1. THE EFFECT OF LOW TANNIN SORGHUM (TEGEMEO VARIETY) AS A REPLACEMENT OF MAIZE IN BROILER DIETS.

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A study was carried out to investigate the possibility of replacing maize with low tannin sorghum (Tegemeo variety) as an energy source in broiler diets. Three hundred and twenty, week old broiler chicks were fed on four diets in which maize was replaced by sorghum at 0, 33.3, 66.7 and 100% levels, for dietary treatment A, B, C and D, respectively. The control diet contained maize as the only cereal grain. Twenty birds per group were randomly assigned to the four dietary treatments. Live weight, daily gain, cumulative feed intake and feed grain ratio (FGR) were measured weekly. At eight weeks of age, sixteen birds from each treatment were picked at random and slaughtered fro the analyses of their carcass characteristics. Dressing percentage, gizzard, heart, liver and abdominal fat, as proportions of carcass weight were determined. At six weeks of age, sixteen male birds were used in the balance trial to determine the metabolizable energy. Mean proximate composition of low tannin sorghum for crude protein, crude fibre, ether extract, nitrogen - free extracts and ash was 12.1, 5.4, 3.0, 65.3 and 1.6%, respectively. Calcium and phosphorus content were 0.03 and 0.2%, respectively. Live weight gains, feed gain ratio and dressing percentage were not significantly affected by the dietary treatments. Substitution of sorghum for maize significantly decreased the proportionate weights of internal organs. Proportionate weights of liver and abdominal fat increased with increasing level of sorghum in the diets, whereas that of gizzard and heart decreased. Mean metabolizable energy values not corrected for nitrogen retention were 9.6, 10.9, 8.9 and 8.0 MJ/kgDM, whereas the mean nitrogen - corrected metabolizable energy values were 8.8, 10.0, 8.1 and 7.1 MJ/kgDM, for diet A, B, C and D, respectively. Mean true metabolizable energy values were 9.6, 11.0, 8.9 and 7.8 MJ/kgDM, respectively. From these findings it can be seen that, low tannin

sorghum (Tegemeo variety) can entirely replace maize in the broiler diets, without causing any adverse effects on performance.