

P329 - Negligible risk of zoonotic parasites in Italian aquaculture

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The diffusion of new eating habits and the increase of fish products demand have been raising concerns in the European countries, including Italy, about the transmission risk of zoonotic fish parasites to consumers, leading to the current EU "Hygiene Package" Regulations. In relation to the mandatory freezing treatment for "products intended to be consumed raw, or marinated, salted and any other treated fishery products, if the treatment is insufficient to kill the viable parasite", an exception is included in the Reg. (EU) No 1276/2011 for farmed Atlantic salmon (*Salmo salar*), for which the risk was considered negligible according to EFSA Opinion (2010), but not for other fish species farmed in Europe. With the aim to collect the necessary epidemiological information on the presence/absence of zoonotic parasites in EU aquaculture, in the framework of the EU H2020 project ParaFishControl (www.parafishcontrol.eu), an extensive parasitological survey has been carried out on the main farmed fish species in Italy and other countries such as Spain, Greece, Denmark, Norway and Hungary. The present work reports the results from Italy. From 2016 to 2018 a total of 4728 farmed fish have been examined from 6 freshwater and 5 marine farms located in Italy: 1594 rainbow trout (*Oncorhynchus mykiss*), 1571 European sea bass (*Dicentrarchus labrax*) and 1563 gilthead sea bream (*Sparus aurata*) have been collected based on a random polietapic and stratified sampling plan with a confidence level of 99% and a margin of error (MoE) of 4-8%. Besides harvest quality fish, runts were also examined in order to consider even the most predisposed hosts to acquire parasites through the natural food web. Parasitological analyses to search for anisakid nematodes in marine fish and diphyllbothriid cestodes and Opisthorchioidea digeneans in freshwater fish were performed utilizing methodologies such as visual inspection and candling as provided by the EU regulation, integrated by UV-press method, muscle compression/artificial digestion followed by microscopic examination when required (e.g. for *Opisthorchioidea*). No zoonotic parasites were found in any of the examined fish, including runts. The data obtained from this extensive survey show the absence of zoonotic parasites in the fish examined and are comparable to those reported in previous studies, leading to consider as negligible the risk of infections due to zoonotic helminths in the most important fish species of Italian aquaculture. Similar results have been obtained for the examined farmed fish in other countries involved in ParaFishControl Project. The results allow to assess the risk of the presence of zoonotic parasites in farmed rainbow trout, European sea bass and gilthead sea bream as negligible, indicating that also these farmed fish species should be considered suitable to benefit from the exemption from freezing treatment provided by EU Regulation No 1276/2011 for Atlantic salmon. Furthermore, the monitoring approach employed could be adopted for planning surveillance activities in EU fish farming systems, as it appears implementable also by industry, to better guarantee the safety of aquaculture products.

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[1] European Food Safety Authority (EFSA). Scientific Opinion on risk assessment of parasites in fishery products. EFSA panel on Biological Hazards (BIOHAZ). EFSA J. 2010;8(4):1543.