

## **Blood haematology, serum thyroid hormones and glutathione peroxidase status in Kacang goats fed inorganic iodine and selenium supplemented diets**

### **ABSTRACT**

The effects of dietary supplementation of selenium (Se), iodine (I), and a combination of both on the blood haematology, serum free thyroxine (FT4) and free triiodothyronine (FT3) hormones and glutathione peroxidase enzyme (GSH-Px) activity were examined on twenty four (7 to 8 months old,  $22 \pm 1.17$  kg live weight) Kacang crossbred male goats. Animals were randomly assigned to four dietary treatments (6 animals in each group). Throughout 100 d of feeding trial, the animals of control group (CON) received a basal diet, while the other three groups were offered basal diet supplemented with 0.6 mg/kg diet DM Se (SS), or 0.6 mg/kg diet DM I (PI), or a combination of both Se and I, each at 0.6 mg/kg diet DM (SSPI). The haematological attributes which are haemoglobin (Hb), red blood cell (RBC), packed cell volume (PCV), mean cell volume (MCV), white blood cells (WBC), band neutrophils (B Neut), segmented neutrophils (S Neut), lymphocytes (Lymph), monocytes (Mono), eosinophils (Eosin) and basophils (Baso) were similar among the four treatment groups, while serum levels of Se and I increased significantly ( $p < 0.05$ ) in the supplemented groups. The combined dietary supplementation of Se and I (SSPI) significantly increased serum FT3 in the supplemented animals. Serum GSH-Px activity increased significantly in the animals of SS and SSPI groups. It is concluded that the dietary supplementation of inorganic Se and I at a level of 0.6 mg/kg DM increased serum Se and I concentration, FT3 hormone and GSH-Px activity of Kacang crossbred male goats.

**Keyword:** Glutathione peroxidase; Iodine; Kacang goats; Selenium; Thyroid hormones