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Effects of cooking on lipid content and fatty acid profile of meagre (*Argyrosomus regius*) fillets during the first three days of storage

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Despite its high qualitative intrinsic traits, farmed meagre (*Argyrosomus regius*) is still a niche species, very little known to European consumers. Fish fatty acids (FA) profile is characterized by moderately high C20:5 (EPA) and C22:6 (DHA) ω-3 polyunsaturated fatty acid (PUFA) contents, having beneficial effects on human health. Storage and cooking process can cause lipid loss, enough to modify raw fish nutritional content. Aim of this study was to describe the effect of cooking on lipid content and on FA profile of meagre during the first 3 days of storage (1°C). Fish (n. 72) were sampled from cage and tank in the farm "Il Vigneto" (Grosseto, Italy), analyzing 6 fish from cage and tank per day. Left and right fillets were analyzed raw and steam cooked (10 min), respectively. Total lipids content and FA profile were determined. Data were analysed by PROC GLM procedure including fish weight, rearing method, sampling date, storage day and the interaction (rearing method x storage day) in the model. Fillets showed a low lipid content (2.59%). During storage cooking yields decreased (96.5 to 94.9%; $p<0.05$) whereas lipids and FA true retention (%TR) did not show a significant decrease. PUFA %TR ranged from 98.9 to 91.0%, without showing a significant decrease for both ω-6 and ω-3 FA groups, however. Among ω-3 fatty acids, DHA showed the highest average %TR (97.58% at the 3rd day). Steam cooking did not seem to affect the lipid content and FA profile of meagre in the first 3 days of storage. Since any losses of lipid and fatty acid contents can be important for a lean fish, as the meagre is, further researches should be directed to individuate conditions of cooking with lower impacts in the nutritional quality of flesh.

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Dicentracin gene expression in European sea bass (*Dicentrarchus labrax*) fed with a Bio-Mos® supplemented diet

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Concern over the use of dietary antibiotics in aquaculture has encouraged the industry to search for alternatives that both enhance performance and afford protection from disease. Bio-Mos®, derived from the outer cell wall of a specific strain of yeast *Saccharomyces cerevisiae* (Alltech Inc, USA) is a product that fits these criteria. Here, we present data on the impact of a Bio-Mos® supplemented diet on the mRNA copy number of the antimicrobial peptide dicentracin, whose transcript regulation has not yet been explored in fish. We analyzed Bio-Mos®-induced changes in the expression of sea bass (*Dicentrarchus labrax*) dicentracin, using real-time RT-PCR technology with which the gene expression can be absolutely quantified using the standard curve method. All data were statistically compared using analysis of variance ($P<0.05$). Our results revealed that 30 days of feeding fish with diets containing Bio-Mos® supplemented at either 3‰ or 5‰ significantly increased the dicentracin mRNA copy number in the head kidney. Furthermore, the mRNA copy number in fish fed at 3‰ was significantly higher than that of the group fed at 5‰ for the same period of feeding Bio-Mos®. A longer feeding period (60 days) did not further increase the dicentracin transcript levels as compared to the values recorded after 30 days. However, the transcript levels in fish fed at 3‰ proved to be significantly higher than those of the control after 60 days of feeding. These findings offer new information about the response of antimicrobial peptides at the transcriptional level to diets supplemented with immune response modulators, and support a role of Bio-Mos® in promoting sea bass non specific immune system.