



Berry Notes

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Prepared by the University of Massachusetts Fruit Team

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UPCOMING MEETINGS

CROP CONDITIONS

Strawberry fields are fairly quiet at this time of year. Now is a good time to make some notes about variety performance so you'll be able to refer to them when planning your order for next year's plants. Late summer and early fall is a good time to fertilize both new and established strawberry fields. Leaf tissue analysis can help guide fertilizer amounts but typically strawberries will need 20 – 50 pounds of nitrogen at this time of year. Amounts depend on how much was applied at renovation and the organic matter content of the soil. Growers planning to establish fall planted plasticulture or annual beds should be preparing their sites. The best time for planting is the first week of September. **Highbush blueberry** harvest is moving into late- season with some reports of anthracnose or alternaria on these berries. Frequent rains have contributed to the high incidence of these diseases. Leaf tissue analysis should help with fall applications of non-nitrogen fertilizer amendments. Also, now is a good time to get control of weeds in the planting. **Summer raspberry** harvest is finished and **fall raspberry** harvest has begun. As with the summer bearing varieties, check for signs of Botrytis infections that may cause post harvest deterioration of the fruit. Switch™ fungicide is labeled for use against Botrytis in raspberries and is an effective tool for managing this disease. **Grape** clusters are at or approaching veraison (coloring). Some early table varieties on inland sites are ripening. Wet weather has challenged grape growers almost continually this year. Disease management is still important as is late season nutrition management.

Weekly crop and weather report for New England available from USDA website: www.usda.gov/nass/pubs/staterpt.htm.

Strawberry

Strawberry Fruit Bud Development

Bruce Bordelon, Purdue University

Now is the time to fertilize strawberry fields with 20 to 50 pounds of nitrogen. Applications in mid August to September stimulate flower bud initiation during the fall months. Rates depend upon amount of nitrogen supplied at renovation and plant vigor. New fields with

high vigor may not need additional nitrogen now, but older fields should benefit. Irrigation during this time is also extremely important, if rainfall has not been sufficient. We suggest about 1 inch per week. (**Source:** *Facts for Fancy Fruit, Vol. 04, No. 09, August 9, 2004*)

Brambles

Ontario Raspberry Update

Pam Fisher, Ontario Ministry of Agriculture and Food

Raspberry yields generally below average, but better than last year. Fruiting cane die-back, just before harvest, has been wide-spread and devastating. Because of the widespread incidence of this problem, we believe it is related to cold temperature injury, however, other

factors can be involved.

Assess primocane vigour and health: If primocane growth is sparse, weak or also dying, then phytophthora root rot is a likely cause. Check also for crown gall and crown borer by digging up plants. For phytophthora, apply Aliette or Ridomil fungicide after harvest, when soil conditions are cool and wet, usually Sept-Oct.

Assess fruiting cane health: Cane diseases are associated with increased winter injury. If canes are pock-marked and scabby, then anthracnose has weakened the canes (Figure 1). Cane blight can also cause cane die back. Cane blight occurs when canes are wounded, for example, by hail, rough pruning in summer time, trellis wires, or insects. Send canes to the pest diagnostic clinic to check for cane blight.

Assess your fertility program: Too much nitrogen, or late application of nitrogen, can prevent adequate hardening of canes before winter. Too little nitrogen can cause an overall reduction in vigour and pale green or yellow foliage. Take a leaf analysis now, N should be 2-3.5%. See page 118, publication #360 or the OMAF Fertilizing Raspberries Infosheet [or consult www.umass.edu/fruitadvisor for leaf tissue analysis guidelines].

Wet weather has put next year's raspberry crop at risk, because of the increased level of cane diseases. Check primocanes now, cane diseases are likely rampant. (Figure 2 & 3). Apply a fungicide immediately after harvest.



Figure 1: Anthracnose on fruiting canes is associated with increased winter injury



Figure 2: Anthracnose on primocanes threatens next year's crop



Figure 3: Dark brown lesions at the base of primocanes caused by Cane Botrytis

If you prune out old fruiting canes, do so immediately after harvest, or wait until canes are completely dormant. Don't prune in late August or the fall when canes are sending reserves back down to the crown.

To prevent cane blight: Do not prune when canes are wet or rain is forecast. Do not damage primocanes when you pull

Don't assume that biennial plantings in the primocane year will be free from cane disease this year! Apply fungicides to the non-bearing rows if cane disease is evident.

old fruiting canes out of the row.

Apply a fungicide right after pruning to control cane diseases. (*Source: Ontario Berry Bulletin, Aug. 6, 2004*)

Don't Wait to Treat Phytophthora-infected Raspberries

Annemiek Schilder, Michigan State University

Phytophthora root rot was diagnosed in several raspberry fields in Michigan this year. This is not surprising since we had record amounts of rainfall earlier in the season and the Phytophthora fungus thrives in heavy and poorly drained soils. While it has been difficult to diagnose the disease in the past, MSU Diagnostic Services now has a new tool from Agdia, Inc., for detecting the fungus in root and crown tissues of infected plants. This technique relies on antibodies to attach themselves to Phytophthora hyphae and spores, which is indicated by a color reaction in the wells of a special plastic plate. Results can be obtained within one day with this test. This test can also be used on Phytophthora in other crops, such as strawberries (red stele).

Phytophthora root rot manifests itself in the sudden collapse of canes in late spring or summer. A water-soaked or reddish-brown discoloration will be visible when the roots and crown of the plant are cut open. The disease will be most severe in lower lying parts of the field or in areas where drainage is poor. The disease can be avoided by proper site selection, improving drainage, and growing the plants on raised beds. Some varieties are more resistant to Phytophthora root rot than others (see Michigan Fruit Management Guide). Fungicide applications can aid recovery of moderately affected fields, since plants are able to compensate by producing new canes. Fungicides will not revitalize severely affected plants. The most effective fungicide is Ridomil Gold, which is systemic, and can be soil applied as a granular or liquid drench. Aliette, applied as a foliar spray, is also effective. The less expensive phosphorous acid products (e.g., Phostrol) may work but

have not been evaluated for Phytophthora control in raspberries. Do not wait with control measures until the fall. Ridomil can be applied now if the harvest is over (45-day PHI). Aliette has a 60-day PHI. Phostrol (a phosphorous acid product) can be applied anytime as it

has a 0-day PHI. An application at green-up in the spring is also recommended. Follow label directions on further fungicide applications throughout the season. (*Source: Michigan Fruit Crop Advisory Team Alert, Vol. 19, No. 3, July 27, 2004*)

Blueberries

Leaf Tissue Analysis

Gary C. Pavlis, Rutgers University

Readers of this newsletter are aware that fertilizer recommendations for blueberries have been evolving over the past few years. This is a result of research conducted in New Jersey, Michigan and other states. We are now recommending later applications of fertilizer, during bloom and 4 weeks later because it is more efficient, and we are basing all our recommendations on leaf analysis. We have found that there is no correlation between the soil analysis and the amount of nutrients that actually enter the blueberry plant. Soil analysis is useful to determine pH, and maintain pH in the proper range, 4.5 - 4.8. Thus leaf analysis is critical to maintain the blueberry plant in a healthy, efficient, productive condition. Now is the time to take leaf samples for analysis.

Leaf tissue analysis is a way of determining the actual nutritional status of plants. It is an excellent and inexpensive way of finding out if your fertilization program is working or if changes need to be made. The analysis provides information on foliar N, P, K, Ca, Mg, Mn, Fe, Cu, B and Zn levels for the leaves sampled, a fact sheet on what the levels should be for these plant nutrients, and recommendations for corrective measures if needed. Leaf tissue analysis can help pinpoint the source of problems and determine what measures may be needed to ensure proper nutrition of the crop. Interpretation of leaf tissue analysis is most accurate when the soil pH is within the proper range for blueberries, 4.5 - 4.8.

When to Sample: Sample healthy leaves during late July or early August.

How to Sample: Collect 30-50 leaves per sample. Leaves should be from the middle shoot, not old

ones/not new ones. Sample different varieties separately, if possible. Collect leaves from as many bushes as possible in the sample area. Gently wash the leaves in tap water to rinse off soil or spray residue. Allow the leaves to air dry until they are brittle before placing into a paper bag.

The following laboratories can be considered:

Agri-check Inc.

323 Sixth St.
P.O. Box 1350
Umatilla, OR 97882
Phone: 541-922-4894 for the Plant Analysis Fee Schedule

Midwest Laboratories Inc (formerly A&L)

13611 B Street
Omaha, NE 68144
Phone # 402-334-7770 or go on the internet at
www.midwestlab.com

MDS Harris

621 Rose St
Lincoln, NE 68502
Phone # 402-437-4765

Agricultural Analytical Services Lab

The Pennsylvania State University
University Park, PA 16802 (Cost - \$18.00)
Phone # 814-863-0841

UMass Soil and Plant Tissue Testing Laboratory

West Experiment Station
682 North Pleasant Street
University of Massachusetts
Amherst, MA 01003
(413) 545-2311
<http://www.umass.edu/plsoils/soiltest/>

(*Source: New Jersey Blueberry Bulletin, Vol. 20, No. 17, July 28, 2004*)

Blueberry Stunt Disease

Gary Pavlis, Rutgers University

The removal of a bush with stunt disease should never be attempted before some effort has been made to control the leafhoppers in it. The removal process could actually facilitate the spreading of the disease. The agitation of the bush will dislodge the leafhoppers,

causing them to hop to another healthy bush, thereby transmitting the virus from a diseased bush to a healthy bush. Spray each diseased bush with a garden knapsack sprayer before it is rogued out. Malathion is safe to use and is effective against all stages of leafhopper. Spraying the

entire field is not necessary at this time. In fields severely infected with stunt disease and in nurseries seeking NJ Department of Agriculture Certification, a special spray for leafhopper adults is needed. The leafhoppers are still in the wingless nymph stage and usually do not start the flight period until late in August.

Stunt Symptoms are described as an overall dwarfing of the bush, hence the name stunt. Small leaves that are cupped downward or puckered are characteristic

symptoms. Leaves on infected bushes are often chlorotic, with chlorosis most pronounced among the leaf margins and between lateral veins. Midribs and lateral veins usually retain normal green coloration. Chlorotic areas often turn a brilliant red in the later summer. Stem internodes become shortened, and growth of normally dormant buds caused twiggly branching. (*Source: New Jersey Blueberry Bulletin, Vol. 20, No. 19, August 3, 2004*)

Late Season Herbicides in Blueberries

Gary Pavlis, Rutgers University

A grower asked a very good question this week regarding the use of Roundup. I've mentioned that July and August is an excellent time to eliminate problem weeds because now is the time when there is movement of plant substrates down to the roots. That means Roundup will move to the root and kill weeds more efficiently. The grower asked if the dosage of Roundup should be changed if mulch or woodchips are used in the blueberry field and if soil type would have an effect on efficacy or possible damage.

I'm sure this question was asked because an increase in organic matter due to mulching does effect herbicide efficacy. So does soil type. An increase in organic matter and/or an increase in soil weight (sandy -> clay) requires higher rates of pre-emergent herbicides. This is not so with Roundup because the material is sprayed directly on the weed. I talked to Monsanto, the maker of Roundup and they agree with the information above. A 2% solution, i.e. 22/3 oz. of Roundup, 41% a.i./gallon will kill most problem weeds.

Growers should be aware of problems observed in numerous fields concerning the use of Solicam. This herbicide has been used more and more recently with excellent results, however there may be a potential for problems. I stated in an earlier newsletter that I had seen plant leaves with yellow-white veins, and stems that were yellow-white. These symptoms are definitely due to Solicam. Affected plants were usually in the poorest part of a block. Additionally, it should be noted that the symptoms probably are water related because extensive irrigation moved the chemical down into the root zone. This chemical remains in the soil for a longer time than most other herbicides used in blueberries and thus has the potential to build up. My feeling at present is to recommend that anyone using Solicam should consider rotating an alternate herbicide in the coming year. This is especially true if you saw the symptoms described. Remember that leaves with green veins and yellow interveinal areas are not due to a herbicide but most probably iron deficiency due to a high pH. (*Source: New Jersey Blueberry Bulletin, Aug. 18, 2004 Vol. 10, No. 19*)

Grapes

Machinery Selection – Crop Sprayers for Orchards and Vineyards

Andrew Landers, Cornell University

Background Considerations

- **Existing and future farm policy and equipment.**

Existing and future farm policy will dictate the area, variety and rotation of the crops to be sprayed; different crops will have different spraying requirements, such as types of chemical, application rates and the timing of applications.

- **Timeliness.**

Timeliness of spraying is very important to the grower, pesticides must be applied at the correct time to ensure their success. The following points will affect timeliness of application-

- a) area to spray per season,
- b) frequency of spraying,
- c) land characteristics,
- d) weather
- e) workload of the farm.

- **Alternative spraying techniques**

Growers need to consider novel sprayer designs such as directed deposition sprayers. Each new design needs to be carefully assessed, do the benefits outweigh the extra costs? With increasing legislation concerning the environmental aspects of pesticide application, techniques which improve deposition, reduce drift and reduce tank rinsate must be considered.

- **Modify an existing sprayer**

Many modern components for updating sprayers can be bought via catalogues or via the internet and can be supplied by nozzle manufacturers and specialist component manufacturers. These very comprehensive catalogues or web pages are illustrated with excellent diagrams to aid on-farm sprayer modification. A number of manufacturers offer electronic aids which help monitor the sprayer, self-fill hoses, chemical probes, etc.

- **Home construction**

If the farmer is mechanically-minded or has a competent mechanic and a lot of spare time, one may consider making ones own sprayer. Sprayer component catalogues are a most useful source of information to aid the construction of farm sprayers. The alternative to making a sprayer oneself is to commission a sprayer from a manufacturer; a number of manufacturers will construct a sprayer to the clients specification

- **Custom application**

Growers based upon small acreages should consider the role of the custom applicator before purchasing a sprayer. Alternatively, a grower, after purchasing a specialist sprayer, may have time to establish a business as a custom applicator and thus help spread the high costs involved.

Aerial spraying is normally a specialised contracting service and can be financially attractive to some farmers, particularly when early applications are required.

Purchasing a Sprayer

Consider the following:

1. Construction

Durability is required.

2. Tank

The tank should be made of non-corrosive materials such as plastic, glass-fibre or stainless steel and be adequately supported by the framework. Stainless steel is stronger but heavier. Tank agitation is very important to ensure that the chemicals are well mixed, so check that the pump is large enough. Access for tank filling is most important, check the height and ease of filling. Many modern sprayers are fitted with a self-fill hose for water and an induction bowl for chemical filling. The use of tank rinsing aids (small spinning discs or nozzle heads) fitted in the top of the tank are recommended. They reduce the amount of washing water, reduce the time required to wash out sprayer tanks and eliminate operator contamination.

3. Pump

The choice exists between a centrifugal, diaphragm, diaphragm/piston or a piston pump. The use of a diaphragm or piston pump, whilst more expensive, has

less moving parts in contact with the solution; the farmer may consider a positive displacement pump as being the most favourable, particularly where a variable forward speed is required. The pump should have a high capacity to ensure a good flow to the nozzles as well as providing good agitation for the tank contents.

4. Nozzles

Farmers should consider nozzles made from modern materials which are long lasting, colour coded for easy selection and are easily replaced. Modern anti-drip devices use rubber diaphragms which ensure longer life and require less maintenance.

5. Filters

Adequate filtration is so important to ensure that the sprayer output is maintained and remains accurate, inadequate filtration results in excessive nozzle wear and nozzle blockages. If the farmer is intending to use wetttable powders and fine sprays the extra in-line filters can be fitted. Filter accessibility for maintenance should be considered.

6. Pipes and Hoses

Check hoses for size, large bores ensure a good flow and helps reduce foaming. Check the strength of the materials used e.g. check that the pipes don't kink thus reducing or preventing flow.

7. Framework

The frame needs to be light but strong, it needs to be strong enough for the treatment it may receive on your farm. The overall strength of the sprayer should be considered. The sprayer should be well made using strong, durable materials but not too heavy. A heavy sprayer with a large tank will cause soil compaction on most soils. The choice of tyres will affect the degree of compaction and one should check that alternative tyre sizes are available. Low ground pressure tyres are most useful if one sprays in early Spring.

8. Controls

Access to the controls from the tractor cab is important, particularly if one is applying toxic sprays. The use of electric or cable controls may need to be considered, they add to the cost but help to provide a better and safer environment for the operator, allowing him/her to concentrate on driving at the correct speed and direction.

9. Monitors

Are any monitors fitted as standard, are they adequate or too sophisticated? Monitors are an important aid to greater accuracy. Monitoring systems can be part of a fully automatic constant spray control, do you require such a system? To obtain the best from any monitoring system you need to understand fully how the system works.

10. Ease of Attachment

Trailed sprayers are often easier to attach than mounted sprayers, a lot of time can be wasted with some sprayers if

they are difficult to attach. A number of manufacturers use a lower linkage hitch for their mounted sprayers. Other manufacturers mount the pump on the sprayer frame, this saves a lot of time trying to fit a pump and torque chain onto the tractor.

11. Cost

The capital cost of a sprayer is very important, as is its resale value, check that the sprayer holds its value. Alternative methods of finance such as leasing may be considered. Maintenance costs should also be considered, as these costs can be quite high.

12. Machinery Dealer

Close proximity to a reliable dealer is so important to ensure a speedy service when the sprayer breaks down, machines tend to break down at the busiest time of the year! The availability and cost of spare parts from the supplier should also be considered. Surveys show that people buy from people.

13. Ease of Maintenance

Good maintenance will aid accuracy and the sprayer should be designed to allow for easy maintenance, e.g. the sprayer should be able to be drained of all liquids to avoid frost damage; filters should be easily dismantled or self flushing to ensure a good liquid flow.

14. Power requirement

Ensure your existing or future tractors will be able to pull and drive the sprayer over varying terrain.

15. Operator

The person who is to operate the sprayer should be considered. The operator should be responsible, well

trained and highly motivated. The degree of sophistication of the sprayer may be too great for some people; there is a definite need for operator training. A comprehensive instruction manual should be provided which explains in detail the finer points of the sprayer. All operators should attain a level of competency to ensure the safe and correct application of agricultural chemicals. A skilled operator is so important to ensure accuracy of application. Operator comfort and safety is very important especially if one is spending many hours spraying during the season.

16. Personal preference

The final consideration is that of personal preference, this may be based upon:

- a) One's own experience, gained from many years of crop spraying.
- b) Advice obtained from a specialist adviser, or neighbouring farmers who have experience of a similar land-type and climate.
- c) Advice may also come from machinery dealers who, like neighbouring farmers, have experience of local conditions.

After considering all the previous points, one should then draw up a short list of suitable sprayers and see them demonstrated on your farm, comparing each sprayer under your field conditions and your standard of operation and management.

Text taken from the book:

Farm Machinery: Selection, Investment and Management by Andrew Landers Farming Press, UK. ISBN 0852365403 Obtainable from the author.

Use this checklist to compare sprayers

	Machine A	Machine B	Machine C	Machine D	Machine E	Machine F
1. Construction						
2. Tank						
3. Pump						
4. Nozzles						
5.Filters						
6.Pipes and Hoses						
7. Framework						
8. Controls						
9. Monitors						
10.Ease of Attachment						
11. Cost						
12.Machinery Dealer						
13.Ease of Maintenance						
14. Operator						
15. Deposition						
16.Drift reduction						
17. Workrate						
18. Personal preference						

Botrytis Gets an Early Start in Wine Grapes

Annemiek Schilder, Michigan State University



Botrytis on berry.
Steven Van Timmeren

The wet season may be giving Botrytis bunch rot a head start in grapes. Early Botrytis fruit infections were spotted in a wine grape vineyard in Western Michigan recently. A grayish brown, fuzzy growth was visible on old blossom parts stuck in the clusters. Young berries were infected

where the sporulating debris was touching them (see picture). A fungicide application before or at bunch closure (in addition to later applications at veraison and pre-harvest) may be beneficial this year, particularly in tight-clustered varieties.

Biology of the pathogen

Botrytis cinerea is a “weak” pathogen that primarily attacks highly succulent, dead, injured, or senescent tissues such as wilting blossom parts and ripening fruit. The fungus thrives in high humidity and still air (optimum temperature range is 59° to 77°F). Grape berries are most susceptible to infection after veraison. However, if Botrytis spores are available and wet conditions prevail, berries can become infected anytime after bloom. Berries can become infected through scars left by the fallen caps or by contact with sporulating debris in the cluster. Infections through the scar often remain latent (dormant) until the fruit ripens or may not activate at all. However, the few that do activate can be a source for rapid disease spread as berries become highly susceptible during the pre-harvest period. Controlling infections at bloom provides no benefit if the post-veraison season is dry and doesn't support further disease development, but can pay significant dividends if things turn wet before harvest. In most years, fungicide applications at veraison and pre-harvest are more beneficial than earlier applications. In a year like this, however, earlier applications may also be needed, such as at bloom and (pre-) bunch closure. This will be true particularly for tight-clustered varieties highly susceptible to bunch rot, because a single infection can spread rapidly through the cluster under conducive conditions, and spray penetration into the cluster will be limited later on.

Factors that favor the disease

Factors that cause latent infections to activate are poorly understood, although high humidity and tissues with elevated nitrogen levels appear to promote this process. Cluster compactness also has a pronounced effect on disease development, due largely to rapid berry-to-berry spread. In addition, berries often crack due to pressure within the cluster, providing moisture and nutrients for growth as well as an entry point for the Botrytis fungus.

Control options

Promoting good air circulation by canopy management and leaf pulling is perhaps more important for controlling Botrytis bunch rot than for any other of our common grape diseases. Be careful with excessive leaf pulling, as berries may suffer from sunscald when too exposed. Newer fungicides like Vanguard and Elevate have excellent activity against Botrytis. Vanguard is absorbed by the blossoms and fruit, thus it appears to have some limited kickback activity and doesn't wash off. The label allows two sprays per season. Do not rely on this single fungicide year after year, since it is highly prone to resistance development.

Elevate is locally systemic, so it has limited kickback activity and appears to be quite rainfast. Since it has a different mode of action from Vanguard, it can be rotated with Vanguard for resistance management. Rovral does enter sprayed tissues, so it has limited kickback activity and is a good anti-sporulant material. Activity is improved by mixing it with an agent that improves uptake into the fruit, such as an oil or a nonionic surfactant. Since Rovral-resistant strains may have built up in some vineyards after repeated use, it should not be a primary component in rotational programs and should not be applied more than once per season. Strobilurin fungicides have shown moderate to excellent activity under moderate pressure, depending on the material and rate. Flint is now labeled for Botrytis control, although at a higher rate (3 oz/A) than that used against powdery mildew and black rot (1.5 to 2 oz/A). It has provided very good to excellent control in trials in New York. Experience with Endura has been limited, but it appears that Endura will provide very good to excellent control at the higher rate recommended for Botrytis, and moderate activity at the lower rate recommended for powdery mildew. (*Source: Michigan Fruit Crop Team Advisory Alert, Vol. 19, No. 3, July 27, 2004*)

General Information

'WORKAMPER' LABOR ON OUR FARM

Leslie and Ron Blair, Blair's Berry Farm, Rochester, Vermont

During the summer of 2002 we had a couple of customers come to our berry farm who were volunteering for the Forest Service as 'workampers'. They gave us a copy of Workamper News, a bi-monthly magazine that matches up businesses and workers who travel in their RVs, working as volunteers in exchange for a camp site and the necessary hookups (power, water, septic, telephone). They recommended the program very highly. We advertised in the winter issue of the magazine and received about a half dozen inquiries and resumes. After speaking to the applicants on the phone, we asked two couples to come work with us in the summer of 2003. It went so well that we put in a third camp site, anticipating more business with the growth of the farm. We have three couples with us this summer (one of these was also with us last year).

Workampers are generally retired, and the ages of our workers have ranged from 55 to 70 years old. Each couple works as a unit. Their priority job is taking care of customers (you-pick as well as those buying pre-

picked berries from our shop), and when they're not busy with customers they do some picking, sorting, weeding, and other crop tending as well as keeping the shop clean. Some workampers want extra hours for hourly pay and some don't. That's one of the things that helps both parties decide whether or not it's a good match. In our case, we offer the site from May to October in exchange for 8 weeks of work, approximately 5 hours per day, 5 days a week per person. We have offered only a small amount of additional per-hour work. Two of our sites are gravel and one is a grassy pad. The cost of putting in the sites can be considerable and depends upon what you need to do to get power, water, and septic set up for each of them. And of course there are various state regulations to be dealt with. We highly recommend the program. We've been enjoying all of our workampers and find them to be very congenial and hard working. All of the information you need is available on line at www.workamper.com or call (501)362-2637. (*Source: VERMONT VEGETABLE AND BERRY NEWS, August 15, 2004*)

Upcoming Meetings

Sept. 16, 2004 Organic Vegetable Production for NY City Greenmarket. Westtown NY. Keith's Farm, 2630 County Route 1, Westtown, NY (Orange County) Co-sponsored by the Pennsylvania Association for Sustainable Agriculture. Keith Stewart grows 13 acres of certified organic herbs and vegetables which he markets exclusively through the Union Square Greenmarket in Manhattan. Relying on one marketing outlet as the sole source of farm revenue has made Keith very conscious of the sales dynamics there. On this tour, he will describe his marketing strategy and how he has made a 17 hour market day schedule work year after year. We will also learn about his organic vegetable production practices and his apprentice labor force, which he recruits through the Northeast Workers On Organic Farms (NEWOOF) and ATTRA programs. Keith is the farm columnist for The Valley Table magazine.

Directions: The farm is located 15 miles southeast of Middletown, NY. From Interstate 84, take exit 2 in New York for Mountain Rd./Greenville. Make left onto Mountain Road (Route 35) and proceed to first light. Make left at light onto Route 6 east. Follow for approx. 1 mile, past sign for Pine Island/Warwick, and make right onto County Route 1. Farm is approx. 1 mile down on left.

Please contact the Regional Farm & Food Project at (518) 271-0744 or farmfood@capital.net (Subject: Farm Tours) for more details or to reserve your place.

Sept. 18-19, 2004 Small Farms Expo, New Paltz NY. For more information go to <http://www.smallfarmexpo.org/> or call 845-677-8223

October 10, 2004 Potential of Old and New Fruit Crops. New Paltz NY (Ulster County). Lee Reich, grower, researcher, and author of six books on gardening and fruit growing, will lead a tour of his home orchard and discuss the commercial potential of the unusual and up-and-coming fruits he is studying. Hardy Kiwi, Paw Paw, Gooseberry, and Serviceberry are a few examples of the multitude of species and varieties his orchard contains. This far ranging exploration will include taste tests of some of these unusual fruits as well as observations on their growing requirements and marketability. More common fruit crops like grapes and blueberries will also be part of the presentation.

Directions: Farm is located 12 miles south of Kingston, NY. From Interstate 87, take exit 19 for Kingston. Travel east on Route 28 to rotary and turn right onto Washington Avenue. Take Washington Ave. approx. 2 miles to Route 32. Turn right onto Route 32 south and follow for approx. 10 miles to Rosendale. After passing Postage Inn on right, turn left onto

Tillson Road. Follow to first stop sign and turn left onto Springtown Road (County Route 7). Travel for approx. 2 miles to house and orchard on right.

Please contact the Regional Farm & Food Project at (518) 271-0744 or farmfood@capital.net (Subject: Farm Tours) for more details or to reserve your place.

October 12, 2004 - UMass Extension Vegetable Twilight Meeting

Seeds of Solidarity- Orange, MA

Sustainable Production Methods, Farm Energy Saving, Farm to School Program Speakers

For more information and directions contact Ruth Hazzard 413-545-3696, rhazzard@umext.umass.edu

Oct. 18-20, 2004 - New England Greenhouse Conference

Centrum Centre, Arena and Convention Complex, Worcester, Mass. (802) 655-7769

For more information: www.uvm.edu/~pass/greenhouse/negc.html

Y Commercial Fruit Program, at kai3@cornell.edu

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.