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## Effect of four protein supplements on growth, feed conversion, mohair production, fibre characteristics and blood parameters of Angora goats

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### Abstract

Sixty-four weaned Angora female kids raised on four commercial farms were fed from 12–50 weeks of age, diets based on hay and a concentrate mixture of corn and barely. Diets were supplemented with either soybean, soybean and protected methionine (Mepron), herring meal or corn gluten meal. Diets fed from 12–16 (start), 16–24 (growth) and 24–50 (finish) weeks of age contained 22.8, 18.3 and 15% CP, respectively. Goats were shorn and sampled at 24 and 50 weeks of age. Traits were evaluated in a 4×4 factorial analysis. Highest body weight gain was recorded on the herring and the lowest on corn gluten supplemented diets. The differences were however, non-significant. Feed intake was similar for the four diets, although goats fed the herring meal consumed 6.1 kg more hay than those fed the soybean-Mepron diet. Feed conversion was highest for goats fed herring meal and lowest for those fed corn gluten, however, differences among treatments were non-significant. Cost of producing 1 kg of gain was lowest for goats supplemented with herring meal and soybean (C\$ 1.68 and 1.70) and highest for goats supplemented with soybean-Mepron and corn gluten meal (C\$ 1.96 and 1.92, respectively). Goats fed herring meal had higher mohair production (5.26 vs. 4.57 kg,  $P < 0.05$ ), were more efficient (38.44 vs. 43.09 kg feed/kg<sup>-1</sup> mohair,  $P < 0.05$ ) and were less costly (5.79 vs. 6.41 C\$,  $P > 0.05$ ) than goats fed soybean-Mepron. Effect of the four protein supplements on mohair fibre characteristics was significant only on variation of fibre diameter and fibre length at first shearing, and on variation in fibre diameter and fibre density at second shearing. Cost of mohair production was significantly higher in goats supplemented with soybean-Mepron (C\$ 6.78) than those on the other three treatments (C\$ 5.87–6.09). Effect of feeding treatments on metabolic parameters was non-significant for all traits. Overall results indicated that under practical conditions there was little effect of different protein supplements applied on growth and mohair production. Differences among animals appeared to have greater effects on these traits.

**Keywords:** Angora goat; Protein supplements; Growth; Mohair production; Fibre characteristics; Metabolic parameters

### 1. Introduction

Many factors, including age, heredity, environment and nutrition, influence the quantity and quality of

mohair fibres produced by Angora goats (Bedard and Beaulieu, 1988). Numerous reports stressed the favourable effect of proper energy level intake and protein content of the ration on growth and fineness of mohair fibres (Huston 1980, 1987, 1992; Calhoun et

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