EVALUATION OF CATTLE URINE AS A SOURCE OF AMMONIA FOR TREATMENT OF RICE STRAW

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Fertilizer grade urea alone (UT) or cattle urine substituting for 1% urea equivalent (ST) was used in mixing rice straw with a total of 0,1,4, or 8% urea prior to ensiling straw at 50% moisture for 4 weeks. The pH and the crude protein (CP) content increased significantly (P .05) with increasing levels of added N. ST resulted in higher (P .05) CP contents than UT. Without urea the CP decreased (P .05) with ensiling. Ash contents were higher (P .05) with ST. Neutral detergent fiber (NDF) decreased (P .05) with increasing levels of added N. The highest reduction in NDF of 6.67% units was with 1% urine plus 7% urea. Acid detergent fiber content increased significantly (P .05) with increasing N content of treatments. Acid detergent lignin content also increased significantly (P .05) with increasing levels of added N, with 1% urine plus 7% urea treatment giving the highest response. The 1% urine plus 7% urea treatment gave the highest increase in in vitro dry matter digestibility (IVDMD) of 6.6% units and in vitro organic matter digestibility (IVOMD) of 6.83% units. Water, without added N (control) reduced IVDMD and IVOMD by 3.81 and 3.21% units, respectively. Cattle urine can effectively substitute for 1% urea at the highest level of urea addition as a source of NH_3 in ensiling of straw.

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