

VINEYARD NOTES

NEWSLETTER NO. 7

July 1, 2000

IN THIS ISSUE...

- July Twilight Meetings
- Managing Shoot-Positioned Canopies for *vinifera* Grapes
- Meeting on Potential Varietal Releases
- Upcoming Events

JULY TWILIGHT MEETINGS

Timothy E. Martinson

Come join us for two twilight meetings scheduled for July:

July 6. Canandaigua Vineyards, Dresden. *Twilight Meeting 7-9 PM.* Andrew Landers will provide a field demonstration of ESS systems electrostatic sprayer recently purchased by Canandaigua, and share data he is collecting on sprayer performance. Tom Collins will discuss trials he is conducting with foliar nutrient sprays. Tim Martinson will offer discuss crop potential for 1999 and current production issues. Contact us at 315-536-5134 for more information. We will gather near the shop, located on Ridge Rd, 1 mi East of Rte 14 . From Rte 14, turn west on to Larzellere road (near Anthony Road Wine Cellars). *No preregistration necessary.*

July 25. Sheldrake Point Vineyards, Co Rd. 153, Interlaken. *7-9 PM.* Sheldrake Point, located on Cayuga Lake North of Interlaken (next winery N of Lucas Vineyards), is an ambitious startup operation (Started in 1997) that has made substantial investments in over 30 acres of vineyard, while starting a cafe and wine production. They have used much new technology to establish their vineyards, including laser planting, substantial land leveling, and metal posts. They have also purchased a Lipco recirculating 'Tunnel Sprayer', in use this season for the first time. Tim Martinson, David Weimann,

vineyard manager, and Bob Madill, general manager, will focus on Sheldrake's experiences in vineyard establishment using these new technologies, along their experience as a startup winery and restaurant. Andrew Landers will lead a discussion of the plusses and minuses of the tunnel sprayer. The meeting will end with wine tasting and light snacks. This meeting should be particularly useful for 'new' growers and existing growers considering planting vinifera grapes. Sheldrake is located 1 mile east of Rte 89, about 3 miles N of Interlaken. Follow signs for Sheldrake Point Winery and Cafe, posted on Rte 89. *Please Preregister for this meeting by calling our office at 315-536-5134, so we can plan for refreshments.*

MANAGING SHOOT-POSITIONED CANOPIES FOR VINIFERA GRAPES

Timothy E. Martinson

In last month's *Vineyard Notes*, Bob Pool described principles behind several of the newer shoot-positioned training systems used for *V. vinifera* grapes. In this article, I will review the operations used during the growing season to manage the canopy. For many native grape growers and 'new' growers, these operations will be unfamiliar.

Review of training systems. Recall from last month's article that the objective of shoot-positioned training systems is to produce a narrow canopy with few leaf layers and good exposure of fruit and leaves to sunlight. Briefly, advantages of flat, open canopies include better spray penetration and disease control, improved fruit composition, more varietal character and less 'unripe' flavors that can result from shaded fruit. In our climate, a key consideration is dramatic reduction in the incidence of botrytis due to increased air movement and faster drying times.

Three training systems used to achieve this result are illustrated in *Figure 1*. **Vertical shoot positioning (VSP)** utilizes a single undivided canopy with upright

shoots held in place by catch wires. The **Lyre** system is similar in principal to Geneva Double Curtain (GDC), in that the canopy is horizontally divided. In **Scott-Henry (SH)** and **Smart-Dyson (SD)** training systems, the canopy is vertically divided, with shoots trained upward and downward - again with the aid of catch wires. The difference between SH and SD is that SH uses two individual canes (one trained up; one trained down) to produce the 'up' and 'down' canopies, while SD utilizes upward and downward-pointing spurs on the same cordon arm to produce 'up' and 'down' canopies.

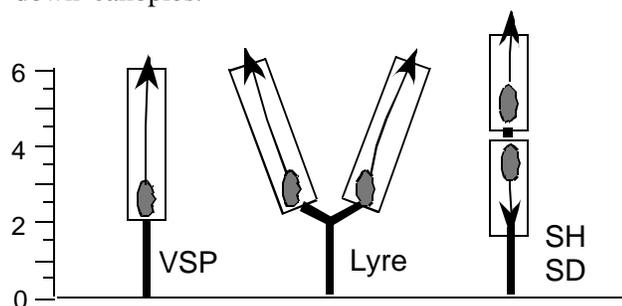


Figure 1. Schematic illustration of vertical shoot-positioned (VSP), Lyre, and Scott Henry or Smart-Dyson canopies. Oval areas indicate fruiting zone, while arrows indicate direction of shoot growth.

VSP training is the most common in the Finger Lakes, and works best in vineyards of moderate vigor. More vigorous vines may benefit from vertically-divided canopies, which increase vine capacity by more fully capturing available sunlight. Scott-Henry type divided canopies are most widely used, because they are well adapted to mechanical harvesting, and conversion from VSP canopies is relatively simple. Smart-Dyson is generally less successful, because downward-pointing shoots and spurs tend to devigorate and are hard to maintain in our climate. Lyre-type canopies require wider row spacing (often 10 ft), y-type post attachments, and are not adapted to machine harvesting.

Three basic canopy management operations. Vineyards trained to these systems still can have excess vigor and produce shaded canopies. For this reason, three key operations are used to manage canopies, with the previously mentioned objectives of maintaining light exposure to fruit and leaves. These are: **shoot positioning**, **shoot-tipping** or **summer hedging**, and **basal leaf removal**.

Shoot Positioning. Flat canopies are produced by using catch wires to maintain shoots in a vertical (upward or downward) position. It is possible to shoot-position by using fixed wires and manually

tucking shoots behind the fixed wires. It is much easier however, to use moveable catch wires. For VSP, generally two sets of moveable catch wires are used. At the beginning of the season, both are moved below the arms and head area of the vine (*Figure 2*). As growth progresses, the first is positioned a little less than mid way (about 15-18 inches) between the low wire (to which canes or cordons are tied) and the top wire. This operation occurs when there is about 20-24 in shoot growth, typically around bloom. The second set is moved upward a few weeks later (at 30 - 40 inches shoot growth) to a position near the top of the post.

For Scott-Henry systems, the upward-facing canopy is established in the same way. For the downward pointing canopy, shoots on the lower arms are brushed outward and the additional catch wire is tucked above and behind the shoots. Timing for this operation is about 2-3 weeks before bloom, before tendrils begin to attach themselves to the upper portion of the canopy. The wire is then moved downward around bloom. Nails to hold the wire in place are angled downward, and are placed about 12 inches below the lower arm.

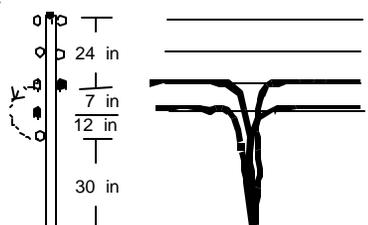


Figure 2. Wire placement for vertical shoot-positioned (VSP) vineyards, based on Richard Smart's recommendations, can be used for standard VSP (non-divided) or divided Scott Henry (SH) canopies. Open circles indicate moveable catch wires; Shaded circles indicate fixed wires. The two sets of upper catch wires are used for either VSP or SH, the lower catch wire at left is moved downward to train shoots from lower arms downward.

Shoot Tipping. The second component of shoot-positioned canopy management is shoot tipping or summer hedging. The reason for this is that as shoots grow above the trellis they tip over and shade the rest of the canopy. Hedging can be done by hand, but is typically done with a tractor-mounted cutting bar. The first pass is done when shoots extend 10-12 inches above the top of the trellis. The aim is to leave about 15 leaf nodes on each shoot - enough to have adequate leaf area to ripen the fruit. When vines are vigorous, two to three passes may be needed, as lateral shoot growth will be stimulated. Further trimming past veraison should be avoided, as it may delay

ripening. In most cases it is not necessary after shoot growth begins to slow.

Basal Leaf Removal. A major advantage of shoot-positioned canopies is that the fruit is all produced in a well-defined fruiting zone. This well defined fruiting zone makes it possible to expose fruit to sunlight by removing leaves. Exposed fruit dries faster, has lower incidence of botrytis bunch rot, and improved fruit quality. Partial exposure (60 - 70% of fruit visible) is sufficient. Opinion on timing varies - with some removing leaves as early as possible after fruit set and others waiting until 2-3 weeks before veraison, which some believe is the ideal time. Hand removal can be done, however mechanical leaf removing machines can be bought or fabricated, and are increasingly used to save labor.

Costs. Of all these practices (assuming leaf pulling is mechanized), moving catch wires is the most labor intensive. The estimate I have seen is about 6-8 hours (2-3 hours/acre, 2 trips) per acre for VSP canopies, about 1/3 more for divided canopies. Summer hedging would involve perhaps another hour per acre per trip through the vineyard. Mechanized leaf removal may require 1-2 hours/acre; if done by hand figure 20 hours per acre.

Benefits. Growing *vinifera* grapes with shoot-positioned canopies involves additional expenses over older umbrella or top-wire type training systems used in the Finger Lakes. It is not always the best choice - many growers on low-vigor sites with smaller vine size find that the modified Keuka high renewal system (fan-type training) works well. They are able to maintain good fruit exposure and an open canopy with existing systems. For many sites and varieties, the payoff for using shoot-positioned canopies is clear: there is less crop loss due to bunch rot or other diseases, fruit quality improves, and more intensely-flavored wines result.

References for further information:

Smart, R & M. Robinson. 1991. *Sunlight Into Wine: a handbook for winegrape canopy Management*. Winetitles, Adelaide.

Information on training systems for New York:
<http://nysaes.cornell.edu/hort/faculty/pool/train/trainandstocks.html>

MEETING ON POTENTIAL GRAPE VARIETY RELEASES HELD AT WINE INDUSTRY WORKSHOP

Bruce I. Reisch
Dept. Horticultural Sciences
NYSAES - Geneva

A group of industry representatives met with researchers and the Vice-President of the Cornell Research Foundation on March 30, 2000, during the Wine Industry Workshop, to discuss options for the release of new varieties from the Geneva grape breeding program. Several presentations were followed by an open discussion.

Tim Martinson discussed industry needs for new varieties and asked growers to introduce themselves and state their views on new variety needs. Bruce Reisch and Thomas Henick-Kling discussed the Cornell grape breeding and wine evaluation projects, and funding limitations faced by their programs. Richard Cahoon of the Cornell Research Foundation presented the Cornell University perspective on intellectual property and licensing.

The release of new varieties for public use is much more complex today than it was 20 years ago. Once a new selection is chosen for release, a number of decisions must be made concerning patent and trademark protection; release timing; nursery increase of propagation material; virus indexing; and selection of a marketable name. The grape breeding program depends upon long term support and, with losses in State support for Cornell research, the program seeks grant support every year. While these efforts have been successful in recent years, each grant is for one year at a time. So the grape breeding program has looked toward its variety release program as holding the potential for long term support, and thus continuation of its long term goals to supply the industry with superior quality, cold-hardy and disease-resistant varieties.

Most of those in attendance agreed that additional steps must be taken to guarantee long term support for the grape breeding and wine evaluation programs. Long term projects lose their viability when there are year to year fluctuations in funding. Several options for increasing the income stream via royalty and trademark protection, as well as voluntary royalty systems, were discussed. Some of these discussions are presented here for your information and input. Please send your comments to Tim Martinson (tem2@cornell.edu or 110 Court Street, Penn Yan,

NY 14527-1130); he will share them with the grape research programs.

The possibility of collecting a royalty based on the number of bottles of wine sold was discussed and the consensus was that it would be difficult to enact. Issues include reporting procedures, increased bureaucracy, and blends of grape varieties in many wines. On the other hand, a tonnage assessment on production of new wine grape varieties has potential for implementation. Some wondered whether all varieties grown in NY could be assessed a modest rate/ton to benefit the breeding and wine programs, and other suggested that the royalty/ton could be routed to the program via the New York Wine and Grape Foundation, generating matching state dollars. There was also a discussion as to whether a tonnage assessment would be a fixed amount per ton or a percentage of the sale price per ton. One person commented that the price per ton should not be excessive, as this would be a potential burden and a disincentive to plant the variety. Some favored voluntary participation in a tonnage assessment program for fruit produced from new varieties. Others questioned how to enforce a tonnage assessment with out of state growers/processors.

There was some dissent in regards to increasing royalty income to research programs (grape breeding and wine evaluation). Comments included "I'm not in favor of any royalties - we just need the new varieties released now", and "The program is supported with public funds and should be working to reduce, not increase, grower costs". Another individual noted that if you are going to benefit from the results, you should be willing to pay for them. Cornell personnel explained that this type of research is no-longer fully State-funded. New York taxpayer support for Experiment Station programs is now just above 50% of the Station budget, and research programs are run on combinations of public and private funds.

Additionally, there was a discussion of the possibility of "5 year prior notification" to the Industry of impending releases. This would allow time for plantings to take place and wine to be ready for sale in the actual year of release. The

industry would then capitalize on variety release-time publicity. It was noted that commercial planting prior to patenting would negate the possibility of patenting at the time of release. However, a patent could be filed at the beginning of the "5-year" period, and an official public release announcement could then take place at the conclusion of this period.

Several issues are raised here for your consideration. Please give us your comments and input. We would like to proceed as rapidly as possible to make available the advanced selections now in demand from the grape breeding program. They continue to be available in quantities of up to 100 vines per tester from Double A Vineyards (Fredonia) and Grafted Grapevine Nursery (Clifton Springs). For more information about these selections, and other breeding program activities, visit our web site at : <http://www.nysaes.cornell.edu/hort/faculty/reisch>.

UPCOMING EVENTS

July 6. Canandaigua Vineyards, Dresden. *Twilight Meeting 7-9 PM.* Announcement elsewhere in this issue.

July 19-21. Clarion Hotel and Conference Center, Ithaca, NY. *25th Annual American Society of Enology and Viticulture Eastern Section Symposium and Annual Meeting.* Meeting starts with a 1.5 day symposium. Symposium topic is 'Synergy of Food and Wine – The Science of Creating and Marketing Wine as Food'. Technical sessions on viticulture and enology follow on July 20-21. Registration forms available at our office 315-536-5134.

July 25. Sheldrake Point Winery and Restaurant. *Twilight Meeting, 7-9 PM.* Focus is vineyard establishment and demonstration of novel 'tunnel' sprayer. See full announce-ment elsewhere in this newsletter.

August 17. NYS Agricultural Experiment Station, Geneva, NY. *Fruit Field Day.* This field day is aimed at Apple, small fruit, and grape growers, and will feature visits to experimental plots, equipment demonstrations, and a free lunch. Look for more information in future *Vineyard Notes*.

Cornell Cooperative Extension and its employees assume no liability for the effectiveness or results of any product. No endorsement of products is made or implied. When using any recommendation, check the product label, which is the final word with respect to product usage, or check with the manufacturer or supplier for updated information.

NEWSLETTER NO. 7
JULY 1, 2000

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
110 Court Street • Penn Yan, NY 14527-1130
Comments may be directed to



Timothy E. Martinson
Area Extension Educator
Finger Lakes Grape Program
315-536-5134
tem2@cornell.edu

Cornell Cooperative Extension
Finger Lakes Grape Program
110 Court Street
Penn Yan, NY 14527