Crop Estimation
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I often hear experienced growers say that they were caught by surprise that their crop was either much less than or much greater than average or anticipated. Many grape growers do not use a formal method of estimating their crop yield - what appears on the vine is what is harvested. An important role of running an efficient business is to know your inventory. In the case of a winery, that is the quantity of grapes that you have on the vine and how that relates to the quantity of grapes that you need to achieve your wine production goals. In the case of a vineyard, that is the quantity of grapes that you will have available to sell to a winery.

The second aspect crop estimation is to be able to control or adjust it to where you want to for quality. Crop adjustment, target yield, and fruit thinning will be the subject of future “Timely Viticulture.” – here we will concentrate on crop estimation.

Viticulture researchers have developed accurate systems for predicting yields. One is based on cluster weights during "lag phase" which is the period when the growth of berries slows temporarily (typically about 55 days after first bloom). The other traditional method is based on a running historical record of cluster weights for that variety block. In both cases, good results depend largely on the grower’s ability to provide accurate cluster/vine and vine/acre information. It is important to be able to predict your vineyard yields. Develop a system that works for you and your vineyard and use it every year.

- Lag phase crop estimating is based on the premise that cluster weights will double from lag phase to harvest.
  - Regretfully this multiplier is not a fixed number and may vary by variety, clone and seasonal variation (wet/dry).
  - The system works best when a historical record of lag and harvest weights have been collected.
  - An intuitive sense of berry and cluster size gained by experience will assist the grower in improving the accuracy of the estimate.
  - This method has not proven effective for estimating yields on young vines.

- To perform a lag phase estimate, a grower will need the following information:
  - Number of bearing vines per field/variety
    * count actual number of vines
  - select a “random sample area” (e.g. 5% of field/variety), count the vines in that area, and multiply by the appropriate number (e.g. 20).

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* since many vineyards contain a significant number of missing vines it is critical to accuracy determine this number as you can potentially greatly overestimate your yield.
- Number of clusters per vine;
  * select a “random sample area” (e.g. 20 “representative” vines), count the clusters in that area, and multiply by the appropriate number (e.g. 30 if 600 actual vines per acre)
- measure the cluster weight at lag phase
  * weight a sample of clusters during the lag phase (typically about 55 days after first bloom).
- Plug into the formula:

Estimated Pounds/variety = vines/variety x clusters/vine x lag phase clustwt x 2.

- Another, more traditional method of crop prediction relies heavily on the availability of harvest cluster weight data.
  - The advantage to this formula is it can be employed any time after clusters can be counted.
  - However, it will not take into account any annual variations in cluster development.
- To perform a this crop estimate, a grower will need the following information:
  - Number of bearing vines per field/variety – as above;
  - Number of clusters per vine – as above;
  - Historical average weight of clusters at harvest
- Plug into the formula:

Pounds/variety = vines/variety x clusters/vine x average final harvest clustwt (lbs)

Collecting this data now will help you to get a feel for where your production currently is in the vineyard so you can compare it to you “target yield.” You will then be ready for crop thinning, if necessary, at the appropriate time.