



Tropentag, October 11-13, 2006, Bonn

“Prosperity and Poverty in a Globalised World—
Challenges for Agricultural Research”

Chemical Composition and Sensory Evaluation of Breast Muscle of Indigenous and Modern Chickens Raised in North Thailand

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Abstract

The experiment was conducted to determine chemical composition and sensory evaluation of breast muscle of four different chicken strains, namely, Bresse, Maehongson, and black-boned chickens (Cheefah and Faluang). Maehongson, Cheefah and Fahluang chickens are indigenous chickens raised in the rural mountainous area of Maehongson province, North Thailand. Maehongson chicken originated from wild chicken that has been trapped to raise at home in order to improve the behaviour. Cheefah and Fahluang are black-boned chickens raised by hilltribe people at Maehongson province as well. They have meat, skin, bone and even internal organ in black colour. The Bresse strain originates from the south of Burgundy County (France) and has been introduced to Thailand as it is also considered to have a comparably dark meat. Eighty chickens of each strain were equally separated into male and female. Using a 4×2 factorial arrangement, the experiment was designed in CRD. The chickens were raised from one day to 16 weeks of age. The result showed that Bresse chicken (modern strain) had higher fat percentage than indigenous strains ($p < 0.01$) but the protein percentage, it found no significant difference among strains. Breast muscle of Maehongson strain (native chicken) had higher cholesterol and triglyceride content as well as TBA number than other strains ($p < 0.01$). The sensory evaluation in term of tenderness, flavor and overall acceptability for all strains were not different. Bresse muscle had higher shear force value than other indigenous strains. Furthermore, black-boned chickens found to have mild quality among modern and native chickens. In conclusion, as the differences were minor in magnitude, indigenous strains have the potential to as a product for a niche market

Keywords: Breast, chemical composition, chicken, panel test