

**THE EFFECT OF ALKALI FROM WOODASH SOLUTION
ON THE CHEMICAL COMPOSITION AND *IN VITRO*
DIGESTIBILITY OF A SAWDUST**

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ABSTRACT

Alkali from woodash solution was investigated as a possible alternative to industrial alkalis (NaOH) to improve the chemical composition and digestibility sawdust. Four concentrations (0, 100, 200 and 300 g/2L H₂O) of woodash solution (WAS) were prepared. A total of 36 samples, each weighing 1.0 kg, of sawdust were treated with the solution at the ratio of 1:2 (w/w). Nine samples were used for each concentration and these were stored in plastic cistern for 7 days. Results showed that there was a significant ($P<0.05$) increase in dry matter loss due to washing and dry matter (DM) contents of the treated samples over the control. Crude fibre (CF) was reduced ($P<0.05$) from 65.52% in the control to 35.56% in the 100 g WAS and to between 41.00% and 46.00% in the 200 and 300 g WAS, respectively. There was a significant ($P<0.05$) solubilization of neutral detergent fibre (NDF), acid detergent fibre (ADF) and acid detergent lignin (ADL) due to WAS treatment. Also, increase in organic matter (OM), CF, NDF, ADF, ADL and ash digestibility occurred as the concentration of woodash solution increased. It was concluded that 300g/2L woodash solution was the level at which the chemical composition and *in vitro* digestibility was highest.

Keywords: Chemical composition; invitro digestibility; sawdust; woodash.