

BLUEFIN TUNA FULL LIFE CYCLE CULTURE: REVIEW AND PROSPECTS OVER THE NEXT THIRTY YEARS

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Abstract

Full life cycle culture of bluefin tuna has so far been achieved only for Pacific bluefin tuna by the Japanese at Kinki University in 2002 with the first fish going on sale in Japan in 2004. More recently Japan's Okinawa fisheries laboratories have also achieved the same success, with the Koreans also being close. Elsewhere, there has been considerable progress on full life cycle farming by one company in Australia (southern bluefin tuna) and by research institutes and companies also in the Mediterranean, specifically France, Italy, Spain and Croatia (Atlantic bluefin tuna). Given the difficulty with bluefin culture, attempts have also been directed at bigeye, yellowfin and albacore in recent years, particularly yellowfin. The full life cycle culture industry for bluefin tuna has grown rapidly in Japan with a surprisingly wide range of investors now involved. The Japanese Government is committed to support R&D in this luxury food industry to 2020. The paper charts progress to date. It then presents a 30 year growth scenario for the development of this industry based upon the development of the Atlantic salmon farming industry. Similarities and differences between the two species (one poikilothermic, the other a thermoregulator) are highlighted, which allows for the development of a faster growing true tuna species or hybrid to be developed in the future. Information on the costs of the production system of capture based and full life cycle culture are presented for comparison.