



## Curt Dunham Interview

By Peggy Fiandaca, July 15, 2011



### WEATHER YOU LIKE IT OR NOT:

### The influence weather has on wine grape growing



### When is the vineyard most vulnerable by the weather?



There are several times during the year that the vineyard is most vulnerable to the affects of weather.

A critical time is just after bud break which occurs in the spring. The buds are very vulnerable to frost. Another time is during the monsoon season (June through Sept.) the vineyard is vulnerable to hail.

*earth's  
fruit  
comes  
full  
circle*

In the Sonoita/Elgin area, many of the grape crops were destroyed by hail right before harvest 2010. All of the vines were full of grapes still ripening. The hail hit and defoliated the vines destroying many of the grape clusters totally or in part. This causes two major problems: without the leaf canopy protecting the grapes they burn from the sun and the grape clusters that are partially destroyed will begin to decompose causing "bunch rot." So many of the vineyards were forced to pick whatever grapes they could before the fruit ripened.

In the fall the vineyard is vulnerable to an early hard freeze before the vines go dormant. In 2009, at Lawrence Dunham Vineyards the summer weather stretched into October and the vines were still green and beautiful. On October 22, 2010 the temperature from the previous night's low of 41 degrees went down to 22 degrees turning the vineyard from green to black over night. We did not know the extent of the damage until we began to prune the vines in preparation for the spring growth and we found plants that were dead.

During the winter the vineyard can be vulnerable to very low temperatures. Some varietals such as Grenache are not able to take really cold weather. This winter the temperature dipped to -1 degrees and as a result many of our young vines were killed.

In other words, the vineyard is vulnerable to weather year round.

## When does bud break typically occur at Lawrence Dunham Vineyards?



We typically see the buds beginning to break out late March or early April.

Bud break is when the plant starts to grow and shoots out buds that will turn into grape clusters.

This is also the time when the vine starts to get its foliage that will serve as a canopy to shade the clusters as they ripen through the summer.

## What happened this past year at Lawrence Dunham Vineyards in terms of weather?

We had a little bit of every type of weather this past year. The vineyard had a freeze right after bud break in early April 2011 and then two freezes in early May. When temperatures drop below freezing the buds are damaged.

The freeze can eliminate the fruit or damage the vine to where it will not be able to produce fruit. The impact of a freeze can be very sporadic. You can have one plant where all the foliage is destroyed and others that are untouched. It can even occur that sporadically on one plant where a bud is destroyed and the next one is not.

In early February 2011 the temperatures fell below zero. It was colder than it had gotten in years at the vineyard. Though the vines were dormant at the time, it froze the graft on the vine and many of the young plants were killed. Most of the one year old vines cannot handle the low temperatures.

We count our blessings that we did not experience the devastating hail that our friends in the Sonoita/Elgin area experienced.

## Why is the graft vulnerable?

A graft is where the varietal and clone are connected to the desired root stock. It is the weak point of the vine; at least during the first year.

**So how many plants did Lawrence Dunham Vineyards have to replace due to weather?**

1500 vines had to be replaced in 2011. We had to order the plants in December 2010 and when we began pruning the vines we found out that there were hundreds more than anticipated dead. We could not find the right grape stock to be able to replace those vines. We had to order our grapes in December.

But by the time we lost more in February there was not enough rootstock available which has left us without replacement vines.

**So what does this do for Lawrence Dunham Vineyards build out plans?**

This sets us back at least another year in terms of the vineyard and wine production. In almost four years of operation, Lawrence Dunham Vineyards has had to replace 2200 last year and another 1500 this year due to weather. The result is putting our vineyard expansion plans behind schedule as well as impacting the amount of wine that we can produce.

**What are some the techniques to protect the vineyard from weather?**

Our weather station in the vineyard allows us to track and record the weather occurring at Lawrence Dunham Vineyards. This allows us to be able to put into place strategies to protect the vineyard from cold weather. However, there is very little we can do. And nothing we can do if hail occurs.

In the spring we clear the rows of all vegetation and turn over the dirt so that the ground is as dark so it can absorb as much heat from the sun as possible. We try to prune the vines late to delay bud break if possible so that they are not hit by a late cold weather spell.

When frost is predicted, we have in the past set up smudge pots or built fires around the perimeter of the vineyard in order to warm and move the air through the vineyard. We did this particularly in the spring of 2010. We lost buds but not everything so the technique seemed to help.

Other vineyards have invested in large fans that move the air through the vineyard during these times. In California they spray the vineyard with water to freeze the plants which keeps the vines at 32 degrees. The ice layer actually protects the plant and bud from colder temperatures. In Arizona we cannot do that because the air is too dry.

In addition to all the above, we keep our fingers and toes crossed and just sweat it out. What we do is basically farming and Mother Nature is in control, not us.

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