

pH

pH is an indication of acidity or alkalinity, normally measured with a pH meter. When absolute accuracy is not required, colorimetric pH papers are useful. Chemically, pH is the negative logarithm (base 10) of the hydrogen ion (H^+) concentration in an aqueous solution. For example, a solution with an H^+ concentration of 1×10^{-6} has a pH of 6; one with an H^+ concentration of 1×10^{-5} has a pH of 5. Notice that a solution at pH 5 has 10 times the H^+ concentration of a solution at pH 6.

Pure water containing no solutes has a pH of 7; an acid will have a pH < 7 , the stronger the acid, the lower the pH. Conversely, the pH of a base will be > 7 with stronger (more alkaline) bases having higher pHs.

Normal pH ranges important in dairy production are as follows:

Cow's blood	7.5 - 8.0
Blood of cow fed anionic minerals	< 6.0
Rumen optimum for fibre digestion	6.0 - 6.8
Rumen optimum for starch digestion	5.5 - 6.0
Fresh cut silage crop	6.0 - 6.5
Poorly preserved silage	5.0 - 6.0
Well preserved silage	3.8 - 5.0

