

## 4. Trichinella

### 4.1. Trichinella in animals

All Member States and Norway included some information on the *Trichinella* (*T.*) situation in their report for 2003.

In principle, all pigs, wild boars, horses, and game animals belonging to the badger or bear families must be tested for *Trichinella* at slaughter according to Council Directive 64/433/EEC. This examination is compulsory except for those animals slaughtered for own private consumption. In some countries, pig carcasses are checked for *Trichinella* only in case of export to countries demanding so. If fresh meat from swine is not examined for trichinellosis, the meat is subjected to cold treatment in accordance with Annex 1 of Directive 77/96/EEC.

An overview of the *Trichinella* findings in domestic animals and wildlife since 1998 is given in Table TR 1. For interpretation of the information as regards wildlife, it has to be taken into account that results summarised may be related to wild boars or non-food producing animals. Furthermore, results may refer to serological testing.

Table TR 1. *Trichinella* findings in animals, 1998- 2003

	1998		1999		2000		2001		2002		2003	
	Domestic	Wildlife	Domestic	Wildlife	Domestic	Wildlife	Domestic	Wildlife	Domestic	Wildlife	Domestic	Wildlife
Austria	-	-	-	-	-	+	-	+	-	+	-	+
Belgium	-	-	-	-	-	n.a.	-	-	-	-	-	n.a.
Denmark	-	n.a.	-	-	-	-	-	-	-	-	-	-
Finland	+	+	+	+	+	+	+	+	+	+	+	+
France	-	-	+	+	-	-	+	-	+	+	-	+
Germany	-	+	-	+	n.a.	+	-	-	+	+	-	+
Greece	-	n.a.	-	n.a.	-	-	-	-	-	-	-	-
Ireland	-	n.a.	-	-	-	n.a.	-	n.a.	-	+	-	n.a.
Italy	+	-	-	-	-	-	-	+	-	+	-	+
Luxembourg	n.a.	-	-	-	-	-	-	-	-	-	-	-
Portugal	-	-	-	-	-	-	n.a.	-	-	-	-	n.a.
Spain	+	+	+	+			+	+	+	+	+	+
Sweden	-	+	*1	+	-	+	-	+	-	+	-	+
Netherlands	-	+ <sup>3</sup>	+	+ <sup>3</sup>	-	+ <sup>3</sup>	-	+ <sup>4</sup>	+	+ <sup>4</sup>	-	+ <sup>4</sup>
United Kingdom	-	n.a.	-	n.a.	-	-	-	n.a.	-	-	-	-
Norway	n.a.	n.a.	*2	-	*2	-	- <sup>2</sup>	-	- <sup>2</sup>	+	-	+

Domestic animals (pigs, solipeds), Wildlife animals (including all wild boars)  
+ *Trichinella* detected, - *Trichinella* not detected, n.a. No information available,

<sup>1</sup> Cat

<sup>2</sup> Farmed foxes with restriction due to *Trichinella* findings several years ago.

<sup>3</sup> Low grade infections (1 larva in 16 g muscle tissue)

<sup>4</sup> The positives for wild life are all referring to serology. No positives were found in meat inspection and subsequent digestion.

As can be taken from Table TR 2, results of meat inspection in pigs in 2003 are available from all countries. Germany reported in addition data related to meat inspection of pigs in the

year 2002. Most countries reported additional examinations in horses and wild boars, which are compulsory by legislation, too.

Table TR 2. Results of examinations for *Trichinella* in animals in 2003

Country	Pigs		Horses		Wild boars <sup>1</sup>		Other wildlife <sup>2</sup>	
	Inv.	n Pos.	Inv.	n Pos.	Inv.	n Pos.	Inv.	n Pos.
Austria	5309799	0	1015	0	8070	0	1042	10
Belgium	10226408	0	12266	0	n.a.	n.a.	n.a.	n.a.
Denmark	22375420	0	1441	0	1280	0	n.a.	n.a.
Finland	2274923	2	971	0	788	2	335	80
France	145673	0	21824	0	22317	1	6	0
Germany <sup>5</sup>	40 000 000	1	n.a.	n.a.	5	2	n.a.	2
Greece	340632	0	n.a.	n.a.	34	0	n.a.	n.a.
Ireland	3605	0	114	0	n.p.	n.a.	n.a.	n.a.
Italy	4944981	0	82398	0	30059	1	19	1
Luxembourg	390	0	22	0	1185	0	n.a.	n.a.
Portugal	50	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Spain	34674760	24	26145	0	58392	68	1123	0
Sweden	3283114	0	4288	0	817	3	300	12
Netherlands	13893838	0	2395	0	234 837	23 <sup>3</sup> 0 <sup>4</sup>	n.a.	n.a.
Northern Ireland	800684	0	1125	0	n.p.	n.a.	56	0
Great Britain	n.a.	0	1089	0	n.a.	n.a.	n.a.	n.a.
Norway	1339500	0	2200	0	n.p.	n.a.	51	17

n.a.No investigations reported ; n.p. no population of wild boars

<sup>1</sup> Farmed and wildlife

<sup>2</sup> Figures include not wild boars

<sup>3</sup> Serological surveillance (RIVM)

<sup>4</sup> Tested by meat inspection

<sup>5</sup> Estimated number of slaughtered pigs

In 7 countries (Belgium, Denmark, Greece, Ireland, Luxembourg, Portugal, United Kingdom), no single *Trichinella* case was detected in 2003.

As in previous years, *Trichinella* were found in domestic pigs in Finland and Spain. In addition, one positive finding was reported in Germany. No *Trichinella* larva were detected in pigs in the Netherlands during 2003, there one positive sample had been detected in 2002. In Spain, each year trichinellosis is notified in Spanish swine slaughtered at home, but all pigs slaughtered in slaughterhouses were found to be negative. Trichinellosis has been detected in a few domestic swine in Finland almost every year during the last 20 years in the same region. In 2003, in Finland, the two positive pigs originated from the same herd.

In horses, *Trichinella* are rarely detected. In 2003, as in the previous year, no *Trichinella* were detected in the EU.

In wild boars, *Trichinella* were detected in 7 countries in 2003. In these countries, findings had been reported in previous years too. In The Netherlands, *Trichinella* was detected in wild boars in a serological survey, performed as an indicator in wildlife in 2003.

Positive findings in other wildlife animals were reported by six countries. Altogether, in 9 countries *Trichinella* were reported in wildlife animals.

In Germany, *T. spiralis* was confirmed in wild boars and racoon-dogs in the National Reference Laboratory. In Sweden, *Trichinella* were reported in foxes, brown bears, lynx and a wolf. In Norway, 14 out of 45 wild red foxes tested and all three badgers tested were positive for *Trichinella* sp.

In Finland, again, *Trichinella* were detected in a variety of wild animals. The positive animal species were foxes, lynxes, wolves, bears, and racoon-dogs. *Trichinella* species detection was continued in scientific projects by RAPD-PCR and by specific PCR. *T. spiralis*, *T. nativa*, *T. britovi* and *T. pseudospiralis* are prevalent in Finland. In domestic swine there has been so far only *T. spiralis*, in farmed wild boar both *T. spiralis* and *T. pseudospiralis*, but in wildlife all 4 species. Also mixed infections exist.

In Tables AN - 4.1.1 to AN - 4.1.2 all investigations reported by the Member States are given.

#### New Member States

Four new Member States provided data on the *Trichinella* prevalence in animals. In pigs, *Trichinella* were detected in Latvia and Lithuania, where as in Cyprus and Slovenia all animals tested negative. The positive finding in Latvia was in one pig slaughtered on the farm, whereas all animals tested on slaughterhouses were negative.

In addition, *Trichinella* findings were reported in wild boars and foxes in Latvia and Lithuania and in a lynx in Latvia.

## 4.2. Trichinellosis in humans

Trichinellosis is a notifiable disease in most countries. No information is available from Belgium and Luxembourg.

Trichinellosis was very rare in humans in 2003. Altogether, 56 human cases were registered in the European Union (13 MS), against 48 (13 MS) in 2002 and 53 (12 MS) in 2001. Data are summarised in Table TR 3.

In Germany, two cases of trichinellosis were linked to meat imported illegally into the country. No other outbreaks were registered during 2003.

The age distribution of human cases is given in Figure TR 2. With the exception of the very young people all age groups are affected. In Spain, one case in a child (age group up to 4 years) was registered.

Usually, the risk of acquiring trichinellosis from pork is considered low. In previous years, mainly imported horse meat and wild boar meat has been involved in outbreaks of human trichinellosis. In Finland, bear's meat, which is insufficiently cooked, is regarded as a source of human infection.

**Table TR 3. Trichinellosis in humans, 1997 - 2003**

	Number of cases						
	1997	1998	1999	2000	2001	2002	2003
Austria <sup>1</sup>	0	1	3 (3)	2 (2)	0	1	3
Belgium	0	-	-	-	-	-	-
Denmark <sup>5</sup>	0	0	0	0	0	0	0
Finland	0	0	0	0	0	0	0
France	-	128	2	-	-	4	6
Germany <sup>1</sup>	9 (7)	51 (9)	22 <sup>4</sup>	4	5	10	3 (3)
Greece	0	0	-	0	0	0	0
Ireland	0	0	-	0	0	0	0
Italy	0	60	0	21	0	2	0
Luxembourg	-	-	-	-	-	-	-
Portugal	0	0	-	-	0	0 <sup>6</sup>	0
Spain <sup>2</sup>	11	58	13	38	44	26	39
Sweden	0	0	0	0	0	0	0
The Netherlands <sup>1</sup>	0 <sup>3</sup>	1	7 (6)	2 (2)	3	4 (2)	5 (4)
United Kingdom <sup>1</sup>	0	0	1 (1)	0	1 (1)	0	0
Norway	0	0	0	0	0	0	0

<sup>1</sup> Figures in brackets are imported cases

<sup>2</sup> EDO (Mandatory notification system)

<sup>3</sup> Two hospital admissions reported, later confirmed as negative

<sup>4</sup> 10 cases belong to outbreak in North Rhine Westphalia in 1998, some cases are imported from Croatia and Serbia

<sup>5</sup> Only domestic cases are notified

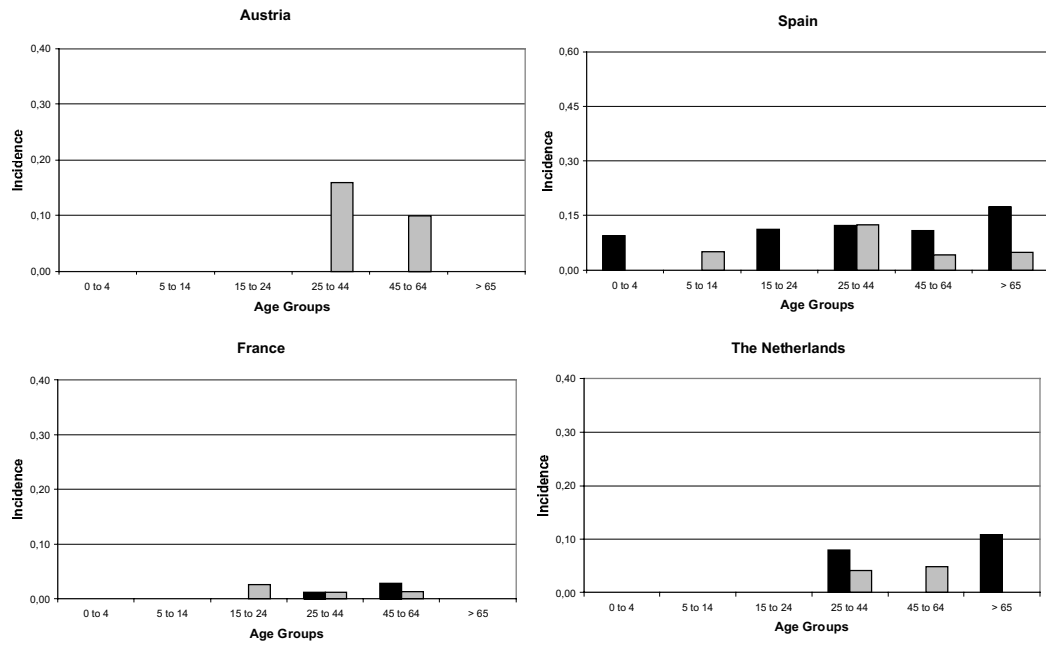
<sup>6</sup> One suspected case without laboratory confirmation

- No information available

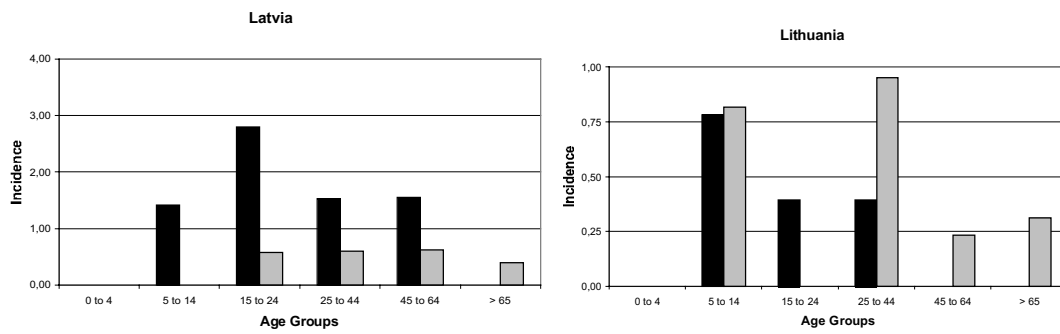
### New Member States

Latvia and Lithuania reported on a voluntary basis on the human cases of trichinellosis. In Latvia, 22 cases and in Lithuania, 19 cases were registered in 2003.

**Figure TR 1. The age distribution of trichinellosis (incidence rate per 100 000 persons of the age group) in the European countries**



**New Member States**



■ Male □ Female

