

## **Defecation Rate Variability in the Common Duiker: Importance of Food Quality, Season, Sex and Age**

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### **Abstract**

A common population estimation method for cryptic species — dung-heap counts — is reliant on accurate defecation rate data. Diet quality, dominance level, and animal condition have been suggested to affect antelope defecation rate. We investigated the effects of sex and forage quality on defecation rate and faecal output in the common duiker (*Sylvicapra grimmia* Linnaeus, 1758), a territorial species with limited sexual size dimorphism. Using a repeated measures design, ten semi-captive individuals of both sexes and two age classes were fed two diets differing in fibre content in two seasons. Dry matter intake and faecal output were measured over ten days on each diet. Neither diet quality nor fibre content significantly affected defecation rate or the dry matter of egesta, despite greater intake on a low-fibre diet. Daily dry matter intake and egestion did not differ significantly between sexes, but younger animals produced more faecal matter. Males defecated more frequently ( $5.2 \pm 0.2$  piles/day) than females ( $3.1 \pm 0.1$  piles/day). Prime males had the highest defecation rate and produced smaller dung piles than other categories. A significant inverse relationship between defecation rate and faecal pile mass was detected, and we suggest that territorial male common duikers control faecal output to maximize scent-mark distribution.