OVS
We Sell Solutions

Agronomy

Fruit Ripening Sprays

Raise brix and dry extract. Decrease acid. Organic or conventional formulations available.

Ripeness in fruit is a function of several factors: color, sugar, acid, flavor (very subjective) and texture. Winemakers spend a great deal of time talking about flavors, but they also pay attention to sugar (with Brix as the most common measure) and acid (total acidity and pH). Fortunately, both sugar and acid are very objective measures. Our "ripeness enhancing" protocols do impact both sugar (increase) and acid (decrease), but we really are not able to address flavor or texture (at least not much). We can now impact color, but that's not a technology often requested. It certainly is possible for growers to increase sugars and decrease acids, but achieve little, if any, maturation of flavor. However, flavors and aromas are created through sugar metabolism, so there is a correlation between increased sugar and flavor. Interestingly enough, most fruit purchase contracts are written with minimum sugar standards (thus efforts to raise sugars, particularly in cool growing seasons, are usually rewarded). Also important, high sugar means higher weight, which equals more dollars in grower's pocket.

Some winemakers have concerns about fruit with high potassium levels, because it can lead to radical (unwanted) shifts in pH of a must/wine during fermentation (this is called potassium loading). We have seen this occur, but in over 20 years of testing wine musts, we've never seen such shifts from late season, foliar potassium applications. More often, this problem is the result of an existing imbalance in potassium uptake and utilization in a given vineyard. Based upon lab analysis of fruit sprayed with potassium or not, it's clear that most of the potassium applied foliarly is indeed metabolized by the plant. Multiple applications at relatively low rates are more effective than a single application at a high rate. With multiple applications we can increase Brix up to 2 percentage points and reduce acids up to 2 grams/liter. Higher shifts have been recorded, but not consistently reproduced. The best time to begin applications is at the beginning of veraison (color change). We suggest waiting 5-10 days between applications. Results can be measured in as few as five days. It is best to spray this material early in the morning or even at night when dew is present. The longer it takes to dry, the better the absorption. These materials can be mixed with fungicides, but do not allow the tank to sit long before application begins.

Suggested Spray Option # 1 (sustainable/conventional)

2-4 applications of OVS Brix Mix @ 1 gallon/acre in at least 25 gallons of water.

Applications are effective as low as 2 qts/acre.

Product cost per application, per acre: $30-32 (bulk packaging in 275 gallons shuttles is less). **Special K** is a new foliar potassium formulation, it's not as complete as Brix Mix, but cost is $23.80/acre or less depending on volume.

Suggested Spray Option # 2 (organically certifiable)

2-4 applications of KDL Organic @ 2 gallons/acre in at least 25 gallons of water.

Product cost per application, per acre: about $53

The addition of Fulpower or Humasol @ 1qt/acre (or a 1% solution) to the organic solution will help pull the potassium through the cell wall. Spray Option #1 already has Fulpower in it at the correct ratio. These mixes should be sprayed throughout the entire canopy (not just the fruit zone). The greater the surface area covered, the greater the amount of potassium absorbed. Phosphorous is also important to the ripening process because phosphorous is plant energy. It could be considered the electrical grid of a plant, and it is critical to the transportation of potassium within the plant.

**Brix: means percent by weight (technically mass) of soluble solids in a water solution. Most of the soluble solids are sugars, hence Brix is often referred to as the percent of sugar by weight in a water solution. However, the soluble solids include minerals, vitamins, proteins as well as sugars. Brix is usually measured by refractometer in the field and hydrometer in the winery. Brix units are called "degrees," so you'll hear growers/winemakers refer to 'degrees Brix." A degree is the same as a percentage point. Refractometer $110...Part # HRHB32ATC*

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Best Practices to get ripe/healthy grapes

1. Apply micronutrients (primarily boron, zinc, magnesium, molybdenum, copper and sulfur) through bloom (**VitaMax** is a good material to do all the micros at once)
2. Apply a botryticide at least once during bloom
3. Pull leaves on eastside (assuming N-S row orientation on a vertical trellis) at or before fruit thinning
4. Thin fruit to target levels at fruit set (immediately post bloom)
5. Pull leaves on opposite side about mid-September (once risk of sunburn has passed)
6. Apply **OVS Brix Mix** or **Special K** 2-4 times at 10-day intervals, beginning at the initiation of color change
7. Keep vineyard floor mowed tightly all summer
8. Keep foliage free of powdery mildew to maximize photosynthetic potential
9. Consider another botryticide application during veraison if conditions warrant

Actual trial results: 2010 Wine grapes

Resonance Vineyard *Pinot noir harvested 10/19*
No control, but strong results for old vine, own-rooted vines

010210772	BTF PSV PN 777	
titratable acidity	5.8 g/L	10/21/10
pH	3.54	10/21/10
L-malic acid	3.06 g/L	10/21/10
tartaric acid	3.79 g/L	10/21/10
brix	23.0°	10/21/10
glucose + fructose	253 g/L	10/21/10
ammonia	100 mg/L	10/21/10
alpha-amino compounds	255 mg/L	10/21/10
yeast assimilable nitrogen	337 mg/L (as N)	10/21/10
Potassium	1350 mg/L	10/21/10
010210773	**BTF RVPN10 POM**	
titratable acidity	**8.3 g/L**	10/21/10
pH	3.39	10/21/10
L-malic acid	5.04 g/L	10/21/10
tartaric acid	4.16 g/L	10/21/10
brix	23.5°	10/21/10
glucose + fructose	253 g/L	10/21/10
ammonia	129 mg/L	10/21/10
alpha-amino compounds	257 mg/L	10/21/10
yeast assimilable nitrogen	363 mg/L (as N)	10/21/10
Potassium	1530 mg/L	10/21/10

Actual trial results: 2009 Blueberries Elliot

Treatment	Brix	pH	Titratable Acidity
ETS Labs, McMinnville			
8/17/2009	***Ten days after first application***		
Control	13°	2.65	1.5 g/100ml
Sweetener	14.4°	2.8	1.22 g/100ml
8/25/2009	***After two applications***		
Control	13.5°	2.79	1.49 g/100ml
Sweetener	14.8°	2.86	1.38 g/100ml
8/31/2009	***After three applications***		
Control	12.6°	2.83	1.32 g/100ml
Sweetener	15.1°	2.95	1.02 g/100ml