

Annex to: EFSA's BIOHAZ Panel Scientific opinion "Re-evaluation of certain aspects of the EFSA Scientific Opinion of April 2010 on risk assessment of parasites in fishery products, based on new scientific data. Part 1: ToRs1-3". doi:10.2903/j.efsa.2024.8719

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Annex E – Literature searches and search strategy

A.1 General searches

Initially (15.05.2023), general searches were performed in Web of Science, considering articles in English and the period the period from 2010 on, combining broad range keywords such as fish parasite(s) with food (retrieving 1565 hits), diagnose (138 hits), food treatment (173 hits), and food safety (318 hits). Several of the hits obtained were not related to the matter.

A.2 Specific searches for the different Assessment Questions (AQs)

In a second step, specific searches to collect information for the specific assessment questions AQ1-AQ3 were performed as shown below. The sources of information listed in Table A1 have been searched to identify relevant studies.

TABLE A1 Sources of information.

Database	Platform
CAB Abstracts	Web of Science
Scopus	Scopus.com
Web of Science Core Collection: <ul style="list-style-type: none"> • Science Citation Index Expanded (SCI-Expanded) • Conference Proceedings Citation Index Science (CPCI-S) • Book Citation Index Science (BKCI-S) • Emerging Sources Citations Index (ESCI) 	Web of Science

The sources of information have been selected based on their content coverage. Scopus and Web of Science Core Collection are interdisciplinary bibliographic databases that index journals, among others, in disciplines such as life and natural sciences. CAB Abstract is a bibliographic database that primarily focuses on agricultural and applied life sciences.

The search strings used and the summary of the results obtained for each AQ-search are shown below:

A.2.1. Specific searches for AQ1: "What is the occurrence of parasites of public health importance in fishery products derived from the most relevant farmed finfish species in EU/EFTA?"

The scientific opinion covers aquaculture within the EU, EFTA countries, among which Norway and Iceland are the main producers. Production data from the Faroe Islands and United Kingdom (UK) is also relevant as both are major exporters of farmed finfish into the EU and were also included.

TABLE A2 Summary of results AQ1.

Database	Results
CAB Abstracts	1,351
Scopus	915
Web of Science Core Collection	947
Results after de-duplication:	1,821

Cab Abstracts

Date of the search: 10/08/2023

Set	Query	Results	Concept
#8	#7 AND PY=2010-2024 and English (Languages)	1,351	Fish AND Farmed AND Parasites AND Occurrence AND countries AND English language AND published after 2010
#7	#6 AND #5	2,954	Fish AND Farmed AND Parasites AND Occurrence AND countries
#6	AD=(Europe* OR Austria* OR Belgium OR Belgian* OR Bulgaria* OR Croatia* OR Cyprus OR Cypriot* OR Czech* OR Denmark OR Danish* OR Estonia* OR Finland OR Finnish OR France OR French OR Germany* OR Greece OR "Hellenic Republic" OR Greek* OR Hellene* OR Hungar* OR Ireland OR Irish * OR Ital* OR Latvia* OR Lithuania* OR Luxembourg* OR Malta OR Maltese OR Netherlands OR Netherlander* OR Dutch* OR Poland OR Polish* OR Portugal OR Portuguese* OR Romania* OR Slovakia* OR Slovenia* OR Spain OR Spanish OR Sweden OR Swedish OR Iceland* OR Liechtenstein* OR Norway OR Norwegian* OR Switzerland OR Swiss OR "Faroe Islands" OR "Faeroe Islands" OR Faroes OR Faroese* OR "United Kingdom" OR "Great Britain" OR British OR Wales OR Welsh* OR Scotland OR Scots OR England OR English*) OR TS=(Europe* OR Austria* OR Belgium OR Belgian* OR Bulgaria* OR Croatia* OR Cyprus OR Cypriot* OR Czech* OR Denmark OR Danish* OR Estonia* OR Finland OR Finnish OR France OR French OR Germany* OR Greece OR "Hellenic Republic" OR Greek* OR Hellene* OR Hungar* OR Ireland OR Irish * OR Ital* OR Latvia* OR Lithuania* OR Luxembourg* OR Malta OR Maltese OR Netherlands OR Netherlander* OR Dutch* OR Poland OR Polish* OR Portugal OR Portuguese* OR Romania* OR Slovakia* OR Slovenia* OR Spain OR Spanish OR Sweden OR Swedish OR Iceland* OR Liechtenstein* OR Norway OR Norwegian* OR Switzerland OR Swiss OR "Faroe Islands" OR "Faeroe Islands" OR Faroes OR Faroese* OR "United Kingdom" OR "Great Britain" OR British OR Wales OR Welsh* OR Scotland OR Scots OR England OR English*)	3,945,959	EU/EFTA/UK countries in Affiliation country or in title, abstract or keywords
#5	#4 AND #3 AND #2 AND #1	6,706	Fish AND Farmed AND Parasites AND Occurrence
#4	TS=("detected" OR "detection" OR epidemiolog* OR identif* OR frequen* OR occurren* OR presence OR prevalen* OR frequenc* OR rate OR rates)	4,833,287	Occurrence
#3	TS=(anisaki* OR "A simplex" OR "A pegreffii" OR "A typica" OR Pseudoterranova OR "P Decipiens" OR "P krabbei" OR "P bulbosa" OR "P azarasi" OR "P cattani" OR Contracaecum OR "C osculatum" OR Heterophyidae OR Cryptocotyle OR "C lingua" OR Opisthorchiidae OR Opisthorchis OR "O felineus" OR Metorchis OR Pseudamphistomum OR "P truncatum" OR Diphyllbothriidae OR Dibothriocephalus OR Diphyllbothrium OR Molicola OR Gymnorhynchus OR Polymorphidae OR Bolbosoma OR	906,687	Parasites

	Corynosoma OR Myxosporidia OR Kudoa) OR TI=(parasit*) OR AB=(parasit*) OR DE=(parasit*) OR BD=(parasit*)		
#2	TS=(Aquacultur* OR "cultured" OR farm OR farmed OR farming OR Piscicultur*)	1,612,541	Farmed
#1	TS=(fish OR fishes OR finfish* OR cod OR cods OR gadus OR Halibut OR halibuts OR "Hippoglossus hippoglossus" OR "H hippoglossus" OR perca OR "Argyrosomus regis" OR "Argyrosomus regius" OR "A regis" OR "A regius" OR meagre OR maigre OR Salmon OR salmons OR Salmonidae OR salmo OR Seabass* OR "sea bass*" OR "Dicentrarchus labrax" OR "D labrax" OR "Morone labrax" OR "Morone labrax" OR Seabream* OR "sea bream*" OR "gilt-head bream*" OR "gilthead bream*" OR Sparidae OR Sparus OR trout* OR Oncorhynchus OR trutta OR tuna OR tunas OR Thunnus OR "T thynnus" OR turbot OR turbot OR "Psetta maxima" OR "P maxima" OR "Scophthalmus maximus" OR "S maximus")	420,743	Fish

Scopus

Date of the search: 10/08/2023

Set	Query	Results	Concept
#8	#7 AND PUBYEAR > 2009 AND LANGUAGE (english)	915	Fish AND Farmed AND Parasites AND Occurrence AND countries AND English language AND published after 2010
#7	#6 AND #5	1,391	Fish AND Farmed AND Parasites AND Occurrence AND countries
#6	AFFIL(Europe* OR Austria* OR Belgium OR Belgian* OR Bulgaria* OR Croatia* OR Cyprus OR Cypriot* OR Czech* OR Denmark OR Danish* OR Estonia* OR Finland OR Finnish OR France OR French OR Germany* OR Greece OR "Hellenic Republic" OR Greek* OR Hellene* OR Hungar* OR Ireland OR Irish* OR Ital* OR Latvia* OR Lithuania* OR Luxembourg* OR Malta OR Maltese OR Netherlands OR Netherlander* OR Dutch* OR Poland OR Polish* OR Portugal OR Portuguese* OR Romania* OR Slovakia* OR Slovenia* OR Spain OR Spanish OR Sweden OR Swedish OR Iceland* OR Liechtenstein* OR Norway OR Norwegian* OR Switzerland OR Swiss OR "Faroe Islands" OR "Faeroe Islands" OR Faroes OR Faroese* OR "United Kingdom" OR "Great Britain" OR British OR Wales OR Welsh* OR Scotland OR Scots OR England OR English*) OR TITLE-ABS-KEY(Europe* OR Austria* OR Belgium OR Belgian* OR Bulgaria* OR Croatia* OR Cyprus OR Cypriot* OR Czech* OR Denmark OR Danish* OR Estonia* OR Finland OR Finnish OR France OR French OR Germany* OR Greece OR "Hellenic Republic" OR Greek* OR Hellene* OR Hungar* OR Ireland OR Irish* OR Ital* OR Latvia* OR Lithuania* OR Luxembourg* OR Malta OR Maltese OR Netherlands OR Netherlander* OR Dutch* OR Poland OR Polish* OR Portugal OR Portuguese* OR Romania* OR Slovakia* OR Slovenia* OR Spain OR Spanish OR Sweden OR Swedish OR Iceland* OR Liechtenstein* OR Norway OR Norwegian* OR Switzerland OR Swiss OR "Faroe Islands" OR "Faeroe Islands" OR Faroes OR Faroese* OR "United Kingdom" OR "Great Britain" OR British OR Wales OR Welsh* OR Scotland OR Scots OR England OR English*)	30,776,787	EU/EFTA/UK countries in Affiliation country or in title, abstract or keywords
#5	#4 AND #3 AND #2 AND #1	2,980	Fish AND Farmed AND Parasites AND Occurrence
#4	TITLE-ABS-KEY ("detected" OR "detection" OR epidemiolog* OR identif* OR frequen* OR occurren* OR presence OR prevalen* OR frequenc* OR rate OR rates)	26,558,033	Occurrence
#3	TITLE-ABS-KEY (parasit* OR anisaki* OR "A simplex" OR "A pegreffii" OR "A typica" OR Pseudoterranova OR "P Decipiens" OR "P krabbei" OR "P bulbosa" OR "P azarasi" OR "P cattani" OR	546,019	Parasites

	Contraecaecum OR "C osculatum" OR Heterophyidae OR Cryptocotyle OR "C lingua" OR Opisthorchiidae OR Opisthorchis OR "O felinus" OR Metorchis OR Pseudamphistomum OR "P truncatum" OR Diphyllbothriidae OR Dibothriocephalus OR Diphyllbothrium OR Molicola OR Gymnorhynchus OR Polymorphidae OR Bolbosoma OR Corynosoma OR Myxosporidia OR Kudoa)		
#2	TITLE-ABS-KEY (Aquacultur* OR "cultured" OR farm OR farmed OR farming OR Piscicultur*)	1,407,041	Farmed
#1	TITLE-ABS-KEY (fish OR fishes OR finfish* OR cod OR cods OR gadus OR Halibut OR halibuts OR "Hippoglossus hippoglossus" OR "H hippoglossus" OR perca OR "Argyrosomus regis" OR "Argyrosomus regius" OR "A regis" OR "A regius" OR meagre OR maigre OR Salmon OR salmon OR Salmonidae OR salmo OR Seabass* OR "sea bass*" OR "Dicentrarchus labrax" OR "D labrax" OR "Morone labrax" OR "Morone labrax" OR Seabream* OR "sea bream*" OR "gilt-head bream*" OR "gilthead bream*" OR Sparidae OR Sparus OR trout* OR Oncorhynchus OR trutta OR tuna OR tunas OR Thunnus OR "T thynnus" OR turbot OR turbot OR "Psetta maxima" OR "P maxima" OR "Scophthalmus maximus" OR "S maximus")	772,584	Fish

Web of Science Core Collection (SCI-Expanded, CPCI-S, BKCI-S, ESCI)

Date of the search: 10/08/2023

Set	Query	Results	Concept
#8	#7 AND PY=2010-2024 and English (Languages)	947	Fish AND Farmed AND Parasites AND Occurrence AND countries AND English language AND published after 2010
#7	#6 AND #5	1,382	Fish AND Farmed AND Parasites AND Occurrence AND countries
#6	CU=(Europe* OR Austria OR Belgium OR Bulgaria OR Croatia OR Cyprus OR Czech* OR Denmark OR Estonia OR Finland OR France OR Germany OR Greece OR Hungary OR Ireland OR Italy OR Latvia OR Lithuania OR Luxembourg OR Malta OR Netherlands OR Poland OR Portugal OR Romania OR Slovakia OR Slovenia OR Spain OR Sweden OR Iceland OR Norway OR Liechtenstein OR Switzerland OR "Faeroe Islands" OR " Faroe Islands" OR "United Kingdom" OR "Great Britain" OR Wales OR Scotland OR England) OR AD=(Europe* OR Austria* OR Belgium OR Belgian* OR Bulgaria* OR Croatia* OR Cyprus OR Cypriot* OR Czech* OR Denmark OR Danish* OR Estonia* OR Finland OR Finnish OR France OR French OR Germany* OR Greece OR "Hellenic Republic" OR Greek* OR Hellene* OR Hungar* OR Ireland OR Irish * OR Ital* OR Latvia* OR Lithuania* OR Luxembourg* OR Malta OR Maltese OR Netherlands OR Netherlander* OR Dutch* OR Poland OR Polish* OR Portugal OR Portuguese* OR Romania* OR Slovakia* OR Slovenia* OR Spain OR Spanish OR Sweden OR Swedish OR Iceland* OR Liechtenstein* OR Norway OR Norwegian* OR Switzerland OR Swiss OR "Faroe Islands" OR "Faeroe Islands" OR Faroes OR Faroese* OR "United Kingdom" OR "Great Britain" OR British OR Wales OR Welsh* OR Scotland OR Scots OR England OR English*) OR TS=(Europe* OR Austria* OR Belgium OR Belgian* OR Bulgaria* OR Croatia* OR Cyprus OR Cypriot* OR Czech* OR Denmark OR Danish* OR Estonia* OR Finland OR Finnish OR France OR French OR Germany* OR Greece OR "Hellenic Republic" OR Greek* OR Hellene* OR Hungar* OR Ireland OR Irish * OR Ital* OR Latvia* OR Lithuania* OR Luxembourg* OR Malta OR Maltese OR Netherlands OR Netherlander* OR Dutch* OR Poland OR Polish* OR Portugal OR Portuguese* OR Romania* OR Slovakia* OR Slovenia* OR Spain OR Spanish OR Sweden OR Swedish OR Iceland* OR Liechtenstein* OR Norway OR Norwegian* OR Switzerland OR	24,025,744	EU/EFTA/UK countries in Affiliation country or in title, abstract or keywords

	Swiss OR "Faroe Islands" OR "Faeroe Islands" OR Faroes OR Faroese* OR "United Kingdom" OR "Great Britain" OR British OR Wales OR Welsh* OR Scotland OR Scots OR England OR English*)		
#5	#4 AND #3 AND #2 AND #1	2,718	Fish AND Farmed AND Parasites AND Occurrence
#4	TS=("detected" OR "detection" OR epidemiolog* OR identif* OR frequen* OR occurren* OR presence OR prevalen* OR frequenc* OR rate OR rates)	19,414,882	Occurrence
#3	TS=(parasit* OR anisaki* OR "A simplex" OR "A pegreffii" OR "A typica" OR Pseudoterranova OR "P Decipiens" OR "P krabbei" OR "P bulbosa" OR "P azarasi" OR "P cattani" OR Contraecaecum OR "C osculatum" OR Heterophyidae OR Cryptocotyle OR "C lingua" OR Opisthorchiidae OR Opisthorchis OR "O felineus" OR Metorchis OR Pseudamphistomum OR "P truncatum" OR Diphylobothriidae OR Dibothriocephalus OR Diphylobothrium OR Molicola OR Gymnorhynchus OR Polymorphidae OR Bolbosoma OR Corynosoma OR Myxosporidia OR Kudoa)	343,739	Parasites
#2	TS=(Aquacultur* OR "cultured" OR farm OR farmed OR farming OR Piscicultur*)	1,770,887	Farmed
#1	TS=(fish OR fishes OR finfish* OR cod OR cods OR gadus OR Halibut OR halibuts OR "Hippoglossus hippoglossus" OR "H hippoglossus" OR perca OR "Argyrosomus regis" OR "Argyrosomus regius" OR "A regis" OR "A regius" OR meagre OR maigre OR Salmon OR salmons OR Salmonidae OR salmo OR Seabass* OR "sea bass*" OR "Dicentrarchus labrax" OR "D labrax" OR "Morone labrax" OR "Morone labrax" OR Seabream* OR "sea bream*" OR "gilt-head bream*" OR "gilthead bream*" OR Sparidae OR Sparus OR trout* OR Oncorhynchus OR trutta OR tuna OR tunas OR Thunnus OR "T thynnus" OR turbot OR turbots OR "Psetta maxima" OR "P maxima" OR "Scophthalmus maximus" OR "S maximus")	650,965	Fish

A.2.2. Specific searches for AQ2: "What testing methods are currently available and may be available in the near future to test the fish species for the parasites identified in the answer to ToR1?"

TABLE A3 Summary of results AQ2.

Database	Results
CAB Abstracts	887
Scopus	719
Web of Science Core Collection	553
Results after de-duplication:	1,066

CAB Abstracts

Date of the search: 20/09/2023

Set	Query	Results	Concept
1	TS=((Identification OR Detect* OR diagnos* OR isolate* OR molecular) NEAR/3 (test OR tests OR method* OR tool OR tools))	246,119	Testing methods
2	TS=(fish OR fishes OR finfish* OR carp or carps OR cyprinus OR "c Carpio" OR cod OR cods OR gadus OR "G morhua" OR eel OR eels OR Anguilla OR Halibut OR halibuts OR "Hippoglossus hippoglossus" OR "H hippoglossus" OR perca OR "Argyrosomus regis" OR "Argyrosomus regius" OR "A regis" OR "A regius" OR meagre OR maigre OR "Pike-Perch*" OR pikeperch* OR lucopercica OR zander OR Zanders OR Stizostedion OR Salmon OR salmons OR Salmonidae OR salmo OR	422,272	Fish

	Seabass* OR "sea bass*" OR "Dicentrarchus labrax" OR "D labrax" OR "Morone labrax" OR Seabream* OR "sea bream*" OR "gilt-head bream*" OR "gilthead bream*" OR Sparidae OR Sparus OR "S aurata" OR tench OR "tinca tinca" OR "T tinca" OR trout* OR Oncorhynchus OR "O mykiss" OR trutta OR tuna OR tunas OR Thunnus OR "T thynnus" OR turbot OR turbots OR "Psetta maxima" OR "P maxima" OR "Scophthalmus maximus" OR "S maximus")		
3	TS=(Parasit* OR anisaki* OR "A simplex" OR "A pegreffii" OR "A typica" OR Pseudoterranova OR phocanema OR "P Decipiens" OR "P krabbei" OR "P bulbosa" OR "P azarasi" OR "P cattani" OR "Ph decipiens" OR "Ph krabbei" OR "Ph bulbosa" OR "Ph azarasi" OR "Ph cattani" OR Contracaecum OR "C osculatum" OR Heterophyidae OR Cryptocotyle OR "C lingua" OR Opisthorchiidae OR Opisthorchis OR "O felineus" OR Metorchis OR Pseudamphistomum OR "P truncatum" OR Cyathocotylidae OR paracoenogonimus OR "P ovatus" OR Diphylobothriidae OR Dibothriocephalus OR Diphylobothrium OR "D latum")	1,698,704	Parasites
4	#1 AND #2 AND #3	1,617	Testing methods AND Fish AND parasites
5	#4 and PY=2010-2024 and English (Languages)	887	Testing methods AND Fish AND parasites AND English language AND published after 2010

Scopus

Date of the search: 21/09/2023

Set	Query	Results	Concept
#5	#4 AND PUBYEAR > 2009 AND LANGUAGE (english)	719	Fish AND parasites AND Testing methods AND English language AND published after 2010
#4	#3 AND #2 AND #1	961	Fish AND Parasites AND detection methods
#3	TITLE-ABS-KEY((Identif* OR Detect* OR diagnos* OR molecular) W/3 (test OR tests OR method* OR tool OR tools))	1,756,254	Detection methods
#2	TITLE-ABS-KEY (parasit* OR anisaki* OR "A simplex" OR "A pegreffii" OR "A typica" OR Pseudoterranova OR Phocanema OR "P Decipiens" OR "P krabbei" OR "P bulbosa" OR "P azarasi" OR "P cattani" OR "Ph Decipiens" OR "Ph krabbei" OR "Ph bulbosa" OR "Ph azarasi" OR "Ph cattani" OR Contracaecum OR "C osculatum" OR Heterophyidae OR Cryptocotyle OR "C lingua" OR Opisthorchiidae OR Opisthorchis OR "O felineus" OR Metorchis OR Pseudamphistomum OR "P truncatum" OR Cyathocotylidae OR Paracoenogonimus OR "P. ovatus" OR Diphylobothriidae OR Dibothriocephalus OR Diphylobothrium OR "D latum")	548,357	Parasites
#1	TITLE-ABS-KEY (fish OR fishes OR finfish* OR cod OR carp OR carps OR cyrinus OR "C carpio" OR cods OR gadus OR "G morhua" OR Eel OR Eels OR Anguilla OR Halibut OR halibuts OR "Hippoglossus hippoglossus" OR "H hippoglossus" OR perca OR "Argyrosomus regis" OR "Argyrosomus regius" OR "A regis" OR "A regius" OR meagre OR maigre OR Pike-perch* OR Pikeperch* OR Lucioperca OR zander OR zanders OR Stizostedion OR Salmon OR salmonids OR Salmonidae OR salmo OR Seabass* OR "sea bass*" OR "Dicentrarchus labrax" OR "D labrax" OR "Morone labrax" OR "Morone labrax" OR Seabream* OR "sea bream*" OR "gilt-head bream*" OR "gilthead bream*" OR Sparidae OR Sparus OR "S aurata" OR Tench OR "Tinca tinca" OR "T tinca" OR trout* OR Oncorhynchus OR "O mykiss" OR trutta OR tuna OR tunas OR Thunnus OR "T thynnus" OR turbot OR turbots OR "Psetta maxima" OR "P maxima" OR "Scophthalmus maximus" OR "S maximus")	805,943	Fish

Web of Science Core Collection (SCI-Expanded, CPCI-S, BKCI-S, ESCI)

Date of the search: 20/09/2023

Set	Query	Results	Concept
1	TS=(fish OR fishes OR finfish* OR carp or carps OR cyprinus OR "c Carpio" OR cod OR cods OR gadus OR "G morhua" OR eel OR eels OR Anguilla OR Halibut OR halibuts OR "Hippoglossus hippoglossus" OR "H hippoglossus" OR perca OR "Argyrosomus regis" OR "Argyrosomus regius" OR "A regis" OR "A regius" OR meagre OR maigre OR "Pike-Perch*" OR pikeperch* OR lucopectera OR zander OR Zanders OR Stizostedion OR Salmon OR salmons OR Salmonidae OR salmo OR Seabass* OR "sea bass*" OR "Dicentrarchus labrax" OR "D labrax" OR "Morone labrax" OR Seabream* OR "sea bream*" OR "gilt-head bream*" OR "gilthead bream*" OR Sparidae OR Sparus OR "S aurata" OR tench OR "tinca tinca" OR "T tinca" OR trout* OR Oncorhynchus OR "O mykiss" OR trutta OR tuna OR tunas OR Thunnus OR "T thynnus" OR turbot OR turbots OR "Psetta maxima" OR "P maxima" OR "Scophthalmus maximus" OR "S maximus") Editions: WOS.SCI,WOS.ISTP,WOS.BSCI,WOS.ESCI	682,085	Fish
2	TS=(Parasit* OR anisaki* OR "A simplex" OR "A pegreffii" OR "A typica" OR Pseudoterranova OR phocanema OR "P Decipiens" OR "P krabbei" OR "P bulbosa" OR "P azarasi" OR "P cattani" OR "Ph decipiens" OR "Ph krabbei" OR "Ph bulbosa" OR "Ph azarasi" OR "Ph cattani" OR Contraecaecum OR "C osculatum" OR Heterophyidae OR Cryptocotyle OR "C lingua" OR Opisthorchiidae OR Opisthorchis OR "O felineus" OR Metorchis OR Pseudamphistomum OR "P truncatum" OR Cyathocotylidae OR paracoenogonimus OR "P ovatus" OR Diphyllbothriidae OR Dibothriocephalus OR Diphyllbothrium OR "D latum") Editions: WOS.SCI,WOS.ISTP,WOS.BSCI,WOS.ESCI	345,374	Parasites
3	TS=((Identif* OR detect* OR diagnos* OR molecular) NEAR/3 (method* OR test or tests or tool or tools)) Editions: WOS.SCI,WOS.ISTP,WOS.BSCI,WOS.ESCI	1,141,847	Testing methods
5	#1 AND #2 AND #3 AND PY=2010-2024 AND English (Languages) Editions: WOS.SCI,WOS.ISTP,WOS.BSCI,WOS.ESCI	553	Fish AND parasites AND Testing methods AND English language AND published after 2010

A.2.3. Specific searches for AQ3: "What technical developments and new scientific data for inactivation and/or removal of viable parasites (identified in the answer to ToR1) in fishery products, in particular treatments other than freezing, have been described since the EFSA BIOHAZ 2010 scientific opinion?"

TABLE A4 Summary of results AQ3.

Database	Results
CAB Abstracts	3,325
Scopus	2,605
Web of Science Core Collection	1,899
Results after de-duplication:	4,757

CAB Abstract

Date of the search: 23/10/2023

Set	Query	Results	Concept
#1	Fish OR fishes OR finfish* OR carp or carps OR cyprinus OR "c Carpio" OR cod OR cods OR gadus OR "G morhua" OR eel OR eels OR Anguilla OR Halibut OR halibuts OR "Hippoglossus hippoglossus" OR "H hippoglossus" OR perca OR "Argyrosomus regis" OR "Argyrosomus regius" OR "A regis" OR "A regius" OR meagre OR maigre OR "Pike-Perch*" OR pikeperch* OR lucopercia OR zander OR Zanders OR Stizostedion OR Salmon OR salmon OR Salmonidae OR salmo OR Seabass* OR "sea bass*" OR "Dicentrarchus labrax" OR "D labrax" OR "Morone labrax" OR Seabream* OR "sea bream*" OR "gilt-head bream*" OR "gilthead bream*" OR Sparidae OR Sparus OR "S aurata" OR tench OR "tinca tinca" OR "T tinca" OR trout* OR Oncorhynchus OR "O mykiss" OR trutta OR tuna OR tunas OR Thunnus OR "T thynnus" OR turbot OR turbots OR "Psetta maxima" OR "P maxima" OR "Scophthalmus maximus" OR "S maximus" (Topic)	423,264	Fish
#2	Anthelmintic OR antiparasitic OR "anti parasitic" OR Inactivat* OR infectivity OR kill* OR larvicid* OR mitigat* OR treatment* (Topic)	2,348,541	Inactivation
#3	Parasit* OR anisaki* OR "A simplex" OR "A pegreffii" OR "A typica" OR Pseudoterranova OR "P Decipiens" OR "P krabbei" OR "P bulbosa" OR "P azarasi" OR "P cattani" OR Contraeaecum OR "C osculatum" OR Heterophyidae OR Cryptocotyle OR "C lingua" OR Opisthorchiidae OR Opisthorchis OR "O felineus" OR Metorchis OR Pseudamphistomum OR "P truncatum" OR Diphylobothriidae OR Dibothriocephalus OR Diphylobothrium OR Molicola OR Gymnorhynchus OR Acanthocephala OR Bolbosoma OR Corynosoma OR Myxosporidia OR Kudoa OR Polymorphidae (Topic)	1,701,609	Parasites
#4	#1 AND 2 AND 2AND PY=2010-2023 AND LA=English	3,325	Fish AND parasites AND Inactivation AND English language AND published after 2010

Scopus

Date of search: 23/10/2023

Set	Query	Results	Concept
#1	TITLE-ABS-KEY (fish OR fishes OR finfish* OR carp OR carps OR cyprinus OR "c Carpio" OR cod OR cods OR gadus OR "G morhua" OR eel OR eels OR anguilla OR halibut OR halibuts OR "Hippoglossus hippoglossus" OR "H hippoglossus" OR perca OR "Argyrosomus regis" OR "Argyrosomus regius" OR "A regis" OR "A regius" OR meagre OR maigre OR "Pike-Perch*" OR pikeperch* OR lucopercia OR zander OR zanders OR stizostedion OR salmon OR salmon OR salmonidae OR salmo OR seabass* OR "sea bass*" OR "Dicentrarchus labrax" OR "D labrax" OR "Morone labrax" OR seabream* OR "sea bream*" OR "gilt-head bream*" OR "gilthead bream*" OR sparidae OR sparus OR "S aurata" OR tench OR "tinca tinca" OR "T tinca" OR trout* OR oncorhynchus OR "O mykiss" OR trutta OR tuna OR tunas OR thunnus OR "T thynnus" OR turbot OR turbots OR "Psetta maxima" OR "P maxima" OR "Scophthalmus maximus" OR "S maximus")	810,571	Fish
#2	TITLE-ABS-KEY (parasit* OR anisaki* OR "A simplex" OR "A pegreffii" OR "A typica" OR pseudoterranova OR phocanema OR "P Decipiens" OR "P krabbei" OR "P bulbosa" OR "P azarasi" OR "P cattani" OR "Ph decipiens" OR "Ph krabbei" OR "Ph bulbosa" OR "Ph azarasi" OR "Ph cattani" OR contraeaecum OR "C osculatum" OR heterophyidae OR cryptocotyle OR "C lingua" OR opisthorchiidae OR opisthorchis OR "O felineus" OR metorchis OR pseudamphistomum OR "P truncatum" OR	550,411	Parasites

	cyathocotylidae OR paracoenogonimus OR "P ovatus" OR diphyllbothriidae OR dibothriocephalus OR diphyllbothrium OR "D latum")		
#3	(TITLE-ABS-KEY (anthelmintic OR antiparasitic OR "anti parasitic" OR inactivat* OR infectivity OR kill* OR larvicid* OR mitigat* OR treatment*)	11,034,629	Inactivation
#4	#1 AND #2 And #3 AND PUBYEAR > 2008 AND PUBYEAR < 2025 AND (LIMIT-TO (LANGUAGE , "English"))	2,605	Fish AND parasites AND Inaction AND English language AND published after 2010

Web of Science

Date of the search: 23/10/2023

Set	Search Query	Results	Concept
1	Anthelmintic OR antiparasitic OR "anti parasitic" OR Inactivat* OR infectivity OR kill* OR larvicid* OR mitigat* OR treatment* (Topic)	423,264	Inactivation
2	Fish OR fishes OR finfish* OR carp or carps OR cyprinus OR "c Carpio" OR cod OR cods OR gadus OR "G morhua" OR eel OR eels OR Anguilla OR Halibut OR halibuts OR "Hippoglossus hippoglossus" OR "H hippoglossus" OR perca OR "Argyrosomus regis" OR "Argyrosomus regius" OR "A regis" OR "A regius" OR meagre OR maigre OR "Pike-Perch*" OR pikeperch* OR lucopercia OR zander OR Zanders OR Stizostedion OR Salmon OR salmones OR Salmonidae OR salmo OR Seabass* OR "sea bass*" OR "Dicentrarchus labrax" OR "D labrax" OR "Morone labrax" OR Seabream* OR "sea bream*" OR "gilt-head bream*" OR "gilthead bream*" OR Sparidae OR Sparus OR "S aurata" OR tench OR "tinca tinca" OR "T tinca" OR trout* OR Oncorhynchus OR "O mykiss" OR trutta OR tuna OR tunas OR Thunnus OR "T thynnus" OR turbot OR turbot* OR "Psetta maxima" OR "P maxima" OR "Scophthalmus maximus" OR "S maximus" (Topic)	2,348,541	Fish
3	Parasit* OR anisaki* OR "A simplex" OR "A pegreffii" OR "A typica" OR Pseudoterranova OR "P Decipiens" OR "P krabbei" OR "P bulbosa" OR "P azarasi" OR "P cattani" OR Contracaecum OR "C osculatum" OR Heterophyidae OR Cryptocotyle OR "C lingua" OR Opisthorchiidae OR Opisthorchis OR "O felinus" OR Metorchis OR Pseudamphistomum OR "P truncatum" OR Diphyllbothriidae OR Dibothriocephalus OR Diphyllbothrium OR Molicola OR Gymnorhynchus OR Acanthocephala OR Bolbosoma OR Corynosoma OR Myxosporidia OR Kudoa OR Polymorphidae (Topic)	1,701,609	Parasites
4	#1 AND #2 AND #3 Timespan: 2010-01-01 to 2024-01-01	1,899	Fish AND parasites AND Inactivation AND English language AND published after 2010

A3. Additional Systematic review

Additional data from a systematic review conducted under EFSA's grant agreement GP/EFSA/BIOHAW/2023/05 (Pathogens in foods database: extension with *Vibrio* and parasites) with the beneficiaries Instituto Politécnico de Bragança (IPB) as coordinator and Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail (Anses) as co-beneficiary, was used to complement the information collected through the searches mentioned above. The systematic review was performed to identify and extract, under a categorised arrangement, information and data on the occurrence of anisakids in fishery products from aquaculture in European countries. The protocol used is available at <https://zenodo.org/records/10270810>. The search was carried out in the e-bibliographic databases PubMed, Web of Science Core Collection, (Science Citation Index Expanded and

Emerging Sources Citation Index), Scopus and SciELO¹. The data extracted are related to (i) general framing of the study, (ii) study characteristics relevant to explain heterogeneity in the outcomes; namely the nature of the food sampled and the method of detection/quantification, and (iii) outcome measures, detection and/or quantification. The evidence retrieved was synthesised by listing the data on the occurrence of anisakids (*Anisakis*, *Phocanema* and *Contracaecum*) in fishery products from aquaculture in EU Member States, EFTA countries, and the UK according to seafood category and type (animal species). Among other data, country and year(s) of sampling, description of the sampling point (stage of the food chain), fish species, organs sampled, parasites (eg. species), sampling size and number of positive units, prevalence, mean abundance and/or mean intensity, sampling preparation methods, parasites detection and identification methods used, etc. Extracted data are available at <https://doi.org/10.5281/zenodo.10790873>. Additional searches and data extraction for anisakids from worldwide wild caught fish and for other parasites in fishery products from aquaculture and wild caught fish will be extracted at a later stage. All data will be incorporated in the 'Pathogens in Food (PIF) database'² accessible through a web application (<https://pif.esa.ipb.pt/>).

¹ <https://scielo.org>

² Pathogens-in-Foods (PIF) is a database of systematically formatted occurrence data of the most important microbiological hazards in foods randomly surveyed in Europe. The database contains data extracted from peer-reviewed articles published since 2000, retrieved through systematic literature searches and using a publicly available protocol describing the search and screening process. The foodborne pathogens currently covered are: *Bacillus cereus*, *Campylobacter* spp., *Clostridium perfringens*, *Listeria monocytogenes*, *Salmonella* spp., Shiga toxin-producing *Escherichia coli*, *Staphylococcus aureus*, *Yersinia enterocolitica*, *Cryptosporidium* spp., *Giardia* spp., *Toxoplasma gondii*, Hepatitis A virus, Hepatitis E virus and Norovirus. In 2025, PIF database will be populated with data on the occurrence of *Vibrio parahaemolyticus*, *Vibrio vulnificus* and non-O1, non-O139 *Vibrio cholerae* in seafood and of fish parasites of public health importance (including Anisakids) in fishery products.