

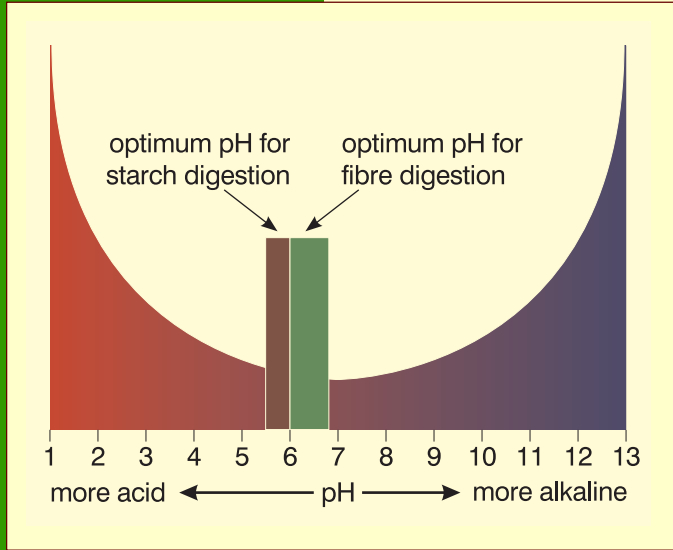
Buffers

A buffer is a chemical compound which, in solution, resists changes in pH which might occur due to the addition of acid or alkali (base).

Chemically, a buffer is a combination of a weak acid and a salt of the

same acid. Sodium bicarbonate (bicarb) is the most widely used 'true' buffer in high-grain ruminant diets and its positive effects in these diets have been well documented. Bicarb buffers at pH 6.2 which is near the optimum for balanced fermentation of structural and non-structural carbohydrates. The usual feeding rate is 0.75% of dietary dry matter.

Other compounds referred to as buffers are actually alkalizing agents - they are weak bases which counteract the effects of rumen acids. These include magnesium oxide, potassium carbonate and sodium carbonate. Sodium sesquicarbonate is a variable blend of sodium bicarbonate and sodium carbonate.



for more information:

[Rumen Acidosis](#), *Alberta Dairy Management*

[The Use of Buffers in Dairy Diets](#), *Alberta Dairy Management*

[Influence of Concentrate:Forage Ratio and Sodium Bicarbonate on Rumen Fermentation in Early-lactation Cows](#), *University of Alberta Dairy Research Highlights*