



# Trichinella surveillance programme

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## Background:

Trichinellosis is a zoonotic disease caused by nematodes of the genus *Trichinella*, which affects numerous species of mammals, bird and reptiles, including humans. The parasite is unusual in that the same individual animal serves it as both intermediate and final host. The life cycle commences when ingested larvae mature to adulthood in the small intestine and reproduce. Females release first stage larvae which then migrate to skeletal muscle cells. The life cycle continues when the muscle or meat is consumed by another susceptible host.

Naturally acquired infections in domestic animals are usually subclinical. In humans, trichinellosis can cause gastrointestinal, musculoskeletal and cardiac symptoms, and can sometimes be fatal.

In Europe, undercooked or raw pork, wild boar meat and horsemeat are the main sources of human infection; *Trichinella spiralis*, *T. britovi*, *T. nativa* and *T. pseudospiralis* are the species responsible. The disease circulates in domestic animals, especially in backyard pigs, where it has been associated with the feeding of kitchen waste. It also has a sylvatic cycle with the red fox (*Vulpes vulpes*) being one of the principal reservoirs of infection, both on mainland Europe and in Ireland.

In Ireland *Trichinella* has been found at a consistently low prevalence in red foxes in surveys carried out in recent years.

*Trichinella* has not been reported in Irish pig or horsemeat for 40 years. Although a human case associated with the consumption of meat outside of this country was detected in 2007, the last reported Irish case of trichinellosis of autochthonous (indigenous) origin in humans was in 1968.

## Legislation:

Surveillance for trichinellosis in Ireland is governed by Commission Regulations (EC) No 853/2004 and (EU) No 2015/1375. It is based on testing of samples of muscle from pigs and horses. **All slaughtered animals of the porcine and equine species are sampled and tested for trichinellosis in designated laboratories.** Additionally a number of pig samples, corresponding to 0.1% of all porcine animals slaughtered, and a smaller number of horse samples are tested in DAFM's official laboratory at Backweston annually.

## Active surveillance:

The following table provides a summary of **official** testing carried out in DAFM's official laboratory in recent years.



Year	Species	No. samples	Positives	Negatives
2015	Porcine	3436	0	3,436
2015	Equine	200	0	200
2016	Porcine	3385	0	3,385
2016	Equine	140	0	140
2017	Porcine	3396	0	3,396
2017	Equine	240	0	240
2018	Porcine	3278	0	3278
2018	Equine	240	0	240
2019	Porcine	3294	0	3294
2019	Equine	240	0	240
2020	Porcine	1231	0	1231
2020	Equine	40	0	40

#### **Passive surveillance:**

It should be noted that the active surveillance outlined above is supplementary to the passive surveillance which Ireland has in place to detect a range of animal diseases.

Trichinellosis is a notifiable disease in Ireland, meaning that anyone who suspects that an animal or animal product may be affected by the disease is legally obliged to notify DAFM (under SI 130 of 2016). It is also mandatory to notify the public health authorities if trichinellosis is found in humans.

DAFM also operates a network of regional veterinary laboratories, strategically located around the country. These provide a further possible means through which trichinellosis would be detected, were it to occur in Irish livestock.