

What does it mean when people say that a wine has “legs”?

You have undoubtedly noticed wine drinkers swirling their glasses and then holding them up to see the wine glide down the sides of the glass. Why does this matter? What are they looking at? What does this tell me about the wine I'm about to drink?

The streaks that fall down the sides of the glass are often referred to as 'tears' or 'legs'. Other terms used to describe the rivulets of wine that roll down the inside of the wine glass after it's been swirled include 'curtains' and 'church windows'. They all refer to the same thing and have been often misinterpreted – “*Wines that show “legs” are always great, while wines that don't can't be more than marginal*”

It has been said that 'legs' are an indication of a wine's quality or sweetness. This is, as a matter of fact, not the case. The observance of 'legs' is simply an indication of alcohol content in the wine by way of chemical physics.

Wine is mostly a mixture of alcohol and water. When the surface of the wine meets the side of the glass, the molecular attraction between solids and liquids (called *interfacial tension*) is slightly greater than the *surface tension* which holds the liquid molecules together, the liquid "crawls" up the glass (assuming the glass is clean). As it does so, both alcohol and water evaporate from the rising film, but the alcohol evaporates faster, due to its higher vapor pressure and lower boiling point. As the alcohol evaporates, gravity takes over, the surface tension is broken and the water runs back down into the glass in rivulets. These "legs" or "tears" are observable because of the difference in the way alcohol and water refract light. The phenomenon occurs most readily in wines above 12% alcohol.

The effect was first explained by James Thomson in an 1855 paper, "On certain curious Motions observable at the Surfaces of Wine and other Alcoholic Liquors". However it was later attributed to Carlo Marangoni based on work he did in the 1870s. It is now referred to as the Marangoni or Gibbs-Marangoni Effect.

To test this, swirl a glass of wine and observe the formation of legs. Now cover the glass and swirl it again. In a few tries, the legs will usually quit forming. This is because the air inside the glass contains enough alcohol vapors to prevent more from evaporating and the formation of legs stops. Uncover the glass and legs will start to form again.

Because a wine's "body" is affected by the alcohol content, there is some relationship between legs and body, but there are so many other factors involved that legs are a poor indicator of quality.

For more information:

http://en.wikipedia.org/wiki/Tears_of_wine

<http://www.wineeducation.com/legs.html>

<http://wine.about.com/od/winebasic1/a/winelegs.htm>

<http://www.winepros.org/aftertaste/3-myths.htm>

Have a wine-related question?

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