In vivo digestibility of *Vigna unguiculata* and *Canavalia brasiliensis* herbage meal in broilers

In search of replacement options for soybean meal in broiler feeding for small producers, the digestibility of the forage meals of *Vigna unguiculata* (Vu) and *Canavalia brasiliensis* (Cb) was evaluated for male chickens (line COOB 500) in the finisher phase using a completely randomized design with three treatments and six repetitions, by weight to weight substitution. The animals were confined in metabolic cages with 8 days acclimatization to the ambient and 5 days before to the measurement of digestibility.

The treatments were: T_0 (100% control diet, balanced), T_1 (80% control diet and 20% forage of *V. unguiculata*), and in a second trial with Cb (T_2). The diets were pelletized and offered daily (6:30 a.m., 12:00 m and at 4:30 p.m). The daily consumption and the production of feces was determined to calculate the apparent digestibility of the forage and of the different components of the diet. The apparent dry matter (DM) digestibility of the forage *V. unguiculata* was 33.2% and of *C. brasiliensis* it was 39.3%. The DM digestibility of the diets was 65.6% and 57. 4% for T_1 and T_2 respectively, presenting statistical differences between T_2 and T_0 ($P<0.05$), but not between T_1 and T_0. For the *in vivo* digestibility of the crude protein of the diet (57.1%) and ash (21.2%) statistical differences were evidenced ($P<0.05$). In contrast, the digestibility of crude fiber (43.8%), the nitrogen-free extract (66.4%), the ether extract (73.2%) and the gross energy (69.4%) were not statistically different. Equally, for the diet with 20% *C. brasiliensis*, statistical differences were observed ($P<0.05$) between the treatment T_0 and T_2 for the digestibility of ash (67.6%), crude protein (40.5%), ether extract (76.6%) and nitrogen-free extract (67.6%). In contrast, digestibility of the gross energy (62.1%) was significantly lower than in T_0 (80.9%)

The low values of digestibility of forages are limiting its use as a source of protein, suggesting its use as pigmentation in broiler diets. However, these species can be used in unconventional feeding by small producers.

Keywords: *in vivo* digestibility, *Canavalia brasiliensis*, *Vigna unguiculata*, herbage meal, broilers