

**PROPOSAL ON GROWTH RATE OBSERVED IN BLUEFIN TUNA FARMED
IN EASTERN ATLANTIC AND THE MEDITERRANEAN**

(Submitted by Japan)

1. Background

Japan would like to recall paragraph 28 of ICCAT Recommendation 19-04, which says, "Farm CPCs shall endeavor to ensure that the growth rates derived from the eBCDs are coherent with the growth rates published by the SCRS."

Japan has a serious concern on the recurring high growth rates in farmed BFT because this might be caused by the underestimation of the weight of fish caught and caged for farming purposes. In other words, there is a risk that more BFT are actually caught than reported, thereby undermining the conservation efforts by ICCAT.

In the paper submitted by Japan to the 2019 annual meeting (PA2_607/2019, Annex), Japan identified three potential causes of this problem: i) SCRS Growth table established in 2009 does not take into account regional differences in the growth rates, ii) the current length-weight relationship recommended by the SCRS (SCRS 2016) tends to underestimate the weight of fish in some regions, and iii) the sampling bias in length measurements from stereoscopic cameras video footage.

In order to resolve these scientific and technical difficulties, Japan requested the SCRS to update the growth table and length-weight relationship and explained the possibility of introducing AI systems to analyze stereoscopic camera footage without human bias in relevant meetings.

2. Japan's effort on the growth rate

Japan's efforts on this issue were already presented at the 2019 annual meeting. Additional efforts since then are summarized below.

Though the 2009 growth table needs to be updated, it is still the only and best available information on the maximum weight gain of Atlantic bluefin tuna. Therefore, Japan monitored the growth rates of BFT to be imported to Japan using 110% of the SCRS 2009 table as a benchmark for the fish caged since 2019. When a growth rate higher than the benchmark level is observed, Japan suspended the import and engaged in a dialogue with the farming CPC until reasonable explanation for such high growth rate would be provided.

Since such ad-hock dialogue could be time consuming, Japan asked farming CPCs to provide the caging/harvesting data using an excel spreadsheet named "Growth Calculation Sheet" ("GCS", hereinafter) and update them periodically (every two weeks) so that exchanges of information can be commenced, where necessary, well before the fish products would arrive in Japan.

This cooperation with farming CPCs has been working well to enable smooth import process and we believed that it also contributed to better management of the catch and caging of BFT.

As a part of this cooperative effort, Japan analyzed the growth rates of BFT caged in 2019 and shared the result with each farming CPC. High growth rates were observed in some CPCs, and one of such CPCs explained that because bigger fishes were harvested first for economic reasons, which does not necessarily represent the actual growth rates. It also explained that the growth rates in 2019 could not be comprehensively analyzed because of the huge loss of BFT caused by a storm. In those cases, Japan faced with the difficulties in its examination because Japan has no access to eBCDs destined to other markets than Japan whereas the analysis requires the whole data of the farming cage concerned.

One of farm CPCs offered scientific cooperation with Japan, including invitation of Japanese scientists to caging and harvesting operations, which was helpful for Japan to understand scientific efforts of the CPC. Since the fishes in that CPC's water were fatter than those caught in other waters, the CPC voluntarily used the length-weight conversion formula from Rodriguez Marin (i.e., $RWT = 3.50801 \times 10^{-5} \times SFL^2$) in calculating the weight of the caged fish in the 2020 fishing season. Formula B gives bigger weight than Formula A, which is the standard length-weight relationship recommended by the SCRS. As Formula B gives bigger weight than Formula A at the time of caging, growth rates are supposed to be smaller than Formula A. On the condition that the CPC would use Formula B in the 2020 fishing season, Japan accepted the import of bluefin from that CPC without the case-by-case monitoring of growth rates upon import applications as a one-year arrangement in 2020.

However, in a retrospective analysis of the 2020 caging/harvesting data, remarkably high growth rates were observed even though formula B was applied. This suggested that the fish which migrate to the CPC's water are fatter than assumed or the analysis by stereoscopic cameras is biased. Japan will continue discussion with the CPC in a constructive manner.

Those experiences, however, made it clear that what Japan can do on the growth rate is limited, because Japan (and its importers) has no control on BFT to be exported to other CPCs nor on farming operation. Consistent efforts by all the importing CPCs and valid control on farmed BFT by farming CPCs using appropriate growth rates are essential to rectify the current situation.

3. Proposal on Recommendation 19-04

In order to enable the analysis of growth rates in a comprehensive manner throughout ICCAT, Japan proposes that farming CPCs should annually analyze the growth rates observed in their farmed bluefin tuna, on a farm by farm basis, using the GCS developed by Japan, and report the result of analysis as well as the reason of higher growth rates than SCRS 2009 table, if any, to the SCRS and the Panel 2. If necessary, Japan is willing to give a technical assistance to the farming CPCs in using the GCS.

In this regard, Japan proposes an additional paragraph in Rec. 19-04 as below:

28. bis Farm CPCs shall analyze the growth rates for each of their farm using the information of eBCD, and submit the result of the analysis, including the reason of higher growth rates than the maximum growth rate table established by the SCRS, where appropriate, to the ICCAT Secretariat by February 15 each year for review by Panel 2 at its intersessional meetings.