



Performance of broilers (1-21 days) fed pelleted diets containing crude glycerin

Fernando de C. Tavernari^{*1}, Gustavo J. M. M. de Lima¹, Luiz F. T. Albino², Samuel Marasca³,
Carina Sordi⁴, Naiana E. Manzke⁵

¹Scientific Researcher, Embrapa; BR153, KM 110, Concórdia, SC 89700-000 BR; ²Universidade Federal de Viçosa, Viçosa, MG; ³Universidade Federal de Santa Maria, Palmeira das Missões, RS; ⁴Universidade do Contestado, Concórdia, SC; ⁵Universidade Federal de Pelotas, Pelotas, RS.

* fernando.tavernari@embrapa.br

The majority of broiler's feed produced in Brazil is pelleted because its improvement in nutrient digestibility, reduction of pathogen contamination and improvement in transport conditions. There are many humectant additives that improve pelleting process, but glycerin is an energy source for animals, besides being an efficient humectant and it has a great potential for been produced in Brazil. Therefore, we evaluated the performance of broilers in the initial phase (1-21 days) fed pelleted or mash feed with increasing levels of crude glycerin. The experimental design was in randomized complete blocks (weight) with eight treatments and eight replicates of twenty five birds each, according to a factorial arrangement (two feed processes X four levels of crude glycerin: 0, 4, 8 and 12%). All diets were formulated to meet the same requirements and the crude glycerin used contained 80.0% glycerol, 87.0% DM, 4.0% Cl, 2.4% Na and 3228 kcal kg⁻¹ AMEn. Pelleted diets were offered in crumble form up to 10 days of age. At 21 days birds and feeders were weighed individually to evaluate feed weight gain, feed intake and conversion and the coefficient of variation of the final weight of the birds. Birds fed pelleted diets had greater feed intake and greater weight gain ($P < 0.01$), but had similar feed conversion ($P > 0.05$). Regarding the use of crude glycerin in the diet, there was a quadratic response ($P < 0.01$) in feed intake (consumption = $1293.93 + 9.24215x - 1.05977x^2$; $R^2 = 0.93$) and weight gain (weight gain = $954.602 + 13.8412x - 1.24258x^2$; $R^2 = 0.95$), but no difference in feed conversion ($P > 0.05$). There was an interaction between factors ($P < 0.01$) for feed consumption. It was observed a linear increase ($P < 0.01$) in the coefficient of variation of the final weight of the birds with the increasing levels of crude glycerin, which can be explained by the difficulty of mixing the diets with high levels of crude glycerin. Pelleted diets and the use of crude glycerin improve weight gain of broilers. However, high levels of crude glycerin can compromise the uniformity of the lot.

Keywords: broiler, crude glycerin, mash diet, pelleting