10 Ways to Improve Wine in the Vineyard:
Canopy Management:

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You Can’t Understand Canopy without Understanding the Grapevine in Nature
A Vine is an Arboreal Parasite
A Short History of Vitis Vinifera

- 200,000,000 years ago until 10,000 years ago. Pangaea to perfected vine.
- Sexual dimorphic to ‘perfected’ or monoecious.
- Why fruit? Why delicious? How does fruit become activated? (Sunlight)
- If the sun can see the fruit…
- Birds can teach us just about everything in viticulture.
Required Reading:
Dr. Richard Smart, *Sunlight Into Wine*, 1991

- Revolutionized Canopy Management
- Triggered quality and yield improvement worldwide.
- The $70 workbook: Amazon or Smart’s website.
- Based on science, observation and historic records.
- Maximizing sunlight in the grape canopy (without burning the fruit) is the main focus of Smart’s work.
- What does sunlight in the canopy do?
‘Climates’

- **Macro**: Large Area, such as California, Virginia, Italy, France
- **Meso**: Sub-area such as Santa Barbara County, Burgundy or Alto Adige
- **Vineyard Climate**: My ‘tweener term’ for the climate, exposure and weather within a single vineyard system.
- **Micro**: The interior canopy conditions of a single vine, or even of a single cluster. (Seriously?) This is a new way of looking at micro-climate popularized over the last few decades.
Canopy Management:

- Pruning
- Shoot Thinning
- Shoot positioning/hedging
- Leaf and lateral removal
- Crop thinning.
Pruning

- Pruning is the absolute foundation of viticulture.
- Pruning focuses the vine’s energy to produce exactly how much fruit we want, in exactly the spot we want it, at the quality we desire.
- Pruning can be minimal, moderate or extreme.
- Basic pruning styles are Cordon (permanent arms) and Cane (new canes as fruiting units each year).
Cordon Pruning

Pruning –
Low-Head Bilateral Cordon System

Before pruning

After pruning

Catch wire

Upright growing shoots

Spurs

Cordon
Cane Pruning
Shoot Thinning:
Remove Non-fruitful shoots and Crowding
Shoot Positioning and Hedging:
Balance and Sun Penetration

BEFORE

AFTER
Shoot Positioning and Hedging:
Balance and Sun Penetration Part Two
Leaf and Lateral Removal: Give Clusters Increased Sunlight for Flavor
Crop Thinning:
Less Wine Can Be Better…but not always…
Canopy Management
Final Considerations, Time Permitting

Canopy management was our focus today, but also consider:

- Watering the Vineyard
- Fertilization
- Pest Control
- Harvest Decisions.
Conclusion:

- 10% sun exposure + on clusters
- Pull leaves just after flowering/set
- Open canopy decreases pests, rot, mildew and increases wine quality.
- Lateral shoots in a proper canopy should be less than 10%-20% of leaf area.
- Vine should keep 1:1 ratio of vine height/canopy to row width
- 12-15 leaves per cluster is balance in any vineyard!
- Q&A.
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