Abstract

Grazing cattle in the tropics and especially in Uasin Gishu district depend on a variety of plant species for their mineral supply. One area of concern is that the grazing cattle may be experiencing mineral imbalances due to lack of proper mineral mapping of the region to ascertain the levels of imbalance. A study conducted in the Uasin Gishu region revealed severe deficiencies of mainly Cu (3.30 ± 0.90) and Zn (6.70 ± 0.40) in soils, the elements Na (1.00 ± 0.39), K (11.80 ± 5.00), Ca (0.57 ± 0.19), Mg (1.35 ± 0.72), P (6.34 ± 3.22), Fe (56.00 ± 0.53), Cu (5.32 ± 2.84), Zn (19.50 ± 8.20) in pasture species and the elements Fe (2.43 ± 1.53), Mn (0.26 ± 0.14), Cu (0.60 ± 0.17), Mg (0.02 ± 0.01) in animal blood. The study recommends immediate mineral supplementation schemes to grazing cattle in the region and encouragement of certain pasture species in the region. A study was conducted to assess the physical properties of gum Arabic obtained from two Acacia Senegal varieties (var.Senegal and Mar.kerensis). in Marigat division, Baringo district. Gum Arabic samples from the experimental sites at Solit, Kapkun, Kimorok and Maoi were collected, dried and analysed to establish their physical characteristics. Moisture content in gum Arabic obtained from variety kerensis in Kimorok and Maoi (17.5 ± 1.00 and 15.4 ± 0.50%) were significantly higher (P < 0.05) than those of variety Senegal in Solit and Kapkun (15.0 ± 0.50 and 14.9 ± 1.80%), while internal energy (33.4 and 33.76%) were not significantly different (P > 0.05) from those of variety Senegal found in Kapkun and Solit (33.0 and 32.96%), respectively. Ash content in gum Arabic from variety Senegal in Solit and Kapkun (2.94 and 3.16%) was higher (P < 0.05) than those of variety kerensis found in Kimorok and Maoi (2.88 and 2.72%). In Kapkun, volatile matter in gum Arabic from variety Senegal (64.2%) was higher (P < 0.05) than the quantities of variety kerensis found in Kimorok, Solit and Maoi (63.8, 63.7 and 63.6%), respectively. Moisture content in gum Arabic from variety Senegal in Solit and Kapkun (15.0 ± 0.40 and 14.9 ± 1.80%) fell within international specifications (13 to 15%), while variety kerensis in Kimorok and Maoi (17.5 and 15.4%) fell outside the specifications. Moisture, ash and volatile matter contents in gum arabic from A. Senegal variety Senegal were 14.9, 3.16 and 64.24%, while A. Senegal variety kerensis had 15.2, 2.88 and 63.8%, respectively. Moisture content in gum Arabic from A. Senegal variety Senegal fell within international specifications while A. Senegal variety kerensis fell outside the specifications. Ash, volatile matter and internal energy contents in gum Arabic from A. Senegal variety kerensis and variety Senegal fell within the specifications. The gum arabic from A. Senegal variety Senegal in Solit and Kapkun was of better quality than that of A. Senegal variety kerensis in Kimorok and Maoi.