

Canopy Management for Promising Hybrid Grapes

“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
- 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
- Described as
 - Length
 - Height
 - Width
 - Leaf area
 - Number of leaf layers
 - 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 for following season
- 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 may be left on the trunk for replacement
 - On the cordon
 - Unfruitful shoots are removed unless needed for spur renewal
- 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)
- 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
- 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)
- Combing/tucking
 - Used on
 - Vertically divided canopies
 - Scott Henry
 - Smart Dyson
- 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
- Some Cultivars may require cluster thinning
 - Seyval
 - Chancellor
 - Vidal
 - Chambourcin
 - Frontenac
- 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
- 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
- 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
- Should be performed after fruit set.
- Should be avoided after véraison because 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)
- When
 - Shoots grow beyond their allotted space
 - They impede daily vineyard practices
 - Should not be done after véraison