Grapevine Canopy Management: Shoot Thinning

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WHAT IS SHOOT THINNING?

Shoot thinning is a canopy management practice involving selective removal of shoots, fine tune vine balance and in some ways, finishes the pruning job.

CANOPY BENEFITS

- Enhanced air circulation, leading to lower disease pressure and better drying and pesticide coverage.
- Reduced fruit shading, improving sunlight exposure to clusters and increasing bud fruitfulness.
- Improved fruit load and vegetative balance.
- Fewer winter pruning cuts result in fewer open wounds vulnerable to infection.
- Reduces need for extensive leaf removal.

PRACTICAL BENEFITS

- Makes pruning in future easier: fewer shoots in spring mean fewer to prune the following winter.
- When timed correctly, it is quicker and more efficient than late shoot thinning.
- Decreased labor and cost of subsequent tasks: simplifies later hand operations like cluster thinning.

TIMING

Shoot thinning should occur when shoots are 10-25 cm (4-10 inches) long—early enough to distinguish fruitful from non-fruitful shoots but before shoot hardening begins.

- **Frost caution:** Wait until after the last expected frost to preserve undamaged primary or secondary shoots.
- **Avoid thinning too early:** Early thinning can lead to excessive vigor and lateral shoot growth, reducing the benefits of improved light exposure.
- **Avoid thinning too late:** Once shoots exceed 30 cm (12 inches) and base of shoot begins to harden, they are harder to remove by hand.
- Late thinning requires pruning shears, increasing labor time, cost and risks damaging vine canes.

SHOOT THINNING IS TIME SENSITIVE

DON'T WAIT. Proper timing sets the foundation for a healthy canopy and high-quality crop with reduced susceptibility to fungal diseases.

Figure 1: Crowded buds. Shoot thinning will be required.

Figure 2: Removing downward facing shoots. Shoot thinning required.

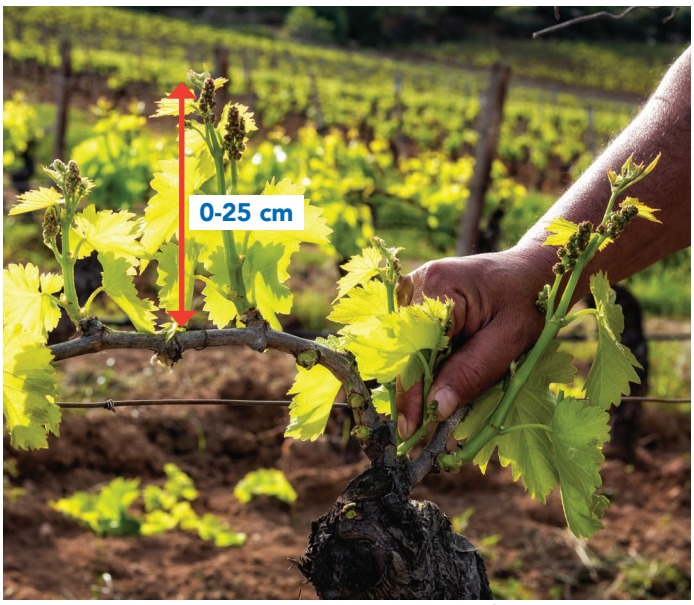

Figure 3: Timing. When the shoots are 10-25 cm long.

SPACING AND DENSITY: VINIFERA VS HYBRIDS

Variety, soil and climate are all factors influencing vine vigor potential and capacity to fully ripen a crop.

Vinifera:

- Maintain 3-4 shoots per 30 cm (12 inches) of canopy (or one shoot every 10 cm).
- Adjust shoot density based on factors like cultivar vigor and disease susceptibility.

Figure 4: 10 cm distance between shoots per 30 cm of canopy.

Hybrids:

- Aim for 4-7 shoots per 30 cm of canopy and concentrate on removing any secondary when possible.
- High wire trained varieties may tolerate higher shoot densities depending on the cultivar.
- Proper shoot spacing along the cordon is key; uniform spacing promotes a balanced, well-structured canopy.

SHOOT THINNING: GOOD CANDIDATES

- Lateral, secondary and tertiary shoots if a strong primary shoot is present.
- Diseased, unfruitful, weak, unproductive shoots
- Short or malformed shoots.
- Avoid shoot crowding in the renewal zone.