

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