

Effects of dietary inorganic iodine and selenium on their concentrations in serum, muscle and organs in Kacang goats

ABSTRACT

The objective of this study was to evaluate the impact of supplementing inorganic Selenium (Se), Iodine (I) and combination of both on their concentrations in serum, skeletal muscle and organs of 24 local Kacang crossbred meat goats. Four dietary treatments of six goats each were randomly allotted to basal diet without supplementation (background only) as control (T1), basal diet + 0.6 mg Se kg⁻¹ DM (T2), basal diet + 0.6 mg I kg⁻¹ DM(T3) or basal diet with combination of 0.6 mg Se + 0.6mg I kg⁻¹ DM(T4) for 100 consecutive days. Serum samples were collected at days 0, 30, 60 and 95 for the determination of Se and I concentrations. Semitendinosus (ST) muscle, liver and kidney were also collected, vacuum packaged and stored frozen until assayed for the Se and I levels. The levels of I and Se in the serum of supplemented groups (T2, T3 and T4) were significantly higher compared to control (T1). In comparison with the control animals (T1) I and Se concentrations in the ST muscle, kidney and liver were also higher ($p < 0.05$) in the supplemented groups. The results demonstrated the potential of Se and I dietary supplementation employed in this study to increase the concentrations of both elements in the serum, muscle, liver and kidney of goats.

Keyword: Crossbred; Goat meat; Iodine; Organs; Retention; Selenium