

Partial replacement of fresh algae with dry, in intensive seabream larval production

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Abstract

Green water technique was developed in order to improve survival and growth rate of post hatched gilthead seabream (*Sparus aurata*) larvae intensively produced. In parallel, this created the need of algal cultivation in hatcheries, a fact that elaborated complicated procedures and increased the cost of larval production. Recently, world aquaculture, in order to minimize the production cost, seems to have bypassed the hatching procedure of fresh algal cultivation by substituting them with commercially produced dry algae. In the present study, the hypothesis that a 50% substitution fresh algae with dry, can improve survival, growth and malformation rate in commercial scale, was investigated. Simultaneously, a feeding frequency of 3 and 5

Artemia

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meals per day was studied. Four treatments were established and quadruplicates were maintained for each treatment. Treatments included: a)

50% replacement of fresh algae with dry (SanolifeALG, INVE) and 3 daily feedings (SL 3T), b) 50% replacement of fresh algae with dry and 5 daily feedings (SL 5T), c) 5 daily feedings (M 5T) control group and d) 3 daily feedings (M 3T) control group. Samples of larvae were measured for length at days

5, 13, 19, 25, 32 and 40 post hatching. Partial substitution (50%)

of fresh algae with dry

provoked no difference in growth, survival and malformation rate, reducing

algal

production

cost

by

8%.

Moreover, risk of pathogen contamination is reduced and the nutrition quality of live prey is stabilized. Feeding frequency affected significantly larval growth rate (5 feedings compared 3 feedings), when either fresh or dry algae were used. From the present study it appears that partial substitution of dry algae with fresh

, can sustain low larval production cost and secure a standard procedure, main points of interest for a commercial hatchery. Dry algae,

based on

technology

achievements,

are strongly recommended for use as a “rescue plan”, in case that fresh algal cultures collapse.

More research is needed, in order to improve aquaculture techniques and develop qualified products – in collaboration with hatcheries – so as to achieve total substitution of fresh, by dry algae.

Keywords: *Sparus aurata*, Green water technique, Dry algae, Fresh algae, Feeding frequency, Larvae