

P-13. Estimation of the Contribution of Salt-block Feeding to Mineral Intake of Cattle Under Grazing and Indoor Conditions

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We investigated salt-block intake of cattle under grazing and indoor conditions to evaluate how salt-block feeding contributes to fulfillment of mineral requirements. Three commercial salt-blocks were used in this study. KOEN[®] SELENICS TZ (ZENOAQ Co., Ltd.) was offered to two grazing herds (a sown pasture and mountainous pasture-forest combining area) and two indoor herds (breeding cows and calves). COWSTONE[®] 100 TZ (ZENOAQ Co., Ltd.) was offered to early and late fattening beef steers and heifers in shed. SALTICK[®] (Shiraishi Calcium Co., Ltd.) was offered to dry and lactating dairy cows in free stall shed. The recording of salt licking behavior (duration and number of licking), to estimate salt intake of the animals, and amount of salt-block intake during three consecutive days was repeated three times in summer and autumn, respectively. The contents of thirteen elements (Na, Cl, S, P, Ca, Mg, K, Fe, Zn, Cu, Mn, Co, Se) in the diets (grazing forages and compound rations) and salt-blocks were determined. The amount of salt-block intake ranged from 0.04 ± 0.01 g/day/kg BW^{0.75} of dry dairy cows in autumn to 0.63 ± 0.12 g/day/kg BW^{0.75} of calves in summer. The mineral intake from diets did not fulfill cattle requirements of Na, P, Ca, Zn, Cu and Se. The salt-block contribution ratios were high in Na (6.4-85.8%), Cl (2.2-45.7%), Zn (2.8-25.8%), Cu (0.2-22.7%), Co (7.3-65.0%) and Se (0.0-94.5%), and Na met requirement in most of the herds. However, salt-block intake could not make up for the deficiencies of Zn (beef, dry and lactating cow), Cu (dry and lactating cow) and Se (beef cow in summer and dry cow).