

## Apparent digestibility coefficients and nutritional value of Iranian cottonseed meal varieties for rainbow trout (*Oncorhynchus mykiss*)

### ABSTRACT

Three different varieties of cottonseed meal (CSM) were evaluated to measure the apparent digestibility coefficient (ADC) of the nutrients using chromic oxide ( $\text{Cr}_2\text{O}_3$ ) as an indigestible marker. Five experimental diets were prepared and mixed with 1% of  $\text{Cr}_2\text{O}_3$ , 2% of mineral and vitamin each of which were premixed. Diet 1 was used as the control diet. Diets 2, 3, 4 and 5 were formulated using 70% of the control diet together with 30% of each of the cottonseed meal Pak (CSMP), cottonseed meal Sahel (CSMS), cottonseed meal Akra (CSMA), and soya bean meal (SBM), respectively, in three replications. The ADC of the three CSM varieties was measured to be 53.8-62.7%, 60.2-66.6% and 75.6-82.4% for dry matter, fat and crude protein, respectively. Survival rate for all fishes used in this study was more than 98%. Fishes fed with the CSM diets were not significantly different compared with those fed with the SBM diet in terms of survival rate ( $p > 0.05$ ). Apparent protein digestibility of CSMP and CSMS showed no significant difference with SBM ( $p > 0.05$ ). Therefore, it could be concluded that two kinds of CSM could be used as a replacement for SBM in rainbow trout as a protein source.

**Keyword:** Iranian cottonseed meal varieties; Soybean meal; Apparent digestibility coefficients; Rainbow trout