



FINGER LAKES VINEYARD NOTES

Newsletter #3
March 11, 1998

Written by Tim Martinson, Area Grape Extension Educator, Finger Lakes Grape Program (315) 536-5134 and Tim Weigle, Area Extension Grape Pest Management Specialist for the Finger Lakes and Lake Erie Grape Programs (716) 672-6830. Edited by Tim Martinson

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1998 GRAPE GROWER CONVENTION WRAPUP

Timothy E. Martinson

The 1998 Grape Grower Convention, held this past Saturday in Waterloo, is history. Attendance at the meeting was a record 280 - up about 40 from the 1997 convention. Those in attendance heard talks by 17 speakers, including 2 from out of state. The trade show was fully subscribed, with 32 vendors taking up all the available exhibit space. The wine and cheese reception featured wine and juice from area wineries and juice processors.

I would like to thank everyone who helped make the 1998 convention one of the best ever. Aside from the speakers, who played the most visible role, I would like to acknowledge many others who played a key role behind the scenes: **Katie Tomlinson**, Finger Lakes Grape Program

secretary, organized all registration, trade show, and logistical details of the convention. Members of the grower advisory committee not only suggested topics for presentations, but also volunteered to work at the convention. Thanks to **Bill Dalrymple, Rich Jerome, Ralph Amberg, Dave Stamp, Mike Folts, Keith Egresi, Tom Collins, Ken Learn, Jim Ritter,** and **Steve Bond** for their help. Thanks also to **Charlie Fausold**, director of Schuyler Co. Cooperative Extension for moderating the morning session, and to my Cornell Cooperative Extension colleagues **Tim Weigle**, grape IPM specialist, and **Tom Nally**, Agriculture agent in Seneca and Ontario County, for manning the publications table. Thanks also to **Steve Lerch** and **Steve Luce**, Geneva Experiment station, for helping with audiovisuals. Special thanks goes to the **New York Women for Wine**, chaired by **Maxine Fullager**, for running the wine & cheese reception.

Finally, I would like to thank all of you in attendance for your patience (especially around lunch time) and the excellent evaluation of the meeting you provided. Your comments (over 70 of you responded) will help me plan future conventions, tours, and twilight meetings.

I would also like to acknowledge the following wineries, processors and exhibitors for their donations and sponsorship of the meeting:

List of Wine and Juice Donors

Anthony Road Winery, Amberg Wine Cellars, Barrington Wine Cellars, Casa Larga Vineyards, Glendale Farms, Glenora Wine Cellars, Heron Hill Winery, Hosmer Vineyards, Hunt Country Vineyards, Keuka Spring Vineyards, Knapp Winery, Lakewood Vineyards, Lamoreaux Landing Wine Cellars, Leidenfrost Vineyards, Lucas Vineyards, McGregor Vineyard Winery, National Grape Cooperative, Prejean Winery, Silver Thread Vineyard, Standing Stone Vineyards, Swedish Hill Vineyards, Welch's, Widmer's Wine Cellars/Canandaigua Wine Co.

List of Exhibitors

Agway Crop Center, Amberg Nurseries, Bayer Corporation, Bird Gard/JWB Marketing, Boston Mountain Nurseries, Dellamano Farm Supply, Double A Vineyards, Dow AgroSciences, Elf Atochem, Euro Nursery & Vineyard, Farm Credit of W N Y ACA, Finger Lakes Construction Co., Growers Nutritional Solutions, Improcrop, Ltd., Innovative Fence, International Viticulture Services, Inc., Invisible Fence of the Finger Lakes, Isbell & Son Drainage, Inc., Harvestmore Grape Harvesters, Inc., Helena Chemical Company, JMS Flower Farms, Inc., Lakeland Equipment Corp., Lance Fullagar Vineyards Inc., Morton Buildings, Inc., New York Center for Agricultural Medicine and Health, NYS Wine & Grape Foundation, NYS Wine Grape Growers, Orchard Valley Supply, Popcorn Supply Company, R E & H J McQueen, Inc., R F Inter-Science Co., Inc., Robert Miller Farm Machine Co., Sensor Instruments Co., Inc., Slawson Safety Equipment, The National Bank of Geneva,

Wine Bottle and Packaging, Yates County Soil and Water, Zeneca Ag Products

UPDATE ON VINEYARD WEED MANAGEMENT RECOMMENDATIONS

Richard M. Dunst

Research Support Specialist, Vineyard Lab

Let's start with an update of herbicide recommendations for NY and PA vineyards:

Goal®. Goal® (oxyfluorfen) has been labeled for vineyard use for several years. I think of it as an expensive substitute for simazine, because it has similar strengths and weaknesses (and it costs more). As with simazine, season long control of annual grasses is not expected, but broadleaf weed control is generally good. Over the past few years we've noted populations of pigweed species that are tolerant or resistant to simazine (Princep®), diuron (Karmex®), and norflurazon (Solicam®). Goal® or Surflan® (oryzalin) have been effective in controlling pigweed in our trials. Goal® must be applied to the soil prior to bud break to avoid injury to vines.

Touchdown®. Touchdown® (sulfosate) received federal approval for use in bearing and non-bearing vineyards in late 1997. (Use in NY is dependent upon state registration - we'll keep you posted via the newsletter.) Although not chemically identical to glyphosate, the active ingredient in Roundup®, Touchdown® is very similar in mode of action. In limited testing in NY vineyards, Touchdown® (5 lb. ai/gal.) and Roundup® (4 lb. ai/gal.) have provided similar results when compared at the same amount of active ingredient applied per acre.

The goals of a successful weed management program for vineyards are easily stated, but are not always easily attainable. The first goal is to minimize competition for water and nutrients. Studies have shown that weed growth under the trellis, especially during dry periods in the summer, can limit productivity of own-rooted

‘Concord’ vines. Results of the cover crop experiment at the Vineyard Lab (Pool and Lakso, 1990-1995) indicate any actively growing cover crop in the immediate post-bloom period can limit vine size, berry size, and yield. The current cover crop/irrigation experiment at the Lab (Lakso and Pool, 1996-1997) includes plots that have been planted to a fescue sod; even in the very wet growing season of 1997, vines growing in sod exhibited reduced shoot growth, early defoliation, and reduced yield. We expect these effects will be more pronounced in drier years.

The second goal of an effective vineyard weed management program is to limit any weed growth into the grapevine canopy during the growing season. Taller weeds can cause problems such as competition for sunlight, interference with pesticide penetration into the canopy, and raising humidity levels around the vines which can increase disease pressure. Other potential concerns are contamination of fruit during harvest and interference with hand labor.

While preemergence herbicides with residual soil activity are the foundation of most vineyard weed management programs, the effectiveness of these programs is decreasing in many situations. Recent experiments have targeted locations where growers have reported difficulty in obtaining reliable weed control with conventional programs. Results for specific weed problems are discussed below:

Annual grasses (crabgrass, foxtails, barnyardgrass, etc.). Solicam® and Surflan® continue to provide reliable season-long control of annual grasses in our trials. In some cases Karmex® does too, but in many situations summer grass control is less than desired. Princep® and Goal® can not be depended on for season long grass control. Two applications of Gramoxone® or Rely® (one in early June,

the second in mid-July) are an effective alternative to the use of residual herbicides.

Annual broadleaves. Other than some of the specific problem weeds listed below, Karmex®, Princep®, and Goal® generally provide effective control of most annual broadleaf weeds. Solicam® is weak on smartweed and pigweed species. Surflan® is weak on ragweed. The “two postemergence” approach continues to look effective on most annual broadleaf weeds in our trials.

Pigweed. Pigweed species are becoming more of a problem in many vineyards. There are actually several different pigweed species including redroot (*Amaranthus retroflexus*), smooth (*A. hybridus*), and Powell amaranth (*A.*

Table 1. Percent ground cover of weeds and number of velvetleaf plants per post length, October 1, 1997. Westfield,

	annual grass*	dande- lion	pig- weed	annual blue	chick- weed	no. velvetleaf total	12"+
control	56 a	1 b	10	5 bc	0 b	34 ab	27 ab
Karmex	20 abc	0 b	1	0 c	0 b	12 bc	8 bc
Princep	46 ab	0 b	4	0 c	0 b	44 a	36 a
Solicam	1 c	0 b	17	0 c	0 b	16 bc	14 bc
Surflan	2 c	28 a	1	0 c	0 b	17 bc	15 bc
Goal	45 ab	0 b	0	0 c	0 b	25 abc	21 abc
Gramoxone	10 bc	0 b	1	14 ab	30 a	8 c	1 c
Rely	8 c	1 b	2	19 a	32 a	8 c	3 c

NS
Annual grass = total for crabgrass, giant and yellow foxtail, barnyardgrass

powellii). Generally, Solicam® does not control pigweed. At least some of the pigweed species are resistant or tolerant to Karmex® and Princep®. Surflan® usually provides good control of pigweed. Goal® has provided good control of pigweed in recent trials and has been added to the list of “recommended” herbicides for use in NY and PA vineyards.

Velvetleaf. An increasing problem in some vineyards. In 1997, we started a new experiment in a vineyard near Westfield, NY. The grower reported difficulty in controlling many weeds, including velvetleaf, with his typical herbicide program. Treatments included application of five residuals (6 lb. Karmex®, 5.3 lb. Princep Caliber 90®, 5 lb. Solicam®, 1 gal. Surflan®, or 1 gal. Goal® per acre sprayed) in

late April, followed by an application of Roundup® (2 qt./acre sprayed) on June 10; a “control” which received no residual but was sprayed with Roundup® on June 10; and two applications of Gramoxone® (3 pt. per acre sprayed) or Rely® (4 qt. per acre sprayed) on June 10 and July 23. Table 1 summarizes percent ground cover of the predominant weeds, as well as counts of velvetleaf, in October 1997.

1) None of the residuals plus June Roundup® provided the desired level of weed control. Princep® and Goal® were weaker in annual grass control, Surflan® was weaker on dandelion, Solicam® was weaker on pigweed.

2) Two applications of Gramoxone® or Rely® provided good control of summer annuals with a strong shift toward winter annuals (annual bluegrass and chickweed).

3) None of the residuals plus Roundup® provided satisfactory control of velvetleaf. While not statistically significant, the two postemergence application approach resulted in the lowest percent ground cover and the lowest number of velvetleaf plants per post length at the end of the growing season. Most of the velvetleaf plants in the Gramoxone® and Rely® plots were short plants that germinated in August. Plans are to repeat these treatments in 1998.

Perennial grasses (quack grass, orchard grass, etc.) Spot treatment with Roundup® is generally sufficient to keep perennial grasses under control. Touchdown® is an option in PA vineyards, and hopefully will be soon in NY, too.

Perennial broadleaves. Roundup® has been the typical herbicide of choice to control perennials that otherwise escape control. Touchdown® should provide similar control in most instances. While we generally think of the preemergence herbicides in terms of annual

weed control, they actually provide control of many perennials germinating from seed. A weakness of Karmex® is failure to control plantain germination, while Princep® is very effective in controlling plantain germinating from seed. In our experience, Surflan® is weak in controlling germination and growth of

Table 2. Percent ground cover on September 30, 1997, for plots with continuous treatments in 1993-1997. Westfield, NY.

June treatment	July treatment	total cover	crab-grass	annual blue	chick-weed	smart-weed	golden-rod	rag-weed
none	none	100 a	0 b	0 b	0 b	0 b	74 a	12 a
Gramoxone	Gramoxone	33 b	3 b	11 a	4 a	5 a	0 b	0 b
Rely	Rely	26 bc	0 b	19 a	5 a	0 b	0 b	0 b
Roundup	Roundup	15 c	0 b	12 a	3 a	0 b	0 b	0 b
Roundup	none	95 a	89 a	0 b	0 b	0 b	2 b	1 b
Roundup	Gramoxone	19 c	3 b	11 a	5 a	0 b	0 b	0 b
Roundup	Rely	22 bc	0 b	16 a	5 a	0 b	0 b	0 b

dandelion and wild carrot (Queen Anne’s lace). Two annual applications of Gramoxone® or Rely® have been shown to provide excellent control of dandelion, wild carrot, and goldenrod. Milkweed suppression is also possible with this approach. Woody perennials such as poison ivy and Virginia creeper are best eliminated with post-bloom applications of Roundup® (or Touchdown® when registered) which require care in avoiding contact with grapevine leaves to avoid injury.

POSTEMERGENCE WEED CONTROL

A viable alternative to the use of residual herbicides for vineyard weed management is two properly-timed applications of postemergence herbicide. With this approach, weeds are “burned down” with Gramoxone® or Rely® when first weeds reach about 6” height in early June, and when regrowth attains 6” height, usually in mid-July. 1997 results from an experiment near Westfield, NY, are presented in Table 2. Treatments have been in effect for five growing seasons, rates are 2 qt. Roundup®, 3 pt. Gramoxone®, or 4 qt. Rely®.

Results are summarized as follows:

1) "Control" plots (where no herbicide has been applied for five years) have undergone a succession from mainly annual weeds (ragweed, smartweed, crabgrass) to goldenrod. The goldenrod reaches through the top of the canopy by July.

2) A single application of Roundup® in June resulted in buildup of annual weeds, especially crabgrass.

3) Two applications of Gramoxone® or Rely® resulted in acceptable control of summer weeds, similar to that obtained with two applications of Roundup®. (The July application of Roundup requires careful application to avoid contact with grapevine leaves and subsequent injury.) Weeds present at harvest are primarily low growing winter annuals such as annual bluegrass and chickweed. Pressure from summer annuals has decreased over time as the seed bank has been depleted. The main drawback of this approach is that spray timing is critical for success.

4) Gramoxone is not as good as Rely® in controlling smartweed.

5) Perennials such as dandelion, goldenrod, and wild carrot have been almost eliminated with two annual applications of Gramoxone® or Rely®.

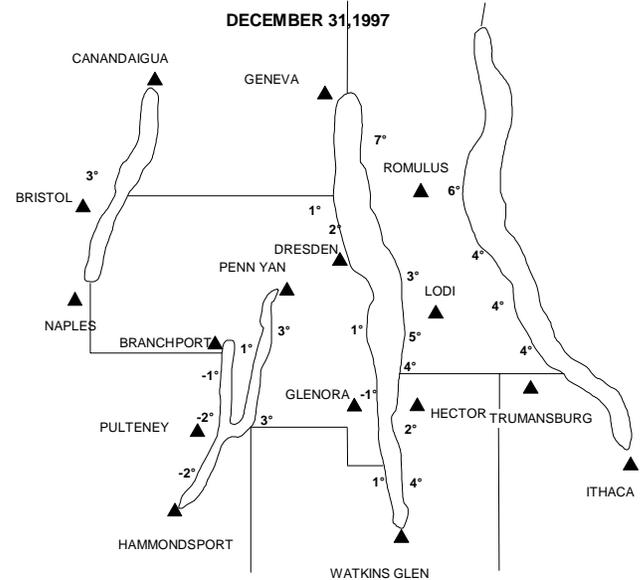
A more complete discussion of this topic can be found in "Vineyard Weed Management Using Non-persistent Herbicides" in the Proceedings for the 4th International Symposium on Cool Climate Viticulture and Enology.

A 1997 publication, Weeds of the Northeast by Richard H. Uva, et.al., is an excellent resource for information on weed identification, biology, and ecology, and is available through Cornell University Press.

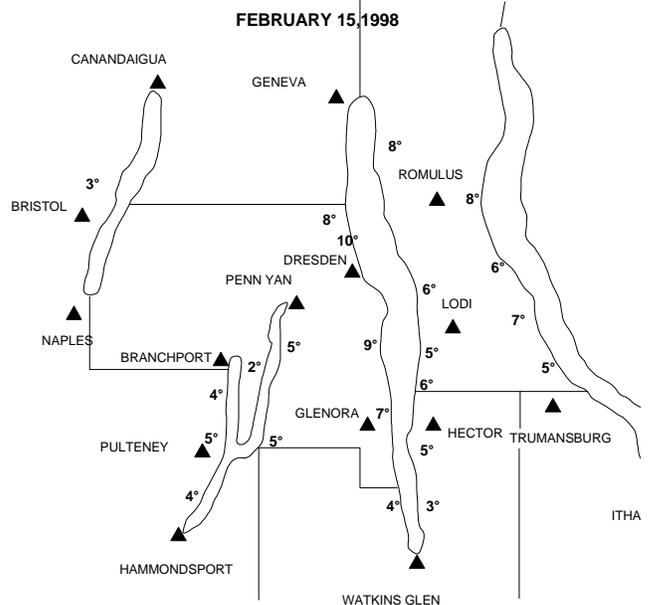
WINTER LOW TEMPERATURES IN THE FINGER LAKES

Timothy E. Martinson

I recently spent a day retrieving seasonal temperature data from a series of 22 data loggers that are out in vineyards in the Finger Lakes.



These temperature units can record and store hourly temperature readings for up to 1 year. The two coldest days to date have been New Year's Eve (December 31, 1997) and February



15, 1998. Readings from these two dates are shown on the accompanying maps. On December 31, lows ranged from -2 to -3 on the West side of Keuka lake to 3-7 degrees F on the East side of Seneca and West side of Cayuga lakes. For the second coldest day, lows ranged from 2 to 10 degrees. These readings confirm that the 1997-1998 winter season has been one

of the warmest on record in the Finger Lakes,
and that bud injury should be minimal.

QUESTION BOX ANSWERS

Tim Martinson

At the question box session during the grape grower's convention last Saturday, I promised to answer questions that we couldn't address due to time constraints. Here they are:

- 1. With Karmex failing on Foxtail, what is an affordable alternative?**
- 2. Which herbicides, if any, have decreased efficacy (registered in New York)?**

Resistance to herbicides, as with insecticides and fungicides, is a continuing problem. In response to these questions, I have included an article in this newsletter based on material Rick Dunst presented at the Lake Erie grape convention this year, that should answer both these questions.

- 3. What can be done to help control chickweed and ground ivy in our established vineyard? The chickweed has already formed flower buds, and doesn't seem to be froxen out from the cold. Is roundup an option this early in the season?**

Chick weed is a winter annual and ground ivy is a perennial that often remains green during the winter. Roundup should work well, but I would delay application until the weeds are actively growing - it can be tank-mixed with preemergence herbicides at the normal application time - around bud break. Another alternative that works well for some perennials and winter annuals is a late fall application of roundup *AFTER 100% OF THE GREEN FOLIAGE OR TISSUE IS GONE.*, i.e. when vines are fully dormant.

- 4. Will use of Nemacur by Bayer help prevent tomato ringspot virus?**

Tomato ringspot virus is transmitted by dagger nematodes (*Xiphenema sp.*), . Nemacur® is a material that controls nematodes (a nematicide) when applied to the soil. So it is reasonable that

killing the nematodes would limit the spread of tomato ringspot, right? Good idea, except that it doesn't work. It was tried for 2-3 years in a ringspot-infected DeChaunac vineyard near Dresden, and it failed to reduce the spread of infection. There are several reasons why: 1) It's difficult to completely control nematodes in our variable New York soils - roots are all over the place, and run deep in many places. Nemacur works well in drip-irrigated vineyards in the West, where the root zone is restricted to the irrigated area covered by the irrigation emitter. 2) It only takes a few nematodes to transmit virus. 3) Common weeds (e.g. dandelion) harbor both the virus and the nematode - there are a lot of alternatives to grape roots out there.

A much better 'cure' - and one that we hope to evaluate more fully over the next few years - may be to replant portions of vineyards with grafted vines. Many rootstocks are resistant to virus transmission and nematode feeding.

- 5. The grape availability listing last harvest was very handy. Will this service be continued?**

Yes. The writer of this question is referring to the electronic mailing list established at our office, which allowed area growers to list variety, tonnage, and contact information for grapes offered for sale to interested wineries and processors. There were 40 subscribers to this list, and all felt it provided useful information. This year, we hope to make it a 'two way street', allowing processors to submit a 'wish list' to Finger Lakes growers as well. Look for more information in upcoming newsletters.

SUMMER ASSISTANT POSITION

AVAILABLE

Timothy E. Martinson

The Finger Lakes Grape Program will be hiring a summer field assistant from late May through August or September of this year. This assistant

will collect data on insect and disease incidence and vine development in area vineyards, will assist me in setting up and collecting data from demonstration trials on spider mite control, foliar boron applications, and post-emergent weed control programs. I would like to hire someone who is familiar with common computer programs, has a vineyard or agricultural background, is willing to collect data in the field, and can work independently. If you know of anyone fitting this description, please have them contact me at my office (315) 536-5123 or stop by the office and fill out an application.

NEW VINEYARD LAB RESEARCH ASSOCIATE APPOINTED AT GENEVA

Dr. Terence Bates has joined Cornell University's department of Horticultural Sciences at the New York State Agricultural Experiment Station in Geneva, NY, as a research associate. Bates will assume viticultural duties at the Vineyard Lab in Fredonia, NY. The position will initially be located in Geneva, and will eventually move to Fredonia. Bates will work closely with the grape industry in western New York, focusing his research at the Vineyard Lab and with grower-cooperators in the region.

"Terry Bates came on-board January 8, and immediately immersed himself in the task of learning about the New York grape industry," said department chair, Hugh Price. "He brings an excellent background in plant science and biological research to this position. I am encouraging Terry to utilize his knowledge of root development and nutrient uptake to increase our understanding of *labrusca* grapes. He will be a key member of the Lake Erie Regional Grape Project."

Bate's background is in plant nutrition and root physiology. "There appears to be a general consensus among the researchers and growers that more research needs to be done in these two areas in viticulture," said Bates. "I am sure my background was a major consideration when

Cornell decided to hire me. I think that my contribution in these two areas is going to complete an existing program in New York viticulture that is already comprehensive in scope."

UPCOMING EVENTS

April 2 - 4. 27th Annual New York Wine Industry Workshop and New York Wine & Grape Foundation Annual Seminars and Unity Banquet. Geneva Lakefront Ramada Inn, Geneva, NY. Thomas Henick-Kling, Professor of Enology, NYS Agric. Exper. Sta. And the NY Wine and Grape Foundation are jointly organizing this meeting. Program highlights:

- **Thursday afternoon.** *The Business of Wine.* Includes sessions entitled: Legislative update; Regulatory update; New York in perspective: Our place in the world of grapes and wine; Resveratrol results; New York Wine Laboratory and Data Bank - The key to quality. (Wine & Grape Foundation)
- **Thursday evening.** *Wine Unity Banquet*
- **Friday morning.** *Total Tourism Training.* Wine Marketing Seminars and Personnel Management. (Wine & Grape Foundation)
- **Friday afternoon.** *Wine Industry Workshop Seminars.* BAFT update; Grape Supply - NY State and US; What does it take to get the premium grape price?; Review of the 1997 Growing Season; Fruit Maturity and Wine Quality - Notes on Selected Cultivars.
- **Friday evening.** *Wine Industry Workshop Dinner.*
- **Saturday.** *Wine Sensory Workshop: The Good, the Bad, and the Ugly - a Review of Wine Aromas.*

For Registration Information Contact: NY Wine & Grape Foundation 315-536-7442 (tel) 315-536-0719.

May 21. *Spring Spray Meeting and Pesticide Updates.* We are in the early stages of organizing the program, which will include industry, research and regulatory updates, equipment demonstration, sprayer calibration

and a barbecue. Sponsored by the Finger Lakes Grape Program. Look for details in upcoming



Vineyard Notes.

Timothy E. Martinson
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Finger Lakes Grape Program

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