



Newsletter

Extension

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In This Issue:

[Calendar](#)

[Improving Black Raspberry](#)

[Fire Blight Warning](#)

[Fire Blight in Apples and Pears](#)

[Whither Guthion?](#)

[Pear Pollination](#)

[Fruit Observations](#)

[Gray Mold Alert for Strawberries](#)

[Ohio Scab Watch](#)

[Degree Day Accumulations/Phenology](#)

[Preliminary Monthly Climatological Data](#)

Calendar

June 30: 1999 Ohio Fruit Growers Society Annual Summer Tour, Eshleman Orchards, Clyde, OH. Watch for more details.

July 21 & 22: Small Fruit Production/Marketing Tour, Wooster/Mt. Hope area. Specific topics and tour locations will be announced in the next few weeks.

Improving Black Raspberry Fruit Size and Yield

Source: Dr. Richard C. Funt, Extension Specialist, Small Fruits, OSU

Yields of black raspberries are influenced by soil water management, cultivar, disease, cultural practices, plant spacing, and winter weather. High yields approaching 4000 pounds per acre will be attained when excellent cultural conditions prevail. Pruning (heading) of the primocanes, the number of canes per acre, the number of laterals, and the lateral length are also responsible for yield and fruit size. Fruit size is a major consideration for growers who produce berries for the fresh market. Thus, extension recommendations for pruning black raspberries are based on fruit size.

Black raspberry fruit size is dependent upon cultivar (genetics), cane diameter, and the length of the lateral. The Jewel black raspberry cultivar generally has the largest berry size and cane diameter. Bristol has shown good cane diameter, numerous laterals, and good berry size. The first step in gaining optimal yield is soil water management. Generally, raised beds and irrigation are necessary along with nitrogen fertilizer, which is applied early in the growing season. The second step is summer heading (tipping) of the primocane. When the primocane reaches 24 to 28 inches, the primocane is headed back (cut) four inches to 20 to 24 inches for a non trellised system or 36 to 40 inches for a trellised system, leaving canes 32 to 36 inches above ground. Heading higher or later in the season

reduces lateral diameter and length. Weak laterals can be more susceptible to winter damage. The third step is leaving about 5,500 canes per acre for average soil and 8,000 to 9,000 canes per acre in strong soils.

Plants in fertile soil can produce laterals that are 24 to 30 inches long. If the whole lateral is permitted to fruit, smaller berry size will occur. However, total yield (pounds) per acre may be the same as pruned laterals. The literature indicates that severe shortening of laterals increases the number of berries from the cane rather than the laterals. However, having more laterals increases total yield of large berries. Practically all of the buds on a black raspberry cane, except for the lower four or five, are potential fruit buds. Short pruning stimulates all the remaining buds to fruit production, increases the proportion of fruit borne by shoots arising from the main cane, and reduces the proportion borne by shoots arising from the laterals. Short pruning to 4 to 6 buds on the laterals tends to increase the proportion of berries ripening early and reduces the time of harvesting as much as 30 to 40 percent. Short pruning also tends to minimize the effects of drought. On fertile soil with irrigation it may be possible to leave the laterals longer. Experiments in Ohio left laterals as long as 8 to 12 buds for black raspberry and on purple raspberry as long as 10 to 14 inches to achieve high yields.

In summary, the maximum production of black raspberry is a multiple function of soil, cultivar, and cultural practices. Maintain 5,500 to 8,000 canes per acre under good water management and high fertility. Head primocanes to a desired height based on whether you have a trellis; shorten laterals to 8 to 12 inches in dormant pruning. Keep 4 to 6 floricanes of 1/2 inch diameter per plant. Maintain a high level of pest control.

Fire Blight Warning

Source: Dr. Mike Ellis, Dept. of Plant Pathology, OARDC

The following article by Dr. Dave Rosenberger of Cornell University has some information that should be considered by Ohio apple growers. The MARYBLYT predictive model predicts that the warm weather we have had over the past week has increased the epiphytic populations of the fire blight bacteria to high levels. This prediction is for the Wooster area, but probably applies to most of Ohio. This means that if we get rain (which is predicted for Thursday and Friday at Wooster) we are at HIGH risk for fire blight infection if blossoms are open. We are in the middle of bloom at Wooster. Bloom should be over in southern Ohio and should be getting into full swing in northern Ohio. If you are at high risk (blossoms present and rain) streptomycin should be applied. See Dr. Rosenberger's article for more details.

If you have a computer, you should strongly consider purchasing a copy of the MARYBLYT model for fire blight prediction. For information on where to obtain the model, contact Mike Ellis or Ted Gastier.

Fire Blight in Apples and Pears

Source: Dr. Dave Rosenberger, Scaffolds Fruit Journal, 5/3/99 <http://www.nysaes.cornell.edu/ent/scaffolds/>

The first open flowers on Bartlett pears at the Hudson Valley Lab were noted on Tuesday, April 27, and most pear varieties were in full bloom by May 3. The epiphytic infection potential for fire blight (as determined from degree hours > 65° F) increased rapidly over the weekend and is expected to reach the minimum required for infection by Tuesday afternoon or Wednesday. Thereafter, a wetting event on any day with an AVERAGE temperature > 60° F (max plus min divided by 2) will be sufficient to trigger a fire blight infection period.

The first apple blossoms appeared only a few days after the first pear blossoms, so apples will also be at risk for fire blight infection later this week. Highly susceptible apple cultivars such as Ginger Gold, Gala, Fuji, Mutsu, Idared, Jonathan, Monroe, Paulared, and Greening should be protected with streptomycin if there is any history of fire blight in the vicinity of the orchard.

Streptomycin should be applied as a protectant just ahead of predicted wetting periods that might trigger infections. Streptomycin only protects open flowers. If streptomycin is applied too far in advance of infection periods, additional flowers will open after the streptomycin application and will be unprotected when infections occur.

If susceptible orchards are not protected prior to an infection period, a post-infection spray of streptomycin can reduce potential losses even though post-infection sprays are generally less effective than protectant sprays. When necessary, a post-infection spray of streptomycin should be applied as soon as possible after the infection event. Effectiveness of post-infection sprays varies depending on the severity of the infection event, temperatures during the period immediately following infection, and the duration of the post-infection delay. A post-infection spray applied within 24 hours after the infection period may provide reasonable control of fire blight under moderate conditions, and a spray within 48 hours after infection is probably still better than nothing.

Remember that if warm, wet weather persists, follow-up sprays of streptomycin may be needed at 3-5 day intervals to protect blossoms that open after the first application.

Whither Guthion?

Source: Art Agnello, Entomology, Geneva; and Dick Straub, Entomology, Highland) Scaffolds Fruit Journal, 5/3/99 <http://www.nysaes.cornell.edu/ent/scaffolds/>

There have been a lot of rumors bouncing around lately concerning the status of Guthion, partly as a result of some recent label changes, and partly as an anticipated reaction to possible FQPA-generated changes in use that have yet to be made. Apparently, a New England produce broker has suggested that Guthion not be used for fear of another Alar phenomenon -- negative customer reaction to a perceived risk. Growers who want to use Guthion, or other formulations of anizphos-methyl, are understandably concerned that their fruit will again be subjected to the same unfortunate circumstance. It's safe to say that not too much is clear on this latter issue (still), but some information can be provided on the label changes.

*It is true that the federal label for Guthion has recently been revised, and passed (by the EPA**) to modify the Personal Protective Equipment and extend the Re-Entry Interval (REI) on tree fruits to 14 DAYS instead of the former 48 hours, for CERTAIN ACTIVITIES: propping, hand-thinning, and hand-harvesting. For all other activities -- according to the label "mowing, irrigating, scouting, other activities" -- the REI remains at 48 hours. However, note the following:*

*** This label change is not yet in effect for NY, according to the latest information we have. Until the NYS DEC signs off on these changes (they are currently reviewing the label change, and approval is expected soon), the old label remains in effect.*

*** This action by EPA **probably** signals that other changes regarding uses on apples will not occur this season. In our opinion, EPA would not OK a revised label if it anticipated sweeping changes in the near future. Moreover, we feel it's unlikely that they will issue any edict that would affect this season's crop.*

*** These changes are not in effect until the new label has been printed and affixed to product yet to be shipped. In other words, if growers presently have product on hand, the old label applies to that material. "Old label" material is **perfectly legal to use**, but it might be circumspect to apply in conformance to the revised label, thereby showing a good faith effort to provide increased protection for workers.*

A Pear Pollination Note for Next Year

Source: Nicholas Calderone, Entomology, Ithaca - Scaffolds Fruit Journal, May 3, 1999

<http://www.nysaes.cornell.edu/ent/scaffolds/>

Pollination of pears will probably always be a problem, because pear nectar contains only about 15% sugar compared to 40% for apples, dandelions, and yellow rocket. The answer is to move the bees into the center of the pear block when the pears are at 30% to 50% bloom. It will take some time for the bees to discover better sources farther away, and in that time, the pears may be adequately pollinated. An alternative is to use more colonies per acre, which will increase the number of bees foraging within the orchard. Pears can be completely or partially self-sterile, depending on the conditions under which they are grown. Where pears do not set a parthenocarpic crop, you can interplant cross-compatible cultivars.

Fruit Observations

Site: Waterman Farm, Columbus

Source: Dr. Celeste Welty, OSU Extension Entomologist

Apple: 4/22 - 5/5

RBLR: 1 (down from 6)

STLM: 77 (down from 1008)

SJS: 1400 (up from 0)

CM (mean of 3 traps): 1.3 (first catch between 5/3 and 5/5)

Full bloom to petalfall in Delicious

Peach:

OFM: 3 (up from 2)

LPTB: 0

Site: East District; Erie & Lorain Counties

Source: Jim Mutchler, IPM Scout

Apple: 4/28 - 5/4

RBLR: 8.5 (up from 8.2)

STLM: 671 (up from 649)

Full Bloom

Peach:

OFM: 4.0 (up from 1.3)

RBLR: 15.8 (up from 1.0)

Petal Fall

West District; Huron, Ottawa, & Sandusky Counties

Source: Gene Horner, IPM Scout

Apple:

RBLR: 6.7 (down from 18)

STLM: 553 (up from 414)

Full Bloom

Peach:

OFM: 1.0 (up from 0)
RBLR: 23.0 (down from 34.5)
Petal Fall

Site: Wayne County

Source: Ron Becker, Program Assistant, Agriculture & IPM, OSU Extension

No infection periods, in fact several nights with no dew whatsoever.

Catch for redbanded leafroller ranged from 3 to 36; STLM was very light. No CM. The new trap put out by Great Lakes IPM did have a curculio in it. About the trap: they took the top off of the boll weevil trap and fastened it to wire screening that is wrapped around the tree trunk and funnels the weevil into the trap. Maybe it was just a fluke, but it is the first time I've ever caught a curculio in a trap.

I have not been finding any scab in apples, but I did notice some peach leaf curl in the peaches.

Most apples are in full bloom, with a few at petal fall (Empire and Jersey Mac). Most peaches are at blossom drop, although there was also a few starting to split the shuck. Pollinators have been fairly plentiful, with at least half being "non-honey bee".

Blueberries are in bloom. Strawberries are about 5 to 10% bloom. Tarnished plant bug damage was found in one very weedy patch.

Gray Mold Alert for Strawberries

Source: Mike Ellis, Dept. of Plant Pathology, OARDC

Strawberry growers need to remember that bloom is the most important time to apply fungicide for control of Botrytis fruit rot (gray mold). See bulletin 506-B2 Ohio Commercial Small Fruit And Grape Spray Guide for information on fungicides.

Ohio Apple Scab and Fire Blight Watch - SkyBit Products

May	Central		North Central		Eastern Highlands		North East		West	
	apple scab	fire blight	apple scab	fire blight	apple scab	fire blight	apple scab	fire blight	apple scab	fire blight
1	a, ni	na	a, ni	na	a, ni	na	a, ni	na	a, ni	na
2	a, ni	na	a, ni	na	a, ni	na	a, ni	na	a, ni	na
3	a, ni	na	a, ni	na	a, ni	na	a, ni	na	a, ni	na
4	a, ni	na	a, ni	na	a, ni	na	a, ni	na	a, ni	na
5	a, ni	na	a, ni	na	a, ni	na	pi	pi	a, ni	na

Forecast										
6	a, ni	pi	pi	pi	pi	pi	pi	pi	pi	pi
7	a, ni	na	pi	pi	pi	pi	pi	pi	pi	pi
8	pi	pi	pi	pi	pi	pi	pi	pi	pi	pi
9	pi	pi	pi	pi	pi	pi	pi	pi	pi	pi
10	pi	pi	pi	a, ni	pi	pi	pi	a, ni	pi	a, ni
11	a, ni	a, ni	a, ni	a, ni	a, ni	na	a, ni	na	a, ni	na
12	a, ni	na	a, ni	a, ni	a, ni	na	a, ni	a, ni	a, ni	na

na = not active, a, ni = active but no infection, pi = possible infection & damage

***Degree Day Accumulations for Selected Ohio Sites
January 1, 1999 to date indicated***

Location	Actual DD Accumulations May 5, 1999		Forecasted Degree Day Accumulations May 12, 1999			
	Base 43° F	Base 50° F	Base 43° F	Normal	Base 50° F	Normal
Akron - Canton	393	168	534	526	260	258
Cincinnati	612	279	763	828	381	439
Cleveland	382	158	535	497	262	243
Columbus	576	273	714	642	362	327
Dayton	510	225	646	652	312	337
Elyria	420	197	563	533	291	266
Fremont	340	148	481	476	240	235
Mansfield	394	165	558	513	280	251
Norwalk	384	168	523	477	258	234
Toledo	373	155	502	464	235	227
Wooster	416	173	577	484	285	229
Youngstown	352	148	466	467	213	225

Phenology

Coming Events	Range of Degree Day Accumulations	
	Base 43° F	Base 50° F
San Jose scale 1 st catch	189-704	69-385
Lesser peachtree borer 1 st catch	224-946	110-553
White apple leafhopper nymphs present	236-708	123-404
Codling moth 1 st catch	273-805	141-491
Spotted tentiform leafminer sap feeders present	295-628	130-325
Plum curculio ovipositioin	-	232-348

Thanks to Scaffolds Fruit Journal (Art Agnello)

***Preliminary Monthly Climatological Data for Selected Ohio Locations
April 1999***

Weather Station Location	Monthly Prec	Normal Monthly Prec	Year-to-Date Prec	Normal Year-to-Date Prec	Average High	Normal High	Average Low	Normal Low	Mean Temp.	Normal Mean
Akron-Canton	3.07	3.16	11.52	10.88	62.0	59.1	40.2	37.9	51.1	48.6
Cincinnati	2.88	3.75	13.19	13.27	64.9	64.2	45.1	42.1	55.0	53.3
Cleveland	3.89	3.14	11.54	10.28	59.8	57.2	40.9	37.3	50.3	47.3
Columbus	4.65	3.21	12.16	10.90	65.8	62.0	44.1	40.0	54.9	51.0
Dayton	3.53	3.46	13.04	11.18	64.5	61.9	42.6	40.5	53.5	51.2
Elyria	3.88	2.97	11.10	9.82	61.3	61.3	41.4	38.0	51.3	49.7
Fremont	4.56	3.03	9.78	9.17	60.8	58.9	39.0	37.8	49.9	48.4
Mansfield	5.34	3.64	13.04	10.94	61.9	58.6	39.9	38.1	50.9	48.4
Norwalk	5.14	3.13	12.35	9.53	60.3	57.7	40.6	36.6	50.4	47.2
Toledo	4.89	2.96	11.13	9.10	60.4	58.8	40.9	36.4	50.7	47.6
Wooster	4.53	3.06	12.62	9.90	63.9	59.6	40.2	36.7	52.0	48.1

Youngstown	4.55	3.06	14.18	10.33	61.1	57.6	39.0	36.8	50.1	47.2
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Temperatures in degrees F, Precipitation in inches

*Records set: Highs; Akron 77 (3rd), Cleveland 78 (3rd), Mansfield 78 (3rd), Toledo 78 (3rd), Wooster 79 (3rd).
Tied Record Low; Mansfield 28 (25th).*

Table Created by Ted W. Gastier, OSU Extension from National Weather Service, OARDC & Local Data

Website <http://iwin.nws.noaa.gov/iwin/oh/climate.html>

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| [Back](#) |