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Use of Feed Resources in Intensive Urban Ruminant Production Systems: A Case Study from Burkina Faso

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Abstract

A longitudinal study was conducted in the built-up area of Bobo Dioulasso in Burkina Faso to (i) assess the resource use efficiency in zero-grazing beef cattle production enterprises through quantification of inflows of feeds and outflows of manure; (ii) determine the animals' live weight (LW) gains; and (iii) evaluate whether the feeding regime was able to meet the animals' energy requirements for maintenance and growth, so as to assess the system's overall efficiency. Five representative farms were purposively selected out of a total of 133 surveyed in a previous study. The average number of cattle per farm was 5.4 ± 1.99, and measurements were carried out in bi-weekly intervals from August 2012 to May 2013. LW of animals averaged 270 ± 128.8 kg and LW gain ranged from 162 ± 60 to 423 ± 200 g d^{-1} with an average of 290 ± 161 g d^{-1}. The average daily supplies of crude protein and metabolisable energy (MEoffer) of 29 ± 8.9 g kg-0.75 and 1.5 ± 0.44 MJ kg-0.75, respectively, clearly exceeded the animals' requirements for maintenance plus growth; hence calculated feed conversion ratios were very low. The same was true for the ME use efficiency (4.4 ± 2.65 g LW gained MJ^{-1} MEoffer) determined. These results suggest that the feeding management of urban beef cattle keepers in Bobo Dioulasso is resource inefficient, and most likely also improvident. It is advisable that extension services inform urban livestock keepers about the quality of feeds on offer to avoid wastage of feed energy and nutrient resources available to them.

Keywords: Cattle fattening, energy use efficiency, feed conversion ratio, live weight gains, urban livestock keeping, West Africa

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