Final report PT-03: Tm 1/2021

PT "Identification of *Trichinella* larvae at the species level by a molecular method"

Design

Purpose	Evaluation of laboratories competence in molecular identification of *Trichinella* larvae species	
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	not applicable
	Item	*Trichinella* spp. larvae in 96% ethanol
	N. of samples	4 vials (10 larvae/each)
	Distribution	Preparation and packaging can be performed before shipment
Subcontracted activities	NA	
Results evaluation	Qualitative	

Implementation

N. of participants	25	PT items	PT panel 4 vials	10 larvae for each of the following species: *T. spiralis, T. pseudospiralis, T. nelsoni,* and *T. zimbabwensis*
Public laboratories	-			
Private laboratories	-		PT panel 12 vials	-
NRLs	25		Shipping	DHL
Shipping dates	March 15, 2021			

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Qualitative results

The PT final evaluation was qualitative only. The PT was considered passed if all isolates or, in case of single larvae at least one of them for each isolate, were correctly identified.

Laboratory code	N. right identification	N. wrong identification	N. missed identification	Final evaluation
NRL50	3	1	0	negative
NRL51	4	0	0	positive
NRL52	0	0	4	negative
NRL55	4	0	0	positive
NRL56	4	0	0	positive
NRL57	4	0	0	positive
NRL59	4	0	0	positive
NRL61	4	0	0	positive
NRL62	4	0	0	positive
NRL63	3	1	0	negative
NRL65	3	1	0	negative
NRL66	4	0	0	positive
NRL67*	-	-	-	NA
NRL69	3	1	0	negative
NRL70	4	0	0	positive
NRL71	3	1	0	negative
NRL72	4	0	0	positive
NRL73	1	3	0	negative
NRL74	3	1	1	negative
NRL77	4	0	0	positive
NRL78	4	0	0	positive
NRL79	1	1	2	negative
NRL82	4	0	0	positive
NRL83	4	0	0	positive
NRL84	4	0	0	positive

*results not submitted

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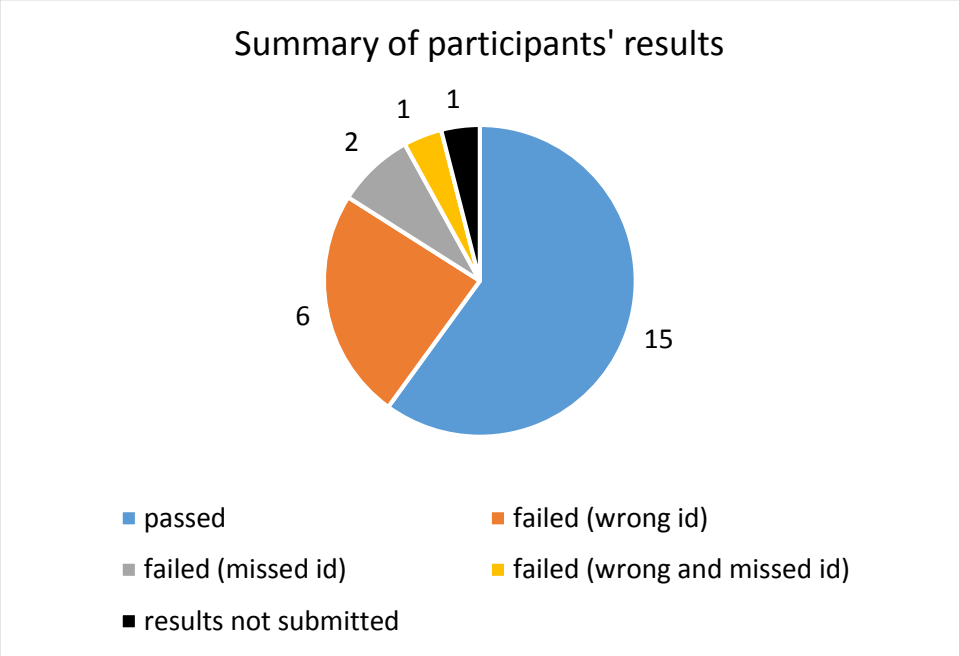
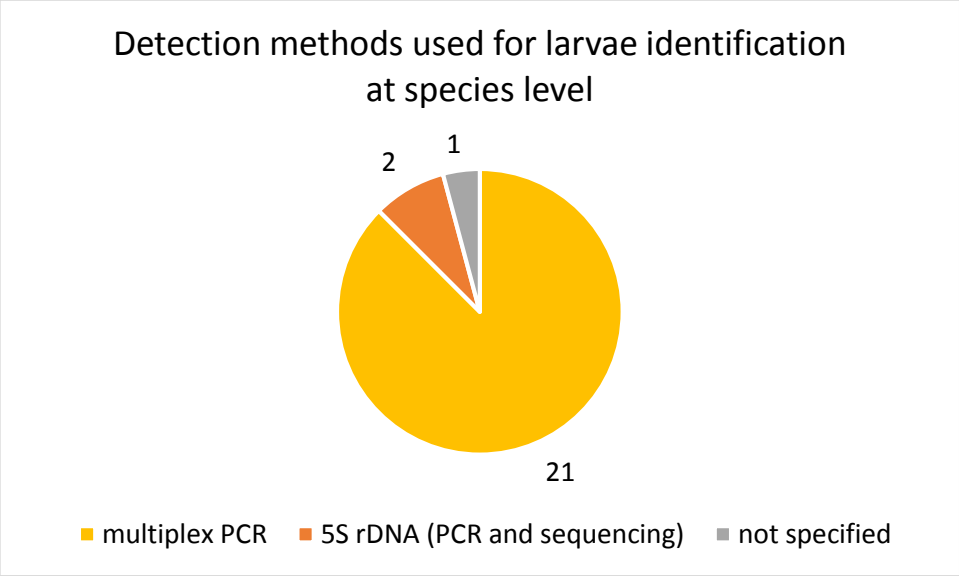
Graphical summary of PT results





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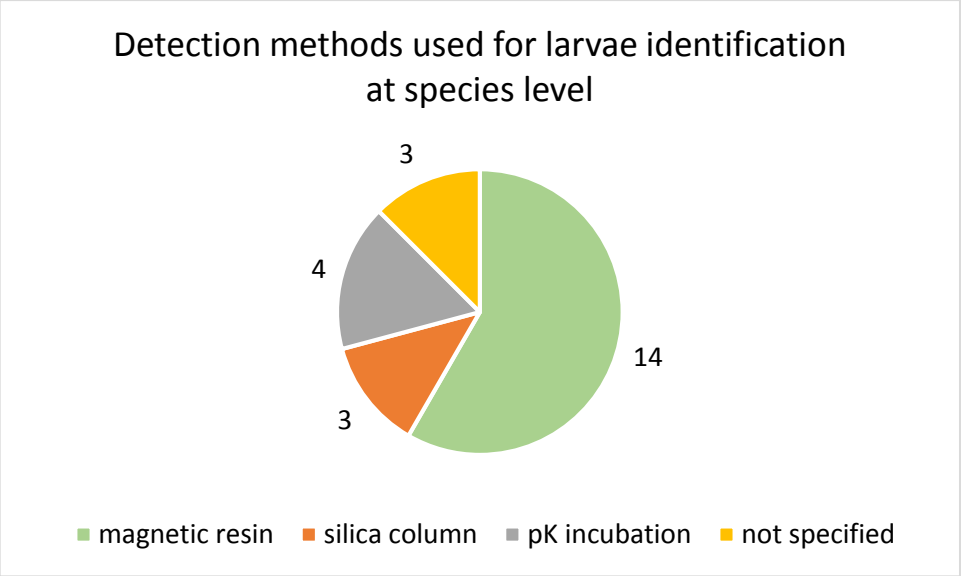

Overtime comparison of results (last 5 years)

Laboratory code	2017	2018	2019	2020	2021
NRL50	negative	positive	positive	positive	negative
NRL51	positive	positive	positive	positive	positive
NRL52	negative	positive	negative	-	negative
NRL53	-	-	-	-	-
NRL55	positive	positive	positive	positive	positive
NRL56	positive	positive	positive	positive	positive
NRL57	positive	positive	positive	positive	positive
NRL59	positive	positive	positive	positive	positive
NRL61	positive	positive	positive	positive	positive
NRL62	-	-	positive	-	positive
NRL63	negative	negative	negative	-	negative
NRL65	negative	positive	positive	positive	negative
NRL66	positive	positive	positive	positive	positive
NRL67	positive	-	positive	positive	-
NRL69	-	negative	positive	positive	negative
NRL70	positive	positive	positive	positive	positive
NRL71	positive	negative	positive	positive	negative
NRL72	positive	positive	positive	positive	positive
NRL73	positive	positive	positive	positive	negative
NRL74	positive	positive	positive	positive	negative

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NRL77	positive	positive	positive	positive	positive
NRL78	positive	positive	negative	negative	positive
NRL79	-	-	-	-	negative
NRL80	negative	-	-	-	-
NRL82	-	negative	positive	positive	positive
NRL83	-	-	positive	-	positive
NRL84	-	-	-	-	positive

Comments:

The multiplex PCR was the most used method to identify larvae at species level. DNA purification was done mainly by commercial kits based on magnetic beads or silica gel, only few participants used a protocol based on incubation in Tris-HCl and pK solutions. The most part of participants failed because was not able to correctly identify one or both the two non-European *Trichinella* species included in the PT panel. Only two participants failed because of technical problems encountered during the analysis.

PTP person in charge
Dr. G. Marucci

The Director
Dr. S.M. Cacciò

Date September 21, 2021

Notes:

1. To guarantee confidentiality, participant laboratories are identified by alphanumeric codes. PT participant identity is kept confidential and bound by professional secrecy. The PTP reserves itself the right to provide the laboratory PT result to the competent authority on request.
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 4 or 12 1.5 ml vials containing four different *Trichinella spp*. The homogeneity of PT items is ensured by an accurate control of the number of larvae spiked into each vial (item), made by two operators using a stereo microscope. PT items are stable for 5 years 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 issued for each PT round shows the PT program implementation.

End of the report

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