

From: 38(1)(b)
Sent: 28 May 2019 10:42
To: '38(1)(b)@hotmail.com' <38(1)(b)@hotmail.com>
Subject: Salmon

Dear 38(1)(b),

I refer to our recent telephone conversation and your concerns about salmon farming, testing and food safety. The following information provides the current regulatory frameworks, followed by scientific reports.

All aquaculture sites in Scotland are licensed under The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR) for which **SEPA** has responsibility. These regulations require that water quality is suitable and sets limits for levels of chemicals and veterinary medicines.

Testing of farmed salmon is performed in Scotland by **Marine Scotland**. Marine Scotland is responsible for the management of aquaculture fish health, which is necessary to assure that it is effectively managed and that the risk of loss, due to disease, is minimised. Marine Scotland (marinescotland@gov.scot) will be able to provide you with more information regarding their testing programmes.

The **Veterinary Medicines Directorate (VMD** - part of the Department for Environment, Food & Rural Affairs) has responsibility across the UK for veterinary medicine residues. These are regulated under Directive 96/23/EC which specifies residue monitoring requirements, and Regulation 37/2010/EU which sets Maximum Residue Levels (MRLs) for veterinary medicines and contaminants in food and lists prohibited substances.

For fish (termed 'aquaculture animals') the following categories of residues and contaminants are included in Directive 96/23/EC:

GROUP A - Substances having anabolic effect and unauthorized
(1) Stilbenes, stilbene derivatives, and their salts and esters
(3) Steroids
(6) Compounds included in Annex IV to Council Regulation (EEC) No 2377/90 of 26 June 1990
GROUP B - Veterinary drugs and contaminants
(1) Antibacterial substances, including sulphonamides, quinolones
(2a) Anthelmintics
(3a) Organochlorine compounds including PCBs
(3c) Chemical elements
(3d) Mycotoxins
(3e) Dyes

The VMD coordinates the annual statutory veterinary medicine residues monitoring programme across the UK. In Scotland the sampling of finfish, including aquaculture sites, is undertaken by the Fish Health Inspectorate of Marine Scotland under the Animals and Animal Products (Examination for Residues and Maximum Residue Limits) (England and Scotland) Regulations 2013.

Analysis includes contaminants such as metallic elements and industrial pollutants (PCBs) as well as veterinary medicine residues and the results are published in annual VMD reports. Target species and substances analysed for are assessed on a risk basis and are reported and investigated if the Reference Point is exceeded. FSS would be informed of exceedances affecting the food chain and undertake a risk assessment to ascertain whether action was required in relation to food safety.

Recent results for farmed salmon have been as follows:

- 2015 182 analyses for antibiotics (chloramphenicol) - all compliant
 83 analyses for avermectins - 1 non-compliance for emamectin, result
 120 µg/kg (RP = 100 µg/kg)
 N.B. Sample taken during treatment period in error
 131 analyses for dyes - all compliant
- 2016 208 analyses for antibiotics (chloramphenicol) - all compliant
 91 analyses for avermectins - 3 non-compliances for emamectin, results
 120,150, 170 µg/kg
 N.B. incorrect biomass conversion used for medicated feed
 205 analyses for dyes - all compliant
 10 analyses for OCs/PCBs - all compliant
- 2017 200 analyses for antibiotics (chloramphenicol) - all compliant
 89 analyses for avermectins - all compliant
 198 analyses for dyes - all compliant
 10 analyses for OCs/PCBs - all compliant
- 2018 181 analyses for antibiotics (chloramphenicol) - all compliant
 104 analyses for avermectins - all compliant
 234 analyses for dyes - all compliant
 12 analyses for OCs/PCBs - all compliant
- 2019 (part) 39 analyses for antibiotics (chloramphenicol) - all compliant
 2 analyses for avermectins - all compliant
 41 analyses for dyes - all compliant

The role of **Food Standards Scotland (FSS)**, alongside Scottish Local Authorities, is to ensure the safety of foods placed on the market. There are a number of regulatory controls in place that apply to food hygiene and food businesses are required to implement their own food safety procedures in order to identify and control risks to food hygiene to prevent risk of contamination. Under EC Regulation 178/2002 these requirements are that food must not be unsafe, i.e. injurious to health, unfit for human consumption.

Food must comply with the requirements of Commission Regulation (EC) No 852/2004 and must apply Hazard Analysis and Critical Control Point (HACCP) based procedures. This is to ensure that food has satisfied the relevant hygiene requirements at all stages of production, processing and distribution. The onus is on the individual business to ensure they meet the requirements of the hygiene regulations and put in place and maintain food safety controls and procedures based on HACCP. In other words, businesses need to be able to identify the hazards associated with their operation, put in place and maintain controls to ensure that the food prepared is safe.

Regulation (EC) 853/2004, which lays down specific hygiene rules for food of animal origin, requires that establishments that handle, prepare or produce products of animal origin be approved by the competent authority. Fishery products establishments are approved by Local Authorities. Further details can be found at <https://www.foodstandards.gov.scot/publications-and-research/publications/approved-premises-register>

FSS also has responsibility for the regulation of chemical contaminants in food under Regulation (EC) 1881/2006; which is enforced domestically by The Contaminants in Food (Scotland) Regulations 2013. Methods for sampling and analysis are also laid down in law and specify aspects such as sample numbers and technique.

For fish (including salmon), the following Maximum Levels (MLs) are set for specific chemical contaminants:

Chemical	Maximum Level
Lead	0.3 mg/kg
Cadmium	0.05 mg/kg
Mercury	0.5 mg/kg
Sum of dioxins	3.5 pg/kg
Sum of dioxins and dioxin-like PCBs	6.5 pg/kg
Sum of PCB28, PCB52, PCB101, PCB138, PCB153 and PCB180	3.0 ng/kg

I can confirm that between April 2018 & March 2019 there were 199 unique samples of salmon and salmon products tested. The testing breakdown was as follows:

- 132 microbiological tests - testing for pathogens & hygiene indicators e.g. e-coli, listeria and enterobacteriaceae
- 61 chemical tests - compositional tests e.g. moisture, ash & metals
- 6 substitution tests - verifying the fish species

Finally, whilst we at Food Standards Scotland have responsibility for the policies surrounding food hygiene, local authorities are primarily responsible for the enforcement of the relevant legislation and are best placed to offer specific advice based on your circumstances. I would therefore suggest you may wish to discuss further any specific concerns you have with your local Environmental Health Officer (EHO). As discussed during our telephone conversation food business are required to

register with the Local Authority. Please click on the following link to [Find your Local Authority](#)

Scientific reports on contaminants in fish

Scientific Advisory Committee on Nutrition and Committee on Toxicity Report: Advice on fish consumption: benefits & risks -

<https://www.gov.uk/government/publications/sacn-advice-on-fish-consumption>

Chemical contaminants in fish from UK waters (FSA/FERA) -

<https://www.food.gov.uk/sites/default/files/media/document/fs102005reportfinal.pdf>

N.B. wild fish only, no exceedances in Scottish water sourced fish

Brominated compounds in selected foods (FSA) -

<https://www.food.gov.uk/sites/default/files/media/document/research-report-brominated-contaminants-food.pdf>

N.B. retail survey, some farmed Scottish salmon

Mixed Halogenated Dioxins, Furans and Biphenyls in selected foods (FSA) -

<https://www.food.gov.uk/sites/default/files/media/document/research-report-mixed-halogenated-dioxins.pdf>

N.B. retail survey, some farmed Scottish salmon

Environmental impacts of salmon farming (SAMS) -

http://www.parliament.scot/S5_Environment/General%20Documents/20180125_SA_MS_Review_of_Environmental_Impact_of_Salmon_Farming_-_Report.pdf

I hope the information is helpful.

Regards,

38(1)(b)

38(1)(b)

38(1)(b)

Food Standards Scotland, Regulatory Policy Branch,
Pilgrim House, Old Ford Road, Aberdeen, AB11 5RL

T: 38(1)(b)

38(1)(b)@fss.scot

www.foodstandards.gov.scot

