The effect of *n*-3 HUFA proportions in diets for gilthead seabream (*Sparus aurata*) larval culture

Covadonga Rodriguez[a], José A. Pérez[a], Ma. Soledad Izquierdo[b], Antonio Lorenzo[a], Hipólito Fernández Palacios[c]

[a]*Dpto. Biologia Animal, Universidad de La Laguna, 38271 Tenerife, Spain*
[b]*Dpto. de Biologia, Facultad de Ciencias del Mar, Universidad Las Palmas, 35017 Gran Canaria, Spain*
[c]*Centro de Tecnologia Pesquera, Telde, Ap. 56, Las Palmas, Spain*

Studies designed to determine the *n*-3 HUFA requirement of gilthead seabream larvae have indicated the possible importance of the 20:5*n*-3/22:6*n*-3 ratio in the diet. With the aim of determining the optimal ratio of these two fatty acids and also the importance of arachidonic acid (20:4*n*-6), two feeding experiments were carried out with rotifers containing different proportions of these fatty acids. Larvae were fed for 15 days on rotifers enriched with oils containing 30% *n*-3 HUFA, with different proportions of 20:4*n*-6, 20:5*n*-3 and 22:6*n*-3. Treatments were carried out in triplicate. Survival was determined by counting the total number of larvae at the end of the experiment. Growth rate was obtained by comparing the initial length after 8 and 15 days of feeding. During the trial, samples of enriched rotifers and of initial and final larvae of each treatment were taken for composition analysis. The lipid and moisture contents were determined along with the fatty acid composition of the total lipid of each sample. Treatments definitely affected larval growth, the best results were obtained with the dietary ratio of 20:5*n*-3/22:6*n*-3 equal to 1/2.3.