

THE PRESENT STATE OF EUROPEAN AQUACULTURE AND ZOOTECHNICAL IMPROVEMENTS IN THE LARVICULTURE OF EUROPEAN MARINE FISH

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In the last decade Mediterranean Sea Bass and Bream aquaculture experienced a rapid development with a 5-fold increase in fry production, reaching 1 billion of fish fry by the end of 2007. The larval phase of marine finfish is probably the most critical period in the development of the fish. This phase will influence greatly the fish in terms of quality, health and performance in later stages. In the last decade European larviculture has intensified enormously with a significant increase of the survival, especially during the larval period from hatch up to 2-gram fry. Low density and extensive production has gradually evolved into a larviculture of high density and short intensive production cycles with an early transfer of the larvae (already from day 20-25). Such drastic evolution could not have taken place without the simultaneous improvements in nutrition and hygiene. Indeed, live feed enrichments and larval feeds have developed from low tech towards high tech formulated diets providing the high demand of nutrients in the development of young larvae. Increased larval densities cannot sustain without proper dedication to the hygienic conditions supporting a stable culture environment.

This presentation takes into consideration the field experience acquired by INVE Aquaculture in the Mediterranean area, and will provide –specifically for the first 30 days of the larvae -some detailed information on:

- 1) the influence of breeder nutrition on larvae
- 2) the role and influence of green water technique application for larval rearing
- 3) the concept of rotifer and *Artemia* culture and enrichment
- 4) the importance of hygienic measures
- 5) the evolution of co-feeding in larviculture

In the continuous strive to increase the market image and production efficiency of finfish aquaculture, quality became the most important parameter out competing survival which was the main bottleneck years ago. Larval quality is undoubtedly the most complex of all and on top of that multi-factorial (genetics, physico-chemical water conditions, nutrition,...). Very often the result is difficult to explain due to the synergetic effect of unknown variables. Nowadays, further research and evaluation of larval quality is a main issue for more exigent ongrowers and commercial sustainability in aquaculture business.