Use of plantain peels (Musa paradisiaca) as a fibrous feed substitute for Napier grass (Pennisetum purpureum) in rusa deer (Cervus timorensis) rations under captivity

ABSTRACT

The aim of this study was to evaluate plantain peels (PP) as non-conventional feed resources to replace grass forage in feeding management of deer in parks. Thirty six weaned rusa deer (Cervus timorensis Blainville) hinds were randomly selected for this study. Pisang abu (Musa paradisiaca Linnaeus) peels were used as PP source and Napier grass (Pennisetum purpureum Schumach) was used as forage feed (NG). The six treatments of NG:PP combinations were NG100:PP0, NG75:PP25, NG60:PP40, NG50:PP50, NG25:PP75, and NG0:PP100. The study was done in 16 weeks. Feed intake, weight changes, and digestibility were monitored. The crude protein contents of PP were lower (p<0.05) than NG. Mean dry matter digestibility (DMD) increased with decreasing proportion of PP in the rations from 65.7 % for NG75:PP25 to 50.7 % for NG0:PP100. Treatment NG100:PP0 gave the lowest (p<0.05) DMD and the highest (p<0.05) weight loss. Average daily gain of deer on NG75:PP25 ration showed the highest (p<0.05) with 133.2 g/d. The optimum proportion of PP in the rations of rusa deer was 28%. PP should be used as a substitute for grass forage less than 75% of the total rations in captivity. Excessive use of PP would cause some negative effects on the animals.

Keyword: Rusa deer; Plantain peels; Fibrous feed substitute; Napier forage; Non-conventional feed; Optimum proportion