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Carcass traits of West African dwarf goats fed African yam bean in cassava peel-based diets

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Abstract

An eight-week feeding trial was conducted to evaluate the effects of graded levels of African yam bean incorporated into cassava peel-based diets on the carcass characteristics of West African Dwarf (WAD) goats. Sixteen WAD bucks (4–6 months old, average weight 8.37 ± 1.56 kg) were randomly assigned to four dietary treatments in a completely randomised design. After the eight weeks trial, three goats per treatment were fasted for 24 hours before slaughter. Carcass traits, including dressing percentage, prime cuts (shoulder, ends, loins, breast, and legs), and fat distribution were assessed. The weights of valuable cuts like the shoulder, breast, loin, and legs varied significantly ($p < 0.05$) depending on the diet. Goats on Diet D had the heaviest legs and shoulders, followed by those on Diet C, while the control group (Diet A) had the lightest. Goats fed Diet D had the highest dressing percentage (59.55 %), indicating a higher proportion of usable carcass weight relative to their live weight. The control group (Diet A) had the lowest dressing percentage (31.96 %). Diet D resulted in the lowest bone to meat ratio (0.11), suggesting a higher lean meat yield compared to bone. The control group had the highest bone to meat ratio (0.53). The weights of internal organs and other non-carcass components did not show significant differences ($p > 0.05$) across the diets. Goats on Diet D had the highest abdominal fat (106.59g) and kidney/pelvic fat (61.65g), indicating better fat deposition in these areas. Thus implying that incorporating African yam bean in cassava peel-based diets can positively influence the carcass characteristics of WAD goats. Diet D appeared to promote better fat deposition, while Diet C seemed to favour lean meat yield. The study suggests that cassava peel-based diets enriched with African yam bean improve carcass yield and fat deposition, making them promising feed resources for goat production in Southeastern Nigeria.

Keywords: African yambean, carcass, cassava peel, graded, WAD goats