



Young Vine Care – Dormancy Preparation

Young vines require different and earlier care to prepare for dormancy. Growers sometimes overlook the special needs of their **first-leaf**, **second-leaf**, or **third-leaf** vines, especially during busy harvest times. This *Grower Guide* will cover the most pertinent vineyard management actions for putting your young vines to “sleep” for the winter.

Irrigation – Don’t Let Shoot Tips Shut Down Prematurely

To enter dormancy with the healthiest possible vines and the most growth and crop potential for the next season, it is essential to maintain adequate irrigation for young vines.

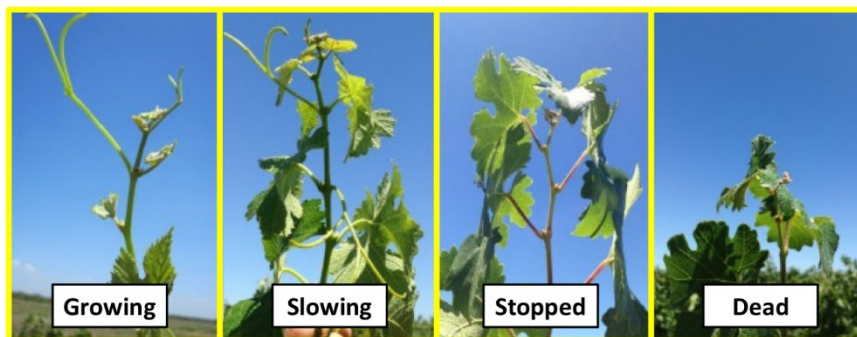
Young vines (including replants in mature blocks) require more frequent watering than mature vines especially during the hot summer months. Expect to water about 2 to 3 days per week (depending on rainfall) with enough water to saturate the root zone to a depth of about 12-18 inches.

Adequate water is a must to keep the shoot tips of young vines actively growing and leaves green and healthy until natural leaf drop in the fall. If shoot tips shut down prematurely, it is hard to get growth to start up again. Premature shoot tip shutdown reduces the potential for young vines to produce and store carbohydrates for winter storage and to contribute to growth the next season. Water enough to keep shoot tips actively growing until about 30-45 days before the average first frost date for your area when shoot tips should slow down or stop growing.

Key Takeaway:

Watch young vine shoot tips; keep them green & growing until late summer and promote natural leaf drop in the fall (not due to water stress).

Guide to Judging Shoot Tip Growth



Trunk Development and Vine Training – Know When to Say When

On vigorous growing sites, I often encourage growers to try to grow a trunk in the first year. In some cases where the growing season is extensive, a grower can selectively trim vines to begin cordon development in year one. However, there comes a time in the season when trimming no longer will result in the desired lateral growth, and it is better at that point to wait until dormant winter pruning to select a permanent vine structure.

As a rule of thumb, if shoot tips and laterals are still growing steadily, vine training and trimming can continue into the summer months until vine growth has slowed or stopped. When shoot tip growth begins to slow, it is best to put off additional trimming until the winter to maximize vine leaf area before winter dormancy as leaves produce carbohydrates that are important for winter hardiness.

Key Takeaway:

If young vine growth has slowed or stopped in late summer, **do** **not** do any further trimming until dormant winter pruning.

Tying of trunk and cordon growth should continue as needed to maintain vine form until vine growth has stopped in the fall.

Spray Program – Erradicate & Prevent Disease Before Dormacy

New growers (and sometimes even experienced growers) often neglect to stay diligent on their young vine spray program late in the season when focus gets distracted by vacations, harvest time, or winery activities. But, it is essential to ensure that young vines, even non-bearing vines, do not have disease inoculum carrying over to the next season. Late-season rainfall, cloudy weather, and milder temperatures provide an ideal environment for fungal diseases to prosper on vines. Insect vectors of diseases such as Pierce's disease may also warrant late-season treatment if present in damaging numbers.

Spray Factors to Consider as Vines Approach Dormancy

	First Leaf and Non-Bearing Second Leaf	Bearing Second and Third Leaf
Preventative Spray Frequency	Dictated by the amount of new, unprotected growth since the last spray and the amount and frequency of rainfall.	Follow the normal spray program for bearing vines. The time between sprays may be extended in low disease pressure conditions.
Preharvest Intervals	Not a concern as there are no grapes to harvest.	Adhere to preharvest intervals on product labels until fruit is harvested.
Eradication of Diseases	Choose fungicides with a low risk of resistance development.	Choose fungicides with a low risk of resistance development and appropriate preharvest intervals.

Reminder: Even though you do not have to follow a preharvest spray interval (PHI) restriction for non-bearing vines, recall that there is a maximum rate allowed for each product per season per acre. Make sure you check the label of each product and stay within the required limit.



Grow Tubes – Friend or Foe?

While grow tubes protect young vines during the season, they may harm them during winter. The tube acts as a mini-greenhouse during the day, which can de-acclimate vine tissue, only to be followed by cold or freezing temperatures at night. Plastic tubes are especially problematic in this respect. This process of warming and sudden cooling of the trunks can lead to damage to the phloem and even xylem tissue in extreme cases, resulting in trunk dieback. Damage can occur even when temperatures are greater than 20F. While plastic tubes are more problematic, I advise my clients to remove the paper and plastic tubes about 30 days before the average first frost for the area. In some cases, paper grow tubes may be left on if needed for protection against girdling by rodents or rabbits, however, **plastic tubes should always be removed before winter.**

Reminder: Get your final burn back herbicide application on before removing the protective grow tubes. If the tubes are off, it is safest to apply non-systemic, burn-back type herbicides (e.g. glufosinate products) after the trunks have hardened and turned brown (no green tissue showing). Drift to young trunks should be avoided to be safest.

Maintenance Fertilization Heading Into Dormancy – Yes or No?

Some young vines will benefit from an additional maintenance rate of fertilizer during the summer months to achieve the growth goals for trunk and cordon development for the season. However, growers must be careful not to add too much fertilizer or to add it too late in the season stimulating growth in the fall when shoots should be slowing down for dormancy.

Young vines should only receive small amounts of fertilizer per application to avoid excessive growth or production of large caliper “bull wood” that may not be as winter hardy as normal size canes (pencil size to slightly larger). As a starting point, add no more than 10 to 15 pounds/units of actual N per acre per application if broadcasting a granular product to the soil surface or 3-7 pounds/units of N if adding through the drip irrigation system.

Should I Fertilize Later in the Season or Not?

Add Additional Fertilizer If:

- Vines are pale green
- Shoot tips are slow or stop before summer.
- Vines have not achieved the desired growth for the season by mid-summer.

Do Not Add Additional Fertilizer If:

- Vines are healthy and dark green.
- Shoot tips are actively growing and tendrils and shoot tips reach out beyond the first unfolded leaves.
- Vines have achieved the desired growth for the season (at most a trunk and 18 inches of cordon in each direction of pencil size diameter or greater).
- Less than 60 days left in growing season.

Reminder: Check the growth of individual vines. If there are only a few weak spots in the vineyard, you can opt to just add fertilizer to those areas to save time and money.



Cropping or Dropping – Second & Third Leaf Vines

Vine size and vigor are the main factors to consider when deciding to retain or drop fruit from young vines. It is difficult to make generalizations on how much fruit a young vine can properly mature while still achieving the desired growth to develop cordons during the growing season. It is possible to have a small crop on young vines if they have a well-established trunk of greater than pencil size diameter. The following guidelines will help you to decide if you should crop young vines or drop fruit from the shoots.



Example of a young vine that can maintain a small crop because the shoot size is over 36 inches long and the canopy is healthy and dark green.



Example of a young vine that has too much fruit and should have had clusters removed from short shoots soon after berry set.

Crop the Vine If...

- A woody trunk of greater than pencil size wood was established the previous season.
- Shoot growth is steady and reaches at least 36 inches by mid-summer.
- Shoot growth has a diameter of at least pencil size in the first 18 inches of growth from the base at the time of fruit set.
- Leaves are healthy, dark green in color and adequate water supply can be supplemented in the absence of rainfall.
- Growth is overly vigorous, growing beyond the allotted space per vine with large diameter shoots (greater than ½ inch in diameter).

Reminder: Some young vines may have shoots of different sizes; fruit from shoots that do not meet the above criteria should be dropped even if retaining fruit on larger, healthier shoots on the same vine. Shoots that are 36 inches long may ripen one cluster per shoot and longer shoots may ripen 2 clusters per shoot.

Drop the Fruit If...

- A trunk has not yet been established.
- Shoot growth is less than 36 inches long by early to mid-summer.
- Shoot growth has a diameter of just barely pencil size or less in the first 18 inches of growth from the base at the time of fruit set.
- Leaves are pale green or unhealthy.

Reminder: If vines have struggled to establish a trunk and cordons in the previous growing season, it is usually best to drop all fruit in favor of establishing good shoot growth to develop strong cordons.

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