



FIRST RESULTS ON ONGROWING OF HATCHERY REARED ATLANTIC BLUEFIN TUNA, *Thunnus thynnus*, KEPT IN SEA CAGES.

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ABSTRACT

Bluefin tuna (ABFT) fingerlings born in captivity were raised during 15 months in sea cages. ABFT were fed with raw fish, and they grew during this period from 4 gr to 8 kg. Mortality rate was great, mainly during the first three months. This is the first experience of ongrowing ABFT born in captivity.

INTRODUCTION

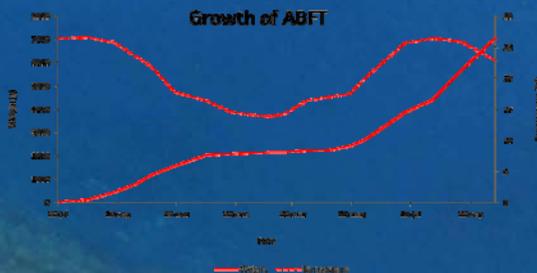
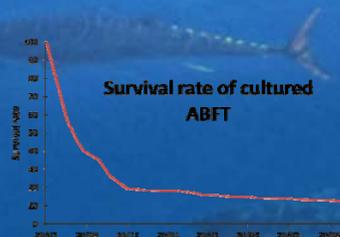
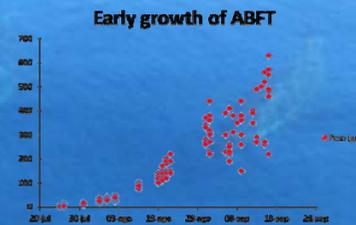
ABFT fattening began in Spain and Europe in the nineties. But this activity depends on wild tuna capture, and in order to develop integral culture of ABFT, the Ricardo Fuentes e Hijos Company and the Spanish Institute of Oceanography (IEO) started to carry out several aquaculture projects. As a result of these projects, more than 7000 ABFT fingerlings born in captivity have been moved to the cages in 2012 and 2013. In this study, general cage culture methodology and growth results with a tuna batch born in 2012 June are shown. The work shows a first approach to growth of ABFT tuna rearing in captivity in their first year of life.

MATERIAL & METHODS

ABFT used in this study came from a broodstock kept in Caladeros del Mediterráneo facilities. Fertilized eggs were collected on June 2012 and they were moved to the IEO facilities in Mazarrón (SE Spain). 1400 fingerlings 3-4 gr (38 dph) were transferred to a net cages of 25 meters diameter and 10-12 meters depth.

Initial feeding consisted on sand eel (*Gymnammodytes cicerellus*) which were later replaced by sardine (*Sardina pilchardus*), mackerel (*Scomber scombrus*), and anchovy (*Engraulis encrasicolus*). At the beginning the tunas were fed to satiety several times per day, but this frequency was decreasing while they grew, being reduced to once per day during winter. To evaluate the growth we have used data recorded of dead fish collected in the cages during all the year round.

RESULTS & DISCUSSION



ABFT fingerlings show a fast growth during first months in the cage. During the winter months, when the water temperature is below 18°C, growth is poor, but when temperature raises the growth rate increase again.

Tuna mortality is high during fist stages in the net cage, mainly during the first month but also while tunas are smaller than 40 cm total length and one kilogram weight. Mortality is caused mainly by injuries suffered when the tuna hit the net cages. After this moment mortality decrease to become less than 2% every month.

During this experience raw fish has been used to feed Bluefin tuna, but it is necessary to develop artificial diets for growing them. A tasteful and balanced artificial diet could improve feed conversion rates and more than that reduce dependence on fisheries

CONCLUSIONS

ABFT show a fast growth during their two first years of life, mainly when sea water temperature is higher than 18°C
Further experiences should be done to reduce mortality rate and to develop artificial food for ABFT

