

Supplementation of Red Betel Leaf (*Piper crocatum*) in Dairy Cattle Feed on Fermentation Characteristics by in Vitro

Title	Supplementation of Red Betel Leaf (<i>Piper crocatum</i>) in Dairy Cattle Feed on Fermentation Characteristics by in Vitro
Author Order	of
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Abstract	<p>The aim of this study was to assess the impact and efficiency of red betel leaf's extract supplementation in the diet of dairy cattle on fermentation characteristics by in vitro. The research method was experiment by using completely randomized design. The treatments that were tested were R1: basal feed, R2: R1 + 15 ppm of red betel leaf (<i>Piper crocatum</i>) extract, R3: R1 + 30 ppm of red betel leaf (<i>Piper crocatum</i>) extract, R4: R1 + 45 ppm of red betel leaf (<i>Piper crocatum</i>) extract, R5: R1 + 60 ppm of red betel leaf (<i>Piper crocatum</i>) extract. The parameters measured in this study were (1) Dry Matter Digestibility (DMD), (2) Organic Matter Digestibility (OMD), (3) total gas production, (4) methane production (CH₄) and (5) total Volatile Fatty Acid (VFA). The data were analyzed using analysis of variance followed Orthogonal Polynomial Test. The results showed that the supplementation red betel extract in the diet of dairy cow was significant ($P < 0.01$) on DMD, OMD, total gas production, methane production (CH₄) and total VFA. Orthogonal Polynomial test showed the effect of treatment on Dry Matter Digestibility (DMD), total gas and CH₄ gas production were in the form of cubic curve, as well as Organic Matter Digestibility (OMD) and Volatile Fatty Acid (VFA) in the form of quadrate curve with supplementation of red betel leaf.</p>
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