

■ FRITZ WESTOVER

## Top Seven Mistakes New Grapegrowers Make

I have worked with many vineyard startups during the past decade and evaluated prospective vineyard sites for countless soon-to-be grapegrowers east of the Rocky Mountains. New growers often start growing grapes while working other jobs or after a previous career—frequently one not related to agriculture. The transition to grapegrower has a steep learning curve, and that is typically where the university or private vineyard advisor has the biggest impact on improving the success rate for vineyards.

Accurately diagnosing vineyard problems is one of the most rewarding parts of my job. However, preventing them from occurring is the ultimate goal, and even experienced growers have occasional slips. The objective of this column is to help both new and experienced grapegrowers avoid some of the most

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common and costly mistakes. This list could be extensive, but I have pared it down to the seven mistakes that occur most frequently and have the potential to cause lasting setbacks to vineyard development.

### 1 Using the same spray tank for herbicides and grapevine spray products

No matter how well a grower rinses out the tank and nozzle of the sprayer, there will always be some herbicide residue left. Even highly diluted herbicide will inevitably cause leaf damage or even kill young grapevines. The bigger problem occurs when residue from a systemic herbicide is left in the tank, which will kill a vine down to the roots. Young vines may have a more difficult time recovering from herbicide damage.

**ADVICE:** If you use herbicides, designate a separate spray tank, clearly mark it "herbicides only" or draw a picture of a dying plant on the outside—whatever it takes to avoid this error. Use another tank for all other vineyard sprays such as fungicides, insecticides and foliar fertilizers.



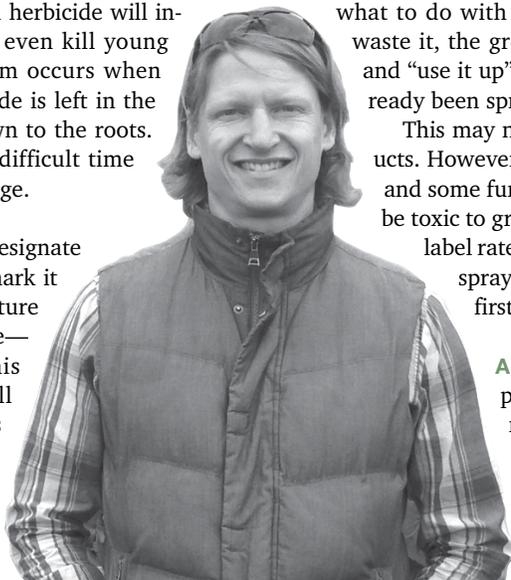
A second consecutive spray of boron fertilizer causes the substance to become toxic, resulting in leaf burn near bloom.

### 2 The 'double spray' dilemma

New growers often have difficulty "guessing" how much water to mix with their spray product to cover the foliage of all vines in the vineyard. In addition, the vines keep on growing, which means the volume of water needed will increase over the course of the season. The "double spray" dilemma occurs when a grower mixes more spray product than is needed to get full coverage. Not knowing what to do with the remainder, and not wanting to waste it, the grower may be tempted to go back in and "use it up" on a few rows of vines that have already been sprayed.

This may not cause a problem with some products. However, many foliar fertilizers (e.g., boron) and some fungicides (e.g., phosphorous acid) can be toxic to grapes if applied at close intervals. The label rate is designed to prevent leaf burn, and spraying a second dose within hours of the first might double that concentration.

**ADVICE:** Watch for product labels that provide a ratio of water along with the rate per acre, as these are often the products that build up in vine tissue to toxic levels. If in doubt about the



amount to mix, try putting 10 gallons of water in your air-blast sprayer and test how many vines it will cover. This will help you estimate the total number of gallons you may need for the entire vineyard.

### 3 Waiting until after the rain to apply fungicides

There is a common misconception by new growers that fungicides should not be sprayed until after it rains. After all, why would someone apply a fungicide if it is just going to get washed off? Most fungicides work as protectants and are applied before conditions are adequate for disease growth in order to prevent or slow the disease spores from growing. There are products intended to be used during the post-infection period (after the rain) and others to be used to eradicate or clean up a disease that has taken hold on vine tissues. However, by the time the disease is visible, it has likely been growing for a week or more at a microscopic level. Some products work systemically to prevent fungal diseases from infecting tissues, while others work just on the surface where they are sprayed.

**ADVICE:** Use fungicide products proactively to prevent disease rather than reactively to attempt to fix a problem. This usually entails



Downy mildew lesions on a leaf underside are the result of an infection that occurred seven to 10 days prior to visual symptoms.

spraying before rainfall or other conditions that favor the growth of fungal diseases. It is better to have the product applied before that long, wet period when fungal spores will be plentiful and searching for susceptible vine tissues. Would you wait until you were soaking wet to put on your raincoat?



Grow tubes protect vines from herbicides or animal grazing, but they can also damage vines if left on during the winter months.

### 4 Not removing grow tubes for the winter

Grow tubes are commonly used to protect young vines from potential problems such as feeding by rabbits and other critters, damage from high winds and drift from herbicides used to control weeds in the vine rows. Some grow-

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ers in cooler climates may also get the added benefit of enhanced early season growth from the greenhouse-like growing environment created by the plastic or cardboard tube.

However, it is this green

house effect that can lead to issues in the winter months if the grow tube is not removed in the fall. Grow tubes left on young vines over the winter will cause the air immediately surrounding the young trunk and graft to heat up during a sunny day. Those warm temperatures may de-acclimate vines and, if followed by cold evening temperatures, can lead to damage of the trunk tissues.

**ADVICE:** Remove those protective tubes in the fall, by the time of the first hard freeze. This allows vines to gradually acclimate to winter temperatures and reduces the occurrence of premature deacclimation.

## 5 The indiscriminate weed whacker

Uncontrolled weeds that grow into the canopy can be a big problem for young vines. Weeds compete so well that even watering and fertilizing young vines is not enough to compensate. It can be tempting (and physically satisfying) to run into the vineyard with a weed whacker. But no matter how careful one tries to be, the end result is always a few scuffed trunks or denuded graft unions. The physical damage may heal fast, but the bigger problem is a gall-forming bacteria called “crown gall.” These bacteria are often found in a quiescent state in the trunk tissue of vines and are stimulated by injury to the vine trunk or cordon. Crown gall can lead to death of the vine if found below the graft union and may weaken what could otherwise be a strong vine. Crown gall is usually associated with damage from cold weather, but even in the warm south the occasional human-induced injury can have the same effect.

**ADVICE:** Keep the weed whacker for your lawn or fence line, and out of the vineyard.

## 6 Not reading product labels

This issue tends to come up with the “weekend warrior” grower. It is indeed possible for a part-time grower to have a day job during the week and still manage a productive vineyard. However, a new grower has a lot of reading to do before they can just jump out of their vehicle on a Friday evening and start working on their vines. It is easy to glance over the label of a pesticide too quickly, which can lead to problems with improper measurement, inadequate use of personal protective

equipment or mixing of incompatible products in the same spray tank (e.g., sulfur should never be mixed with oils).

As an advisor it is tempting to provide the quick answer for a mixing rate for a product, but I try to encourage new growers to read the label and learn how to find the answers. All growers should learn to identify the pre-harvest interval (PHI), restricted entry interval (REI), maximum rate per acre per application and per year, and required personal protection equipment (PPE) on the label of any product used in their vineyard before mixing and applying that product.

## A balanced vine will have a ratio of fruit-to-leaf area that falls within a range that allows the fruit to ripen to the quality level desired.

**ADVICE:** Learn how to find the most important safety and regulatory information on product labels. Highlight it and train your crew accordingly. Remember, the label is the law, and knowing what is on it will protect both you and your vines from harm.

## 7 Too much of a good thing

If a little is good, then a little more must be better, right? New growers learn over time about the importance of a concept known as “vine balance.” Vine balance, in short, is defined as a vine that is growing in equilibrium with its environment at a steady and productive pace. A balanced vine will have a ratio of fruit-to-leaf area that falls within a range that allows the fruit to ripen to the quality level desired without overstressing or over-cropping the vine.

The concept of balance is subjective in many cases but also can be measured using a simple



A crown gall lesion caused by the bacterial pathogen *Agrobacterium vitis* may be initiated by winter cold damage or physical damage with equipment.

index of fruit weight to dormant cane weight, known to viticulturists as the “Ravaz Index.” The most common mistake a new grower can make with young vines is to apply an excessive amount of fertilizer. Too much fertilizer not only wastes money, it can pollute groundwater, accumulate in soil to cause root burn or leaf burn, or induce high-vigor growth of poor quality wood for trunk and cordon development. Growers should also be cautious about applying foliar fertilizers too frequently to avoid burning leaf, flower or fruit tissue.

**ADVICE:** Approach vineyard fertilization with balance in mind. Use the results of soil and plant analysis as a guide for precision fertilizing, adding only what is needed and when vines need it. Be careful not to spray high concentrations of fertilizers on foliage.

If you are new to grapegrowing, I hope the above examples can help you to avoid common mistakes with your new vineyard. If you have been growing grapes for a few years, I would challenge you to find a common mistake that you have not already learned the hard way. I certainly have, and I would say that there is no better way to learn than by personal experience. 🍷



This first-year vineyard was successfully established in Weimar, Texas.

Fritz Westover is a viticulturist and owner of Westover Viticulture, based in Houston, Texas. He specializes in vineyard consulting, research and education in the south and southeastern United States. Westover is a contributor to *Wines & Vines*, and he maintains a practical grapegrowing blog and grower resources at [vineyard-advising.com](http://vineyard-advising.com).