

Effect of Protection of Soybean Meal Using Mahogany Leaf Extract in Ruminant Diet on Rumen Fermentation Products

Title	Effect of Protection of Soybean Meal Using Mahogany Leaf Extract in Ruminant Diet on Rumen Fermentation Products
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Abstract	<p>The study was aimed to examine effect of protecting soybean meal using mahogany leaf extract on rumen fermentation products in vitro. The material used was cow rumen fluid, basal ration consisting of concentrate and elephant grass with a ratio of 60:40%, and mahogany leaves. The research was carried out in three stages: mahogany extraction, protein protection using mahogany extract, and in vitro stages. The test was conducted in vitro based on a completely randomized design (CRD). The treatments consisted of 4 kinds of soybean meal protection with 0% tannin concentration (T0); 1.5% (T1); 3% (T2); and 4.5% (T3). Data obtained were analyzed by analysis of variance and tested using orthogonal polynomials. Results showed that the addition of protected soybean meal with mahogany leaf extract had a cubical effect on partial VFA, methane gas and post-rumen dissolved protein, a quadratic effect on protozoa, and a linear effect on N-NH₃, SPM, and RUDP. Giving extra mahogany leaves at a level of 1.5% produced a fermented product that was not different from the control while giving a level of 3% got the highest fermentation product. Giving mahogany leaf extract at a level of 4.5% resulted in the highest SPM, and RUDP but there was a decrease in soluble protein, which indicated the occurrence of overprotection. The addition of 3% mahogany leaf extract effectively increased rumen fermentation products, RUDP, and soluble protein without disturbing the activity of rumen bacteria.</p>
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