



### **Submerged Cap Fermentation**

Winemakers long ago discovered that red wines get their color, texture, tannins and flavor from grape skins. Unfortunately, the cap formed by grape skins floats to the wine's surface during fermentation reducing the potential amount of skin contact and subsequent color and flavor extraction.

Early in his winemaking career, Chaim realized that by keeping the cap of skins submerged throughout the entire maceration process he could create wines with more intensity and better balance. Far from being a radical idea, cap submersion has been practiced via subsurface screens, punch-down and pump-overs for years. While these methods help increase extraction, they all have drawbacks.

Chaim's solution was to invent a fermentation tank equipped with a submerging device that keeps the skins submerged throughout the fermentation. For the last 5 years Chaim has been gradually improving his tank and this year he is making a radical change by building a dual compartment tank which will incorporate into his submerged cap a technique in winemaking called "*rack and return*" or *delastage*.

The upper compartment, used for fermentation has a floating submerging device which can be locked at any desired location inside the tank, while the lower compartment is large enough to contain all the wine from the upper compartment. Twice a day the fermenting wine from the upper compartment is drained by gravity into the lower compartment. The wine is then pumped back from the lower compartment to the fermentation tank. Within a few minutes the cap starts rising from the bottom of the tank towards the surface until it reaches the "Submerging Device" which is locked in place. The cap stays submerged under the "Submerging Device" and sandwiched between two layers of wine. This is an effective and at the same a gentle technique that enables maximum extraction of the skin components that give the flavor, color and mouthfeel in wine while avoiding the bitterness and harshness usually associated with other extraction methods such as punch down.