



Tropentag, October 9-11, 2007, Witzenhausen

“Utilisation of diversity in land use systems:
Sustainable and organic approaches to meet human needs”

Effect of Type of Grazing on Meat Quality of Thai Native Cattle

SANCHAI JATURASITHA¹, RAKKEART NORKEAW¹, THERDCHAI VEARASILP¹, THUMRONGSAKD
PHONBUMRUNG², KHEMSAWAT CHEERAWAT², MICHAEL WICKE³

¹Chiang Mai University, Department of Animal Science, Thailand

²Department of Livestock Development, Animal Nutrition Division, Thailand

³Georg-August-Universität Göttingen, Inst. of Animal Breeding and Husbandry, Germany

Abstract

Native cattle of the family of *Bos indicus* are in Thailand kept as draught animals mainly in rice fields. After field discharge some are sold in the market and later slaughtered. The beef quality is poor because the animals are slaughtered at old age. The objective of this investigation was to study the beef quality of 3 years old native cattle grazed on different types of pasture. Twelve calves were reared with their dams until one year of age after which they were randomly divided into two groups and grazed for the next two years. One group of calves was grazed on a pasture of pure Guinea grass (*Panicum maxima*), whereas the second group was kept on Guinea grass mixed with the legume *Stylosanthes guianensis*. The three years old calves were slaughtered and their *Longissimus dorsi* collected in order to study the meat quality. Meat quality in terms of pH- and conductivity value was not significantly different between the two groups ($P > 0.05$). The lightness value (L) of meat of cattle grazed on Guinea grass was darker than that of cattle grazed on mixed pasture ($P < 0.01$). The sensory evaluation in terms of tenderness, taste and acceptability found no significant difference between the groups ($P > 0.05$) whereas the juiciness of the beef from the group grazed on Guinea grass pasture was higher than that of the group grazed on mixed pasture ($P < 0.05$). The chemical composition, water holding capacity, shear force value as well as collagen content of beef were not statistically different ($P > 0.05$) between the two groups whereas the cholesterol and triglyceride content of beef from animals grazed on pure Guinea grass was lower than from those grazed on mixed pasture ($P < 0.05$). In conclusion, Thai native cattle grazed on pure Guinea grass pasture had a more favourable beef quality compared to cattle grazed on Guinea grass mixed with legume.

Keywords: Beef quality, grazing type, Thai native cattle