MASSACHUSETTS BERRY NOTES

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IN This Issue

Message from the Editor:

Subscriptions: Volume 15 of Massachusetts Berry Notes marks the beginning of a new age of delivery. As a result of declining subscriptions for surface mail delivery, increasing access to the electronic format and a declining support budget, we will only be producing an electronic version of this newsletter for the foreseeable future. There are a few individual subscribers who have indicated that this is a hardship for them and we will try to help ease the transition. This is the last issue that will be delivered in full via email. Starting in February 2003, subscribers will receive notification of the posting of Berry Notes on the UMass Fruitadvisor website. Please let me know if this isn't working well for you.

Massachusetts Vegetable Notes: The December issue of Mass. Veg. Notes contains extensive information on "Buy Local" initiatives all around the state. For those interested in this important topic, go to http://www.umassvegetable.org/newsletters/current_newsletter.html to view or download this publication.

Web Resources: Each month I try to provide information on websites of interest to small fruit growers. This month I'm referring you to a site constructed by extension folks at Michigan State University. This is a good portal into the terrific resources to be had for all fruit growers at Michigan State. It includes links to newsletters, bulletins, special notices and alerts, and special projects. Check it out at http://www.msue.msu.edu/ipm/fruit.htm.

Spotlight on Anthracnose: This month's Berry Notes provides a focus on one of the emerging diseases of concern in several berry crops, Anthracnose. Understanding the biology of disease organisms is the first step in effective control.

Strawberries

Strawberry Anthracnose

Bill Turecheck and Cathy Heidenreich, Cornell University

Introduction - The term anthracnose is a general term used to describe plant diseases. Strawberry anthracnose refers to several diseases of strawberry caused by members of the same group of fungi (Colletotrichum), all producing

similar symptoms (Table 1). These pathogens are capable of infecting fruit, buds, blossoms, petioles, runners, crowns, and foliage. Though generally thought of as southern diseases (optimal development temperature is approx. 80 degrees F), anthracnose is not limited to the south. Anthracnose crown rot (caused mainly by *C. fragariae*) is the most destructive disease of strawberry in the southeastern United States and on a global scale, anthracnose fruit rot (caused by all 3 species, but most often associated with *C. acutatum*) is a significant problem. Anthracnose fruit rot is especially severe in annual cropping systems where berries are grown on plastic-mulched raised beds. Fully open flowers and ripening fruit are very susceptible to infection. Under rainy, warm harvest season conditions the disease is able to spread very quickly and may destroy the entire crop. *C. acutatum* is considered to be most prevalent species in the Northeast.

Table 1: Colletotrichum species believed to be responsible for different anthracnose diseases on strawberry

Diseases	***C. acutatum***	***C. dematium***	***C. fragariae***	***C. gloeosporioides***
Anthracnose crown rot			X	
Anthracnose fruit rot (Black spot)	X	X	X	X
Anthracnose leaf spot (Black leaf spot)			X	X
Irregular leaf spot	X			

Symptoms - Lesions first appear as small, dark spots on stolons and petioles. These enlarge to become dark, elongated, dry, sunken lesions, which often girdle the stem. When petioles or runners become girdled, individual leaves or entire daughter plants may wilt and die. Petiole infections occur at the base of the petiole, causing the leaf to bend sharply at the point of attachment and hang down.

Leaves: Anthracnose or black leaf spot is caused *by C. fragariae* or *C. gloeosporioides*. Lesions on leaves are small (<1/4"), round, and black (sometimes light gray) often resembling ink spots. Spots may become numerous on leaflets without causing leaf death and often appear first on expanding leaves of runner plants. While the fungi are not reported to sporulate in these leaf lesions, the presence of leaf spot may be a warning signal that abundant inoculum is present on other plant parts and fungicide applications are needed. Irregular leaf spot, caused by *C. acutatum*, has dark brown to black lesions forming on leaf margins and tips and extending along the margin and inward to the mid-rib. These lesions do not continue to develop in fully expanded leaves but infected leaves may persist on plants for 2-3 months. The fungus sporulates in these lesions and may serve as an inoculum source for flower blight and fruit rot.

Flower Parts: Flower blight may occur any time after the bud emerges from the crown. Fully open flowers are most susceptible to infection. Flower buds, sepals, pedicels, and pedunckles may also become infected. Infected flowers dry quickly; dark lesions spread down the pedicel from the flower. Pedicels may be infected first; flower bud stems are girdled and buds die. Sepal infections occur as the bud is emerging fromt he crown. Sepals dry and turn brown; the resulting tip burn resembles that caused by excessive fertilizer. When warm, humid conditions prevail during bloom, all parts of the flower truss may dies, giving plants a blighted appearance.

Fruit: Symptoms appear as whitish, water soaked lesions up to 3 mm in diameter. As lesions develop, they turn a light tan to dark brown and eventually become sunken and black with in 2 to 3 days. After several days, lesions may be covered with pink to orange to light salmon-colored spore masses. Infected fruit eventually dry down to form hard, black, shriveled mummies. Fruit can be infected at any stage of development. Both ripe and unripe fruit can be affected. Infected seeds (achenes) turn black and are slightly sunken. These single seed infections often occur on green fruit; a typical lesion devlops as the fruit ripens.

Crowns: The fungus moves into the crown from petiole or stolon cankers, or may start as an infection from spores washed by rain or irrigation into the center bud. When crown tissue becomes infected, the entire plant grows normally for a while, then wilts and dies. The internal tissue of infected crowns will develop a firm, reddish brown rot (seen by slicing through the crowns). Crown tissue may be uniformly discolored or streaked with brown, and lesions may produce salmon-colored masses of spores.

Signs (visible presence of the pathogen) - Pink to orange to light salmon-colored spore masses on the surfaces of lesions form on most if not all plants parts. *C. gloeosporioides* also readily produces perithecia.

Disease cycle - Infected transplants and soil from infected transplants, appear to be the primary source of inoculum in most instances, especially in annual production systems. This may be especially true *for C. fragariae*, which has a limited host range and does not survive in soil over the summer. In

perennial systems, the fungi may overseason in infected plants and debris, providing inoculum for the following fruiting season. Spores (conidia) may be dispersed in the field by wind-driven rain, splashing water, insects, movement of workers, equipment or animals. Disease development and spread is minimal in most cases under cool, dry conditions. Crown infections often occur in the nursery but do not appear until after planting. The fungus continues to develop in newly planted nursery infected plants, which may suddenly die during warm weather in the fall or early spring of the following year.

Conditions favoring Infection - Anthracnose is considered to be a warm-weather disease with an optimum temperature for plant infection by *C. fragariae* between 80 and 90 °F. Therefore, the disease is generally not a problem in the Northeast unless warmer temperatures and rainfall prevail during fruit set and harvest. *C. acutatum* fruit infections occur at 68 °F. Both fungi need nearly 100% relative humidity for spore germination and infection to occur.

Disease management - Since control is extremely difficult when favorable environmental conditions exist, measures should start at planting to reduce inoculum levels. This begins with anthracnose-free plants (Appendix of Strawberry Cultivar Disease Resistance). Use of drip irrigation and between row straw mulch will also help lessen the spread of disease within fields. Early season fruit with infections should be culled and removed from fields. Anthracnose fruit rot may be partly controlled with protective fungicide applications from flower bud emergence to harvest, however, fungicide programs have sometimes met with little to marginal success. For more information on fungicide programs see "Pest Management Guidelines for Commercial Small Fruit Production". [Ed. Note: consult the New England Small Fruit Pest Management Guide for recommended fungicide materials and rates.] Check product labels for timing and rates of application for products. (***Source**: Cornell Index of Tree Fruit and Small Fruit Fact Sheets, http://www.nysaes.cornell.edu/pp/extension/tfabp/disindx.shtml*)

Sinbar® on First Year Strawberries

Dr. Doug Doohan, Ohio State University

The DuPont Crop Protection Company has issued a supplemental label allowing for the use of Sinbar® on first year strawberries. Following is the application information for matted-row strawberry production systems.

Planting Year: Apply 2 to 3 ounces of Sinbar® per acre after transplanting but before new runner plants start to root. If strawberry transplants are allowed to develop new foliage prior to Sinbar® application, the application must be followed immediately by 0.5 to 1 inch of irrigation or rainfall to wash the Sinbar® off the strawberry foliage. Otherwise unacceptable (severe) injury may result. To extend weed control through harvest of the following year, apply 2 to 4 ounces Sinbar® per acre just prior to mulching in the late fall.

Harvest Years: After post-harvest renovation, before new growth begins in midsummer, apply 4 to 8 ounces of Sinbar® per acre. To extend weed control through harvest of the following year, apply 4 to 8 ounces of Sinbar® per acre just prior to mulching in the late fall. [*Source: Ohio Fruit ICM News, Volume 6, No. 43 December 19, 2002*]

Brambles

Anthracnose in Brambe Fruits

Jim Travis, Jo Rytter, Ken Hickey, PennState University

Anthracnose, commonly called "cane spot" or gray" bark," occurs in several species of Rubus. It is considered an extremely serious disease of black, purple and susceptible cultivars of red raspberry. Severe yield loss may result due to defoliation, wilting of lateral shoots, death of fruiting canes, and reduction in fruit size and quality.

Symptoms

Anthracnose symptoms are most conspicuous on canes but can also occur on leaves, petioles, flower buds, and fruit. In the spring, reddish purple spots appear on young canes. As the disease progresses, the spots enlarge and the centers become sunken. These early lesions on the cane are called pit lesions. By late summer or early fall, the typical "gray bark" symptom can be observed, especially on the red raspberry. Within these lesions spores are produced which are spread by running water, splashing rain, and wind. Canes weakened by anthracnose are more susceptible to winter injury and eventually may die. Cankered canes may also produce abnormal fruiting branches with malformed fruit, especially in seasons of drought. Fruit infections are not common unless there is a high level of anthracnose in the plantings. Infected fruit is typically dry and seedy.

Disease Cycle

Anthracnose is caused by the fungus Elsinoe veneta which overwinters on canes infected the previous season. In the spring, fungal spores are produced on these diseased canes. These spores are spread to very young green tissue and infection takes place. The primary damage to plants is caused by these early infections.

Disease Management
Control can be achieved by sanitation and spraying. Although sanitation is labor-intensive, it is an effective management practice for the control of anthracnose. The fungus can survive on dead canes that have been pruned off. If pruned canes are left in or near the planting, the disease can spread back into the planting. Removing the pruned canes reduces the potential for disease development.

It is important to plant clean, disease-free nursery stock. Cut out all diseased canes, cane "handles," and any infections observed on new plants. Good air movement through the planting should be provided by the removal of weeds and spindly canes. If possible, all noncultivated brambles within the vicinity should be rogued, for these wild plants will also harbor the pathogen. [Ed. Note: consult the New England Small Fruit Pest Management Guide for recommended fungicide materials and rates.] (***Source**: PennState Bramble Fact Sheet Series, http://www.cas.psu.edu/docs/CASDEPT/PLANT/fpath/Brambles/factlis.html*)

Blueberries

Blueberry Anthracnose

D.C. Ramsdell, Michigan State University

Anthracnose is caused by *Colletotrichum gloeosporioides*. This disease is thought of as a post-harvest fruit rot, but infection has occurred much earlier than harvest. Crop losses may run as high as 10 to 20%.

Symptoms and Disease Cycle: The earliest symptom is the presence of a shoot blight. Usually a few blossom clusters will turn brown or black. Spores are not formed on these blossom clusters. Later in the season when fruit are ripening and turning blue, the blossom end of the fruit will soften, pucker and exhibit some salmon-colored sporulation. There are vast numbers of spores on each fruit and these spread to other fruit on the bush by rain or after harvest, when one fruit touches another.

The fungus overwinters in and on twigs. If conditions are very warm and humid in the spring around blossom time, sporulation may occur these twigs. The spores cause blossom cluster blight, thus building up the level of inoculum. Some green fruit is infected if there is a lot rain. The ripening fruit is the most susceptible tissue.

Control: If there is a recent history of this disease in a given field, use a well-timed, thorough fungicidal spray program. [Ed. Note: consult the New England Small Fruit Pest Management Guide for recommended materials and rates]. (***Source**: "Blueberry Diseases in Michigan, http://www.msue.msu.edu/vanburen/e-1731.htm*)

Grapes

Intrepid®-A New Pesticide for Grape Berry Moth

Roger Williams and Kevin McClure, Ohio Ag. Research and Development Center, Wooster.

2002 was the worst year on record for the damage caused by the Grape Berry Moth. Thus, it is with great interest that a new compound has just been released for this pest.

The EPA has recently approved the use of Intrepid for the control of Grape Berry Moth and several other related insects that attack the vine. However, there is great concern among researchers that Sevin is losing its effectiveness against GBM.

New York entomologists have determined that indeed the Grape Berry Moth is becoming resistant to Sevin, and we all fear that resistance may be developing to Danitol. So a warning: before you use Intrepid you need to plan to alternate spray materials or we will shortly lose all our weapons against Grape Berry Moth and other grape insects.

Researchers in Ohio and neighboring states have evaluated and confirmed that the efficacy of Intrepid against Grape Berry Moth is superior. It also exhibits a long residual on the grapevine.

Intrepid 2F (methoxyfenozide) insecticide is a product of Dow AgroSciences of Indianapolis. This product should provide a needed alternative to other products labeled for the Grape Berry Moth and help to limit pest resistance when alternated with other compounds. It is to be applied at initiation of egg hatch.

At the recent Grape Berry Moth Summit the researchers from all the states surrounding Lake Erie agreed that it was most

effective when used at the beginning of the 2nd generation and reapplied within 10-18 days to ensure complete coverage of fruits or foliage. There is a pre-harvest interval of 30 days. In other words, grapes are not to be harvested within 30 days of the last application. We are restricted to no more than 16 fl oz/acre/application or 48 fl oz/acre/season of Intrepid 2F.

Toxicity is as follows:

Oral LD50 - mouse: >5000 mg/kg;
Dermal LD50 - rat: >2000mg/kg;
Inhalation LC50 - rat: 0.9 mg/ l for 4 hr.

The oral toxicity and the dermal toxicity are very favorable for mammals. However, the inhalation toxicity is a little high. Always use proper protection when handling and spraying all pesticides. (***Source**: Ohio Fruit ICM News, Volume 7, Issue 1, Janaury 10, 2003*)

New Grower Workshop to be sponsored by Double A Vineyards

Double A Vineyards of Fredonia, New York, has generously offered to sponsor the New Grower Workshop at Viticulture 2003. This workshop is designed to help individuals who are new to the grape growing industry as well as those who are contemplating joining the industry, learn about what they need to know to succeed. The workshop will be held on February 20, 2003, as part of the overall Viticulture 2003 program.

Ron Guzzetta, Chair of the Viticulture 2003 organizing committee, is delighted by this new level of support. "We're elated about Double A Vineyards' sponsorship and contribution. This support will help ensure the event is a success while offering New Growers the chance to learn more about the industry than the technical issues of rootstocks, pruning, and spray techniques…. They will learn that this is a tightly-knit community that works together and reaches out to help one another succeed."

Dennis Rak of Double A was the recipient of the Grower Award at the New York Wine & Grape Foundation 2002 Unity Banquet – an award that recognized his dedication and contribution to the grape industry of New York State for many years. To learn more about Double A Vineyards, visit their website at www.doubleavineyards.com. (***Source**: New York Viticulture 2003 conference website, http://www.viticulture2003.org/index.asp*)

Currants and Gooseberries

What's New in Gooseberries and Currants

Ed Mashburn, Northumberland BerryWorks, Northumberland, PA
Steve McKay, Cornell Cooperative Extension, Hudson, NY

Several years ago I spoke on gooseberries and currants for growers in this area. There have not been a great deal of new cultivars added since then, but there have been some new trials and there will be some new introductions in the near future. This is not because there is no interest in ribes, but the wheels turn slow and development takes quite a while. I have about a dozen varieties that should be released from plant quarantine this year, they are some promising varieties from Europe. It takes about 4 to 5 years to "clear" imports from Europe.

Black Currants: The standard varieties for production at this time are Titania, Ben Sarek and Ben Lomand.

Titania - A very good variety that is fully resistant to white pine blister rust (WPBR) and powdery mildew. It is a heavy yielding variety, berries are large but lack the full flavor that is generally found in the commercial juicing berries. It is very good for PYO and fresh market. **Ben Sarek** - A compact growing plant that is moderately resistant to WPBR and mildew. It is very high yielding and has very large berries. The flavor is full and this variety is used mainly for PYO and home use. It is not suitable for commercial juice production.

Ben Lomand - The "standard" for commercial juice production for many years. A large robust plant that produces very high yields of large berries. This variety is fairly susceptible to WPBR and to mildew. The berries and production are not greatly affected by these diseases and the fruit may be used for home use, and commercial production of jam, jelly, juice and for fresh market sales.

***Titania** is immune to WPBR, while **Ben Sarek** is somewhat resistant. Ben Sarek gets the many visual and active pustules, but does not tend to become defoliated as can **Ben Lomond** or **Ben Alder**. Ben Alder is preferred by some over Ben Lomond for flavor in processing applications. It is very susceptible to WPBR, but WPBR infections can be prevented by using NOVA fungicide as directed. A new fresh market variety of black currant from Ukraine is being evaluated in England, and may become available within a number of years in the US. It has large, very sweet, palatable berries.*

At the present time, there is very little commercial production of juice in this country and most of the

berries go to wine makers and to the fresh market. All the above are suitable for that. Black currants are generally used as a processed fruit and few are used raw from the plant. Most people are not attracted to the strong flavor of the raw berries. In the past few years there have been several varieties of Russian origin that have been much more palatable and acceptable to fresh raw use. I have trialled several of these and will start increasing two or three selections this year. They have produced large berries that are sweeter and very palatable right off the bush. I think that there is a market for these berries as fresh fruit and they would be very good for home use and for small scale commercial production.

The Ribes breeding program from the University of Maryland has also produced some good selections that we will start increasing and trialling in some other locations. This program is in the 5th year and is going well. There are a number of other varieties of black currants available to the market but none that are generally in use for anything other than home use. The breeding of new varieties is controlled by commercial processors of juice in Europe and they do not make the varieties available to the general public that are not in contract production.

Red Currants: Production of Red Currants is much smaller and goes mostly to jelly and to wine. There is not a great deal of difference in the varieties except in time of ripening and to some extent in yield. There are a couple newer varieties that have very high yields and are less prone to disease than the older varieties.

Rovada - This is a late season variety that is very good, it produces large berries, high yields and is resistant to most disease. This variety is a little slower coming into full fruit than other older verities and the plant is a little smaller. It is an excellent variety for PYO and home use, it has large strigs of very good berries.

Detvan - A release from Slovakia that is a very large plant with very heavy production. The strigs are very long and well filled, the berries are large and mid-season. The berries are a little lighter color but still have that very beautiful red that is common to this fruit.

Tatran - A sister of Detvan, a very large plant, very heavy production and the berries are larger than any that I have seen on any variety of red currant. This is a very late season variety and will hold on the plant into late August. Both of the latter varieties are about one to two years later in coming into full production. There will fair production two years after planting and full production in the 4th and 5th years. These varieties will probably out-produce any other variety at that time. Most red currants are fairly susceptible to wind damage in the second and third year. The breeding program is not presently working on red currants but there are some plans to improve the taste and to reduce the size of the seeds. Seed size is a real problem with red currants, that is why most are made into jelly instead of jam.

Red currants are popular for garnishing and fruit salads (among other uses). ***Rovada*** *is the industry standard for fresh market berries. One should not forget about pink and white currants which are color variations on red currants.* ***Pink Champagne*** *is the pink variety available in the US. It has been very well received in the market in New York City, and would be well worth trying.* ***Blanka*** *is a white variety with more of a beige tint.* ***Primus*** *is a variety that has produced whiter berries.*

Gooseberries: There is an increased interest in gooseberries everywhere. At the present time there are just a few varieties that are of real interest for commercial production.

Invicta - This is by far the best of the varieties for fresh table use at this time. It is a large sweet berry that has a very good flavor. The plant is very thorny but is resistant to mildew and WPBR. It is a strong upright plant that can be grown without support. It is high yielding and fairly precocious, giving some production the year after planting. It is not real good for processing (e.g. wine) as the flavor is diminished in the processing. **Hinomakki Red** or **Lepaa Red** - This is a dual use berry that is resistant to mildew and WPBR. It is a good red color and produces large amounts of berries. The fruit is somewhat smaller than Invicta and a riffle more tart, though they are pretty sweet when fully ripe. The berries can be processed when less than fully ripe and will retain good flavor. The plant tends to be a bit "weepy" in habit and is best supported on a wire trellis.

Amish Red - Another dual purpose red fruited variety, resistant to WPBR and somewhat so to mildew. A very productive variety with good flavor berries. These are pretty sweet and usable from the time that they color up and can be used for fresh or processing. This plant is best supported on wire also.

Pixwell - This is a variety that I have been reluctant to recommend for any use. The flavor, when ripe, is bland and there is not much redeeming features for this variety except that it makes very good wine. It needs to be harvested just a little under-ripe for that. The plants are erect and fairly strong and do not need support. I think that there will be several new varieties of gooseberries on the market pretty soon. The problem with getting these at this time is that there is some dispute over marketing rights and who will be the propagators.

Some of the new varieties are almost spineless and have large berries. Gooseberries are generally very susceptible to mildew and there is not much available (labeled) for that problem. I have about a dozen varieties that will become available to me this year and some will be used in the breeding program to induce resistance to mildew. There has been a real increase in interest for homemade wine production, and there is a market for fresh fruit at this time. There are a number of other varieties that are used, but none that I would consider of commercial potential at this time.

As far as gooseberries are concerned, ***Invicta*** *has large berries, but many in NY have complained about its lack of flavor. It is also very susceptible to leaf spot (even the fruits), so a spray program is needed to control it. NOVA 40W which is used to control WPBR and mildew also takes care of leaf spot at the same time. (Invicta is immune to mildew as Ed says.) I have found* ***Caprivator***

to be an excellent gooseberry. The bushes are practically thornless and the fruit is flavorful and beautiful...antique red, and teardrop-shaped. The bushes are vigorous and somewhat disease resistant. The fruit is late to ripen. ***Poorman*** *has performed well for NY growers. It has a good quality, medium-sized red fruit. The bush is very thorny, however.*

(***Source****: Proceedings of the 2002 Mid-Atlantic Fruit & Vegetable Conference via New York Berry News, Vol. 1, No. 10, Dec. 22, 2002*)

General

Veneman Declares Disaster for Mass. Counties

Via Diane Baedeker-Petit, Mass. Dept. of Food and Agric.

WASHINGTON -- U.S. Secretary of Agriculture Ann M. Veneman has designated 12 Massachusetts counties as agricultural disaster areas.

"This designation will allow producers to receive assistance to help them recover from adverse weather conditions," said Veneman.

These designations make all qualified farm operators eligible for low-interest emergency loans from the Farm Service Agency (FSA). Farmers in eligible counties have until mid-July 2003 to apply for the loans to help cover part of their actual losses. FSA will consider each loan application on its own merits, taking into account the extent of losses, security available and repayment ability. FSA has a variety of programs available, in addition to the emergency loan program, to help eligible farmers recover from adversity.

With the exception of Nantucket and Suffolk counties, all other Massachusetts counties have received primary disaster designations due to drought losses. However, Nantucket and Suffolk counties are contiguous and are also eligible for emergency (EM) loans.

Interested farmers may contact their local FSA Service Centers for further information on eligibility requirements and application procedures for these and other programs. Additional information is also available online at: http://www.fsa.usda.gov/pas/disaster/assistance1.htm.
(***Source****: Massachusetts Department of Food and Agriculture Farm & Market Report, Vol. 79, No. 6, December-January 2002-2003*)

Crop Insurance for Diversified Agriculture - sign up by January 31!

Vern Grubinger, University of Vermont

The Adjusted Gross Revenue (AGR) program is a relatively inexpensive way to insure a wide variety of crops against natural disaster or loss of market. This program is provided through commercial insurance carriers, but the cost is low because the premiums are heavily subsidized by USDA Risk Management Agency. The program is unique among crop insurance in that it insures income rather than crop production levels.

Most Vermont vegetable and berry farmers will be eligible for the program. Some requirements include: five consecutive years of filing Schedule F tax forms; no more than 35% of income from animal agriculture; no more than 50% of income from purchase and re-sale of agricultural products.

Your coverage is based on your average gross income reported for the last 5 years. You can choose among 3 levels of coverage that protect against your income dropping below 65%, 75% or 80% of your average gross. Then you select either a 75% or 90% payment rate on the loss. Obviously, the more of your gross income you choose to insure, the higher the premium.

To help you understand the program here is an example, but remember, each farm will be different. Farmer Vern's main crops are summer and winter squash, strawberries, sweet corn, tomatoes, peppers, cabbage, green beans and gourds. He has an average Schedule F income over the past 5 years of $76,800. Since his operation has been growing at 3.5% annually, his indexed Adjusted Gross Income is determined to be $88,166. Vern can choose 6 difference levels of coverage (65,75 or 80 percent of gross income and 75 or 90% payment level). The "loss inception point" is the gross income level below which losses are covered.

Coverage Level	Payment Rate	Loss Inception Point	Premium Max. you Pay	Insurance Payment
65%	75%	$57,308	$144	$43,981
65%	90%	$57,308	$137	$51,577
75%	75%	$66,124	$212	$49,593

75%	90%	$66,124	$254	$59,512
80%	75%	$70,533	$344	$52,900
80%	90%	$70,533	$412	$63,480

Another example is a diversified vegetable and strawberry farmer with an AGR of $214,400. His 80% coverage level (or loss inception point) is $171,520. To get 90% payment on losses below that income (up to $154,368) his annual premium would be $668. At 75% payment (up to $144,720) the premium is $452, and at 65% payment (up to $125,424) the premium is $218.

You can see that the AGR program is a good way to protect your business against major disaster.

TO BE COVERED FOR 2003 YOU MUST SIGN UP BY JANUARY 31, 2003. However, your premium will not be due until December 2003. For more information or to sign up for the AGR program, contact an insurance agency that handles this program, including:

- Arthur Carroll Crop Insurance Agency (800) 531-4700 or agcarro@adelphia.net
- O'Dell Insurance, Bradford VT (802) 222-4755
- Rain and Hail: see website for local agencies: http:www.rainhail.com/tools/agent_search.html

(***Source**: Vermont Vegetable and Berry News, January 15, 2003*)

Editors Note: For more information on Risk Management for Massachusetts' growers, please contact Rick Chandler from the Massachusetts Department of Food and Agriculture at 413-577-0459 or email at rchandler@umext.umass.edu.

Meetings

Winter Organic Conference Slated

The Northeast Organic Farming Association of Massachusetts (NOFA/Mass) will hold its 16th Annual Winter Conference on Saturday, January 25th at the Quabbin Regional High School in Barre, Mass.

The conference features over 40 workshops, covering a multitude of topics including hands-on activities, growing techniques for growers of all abilities, workshops on livestock production, homesteading,

genetic engineering, and more. A potluck lunch, exhibits, a farmers' market, raffle and children's program are also planned.

Contact Elaine Peterson, 978-928-4707, e-mail nofamass@massorganic.org, or visit www.massorganic.org.

January 20	LAKE ONTARIO WINTER FRUIT SCHOOL Wayne County CCE, Rte 88N, Newark, NY. Contact Mary Durham 315-331-8415. NY DEC Credits applied for.
January 21	LAKE ONTARIO WINTER FRUIT SCHOOL Orleans County Fairgrounds, Trolley Building, Rte 31. Contact Kim Hazel 585-589-5561. NY DEC Credits applied for.
January 22-25	NORTH AMERICAN STRAWBERRY GROWERS ASSN. ANNUAL MEETING Puerto Vallarta, Mexico. Contact Erin Griebe at 810-229-9407. Email:NASGAHQ@aol.com.
January 29	NEW YORT STATE BERRY GROWERS ASSN. ANNUAL MEETING (in conjunction w/ *NY Farmers Direct Marketing Association*) Sheraton Inn Conference Center in Saratoga Springs, NY. Contact the NY Farmers Direct Marketing Association at 315-475-1101.
January 29	VERMONT VEGETABLE & BERRY GROWERS ASSN. FARM SHOW MEETING First Presbyterian Church, Barre, VT 1:00- 4:00 pm. Free and open to the public. Contact Vern Grubinger, 802-257-7967, vernon.grubinger@uvm.edu
February 1	NEW ENGLAND VEGETABLE & BERRY GROWERS ALL DAY MEETING Eastern Massachusetts Extension Center, Waltham, MA Contact Dom Marini at (508) 378-2546

February 3-10	NORTH AMERICAN FARMERS' DIRECT MARKETING CONF. & TRADE SHOW Charlotte, NC. Contact Jonathan Bates, 413-529-0386, nafdma@map.com, www.nafdma.com.
Feb 4-6	MID ATLANTIC FRUIT AND VEGETABLE CONVENTION Hershey Lodge and Convention Center, Hershey PA Contact Maureen Irvin 717-677-4184
February. 7-8	NORTH AMERICAN BRAMBLE GROWERS ASSOCIATION Holiday Inn at the Historic Carradoc Hall , Leesburg Virginia. Contact Jason Murray, at jamurray@vt.edu or 703-737-8978. You can view the program at http://www.ento.vt.edu /Fruitfiles/NABGAProgram03.pdf
February 11	VERMONT VEGETABLE & BERRY GROWERS ANNUAL MEETING Holiday Inn, Rutland VT Contact Vern Grubinger, 802-257-7967, vernon.grubinger@uvm.edu
February 11	VERMONT VEGETABLE & BERRY GROWERS ASSN. ANNUAL MEETING Holiday Inn, Rutland Vermont Contact Vern Grubinger, 802-257-7967, vernon.grubinger@uvm.edu
February 13	NYS VEGETABLE GROWERS CONFERENCE Holiday Inn Convention Center, Liverpool, NY (near Syracuse) Includes new sessions on transitioning to organic vegetable production and adding cut flowers. Registration fee prior to Feb. 3 is $30/day, or $40/day walk-in. Contact: 1-800-548-0881.
February 18-19	ONTARIO FRUIT & VEGETABLE CONVENTION Brock University, St Catharines. Contacts: Chairman: Tony Sgambelluri 905-945-1713
February 20-22	VITICULTURE 2003 Buffalo Convention center, Buffalo, NY. Contact: info@viticulture2003.org for more information
March 12-13 -	3rd ANNUAL NEW ENGLAND FARMERS' DIRECT MARKETING CONF. & TRADE SHOW Holiday Inn Boxborough Woods, Boxborough, Mass. Contact: Charlie Touchette, 413-529-9100, or e-mail info@massfarmstands.com
April 1 -	AGRICULTURE DAY AT THE STATE HOUSE. Mary Jordan, 617-626-1750, Mary.Jordan@state.ma.us.