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11. Vinification

Vinification consists of using a series of mechanical and physical-chemical processes to turn the juice from the crushed grapes into wine. In the case of white wine, the clusters are crushed and pressed, the juice is decanted, and the wine is made directly from the clean juice without any solid parts. In the case of red wine, it is the crushed fruit, minus the stems, that generates the wine.

Because there are different types of red and white wines, there are different vinification procedures that basically differ in the way and time the solids are separated from the bunch. This transformation of a sweet liquid (must) into an alcoholic liquid (wine) is a biological phenomenon called alcoholic fermentation. It was not until 1866 that the research of L. Pasteur showed that alcoholic yeasts (microscopic fungi) turned grape sugars into ethyl alcohol, carbon dioxide, and several dozen other components.

Glucose \rightarrow Alcoholic Fermentation: Ethanol + Carbon Dioxide + Byproducts + Heat