Tropentag, October 6-8, 2009, Hamburg

"Biophysical and Socio-economic Frame Conditions
for the Sustainable Management
of Natural Resources"

Effect of Pasture Vs Concentrate Feeding on Carcass and Meat Characteristics of Finishing Swamp Buffalo (Bubalus bubalis)

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Abstract

Swamp buffalo were an important source of draught power for small scale farms in Thailand until their major replacement thought machines. However, the consumption of buffalo meat increased over the past years because of his high protein and low fat content. The aim of this study was to measure the impact of feed on carcass and meat quality of Thai swamp buffalo. Therefore twenty-four swamp buffaloes, aged one year old were used in this experiment. The animals were randomly divided into four equal groups, one group of buffalo was grazed on a pasture of pure Guinea grass (T1) whereas the second group was grazed on Guinea grass mixed with the legume *Stylosanthes guianensis* (T2). The other two groups, were raised in pens and fed with concentrate (based on dry mater) either 1.5 % (T3) or 2.0 % (T4) of their body weights, respectively. All buffaloes were slaughtered at an age of three years (average live weight of 385 ± 15 kg). Longissimus dorsi muscles were used for meat quality determination. Body weight development was not significantly different between the groups. Hot and chilled carcass, dressing percentage and carcass length of animals of group 3 was significantly ($p < 0.01$) higher than in the other groups. Meat descending from animals fed 1.5 % concentrate (T3) was redder ($p < 0.01$) in colour (higher a*) than meat from animals fed on pasture. Water holding capacity (WHC) in terms of drip and thawing losses were significantly different. However, the cooking and grilling losses were not significantly different between the groups. In conclusion, concentrate influenced carcass composition and favour meat quality.

Keywords: Carcass, meat quality, pasture, swamp buffalo, guinea grass, *Stylosanthes guianensis*

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