The Basics of Vine Training and Canopy Management

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“The Wine is made in the Vineyard”
Dorky headgear reappears
Upper Marlboro Field Day
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Canopy Management Basics

Early Vine Training

- Straight up!
- Keep graft union above ground
- Keep off ground
- Tie to stake
- 2 trunks
- Trim off suckers and clusters
- Eliminate weed competition
Canopy Management Basics

Remove young clusters
Canopy Management Basics

Grow tubes
Canopy Management Basics

Grow Tubes

Benefits
- Animal damage
- Moisture
- Herbicide
- Growth rate
- Replaces stake
- Physical protection

Limitations
- Cost
- Growth rate
  Trunk “twist”
- Promotes single trunk
- Diseases, insects
- Removal
- Winter damage
The use of milk cartons is a good, low cost alternative.

- It can disintegrate by the end of the season
- Larger space allows for less humidity/moisture
- >1 trunk
Canopy Management Basics

Train multiple trunks
Train 2 trunks
Canopy Management Basics

Young Vine Training
Canopy Management Basics

The Goal = “Ripe grapes”
Canopy Management Basics

“Sunlight into Wine”
Good Fruit Exposure
Canopy Management Basics

Light Exposure
“Air” Exposure
Pesticide Exposure
Canopy Management Basics

Benefits of Proper Canopy Management

- Fruit Exposure
  - Uniform Ripening
  - Decreased Disease
  - Increased Color
  - Decreased Acidity
  - Increased Volatiles

- Vine Balance
  - Vigor management

- Bud Fruitfulness

- Uniform Bud Break

- Uniform Shoot Vigor

- Ease of harvest
Canopy Management Basics

**FIGURE 10–7** Calendar showing when the stages in the growth and fruiting of a *vinifera* grapevine occur. (Adapted from Pratt 1971; used by permission)
Canopy Management Basics

Balance of vegetative and reproductive vigor
Canopy Management Basics

Training System Terms

- Rootstock
  - Sucker
- Scion/Variety
- Trunk
- Cordon
- Cane
- Spur
- Shoot
  - Lateral
- Leaf
  - Blade
  - Petiole
- Tendril
- Bud
  - 1º, 2º, 3º
- Cluster
  - Berry
  - Rachis
Canopy Management Basics

Training System Terms

FIGURE 10-2 General structure of a grapevine: a, trunk; b, cordon; c, cane; d, shoot; e, arm; f, sucker; g, spur; h, cane; i, internode; j, renewal spur; k, cluster; l, leaf; m, tendril; n, summer lateral shoot.
Canopy Management Basics

Vertical

Lateral

Varietal growth habit
Canopy Management Basics

Training System Types

- Single Canopies
  - “VSP” Vertical Shoot Positioning
  - High Cordon Training
- Split Canopies Vertical
  - Smart-Dyson
  - Scott-Henry
- Split Canopies Horizontal
  - Lyre
  - Geneva Double Curtain “GDC”
Vertical Shoot Positioning

- Simple “I” trellis setup
- Easy and quick to establish
- Get into production quickly
- Easy maintenance during growing season
- Good for fruit exposure
- Easy to harvest, hand or mechanical
- Easy to winter prune, cordon, or cane
Canopy Management Basics

Vertical Shoot Positioning
Canopy Management Basics

“VSP - Vertical Shoot Positioning"
Exposed fruit zone on uniform spaced shoots
Canopy Management Basics

Managed lateral growth
Canopy Management Basics

High Cordon Training

- Simple “I” trellis setup
- Easy to establish
- Easy maintenance during growing season
- Good for fruit exposure
- Lateral growing varieties
- Easy to harvest, hand or mechanical
- Easy to winter prune, cordon, or cane
Canopy Management Basics

High Cordon Training
Canopy Management Basics
Canopy Management Basics

Smart-Dyson; Scott Henry

- Manage high vigor
- Higher yield
- Maintain high quality
- Less shoot positioning and leaf pulling
- Good for fruit exposure
- Easy to harvest, hand or mechanical
Canopy Management Basics

Horizontal Split - Scott-Henry
Canopy Management Basics

Horizontal Split – Smart-Dyson
Canopy Management Basics

Open Lyre;
Geneva Double Curtain

- Manage very high vigor
- High yields
- Maintain high quality
- Good for fruit exposure
- Can be mechanized
Canopy Management Basics

Lyre – Under and Inside
Canopy Management Basics

Geneva Double Curtain (GDC)
Canopy Management Basics

Reactive - Leaf pulling
Canopy Management Basics

Benefits of Proper Canopy Management

- Fruit Exposure
  - Uniform Ripening
  - Decreased Disease
  - Increased Color
  - Decreased Acidity
  - Increased Volatiles

- Vine Balance
  - Vigor management

- Bud Fruitfulness

- Uniform Bud Break

- Uniform Shoot Vigor

- Ease of harvest
Basics of Canopy Management

The Goal!