

Canopy Management for Promising Hybrid Grapes

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Concept

"Canopy management is the practice which results in the modification of position or amount of leaves, shoot, and fruit in space to achieve a desired arrangement."

Dr. Richard Smart, co-author of
Sunlight into Wine



Principles Are The Same As For Vinifera Except

- Trellis selection
- Vigor of hybrids
- Soil fertility



Trellis Types

- Selection is dependent on
 - Soil fertility
 - Plant vigor
 - A plant's growth tendencies



Trellis Type

- Upright plant growth
 - Low wire system
 - Vertical shoot positioning (VSP)
 - Scott Henry
 - Smart Dyson
- Trailing plant growth
 - High wire system
 - High cordon
 - Geneva Double Curtain (GDC)



Vine Canopy

- Shoot System
 - Stems
 - Leaves
 - Fruit clusters



Canopy

- Described as
 - Length
 - Height
 - Width
 - Leaf area
 - Number of leaf layers
 - Shoot density



Shoot Density

- Is referred to by
 - The number of shoots per foot of row or foot of canopy



Benefits of Canopy Management

- Maximizing sunlight interception
- Increased air movement
- Improved spray penetration
- Improved fruit composition and varietal character
- Increased bud fruitfulness
- Improved winter hardiness



Five Major Steps in Canopy Management

1. Shoot thinning
2. Shoot positioning
3. Cluster thinning
4. Leaf removal
5. Shoot hedging and skirting



Shoot Thinning

- Removal of excess shoots
 - On the trunk
 - One or two maybe left on the trunk for replacement
 - On the cordon
 - Unfruitful shoots are removed unless needed for spur renewal



Shoot Thinning

- Four to six shoots per foot along the cordon
 - 8 ft spacing, 32 to 48 shoots per vine single curtain/high cordon
 - 64 to 96 for divided canopy (GDC)



Shoot Thinning

- Best done when shoots are 1 to 3 inches for the ones on the trunk and 6 to 12 inches for those on the cordon.
- Done after the last chance of a spring frost



Shoot Positioning

- Ideal world - shoots are parallel to the trunk
- Real world - they grow parallel to the cordon with tendrils attached to the cordon wire
- Shoot positioning discourages lateral and horizontal growth



Shoot Positioning

■ Tucking

- Generic term for positioning shoots upward
- Used on
 - Low wire systems such as vertical shoot positioning (VSP)

■ Combing

- Generic term for positioning shoots downward
- Used on
 - High cordon
 - Geneva double curtain (GDC)



Shoot Positioning

- Combing/tucking
 - Used on
 - Vertically divided canopies
 - Scott Henry
 - Smart Dyson



Shoot Positioning

- When
 - As soon as possible after bloom
 - And when shoots develop enough to avoid snapping or breakage



Cluster Thinning

- Cluster thinning helps promote long term benefit to the well-being and life span of the vineyard



Cluster Thinning

- Some Cultivars may require cluster thinning
 - Seyval
 - Chancellor
 - Vidal
 - Chambourcin
 - Frontenac



Cluster Thinning

- When
 - Two times
 - Pre Bloom
 - Removal of flower clusters
 - Post Fruit Set
 - Berry set will be less per cluster than Pre Bloom thinning
 - More time consuming
 - Yield, sugars, vine size and hardiness may be improved



Cluster Thinning

■ Post Fruit Set Thinning

(75% canopy development)

- Remove all clusters from shoots less than 12 inches long
- Leave one cluster per shoot for shoots 12 inches to 24 inches long
- Leave two clusters per shoot for shoots more than 24 inches long



Leaf Removal

- Two goals to be accomplished
 1. Improved air movement and spray penetration
 2. Improve sunlight exposure to the fruit and basal buds



Leaf Removal

- On the sunny side of the canopy
Is completely avoided or very minimal
- On the shady side of the canopy
Two or three leaves are removed around
the base of each shoot or cluster



Leaf Removal

- Should be performed after fruit set.
- Should be avoided after véraison as this may lead to fruit sunburn.



Shoot Hedging and Skirting

- Removal of shoots that grow beyond their allocated space.
 - Hedging
 - Used on upward trained shoots (VSP, Smart Dyson or Scott Henry)
 - Skirting
 - Used on downward trained shoots (High Cordon or Geneva Double Curtain)



Shoot Hedging and Skirting

■ When

- Shoots grow beyond their allotted space
- They impede daily vineyard practices
- Should not be done after véraison



Cheers!!!



University Of Nebraska Viticulture Program
<http://agronomy.unl.edu/viticulture>