

EFFECT OF DIFFERENT DIETARY SOURCES OF FAT ON PERFORMANCE AND IMMUNE RESPONSE OF BROILER CHICKENS

Nasser A. Khadr* and Ahmed A. Abd El-Rahman**.

*Dept. of Nutrition and Clinical Nutrition, Fac. Of Vet. Med. Zagazig Univ. Benha Branch.

**Dept. of Agric. Bioc. Fac. of Agric. Zagazig Univ. Benha Branch.

ABSTRACT: Studies were conducted to investigate the effect of different dietary fat sources i.e. dried fat, corn oil, blend oil and blend oil heated for 8, 24 and 48h. on broiler chickens. The responses of broilers tested in this study were feed intake, weight gain, food conversion and immune response, as well as food cost per kg body gain.

The different dietary fat sources showed no specific effect on feed intake whereas they showed significant response to dietary heated oils on food cost, body gain and feed conversion.

Serum protein was affected by dietary heated oil for 24 hr, where its constituents of α globulin, β globulin and γ globulin were increased by 47.62%, 42.0% and by 3.18%, respectively compared with the corresponding constituents of those fed on diet containing unheated oil. The statistical analysis of serum GPT

showed significant elevation by feeding on diet containing dried fat, whereas serum GOT was not affected significantly by any of the investigated treatments except for diet containing corn oil where significant decrease occurred. Serum total cholesterol was highly significantly increased in serum poultry chicken received corn oil or heated oil for 8 and 24 hr.

INTRODUCTION

Diets used for broiler chickens generally include fat as a concentrated source of metabolizable energy. It is well known that the degree of fatty acid saturation affects fat digestibility. The concentration of metabolizable energy provided by each source of fat may be calculated using pre-established formulae (Wiseman et al., 1991). It is commonly assumed, however, that, once the fat is absorbed, the calories from fatty acids of varying degrees of saturation are used equally for metabolic purposes. Thus, animal