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ABSTRACT

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The present study was conducted to evaluate the effect of partially replacing of Yellow corn (main source of energy) and soybean meal (main source of plant protein) by corn processing by-products such as distiller's dried grains with solubles (DDGS) or Fouts on monosex Nile tilapia (*O. niloticus*) fingerlings. Two feeding experiments were carried out using almost isonitrogenous (25% CP) and isoenergetic diets. Yellow corn and Fouts were replaced by 0, 20 and 40% of either DDGS or Fouts.

Seven hundred and fifty tilapia fingerlings (of 10 ± 0.05 g initial weight) were randomly divided into two experiments. The each experiment contained five different groups with three replicates and 25 fingerlings.

First experiment

Feed intake was insignificant decreased ($P > 0.05$) when yellow corn was replaced by 20 or 40% of DDGS.

The growth performance parameters were decreased insignificantly in all substitution levels of DDGS or Fouts. The FCR in the control diets showed the worst values compared to the all substitution levels of DDGS or Fouts. The feed costs were decreased when substitute yellow corn by Fouts (20% and 40%).

Second experiment

Feed intake in which replaced soybean meal by 20% and 40% of either DDGS or Fouts showed significant decreased between the control diet and other treatments.

Growth performance parameters were significantly decreased with increasing substitution levels of DDGS or Fouts. The control diet was the best FCR values followed by TP₄ (20% Fouts). The feed costs /kg gain were increased by increasing substitution levels of soybean meal by DDGS or Fouts, while the best feed cost for producing one kg of fish were obtained from the control followed by TP₄ (20% Fouts).

The results concluded that the 20% substitution level of DDGS or Fouts for yellow corn and soybean meal in Nile tilapia (*O. niloticus*) diets containing 25% CP had no adverse effects on the performances of the fish.