

Eighteen dual purpose goats were used to evaluate the effects of feeding *Calliandra caryothyrus* leaf meat at different patterns as a supplement to Rhodes grass hay on intake, nitrogen utilization and milk yield. A basal diet of low quality Rhodes grass hay (fed 90% and libitum) and 100 g maize germ were offered to the goats over a 60-day experimental period. The treatments were:- (T1) 100 g day<sup>-1</sup> calliandra for 60 days; (T2) 200 g day<sup>-1</sup> calliandra for 30 days followed by another 30 days where 200 g or 0 g day<sup>-1</sup> calliandra alternated every 5 days; and (T3) 200 g or 0 g day<sup>-1</sup> calliandra alternated every 5 days for 60 days. Total dry matter intake (TDMI) was significantly ( $P < 0.05$ ) lower in T1 than in T2 and T3. The total DMI were 887.2, 936.4 and 913.8 g day<sup>-1</sup> for T1, T2 and T3 respectively. Milk yields had similar trends averaged 166.1, 231.8 and 20.1 g day<sup>-1</sup> for T1, T2 and T3 respectively. The utilization of nitrogen was also significantly ( $P < 0.05$ ) affected by the pattern of supplement feeding. It was concluded from the results that the overall animal response could be influenced by how limited quantity of supplement was fed.