

WHAT IS NEW WITH CANOPY MANAGEMENT?

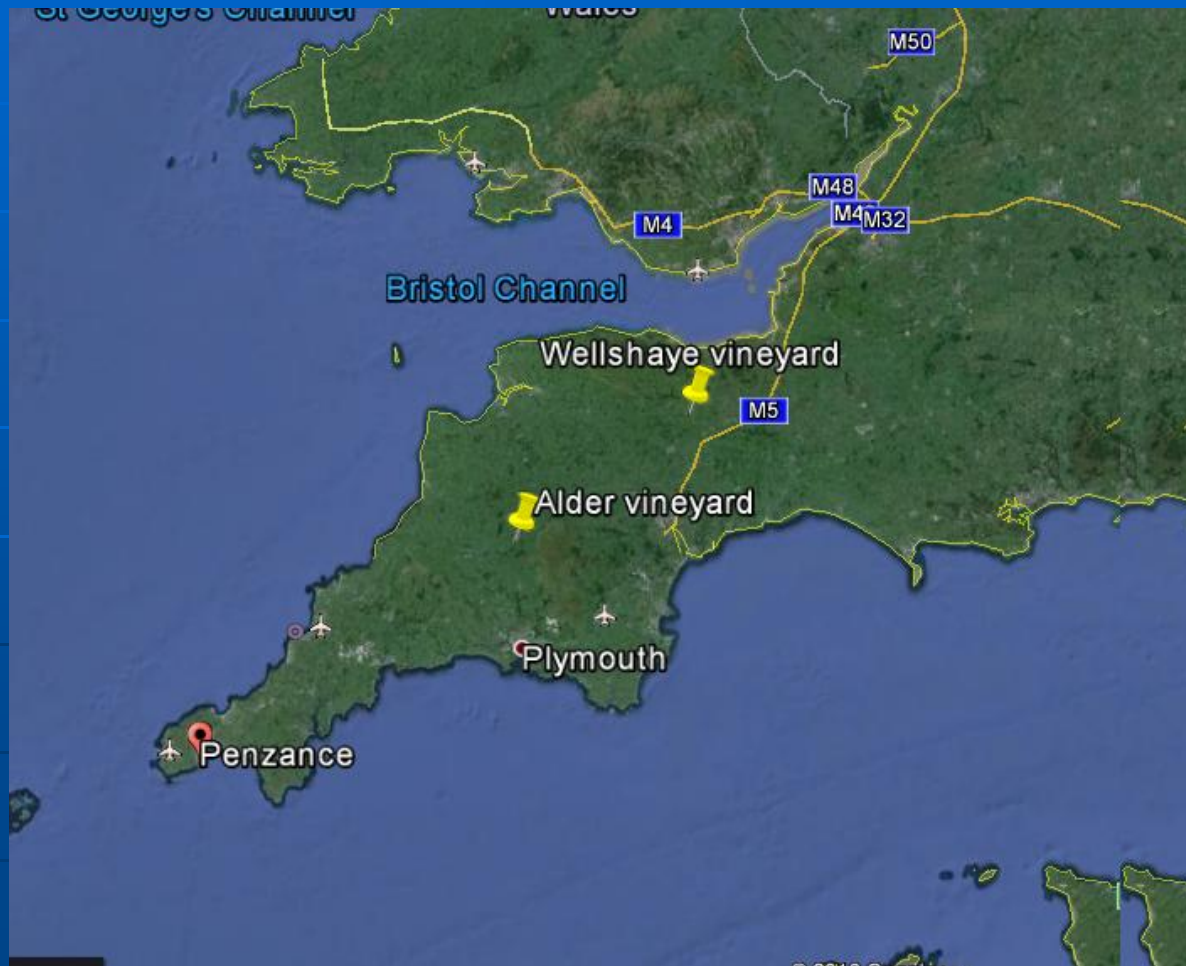
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Why should Americans know Newlyn





To the memory of Bill Best Harris
1914 - 1987 Historian and son of
Plymouth whose researches indicated
that the MAYFLOWER 16-8-1620
docked at the Old Quay Newlyn for
water and supplies making it the
last port of call in England The
water supply at Plymouth being
the cause of fever and cholera
in the city
Let debate begin

Some companies are making lots of money using it....many others are not

- Example Delegat Wine Company, New Zealand
- Produce Oyster Bay wine
- Have 5,000 acres of Scott Henry trellis in 2016, converted over 7 years
- Have found improved yield, quality, profitability, less disease, no labor training/management issues.



WE WILL DISCUSS...

- An ideal canopy, why?
- Factors affecting choice of trellis systems
- Features of some trellis systems: VSP, Scott Henry, Smart Dyson, Lyre, GDC
- Other canopy management practices

AN IDEAL CANOPY...

- Growth is not too vigorous
- Intercepts much sunlight
- Shoots spaced each 2.5 in, or 4.5 shoots per foot (15 shoots per m) canopy
- About 40 % canopy gaps, 60 % fruit exposure
- Shoots should be 15 nodes long, about 42"
- Avoid fruit exposure to mid afternoon sun ie to west



VIGOR IS MOST IMPORTANT



ASSESSING VIGOR AND TRELLIS SYSTEM

Vigor ratings:

Assessed by pruning weight

Low, less than 0.45 lb pruning weight /ft (0.6 kg/m), use VSP, “sprawl”

Medium, 0.45 to 0.75 lb/ft (to 1.0 kg/m), use Scott Henry, Smart Dyson, Lyre

High, more than 0.75 lb/ft (1.0 kg/m), use GDC



VINE BALANCE



A balanced vine has:

Yield: pruning ratio
(Ravaz index) of
around 5:1

Mean cane weight of
about 45-60 g (0.1
lb)

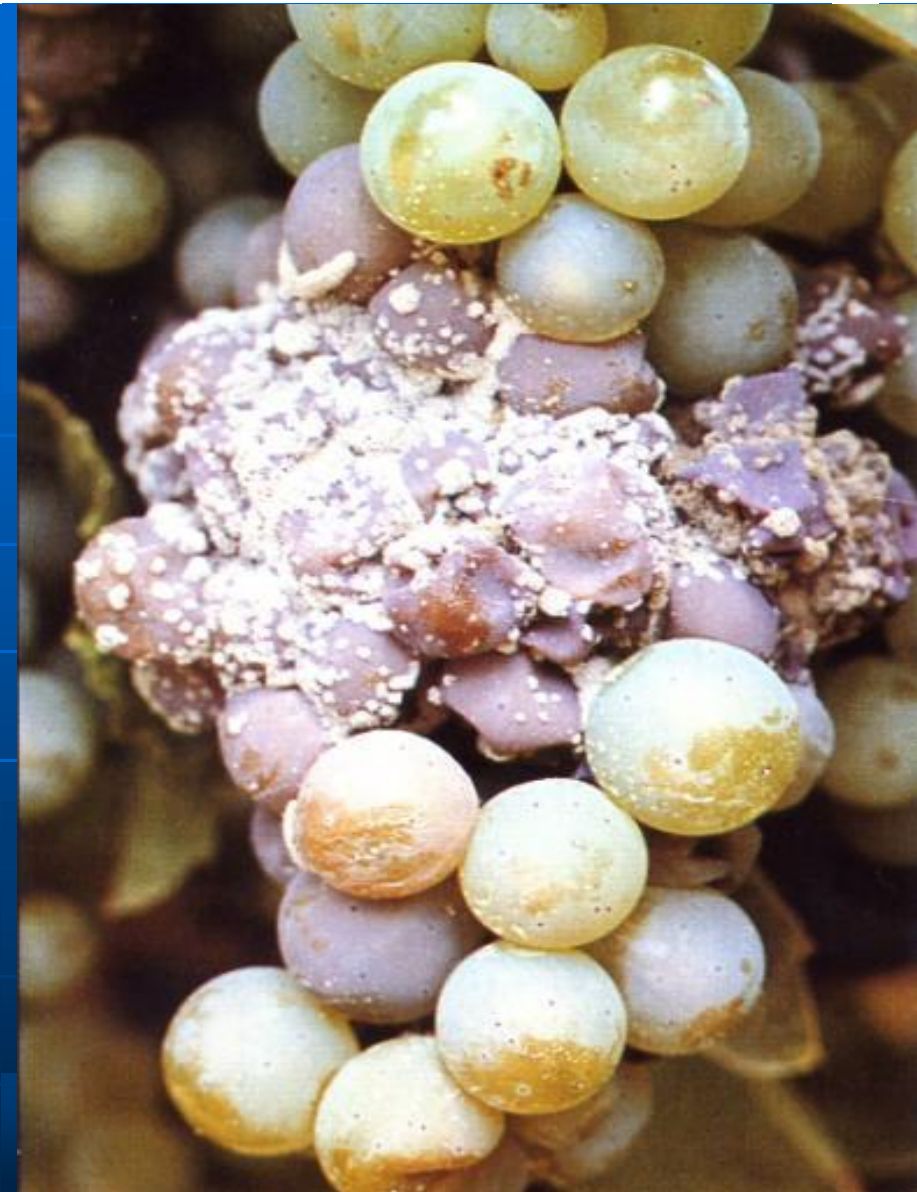
Vine is pruned to about
10 buds per lb
pruning weight

Limited lateral growth

Benefits of ideal canopy

- Little leaf and fruit shading, important for yield and wine quality
- Less disease, Mildew and Botrytis, and better spray penetration





Why change trellis system?

- To make more profit.
- Improve yield with little change in cost
- Improve fruit composition for wine making
- To facilitate management

Factors affecting choice of trellis system

- Ease and cost of conversion/installation
- Ease of mechanisation esp harvest
- Yield and quality potential
- Ease of management
- Labor requirement and ease of training workers
- Profitability of system
- Susceptibility to trunk disease infection.

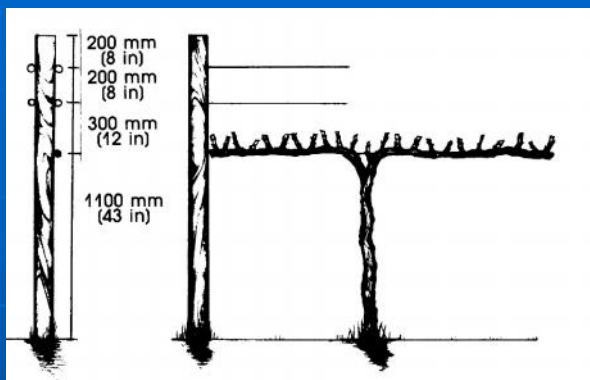
Smarter Vine Post

- <http://www.quiedan.com/products/trellis/downloads/The%20Smarter%20Vine%20Post%20Vertical.pdf>
- Corporate Office /Warehouse
- 831-663-0770 Phone
831-663-0777 fax
800-408-2117 Toll free

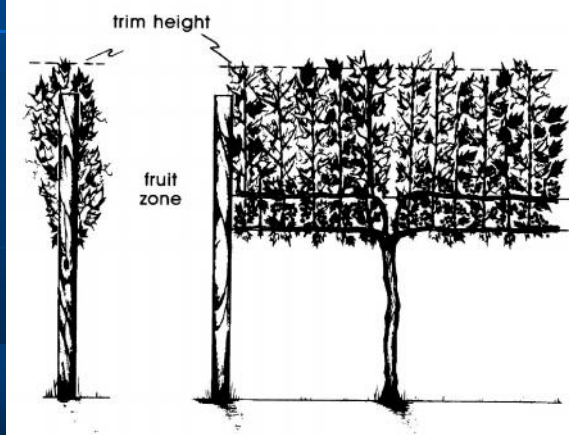
VERTICAL SHOOT POSITIONING VSP

- Suited to low to moderate vigour, to about 0.45 lb/ft
- Requires 1 fruit, 4 foliage wires, 6 ft post ex ground
- Need 28 in minimum post height above cordon
- Suited to cordon training and spur pruning
- Easy to mechanize Winter Prune (WP), Summer Prune (SP), Harvest (H), Leaf Removal (LR)
- Is overused in many regions, sadly

VERTICAL SHOOT POSITIONING



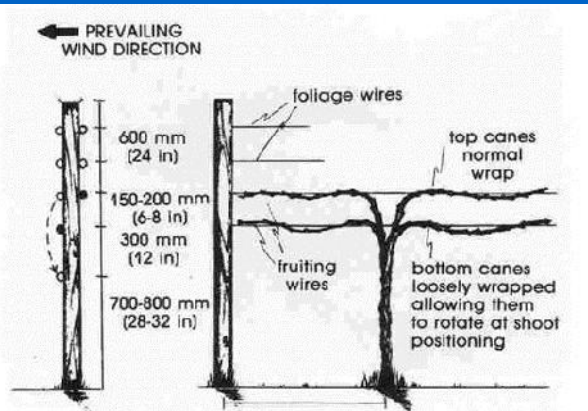
Front and side view for VSP trellis showing spur pruning.



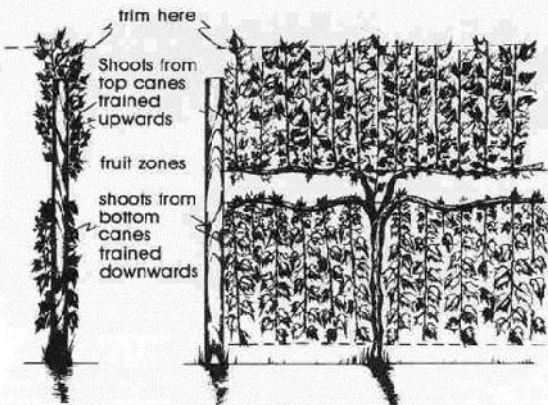
SCOTT HENRY

- Suited to moderate vigour, say 0.45 to 0.75 lb pruning weight per foot
- Suited to cane pruning and so cooler climates
- Requires 5 foliage wires, 2 fruiting wires, 6 ft post
- Mechanize summer prune, leaf removal, harvest
- Will produce typically 30% higher yield than VSP, with improved quality

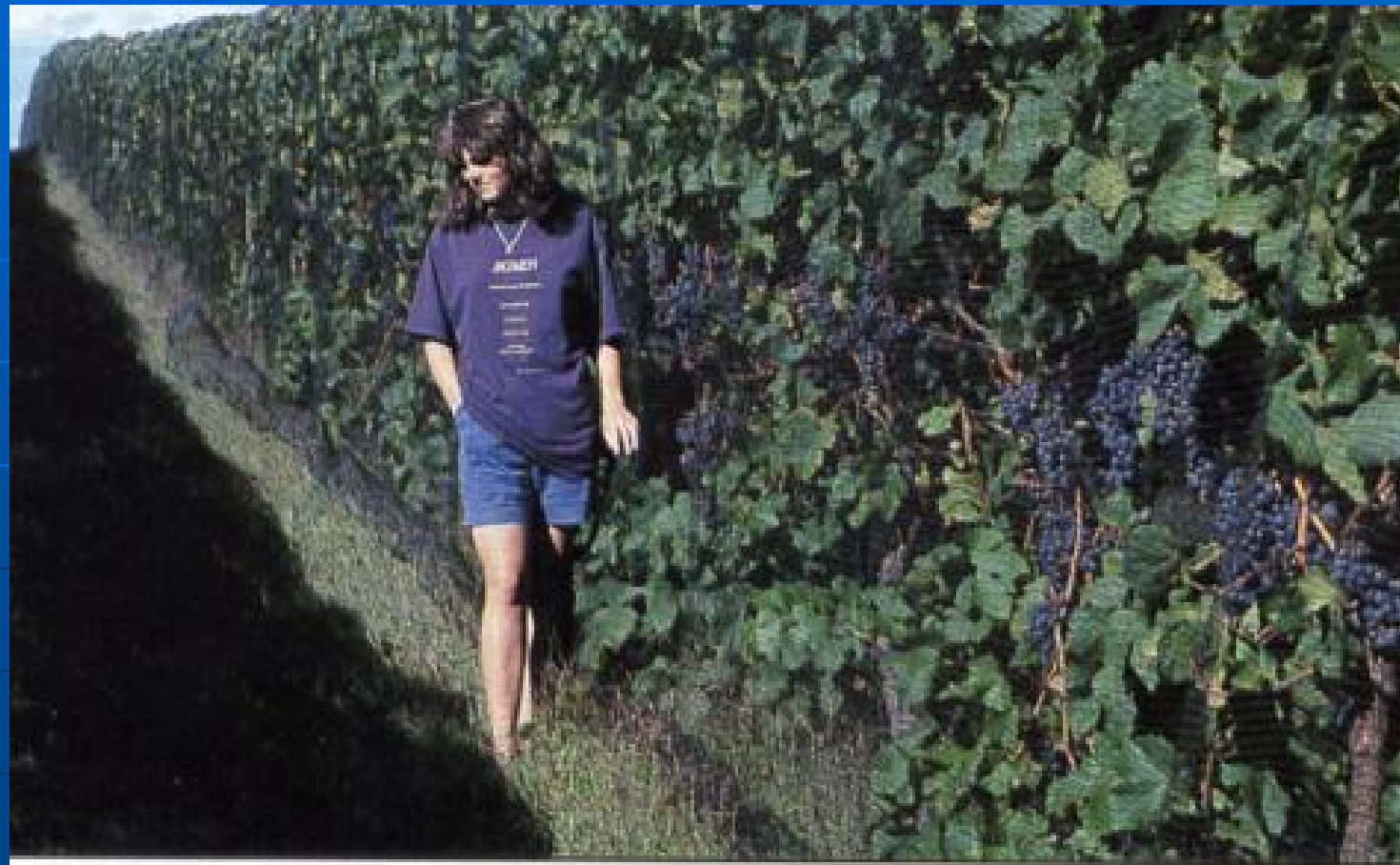
SCOTT HENRY



End and side view of cane pruned Scott Henry system. Note top canes can be tightly wrapped but bottom ones should be loosely wrapped. The distance from the soil to bottom fruiting wire should be a minimum of 1000 mm (39 in), to allow for at least 12 internodes per shoot.



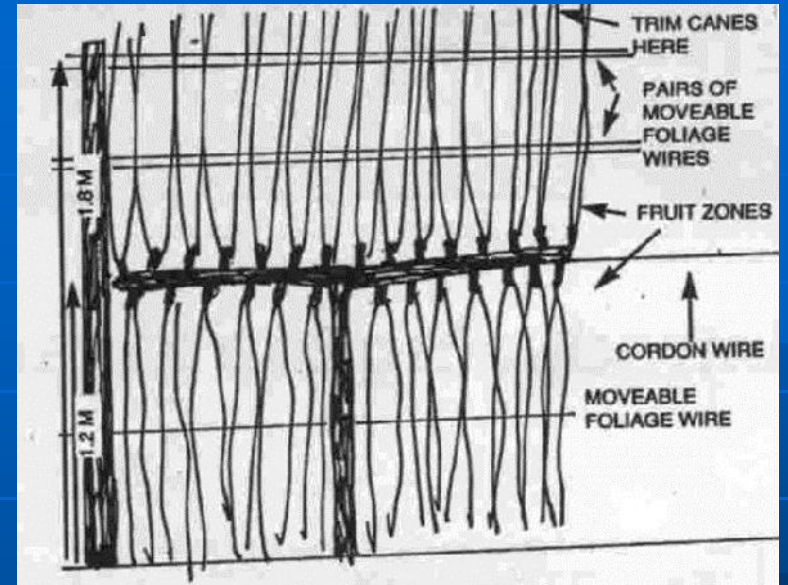
End and side view of Scott Henry during summer to show trimming plane and fruit zone.



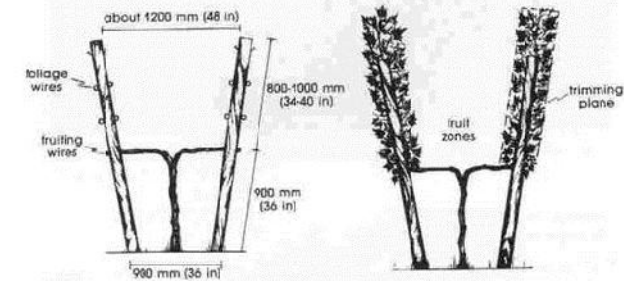
SMART DYSON

- ▣ Suited to moderate vigour, say 0.45 to 0.75 lb pruning weight per foot row
- ▣ Is suited to spur pruning and so warm to hot climates
- ▣ Shoot position bottom curtain towards west
- ▣ Requires 5 foliage wires, 2 fruiting wires, 6 ft post
- ▣ Mechanize winter prune, summer prune, leaf removal, harvest
- ▣ Will produce typically 30% higher yield than VSP, with improved quality
- ▣ Is equivalent to Scott Henry system, but with no gap between shoot zones

SMART DYSON

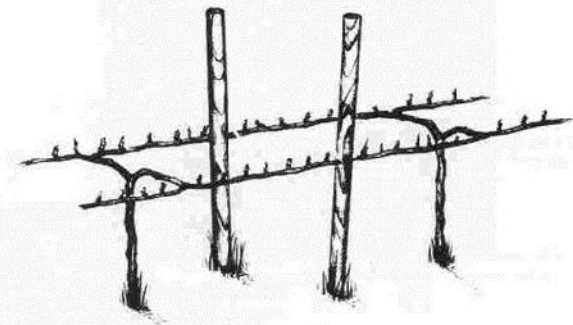


LYRE



A U-trellis system using two inclined posts, normally treated softwood, 100-125 mm (4 to 5 in), 2.4 m (8 ft) long, embedded 0.6 m (2 ft) in ground.

End view of vines trained to the U system in summer, showing trimming planes and fruit zone. Note how trimming the inside of the system is facilitated by using two inclined posts.

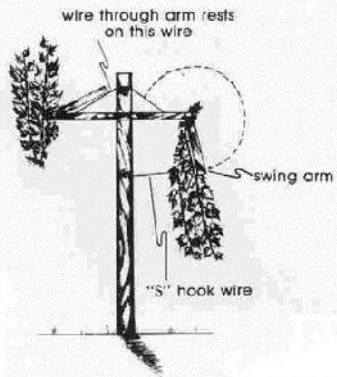


Vine training to the U system showing spur pruning, although cane pruning can also be used.

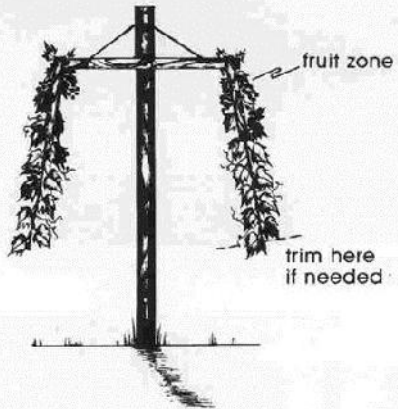
LYRE

- ▣ Suited to moderate to high vigour, say 0.45 to 0.9 lb pruning weight per foot row
- ▣ Canopies should be minimum 30 inches apart
- ▣ Is suited to spur pruning and so warm to hot climates
- ▣ Requires 8 foliage wires, 2 fruiting wires, two 6 ft posts inclined, or 6 ft post ex ground with 30", 36" and 42" crossarm
- ▣ High installation and annual costs
- ▣ Mechanize winter prune??, summer prune, leaf removal??, harvest only with great difficulty
- ▣ Will produce typically 30% or more yield than VSP, with improved quality
- ▣ Fruit is more protected from sun

GENEVA DOUBLE CURTAIN



End section to show how the movable foliage wire on the swing arm is pulled down and secured at about flowering to achieve downward shoot positioning. Left side before positioning, right side after.



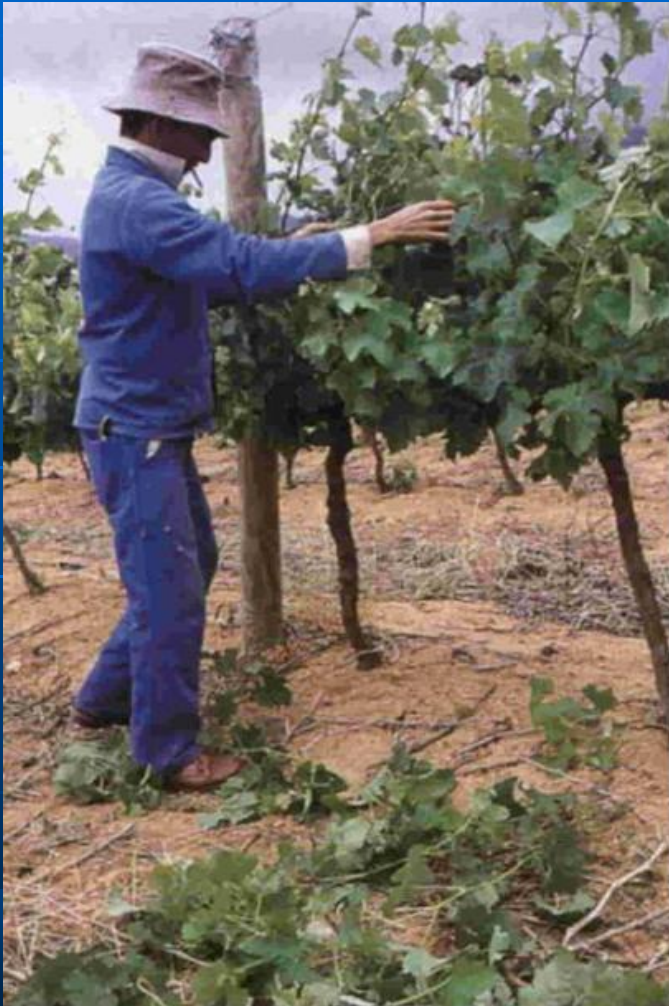
End section appearance of a GDC vineyard. Shoots can be trimmed but this is generally not needed.



Trellis suggestions

- Vertically Divided canopies, Scott Henry, Smart Dyson
- Cheap and easy to convert from VSP
- Timing of downward shoot positioning is critical
- Spur prune, Smart Dyson
- Cane prune, Scott Henry
- Both Machine harvest well

SHOOT AND CLUSTER THINNING



- ▣ Shoots are best thinned early in season 3-6" long
- ▣ Thin clusters typically soon after set if a large amount is to be removed
- ▣ In reality best time to thin is the day of harvest!!
- ▣ Actually thinning is a loss of crop with negligible gain. Greater psychological than physiological benefit
- ▣ Balanced vines typically do not need thinning

LEAF REMOVAL

- Typically done too severely in CA
- Best done say 3 weeks pre veraison
- Best done by lateral removal when shoots are about 12" long
- When done severely is an unnecessary expense and is harmful to sugar level
- Can cause excessive exposure, with loss of red colour and high phenols in whites

