FINGER LAKES
Vineyard Notes

Newsletter 4 April 10, 2006

In this Issue:

MANAGING VINEYARD WEEDS IN 2006

Rick Dunst
Research Support Specialist
Fredonia Vineyard Lab

I've been to a few grower meetings this spring and have been getting a lot of questions about herbicide use in vineyards this year, particularly regarding newly registered materials. Both Aim® and Chateau® are highly phytotoxic (cause damage to contacted grapevine tissue) so their use will depend on the specific vineyard situation, particularly on the need to retain suckers for trunk renewal, or the desire to eliminate suckers by burning them off with herbicides. For purposes of this discussion I will address herbicide use separately for hardy varieties like 'Concord' and winter-tender ones like vinifera grown in the Finger Lakes and Lake Erie regions.

Weed management in winter hardy varieties. "Conventional" weed management programs in hardy varieties use early spring applications of pre-emergence herbicides followed by spot applications of burn down herbicides (like Gramoxone® or Rely®) or systemic ones (glyphosate products). Some of the older pre-emergence herbicides (like Devrinol®) are not persistent enough to provide season-long weed control, so they haven't been used much in vineyards. Also, as we have used a few pre-emergence herbicides repeatedly for many years, they have become less effective in providing season-long weed control. (That issue is a topic of its own, I'm going to stick to the practical management considerations in this article.) It has become increasingly difficult to find an effective herbicide, or combination of herbicides, to maintain effective weed control in vineyards with this approach.

One alternative is to rely solely on post-emergence herbicides. Research done in New York over many years indicates as few as two applications are needed for effective weed control. Summer annual weeds such as foxtail and pigweed are not allowed to produce seeds, perennials like dandelion and bindweed are suppressed, and the spectrum of weeds in the vineyard shifts to winter annuals such as annual bluegrass and chickweed. The presence of winter annuals during the winter and early spring is not competitive with the vines. With this approach, the first application is made in early June, when first weeds reach about 6" tall, and the second in mid to late July when the next flush of weeds reaches 6" or so. Timing is critical for both applications, and it can be difficult to fit in with other vineyards tasks that need to be done at the same time. Delaying the first application beyond early June can result in disaster if weeds become too tall to control. Making the second application too early will allow the production of weed seeds that will increase weed pressure next year.

Another consideration in hardy varieties is the option for chemical suckering. Timing of post-emergence herbicide applications is different, but usually two applications are necessary. The first application is made when sucker growth is 6" or less (around mid-May), the second when sucker regrowth is 6" or so, about 30 days later. If you want to achieve control of suckers and weeds for the season, 3 applications are likely to be necessary (mid-May, mid-June, and mid to late July).

Aim® is a newly registered herbicide for use in vineyards. It is a post-emergence herbicide unrelated to others used in grape, and provides post-emergence control of some small annual broadleaf weeds and VERY effective burn down of grapevine suckers. It does not provide any control of grasses. Aim® is used at a maximum rate of 1.98 fl. oz. per acre. At current prices, Aim applied in the weed band under the trellis will cost about $3-$4 per acre. In trials last year on 'Concord' and 'DeChaunac', Aim was more effective than Gramoxone® in burning off sucker growth, and a tank mix of the two was more effective than either applied alone. Aim® applied alone or in a tank mix with Gramoxone® or pre-emergence herbicides should provide effective burn down of suckers.

Chateau® is a new chemistry pre-emergence herbicide recently registered in grape. It controls a broad spectrum of annual grasses and broadleaf weeds. It does not control many common established perennial weeds, but it does have some burn down activity on many weeds, and on grapevine suckers. In some cases (such as at the Fredonia Lab with coarse gravelly soil and low to moderate weed pressure) a single application of Chateau® at the high use rate (12 oz. per treated acre) has provided effective season-long weed control. In other cases, especially heavier soils and higher weed pressure, it does not persist in the soil long enough to achieve season-long weed control. In these situations, a split application of Chateau® at the half rate (6 oz. per treated acre), tank-mixed with glyphosate or a burn down herbicide and applied at least 30 days apart, has resulted in very effective weed control. For winter-hardy varieties, Chateau® provides another option. Two applications per season, timed for effective sucker control (again, mid-May and at least 30 days later), will result in effective sucker control as well as weed control. A burn down herbicide (Gramoxone® or Rely®) should be included in both applications. Aim® should increase the burn down activity on suckers and some broadleaf weeds, but emerged annual grasses will not be controlled.

Weed management in winter-tender varieties. I had a lot of comments after showing some photos of weed control in New Zealand vineyards at the Finger Lakes conference last month. On my recent trip to New Zealand many growers were achieving very effective weed control using glyphosate early in the season, and an herbicide called Basta® for one or two applications later in the season. Basta® is the same herbicide as Rely® (active ingredient glufosinate) but sold under the different trade name in Europe and New Zealand. This is essentially the same "post-emergence only" herbicide program we have devised in New York, but used on vinifera. The difference, of course, is that in our climate we usually need to retain suckers every year in case we need them to replace winter-injured trunks. Use of post-emergence herbicides only for *V. vinifera* varieties in our climate will only be effective if you can avoid herbicide contact with the suckers. Shielded herbicide sprayers help, but additional research in that area in needed.

That brings this discussion full-circle. What is an effective herbicide program for *V. vinifera* that relies on early spring applications? Chateau® could be used for this purpose, but as stated earlier, in many cases it does not provide season-long weed control. Chateau® damages contacted grapevine tissue so contact with desirable sucker growth should be avoided. I have seen applications to 'Concord' at early bud swell stage that have completely burned off the emerging buds.

Other choices for early spring applications include a tank mix that includes an effective grass herbicide, an effective broadleaf herbicide, and a post-emergence herbicide to control existing weeds.

Effective grass herbicides include Solicam®, oryzalin (Surflan® or the generic product), and diuron. Effective broadleaf herbicides include simazine, Goal®, and diuron. (Note: oryzalin is registered for vines of any age, Goal® and Solicam® are registered for vines that have been established at least 2 years, and diuron and simazine are registered for vines established at least 3 years. Also, Goal® is very damaging to emerging buds and other grapevine tissue so must be applied before bud swell).

Many growers are reporting less effective results with many of these materials than in the past after several years of use. My best suggestion is to rotate at least two different effective pre-emergence herbicide combinations and include a post-emergence herbicide if weeds are present, (and spot spray later in the season as necessary). One <u>example</u> program is:

Year 1: Solicam® plus Goal® <u>or</u> simazine, plus a post-emergence herbicide if needed.

Year 2: Oryzalin plus Goal® <u>or</u> simazine (if not used the previous year), <u>or</u> diuron, plus a post-emergence herbicide if needed. (Note: Solicam® plus diuron is not listed since <u>Solicam® does not control pigweed species</u>, and diuron is not expected to provide season-long control of pigweed, especially if it has been used frequently in the past. In addition to controlling most annual grasses, oryzalin does control some annual broadleaf weeds such as pigweed and smartweed, but

does not control many other broadleaf weeds including ragweed, mustard, dandelion, and wild carrot.)

If annual grasses escape these treatments late in the season, Poast® can be used to control them. Poast® is a systemic herbicide effective only on grasses and effective ONLY if applied at the proper growth stage, generally when grasses are 6-8" tall and not headed out. Poast® is labeled for over-the-top applications on bearing and non-bearing vineyards, but there is a 50 day pre-harvest interval. Poast® will not injure contacted grapevine foliage.

If annual broadleaf weeds like pigweed escape this approach options are very limited. There are no registered herbicides in grape that provide control of emerged broadleaf weeds without damaging contacted grapevine foliage. An application of Gramoxone®, Rely®, or glyphosate can be used, but only if desirable foliage can be shielded from contact with these herbicides.

NEW YORK FARM VIABILITY INSTITUTE FUNDS GRAPE PROJECTS

Patricia McGlynn
Development Coordinator
NY Farm Viability Institute

[Ed. Note - The NYFVI - by providing major funding to the three regional grape extension programs in NY - is in essence a new partner for our Statewide grape extension effort. It differs from other funding agencies, because they seek projects that demonstrate and document economic impact at the farm level. Since this is a new organization that most growers are unfamiliar with, I asked Patricia McGlynn to write a newsletter article explaining who the NYFVI is, what they fund, and what impact they expect from funded projects - TEM]

Grape-related projects are among the success stories being written by the New York Farm Viability Institute, Inc. (NYFVI). The *New York Farm Viability Institute, Inc.* was developed as a collaborative effort by the Empire State Council of Agriculture Organizations, the USDA Rural Development Program, the NY Farm Bureau and Cornell University College of Agriculture and Life Sciences. This independent, nonprofit corporation is intended to be a unique vehicle for receiving funds from various sources to support research, extension and innovative technologies for NY agriculture. Farms that demonstrate the diversity of size, geographic location and commodities of NY agriculture are currently involved in NYFVI projects.

What makes the institute unparalleled is that it is farmer led, farmer driven and demands farm level impacts for all of its projects. The needs of the agricultural industry in NY are being identified by diverse commodity groups. NYFVI calls these barrier identification panels. Opportunities and challenges are discussed among producers with facilitation by NYFVI staff. Results are compiled into reports and used at the institute to design requests for proposals. Barrier reports are available on the NYFVI website. Many of the farmer panels are involved with the decision making process for funding proposals. This year more than 50 farmers were involved in these decisions. The barrier identification helps the panels prioritize proposed projects. A component of each project must that it will have measurable farm level impacts. A rigid reporting process assures accountability.

The institute was established with $1 million from the USDA. These funds were used to initiate the NY Agriculture Innovation Center. This center focused on creating products that added value to NY state agriculture. Projects included the development of maple cream, recipes for farmer produced pickles and salsa, the development of business plans and business structure agreements and assistance with marketing for the horticulture industry. In 2005, the institute was given $3.2 million through NYS appropriation. Seventy six proposals totaling over $10 million were received. Thirty-three of these projects were funded. NYFVI is confident it will continue having strong support from the NY state legislature and is seeking federal funds through a number of programs. Other funding sources are being explored.

NYFVI success stories reflect the variety of projects funded. In 2004, $170,000 from the USDA was granted to specialty crop projects. There were three grape related research projects funded. An Essex County cooperative extension educator conducted a study of cold tolerant wine grape varieties along Lake Champlain. The results of these trials will be available spring of 2006. A new organization emerged during this project, the Lake Champlain Grape Growers Association. This group of over a dozen cold country grape producers are interested in developing a New York Lake Champlain wine trail. The study of cold country grape varieties is paramount to this effort.

The Long Island Wine Council received funds to educate Long Island wine producers about different types of quality initiatives being used throughout the country. This would be accomplished through a survey and reporting process. The study was subsequently expanded to include an assessment of members' expectations and impressions of their associations' effectiveness. A Long Island Merlot Alliance was launched as the project continued. Members have agreed to embrace the Alliance and a similar effort is being developed for a white wine variety.

Finger Lakes wine producers traditionally "hill-up" cold sensitive grape varieties with soil during the winter season. The economic impacts of hilling-up and alternative mulching materials were documented and analyzed during the third specialty crop grape project. Findings demonstrated that traditional cold weather protection was as effective as using alternative procedures.

In the latest round of grants, $220,000 was granted to two projects involving grapes. These projects started in January 2006. A workbook will be produced addressing sustainable viticulture practices relating to pest management, nutrition, soil and water management, pesticide management and viticulture practices. This project is working with grape producers located in the Finger Lakes, Long Island and Lake Erie. The workbook will be used for extension activities and workshops for grape producers in NY. The initiation of a Statewide Fruit Extension Program is the latest project expected to grape growers. This team will work with producers of tree fruits, grapes and berries. New investments totaling up to $120 million in fruit plantings are expected as a result of this project.

The Institute has three grant programs providing funds for agriculture innovation, extension innovation and applied research. Requests for proposals will be posted on the website at www.nyfarmviability.org on May 1. NYFVI grant writing workshops will be held in early June. For more information, visit the website at www.nyfarmviability.org or contact the New York Farm Viability Institute, Inc., 159 Dwight Park Circle #104, Syracuse, NY 13209, 315-453-3823.

NOTES ON HYBRID AND AMURENSIS WINE TASTING AND VITICULTURE DISCUSSION

Timothy E. Martinson

As part of the Wine Industry Workshop, Dragana Dmitrievic and Thomas Henick-Kling scheduled a repeat of the "New Hybrid Varieties" session that took place at the 57th Finger Lakes Grape Growers Convention in Waterloo. This gave me the opportunity to actually attend this session, featuring Dave Peterson (Swedish Hill), Bruce Reisch, Thomas Henick-Kling, Steve DiFrancesco (Glenora), and Fred Frank (Konstantin Frank Vinifera Wine Cellars). I wanted to share a few notes from this tasting which centered on the three numbered varieties scheduled to be named this summer and the *V. amurensis* hybrid, thought to be Michurinetz, produced by Chateau Frank and promoted by the late Willy Frank.

Note that I wrote a Vineyard Notes article last year covering the red hybrids. I'd expect that to be a bit more detailed, so I encourage you to look it up. What follows is a summary of my raw notes:

NY62.0122.01. This is a white Muscat-type hybrid. Its impending release adds another flavor dimension to varieties available to Finger Lakes growers - from classic fruity whites (Cayuga White) to a Gewurztraminer-like variety (Traminette) to this aromatic Muscat type grape.

Vines are moderately winter hardy. They are susceptible to Downy Mildew, which can emerge in 'bad years', according to Bruce Reisch. If own rooted, vines are small, and perhaps not sufficiently resistant to phylloxera. So they should be grafted. Grafted vines produce 4.5-5.5 T/Ac per year.

Swedish Hill planted vines about 10 years ago. They produced well until 1994, when they had significant bud injury (around 90-95%). They still produced about 2 T/ac that year, which was the first with any crop loss due to winter injury (in 8 yr). It has small clusters, so Dave Peterson feels is is best to machine harvest it. Although clusters are small, berries are large, and have a high juice yield. Disease problems have been minimal, botrytis rare. Dave recommends that, like Cayuga White, its better to not let it hang. The peak Muscat flavors come and go rapidly, so watch for the flavor. It is generally harvested at 16-17 degrees brix. If you wait too long, flavors are muted.

Winemaking is straightforward. Some skin contact recommended, and unlike some other grapes, the 'bitter' note from skin contact is not generally a problem.

Until 94, winter injury wasn't bad. Growers consider the trunks relatively hardy, "better than vinifera" from a cold-hardiness standpoint. Should do as well as other moderately hardy hybrids.

NY73.0136.17. This is one of two reds (see below for other) being released and named this summer. Both are characterized by a better tannin structure than other 'standard' red hybrids (baco, rougeon, dechaunac), and aromas well in the mainstream of what you might find in dry red table wines. 73 (as we abbreviate it) is the one with a 'spicy' 'peppery' note in the wine. According to Bruce Reisch: Vines have typical hybrid hardiness. They produce large clusters, get moderate powdery mildew, are prone to Downy Mildew (but not as bad on fruit as 'Chancellor'). It is resistant to rots, and doesn't get much botrytis. A drawback is that the clusters can be brittle, with some fruit dropping around harvest if there are windy conditions. Good for machine harvest, though. 73 ripens in late September. With winter injury, faired pretty well in '04.

Dave Peterson remarked that: The variety should be grafted. They hill up hybrids for the first four years (Always hill up V. vinifera). Crop can be controlled mostly by careful attention to bud counts; thinning is rarely required. Like Chancellor (but not as bad as chancellor) it is an 'indicator' variety for downy mildew. Sugar peaks early at about 18 brix, but Dave lets it hang a little longer for flavor development. It ripens uniformely.

Tannin structure - is complete, with 'good, fine' tannins. Again, this is the one with the 'spicy', 'peppery' note. I like it.

NY70.0809.10. This produces somewhat lighter, fruity style wines. Less tannins than NY73. Vines have high disease resistance, tend to have good vine size, and don't need grafting generally. Winter hardiness is moderate to high. Bruce estimated crops of 20 lb per vine, or 6-7 T per acre. Budbreak is late in this variety. It has large clusters (0.4 lb), and harvest is later than NY73 - Generally mid-october in the Finger Lakes. They have a drooping growth habit, so are good candidates for high training systems (Swedish Hill grows them on a top-wire cordon). They don't get bunch rot. In '04, Dave Peterson reported no visible trunk injury. He also mentioned the need for cluster thinning on this variety in many years. The vine can produce late clusters on secondary shoots. They are small, but lag in maturity.

Vitis amurensis. Fred Frank presented a wine called Cuvee d'Amour (not sure I spelled that right) made from V. amurensis x V. vinifera hybrids from Eastern Europe and Russia. Frank's have had them for about 10 years. A principle advantage is that they are very winter hardy, and showed no evidence of winter injury in '04. They are apparently pretty heavy producers. The wine we tasted, from the 2001 vintage, was oaked, very nicely balanced, and classic in flavor.

Information about the hybrids is available from Bruce's website:
http://www.nysaes.cornell.edu/hort/faculty/reisch/cultivars.html

Information about the V. amurensis hybrid is available from Dr. Franks Vinifera Wine Cellars.

Revised NASS Statistics - 2005 Crop Year
New York Grown Grapes Processed

New York Agricultural Statistics Service
Released March 17, 2006

Tonnage by Variety & Production Area Received by Wineries & Processing Plants, 2004 and 2005; Prices Paid to Growers, 2003-2005 1/

	Chautauqua – Erie – Niagara Counties				Finger Lakes		State Total 2/		Average Prices ($ per ton)		
AmericanVarieties	**2004**	**2005**	**2004**	**2005**	**2004**	**2005**	**2004**	**2005**	**2003**	**2004**	**2005**
Catawba	620	947	69	30	4,071	5,073	4,760	6,050	242	234	4/
Concord	85,431	117,435	2,158	2,324	11,546	15,257	993,00	135,100	200	193	4/
Delaware	3/	108	3/	3/	217	352	290	460	284	338	4/
Ives	3/	3/	3/	3/	172	124	200	140	349	371	4/
Elvira	1,302	1,138	3/	3/	3,468	4,462	4,770	5,600	264	259	4/
Niagara	14,312	11,777	1,779	1,308	3,696	3,913	19,800	17,000	381	231	4/
French Hybids											
Aurora	3/	3/	3/	3/	2,196	1,914	2,210	1,940	260	279	4/
Baco noir	3/	3/	3/	3/	358	448	360	450	388	470	4/
Cayuga White	3/	3/	3/	3/	586	522	640	580	394	375	4/
DeChaunac	3/	3/	3/	3/	153	139	160	140	342	301	4/
Rougeon	3/	3/	3/	3/	130	481	130	490	313	433	4/
Seyval blanc	3/	3/	3/	3/	319	396	410	460	452	388	4/
Vitis vinifera All	3/	3/	3/	3/	1,656	1,444	5,080	3,840	1,264	958	4/
Other Varieties	145	221	3/	3/	1,701	2,446	1,890	2,750	410	362	4/
Total	101,967	131,730	4,025	3,681	30,269	36,971	140,000	175,000	242	223	4/

1/ Includes New York grown grapes received at out of state plants.
3/ Includes Hudson valley, long island, and other areas not listed.
3/ Not published to avoid disclosure of individual operations.
4/ Official estimates of prices for 2005 are not published. Estimates of future payments by cooperatives have been included based upon historical data.

UPCOMING EVENTS

May 18, 2006. Annual Spring Pest Management Field Day and Barbecue. Join us for this traditional event, held this year at Lakewood Vineyards, near Watkins Glen, NY. Details to follow. Preregistration will be required.

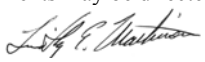
Cornell Cooperative Extension

Finger Lakes Grape Program

Newsletter No.2
March 30, 2005

FINGER LAKES VINEYARD NOTES

is published monthly by
Cornell Cooperative Extension
Finger Lakes Grape Program
Ontario, Schuyler, Seneca, Steuben, and Yates Counties
County Office Building
417 Liberty Street • Penn Yan, NY 14527
Comments may be directed to



Timothy E. Martinson
Area Extension Educator
Finger Lakes Grape Program
315-536-5134
tem2@cornell.edu
http://flg.cce.cornell.edu/

Cornell Cooperative Extension

Finger Lakes Grape Program

417 Liberty Street
Penn Yan, NY 14527

Helping You Put Knowledge to Work