A survey on zoonotic helminths in farmed fish to evaluate the safety of Italian aquaculture products

020-P

A survey on zoonotic helminths in farmed fish to evaluate the safety of Italian aquaculture products

Gustinelli A[1], Menconi V[1], Caffara M[1], Pardo M[2], **Fioravanti M[1]**

[1]Department of Veterinary Medical Sciences, Alma Mater Studiorum Università di Bologna, Ozzano Emilia, Italy, [2]AZTI- Tecnalia, Food Research Unit, Parque Tecnológico de Bizkaia, Astondo Bidea, Spain

Introduction: Several zoonotic helminths can be transmitted to humans by consumption of raw, undercooked, marinated or cold smoked fish products, representing a relevant public health concern. Although up to now in Italy the presence of zoonotic helminths has been documented only in wild fish populations, extensive epidemiological surveys are needed in order to assess the possible zoonotic risks linked to consumption of national aquaculture products. At this purpose, a wide parasitological survey has being undertaken on rainbow trout *Oncorhynchus mykiss* (RBT), gilthead seabream *Sparus aurata* (GSB) and European seabass *Dicentrarchus labrax* (ESB) farmed in Italy.

Methodology: From spring 2016 to spring 2017 a total of 2347 fish have been examined. In particular, 738 RBT from 4 Italian freshwater trout farms (two farms located in the area endemic for diphyllobothriasis in Northwestern Italy, 1 in the area endemic for opisthorchiasis in Central Italy and 1 in a highly productive area of Northeastern Italy) were subjected to methods aimed to search for larval stages of diphyllobothriid cestodes (visual inspection and candling) and opisthorchiid digeneans (muscular compression/artificial digestion followed by microscopic examination). Furthermore, 781 GSB and 828 ESB from 4 marine farms (3 cage systems and 1 inland farm located in Tyrrhenian and Adriatic seas) were examined for anisakid larvae by UV-press method and artificial digestion. A seasonal periodicity has been applied, sampling 65 specimens/fish species/farm/season in order to reach a statistically significant amount of fish at the end of the survey (258 fish/farm).

Results: No zoonotic parasites have been found in all the examined fish at the level of confidence of 99% with a margin of error of 5%.

Conclusions: The results so far obtained during this survey are encouraging and seem to confirm that the risks linked to zoonotic helminths in Italian aquacultured fish species are null or negligible, when good farming practices are applied along the production chain.

Funding of presentation:
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 634429. This publication reflects the views only of the author, and the European Commission cannot be held responsible for any use which may be made of the information contained therein.