

Projeto Nº | 016794

Designação do Projeto | EICOBREAM - Effect of fatty acid source (n-6 vs. n-3) on the eicosanoid cascade and intestine inflammation in gilthead sea bream (*Sparus aurata*)

Tipologia da Operação | Sistema de Apoio à Investigação Científica e Tecnológica (SAICT) - Projetos de Investigação Científica e Desenvolvimento Tecnológico (IC&DT) | Projetos Individuais e em Copromoção

Objetivo Principal | Reforçar a investigação, o desenvolvimento tecnológico e a inovação

Região de Intervenção | Norte

Entidade Beneficiária | CIIMAR

Data de aprovação | 08/04/2016

Data de início | 01/07/2016 a

Data de conclusão | 31/12/2019

Custo total elegível | 179.460,00€

Apoio financeiro da União Europeia através do FEDER | 152.541,00€

Apoio financeiro público nacional | 26.919,00€

Síntese do Projeto: Sustainable development of intensive aquaculture depends on dietary fishmeal (FM) and fish oil (FO) replacement by plant feedstuffs. Though replacement of diet FM poses practical problems most of them are being overcome by the application of judicious nutritional strategies. Replacement of FO by vegetable oils (VO) is more striking, namely by marine fish having absolute requirements of n-3 Long-Chain Polyunsaturated Fatty Acids (LC-PUFA) which are not present in VO. Thus, in practical aquafeeds for marine fish FO cannot be completely replaced by alternative oil sources. FO has however been partially replaced with success in marine fish diets without negative consequences on fish performance. Nevertheless, even partial replacement of FO by VO in aquafeeds drastically alters dietary FA profile and the n-3/n-6 FA ratio, and this may have negative consequences in fish immune status. This study investigated the effect of dietary FA, and the interaction of dietary FA with dietary carbohydrates, on lipid metabolism, eicosanoid cascade, and the immune status of an important aquaculture species: gilthead seabream (*Sparus aurata*), aiming to potentiate the use of VO in aquafeeds for marine species and to promote a healthy and sustainable aquaculture industry. Data of this study is expected to be extrapolated to other marine fish species, and to contribute to a better understanding of the importance of n-3 FA in farmed animals and humans.

