

Replacement of Maize by Animal Fat on Lipid Profile of Pigs

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Abstract

The experiment was conducted to study the effect of replacement of maize by animal fat at various levels on plasma and muscle lipid profile of pigs. Thirty weaned Large White Yorkshire piglets were randomly divided into three groups and randomly allotted to the three dietary treatments, T1 (control ration as per NRC, 1998), T2 (50 per cent of maize of control ration replaced by animal fat) and T3 (100 per cent of maize of control ration replaced by animal fat). Blood and longissimus dorsi muscle samples were collected for lipid profile estimation. The plasma triglycerides, total cholesterol, HDL, LDL, VLDL cholesterol, LDL:HDL and total cholesterol:HDL ratio of pigs maintained on three dietary treatments ranged from 37.20 to 50.40 mg/dl, 78.60 to 128.60 mg/dl, 37.20 to 52.40 mg/dl, 33.96 to 66.12 mg/dl, 7.44 to 10.08 mg/dl, 1.12 to 1.47 and 2.12 to 2.47, respectively. There was no difference between T2 and T3 groups regarding plasma triglycerides, HDL cholesterol, VLDL cholesterol, LDL/HDL ratio and total cholesterol/HDL ratio. The animals in T1 had lower ($P < 0.01$) levels of all plasma lipid parameters observed in the study. There was significant difference ($P < 0.01$) among all the three treatments regarding LDL cholesterol levels, the value was higher in 100 per cent replacement group. The muscle lipid profile of pigs were statistically similar ($P > 0.05$). The results of this study revealed that though replacement of maize by animal fat elevated the plasma lipid profile of

pigs, the muscle lipid profile remains constant and maize can be replaced by animal fat more economically at 50 per cent level.

Keywords: Maize, Animal fat, Pig, Lipid profile.