

Food Intake and Food Conversion Efficiency in Broilers Given a Grower Diet Diluted with Cellulose Powder

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Over the years, numerous fillers such as sand, oat hulls, vermiculite and cellulose powder have been included in diets for poultry (Sibbald *et al.* 1960). The usual effects are an increase in food intake as the bird attempts to obtain the same of energy and nutrients from a more 'dilute' diet. However, at higher levels of inclusion, the compensation is generally incomplete (Hill and Dansky, 1954).

In this study, 42 broilers (4 days of age; mean weight 5.1 g) were allocated to two treatments (2 replicates of 7 birds/treatment), i.e. standard grower diet, and the standard diet diluted with 3% or 6% cellulose powder. The birds were held indoors in stacked cages with electric heaters. Food intake and weight gain were measured for 17 days. There were no mortalities. The results are given in Fig 1.

Daily mean food intakes and weight gains of birds did not differ ($p > 0.05$) between treatments, though both measures tended to be lower in birds on the 'diluted' diets. However, FCRs of birds on both 'diluted' diets were significantly lower than those on the control grower diet. The results indicate that the inclusion of cellulose at up to 6% in a standard grower diet may have beneficial effects on the efficiency of conversion of food into liveweight gain, although the reasons for this effect are not clear.

References

Sibbald, I.R., Slinger, S.J. and Ashton, G.C. (1960). The weight gain and feedintake of chicks fed a ration diluted with cellulose or kaolin. *J.Nutr.* 72: 441-46.

Fig 1. Feed intake, weight gain and FCR in broilers grown on a standard diet, or the same diet diluted with 3% or 6% cellulose powder.

