

International Conference on

AQUACULTURE & MARINE BIOLOGY

June 25-27, 2018 | Rome, Italy

Fatty acids of tilapia fed microbial biomass

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Microbial biomass (MB) generated by biotechnological processes can be used as a source of protein and antioxidants in fish feeds, more sustainable (by reducing the costs of discarding the waste and possible environmental damage) complying with the nutritional requirements of the animals (Grassi, Santo, Marcos, Cavazzana, Oliveira, Bossolani, Ponsano), increasing growth and improving fatty acid in fillets. Although MB seems to be an economically sound ingredient for aquafeeds, few of them have been tested in growth trials and little is known about their effect on the fatty acid composition of fish, the aim of the current study. In this experiment, 840 tilapia (25 g) were fed one of

eight experimental diets with different levels and types of MB; a control diet with no MB and three types of MB at two concentrations (0.25% and 0.5%); *Rubrivivax gelatinosus* (RG25 and RG50), *Saccharomyces cerevisiae* (SC25 and SC50) and *Spirulina platensis* (SP25 and SP50). The fatty acids profile showed the highest values of eicosapentanoic acid (C20:5 n-3) were found in RG25, SC25 and SP50 and the docosahexaenoic acid (C22:6 n-3) and arachidonic acid (C20:4 n-6) showed no significant differences. The $\Sigma n3$ and $\Sigma n6$ not showed difference, but all fish fed MB had lower ratios of $\Sigma n6 / \Sigma n3$ in fillets.

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