

## RED WINEMAKING WITH GRAPES CONTAINING ROT

### 1. Rot Assessment

- Visual Test
  - Count # of infected clusters/vine = incidence (expressed as percentage)
  - Number of berries/cluster = severity
    - < 5% incidence, no problem
    - 5-20% treat with care-consider severity
    - >20% extreme measures to save fruit
- Oxidation Protection – Quick O<sub>2</sub> test
  - Place sample of juice in beaker on bench
  - Let sit 1-2 days for browning
  - Evaluate for additional treatment
  - Check throughout fermentation

### 2. SO<sub>2</sub> Management

- The active enzyme in a *Botrytis* infection is polyphenol oxidase or laccase. This enzyme requires molecular oxygen to work, turning the wine brown. SO<sub>2</sub> is an O<sub>2</sub> scavenger and can help inhibit the enzyme. When *Botrytis* is present sour rot is usually associated. SO<sub>2</sub> also reduces the bacteria and spoilage from this condition.
- At Reception in Hopper: 50-100 PPM high normal doses.

### 3. Lysozyme

- Use 200 PPM Lyso-Easy or Lysovin to inhibit the growth of lactic acid bacteria in the must. Lysozyme added to red must can bind with tannins and other polyphenols resulting in some color loss. For low color potential grapes like Pinot Noir lysozyme should not be added before alcoholic fermentation.

### 4. Enzymes

- Use Lallzyme EX, Lallzyme EX-V or Scottzyme Color Pro at the high range of dose recommendations.
- Do not cold soak. Short maceration time is best with rotten fruit.

### 5. Tannins

- Use 300-600 PPM FT Rouge or FT Rouge Soft, splitting half at crusher and the balance at first or second pump over.
- Splitting the dose will protect the wine against the laccase that is released from underneath the grape skins.
- Do not work the grapes too much, the enzyme will increase extraction.
- Additions of natural yeast derivatives such as Opti-RED and Booster Rouge may also have a positive impact on the colloidal balance of the wine.

### 6. Yeast Inoculation

- **Yeast Hulls** – 25g/hL (2lb/1000gal) – may be added in the fermenter if mold character is apparent.
- **Rehydration Nutrients –GoFerm or GoFerm Protect– very important!!**
- Inoculate yeast at 30 g/hL (2.5lb/1000gal) instead of 25g/hL (2lb/1000gal). The higher dose will improve kinetics. In these situations a quick fermentation is best.

**7. Yeast**

- Select yeasts that produce low VA and SO<sub>2</sub> but express good fruit character and build mouth feel (T73, ICV D21, CSM, BM4x4, L2056, ICV GRE and ICV D254)
- Do not use MLF unfriendly strains (K1 and EC1118).

**8. Fermentation Nutrient Additions**

- Healthy Fermentations – do not stress yeast.
- Use Fermaid K and/or Fermaid O depending on your nitrogen needs.
- DAP favors formation of sulfide off-flavors, use only in very low N juice.

**9. Maceration and Rackings**

- Shorten maceration to 4 days instead of 6-8 days depending on results of O<sub>2</sub> test.
- Rack off lees halfway through fermentation – delestage, if possible.
- Press off at 1 bar- keep press wine separate. Treating press with Colle Perle or lees aging with Noblesse can reduce harsh phenolics.
- Pressing with the lowest possible pressure is critical.
- Blend press wine back according to O<sub>2</sub> test.

**10. End of Alcoholic Fermentation**

- Rack 24 hours after fermentation done.
- Rack again 2 days later.
- Keep running Quick O<sub>2</sub> test, respond accordingly.

**11. Malolactic Bacteria Selection**

- Choose strains tolerant to high SO<sub>2</sub> like MBR VP41 or MBR PN4 and use in conjunction with Opti'malo Plus nutrient. Using 1-Step strains like 1-Step VP41 or 1-Step Alpha work very well and may improve success.
- Inoculate as soon as possible, right after pressing, even if wine is not totally dry.

**12. SO<sub>2</sub> levels and Additional Tannins**

- Get SO<sub>2</sub> levels up once MLF is finished. Do not leave wine unprotected.
- Adding Tannin Estate, Tannin Complex or Tannin Refresh post fermentation will help protect the wine from oxidation and continue building the tannin structure. This is very important if the grapes had heavy fungal infections.

**13. Filtration**

- Scottzyme KS can be beneficial to help filtration.

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