

REDUCED ENTERIC METHANE EMISSION AND INCREASED PRODUCTIVITY FROM SMALL INTENSIVE BEEF CATTLE PRODUCTION SYSTEM IN QUANG NGAI PROVINCE

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Summary

The objective of this study was to determine enteric methane emission factors of beef categories and develop scenarios to improve animal performance and reduce methane emission/unit product from intensive cattle production system. Methane emission was estimated according to tier 3 of IPCC (2006) method. Results showed that average enteric methane emission factor was 37.4 kg/animal/year and enteric methane efficiency was 5.34 kg CO₂eq/kg daily weight gain (DWG). Results of scenarios indicated that increasing dietary concentrate levels from 30% to 40% and 50% resulted in increased DWG from 42 to 80% with reduced enteric methane efficiency from 24 to 38%. Increasing crude protein levels in the dietary concentrate from 10% to 13%, 16% and 20% resulted in increased DWG from 58 to 80% and reduced enteric methane efficiency from 31 to 38%. Using forage mixture of elephant grass, rice straw and ruzzi grass resulted in increased DWG and reduced enteric methane efficiency compared to using a mixture of elephant grass and rice straw or ruzzi grass and rice straw.

Keywords: *Intensive beef production system, diet, enteric methane.*