



# Reporting of parasitic zoonoses in the EU:

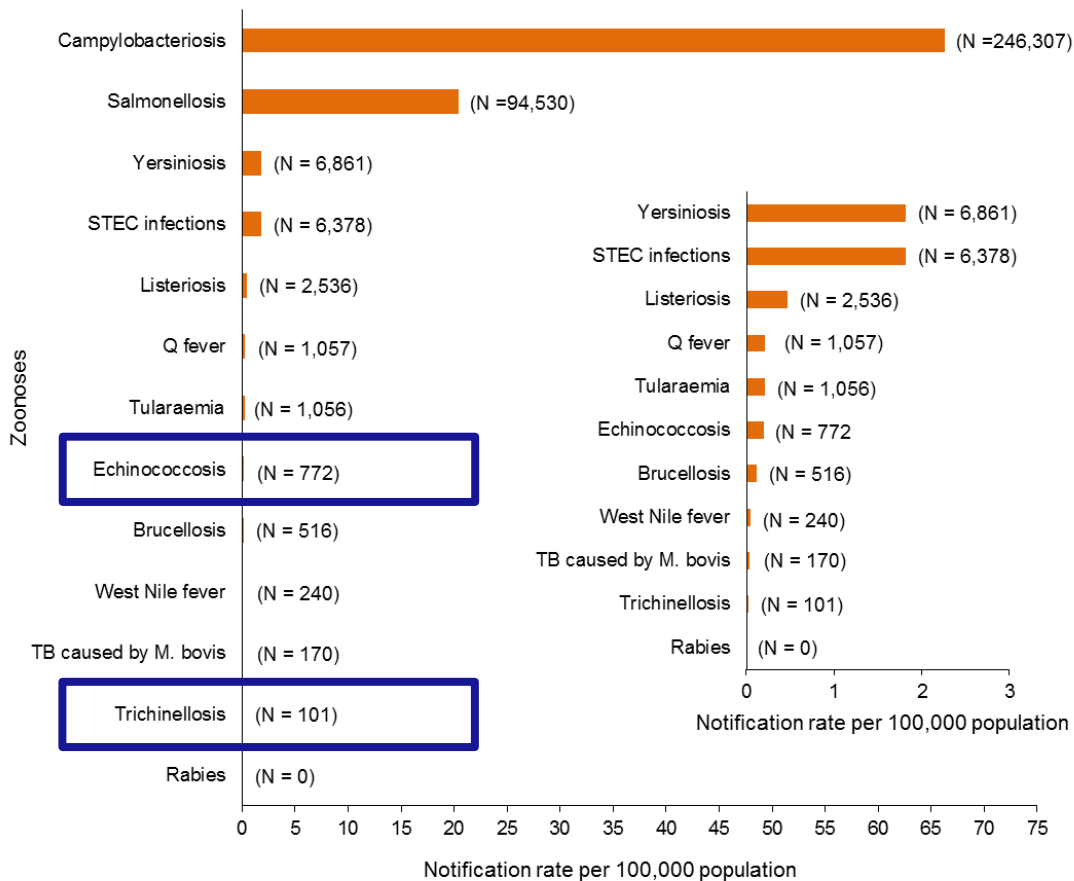
## Overview of EUSR 2016

24-25 May, NRL Workshop Rome

# OUTLINE

- **Reporting of parasitic zoonoses in the EU, 2016**
  - Trichinella
  - Echinococcus
  - Toxoplasma
- **FBO data : parasites**
- **Mandate BIOHAZ: food-borne parasites**

# Human zoonoses cases, EUSR, 2016



# Human zoonoses cases, EU 2016 : Parasites highlighted

Disease	Number of confirmed <sup>(a)</sup> human cases	Hospitalisation				Deaths			
		Status available (%)	Number of reporting MSs <sup>(b)</sup>	Reported hospitalised cases	Proportion hospitalised (%)	Outcome available (%)	Number of reporting MSs <sup>(b)</sup>	Reported deaths	Case fatality (%)
Campylobacteriosis	246,307	27.4	17	19,265	28.5	72.6	16	62	0.03
Salmonellosis	94,530	33.5	14	12,182	38.4	55.2	16	128	0.25
Yersiniosis	6,861	24.1	14	521	31.5	63.5	15	5	0.11
STEC infections	6,378	42.6	18	940	34.6	58.9	20	10	0.27
Listeriosis	2,536	38.8	18	962	97.7	60.1	20	247	16.2
Q-fever	1,057	NA <sup>(c)</sup>	NA	NA	NA	54.3	15	3	0.30
Tularaemia	1,056	12.3	11	130	54.6	15.8	12	0	0.0
Echinococcosis	772	26.2	14	119	58.9	25.4	13	1	0.51
Brucellosis	516	39.7	12	146	71.2	26.0	12	1	0.75
West Nile fever <sup>(a)</sup>	240	65.1	7	147	93.6	99.2	9	28	11.7
Trichinellosis	101	45.5	7	30	65.2	50.5	8	0	0.0
Rabies	0	NA <sup>(c)</sup>	NA	NA	NA	0.0	0	0	0.0

MS: Member State; STEC: Shiga toxin-producing *Escherichia coli*.

(a): Exception: West Nile fever in which the total number of cases was included.

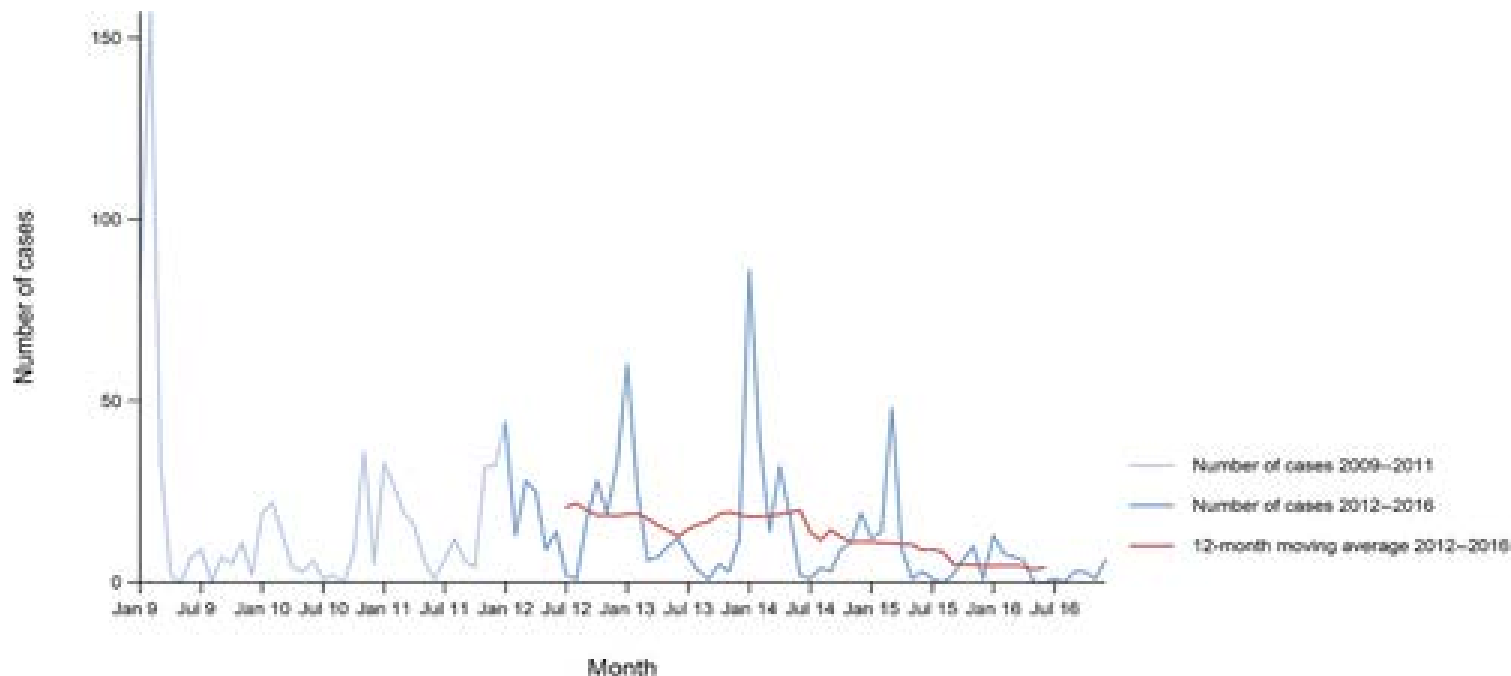
(b): Not all countries observed cases for all diseases.

(c): NA: Not applicable as information is not collected for this disease.

# TRICHINELLA, EU 2016



# TRENDS IN HUMANS (Trichinella), EU 2016



- 101 confirmed trichinellosis cases in humans in 2016 (lowest ever since surveillance in EU)
- Mainly BG and RO
- Trend: influenced by small and larger outbreaks (no clear increase or decrease 2012-2016)

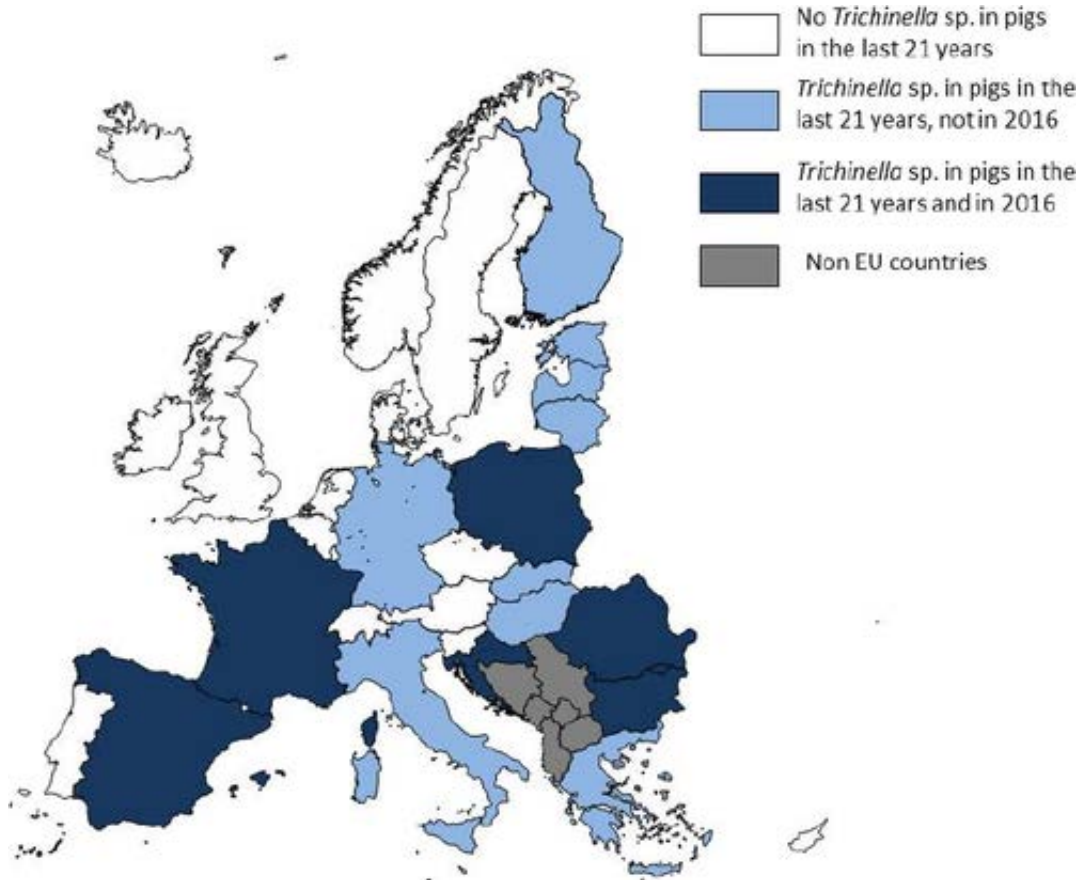
# TRICHINELLA IN DOMESTIC ANIMALS, EU 2016

- Reg. EC 2015/1375, all *Trichinella*-susceptible animals intended for human consumption in the EU market, should be tested for *Trichinella*
- DOMESTIC PIGS:

	Not Raised Under controlled housing conditions		Raised Under controlled housing conditions	
	Fattening Pigs	Breeding Pigs	Fattening Pigs	Breeding Pigs
<b>Tested EU</b>	<b>121,232,589</b>	<b>4,167,862</b>	<b>55,563,944</b>	<b>1,708,284</b>
<b># Positive</b>	<b>187</b> <b>(&lt;0.01%)</b>	<b>1</b> <b>(&lt;0.01%)</b>	<b>0</b>	<b>0</b>



# TRICHINELLA IN DOMESTIC PIGS EU





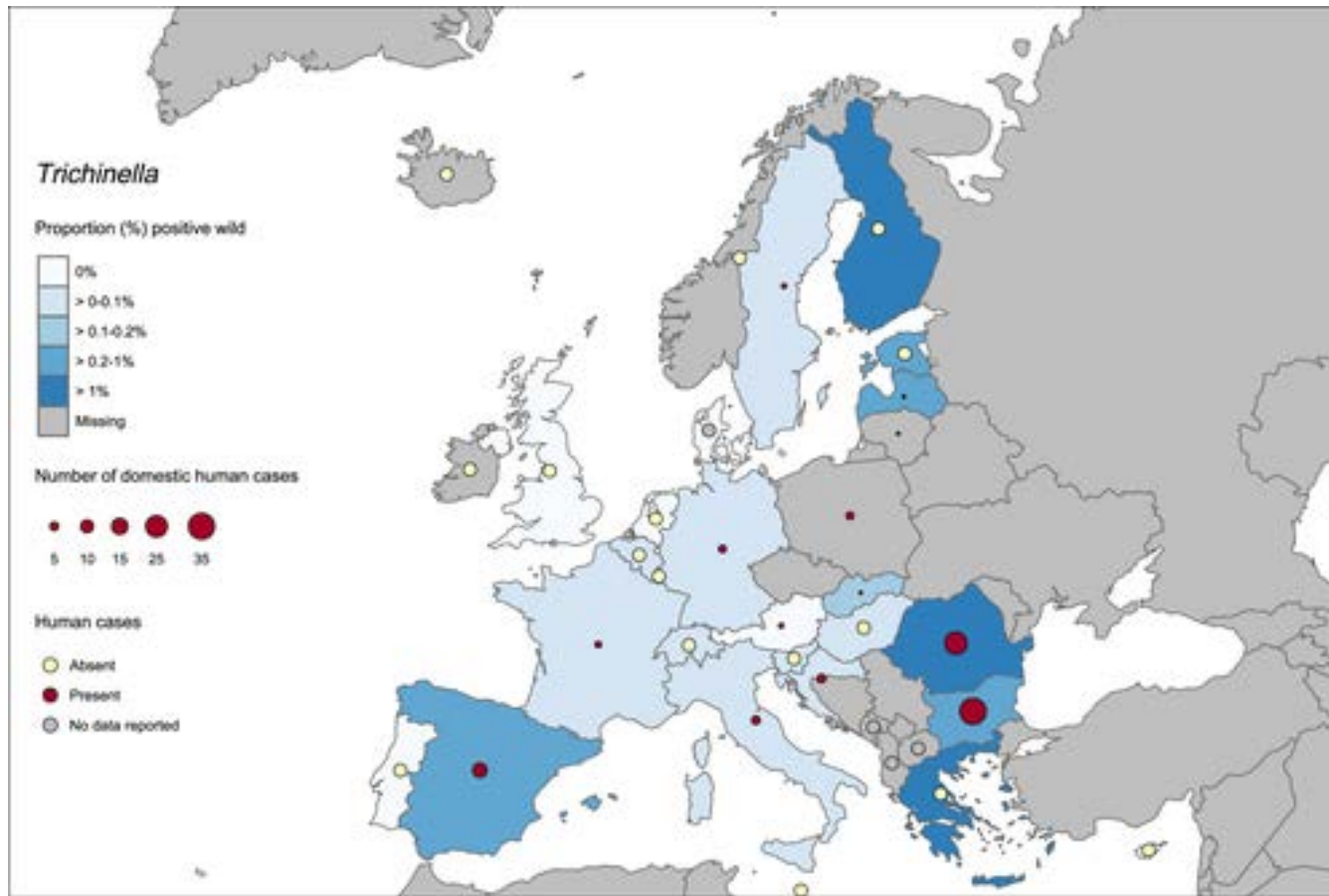
# TRICHINELLA IN OTHER ANIMALS, EU 2016

	HORSES, SOLIPEDS	FARMED WILD BOAR	HUNTED WILD BOAR	RED FOXES	OTHER WILD ANIMALS
<b>Tested EU</b>	<b>139,543</b>	<b>31,039</b>	<b>1,152,650</b>	<b>6,435</b>	<b>1,674</b>
<b># Pos</b>	<b>0</b>	<b>90 (0.3%)</b>	<b>256 (0.02%)</b>	<b>73 (1.1%)</b>	<b>185 (11.1%)</b>

## WILD LIFE

*Trichinella spp.* detected in 11 species in 5 MS (lynx, brown bear, raccoon dog, wolf, wolverine, badger, marten, ferret, otter, rat and goshawk)

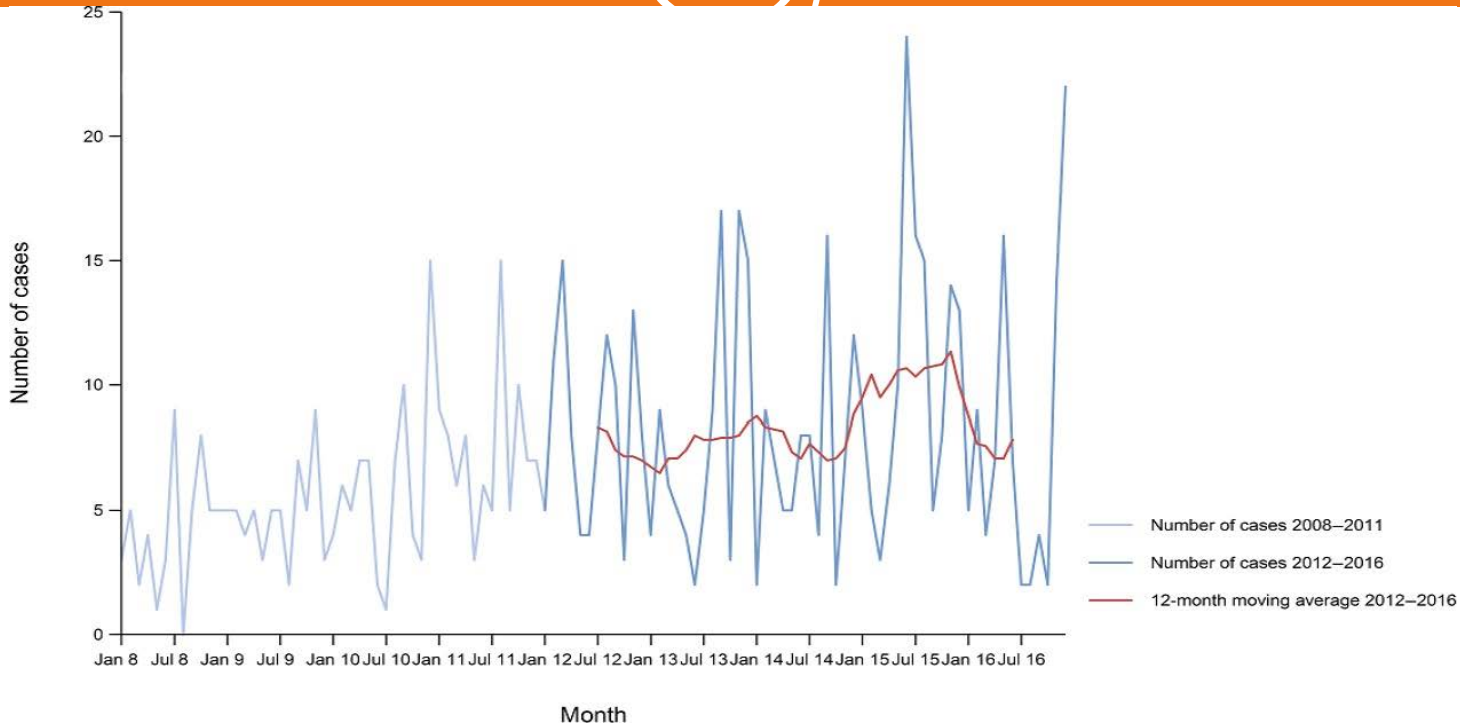
# TRICHINELLA IN HUMANS and WILD LIFE



# ECHINOCOCCUS, EU 2016

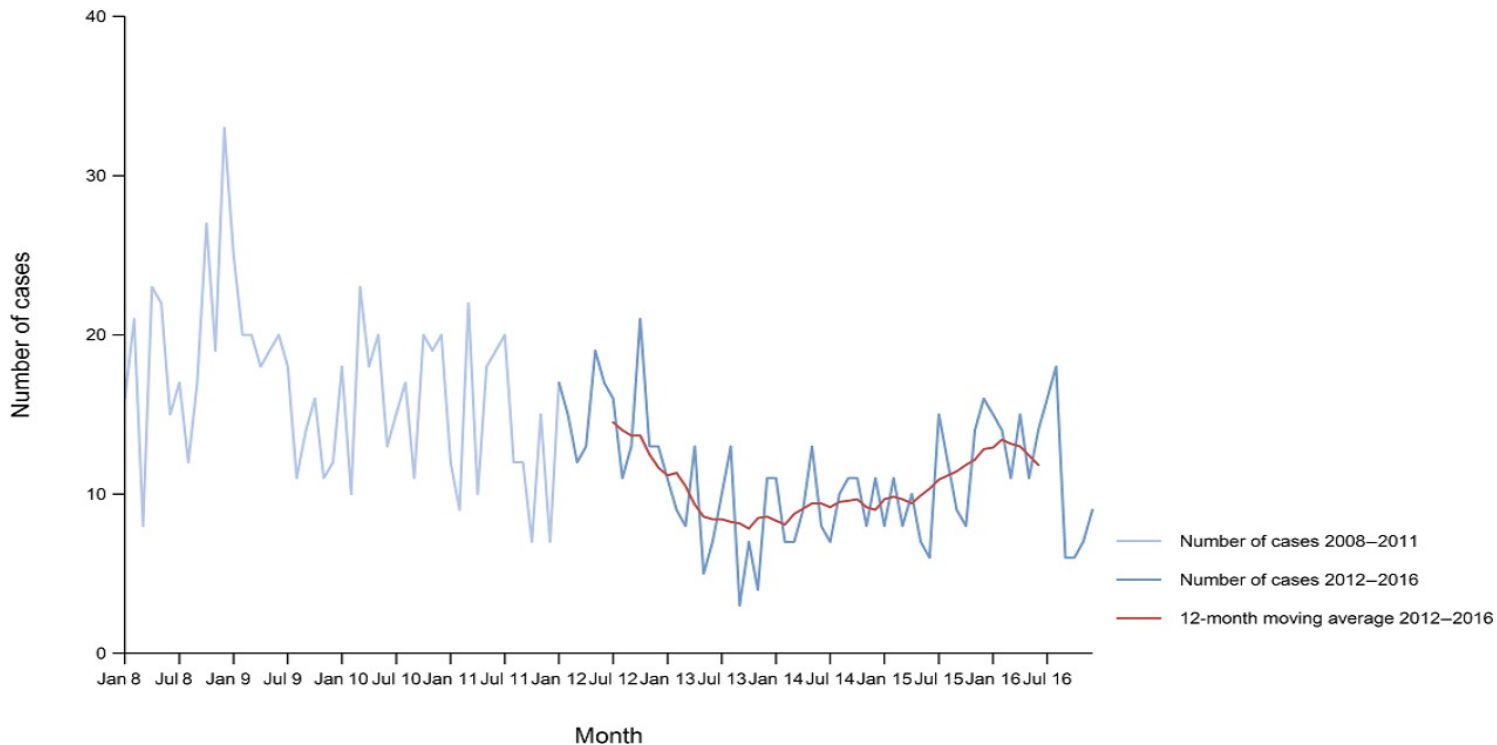


# TRENDS IN HUMANS (AE), EU 2016



**772 confirmed** cases of *Echinococcus* spp ; **519 cases with known species:** 20% AE; 80% CE; **hospitalisation** *E. multilocularis* 71% (5MS) and *E. granulosus* cases 60% (9 MS); 1 fatal case in LV

# TRENDS IN HUMANS (CE), EU 2016



- a decreasing trend of *E. granulosus* ( $p < 0.01$ ) in the EU/EEA in 2008–2016, but no trend last 5 years

# ECHINOCOCCUS IN ANIMALS, EU 2016

- **Surveillance** for *E. multilocularis* in EU: **voluntary** basis, with exception of the 5 countries claiming to be free from this parasite according to Regulation (EU) No 1152/2013 → mainly done definitive hosts (foxes, raccoon dogs, dogs and wolves)
- **Surveillance of *E. granulosus* s.l.** is usually carried out on livestock intermediate hosts during slaughterhouse inspections/surveillance from livestock (cattle, sheep, goats and pigs). Are collected in a **fully harmonised way** and with harmonised reporting rules

# EM in ANIMALS, EU 2016

	VOLES	DOGS	WOLVES	RED FOXES	RACCOON DOGS
<b>Tested EU</b>	<b>1,875</b>	<b>1,696</b>	<b>41</b>	<b>4,561</b>	<b>483</b>
<b>% Pos</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>19.5%</b>	<b>0%</b>



# EG in ANIMALS, EU 2016

	SHEEP AND GOATS	CATTLE	PIGS	SOLIPEDS	WILD BOARS
<b>Tested EU</b>	<b>13,071,658</b>	<b>6,832,771</b>	<b>74,533,348</b>	<b>27,669</b>	<b>77,290</b>
<b>% Pos</b>	<b>1.3%</b>	<b>0.2%</b>	<b>0.06%</b>	<b>0.03%</b>	<b>0.14%</b>

- 23 countries (21 MS and 2 non-MS) reported data from around 95 million domestic and wild animals tested for *E. granulosus* s.l. of which 99.7% were domestic animals (sheep, cattle, goats, pigs, horses, water buffalos and dogs)

# TOXOPLASMA, EU 2016



## HUMANS (Toxoplasma), EU 2016

- Only congenital toxoplasmosis is reported to ECDC;
- 3 MS (CZ, FR and SK) have active surveillance of congenital cases covering the whole population; FR reports every 2 years.
- No surveillance system for toxoplasmosis in AT, BE, DK, EL, IT, NL, PT, SE, NO and CH;
- Difficult to interpret trends.

## HUMANS (Toxoplasma), EU 2016

- In 2016, 47 cases by 19 MS : FI, DE, PL, SK, SI, ES and UK reported at least one confirmed congenital toxoplasmosis case and 12 MS reported zero cases;
- EU notification rate: 1.57 cases per 100,000 population: highest in PL, SI and SK (5.42, 4.84 and 3.60 cases per 100,000 population, respectively)

# TOXOPLASMA IN ANIMALS, EU 2016

- **Collected and reported without harmonised design**
- Available information is strictly determined by national legislation.
- Main animal species tested are small ruminants (goat and sheep), cattle, pigs and pet animals (cats and dogs) using samples from aborted animals (ruminants) as well as from clinical investigations.

# TOXOPLASMA IN ANIMALS, EU 2016

- Mainly tested in **SMALL RUMINANTS**: **20.1%** positive samples by indirect assays (12 MS and 1 non-MS) ; **6%** by direct assays;
- *Toxoplasma* was detected in other species such as rabbits, alpacas and wild animals (deer, dolphin, fox, hares, badgers);

# PARASITES & FOOD-BORN OUTBREAKS

- **Trichinella: 5 outbreaks and 14 cases**
  - BG (Pig meat); IT (Britovi, wild boar sausage); PL (meat products); RO (Pig meat, backyard); ES (meat products);
- **Cryptosporidium: 4 outbreaks in EU, 52 cases**
  - DE (Raw milk from farm and consumed at household, unadequate heated), IE (tapwater); NO (Unknown); SE (Vegetables and juices)
- **Anisakis (2 outbreaks in ES (7 cases), one at restaurant and one unknown ) ;**
- **Giardia: DE (6 outbreaks, 13 cases, Unknown), PL (1 outbreak, 4 cases, Unknown); ES (1 outbreak, 13 cases due to fruit-berries)**





# Public health risks associated with foodborne parasites

Self-task EFSA-Q-2017-00460

Deadline: 31/10/2018

## TERMS OF REFERENCE

1. To critically review **current methods for the detection**, identification, characterisation and tracing of specific, selected foodborne parasites (*Echinococcus* spp., *Toxoplasma gondii*, and *Cryptosporidium* spp.), with emphasis on methods applicable to **foods** that are likely to be a potential source of infection.

## TERMS OF REFERENCE

3. To evaluate available information to determine the **relative importance of foodborne pathways for transmission** of the selected parasites to humans.
4. To examine available information on the **occurrence and survival** of the selected parasites in **food** and consumer practices contributing to infection.
5. To evaluate possible **control measures** from farm to consumption.



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