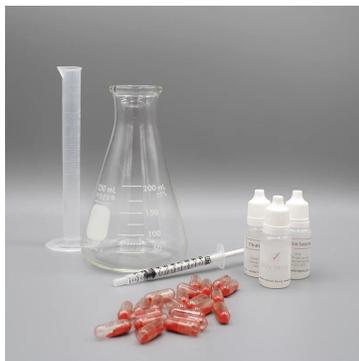
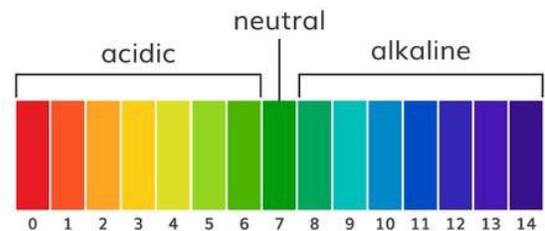


# Titratable Acidity: It's In The Taste

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The beer brewing industry is seeing an influx in lambic and sour beer production. The parameter widely measured within these types of beers is pH. However, titratable acidity (TA) is becoming an increasingly popular metric that is catching on. In fact, some brewers are making sour beers with labels that contain TA values (similar to how bitterness units are used) so that consumers can make informed decisions. The goal of this article is to introduce TA and what it means for your beer.

The pH scale ranges between 0-14 and determines whether an environment is acidic or basic. For example, most sour beers have pH's ranging from ~3.2-3.6. However, research has shown that TA better correlates with taste perception than pH. This is because TA is able to measure the amount of organic acids present in beer, such as lactic acid, that cannot be easily monitored by pH alone. To understand why, you have to know how each parameter is measured.



pH is a measurement of free protons in solution. A brewer can test pH directly by using pH indicators or pH meters. TA, in comparison, measures free protons and organic acids by recording the amount of sodium hydroxide necessary to raise the pH of a sample to 8.2. This is known as a titration. TA can be tested via colorimetric and potentiometric titration methods. Cost and time are often the deciding factors when choosing between the methods.



TA measurements have historically been performed colorimetrically using phenolphthalein as the end-point indicator. However, phenolphthalein is not ideal because it only flashes pink at pH 8.2, and doesn't exhibit a full color change until pH 10. This can make it difficult for users to determine the end-point if the sample is colored. Kits, like the RedCheck titratable acidity kit, have gotten around this issue by utilizing an indicator specially formulated to have a full indicator color change at the correct pH.

Potentiometric titrations utilize a pH meter to monitor the change in pH as you perform the titration. This leads to very accurate and precise titrations because the end-point is easy to detect. However, it requires the purchase of a reliable pH meter, burette, and stir plate. Additionally, potentiometric titrations are not quick and can take 15-20 minutes on average. Automatic titrators can be purchased to help alleviate the time requirements of potentiometric titrations, but this is reflected in the fact that autotitrators are not cheap.

Learning what TA is and understanding this parameter can add consistency when dealing with sour beer brewing and lactic acid production. You must continue to measure pH as it is one of the most basic measurements you can take, and implementing TA through either colorimetric or potentiometric methods will help you dial in the perceived taste of your product.



Whether you are homebrewing or starting a commercial brewery, people want to know they can expect consistency from your beers. Don't fail in this expectation and get the tools to start measuring titratable acidity.

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*Beyers Analytical Brewing Sciences, LLC is the maker of the RedCheck titratable acidity kit. RedCheck was released in 2017 as a means to help brewers with a cost-effective test for titratable acidity that is simple, accurate, and able to be performed in-house. It has been embraced by industry-leading breweries and homebrewers alike due to its unique indicator that alleviates the hassle of phenolphthalein and potentiometric titrations. RedCheck is manufactured in Fort Collins, Colorado. Additional information can be found at [www.redcheckkit.com](http://www.redcheckkit.com).*

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