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Soybean Straw Replacing Low-Quality Brachiaria Grass by in Forage-Concentrate Diets — Effects on Performance and Carcass Quality of Lambs

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Abstract

There is an increasing demand for lamb meat in Thailand. In the north of Thailand, soybean is planted and soybean straw is a major by-product, thus providing an alternative to the typically low-quality pastures and hays from those pastures. In this study the effects on performance and carcass quality of lambs fed different levels of soybean straw partially or totally replacing low-quality *Brachiaria ruziziensis* grass hay as a model for grazing were evaluated. All diets were supplemented with concentrate (1/3 of diet) thus reflecting more intensive feeding systems of somewhat larger farm enterprises of the north of Thailand. Twelve male indigenous lambs of 30 kg body weight were fed one of the three diets for 179 days. Diets differed in forage with *Brachiaria* hay being replaced to 0.50 and 100 % by soybean straw. Lambs were slaughtered and the right carcass side was dissected as is common in Thailand and the left carcass side was dissected according to US standard. Average daily gain of the lambs fed only soybean straw as a forage was superior to that of the other two groups, this probably due to the higher protein content of the soybean straw compared to the grass hay and the lower amount of feed refusals. Feed conversion ratio and feed cost per gain were improved as well by the use of soybean straw. Carcass weights and dressing percentage were more favourable in lambs receiving only soybean straw or only *B. ruziziensis* hay than in those receiving an 1:1 mixture. There was a trend to higher lean meat percentages with increasing proportion of soybean straw. Carcass cutting in Thai style with the aim to dissect the valuable muscles without bone, fat and connective tissue around the muscle did not result in significant difference among groups, but lambs dissected according to the US standard cutting scheme resulted in superior percentages of loin, rib and plate when lambs received the mixed forage while there were no obvious differences in the other valuable cuts. This has important implications for export.

Keywords: Brachiaria grass, carcass quality, soybean straw

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