Response of milk yield and milk composition to acetic and propionic acid supply in dairy animal: A review

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Abstract

Milk yield and milk composition of dairy animals are largely dependent on the energy supply of diet fermentation in the rumen. Therefore, the type of energy provided by rumen fermentation is the most important trait. Acetic acid (C2) and propionic acid (C3) are major Volatile Fatty Acids (VFA) and source of energy that provide 70–80% of the body's energy needs which aid in production performance for the ruminant animal. Study on energy supply from particular source improve their utilization in mammary gland. Acetic and propionic acid through infusion method or mixed in the diet have positive and negative impact to the lactation performance of dairy animal. According to some reports, supply acetic acid tend to increasing fat content, while propionic acid tends to decreasing fat content. This indicated that acetic acid is important precursor for synthesis milk fat. Unfortunately, there were unclear results about addition acetic and propionic acid on protein, lactose and milk yield. Therefore, need further research to investigate how is the effect of acetic and propionic acid in the diet on lactation performance of dairy animal, which linked to the colostrum and pre-weaning ruminant animal.

Keywords: Acetic acid, propionic acid, milk yield, milk quality

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