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## Cost Effectiveness of Feeding Fermented Taro Cocoyam Meal to Laying Japanese Quails (*Coturnix coturnix japonica*)

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### Abstract

The decreased predictability of seasons due to climate change has had negative effect on planting time and output of maize, a major energy source in the tropics. This negative effect is further reflected in the decreased availability and high cost of maize. However, the idea of making the most of what is easily available at the least cost, has increased research into root crops as important feed source in bridging the energy gap in poultry feeding. Two hundred and twenty five Japanese quails (*Coturnix coturnix japonica*) were randomly allotted to five dietary treatments (I-V) of 36 hens and 9 cockerels each. Each treatment was replicated thrice with 12 hens and 3 cockerels per replicate. In each of the five diets, 48 hours fermented taro cocoyam meal (*Colocasia esculenta* var. *esculenta*) was used to replace maize at 0%, 25%, 50%, 75% and 100% for treatments I, II, III, IV and V respectively. The quails were fed one of the five experimental diets over a period of 70 days. Feed intake was significantly ( $p < 0.05$ ) influenced by diets, with lowest values obtained for quails in treatment V. Cost of feed was significantly ( $p < 0.05$ ) reduced by the inclusion of taro cocoyam. The cost of feed per gram eggs laid was least with treatment II. More savings accrued at 25% inclusion levels with highest profit and return to Naira invested. Losses were observed at 75% and 100% levels of inclusions. The results indicate that it is cost effective to replace maize with 25% of 48 hours fermented taro cocoyam meal in the diet of laying Japanese quails.

**Keywords:** Japanese quails, cost effectiveness, fermented taro cocoyam