

Fish meal replacement in diet for Nile tilapia

Egyptian research compared a commercial tilapia diet containing 20% fish meal and 30% soybean meal to diets with all of the protein coming from soybean meal with graded levels of L-lysine supplementation formulated for Nile tilapia fingerlings. After feeding for ten weeks, the diet containing 55% soybean meal and 0.5% L-lysine was significantly ($P > 0.05$) better than the commercial tilapia diet with respect to final weight, weight gain, feed conversion, protein efficiency ratio and feed intake. This diet had the highest digestibility coefficients for protein, fat and energy. These researchers suggested that a diet with 55% soybean meal supplemented with 0.05% L-lysine can totally replace fish meal in a diet for Nile tilapia fingerlings without adverse effect on fish performance.

ElSaidy, D.M.S.D. and M.M.A. Gaber. 2002. Complete replacement of fish meal by soybean meal with dietary L-lysine supplementation for Nile tilapia Oreochromis niloticus (L.) fingerlings. J. World Aquaculture Soc. 33(3): 297-306.

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FF, 2 excerpts from:

M. Ben-Yami Column

WORLD FISHING, February 2003

Tilapia: not a humble fish

***** *We have here but five loaves and two fishes.* *****

...//... One of the main problems of present-day aquaculture is that of fishmeal supply. Carnivorous fishes such as salmon and trout must be fed with animal protein, hence fish farming industry has become a major consumer of fishmeal. However, the world resources of fish that can be economically utilized for reduction are finite, and those that can be used for human consumption may increasingly leak away to canning and fresh-fish markets. Thus, the spiralling growth of aquaculture rather sooner than later must face fishmeal supply constraint. According to a paper submitted by 3 authors from a Thai feed producing plant, tilapia feed as a rule contains anything between 20-30% and 35-40% protein (for fingerlings), with most feeds containing at least 8-12% of fishmeal. Israeli feed producers told me that according to local studies, all-plant protein feeds are fully sufficient for tilapia culture (apart from fingerlings), and that they use to add some 5% of fishmeal on farmers? request ? a result of conservatism rather than actual need. ...//...

...//... Apart from the potential constraint of fishmeal supply, increasing competition for limited fresh water resource forces some countries to experiment with water saving methods. C.Agius of Malta University reports on trials aimed at growing tilapia in sea water both, cages and tanks. In another development, which came after the conference, in August 2002, the Israeli government decided to support a US\$53M programme aimed at conversion of about a half of the inland waters fish farms from semi-intensive into industrial plants. This programme is planned to produce 10,000MT of fish, with tilapia an important component. According to Israel's Director of Fisheries, Chaim Anjioni, 4 pilot plants will be initially established at the cost of US\$2.2M. The programme will save some 50M cu.m of fresh water per year, and use feeds with reduced fishmeal content. ...//...