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An Assessment of Local Byproducts in Beef Finishing Diets in Honduras

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Objectives

Ruminants effectively utilize animal and industrial production byproducts to create a high-quality and nutritionally-rich protein sources. Increasing the production of animal protein is a critical component of increasing food security within developing countries. Therefore, the objective was to investigate the potential development of cost-effective, nutritionally complete diets using local feedstuffs. Diets were designed to assess the gain potential of beef cattle in confined feeding systems across Honduras and the viability of local feedstuffs, rather than the intent of diet comparison.

Materials and Methods

Five finishing diets were formulated using local Honduran feedstuffs such as palm kernel meal, poultry litter, and sugarcane for bulls in confinement. Diets were formulated on DM basis and targeted 13.5% CP. Cattle were *Bos indicus* crossed with *Bos taurus* and dairy type. Bulls were fed between 74 and 165 d with an average of 100 d. Initial BW ranged from 305 to 443 kg with an average of 369. Bulls were fed to a minimum of 400 kg (unshrunk final BW). All diets were analyzed using SAS PROC UNIVARIATE by treatment.

Results

Considering all diets, dry matter intake ranged from 8.75 to 13.00 kg/d with an average of 10.81 kg/d; DMI increased with inclusion of roughage. Average daily gain ranged from 0.84 to 1.31 kg with an average of 1.08 kg; ADG increased for those diets with greater inclusions of corn. Final BW averaged 487 kg with a modest variability (CV = 7.90%). Gain to feed followed similarly to ADG; diets with greater energy were more efficient. Hot carcass weight ranged from 250 to 301 kg with an average of 264 kg. Dressing percent reported an interval of 54.03% to 58.01% with low variability (CV = 2.81%). The LM area and marbling score reported low variability (CV < 8%) with averages of 71.20 cm^2 and 289, respectively. The 12th–rib back fat averaged 5.15mm ranging from 3.82 to 6.54 mm. Feed cost of gain ranged from $0.40 to $0.67/kg; FCOG was lower in the central region.

Conclusion

All diets are viable options for Honduran producers to finish beef. Local byproducts can be blended with other feedstuff to reach sufficient protein and energy, demonstrating the role byproducts can have within Honduran beef finishing systems. Dressing percent driven by carcass weight was one of the most important factors affecting profitability. Results can be utilized to assess local feedstuffs and diets.