FINGER LAKES VINEYARD NOTES  
NEWSLETTER '97 #3  April 17, 1997

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

IN THIS ISSUE

Current Situation  
Nitrogen Fertilization  
1997 Pest Management Recommendations Have Arrived  
2-EE Recommendation for Banded Grape Bug Approved  
Vineyard Survey  
Upcoming Events  
• New Cultivar Wine Tastings (April 18, May 13)

CURRENT SITUATION  
Tim Martinson

Many of you may be wondering whether the recent warm and cold temperatures may have caused additional bud injury. Temperatures at Geneva reached highs ranging from 51 to 74°F between April 3 and April 8, followed by lows of 16 - 21°F from April 9 - April 11. While the warm temperatures caused apple buds to push and resulted in some freezing injury, I have had no reports of grape buds starting to swell. We have no measurements of bud freezing temperatures from April, but experience from previous seasons would suggest that most buds should still be resistant to temperatures down to the teens. For this reason, I expect any additional bud mortality resulting from warm temperatures in early April to be minimal. Growing degree day accumulations (sum of average temperature above 50°F) currently stand at 14 in Geneva.

NITROGEN FERTILIZATION  
Tim Martinson

Having reviewed many articles written for this newsletter about nitrogen fertilization in previous years, I came to the conclusion that the information provided in previous newsletters is very complete. Therefore, I want to summarize some of the most important points to think about as you consider your N needs. For supplemental information, I refer you to the following Finger Lakes Vineyard Notes issues: 1996, #5; 1995, #3; 1994 #4; and 1993, #6.

• Nitrogen Loss. Following application, N that is not taken up by the vine is subject to losses by two means: leaching and volatilization. Leaching is movement through the soil profile with water. Excessive leaching can result in movement of nitrates into ground water or lakes. Volatilization is loss into the air through conversion to gaseous forms of nitrogen compounds. It can occur in the soil

Helping You Put Knowledge to Work  
Cornell Cooperative Extension provides equal program and employment opportunities. NYS College of Agriculture and Life Sciences, NYS College of Human Ecology, and NYS College of Veterinary Medicine at Cornell University, Cooperative Extension associations, county governing bodies, and U.S. Department of Agriculture, cooperating.
(denitrification) or from the surface as the fertilizer (particularly urea) is applied before moving into the root zone. It is important to minimize nitrogen losses - both to avoid excessive costs and also to avoid excessive leaching. Nitrogen losses can be minimized by carefully considering rates, timing of application, and weather conditions as you plan your application.

• Vine Uptake. Recent studies have indicated that no significant uptake of nitrogen occurs until a few weeks after budbreak. Most of the N used during the early growth period comes from reserves stored in the vine. For this reason, nitrogen applied at the wrong time may be subject to excessive losses due to leaching and volatilization. Urea can be subject to high levels of surface volatilization under high temperatures, but is less subject to leaching than ammonium nitrate. Ammonium nitrate is more subject to rapid leaching through the soil, so it is important to apply it closer to when it will be taken up by the vine.

• Moisture and Temperature. After application, water is necessary to move nitrogen into the root zone. However, very little is required. With ammonium nitrate, you can expect some movement even without rainfall if the soil is moist - even moisture from dew will result in significant movement into the soil. If soils are saturated with moisture, significant losses can result due to denitrification by soil microorganisms, so avoid applying nitrogen to saturated soils. With urea, temperatures above 50°F can result in 20-40% losses of total N due to volatilization. For this reason, it is best to time urea applications to coincide with predicted rainfall, particularly during warmer weather.

• Timing. To minimize losses and get the most efficient uptake by the vine, timing of N applications deserves careful consideration. As little uptake occurs before a few weeks after budbreak, applications of ammonium nitrate made before mid May are likely to lead to significant losses. Split applications, with 1/2 to 3/4 of the total amount applied in mid-May and the remainder after fruit set are likely to result in more efficient uptake and fewer losses. In addition, using split applications allows adjustment of the second application rate after you have had a better opportunity to assess crop potential. If you use split applications, be careful to avoid applying nitrogen close to bloom, as this might reduce fruit set. With urea, leaching is presumably slower than with ammonium nitrate, but volatilization is a greater problem. Thus in vineyards with unsaturated, well-drained soils, urea can be applied in April. If soils are wet through April, urea can be applied in mid-May (as with ammonium nitrate). However, application should be timed to coincide with upcoming rainfall, and application on hot days should be avoided. If split N applications are used, the second application (at fruit set) should be ammonium nitrate, to avoid volatilization losses.

• Rates. Most Finger Lakes growers apply 50 - 100 lb. actual nitrogen. However, the optimal rate for each vineyard is difficult to recommend, as cropping level, the amount of available N in soils, variety, and potential for leaching and volatilization losses affect how much nitrogen is needed. The best guide in deciding how much to apply is experience. Questions to ask are: How much did was applied last year? Was shoot growth excessive, about right, or weak? What is the expected crop size?

If you would like to discuss your program with me, I am interested in hearing about what works, what doesn't work, and what questions you have about soil fertility. Please call our office and I will be happy to discuss your program in detail.

1997 Pest Management Recommendations Have Arrived

Tim Martinson

The 1997 New York and Pennsylvania Pest Management Recommendations for Grapes are out! Copies have been mailed out this week to those who get this publication as part of their county enrollment fee or as subscribers outside the 5 member counties.

Briefly, I would like to highlight a few of the more significant changes from 1996. This is not a comprehensive list, so please refer directly to the 1997 recommendations for additional information:

2
Fungicides:

• Bayleton is no longer listed as a recommended material for powdery mildew control, due to widespread resistance problems.

• Rubigan was previously restricted to the 12” shoot growth stage or later. This restriction has been removed.

• Extra emphasis has been placed on the pre-bloom spray application as being critical for control of powdery mildew fruit infections.

Insecticides:

• Provado (imidacloprid) is now listed for control of Eastern grape leafhopper.

I might add that this material, although more costly, may be useful in some Finger Lakes vineyards where resistance of leafhoppers to carbaryl is suspected. Look for more information in upcoming newsletters.

Herbicides:

• Rely is now listed for use in New York, following NY registration during the 1996 season.

Rely is a herbicide that is used for chemical suckering and under-the-row post-emergent weed control, and gives similar results to paraquat.

2EE RECOMMENDATION APPROVED FOR BANDED GRAPE BUG CONTROL

Tim Martinson

Following trials demonstrating both significant yield losses associated with banded grape bug feeding on grape clusters (A future article will discuss this pest) and the effectiveness of carbaryl (Sevin) in controlling them, Dr. Greg English-Loeb has obtained approval from the New York DEC for a 2-EE recommendation covering this use. To legally use this product, you must have in your possession a copy of the recommendation. Approval was obtained too late to include the recommendation in the 1997 New York and Pennsylvania Pest Management Recommendations for grapes. However, possession of this newsletter article satisfies the legal requirement. The complete recommendation is as follows:

<table>
<thead>
<tr>
<th>Banded</th>
<th>Sevin 50% WP</th>
<th>1-4 lb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grape Bug</td>
<td>OR Sevin 80S</td>
<td>0.75-2.5 lb</td>
</tr>
</tbody>
</table>

Note: In late May (15-22 May), scout vineyards for banded grape bug (BGB), paying particular attention to border areas in grape berry moth risk assessment (GBM-RA) high-risk blocks. Infestation levels greater than 1 nymph per ten shoots can cause crop loss. Carbaryl applied before the second week in June will prevent economic injury. Infestations do not occur in most vineyards, and are often concentrated in vineyard edges, therefore it may not be necessary to treat the entire vineyard.

VINEYARD SURVEY

Tim Martinson

Every five years, the NY Agricultural Statistics Service conducts a survey to update estimates of vineyard acreage under production in New York. This survey provides the only accurate estimates of overall acreage in grapes, as well as acreage planted to each variety. As such, it is a valuable source of information that is useful to my program, and to the industry as a whole. I want to stress that the information collected is used only to provide a valid summary of the size and composition of acreage planted to grapes in New York. It is not used to identify or single out specific business operations.

At this time, the survey is nearing completion. However there is still time to be included, and I would like to encourage everyone to participate. Please contact our office if you wish to participate but have been unable to do so for any reason.

UPCOMING EVENTS

Wine Tasting. Two tastings of wines made from new selections of red hybrids and vinifera cultivars/clones will be held.
April 28, 3:00 PM. Red varieties from the grape breeding program will be tasted.

May 13, 9:00 - 12:00 AM. Tasting of new *vinifera* cultivars/clones.

**Pre-registration is required for both sessions, and space is limited.** Contact Terry Allen, Dept. Food Science, NYSAES, Geneva at 315-787-2284.

Timothy E. Martinson  
Area Extension Educator  
Finger Lakes Grape Program

*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.*

**Cornell Cooperative Extension**  
U.S. Department of Agriculture  
Roberts Hall, Cornell University  
Ithaca, NY 14853-5901  
Official Business  
*Penalty for Private Use $300*