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Biosecurity and preventing disease in captive birds

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Introduction

This guidance provides information on biosecurity measures you can take to prevent your birds from becoming sick with diseases like avian influenza and Newcastle disease. You should read it if you keep birds for commercial, hobby or other purposes.

In particular, you should:

- **always practice good biosecurity.**
- **be vigilant and monitor your birds frequently.**
- **review and assess the risk of disease to your birds with your vet.**
- **plan how you will manage any free-range birds if there is a need to protect them from wild birds.**
- **feed and water birds indoors where possible to reduce mixing between your birds and wild birds.**

What is biosecurity?

Biosecurity means taking steps to ensure good hygiene practices are in place so that the risk of a disease occurring or spreading within or from your premises is minimised.

Good biosecurity should be practised at all times, not just during a disease outbreak. Taking the right measures can help protect your birds, your business, and the industry.

What are the benefits?

Good biosecurity:

- helps keep out poultry diseases such as avian influenza and Newcastle disease;
- reduces the risk of zoonotic diseases, such as salmonella, becoming established;
- limits the occurrence and spread of diseases both on and off your premises;
- improves overall flock health and productivity; and
- cuts costs of disease treatment and reduces losses, which could improve profitability.

How does disease spread?

Disease can be spread through:

- movement of poultry, people, vehicles and equipment between and within farms;
- the introduction of birds of poor or unknown health status;
- contact with other flocks;
- using shared farm equipment and vehicles, which have not been effectively cleansed and disinfected;
- contact with vermin or wild birds;
- birds drinking from contaminated water sources;
- birds eating contaminated feed; and
- unsatisfactory cleansing and disinfection of vehicles, sheds, feeding troughs and other equipment.

Actions now and planning ahead

Even if you already practice good biosecurity, you are encouraged to take the following steps:

- Consult your private veterinary surgeon about the risks specific to your premises and the practical steps you can take to reduce them.
- Ensure that your biosecurity plan includes an isolation period for all new stock.
- Make sure all your records are accurate and up-to-date to ensure that all movements (birds, people, vehicles, equipment) on and off the premises are fully traceable. This will help investigations into any suspect case of notifiable avian disease.
- If you own, or are responsible for, poultry flocks of 50 or more birds (not necessarily of the same species) and even if your premises is only stocked for part of the year, then you must, within one month of their arrival at your premises, register your flocks. For poultry flocks of fewer than 50 birds, whilst there is not a mandatory requirement to register you are still encouraged to do so voluntarily so that you can be contacted quickly if there is an outbreak of disease. Further information and links to the relevant registration forms are available from www.gov.uk/poultry-registration.

- If you have staff, give them the information and training they need to maintain good standards of hygiene and biosecurity at all times. If they are allowed to keep their own birds at home, they will need to be extra vigilant for signs of disease and even more careful about biosecurity both at home and on your farm.
- Feed and water free-range birds indoors where possible to reduce mixing between your birds and wild birds. You should also consider which other measures may be appropriate to protect your birds from wild birds (see the advice on protecting your birds from wild birds later in this guidance).
- Consult your vet to consider what contingency plans you should have in place for managing your premises in the event of a suspected or confirmed case of notifiable avian disease, both on your premises or nearby. The Notifiable Avian Disease Control Strategy details the types of movement restrictions that could be put in place. This is available at www.gov.uk/government/publications/notifiable-avian-disease-control-strategy-for-great-britain.
- If you farm free-range birds you should plan how you will manage them if there is a need to protect them from wild birds.

How to stop disease

General biosecurity measures

- **Don't bring infection onto your farm, or spread it around your farm, via your clothes, footwear or hands.** Clean overalls and footwear must be worn when entering poultry farms. Where possible, you should keep protective clothing and footwear dedicated for use on your premises. These should be removed and cleansed and disinfected, laundered or disposed of after use.
- **Strictly limit and control access to poultry flocks. If possible the site should be fenced with a controlled entry point.** The number of visitors and their vehicles should be limited and kept as far away as possible from poultry buildings and pastures.
- **Have pressure washers, brushes, hoses, water and an approved disinfectant (www.gov.uk/defra-approved-disinfectant-when-and-how-to-use-it) available.** Make sure they are used by all visitors to clean vehicles, equipment and boots both before entry and upon leaving. Visitors should, ideally, only use footwear and outer clothing that is kept on-site.
- **Disinfectant in boot dips should be changed in accordance with the manufacturer's instructions.** Use a stable disinfectant with good resistance to inactivation by organic matter, at a minimum of Defra General Order concentration (see

above link). The level of boot dip should always be at least ankle deep and care should be taken to position the boot dip to allow easy step in/step out procedures to take place. Boot dips should be sited in sheltered locations to prevent disinfectant from being diluted by rain water. Be aware that the effectiveness of the disinfectant can become compromised in the presence of excessive organic material. If this occurs, the disinfectant should be changed. Pre-cleaning boots with water and a brush prior to using the dip is essential to avoid organic overload.

- **Clean and disinfect all vehicles after each journey.**
- **Clean and disinfect all crates, containers and other equipment before and after use.** Do not move any equipment into different poultry buildings without cleaning and disinfecting it first. This also applies to injecting and dosing equipment.
- **Keep farm access routes, parking areas, yards, areas around buildings and storage areas clean and tidy and well maintained.** This helps avoid wild birds and animals being attracted onto the site and entering buildings and stores; and reduces the risk of vehicles becoming contaminated.
- **Keep wild birds, dogs, cats, rodents and other livestock out of poultry buildings and feed stores.** These can carry infection or infective material onto your farm and spread disease to your flock.
- **Have an active rodent and pest control system in place.** Be vigilant for evidence of vermin. Monitor vermin activity by baiting and trapping.
- **Minimise contact between poultry and wild birds.** Wild birds can carry poultry diseases. Prevent accumulation of standing water and remove spilled feed that could attract wild birds. Maintain buildings to ensure that wild birds do not nest or roost in them, and cannot access the inside of the building. (See the advice on protecting your birds from wild birds later in this guidance).
- **Supply only clean fresh drinking water to birds.** Water lines and drinkers must be flushed through and cleaned regularly. The use of water sanitisers could be considered in consultation with your vet. In the case of free-range birds restrict access to possible sources of standing water used by wild birds and restrict access to your drinking systems by wild birds.
- **Feed bins, hoppers and feeding equipment must be cleaned and maintained regularly.** Feed silos and containers must be sealed to prevent vermin and wild birds accessing and contaminating feed.
- **Feed should only be obtained from a mill or supplier that operates in accordance with relevant Defra, Agricultural Industries Confederation or credible assurance**

scheme standards, who will normally make available results of salmonella tests on request.

- Damaged eggs, dead birds, litter and manure may carry disease. Dispose of them promptly and properly. For further information, see the guidance on fallen stock www.gov.uk/fallen-stock.
- **At depopulation at the end of a cycle, thoroughly clean the building and all equipment, including ducting, drains and fans.** Remove all surplus feed, dead birds and litter. Disinfect the premises and all equipment and carry out rodent and other pest control. Cleaning equipment and protective clothing should also be cleansed and disinfected. Ensure any visiting teams that catch your poultry follow the biosecurity measures described above for entering and leaving your premises, and ideally only wear protective clothing that is dedicated for use on your premises.

Buying new stock

- Always make sure you know the health status of any birds you are buying or moving.
- Incoming stock should be isolated from the rest of the flock – discuss this with your vet and agree a testing and monitoring programme.
- Only place new stock in facilities which you know have been cleansed and disinfected.
- Keep isolation buildings as near as possible to the farm entrance, and separate from other poultry buildings.
- Use separate equipment when handling isolated stock. If you have enough staff on your farm, allocate some of them to deal only with isolated stock. If not, make sure you handle isolated stock last. Always wash and change into clean overalls and boots before going back to your main flock buildings.

Protecting your birds from wild birds

One way by which notifiable avian disease may spread to poultry is through contact with infected wild birds. Contact may be direct through mingling, or indirect through faecal contamination of anything that may then come into contact with poultry such as feed, water, utensils or clothing.

Maintaining strict biosecurity measures, including housing your birds indoors, is the best way to minimise contact with wild birds. If you can't house all your birds indoors, you should do all you can to minimise the risk of contact with wild birds. Other ways of separating your flock from wild birds are detailed in this guidance.

What does the law require?

If there is a confirmed case of **highly pathogenic avian influenza** or **Newcastle disease** in poultry, all poultry within at least 3km of the infected holding (that is, in the Protection Zone) are **immediately** required to be housed or otherwise separated from wild birds. Where housing is not possible, you are required to take all reasonable steps to minimise contact between your birds and wild birds. You must also ensure that your birds do not have any direct or indirect contact with poultry or captive birds on other holdings. This requirement will remain in force **until the Protection Zone is lifted**.

These are important disease control requirements. Failure to take reasonable measures to comply with these requirements could lead to the local authority taking enforcement action against you.

In a **highly pathogenic avian influenza** Surveillance Zone (that is, the area beyond the Protection Zone and within at least 10km or wider if the Chief Veterinary Officer advises that a bigger Surveillance Zone is required), you are required to take whatever appropriate biosecurity measures you think necessary to reduce the risk of spread of infection. This could include housing your birds, and a veterinary inspector could decide to impose such requirement on certain poultry keepers.

If it was considered necessary to reduce the risk of further spread of **highly pathogenic avian influenza**, the government could, after carrying out a risk assessment, declare a Prevention Zone in which a range of biosecurity measures would be required (including the housing of birds indoors as far as is practicable). This may be on a nationwide, regional or area basis depending on an assessment of risk and the epidemiology of the spread of the disease. Declaration of such a zone is mainly envisaged for an outbreak of highly pathogenic avian influenza of the H5N1 strain.

If there is a case of **low pathogenic avian influenza** in poultry, and if a Restricted Zone is declared (measuring at least 1km radius from the place of infection), you would be required to take whatever appropriate biosecurity measures you think necessary to reduce the risk of spread of infection. This could again include housing your birds.

Impact of required housing on organic and free-range status

A requirement to keep your birds separate from wild birds will also apply to free-range and organic poultry producers.

The organic status of poultry flocks would not be affected by any legal requirement to house or restrict access to open-air runs, provided that all other requirements of the Organic Standards¹ continue to be met.

Products of free-range flocks that are required to be housed will retain their free-range status provided the housed period does not exceed 12 weeks².

If you are legally required to take whatever appropriate biosecurity measures you think necessary to reduce the risk of spread of infection, and you decide to house free-range flocks (for example if you are in a highly pathogenic avian influenza Surveillance Zone) their products will also retain their free-range status provided the housed period does not exceed 12 weeks.

The usual free-range marketing requirements apply in all other instances².

If you have longer term concerns about possible loss of status, for example, organic or free-range, we recommend that you refer to the responsible sector body.

Housing

In the event of an outbreak of notifiable avian disease, you may be required by law to house your birds, or otherwise separate them from wild birds. Housing your birds is the most effective way to minimise direct contact with wild birds. Ensure that wild birds are prevented from gaining access to your birds by **covering any openings with netting**. This should have sufficiently small holes to exclude wild birds from passing through the openings. If your birds spend time outside you will need to consider alternative arrangements. There are different housing options which you can consider, including:

- Making use of existing buildings (such as barns, farm sheds, outbuildings, garages, garden sheds) adapted for your birds. Ensure that any openings are netted to prevent wild birds gaining access. You should check for and remove hazardous and toxic substances if garages and outbuildings are being used as temporary accommodation.

¹ Set out at www.gov.uk/organic-systems-and-standards-in-farming

² See [Egg Marketing Regulation 589/2008](#) and [Poultrymeat Marketing Regulation 543/2008](#)

- Erecting a solid lean-to on the side of existing houses.
- Erecting a new temporary structure with solid walls and roof, or a polytunnel. A polytunnel will be suitable only in cooler weather.

Any proposed building must take into account the welfare requirements of the birds, in particular the importance of adequate ventilation. See the advice on welfare later in this guidance.

Netted Structures

You could take other steps if the above options are not practical, for example:

- Erecting a net structure to avoid contact with wild birds.
- When using a netted structure, paying special attention to keeping wild birds from perching on the roof and defecating through it - for example you should consider using additional deterrent methods described below.
- Constructing temporary outdoor pens using straw bales and a tarpaulin roof with bird-proof netted gaps for light and ventilation.
- If bad weather is likely to be a problem it may be necessary to erect a windbreak around your bird-proof structure.

We recommend that you refer to commercial suppliers of anti-bird netting for advice and further information on equipment.

Feeding and watering

There are certain species of bird – such as ostrich, captive wildfowl or geese which are not normally housed – for which the housing steps outlined above may not be practicable. In such cases the very minimum you should do is isolate their food and water from wild birds. Available feed and water will attract wild birds; by feeding and watering your birds under cover, the possibility of mingling is reduced. The steps you can take include:

- Providing extra protection to feed and water stations to avoid attracting wild birds.
- Rotating feeding times. Many wild birds learn when captive birds are fed and congregate at these times.
- Preventing your birds from accessing open water that may be contaminated. Ensure that your birds receive only mains or treated water or ensure that reservoirs or storage tanks are covered. Sealed nipple systems can be considered.

Additional deterrents

When designing any protective structure, if posts are necessary, think about incorporating spike strips to deter perching. In all cases you should also consider making use of wild bird deterrents such as flutter tape, flashing lights and scarecrows. However, in doing so, you should be careful to avoid any potential impacts on those of your birds who are not screened from such deterrents; particularly flashing lights.

Pheasants, partridges and other game birds

Birds should be housed whenever possible during an outbreak. As a minimum, all feeding should take place under cover. However, it may be that housing cannot be effectively implemented once birds have been released into the wild. Specialist advice is available from representative organisations and the [Animal and Plant Health Agency \(APHA\)](#).

Geese

Where small numbers of geese are kept, it may be possible to house them in the event of a disease outbreak. However, if that is not possible, temporary netted structures could be used which can cover large areas. Feeding and watering under cover and using wild bird deterrents will reduce contact with wild birds.

Captive wildfowl and waterfowl

Birds should be housed whenever possible during an outbreak. As a minimum, all feeding and watering should take place under cover or in some form of structure to exclude wild birds as far as possible. Separate your birds from wild birds by netting their enclosures, and make sensible use of deterrents to reduce their contact with wild birds if practical. You should consider moving your birds away from large bodies of water that attract wildfowl.

Where separation is not possible, for example where there are large numbers of waterfowl, every effort should be made to discourage wild birds and keep feed separate.

Backyard flocks

In addition to the measures described in this guidance, you should also carefully consider alternatives to reduce contact with wild birds. For example, if you keep your birds near your home, consider housing them in alternative accommodation such as a garden building, a garage or existing redundant building that could be adapted to house your birds temporarily.

Where large numbers of birds are kept, it may not be possible to bring them all indoors, and you should consider all of the alternative methods described in this guidance.

Zoological and other collections of birds

There may be practical issues in implementing some of these measures for zoological collections and sites with rare birds. Examples include:

- Enclosure design that allows mixing with wild birds.
- Possible contact with members of the public for educational purposes.
- The need to move birds across long distances to other sites for the purposes of breeding programmes etc.
- Unique welfare and housing difficulties.

The biosecurity guidance in this document applies to such birds only where practicable.

Planning permission for bird housing

Planning permission for bird housing is not always required if the work does not involve building, engineering or similar operations. Permitted Development Rights exist for erecting structures in certain circumstances. Simple structures such as posts and netting might not require permission. It is unlikely, for example, that you would need planning permission if the structure is temporary, mobile, or used for the purposes of agriculture.

However, regulations will differ between commercial and hobby poultry keepers. You should **always check** with your local planning authority in the first instance. You can go to www.planningportal.gov.uk for contact details in England and Wales, and information on planning authorities in Scotland is available at <http://www.scotland.gov.uk/Topics/Built-Environment/planning/Roles/Planning-Authorities>.

Taking care of your birds

Welfare surveillance

The welfare of your birds is always an important concern, and particularly so in the case of a disease outbreak. If you house birds that are not used to being housed for a sustained period, this may create welfare and behavioural problems:

- You should seek advice from your vet if there are any potential concerns about welfare.
- You should be vigilant for signs such as injurious feather pecking, cannibalism and any other signs of poor welfare such as loss of condition.

- To prevent boredom amongst housed flocks, which can lead to injurious feather pecking and cannibalism, scratch feeds should be considered.
- Overcrowding may become a problem and you must take steps to ensure that the stocking density within each house will not reach the point at which bird welfare is compromised – a particular risk in hot, cold or wet weather.
- You should provide fresh litter in all temporary accommodation, and ensure that adequate feed and water, ventilation and lighting is available. You should also consider taking advantage of the beneficial effects of contrast in light levels (e.g. from cracks in walls and windows) and how to enrich the birds' environment more generally, such as using straw bales.
- Always ensure that your birds have clean water – do not use standing water that may have become contaminated by wild birds.
- You should also ensure that stockmen inspect the birds more often in order to pick up problems before they lead to the deterioration of bird welfare.

Having a contingency plan that can be put into operation will make sure the welfare of your flock remains a priority at a critical time.

Further guidance and information on poultry welfare is available at the following pages

- England: www.gov.uk/poultry-welfare-guidance-on-the-farm, or you can call the Defra Helpline on **03459 33 55 77**.
- Wales: <http://wales.gov.uk/topics/environmentcountryside/ahw/animalwelfare/livestockwelfare/poultry/?lang=en>.
- Scotland: www.scotland.gov.uk/Topics/farmingrural/Agriculture/animal-welfare/AnimalWelfare/farmed.

Maintaining welfare after the release of free-range hens from confinement

Stock keepers will need to be aware that free-range hens may exhibit increased levels of aggression or feather pecking after a period of confinement. The cause of these behavioural changes is not completely understood, but should be treated in a similar manner to any outbreak of these behaviours. You should seek advice from your vet if there are any potential concerns about welfare.

You should inspect livestock more regularly than once a day. This will ensure that any injurious pecking resulting from confinement or post confinement is detected at the earliest opportunity, and enable you to take steps to treat or cull injured birds.

Ideally, hens should be kept inside large naturally-lit veranda-type buildings. If this is not possible, you should maintain light intensity at 10 lux or above in the perching, feeding and walking areas during the housed period and post confinement unless injurious pecking occurs. You should only decrease light intensities for the period where injurious pecking is a welfare problem.

During confinement and release, resources such as food sources, should be increased in availability to reduce competition.

Space allowances for free-range hens are specified in legislation and codes of recommendations and should be maintained at these levels or more.

Re-introduction to the range should be carried out with minimal disturbance to the birds. You should treat the flock as if it was a young flock and re-introduce birds to the range gradually.

What to do if you find dead wild birds

If you find 5 or more wild birds dead in the same location in England, Scotland or Wales, you should report them to the Defra helpline on **03459 33 55 77**.

Be vigilant!

Look out for signs of disease in your flock.

Increased mortality, a decrease of feed and/or water intake, falling egg production and respiratory distress may all be early signs of a disease problem. Ensure you keep yourself and your staff aware of what signs each disease may cause.

If you suspect disease, ask your vet for advice as soon as possible. Do not wait for more evidence – **some diseases can spread very quickly!**

Avian influenza and Newcastle disease are notifiable diseases and if you suspect either of these diseases, you **must tell your [local APHA office](#) immediately**, even out-of-hours and at the weekend.

Further help and advice

Always practice good biosecurity, ask your vet for advice if you suspect disease and report any suspicions of avian influenza or Newcastle disease to your [local APHA office](#) without delay.

You can find more information about diseases such as avian influenza and Newcastle disease, including signs to watch out for, at the following pages:

- England: www.gov.uk/avian-influenza-bird-flu and www.gov.uk/newcastle-disease, or you can call the Defra Helpline on **03459 33 55 77**.
- Wales: <http://wales.gov.uk/topics/environmentcountryside/ahw/disease/avianflu/?lang=en> and <http://wales.gov.uk/topics/environmentcountryside/ahw/disease/newcastledisease/?lang=en>.
- Scotland: www.scotland.gov.uk/avianinfluenza and www.scotland.gov.uk/newcastle-disease.



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