# Flotation protocol under different conditions

Extraction of juice and modifying the degree of solids in the juice prior to fermentation is a key step in white winemaking. If the juice contains high levels of suspended solids, this can lead to although many winemakers today experiment with varying levels of juice solids to achieve style diversity in their white wines. Reduction of suspended solids prior to fermentation should typically occur quickly, while trying to minimise the amount of juice lost during the process. Flotation is one process that can be used to achieve both of these aims.

## Preparation of Juice

Juice must be 100% pectin negative

1. To pectin test, mix 5mL of clear juice and 5mL 96% alcohol in a test tube.

2. Carefully mix and wait 5 minutes

3. The formation of thread like tubidity indicates the presence of pectin, If this happens, wait longer of add more pectincase.

4. Repeat the test. If the juice remains clear, then it clear of pectin. Flotation can commence.

## Flotation Instructions

1. Ensure juice temperature is above 16°C and the percentage of solids us under 20%

2. Maintain 7 bar pressure of Nitrogen supply to the flotation pump at all times. (**Note:** This can be compromised if additional nitrogen outlets are running from the same supply)

3. Hose lines between the pump and tanks are to be between 3-5m. If a longer hose is required, partially close the valve of the flotation tank, to avoid flotation beginning in the hose

4. Connect the pump outflow to the lees valve (bottom outlet), and pump inflow to the racking valve

5. Add **ClearUp BIO** to the juice for juice fining (dose rate to be determined by bench trial)

**ClearUp BIO** needs to be kept in suspension and mixed slowly. A mixing tank would be the preferred method. Inject **ClearUp BIO** as slowly as possible. Mix the tank for 20 to 25 minutes at a saturation pressure of 2 to 3 bar, without addition of gas.

6. Bentonite can be added at between 200 and 400ppm to solid compaction and juice recovery

7. The gas flow rate should be between 2 – 3 $m^3/h$ and 25 – 40 L/min

8. The saturation pressure should be kept constant at 5 bar. (Adjusting the pump restrictor lever on the outlet side of the saturation cylinder.) There is no benefit of pressure over 6 bar

9. The circulation time for flotation is 1 – 1.5 times the volume of juice

10. Leave the tank for 120 minutes so that lees can rise to the surface

11. Do not leave the tank longer than 240 minutes. Gravitational force can cause lees separation and resuspension of the lees if the waiting time is too long

12. Target is reached if the NTU is >100 (not less than 50; otherwise there is a risk of stuck fermentation). If NTU is lower than 50 add some turbid juice