Guidance for Trichinella Testing in UK Wild Boar

Who is this guidance leaflet for?

This leaflet provides guidance for hunters on Trichinella testing procedures. The information covers Trichinella in feral wild boar shot by hunters for private consumption or for sale in local retail shops.

Introduction

The year 2006 saw the introduction of EU regulations, bringing the supply of meat from Game and Wild animals, intended for human consumption under the same traceability regulations as domestic stock. This was later strengthened by specific regulation regarding **all swine**, domesticated or wild:

(EU) 2019/624 concerning specific rules for the performance of official controls on the production of meat. It requires that the carcasses of swine and other species susceptible to Trichinella species infection, including feral wild boar, are to be examined for these parasitic worms.

These regulations stipulate that it is a legal responsibility that the producer **must** test all wild boar carcasses for Trichinella unless you are a hunter supplying small quantities to final consumers, local consumers and local retailers only, then you are exempt from Regulation (EC) 853/2004 and so testing is not mandatory. It is however, strongly advised that testing is carried out as hunters have to comply with the requirements of both Regulation (EC) 852/2004 and Regulation (EC) 178/2002 to ensure that all stages of production are safe and that food is not injurious to health.

These regulations have been enshrined into British Law and will still apply after EU exit.

What is Trichinella?

These parasites belong to a group of nematode worms within the genus Trichinella, which can affect many animal species including humans causing a disease known as trichinellosis. People can become infected through eating raw, undercooked or processed meat from pigs, wild boar, horses or game that contain microscopic larval worms (known as trichinae) encysted in muscle tissue.

In humans, symptoms associated with infection commonly include diarrhoea, abdominal cramps and malaise. Disease progression may include fever, muscle pain and headaches. In severe cases vital organs may be affected possibly leading to meningitis, pneumonia or even death.

How do animals become infected?

Except in severe cases, animals infected with Trichinella generally show no outward signs of infection.

Like humans, animals can become infected through the ingestion of meat containing microscopic larval worms (trichinae) encysted in muscle. In the case of food species, such as pigs, the potential source of infection is the consumption of dead infected animals, either directly or from contaminated commercial animal feeds. A number of wildlife species can also carry Trichinella including foxes, badgers and wild boar. Wildlife species can become infected through the consumption of other wildlife or by scavenging.

Why do we test for Trichinella?

Although trichinae can be killed by thoroughly cooking meat products it is essential we take steps to limit the risk of infected meat reaching the consumer. Testing will help protect the public from coming into contact with infected meat and provide national surveillance data on the prevalence of any possible infection in wildlife in the UK. The more samples of wildlife that test negative, the lower the prevalence of infection that can be claimed.

There have been no confirmed human cases of trichinellosis from meat produced in the UK since 1969 and the last reported case in a domestic pig from the UK was in 1979. In 2007 and 2009 Trichinella spiralis were reported in wildlife (red fox) from Northern Ireland. Trichinella pseudospiralis was recovered in mainland UK from a fox in 2013. Wild boar are potential sources of infection and they must be brought into the Trichinella monitoring system.

How do we test for Trichinella?

The test involves taking a sample of muscle tissue which is sent to the testing laboratory to be artificially digested and examined for the presence of trichinae (Figure 1). Please note that testing must be carried out by a diagnostic laboratory able to perform the approved pooled digest method. The use of a trichinoscope to examine meat samples is no longer permitted by legislation.

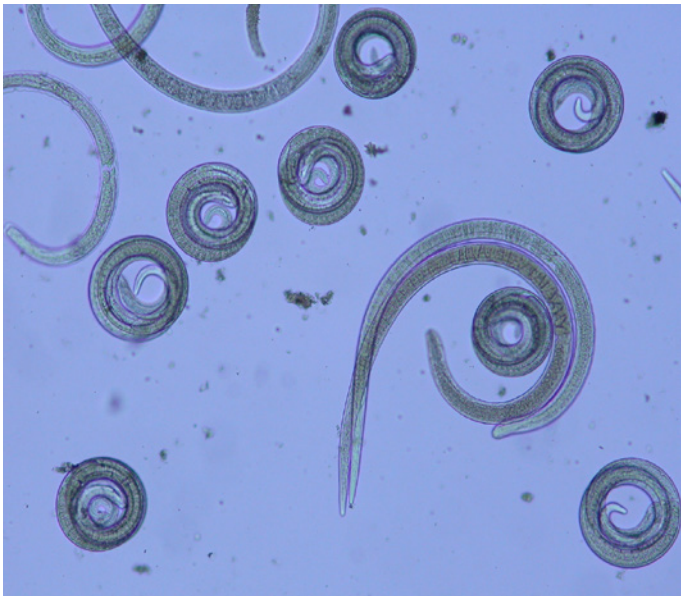


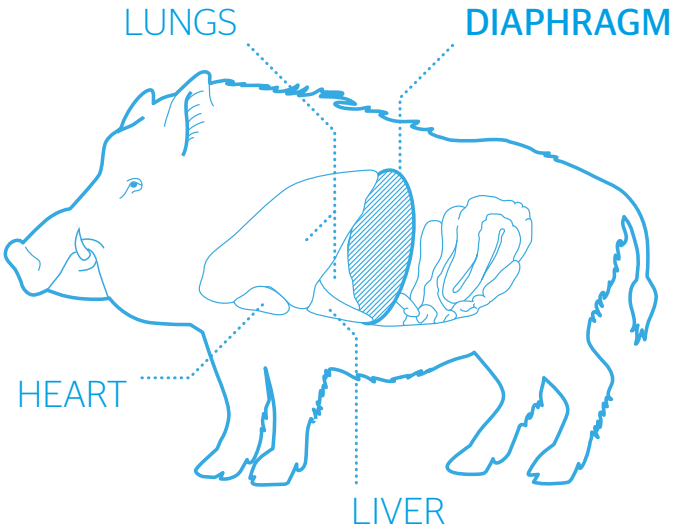
Fig 1. Trichinella larval stages (trichinae) released from swine muscle following digestion

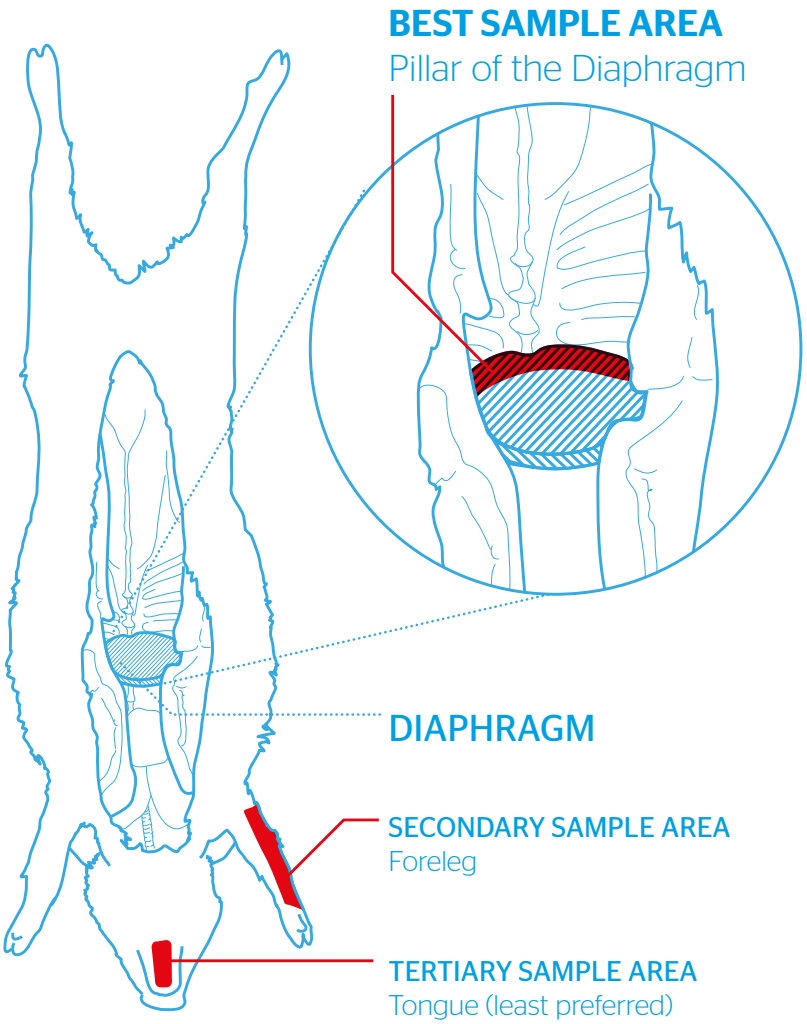
Samples

In order to provide a good, clean sample please carry out all sample collections using gloves. The muscle sample should ideally be taken from the pillar of the diaphragm (the V shaped smaller muscles, that together hold the diaphragm in place), cutting along the thick meaty part close to the ribs. This is the best predilection site for Trichinella larvae. If this is not possible, muscle should be taken from the foreleg and/or the tongue.

A muscle sample of at least 60–100g (approximately 10cm x 10cm) should be cut from the pillar of the diaphragm of each animal as soon as possible after death. The sample should be free of fat and other tissue.

In order to avoid any contamination from extraneous sources (for example grass, dirt, fragments of bullets) please use gloves and limit the introduction of any internal sources (gut contents, blood).





Please Do

1) Use gloves to minimise contamination

2) Cut the sample from the pillar of the diaphragm

3) Ensure the sample is 60-100grams

4) Complete submission form with all requested information

Please Don't

1) Freeze muscle sample to be tested

2) Allow meat to enter food chain until negative result is received from testing laboratory

Storage and Transport

Sampling kits and freepost, self-addressed envelopes (Fig 2) can be ordered free of charge from the Testing Laboratory at the Animal and Plant Health Agency (APHA), National Reference Laboratory for Trichinella and Echinococcus, Sand Hutton, York, YO41 1LZ.

Email: NRL.Parasitology@apha.gov.uk

Once the muscle sample has been taken from the carcass it should be double-bagged (Figure 3), placed in a padded envelope and sent for testing as soon as possible.

If required, samples can be stored in the refrigerator at approximately 4ºC for a few days and sent by next day delivery at room temperature. **THE SAMPLE MUST NOT BE FROZEN** as this can interfere with the sample testing and its accuracy.

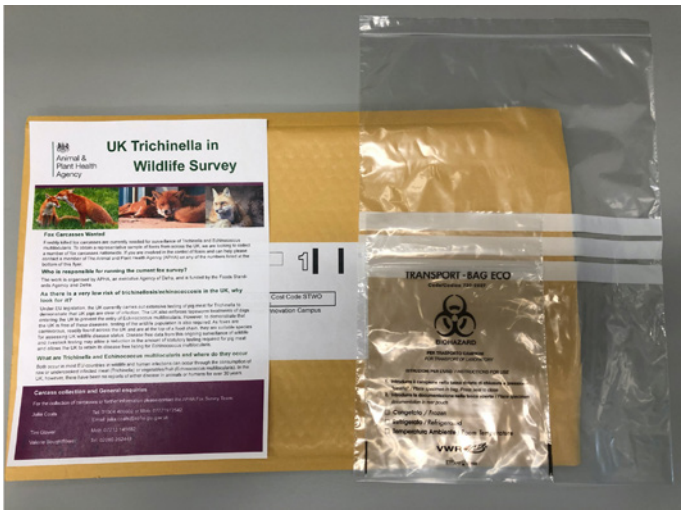


Fig 2. Figure 3 Sample submission kit supplied free of charge

Submission form

Each sample sent for testing must be accompanied by a submission form (which can be obtained by emailing **NRL.Parasitology@apha.gov.uk**). Please complete the form with all the requested information including the provision of a unique identification number for each submitted sample (which should also be written on the corresponding sample bag). The identification number(s) can be your own, ensure you keep a record of these as they will be referred to in the test results. The information contained in the submission form will remain confidential and will only be used for sample test purposes and to generate a picture of UK infections rates.

Fig 3. Sample must be placed in a biohazard bag and double-bagged in the self-seal bag provided. Submitted samples must be individually bagged and clearly labelled with a unique identification number.

When should you expect to receive the test result?

Samples will be tested on arrival at the laboratory and results sent out on the day of the test.

What happens if Trichinella is found?

If a sample tests positive for Trichinella the testing laboratory will inform the Food Standards Agency or Food Standards Scotland and the hunter. The carcass will be retested to confirm the presence of the parasite. If a positive result is confirmed on the second test the carcass will be traced and rejected as unfit for human consumption.

Summary of sample preparation