

Evaluation of Growth and Quality Parameters of Two Tilapia Fishes (*Oreochromis* spp.) using Artificial Feeds Prepared from Alternative Protein sources

ABSTRACT

Fish is one of the most vital protein sources for majority of the population in the world. With the increase in global population, it is an urgent need to increase fish production to meet the requirement of protein. The nutritional importance of fish consumption is in great extent associated with its advantageous fatty acid profile as well. Among the various cultured species of fish, Tilapia (*Oreochromis* spp.) seems to be very popular in India and abroad among fish eating population. This fish is well acclimatized in our country and shows high growth in fish ponds of variable sizes. Because of its production potentiality, tilapia has become an important protein source in many tropical and subtropical countries. In India, the culture of tilapia is receiving much attention among progressive fish culturists and researchers as well. For enhancement of production of tilapia, it is necessary to supply nutritionally balanced artificial feeds regularly as well as adequately. Since feed constitutes the most expensive item of the operating cost, accounting for more than 50 per cent, has become the great concern of fish farmers in the present days. Therefore, the proposed study aims at preparation of cost effective and balanced feeds for tilapia and to assess growth and quality of the fish. To achieve the major objective of the study, a series of experiments were carried out at simulated condition in the experimental tanks. Research findings show that cost of formulated feeds from alternative sources was reduced by about 50% to that of conventional one. The various parameters like, SGR, FCR, PER, HSI and GSI were increased significantly indicating substantial growth of the tilapia fed with formulated feeds. Low fat content coupled with easy digestibility of the experimental fishes under investigation together with its EFA, n3 resources and other attributes show sufficient improvement in nutritional quality of tilapia. The findings also showed an additional benefit of approximately 40% over the conventional practice could be achieved by using the package developed in the experiment.

Key words: protein, fatty acid profile, tilapia, alternative feed, non-conventional sources