



## MAY NUTRITION IMPROVE GILTHEAD SEABREAM WELFARE DURING WINTER PERIOD?

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The aquaculture production provides millions of tonnes of food to human consumption, and by 2030 with the increasing population more 40 million metric tons, approximately, of aquatic products will be necessary to maintain the actual seafood consumption per capita. Therefore, it is important to define strategies to increase the production in aquaculture in a sustainable way. During winter, the water temperature in the Mediterranean Sea is around 15°C. Usually the low temperature has a negative impact in gilthead seabream (*Sparus aurata*) growth and welfare due to a lower feed intake and disease susceptibility. It is paramount to formulate a winter diet that help seabream to cope with low water temperature.

Gilthead seabream juveniles with an average body weight of 155g were distributed by nine 500L-tanks, at an initial density of 2.1 kg/m<sup>3</sup>, in a flow-through system. Fish were fed once a day, *ad libitum*, one of the three experimental diets: High P:E ratio (Control); Low P:E ratio (Low); Low P:E ratio with additives mix (LowMix). Each diet was assigned to triplicate tanks.

Key performance indicators, like growth and food conversion ratio (FCR) were similar between the Control and the LowMix diets. Welfare indicators are under analysis. The results regarding FCR in the LowMix treatment implies a significant reduction of protein and fishmeal in seabream diets. The results indicate that is possible to improve welfare in gilthead seabream during winter with a more sustainable diet.

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