

Daily Intake of Feed and Nutrients by Captive Asian Elephants

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Five privately owned captive elephants brought for the Esala Perahera in Kandy 2023 were studied with regard to their food supply. The nutritional composition of the feed given was compared with the daily average requirements. Feed ingredients examined were Kithul (*Caryota urens*) trunk and leaves, Jack (*Artocarpus heterophyllus*) branches and leaves, and sugar cane (*Saccharum officinarum* L.). Feed items provided irregularly and in small quantities, namely coconut (*Cocos nucifera*), banana (*Musa* spp), and watermelon (*Citrullus lanatus*), were not studied. The quantities of feed provided and left uneaten were weighed to obtain the measurements. Representative feed samples were subjected to proximate analysis at the Veterinary Research Institute. The average nutritional intake was then calculated and compared with published standard nutritional requirements. Body weights of the elephants were estimated by assuming each foot at withers height was 500 lbs. The withers heights of elephants were estimated as twice the circumference of the right forefeet measured in inches, an acceptable approximation. Each elephant consumed 4.48% of its body weight on a fresh matter basis. Their daily diet consisted of 40.4% Kithul trunk (KT), 22% Kithul leaves (KL), 23.25% Jack branches and leaves (JL), and 14.25% sugar cane (SC). According to laboratory findings, an elephant consumes 45.7% Crude Fiber (CFi), 3.5% Crude Protein (CP), and 2.8% Crude Fat (CF). The standard daily nutritional requirements for captive elephants are 33.5% Crude Fiber (CFi), 8-10% Crude Protein (CP), and 1.2-1.8% Crude Fat (CF). The daily crude protein intake (3.5%) of the elephants studied is grossly lower than the requirement. All other nutritional demands are satisfied. Including protein supplements for privately owned captive elephants is recommended. Since commercial feed supplements are unaffordable for elephant owners, locally available protein supplements like coconut poonac and gingelly poonac are recommended to be fed daily.

Keywords: Elephant, Crude Fat, Crude fibre, Metabolizable Energy, Crude Protein.