

Detailed guide: Turkey breeders: poultry testing for salmonella

Updated: Sampling instructions and confirmatory testing details updated. References to DARD changed to DAERA.

Testing is part of the national control programme (NCP) for salmonella. The NCP aims to control salmonella in poultry flocks across the EU.

Who must take samples and test

If you keep breeding turkeys, you must take samples for testing if you have 250 or more birds at any time in a 12-month period.

You're breaking the law if you do not follow these rules.

You do not have to test a flock if you farm fewer than 250 breeding turkeys in a 12-month period.

You must send samples for testing to a UK approved laboratory. Choose from:

- [laboratories approved by the Department for the Environment and Rural Affairs \(Defra\) under the Salmonella NCP](#) if you're in England, Scotland and Wales
- laboratories approved by the [Department of Agriculture, Environment and Rural Affairs \(DAERA\)](#) if you're in Northern Ireland

Work out how many flocks you must test

You must sample each of your flocks. A flock is a group of birds that shares the same air space, for example a poultry house or range.

If you need help working out how many flocks you have, you can ask for advice from:

- the [Animal and Plant Health Agency \(APHA\)](#) if you're in England, Scotland or Wales
- [DAERA](#) if you're in Northern Ireland

You need to decide how many flocks you keep, so you collect all the samples you must take. If your birds form one flock, they'll all be treated as belonging to a positive flock if sampling gives a positive result. Your decision about whether you have one or more flocks could affect how official disease controls affect your business for certain salmonella results.

Register your flocks and hatchery before you get them tested

You must register each premises where you keep your flocks on:

- [APHA's Great Britain \(GB\) Poultry Register](#) if you're in England, Scotland or Wales
- [the Northern Ireland Poultry Register](#) if you farm in Northern Ireland

You must register your hatchery if it can incubate 1,000 or more eggs. You must also state which species of poultry will be hatched at your hatchery. If the species you hatch changes, you must tell the organisation which holds your registration details.

When you must not sample

Avoid taking samples during or shortly after giving antimicrobials (antibiotics) that affect salmonella. APHA or DAERA could declare your flock positive for salmonella if either of the following apply:

- inspectors see from the flock medicine book that you've given antibiotics
- the laboratory suspects that there may be disinfectant or antibiotics affecting your samples

Contact one of the following for guidance on when to test after giving antibiotics:

- the vet who prescribed them
- [APHA](#) if you farm in England, Scotland or Wales
- [DAERA](#) if you farm in Northern Ireland

Check your laboratory can test samples within 96 hours

Do not collect samples unless your approved laboratory can start testing them within 96 hours (4 days) of you taking the samples. Make sure it can test your samples within 96 hours of taking them if you post them. You may have problems if it receives them on a Thursday, Friday or public holiday.

You'll need to collect more samples if they're delayed in the post or the laboratory cannot start testing within 96 hours.

Pay for sampling equipment and tests

You need to buy your own sampling equipment. Contact one of the following to find out where you can buy the equipment you need:

- your vet
- the approved laboratory you plan to use
- [APHA](#)
- [DAERA](#)

You'll also have to pay laboratory charges for:

- your own samples
- [annual APHA or DAERA samples \(known as routine official control samples\)](#)

Contact [DAERA](#) for details of fees in Northern Ireland.

When you need to take samples

Follow this guidance for rearing and adult flocks.

When to collect samples for your rearing flock

You must take samples at all of the following times:

- on the day the poults (young turkeys) arrive from a hatchery
- when they are 4 weeks old
- 2 weeks before you move them to the laying unit

When to collect samples for your adult flock

You must regularly test each breeding flock as part of the NCP. You can do the sampling:

- at the hatchery – you must sample adult flocks every 3 weeks
- on your farm

For on-farm sampling, you can sample every 4 weeks. The exception is when your flock has tested positive for a salmonella strain covered by the NCP (also known as a regulated serotype or serovar). In this case, testing must be at least every 3 weeks. The regulated strains are:

- Salmonella enteritidis
- Salmonella typhimurium (including monophasic Salmonella typhimurium)

You must use one of the following types of sampling methods. You can choose from the methods that apply to your flocks. You can use a different choice of method each time you have to take samples.

Choose a hatchery sampling method

Choose one of the following ways to take samples:

1. [Take an eggshell sample.](#)
2. [Send hatcher basket liners](#) that are visibly soiled – but check that your laboratory accepts your type of hatcher basket liner.
3. [Use fabric swabs.](#)

If there are more than 50,000 eggs from one flock in the hatchery, you must take 2 sets of samples for that flock.

How to take hatchery samples

Make sure you include 80% of the eggs from the flock you're sampling. To do this, you must collect samples from enough hatcher containing eggs produced by the flock to reach this proportion.

You should gather the plastic gloves, plastic bags and packaging you'll need before you go into the hatchery. This is to prevent contamination before, during and after sampling.

Option 1: take an eggshell sample

1. Before sampling, check that the laboratory you plan to use can accept your liners. (Some laboratories will not be able to accept certain types of hatcher liners.)
2. Put on 2 new pairs of plastic gloves.
3. Take at least 10 grams (g) of broken eggshells from each of 25 hatcher baskets.
4. Crush and mix them thoroughly in a strong plastic bag.
5. Make sure that the bag and your gloves aren't damaged to avoid any contamination that could lead to a false positive result.
6. Put 25g of the crushed mixture into a pot to send to the laboratory.

Option 2: take a hatcher liner sample

You must send 10 poult box liners per flock per hatchery source with all the contents. The contents should include: unhatched eggs, eggshells and all poults found dead or culled (killed) on arrival.

1. Put on a new pair of plastic gloves.
2. Choose at least one square metre (sq m) of hatcher basket liners from 5 hatcher baskets that have contained eggs from the flock you need to sample.
3. Put the liners from different flocks into separate plastic bags to send to the laboratory.

Option 3: take a hatcher fluff and dust sample

1. Put on a new pair of plastic gloves, ensuring that there is no contamination with disinfectant.
2. Use a fabric swab that has an area of at least 900 square centimetres (sq cm).
3. Moisten the swab with tap water or still bottled water – do not use sparkling water or water treated on the farm with antibacterials or acid.
4. Carry out the swabbing as soon as the poults (young turkeys) have been removed and before you start cleaning.
5. Swab fluff and dust from 5 different places, including the floor of the hatcher.
6. Swab from the whole area of the bottom of at least 5 different hatcher baskets.
7. Make sure the swab is completely covered on both sides.

8. Put the swab into a sealable bag to send to the laboratory.

Sample poults at 4 weeks and 2 weeks before moving them to the laying unit

You can choose to collect samples using these options.

1. Send [5 pairs of boot swabs](#).
2. Send [one pair of boot swabs and one dust swab](#).
3. Take [2 or more hand-held faecal swabs](#) (conditions apply).

Option 1: send 5 pairs of boot swabs

If you do this, you can package your samples in either of these ways:

- put them in 2 separate batches of 5 [boot swabs](#) each
- put 2 pairs of [boot swabs](#) in one bag or pot, and 3 pairs in another bag or pot

Option 2: send one pair of boot swabs and one dust swab of 900sq cm

You must package the [boot swabs](#) and [dust swab](#) separately.

Option 3: take 2 or more hand-held faecal swabs with a total surface area of 900sq cm

You may only use this option if you cannot use boot swabs and have fewer than 100 turkeys at the time of sampling. You must package the swabs in 2 separate containers or bags.

Samples to send for adult breeding birds

Once you've moved birds into the laying unit, you must do one of the following:

- take samples from them on your premises
- sample their eggs in the hatchery

You must take samples on the premises from breeding turkeys that lay hatching eggs that you sell to farms in other EU member states.

You must take samples every 3 weeks if:

- you have the eggs from your breeding birds sampled at a hatchery
- there has been *Salmonella enteritidis* or *Salmonella typhimurium* on your premises in the last 12 months

You can take samples at least every 4 weeks if you meet all the following conditions:

- you sample your breeding birds on your premises rather than sampling

their eggs at a hatchery

- there has been no *Salmonella enteritidis* or *Salmonella typhimurium* on your premises in the last 12 months

If you're sending breeding birds to slaughter for human consumption, collect samples and get the result in time to send it with them to slaughter.

For birds that will be slaughtered at:

- less than 101 days old, you must collect samples in the 3 weeks before slaughter (unless they're organic turkeys)
- more than 100 days old (or are younger but organic), you must collect samples in the 6 weeks before slaughter

You can take samples on your premises in the following ways as long as you meet the conditions for each type of sample. Make sure you follow the packaging instructions for the type of samples you take.

Option 1: take 5 pairs of boot swabs

You can package the [boot swabs](#) in one of these ways:

- in 2 separate batches of 5 boot swabs each
- 2 pairs of boot swabs in one bag or pot, and 3 pairs in another bag or pot

Option 2: take one pair of boot swabs and one dust swab of 900sq cm

If you do this, you must package the [boot swabs](#) and the [dust swab](#) separately.

Option 3: take 2 or more hand-held faecal swabs with a total surface area of 900sq cm

You may use the [hand-held faecal swabs](#) option if you cannot use boot swabs and have fewer than 100 turkeys at the time of sampling. You must package the swabs in 2 separate batches.

Samples you can have taken from the hatchery (to test your adult breeding flock)

One of these types of samples can be chosen:

- a total of 1 square metre (sq m) of liners that are visibly soiled, taken from 5 hatcher baskets
- fabric swabs with a total surface area of 900sq cm from 5 places in the hatcher – this should include at least one sample from the floor of the hatcher
- fabric swabs with a total surface area of 900sq cm from the whole surface of the bottom of at least 5 different hatcher baskets
- 10g of broken eggshells from each of 25 hatcher baskets, making 250g broken eggshells in total

You must arrange to have 2 sets of samples taken for each flock which has more than 50,000 eggs in the hatchery.

How to take a boot swab sample

Follow these instructions to make sure your approved laboratory accepts your samples and you comply with the NCP.

Prepare to take a boot swab sample

You should use:

- disposable plastic overboots
- 5 pairs of boot swabs – these must be absorbent enough to soak up moisture – you can also use tubegauze ‘socks’ or pre-moistened commercial swabs
- tap water or bottled still water for moistening boot swabs – do not use sparkling water or water treated with antibacterial agents or acids
- disposable plastic gloves
- sealable bags or sample pots
- packaging for sending your sample bags or pots to the laboratory

Take samples in the existing bedding (litter) – do not put new bedding down.

You should gather all the equipment you’re going to need before you go into the turkey house to prevent contamination before, during and after sampling. You should take special care to avoid contamination if you keep other animals (especially pigs or cattle) on your premises.

To prevent disinfectant or sanitiser affecting your sample, you:

- should not use hand sanitiser on your plastic gloves
- should put on your plastic overboots after you’ve walked through disinfectant

If you wear plastic overboots when you walk through disinfectant, you must put on another pair afterwards to protect the boot swabs from the disinfectant.

Take a boot swab sample

1. You should sample only the inside of the house.
2. Avoid sampling the areas just inside doors and pop holes, as they may have been contaminated by material from outdoors.
3. Moisten the boot swabs before you take samples by pouring water inside them or shaking them in a container of water.
4. You can either just collect boot swabs or a mixture of boot swabs and dust samples.

Only collecting boot swabs (option 1)

1. If just collecting boot swabs, you must take 5 pairs of boot swabs from

each flock.

2. Divide the house into 5 equal parts for sampling, and use one pair of boot swabs in each part.
3. Take at least 100 steps in each pair of boot swabs, and swab every part of the house.
4. Drag your feet on the floor to pick up as much material you can.
5. If the house is divided into several pens, spend more time in the larger pens and less in the smaller pens

Collecting boot swabs and dust samples (option 2)

If collecting a combination of boot swabs and dust sample, take one pair of boot swabs from each flock.

1. Walk around the entire house in that pair of boot swabs, taking at least 100 steps.
2. Swab every part of the house.
3. Drag your feet on the floor to pick up as much material as you can.
4. If the house is divided into several pens, spend more time in the larger pens and less in the smaller pens.

When you've finished sampling

1. Take off the boot swabs and turn them inside out so that all the faeces you've collected stay on them.
2. Put 2 pairs of boot swabs in one bag, or pot, and 3 pairs in another bag or pot. (Or put 5 boot swabs in one container and the other 5 in the second.)
3. Once in the appropriate container, package the samples together and send them to the laboratory.
4. If collecting one pair of boot swabs with a dust sample, put both boot swabs in one bag or pot – put the dust swab in a second bag or pot.

How to take a dust sample

Follow these instructions to make sure your approved laboratory accepts your samples and you comply with the NCP.

Prepare to take a dust swab

You should use:

- one or more swabs – the total area of the swab or swabs must be at least 900sq cm
- tap water or bottled still water for moistening swabs – do not use sparkling water or water treated with antibacterial agents or acids
- disposable plastic gloves
- sealable bags or sample pots
- packaging for sending your sample bags or pots to the laboratory

You should gather all the equipment you're going to need before you go into the turkey house, to prevent contamination before, during and after sampling.

You should take special care to avoid contamination if you keep other animals (especially pigs or cattle) on your premises.

To prevent disinfectant or sanitiser affecting your sample, you should not use hand sanitiser on your plastic gloves.

You should collect the plastic gloves, swabs, plastic bags and packaging that you'll need before you go into the house. This is to prevent contamination before, during and after sampling.

Take a dust swab

1. Put on new plastic gloves – make sure you don't contaminate them with disinfectant.
2. Open out the hand-held dust swab – the total area of the swab must be at least 900sq cm.
3. Moisten the dust swab using tap water or bottled still water – do not use sparkling water or water treated with antibacterial agents or acids.
4. Swab at least 20 different places around the house including ledges, partitions, ventilation grills and anywhere else dust has settled. (Do not take samples from feeding systems.)
5. Make sure that both sides of the swab are completely covered with dust.
6. Package the swab and dust into a sealable bag or pot to send to the laboratory.

How to take hand-held faecal swabs

Follow these instructions to make sure your approved laboratory accepts your samples and you comply with the NCP.

Prepare to take faecal swabs

You should use:

- at least 2 hand-held swabs – the total area of all the swabs you use must be at least 900sq cm
- tap water or bottled still water for moistening swabs – do not use sparkling water or water treated with antibacterial agents or acids
- disposable plastic gloves
- sealable bags or sample pots
- packaging for sending your sample bags or pots to the laboratory

You should gather all the equipment you're going to need before you go into the turkey house, to prevent contamination before, during and after sampling. You should take special care to avoid contamination if you keep other animals (especially pigs or cattle) on your premises.

To prevent disinfectant or sanitiser affecting your sample, you should not use hand sanitiser on your plastic gloves.

Take a faecal swab

Collect the plastic gloves, swabs, plastic bags and packaging that you'll need before you go into the house. This is to prevent contamination before, during and after sampling.

1. Put on new plastic gloves – make sure you don't contaminate them with disinfectant.
2. Open out the hand-held dust swabs. (You must use at least 2 swabs – the total area of all the swabs must be at least 900sq cm.)
3. Moisten the swabs using tap water or bottled still water – do not use sparkling water or water treated with antibacterial agents or acids.
4. Thoroughly swab the pen area, the floor and any perches in several different areas where faeces have built up.
5. Make sure that both sides of the swab are completely covered in faeces.
6. Place the swabs into 2 sealable bags or pots to send to the laboratory – make sure you follow these batching instructions, so the laboratory accepts your samples.

How to label samples

You must label each sample. On each label, you must include:

- the date you took the sample
- your registration number, your County Parish Holding (CPH) number, or DAERA flock number
- the identification of the flock – house name or number and the month and year you moved the flock into that house
- the name and address of the flock's premises
- the age of the flock
- the number of birds in the flock
- the contact details of the person sending the sample

For hatchery samples, add the name of the hatchery and the hatcher machine number.

Send samples to a laboratory

You should send your samples on the day you collect them. Refrigerate your samples at 2 to 8°C if you can't send them on that same day. You must not freeze samples.

Make sure the laboratory can start testing your samples within 96 hours of sampling. You'll need to send more samples if your samples are delayed, or the laboratory cannot meet the testing deadline.

You must send your samples to laboratories approved by either:

- [DAERA](#) if you're in Northern Ireland
- [Defra](#) if you're in England, Scotland and Wales

Official sampling

Officials will take a routine official sample in the lifetime of the flock. They'll either visit your premises to do so or collect the official sample at the hatchery you use.

In England, Scotland and Wales, routine official samples may be taken by an:

- APHA official
- authorised vet
- auditor from the independent control body (if your flock is registered with the Red Tractor turkey assurance scheme)

In Northern Ireland, an official from DAERA will take samples.

For breeding flocks that are on the premises, officials will sample when the birds are aged between 30 and 45 weeks. Alternatively the official sample may be taken at hatchery. This sample will be of eggs laid by the flock that are hatching. The sampled eggs must have been laid when the birds were aged between 30 and 45 weeks. The routine official sample (whether collected at premises or hatchery) can count as one of the operator samples you must take when your adult turkeys are in lay.

You'll be charged for these visits. [See fees for England, Scotland and Wales](#). Contact [DAERA](#) for details of fees in Northern Ireland.

Officials from APHA or DAERA can also visit to take samples:

- if *Salmonella enteritidis* or *Salmonella typhimurium* has been detected in another flock or in a previous crop of flocks on your premises
- from all the flocks on your premises if a positive test for *Salmonella enteritidis* or *Salmonella typhimurium* at the hatchery you use has been traced to one of your flocks
- from flocks where there's no evidence of testing
- in cases where the competent authority (PHA or DAERA) considers it appropriate

Get your test results

The laboratory usually sends the results to:

- the person who sent the sample
- the person the sampled flock is registered to APHA or DAERA if the sample tests positive for salmonella

If your samples test positive for salmonella

Use this section to understand the actions and restrictions that could apply to your flocks and premises.

What happens if a hatchery sample tests positive

APHA or DAERA will take samples when eggs hatched in a hatcher test positive for either:

- Salmonella enteritidis
- Salmonella typhimurium (including monophasic Salmonella typhimurium)

They'll take samples from the flocks on your premises that produced these eggs. The hatchery owner or an official may have collected the original positive hatcher sample. If officials confirm a non-vaccine strain of Salmonella enteritidis or Salmonella typhimurium in your flock, you must:

- keep your positive flock(s) and eggs laid by birds on the farm
- arrange for the slaughter all the birds in the positive flock(s)

APHA or DAERA will contact you to discuss the arrangements for slaughtering all the birds in the positive flock(s). They'll also contact you to discuss destroying all hatching eggs that might be infected (including those already at the hatchery).

(APHA or DAERA may also place the hatchery under a movement restriction. The hatchery owner will only be allowed to move equipment, animals, eggs or animal products to, or from their hatchery with a licence from APHA or DAERA. Officials may also carry out an audit of the hatchery, including tests to see if salmonella has become established there. APHA or DAERA will only lift the hatchery movement restrictions after effective cleansing and disinfection have been demonstrated by sampling.)

What happens if a sample from a breeding premises tests positive

APHA or DAERA will assess positive tests for non-vaccine strains Salmonella enteritidis or Salmonella typhimurium (including monophasic Salmonella typhimurium).

Contact [APHA](#) or [DAERA](#) if you have evidence suggesting contamination of the original sample.

If APHA or DAERA suspect the original result is a false positive, they'll collect official confirmatory samples to confirm the presence of:

- Salmonella enteritidis
- Salmonella typhimurium (including monophasic Salmonella typhimurium)

APHA or DAERA will also take 5 carcasses and store their organs when they collect confirmatory samples. These may be used to test for the presence of antibiotics if the confirmatory test is negative.

APHA or DAERA will contact you to tell you what you have to do. This will include all of the following:

- keeping the birds and eggs from the positive flock(s) on your farm
- having your positive flock or flocks slaughtered

- make sure you arrange the destruction of all the eggs put in the hatchery since infection was found in the flock

You will not have to pay for any samples or testing carried out by APHA or DAERA because of a positive test result.

Official samples from other flocks on your premises

Once APHA or DAERA identifies at least one flock as positive, their officials will take samples from every other flock on your premises.

A government vet will also visit your premises to give advice on salmonella control. In Northern Ireland, contact [DAERA](#) or your private vet for advice.

Officials will also visit and sample when a new flock is placed in the house where the last flock had a positive test result. You will not have to pay for:

- official sampling of other flocks on site
- testing the new flock following its move to the house which officials identified as positive

Future actions you must take

You must take NCP samples every 3 weeks for the 12 months after the identification of a positive result for either non-vaccine strains of:

- Salmonella enteritidis
- Salmonella typhimurium (including monophasic Salmonella typhimurium).

The 12 months start from the date when the house where the positive flock lived was disinfected.

Compensation

When a government organisation requires your birds to be culled, it will pay compensation for them as long as you follow its instructions.

Compensation only applies if your flock tests positive for Salmonella enteritidis or Salmonella typhimurium (including monophasic Salmonella typhimurium).

Keep records

Keep records for at least 2 years. Officials may check your records at any time.

Keep test records

You must record all of the following information each time you take samples:

- the date and time you took the sample
- the flock identification – this is the flock's house name or number, and

- the month and year the flock moved into the house
- the type of sample, such as boot swabs or dust sample
- the age of the flock
- the date you plan to have the flock slaughtered
- the laboratory that tested the sample
- the test result

Keep movement records

You need to record any movement of birds to or from your premises. For each movement record the:

- date of movement
- number of birds
- age of the birds
- house name or number, and the month and year the flock moved onto your holding
- address that the birds moved from (including the building name or number)
- address that the birds moved to (including the building name or number)

Food chain information (FCI) documents for abattoirs

You must declare the:

- most recent NCP test result
- date of sampling

You must do this in the FCI documents you send to the abattoir for your flock.

If you plan to market meat from your birds as fresh meat, you must declare if this flock had an earlier positive NCP test result. You must do this even if the most recent NCP test result was negative. You must declare all previous NCP salmonella positive results.

The FCI is a legal requirement. Birds may not be slaughtered for human consumption without this information. If the birds are culled on farm and disposed of as animal by-products, you do not need to provide FCI.

Get advice

If you need more advice, contact [APHA](#) or [DAERA](#).

You can also read the [code of practice for prevention of salmonella in turkey flocks](#) (PDF, 153KB, 31 pages)

, which provides best practice for preventing salmonella.