

Alternative protein sources in aquaculture diets

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Title: Alternative Protein Sources in Aquaculture Diets

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Interpretive Summary:

Technical Abstract: Aquaculture decreasing availability of land and aquaculture operations are gear system depend heavily on the a At present, aquaculture feeds, e meal to meet their critical protei capture fisheries have reached production for direct use in hum increased demand of fish meal increased competition among o

prices of fish meal. Consequently, for the aquaculture industry to expand and remain competitive, less expensive alternative sources of protein must be identified and used as substitutes for or to reduce the dependence of aquaculture diets on fish meal. This book, which consists of 18 chapters, provides exhaustive and up-to-date detail information on nutrient composition, anti-nutritional factors, and nutritional values of alternative plant and animal protein sources as partial or total replacement of fish meal in finfish and crustacean diets. The effects of these ingredients on chemical, biological and physiological parameters of cultured organisms were examined. Optimum inclusion rates of alternative protein sources in diets of various aquaculture species are also presented. Each chapter in this book has been written by world-renowned nutritionists who have an in-depth knowledge in the subjects.

Diets. New York:Haworth

ble future. However, due to nt regulations, modern erations of this production st cost in intensive fish farming. , are heavily dependent on fish static or decline because away from fish meal e trends, together with the ure industry, but also the estock, will likely raise future



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Alternatives to fish meal needed to ensure sustainability of aquaculture. According to James Cook University's Associate Professor Jan Strugnell, current projections have the global population rising by 2 billion to 9.7 billion by 2050, which means an increase in world-wide food production of between 25 and 70 per cent will be required within the next thirty years. She said that while livestock production is intensifying in an attempt to meet such demand, it comes with significant challenges including overgrazing, water shortages, and loss of natural biodiversity. The Future of Aquatic Protein: Implications for Protein Sources in Aquaculture Diets. K Hua, JM Cobcroft, A Cole, K Condon, DR Jerry, A Mangott, C Praeger, MJ Vucko, C Zeng, K Zenger, JM Strugnell. Several non-conventional proteins have gained interest as potential alternative protein sources for fish feeds. A number of earthworm species have been tested for fish feed production; some have nutritional content comparable to fishmeal and are within the recommended nutritional requirements of most fish. In contrast, in semi-intensive aquaculture, aquafeeds often supplement the natural production in ponds, and earthworms are usually produced depending on the primary production of culture systems. For example, researchers have demonstrated that red earthworm meal can supplement natural feeds at a 50 percent replacement level of fishmeal in Indian carp semi-intensive farming.