

Detailed guide: Chicken 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 chickens, you must take samples for testing if you have 250 or more birds.

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

Your flock does not need testing if either of the following apply:

- you only produce hatching eggs or day-old chicks for scientific or research purposes
- you have fewer than 250 breeding birds (in total, over 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 chicken 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.

Take samples from your rearing flock

You must take samples at all of the following times:

- on the day the chicks arrive from a hatchery
- when they are 4 weeks old
- 2 weeks before you move them to the laying unit

Samples to send on the day of arrival

You must send the following for laboratory testing on the day of arrival:

- the liners from boxes used to deliver the chicks – one box for every 500 chicks from each delivery (up to 10 boxes)
- any chicks that are dead on arrival, or that you cull within 24 hours of arrival (up to 60 carcasses from each hatchery)

Samples to send when the birds are older

You must take samples when the birds are 4 weeks old, and again 2 weeks before you move them to the laying unit. You can choose either of these types of samples:

- [2 pairs of boot swabs](#) for floor-reared birds
- [25 grams \(g\) of a composite faeces sample](#) for cage-reared or floor-reared birds (composite means the faeces are from many birds in the flock)

How to take composite faeces samples from your rearing flocks

Select sites:

- to represent the whole building for cage-reared hens
- from all parts of the buildings floor-reared hens in the specific flock go into

Follow these instructions.

1. Take several 1g samples from the sites you've selected – use a spatula or your hand inside a plastic glove or a plastic bag.
2. Mix the 1g samples together to make a composite sample.
3. Take 25g from the composite sample to send to the laboratory.

Use this table to find out the minimum number of 1g samples you need to take.

Number of birds kept in building	Minimum number of faeces samples
1 to 24	A number equal to the total number of birds up to a maximum of 20 birds.
25 to 29	20
30 to 39	25
40 to 49	30
50 to 59	35
60 to 89	40
90 to 199	50
200 to 499	55
500+	60

Samples to send from adult breeding flocks

You must sample your adult breeding flocks at least every 3 weeks during the laying period. This is known as operator sampling. An official sample can replace an operator sample.

You must use one of these types of samples:

- [5 pairs of boot swabs](#)
- one pair of boot swabs and [one dust sample](#)
- [2 composite faeces samples](#) of 150g each

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 2 weeks. The regulated strains are:

- Salmonella enteritidis
- Salmonella typhimurium (including monophasic Salmonella typhimurium)
- Salmonella hadar
- Salmonella infantis
- Salmonella virchow

Prepare to take samples

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

Gather all the equipment you'll need before you go into the laying house to prevent contamination. Take 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 should put on another pair afterwards to protect the boot swabs from the disinfectant.

How to take boot swab samples

You should use:

- disposable plastic overboots
- 5 pairs of boot 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

Follow these instructions.

1. Take 5 pairs of boot swabs from each flock.
2. Moisten the boot swabs with water before you take samples – the water must be sterile and not contain any antibiotics (antimicrobials) or sanitisers.
3. Divide the house into 5 equal parts for sampling, and use one pair of boot swabs in each part.
4. Take at least 100 steps with each pair of boot swabs, walking round the entire house.
5. Drag your feet on the floor to pick up as much material as possible.
6. If the house is divided into several pens, spend more time in the larger pens and less in the smaller pens.
7. When you've finished sampling, take the boot swabs off and turn them inside out carefully so that the faeces you've collected stay on them.
8. Put 2 pairs of boot swabs together in one package and 3 pairs together in another package to send to the laboratory.

How to take dust samples

Choose one of these ways of taking a dust sample:

- collect 100g of dust from multiple places in the house and put it in a pot
- use one or more moistened fabric swabs with a total surface area of at least 900 square centimetres (sq cms)

Follow these steps if you use moistened fabric swabs.

1. Put on new disposable gloves.
2. Coat both sides of the swabs with dust collected from multiple places in the house.

Avoid collecting dust from feeding systems.

You must package dust swabs separately from boot swabs.

How to take composite faeces samples from caged flocks

If you've installed dropping belts or scrapers in your cages, use these instructions.

1. Run the belts or scrapers on the day you collect samples to make sure that you pick up fresh faeces.
2. Take faeces from every row or tier of the cages.
3. Take faeces from the build-up on scrapers and at the end of belts.
4. Collect the samples using a spatula or your hand inside a plastic glove or a plastic bag.

If you have a step-cage system without belts and scrapers, collect faeces from throughout the deep pit. If you collect composite faeces from droppings pits, then collect at least 20 pinches of fresh surface material from each row of manure. Make sure the material you collect is representative of the whole house. The number of individual faeces samples of 1g is given in the following table – up to 300 depending on the size of the flock. The table shows the number of individual 1g samples needed to make one composite sample.

Number of birds in the building	Minimum number of 1gram faeces samples to be taken in the house or building
250 to 349	200
350 to 499	220
450 to 799	250
800 to 999	260
1000+	300

You must send 2 samples of at least 150g each to the laboratory. 150g is equivalent to the quantity of faeces contained in a standard coffee mug tightly packed to the brim with fresh, moist faeces. You can weigh your samples before dispatch to check you have collected a sufficient quantity.

Place the samples in a pot or sealable bag to send to the laboratory. If each sample weighs less than 150g, the laboratory will not carry out the testing and you'll have to send more 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

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 cannot 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

Tell APHA or DAERA before moving birds to the laying unit

You need to contact APHA or [DAERA](#) at least 2 weeks before you move birds to the laying unit, and give the dates when:

- you'll be moving the flock to the laying unit
- you think the flock is likely to stop laying

To tell APHA, contact:

Customer Service Centre: One Health Worcester

Email: csconehealthgeneral@apha.gsi.gov.uk

Telephone: 03000 200 301

Fax: 01905 768 649

Worcestershire County Hall

Spetchley Road

Worcester

WR5 2NP

Official sampling at your premises

In Northern Ireland, DAERA will visit your premises to take official samples. In England, Scotland or Wales, the officials will be from APHA (possibly your vet if authorised to take official samples on behalf of APHA).

You'll be charged for these visits. An official sample can replace an operator sample. [See official sampling fees for England, Scotland and Wales](#). Contact [DAERA](#) for details of fees in Northern Ireland.

When you need to have official sampling 3 times in a flock's lifetime

This will happen if testing in the last year on your premises gives positive results for:

- Salmonella enteritidis
- Salmonella typhimurium (including monophasic Salmonella typhimurium)
- Salmonella hadar
- Salmonella infantis
- Salmonella virchow

You'll need official sampling:

- within 4 weeks of a flock moving to the laying unit or house
- in the middle of lay
- within the last 8 weeks of egg production

When you need to have official sampling twice in a flock's lifetime

This will apply if testing in the last year on your premises does not find:

- Salmonella enteritidis
- Salmonella typhimurium (including monophasic Salmonella typhimurium)
- Salmonella hadar
- Salmonella infantis
- Salmonella virchow

If this is the case, you'll only need samples taken near the beginning and near the end of lay.

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. APHA or DAERA will assess positive tests for non-vaccine regulated salmonella strains.

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)
- Salmonella hadar
- Salmonella infantis
- Salmonella virchow

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.

Positive tests for Salmonella enteritidis or typhimurium

If testing confirms the presence of Salmonella enteritidis or Salmonella typhimurium (including monophasic Salmonella typhimurium), you must:

- keep the flock that tested positive and its eggs on the farm
- make sure that the entire flock is slaughtered as soon you're told to do this
- make sure you arrange the destruction of all the eggs put in the hatchery since infection was found in the flock

Positive tests for other regulated strains

If testing confirms the presence of the following types of salmonella, you must make a plan with your vet and APHA or DAERA:

- Salmonella hadar
- Salmonella infantis
- Salmonella virchow

This will help you to reduce or eliminate salmonella from the flock.

Actions you must take

You must:

- increase your biosecurity measures to prevent the spread of salmonella
- thoroughly clean and disinfect the affected house
- take samples after the thorough cleaning and disinfection

You can only move new birds into the house if the results of the tests on the post-cleaning samples are negative.

APHA or DAERA may check your hatchery to see if salmonella has become established there. In Northern Ireland, DAERA will check back in 6 weeks.

When a flock has a positive result

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 soon after a new flock is placed in the house which they identified as positive.

You will not have to pay for:

- official sampling of other flocks on your premises
- 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 2 weeks for the 12 months after the identification of a positive result for non-vaccine strains of:

- Salmonella enteritidis
- Salmonella typhimurium (including monophasic Salmonella typhimurium)
- Salmonella hadar
- Salmonella infantis
- Salmonella virchow

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
- type of sample, such as boot swabs or dust sample
- 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 premises
- 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 breeding flocks](#) (PDF, 63.4KB, 26 pages)

, which provides best practice for preventing salmonella.