

## Final Report PT-05: Ec 1/2023

### **PT-05: “Detection of *Echinococcus* sp. worms in the intestinal mucosa of the definitive host”**

#### Design

|                          |   |                                      |
|--------------------------|---|--------------------------------------|
| Purpose                  | Correctly identify the presence of worms of <i>Echinococcus</i> sp. in a matrix made by intestinal mucosa |                                      |
| Scheme type              | Simultaneous  |                                      |
| Participants             | National reference laboratories for parasites<br>Public and private laboratories                          |                                      |
| N. of participants       | Depending on request  |                                      |
| Method                   | Not regulated   |                                      |
| Test method              | Sedimentation and counting technique (SCT)  |                                      |
| PT items                 | Matrix  | intestinal mucosa                    |
|                          | Item  | worms of <i>Echinococcus</i> spp.    |
|                          | N. of samples   | 3 for each participant               |
|                          | Distribution  | Immediate shipment after preparation |
| Subcontracted activities | NA  |                                      |
| Results evaluation       | Qualitative   |                                      |

#### Implementation

|                      |            |          |                        |                      |
|----------------------|------------|----------|------------------------|----------------------|
| N. of participants   | 30         | PT items | intestinal mucosa (ml) | 1200                 |
| Public laboratories  | 0          |          | Ethanol 70% (ml)       | 600                  |
| Private laboratories | 0          |          | PT panel composition   | 3 samples (30, 0, 0) |
| NLR                  | 30         |          | Shipping               | DHL                  |
| Shipping dates       | 13/03/2023 |          |                        |                      |

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## Results

The final evaluation is only based on qualitative evaluation and is expressed as “positive” if the results of all samples are correct or “negative” if at least one result is incorrect.

| Laboratory code | N° of samples correctly identified | N° of samples NOT correctly identified | Final evaluation |
|-----------------|------------------------------------|--|------------------|
| Em1             | 3                                  | 0                                      | POSITIVE         |
| Em2             | 2                                  | 1                                      | <b>NEGATIVE</b>  |
| Em3             | 3                                  | 0                                      | POSITIVE         |
| Em4             | 3                                  | 0                                      | POSITIVE         |
| Em5             | 3                                  | 0                                      | POSITIVE         |
| Em6             | 3                                  | 0                                      | POSITIVE         |
| Em7             | 3                                  | 0                                      | POSITIVE         |
| Em8             | 3                                  | 0                                      | POSITIVE         |
| Em9             | 3                                  | 0                                      | POSITIVE         |
| Em10            | 3                                  | 0                                      | POSITIVE         |
| Em11            | 3                                  | 0                                      | POSITIVE         |
| Em12            | 3                                  | 0                                      | POSITIVE         |
| Em13            | 3                                  | 0                                      | POSITIVE         |
| Em14            | 3                                  | 0                                      | POSITIVE         |
| Em15            | 3                                  | 0                                      | POSITIVE         |
| Em16            | 3                                  | 0                                      | POSITIVE         |
| Em17            | 3                                  | 0                                      | POSITIVE         |
| Em18            | 3                                  | 0                                      | POSITIVE         |
| Em19            | 3                                  | 0                                      | POSITIVE         |
| Em20            | 3                                  | 0                                      | POSITIVE         |
| Em21            | 3                                  | 0                                      | POSITIVE         |
| Em22            | 3                                  | 0                                      | POSITIVE         |
| Em23            | 3                                  | 0                                      | POSITIVE         |
| Em24            | 3                                  | 0                                      | POSITIVE         |
| Em25            | 3                                  | 0                                      | POSITIVE         |
| Em26            | 3                                  | 0                                      | POSITIVE         |
| Em27            | 3                                  | 0                                      | POSITIVE         |
| Em28            | 3                                  | 0                                      | POSITIVE         |
| Em29            | 3                                  | 0                                      | POSITIVE         |
| Em30            | 3                                  | 0                                      | POSITIVE         |

### Summary of results:

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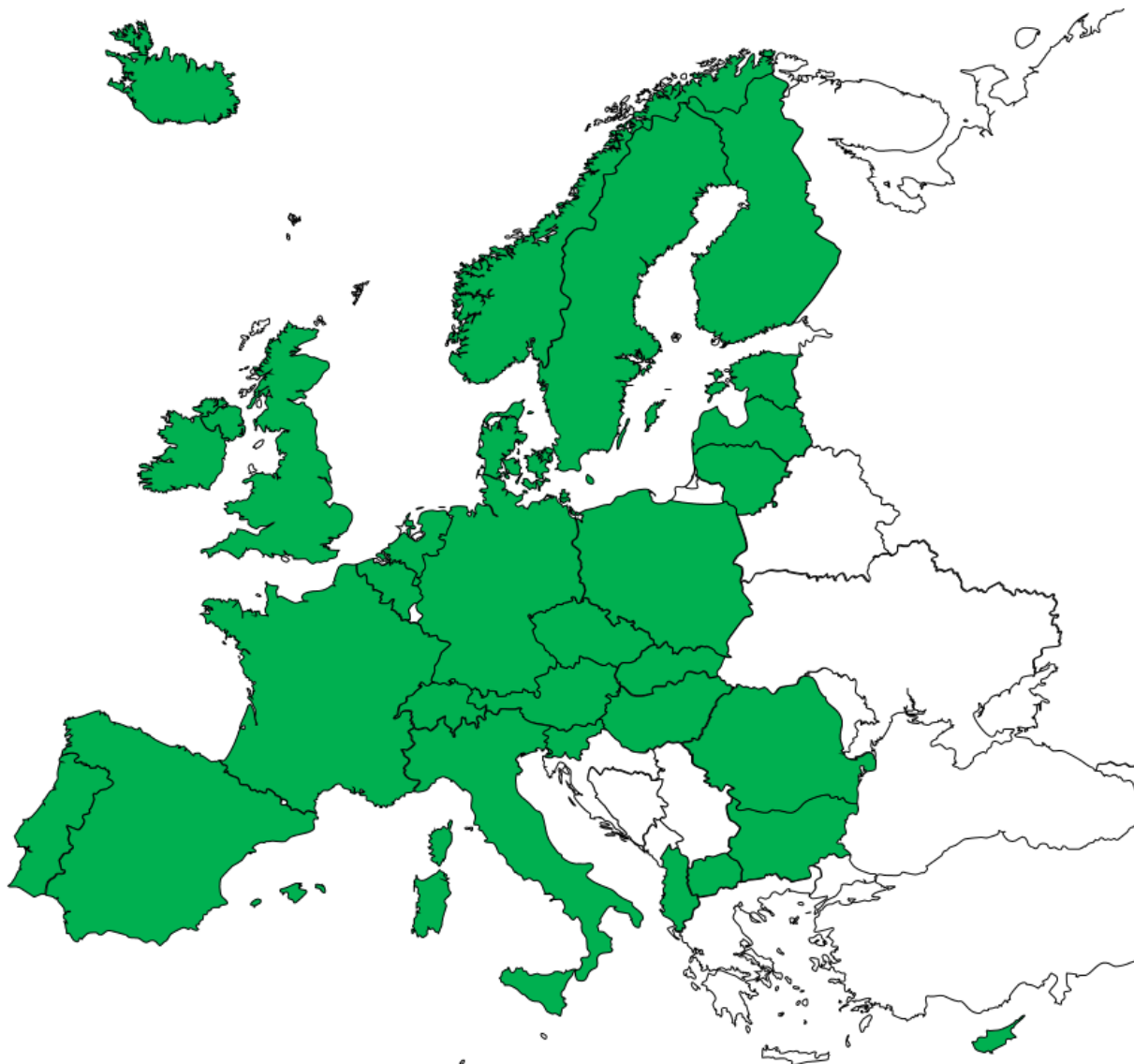


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|   |    |
|---|----|
| Number of participant laboratories          | 30 |
| Number of participants that passed the PT   | 29 |
| Number of participants that failed the PT   | 1  |
| Number of participants that repeated the PT | 0  |



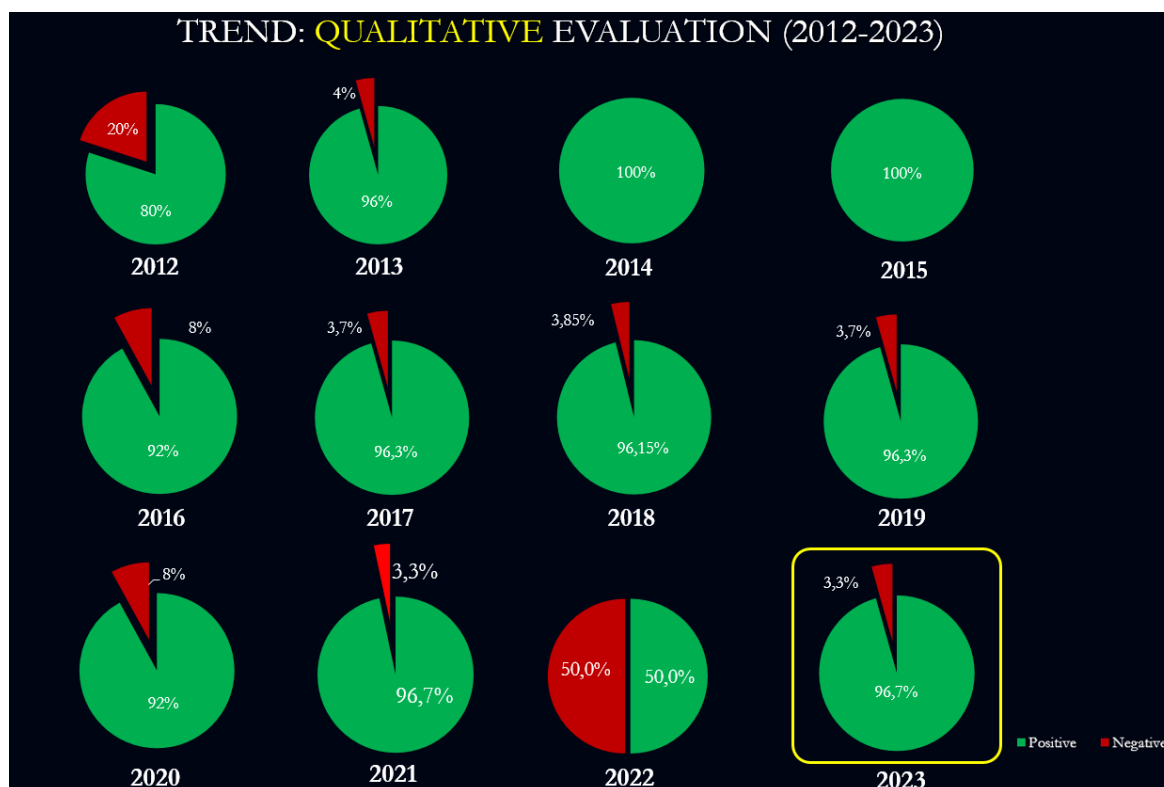
### Overtime comparison of results

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### Comments:

As for the previous years, mucosa samples were collected from red foxes living in non-endemic areas for *E. multilocularis* and were molecularly tested by the supplier. The experience derived from the PT carried out in 2023, showed that the personnel of NRLs are skilled to detect *Echinococcus* spp. parasite in a qualitative test. In particular, 100% (30/30) of participants detected the negative samples, and 96.7% (29/30) detected the positive samples. For as concerns the recovery rate, the participants detected an arithmetic mean of 11 worms (range 1-30) in the samples spiked with 30 worms. As for the past years, the lower capability detection of the samples could be due to eye focus softening.

**Recommendations:** No recommendations for this year.

PTP person in charge

Dr. A. Casulli



The Director

Dr. S.M. Cacciò



Date 18/5/2023

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**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 intestinal mucosa, fixed in 70% ethanol, spiked or not with *Echinococcus* spp. adult worms. The homogeneity of PT items is ensured by an accurate control of the number of worms spiked into each sample (item), made by two operators using a stereo microscope. PT items are stable for 21 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 publishing it on the EURLP website (for national, international, public and private laboratories) or by email (NRLs).
5. The final report issue of each PT round shows the PT program implementation.

End of the report

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