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## NEW CAPABILITIES

ETS Laboratories announces an enhanced *Botrytis cinerea* panel for grapes and wine. The panel now includes B-glucan detection in addition to measuring laccase and Scorpion™ *Botrytis* populations. The ETS Botrytis Panel provides the only comprehensive commercial analysis available for detecting not only the spoilage organism, but both metabolites as well.

## BOTRYTIS



*Botrytis cinerea*, a fungal pathogen, is the primary cause of bunch rot in grape. *Botrytis* can infect damaged or healthy fruit. It is often the first organism to infect the grapes, followed by other fungi, yeast and bacteria.

*Botrytis*-infected grapes are generally regarded as undesirable for table wines production due to their negative impact on wine quality. High levels of *Botrytis* cause increases in both laccase and glucans, adversely affecting the finished product.

Individual strains of *Botrytis* can produce significantly different levels of laccase and glucans, which can cause oxidative, color, and clarification problems later on during the winemaking process.

Direct Scorpion™ detection of *Botrytis cinerea* provides information on the *Botrytis* load of incoming fruit or must, even in the presence of high levels of other fungi, yeast or bacteria. The sensitivity of Botrytis Scorpion™ analysis is very low, detecting as little as 10 *Botrytis* spores per mL of juice.

## LACCASE

Laccase is an enzyme primarily associated with fungal rot caused by the grape pathogen *Botrytis cinerea*. Laccase can negatively impact wine, causing premature browning of bottled white wine and color degradation of red wine. This occurs when laccase oxidizes phenolic compounds to quinones, and the quinones polymerize in the presence of oxygen. The polymerized quinones form the brown pigmented compounds associated with laccase induced browning and discoloration of wines.

The quinones are highly reactive molecules. They may bind to other compounds, masking positive flavor and aroma attributes. Laccase “positive” wines should be maintained in a reductive state to minimize browning

and discoloration, and should not be blended with laccase “negative” wines.

Early detection of laccase enables early intervention by winemakers minimizing negative impact on the final wine product. Early intervention can include appropriate SO<sub>2</sub> management and addition of enological tannins. The ETS laccase assay can detect levels as low as 1 unit of laccase/mL.

## GLUCANS

Glucans are polysaccharides produced by *Botrytis cinerea*. They are released into the juice as the grapes are crushed. Glucans can prevent natural sedimentation of small insoluble solids, and plug filter pads and membranes. Glucans can begin to impact filtration at concentrations as low as 1 mg/L. Levels in excess of 10 mg/L may quickly degrade expensive filters.

Glucans can be broken down with commercially available enzyme products containing Beta-glucanase. Early glucan detection is key to ensure prompt treatment with glucanase and provide maximum efficacy. The ETS Laboratories glucan assay can detect levels as low as 3 mg/L of glucan in a wine or juice sample.