

September 20- 21, 2018
Lisbon, PortugalJoaquim Gutierrez et al., Journal of FisheriesSciences.com Volume:12
DOI: 10.21767/1307-234X-C1-001

TOWARDS FISH GROWTH AND QUALITY OPTIMIZATION IN AQUACULTURE

Joaquim Gutierrez, E J Velez,
M Perello-Amoros, N Riera-Heredia,
A Sanchez-Moya, S Balbuena-Pecino,
F Lavajoo, M Riera-Codina, J Fernandez-
Borras, J Blasco, E Capilla and I Navarro

University of Barcelona, Spain

The decrease of fish captures and the increasing demand of aquatic products for human consumption have boosted aquaculture to convert it in an important agronomic activity around the world. One of the bottlenecks that limit the development of this industry is the time required for most of the cultured fish species to reach the commercial size. The regulatory system controlling fish growth is now much better understood and we should take advantage of this knowledge to apply it to fish culture production. Recent advances on the role of growth hormone (GH) and the insulin-like growth factors (IGFs) axis, and its relationship with anabolic and proteolytic systems, involved in remodelling of fish muscle, will be reviewed in different *in vivo* as well as *in vitro* models that aim to optimize growth and flesh quality. First, the possibility to increase growth in terms of biological limitation has been studied with GH prolonged treatments. The search for adequate components or potential additives to the diet that can determine a better GH/IGF axis status will be summarized. Finally, the physical activity of the fish during the culture can increase growth and model the muscle structure improving flesh texture. The regulatory mechanisms for such processes have been investigated in different species and will be also presented. All these approaches combined with other technical improvements can result in a significant increase of fish production and quality, necessary to satisfy the society demand for healthy aquatic products.



Biography

Joaquim Gutierrez has completed his PhD in Fish Physiology from University of Barcelona and did his Postdoctoral studies from University of Washington at the Department of Biology in 1988/89. He is Professor of Physiology and Director of the Department of Cell Biology, Physiology and Immunology at the School of Biology at the University of Barcelona, where coordinates the research group on Growth optimization of Fish Aquaculture species. He has published more than 150 papers in reputed journals and book chapters and has been serving as Editorial Board Member of different publications.

jgutierrez@ub.edu