




The Home Vineyard

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I. BRIEF HISTORY OF GRAPE GROWING

- Early grape culture
- Grape growing in California
- Effects of 18th Amendment (**Prohibition!**)
- Post Prohibition




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II. HOME VINEYARD CULTURAL PRACTICES

- A. Site selection
- B. Plant selection – Rootstock and cultivars for home vineyard
- C. Planting and early care during First Leaf
- D. Second Leaf care
- E. Third leaf and beyond
- F. Pruning principles
- G. Irrigation
- H. Pest Control
- I. Diseases




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Brief History...


- Family "*Vitaceae*"; Genus "*Vitis*";
 - Mostly species "*vinifera*". *V. labrusca* is eastern NA species; *V. rotundifolia* is found in southern states. French hybrids – inter-species crosses.
- Seeds in refuse piles of pile dwellers.
- Biblical mentions
- Culture began in Asia Minor
- Phoenicians moved grapes into Europe
- California – Mission grape
 - Southern California
 - Northern California



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- Site selection:
 - Soil types – can be varied between sandy and clay – slightly acid
 - pH 5.5 to 6.5
 - Grapes do reasonably well in poor, shallow soils
 - Vine spacing – depends on soil types and vigor of vines being planted.
- Selecting plants
 - Rootstocks – may not need if soil free of *phylloxera* and nematodes.
 - Cultivars – dependent on climate for proper ripening.
 - Table Grapes
 - Wine Grapes
 - Raisin Grapes



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Sauvignon Blanc
Northbank Vineyard,
Marlborough, NZ





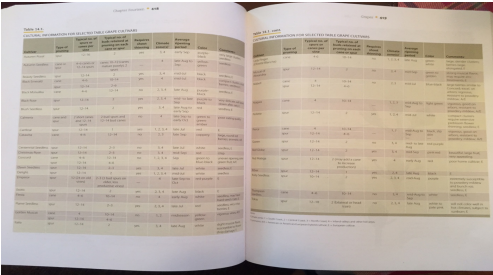
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Pinot Grigio (Gris)
Northbank Vineyard,
Marlborough, NZ



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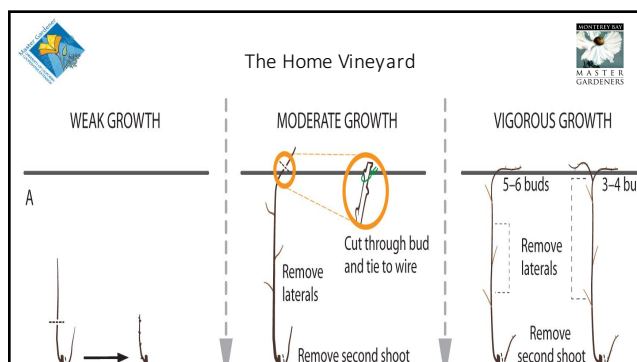



- Planting and care during First Leaf
 - Planting –
 - Soil should be well drained and weed free
 - Add "French Drain" if necessary to provide drainage.
 - Eliminate rodent pests (squirrels, gophers, moles) if possible
 - Plant rooted vines for easier vine establishment
 - Trim vine prior to planting.
 - Can put cuttings in the ground – will root in ground.
 - *Nursery Rows for multiple vine planting*
 - Stake vines before or after planting if not growing at fencing.

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- Planting and care during First Leaf (continued)
 - Weed control – mechanical vs. chemical
 - NO CHEMICAL weeding the first year!
 - Keep soil clean, using care not to damage young grapevine
 - Cluster thin – **eliminate any potential fruit the first two years.**
 - Prune after all leaves drop in fall
 - Prune to single spur of two buds.
 - Maintain vigilance against ground pests like slugs, snails & rodents.



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- Care During Second Leaf:
 - Most care is in training the vine up the stake
 - Pick a single shoot
 - Leave spur – just in case

Allow 2 buds to grow

Remove laterals on lower two-thirds of trunk

Remove laterals on lower two-thirds of trunk

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- Dormant pruning after end of 2nd Leaf

Pruning in second winter after planting.

2 buds

Renewal spurs

Renewal spurs

1-2 bud spurs

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Trellising and Training

- Multitude of trellis types and methods for training grapes.
 - Easiest and oldest method is a single grape stake, with no wires.
 - Wine grapes usually grown on wire from 40 to 42 inches above ground.
 - Table grapes generally grown higher, with 5 feet between vine and ground.
 - Arbors and other patio structures are quite suitable for training and growing table grapes.
 - Allow 50-100 Squarefeet per grapevine

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Training Systems: 2 Basic Systems

- Cordon Trained
- Head Trained
 - Spur pruned
 - Cane pruned

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- Cordon Trained

Short spurs, 2-3 buds

Long spurs, 4-6 buds

Trellis wire

Cordon

B

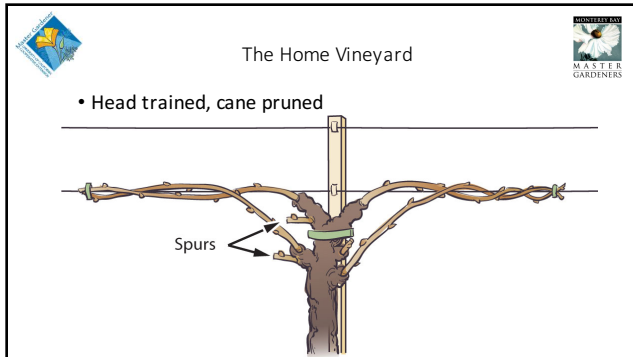
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- Head trained, spur pruned

Spurs with 2-3 buds or 4-6 buds

Permanent arms (cordons)

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Principles of Pruning

1. Pruning has a depressing or stunting effect on the vine; the removal of living vegetative parts at any time decreases the capacity or total productive ability of the vine.

- Leaf area, number and size determines capacity.

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Principles of Pruning

2. The production of crop depresses the capacity of the vine for the following year or years.

- Over cropping when very young can depress vine growth & production for many years, especially large cluster varieties.

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Principles of Pruning

3. The capacity of the vine varies directly with the number of shoots that develop.

- Capacity of vine determined by leaf area, NOT how fast the shoots grow.

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Principles of Pruning

4. The vigor of the shoots of a vine varies inversely with the number of shoots and with the amount of crop.

- Few shoots with reduced crop will have greater growth than many shoots with crop.

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Principles of Pruning

5. The fruitfulness of a vine, within limits, varies inversely with the vigor of the shoots.

- **VINE BALANCE** IS THE KEY.

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Principles of Pruning

6. A large cane, arm, or vine can produce more than a small one and therefore should carry more fruit buds.

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| Shoot Length (feet) | Fruitfulness (Clusters to a shoot) |
|---------------------|------------------------------------|
| 3.0 | 1.0 |
| 4.0 | 2.0 |
| 4.5 | 2.8 |
| 5.0 | 2.5 |
| 6.0 | 1.8 |
| 7.0 | 1.5 |

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7. A given vine in a given season can properly nourish and ripen only a certain quantity of fruit; its capacity is limited by its previous history and its environment.

- Bearing capacity without delaying ripening is IDEAL.

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- Inconspicuous flowers
 - Don't confuse with developing berries

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- Bloom Evolves quite rapidly in warm, sunny weather

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- Flower reaches "full bloom" when calyptra falls off

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- Stamen fall off and berry begins to develop



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- Grape flowers before bloom






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- Grape flowers mid-bloom



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- Grape flowers full bloom (85%)


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- Grape fruit set after shatter

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- Producing quality wine grapes:
 - Get light on the fruit
 - Crop thinning
 - Leaf thinning
 - Improves fruit color
 - Pest reduction
 - Reduced disease pressure



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Producing quality table grapes:

- Thin, thin, thin
 - Flower cluster thin – too many blooms
 - Cluster thin – vine set too many clusters
 - Berry thin – improves berry size.
- Girdling & growth regulators
 - Not common in home vineyards




Girdling Procedure




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Irrigation for Grapevines


- Grapes need moderate irrigation – can require up to 10 gallons/day/vine in very warm climates like Monterey south county (Soledad to Bradley.)
 - Flood around one or two vines works. Depending on soil, every 2-3 weeks is sufficient.
 - Drip irrigation works great but must be done more frequently.
 - Avoid stress between bloom and *veraison*.



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Grape Nutrition


- Grapes have pretty low nutritional needs compared to most crops
- Nitrogen – don't over fertilize...will lead to extreme vigor, reducing fruitfulness.
- Zinc – can be dabbed on pruning wounds in winter or foliar spray 1-2 weeks prior to bloom
- Potassium – apply to soil 6" deep and 18" from trunk of vine.



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Pest Management



- Invertebrates
 - Leafhoppers, thrips, western grapeleaf skeletonizer, leaf folders, leaf rollers, blue-green & glassy winged sharpshooter (GWSS), light brown apple moth (LBAM), cutworms
 - See UC IPM Guidelines for treatments
- Diseases
 - Powdery mildew, *Botrytis cinerea*, *Eutypa* sp.



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Pest Management




- Diseases
 - Powdery mildew*, easily controlled with dusting sulfur at 6", then every 6" until *veraison*

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Pest Management




- Diseases
Botrytis cinerea (gray mold) AKA "Noble Rot"

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Pest Management

- Diseases
Eutypa dieback

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Birds can be devastating to ripening grapes

- Apply netting after veraison.





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References:

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- *Winemaking in California*, Ruth Teiser & Catherine Harroun, McGraw-Hill Book Company, 1983

