

The Growth Dynamics of King Grass (*Pennisetum purpureophoides*) in The Application of Beef Cattle Dung Enriched *Azolla microphylla*

Title	The Growth Dynamics of King Grass (<i>Pennisetum purpureophoides</i>) in The Application of Beef Cattle Dung Enriched <i>Azolla microphylla</i>
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Abstract	<p>Research on the cultivation of king grass (<i>Pennisetum purpureophoides</i>) was conducted to obtain information on growth, productivity, and continuity in providing forage for a sustainable ruminant farming business. One of the cultivation factors is fertilization using beef cow manure as a renewable, inexhaustible natural resource or organic fertilizer. Improving the quality beef manure is important for better stimulation of plant growth and production. Fertilizer can be enriched with <i>Azolla microphylla</i> as a good nitrogen contributor. This study used beef cow dung fertilizer at doses of 10, 20, 30 tons per hectare per defoliation, and <i>Azolla microphylla</i> enrichment by 0%, 10%, and 20 % as treatments in a completely randomized design (CRD). The observed variables were plant growth (plant height, stem diameter, number of plants, and number of leaves as production), every 14 days until harvesting on day 42. The data obtained were analyzed descriptively based on the dynamics of plant growth. The result showed that the growth dynamics of the king grass were strongly influenced by fertilizer and plant age but no interaction each other. In conclusion fertilizer made of beef cattle dung enriched with <i>Azolla microphylla</i> is a feasible nitrogen source. The optimum results were obtained from using 30 tons beef cattle dung enriched with 20% <i>Azolla microphylla</i> to fertilize per hectare per defoliation soil.</p>
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Author	PRASETYO, S.Pt, M.P.