

ONE GROWER'S EXPERIENCE WITH ORGANIC VITICULTURE IN THE FINGER LAKES

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A. Background

1. Location: East side of Seneca Lake
2. 5 Acres, not all producing - Riesling, Chardonnay, Pinot Noir
3. Planted in 1982 - 1984; never insecticides or chemical fertilizer
4. Organic (NOFA) regimen since 1989; winery in 1991

B. First Priority: A strong link between vine and healthy soil

1. Consider the use of conventional chemical fertilizers
 - a. We put down water soluble nitrate, muriate of potash, etc.
 - b. Vine roots suck up some; the rest drops to water table, runoff; creeks and lakes fill with algae, fish decline
 - c. The vine has a chemical diet of mainly N, P and K
 - d. Root systems stay near surface where food comes, not encouraged to probe and explore full spectrum of minerals and foods in a complex soil environment
2. Herbicides compound the situation
 - a. Killing soil biology, microorganisms critical to the food chain
 - b. No coincidence that herbicides and chemical fertilizers developed simultaneously: one requires the other
3. Results
 - a. Undernourished, less healthy, more disease prone vines -
— But they are “green and lush” much like people walking out of McDonalds's - fat and malnourished

b. Less interesting wine

— If the vine is disconnected from its soil and site,
how can the wine show terrior?

— Wine writers complain about the “sameness” of wines
from around the world; loss of regional identity. Usually
blamed on varieties and French oak, but what about the same
chemical diet for vineyards worldwide?

C. I try to let the soil play its natural role as the vineyard’s stomach

1. Alternate row middles: New Zealand (low, slow-grow cover)

a. Research shows mowing adds as much N as disking

b. Fescues compete less for water but more for N

2. Alternate row middles: Hay / straw mulch in round bales

a. Excellent studies by James Beattie in Ohio in 1940’s and 1950’s

b. Leave it on surface to break down gradually

c. Adds organic matter, N and K, improves structure plus water
conservation (reduces runoff by 90% / erosion), yields up.

3. Manure supplements: sheep for K (tailor to your soil needs)

4. Mineral supplements: rock dusts - sulfate of potash, sul-po-mag,
greensand, pulverized glacial gravel (remineralization)

5. Seaweed / kelp - K plus micronutrients

6. Biodynamic treatments

D. Weed Control

1. Under-Trellis

a. Mechanical and Hand Hoe

— Take-out before bud break (covers disease inoculum
under vines followed by hand-hoeing around trunks (easy
if done immediately after)

— One pass with grape hoe mid-summer to cover new weeds

— Hill up in November

— With careful timing, weeds have become easier to manage

2. Between rows: clover and mulch; disk in May, then mow

E. Sprays

1. Sulfur

a. 3-12# / Acre

— 10-12# has worked well against powdery mildew outbreaks if caught early

b. Hot days have not caused phytotoxicity problems

2. Bordeaux Mix for rots, downy mildew

a. Certification standards require mixing it yourself

b. 1.5-2.5# / Acre + twice lime

c. I spray in may (with vinifera) but not when wet: moisture is the critical factor (dew) not cool temperature

d. Some effectiveness against Botrytis

e. I try to minimize use

3. Horsetail (equisetum) helps against Botrytis

— Pick before midsummer, dry in shade, boil 20 min. in water to cover, leave 1 day to cool and strain, dilute 10 to 1 and spray.

4. Will try AQ10: new in 1995, a biological control for powdery mildew

5. Frequency of sprays at Silver Thread Vineyard

— 1990: 12 X

— 1991: 10 X

— 1992: 14 X

— 1993: 10 X

— 1994: 8 X (5/24 - 8/10, including 4X with BM)

G. Training System

1. Modified Pendelbogen (rather than cordon) to spread out fruit zone or aeration
2. High trellis to keep air space open between vine and ground / weeds
3. Vertical training: single catch wires with double hangers to move up as shoots grow

H. Insects

1. Leafhoppers have been the biggest problem
 - a. Roses and blackberries along headlands to encourage *Anagris* predator
 - b. Will try safer soap with natural oil, carefully timed, to deal with severe pressure
2. Grape Berry Moth - pheromone ties
3. Aphids - ladybugs; weeds provide alternate hosts

I. Overall Results

1. Disease control comparable to or better than neighbors
2. Yields range from 1 (1993 Riesling, PN) to 4.5 (1992 Riesling) tons per Acre