

## EFFECTS OF THE MARL ON THE PERFORMANCE OF CHICKEN FEEDING STARTING DIET CONTAINING ACID OIL

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**Abstract.** Following the prohibition of the animal products use in animal food and the rise in the prices of the basic raw materials, various products were offered like alternative to the poultry food industry. Among these products, various acid oils have been tested to substitute partially the corn in poultry feed. However, the digestive constraints restrained their use. Clay is an excellent natural substance that could be used to improve digestibility of lipids and growth performances (Ouachem et al., 2009). For this purpose, the incorporation of 5 % soybean acid oil with and without 3 % of Marl was tested on broiler chicken. In this trial, the growth performance between 1 and 10 days, a digestive assessment between d9 - 12 and the state litter quality were studied. Comparatively to the control diet, the use of acid oil tended to reduce the growth performances and the digestive effectiveness. While the addition of 3% of marl for the diet containing acid oil, showed a significant increase of the weight gain (+13.5 %;  $p = 0.001$ ) and improvement of the feed conversion ratio (-10.3 %;  $p = 0.02$ ), and on the other hand, a significant increase of the proteins utilisation (+18 %;  $p = 0.001$ ) and fatty matter (+5.1 %;  $p = 0.02$ ). The results showed also that clay contribute significantly to improve the litter quality by the highest rate of dry matter (+33.7 %;  $p = 0.03$ ). Under our experimental conditions, it is suggested that acid oil may be included with 3 % of marl in the diet of chicken.

**Keywords:** Marl; Acid oil; Litter state; Digestive assessment; Growth performance; Chicken