Final report PT-An 4/2017

PT report on "Detection of Anisakidae L3 larvae in fish fillets"

Design

Purpose	Evaluation of laboratories in charge for official control on food	
Scheme type	Single	
Participants	Public and private, European laboratories	
N. of participants	Depending on request	
Method	not regulated	
Test method	chosen by the participant	
PT items	Matrix	fresh water farmed fish fillet
	Item	Anisakidae live larvae
	N. of samples	3 for each participant
	Distribution	Immediate shipment after preparation
Subcontracted activities	NA	
Results evaluation	Qualitative	

Implementation

N. of participants	**27**	PT items	fish fillet sandwiches	**81**
Public laboratories	**0**			
Private laboratories	**0**		PT panel composition	**3 fish fillet sandwiches: one spiked with 3 larvae and two spiked with 1 larva each**
NRL	**27**		Shipping	TNT Express

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Shipping dates	**13/03/2017**

Results

The PT final evaluation was qualitative only. The PT was considered passed if all positive and all negative samples were correctly identified by the participant.

Laboratory code	N° of samples correctly identified	N° of samples NOT correctly identified	Final evaluation
A1	3	0	Positive
A2	**2**	**1**	**Negative**
A3	3	0	Positive
A4	**2**	**1**	**Negative**
A5	3	0	Positive
A6	3	0	Positive
A7	3	0	Positive
A9	**2**	**1**	**Negative**
A10	3	0	Positive
A11	**2**	**1**	**Negative**
A12	3	0	Positive
A13	**2**	**1**	**Negative**
A14	3	0	Positive
A15	3	0	Positive
A16	**2**	**1**	**Negative**
A17	3	0	Positive
A18	3	0	Positive
A19	3	0	Positive
A20	3	0	Positive
A21	3	0	Positive
A23	**2**	**1**	**Negative**
A25	**2**	**1**	**Negative**
A26	3	0	Positive
A28	3	0	Positive

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A30	3	0	Positive
A31	3	0	Positive
A36	3	0	Positive

Legend:

- Laboratories that failed the PT are marked in bold.

Summary of results:

Total number of PT panels	**27**
Number of participant laboratories	**27**
Number of participants that passed the PT	**19**
Number of participants that failed the PT	**8**

Overtime comparison of results

Laboratory code	2014	2015	2016	2017
A1	P	P	P	P
A2	P	P	P	**N**
A3	**N**	P	P	P
A4	P	P	**N**	**N**
A5	P	P	P	P
A6	P	P	P	P
A7	P	P	P	P
A9	P	//	P	**N**
A10	P	P	**N**	P
A11	P	**N**	P	**N**
A12	P	**N**	P	P
A13	P	P	P	**N**
A14	**N**	P	P	P
A15	P	P	P	P
A16	**N**	P	P	**N**
A17	*NR*	//	P	P
A18	P	P	P	P
A19	P	P	P	P
A20	P	P	P	P
A21	P	P	P	P
A23/A33	**N**	P	P	**N**
A25	P	P	P	**N**
A26	P	P	P	P
A28	P	//	P	P
A30	//	P	P	P
A31	//	P	P	P
A36	//	//	//	P

Note: P, positive; N, negative; NR, no result received; // no participation

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Comments:

This PT round resulted in around 30% of the laboratories (8/29) that failed the PT, all report as false negative one of the samples spiked with one larva. Independent from the test method used (UV-press or Digestion). The causes of failures were investigated by directly contacting the laboratories. The causes could be in. i) package being frozen at the arrival at -45 degrees; ii). probable loss of the larva, in the sample spiked with one larva, due to the improper chopping/manipulation of the sample; iii) use of a sieve with mesh size too wide for Anisakidae larva cause the loss of larvae; iv) inexperience of the new analyst; v) unidentified mistake in the UV-press procedure.

As corrective action all laboratories asked to analyse a second panel of samples as an EQA scheme.

A general decrease in the performance of the participant laboratories was highlighted by this PT round. This is also supported by the underestimation of the number of larvae for the samples spiked with 3 larvae (10/27), irrespective of the method used. As shown during the previous years, inexperience combined with the impossibility to routinely examine fish samples parasitized by Anisakidae generally has a negative effect on the PT performance.

After several years, the number of PT participant decreased (27 in 2017 vs 30 in 2016) but the relative percentage of detection methods adopted did not change substantially over the last years. Artificial digestion was still the prevalent method used, largely because it doesn't require any special equipment. UV-press method is applied only in laboratory with a high number of fish samples to be routinely inspected. Low sensitive methods, compressorium and candling, were almost exclusively used only in combination with artificial digestion or UV-press method.

The Director
Dr. E. Pozio

Date 4TH MAY 2017

Notes:

1. To guarantee confidentiality, participant laboratories are identified by alphanumeric codes. PT participant identity is kept confidential and bound by professional secrecy. If PT results have to be provided directly to a competent authority, the organizer shall send a written notice to inform the involved participants.
2. The organizer designates a qualified company for the transport and delivery of PT items.
3. Each participating laboratory receives a PT panel according to the PT scheme. Each PT item consists of a fish fillet sandwich spiked or not with live Anisakidae larvae. The homogeneity of PT items is ensured by an accurate control of the number of larvae spiked into each sample (item) made by two operators. PT items are stable for 7 days from the date of preparation (corresponding to the shipping date), provided that they are maintained in suitable conditions.
4. At the beginning of each year, the organizer draws up a PT program and makes it known by sending an email to the NRLs
5. The final report issue of each PT round shows the PT program implementation.

End of the report

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