Bring Their Product To Market

Diane Baedeker Petit, Massachusetts Dept. of Food and Agriculture

Do you have an idea for a great new food product but not sure how to get started? Plan on attending "Bringing Your Product to Market," a daylong seminar featuring regional experts and celebrity food entrepreneurs being offered by the Massachusetts Department of Food and Agriculture and several statewide organizations on three consecutive days in two locations and two languages.

Mark your calendar for:

* **March 19** - Bringing Your Product To Market - *presented in Spanish*, featuring Heidi Hartung, The Maria and Ricardo's Tortilla Factory, presented at the new Nuestra Culinary Ventures shared-use kitchen in [Jamaica Plain](#), Massachusetts.

* **March 20** - Bringing Your Product To Market - featuring Stacy Andrus, Stacy's Pita Chips and Paula White, 600 # Gorillas, presented at the Nuestra Culinary Ventures shared-use kitchen in [Jamaica Plain](#), Massachusetts.

* **March 21** - Bringing Your Product To Market - featuring Andrew Starkweather from Drew's All Natural, and Myron Becker, Myron's Fine Foods, presented at the

newly opened Western Massachusetts Food Processing Center in [Greenfield](#), Massachusetts.

Seminar participants will learn the fundamentals of food processing, new product development, packaging for today's market, food safety issues, shared-use kitchens, preparing foods in your home kitchen, and business basics resources. Each program will feature real-life entrepreneur success stories and up-to-date materials to develop your food business. There will be time for questions, discussion and networking.

The registration deadline is March 12th and space is limited. The registration fee of \$25 includes all materials and a tasty lunch from a local specialty food caterer. For program and registration information, contact Bonita Oehlke, Massachusetts Department of Food and Agriculture, 617-626-1753, Bonita.Oehlke@state.ma.us.

Who should attend? Farmers who want to add value to their products, specialty food entrepreneurs, start-up food businesses, policy makers, educators, and anyone interested in the food business are invited.

The seminars are sponsored by the Massachusetts Department of Food and Agriculture, the Massachusetts

Meetings

2nd Annual NE Farm Direct Marketing Conference & Trade Show

Farm direct marketers, get ready for some fireworks!
The 2nd annual New England Farm Direct Marketing
Conference & Trade Show will be held

When: March 14, 2002,

Where: Holiday Inn Boxborough Woods in
Boxborough, Mass.

The conference will feature some dynamite speakers
who will gather for a grand finale panel discussion at the
end of the day. The registration fee is \$65 per person; it
includes all sessions, trade show, lunch (hot buffet),
coffee break, and all written materials and handouts.

Call Jonathan Bates at 413-529-9232 for a registration
program. You can also find conference information at
www.newenglandconference.com

Pruning Fruit Workshops

I Pruning Fruit Trees

When: April 2, 2002

II Pruning Neglected Apples Trees

When: April 16, 2002

Where: Cold Spring Orchard/UMass Horticulture Research
Center, Belchertown

Both workshops will be held from 9AM to noon. Wear
clothing for April weather conditions! The workshops will
be held rain or shine. In the event of a blizzard forecast call
413/545/0895.

ISA and MCA credits have been requested. Certification
program approval has been requested from the following
associations: ALCM, CNLA, MeNLA, MNLA, NHLA,
RINLA and VTAPH.

To register send \$45.00 for each workshop payable to
UMASS to Fruit Trees, UMass Extension, 104 French Hall,
UMASS, Amherst, MA 01003. Registration is limited and
first come first serve.

Questions? Call Kathleen Carroll 413-545-0895 or fax 577-
1620.

Agriculture Day at the State House.

When: April 3, 2002

Where: Boston, MA.

Contact Mary Jordan, 617-626-1750, Mary.Jordan@state.ma.us
Rick LeBlanc, 508-792-7712, x17,
Richard.LeBlanc@state.ma.us.

FYI

An Autumn Olive a Day Keeps the Doctor Away!

Patrick Byers, University of Missouri

To say that the Americans today are health conscious is an understatement. The concern certainly extends to the foods that we eat. Substances found in fruits and vegetables, such as antioxidants and vitamins, have demonstrated health benefits. Those foods that contain high levels of these substances may hold promise in controlling health problems such as cancers and heart disease.

One such substance, lycopene, a carotenoid found in several orange and red fruits and vegetables, is widely believed to protect against heart disease and various forms of cancer, including prostate cancer. Tomatoes and tomato products have received a lot of press recently as a good source of lycopene. Researchers at the USDA/ARS National Laboratory in Beltsville, Maryland, recently reported in the journal *HortScience* that the fruit of the Autumn Olive (*Elaeagnus umbellata*) may offer much higher levels of lycopene.

The autumn olive is a native of China, Japan, and Korea. Imported into the US in 1830, the plant has been widely promoted by state and federal agencies as a wildlife food source, as screens along highways, to stabilize road banks, and to reclaim mine spoil. The plant is a medium to large shrub, sometimes reaching 20 feet in height. Leaves are grayish green on top and silvery white below. The small light yellow flowers are borne in late April and May, and fruit ripen in late summer to fall. The fruit are small, usually pink to red (yellow fruited plants are known), juicy, and borne in abundance each year. Autumn olives are naturalized throughout Missouri.

The autumn olive has several characteristics of note. The plant fixes nitrogen, and grows quite well in sites with

poor or disturbed soils. Plants begin to bear fruit when young (2-3 years), and a mature bush will produce up to 8 pounds of fruit. Once established, the bushes are persistent and can become highly invasive. Birds and mammals spread seeds, and seedling plants are difficult to eradicate once established. In fact, a recent search of the Web revealed that most autumn olive sites were focused on control measures for this species.

The fruit of autumn olive is rarely harvested in the US, but widely eaten in Asia. Uses include preserves, condiments, fruit rolls, juice, flavoring, wine, and other food products.

The study reported in *HortScience* evaluated the lycopene content of berries of several autumn olive cultivars and naturalized plants. The lycopene content of berries from the cultivars ranged from 15-40 mg per 100 g of fresh fruit, while naturalized berries contained 18-48 mg per 100 g of fresh fruit. Interestingly, a yellow fruited autumn olive only contained 0.47 mg of lycopene per 100 g of fresh fruit. For comparison, fresh tomatoes contain 3 mg per 100 grams of fruit, and tomato paste contains 29 mg per 100 grams. While more research is indicated by these results, the high lycopene content of autumn olive is notable. For more information, consult the references below.

- Autumn olive.
http://www.ppws/vt.edu/scott/weed_id/elgum.htm
- Fordham, I.M., B.A. Clevidence, E.R. Wiley, and R.H. Zimmerman. 2001. Fruit of autumn olive: a rich source of lycopene. *HortScience* 36(6):1136-1137.
- Vegetation Management Guideline-Autumn Olive.
<http://www.conservation.state.mo.us/nathis/exotic/vegman/four.htm>.

(Source: The Berry Basket, Vol. 4, No. 4, Winter 2001/02)

Massachusetts Berry Notes is a publication of the University of Massachusetts Extension Fruit Program which provides research based information on integrated management of soils, crops, pests and marketing on Massachusetts Farms. No product endorsements over like products are intended or implied.