



# ABCCORK PRESENTS

## Acidity in Your Wine

### The Role of Acidity in Taste

Acidity is an important part of a wine's composition. If the perfect amount of acidity is complimented by sugars, alcohol, and other flavours, then a wine is balanced – one of the highest compliments that can be paid to a wine.

Acidity is responsible for the crispness in a wine. Too little acidity and the wine will be flabby and uninteresting. Too much acidity and the wine can taste sour and overly tart.

There are four kinds of acid present in wine:

- Tartaric acid
- Malic acid
- Citric acid

An acid blend is available for purchase at wine making stores that is a powdered mixture of these acids. Use this mixture in order to achieve the exact amount of acidity required to make your best wine.

### Recommended Acidity Levels

As you taste wines you can tell that some wines are suited to more pronounced acidity (light, sprightly whites like Sauvignon Blanc) than others (robust reds like Cabernet Sauvignon). But how can you empirically measure these levels? As the winemaker you can monitor and alter the acidity levels to the wine you are making. Refer to the following chart for guidance.

WINE STYLE	ACIDITY RANGE (T.A)
Dry White Wine	0.65 % - 0.75 %
Sweet White Wine	0.70 % - 0.85 %
Dry Red Wine	0.60 % - 0.70 %
Sweet Red Wine	0.65 % - 0.80 %
Sherry Wine	0.50 % - 0.60 %
Non-Grape White Wines (i.e. Fruit Wines)	0.55 % - 0.65 %
Non-Grape Red Wines	0.50 % - 0.60 %

The acidity is measured as a percentage by volume. This is called the Titratable Acidity (T.A). Also note how wines with more residual sugar (sweeter wines) require more acidity in order to achieve balance.



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### Measuring Acidity

There are two methods commonly used to measure a wine's acidity. Both are done while your wine is still must. Even if a kit comes with acidity blend it is important to do a test before and after you add to ensure that optimum levels are reached.

Tip: Measure twice when getting started until you are certain of your accuracy and method.

### Titration Kits

This simple and inexpensive method measures the T.A of a wine. Titration is the process by which the concentration of a foreign substance in a liquid is measured.

- Draw 15 cc/ml from your must using a syringe (usually provided by the kit) and place the sample in a test tube (also provided). Be sure to rinse the syringe so you will not contaminate further samples.
- Add 3 drops of phenolphthalein indicating solution to the must and swirl to mix.
- Using the syringe again draw 10 cc of Reagent (Sodium Hydroxide). Be sure to avoid air bubbles. Also avoid contact with eyes and skin, sodium hydroxide burns.
- Carefully add the Sodium Hydroxide to the test tube .5 cc at a time. The colour will change after each addition; swirl until the original colour returns. Keep adding the Sodium Hydroxide until the must does not return to its original colour. If testing white wines your sample will be pink. For reds the sample will turn grey.
- Keep track of the number of drops of Sodium Hydroxide added. Each cc added equals .01% T.A.
- So, if you added 10 cc of Sodium Hydroxide, you have 0.1% T.A.
- Lastly, throw away the sample. It is toxic! Clean and dry all of the equipment used thoroughly before storing.

### Using a pH Meter

This method is similar to the Titration Kit. However, rather than watching for colour change, Reagent is added until the pH meter reads 8.2. This is the pH at which phenolphthalein changes colour. This method is a little more accurate and easier to use as you are watching the meter rather than looking for colour change, which can be difficult and a little imprecise.

The drawbacks? A pH meter can cost you up to \$50. Also, pH meters are a little difficult to handle. The probe is sensitive and as such must be handled and stored carefully, and be kept clean and free of debris. You will also have to calibrate the meter with buffering solution before each test.



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### Adjusting Acidity Levels

After you have tested your wine you can compare your levels to the chart to see if you are on target. If you aren't, then you will have to adjust the acidity level using chemicals.

#### Tips:

- Add the agents use conservatively. You can always add more chemicals, but you cannot take them out!
- Keep records of the adjustments needed for future batches.

### To Increase Acidity

- Add and acid blend which can be purchased at any winemaking boutique.
- 3.9 grams of acid blend raises the acidity of one gallon of must by 0.1 %.
- If you don't have a scale use this conversion:
  - $\frac{1}{2}$  teaspoon of acid blend = 1.2 grams.
  - 1 teaspoon of acid blend = 5.1 grams.

### To Decrease Acidity

- Add calcium carbonate to decrease acidity by 0.4% or less.
- 2.5 grams will decrease the T.A of 1 gallon of must by 0.1%.
- Again, if you don't have a scale:
  - $\frac{1}{2}$  teaspoon =  $\frac{1}{2}$  of a gram of calcium carbonate.
  - 1 teaspoon = 2.6 grams of calcium carbonate

Be sure to measure the T.A again after making the adjustment to see if you were successful.



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