



## EFFECT OF ARACHIDONIC ACID SUPPLEMENTED MICRODIETS ON GROWTH AND SURVIVAL OF GILTHEAD SEA BREAM (*Sparus aurata* L.) LARVAE

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In order to determine the effect of different levels of arachidonic acid (AA) in microdiets on growth and survival of gilthead sea bream (*Sparus aurata* L.) larvae, two experiments were carried out. In first experiment, fourteen-day-old larvae were fed microdiets for 17 days. In this assay there were tested four diets with similar docosahexaenoic acid (DHA)/eicosapentaenoic acid (EPA) ratio and AA range of 0.1 to 1.8% d.w. and a fifth diet with 1.0% d.w. of AA and different DHA/EPA ratio. In the second experiment fifteen-day-old larvae were fed for 22 days on two microdiets with levels of 0.1 and 1.0% d.w AA. All diets in the two experiments had the same n-3 HUFA level.

Growth was obtained by measure of larval total length and dry body weight. Larval lipids were extracted, fatty acid composition of total neutral and total polar lipid fraction determined by gas chromatography.

In the first experiment the diet containing 1.8% d.w. of AA showed the best survival ( $p < 0.05$ ) but did not improve the growth rate. In the second, and longest, experiment an increase in the AA dietary level from 0.1 to 1.0% d.w. significantly improved ( $p < 0.05$ ) the larval growth.

When working with fixed dietary n-3 HUFA level (2.2% d.w.), the effect of the dietary AA on the larval growth was masked by that of the dietary DHA/EPA ratio. However, when the DHA/EPA ratio in diet stay unchanged (~1.8) it is possible to improve the larval growth supplementing the diet with 1.0% d.w. of AA. This value is suggested as the AA requirement for gilthead sea bream under the described rearing conditions.