

Methee Sukulthanasorn 2008: Utilization of Soyhulls as a Replacement for Cassava chip in Diets of Fattening Beef. Master of Science (Agriculture Research and Development), Major Field: Agriculture Research and Development, Interdisciplinary Graduate Program. Thesis Advisor: Associate Professor Lerchat Boonek, Ph.D. 58 pages.

Two experiments were conducted to study utilization of soyhulls as a replacement for cassava chip in diets of fattening beef. Experiment 1 was to evaluate digestibility of experimental diet in lamb. Sixteen lambs were randomly allocated to 4 experiment groups in completely randomized design trial. Diets were formulated to contain 5 (CTR), 10(10SH), 15(15SH) and 20% soyhulls (20SH) replacing cassava chip in the total mixed ration. The digestibility study showed that dry matter intake of lamb fed 20SH tended to be higher than other groups while organic matter and protein intake among experimental groups were significant different ($P<0.05$) with the highest value in 20SH group. NDF intake was highest in lamb received 20% soyhulls with mean value of 373.01 gram per day ($P<0.05$). There were no significant differences of dry matter and organic matter digestibility among experimental groups but NDF digestibility increased significantly ($P<0.05$) in high soyhulls diet when cassava chip was reduced with the values of 29.32 39.60 29.59 and 39.91 in lambs fed CTR, 10SH, 15SH and 20SH, respectively. Nitrogen retained (% nitrogen intake) was highest at 44.42% in 20SH and lowest at 30.95% in CTR group ($P<0.05$) Experiment 2 was to determine the effects of soyhull on animal performance when soyhulls were substituted for cassava chip at stepped levels in total mixed ration of fattening beef. Twenty crossed Brahman (353.63 ± 2.94 kilograms) (mean $\pm$ SE) were randomly allocated to one of four experimental diets in a completely randomized design trial. Diets were total mixed ration used in experiment 1. Experimental diets were fed for 90 days, after which cattle were adjusted to the diets for 10 days. Feed dry matter intake and average daily gain did not differ among treatments at any time during the trial. The experimental beef cattle fed the 5, 10, 15 and 20% soyhulls diets gained 1.15, 1.07, 1.22 and 1.23 kilograms per day, respectively and consumed 9.84, 9.47, 10.18 and 9.67 kilograms dry matter per day, respectively. Experimental beef fed 20SH diets showed better numerically values of feed efficiency as compared to other groups (8.59, 8.93, 8.45 and 7.91 for 5, 10, 15 and 20% soyhulls diets, respectively). In this study, soyhulls appear to be good substitute for cassava chip and can constitute up to 20% of the diet dry matter. Profit per head (baht/head) of cattle received 20% soyhulls diets was greater than other groups due to lower price of soyhull (3.80 Baht/kg.) as compared to cassava chip (3.95 Baht/kg)



Student's signature



Thesis Advisor's signature

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