

# What is saignée and how will it affect my red wine?

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Saignée (or bleeding) is the removal of juice from a red must immediately after destemming/crushing. Usually, it is performed to concentrate flavors and phenols in the wine made from the remaining must, or to counterbalance water additions, made to lower the potential alcohol and allow alcoholic fermentation to proceed in a timely manner (legal in CA). Sometimes it is carried out for the sole purpose of making a Rosé wine usually using white winemaking methods.

When the juice is first released from a crushed red grape, it mainly contains water, glucose, fructose and acids. It contains very little flavor compounds, phenols or anthocyanins (color compounds) because the majority is found in the skins. After 30 minutes to one hour, however, the skins start to release anthocyanins, a few phenols and some flavor compounds.

If we wish to concentrate flavors, phenols and anthocyanins, then we must carry out the saignée as soon as possible after crushing. Some destemmer-crushers are now designed so that saignée juice may be collected as soon as it comes out of the machine. Alternatively, a sump cart with screen can be used as soon as juice will flow from the bottom valve of the tank to which the must is pumped. With small lots, the juice can be collected using buckets and sieves. If we are only interested in making a rosé wine then we might leave the juice in contact with the skins for longer, depending how much color we want in our wine.

The amount of juice to remove depends on the quality of the grapes and the purpose for using the technique (Table 1). If it has not been possible for the grapes to reach optimum maturity, then the technique should be used with caution as one could also be concentrating undesirable vegetal flavors such as bell pepper and green bean as well as accentuating bitterness and astringency.

Table 1 Possible rates of saignée to be used with grapes of varying status

Reason for saignee	Status of grapes	Percentage of juice removed
Concentration of flavors and phenols	Average size berries that have not been excessively watered and were allowed to mature to optimum extent	5-10
	Large berries with low anthocyanin content even though matured to optimum extent	10-20
	Berries with excessive water uptake	10-30
To balance water additions made to ensure alcoholic fermentation completes in a timely manner	Berries with no raisining and were allowed to mature to optimum extent	5-10
	Berries with excessive raisining	<5

In some red grapes, the glucose/fructose concentration of the must may be so high that alcoholic fermentation may be sluggish or stop completely. When there is a danger of this happening, some regions allow water additions to allow alcoholic fermentation to complete in a timely manner. Such an approach has the disadvantage of diluting the concentration of acids, flavors, phenols and anthocyanins. However, we can carry out saignée during or just after crushing to counterbalance the addition of the water. The challenge is that the saignée step occurs before the water addition. The estimate of the true glucose/fructose concentration in the must needs to be accurate so that we can estimate the percentage of juice to bleed to counterbalance the desired water addition. The biggest error in making the estimation is non-uniformity of the must just after destemming/crushing.

Irrespective of the reason for removing juice, it is important to realize that it also contains yeast assimilable nitrogen (YAN). Hence, it is advisable to determine the YAN remaining in the must and make nitrogen additions accordingly. In addition, the titratable acidity (TA) of the must should be checked, as an acid addition may be required as well.