



THE DEPARTMENT OF
AGRICULTURE, FISHERIES & FOOD
AN ROINN TALMHAÍOCHTA, IASCAIGH AGUS BIA

Biosecurity Information for Registered Poultry Flock Owners



CONTENTS

1. Introduction
2. Symptoms of exotic poultry diseases
3. Biosecurity advice for poultry flockowners
4. Measures to reduce the risk of introduction of avian influenza
5. Avian influenza advice - housing of poultry
6. Avian influenza advice for employers
7. Vehicle cleaning & disinfection protocol
8. Disinfection programme for poultry farms
9. List of approved disinfectants
10. List of contact numbers for District Veterinary Offices

1. INTRODUCTION

Since 2005, Highly Pathogenic Avian Influenza (HPAI) of the H5N1 subtype has caused epidemics among domestic poultry and wild birds in Asia, parts of Africa, the Middle East, and parts of Europe. This epidemic highlights the very real risk of introduction of exotic diseases such as avian influenza and Newcastle disease, into poultry farms, especially by wild birds.

You can protect your flock against Newcastle disease by **vaccination**. The Department recommends that all laying birds are vaccinated against Newcastle disease. Broilers and other fattening birds may also be vaccinated, depending on the disease situation that prevails. Your veterinary practitioner will be able to advise you on this.

Vaccination is not currently authorised for prevention of avian influenza in poultry or game birds in Ireland, but is authorised for use in exotic bird collections in zoos.

There are a number of routine precautions that can be taken to protect poultry flocks against the introduction of any diseases - not just Newcastle disease and avian influenza. In addition there are a number of specific measures that can be taken to reduce the risk of introduction of avian influenza. You will find these measures listed in this booklet.

Early detection of these diseases is vital in the control of exotic disease, to ensure that appropriate measures are put in place quickly to both prevent further spread of disease, and to protect public health. This booklet details some of the common signs that may be seen in birds affected with Newcastle disease or avian influenza, and what you should do if your flock is showing signs of disease.

Remember **you are the first line of defence** against these diseases:

- Keep disease out
- Report any health problems in your flock promptly

Animal Health Division
Department of Agriculture Fisheries and Food

Department Website www.agriculture.gov.ie
Avian Influenza Helpline: 1890 252 283

2. SYMPTOMS OF EXOTIC POULTRY DISEASES

Newcastle Disease

Symptoms may include any of the following:

- Respiratory signs (gasping, coughing)
- Nervous signs (drooping wings, dragging legs, twisting of the head and neck, circling, complete paralysis)
- Loss of appetite
- Dropped or complete cessation of egg production
- Misshapen, rough-shelled, thin-shelled eggs containing watery albumen
- Greenish watery diarrhoea
- Swelling of the tissues around the eyes and in the neck

Avian Influenza

Symptoms may include any of the following:

Highly pathogenic avian influenza (HPAI)

- Depression
- Loss of appetite, excessive thirst
- Cessation of egg laying
- Respiratory signs (coughing, sneezing)
- Nervous signs (drooping wings, dragging legs, twisting of the head and neck, circling, complete paralysis)
- Swelling and blue discoloration of combs and wattles
- Diarrhoea
- Sudden death
- Mortality rates of up to 100%

Low pathogenic avian influenza (LPAI)

- Mild respiratory disease
- Depression
- Drop in egg production

What should you do if you suspect Newcastle disease or Avian Influenza?

It is obligatory to notify any suspicion of these diseases to your local District Veterinary Office or DAFF headquarters in Dublin at 01 6072000. Do not move any poultry, carcase or anything else (e.g. feed or waste) until a Department of Agriculture veterinary inspector has carried out an examination.

If you have any doubts about the health of your flock, contact your veterinary practitioner.

3. BIOSECURITY ADVICE FOR POULTRY FLOCKOWNERS

1. Commercial poultry farmers should ensure that they have a good **perimeter fence** around the site, and that there is a single entrance/exit, with a lockable gate. Small flocks should also be fenced in.
2. All poultry houses should be bird and rodent-proof, and always keep the **doors closed**. Wild birds, especially pigeons and waterfowl, are a particular risk. Bird-proof netting should have apertures no larger than 25mm.
3. Only allow essential **visitors** to have access to the poultry site, and provide farm or disposable overalls and footwear for visitors and staff. Provide hand-washing facilities, and insist that these are used by staff and visitors.
4. Provide **footbaths** containing approved disinfectant* outside each poultry house. Ensure that the disinfectant is used at the recommended dilution rate, and change the disinfectant at least twice weekly.
5. Only allow essential **vehicles** onto the site. Staff, service vehicles etc. should be parked outside the perimeter. Insist that all vehicles that have to enter the site have been cleaned and disinfected beforehand.
6. Keep **house surrounds** free of vegetation and debris, and disinfect the surrounds regularly.
7. Operate an **all-in/all-out** policy when stocking houses, and only buy replacement birds from reputable sources.
8. Only allow **equipment** that has been cleaned and disinfected into poultry houses. Always store equipment in a bird and rodent-proof location following disinfection.
9. Always store **shavings** in a bird and rodent-proof location. Do not allow **pet animals** into stores or poultry houses.
10. Store **dead birds** in a lidded container. Dispose of carcasses regularly in a safe manner. If the carcasses are due to go for rendering, leave the container at the perimeter of the site for collection.

*A list of approved disinfectants can be found at: <http://www.agriculture.gov.ie>

4. MEASURES TO REDUCE THE RISK OF INTRODUCTION OF AVIAN INFLUENZA

Specific measures are required to reduce the risk of introduction of avian influenza into poultry. The reservoir for the virus is in wild water birds, in particular waterfowl (e.g. ducks and geese). Waterfowl may be infected with the virus, yet show no symptoms.

The virus may be present in:

- Live birds and their products (meat, eggs, feathers)
- Carcasses of birds
- Faeces of birds

Infection most commonly results from:

- Contact with wild birds
- Contact with infected poultry or poultry products
- Contaminated clothing and footwear
- Contaminated vehicles and equipment
- Contaminated feed and water
- Contaminated manure and litter
- Rodents or farm dogs and cats, which may act as mechanical vectors.

1. It is essential to prevent contact between poultry and wild birds. Ensure that **houses, feed stores and shaving stores** are rodent and bird-proof, including netting of vents. Keep the doors shut and ensure that cats and dogs are kept out.
2. Separate **ducks and geese** from other poultry.
3. Feed and water **free range birds** indoors where possible. Always clean up feed spills immediately after they have occurred.
4. Prevent poultry from having **access to ponds, lakes or rivers** e.g. by fencing off these areas and do not allow **free standing water** to collect.
5. **Staff and visitors** on poultry farms should not have contact with wild birds (e.g. waterfowling). Only essential visitors should be allowed access to the poultry house. A record of all visitors should be maintained.
6. Use foot dips at the entrance to the poultry house and change your **footwear**, on entry to the house, to boots that are dedicated to use inside the poultry house.
7. Always clean and disinfect* **equipment** prior to using it in a poultry house, and do not leave it outside whilst not in use.
8. Check the source of the **water supplies** to your house at regular intervals. If the source is lake water, it must be adequately treated to kill viruses (e.g. by chlorination or UV light).

*A list of approved disinfectants can be found at: <http://www.agriculture.gov.ie>

ASSESS THE RISKS TO YOUR POULTRY NOW, AND TAKE ACTION TO ADDRESS ANY OF THE RISKS IDENTIFIED ABOVE

DON'T WAIT UNTIL IT IS TOO LATE

5. HOUSING OF POULTRY – AVIAN INFLUENZA ADVICE

When should I bring my birds indoors?

If highly pathogenic avian influenza is confirmed in Ireland, all flocks of poultry within 3 km radius of the infected premises will be required by law to be kept indoors.

In addition, if a risk assessment by the Department of Agriculture determines that Ireland is at a high risk of introduction of highly pathogenic avian influenza, the Minister may require that all poultry are kept indoors.

What if I don't have housing for my birds?

If you do not have housing for your birds, you will be expected to take all reasonable steps to contain your birds, and to minimise contact between your birds and wild birds.

The measures will depend on the species and category of birds, but should be aimed at preventing wild birds from:

- Being able to land close to where your birds are kept
- Mixing with your birds
- Contaminating their feed or water supplies

You can construct or adapt pens/buildings temporarily e.g.:

- Use other barns, sheds, garages or out houses
- Construct a lean-to veranda on the side of existing houses
- Construct a pen using straw bales, with a tarpaulin roof, and bird-proof netting (25 mm aperture) for light and ventilation
- Use bird-proof netting to roof outdoor pens

If these measures are also impractical, the very minimum measures are to ensure that wild birds cannot access the feed and water supplies:

- Provide additional protection around the supplies (e.g. netting)
- Prevent access to open water, and provide mains or treated water.
- Install bird scaring systems (e.g. auditory, visual deterrents). These may not be suitable for nervous birds, so these should be used with care, and on the advice of suppliers of the equipment.

Will housing my birds create any problems for them?

When birds are not used to being housed, it may create problems for their welfare.

Birds will need to be checked more often than usual to ensure that:

- Feed and water are kept fresh, and free from faecal contamination
- There is no evidence of behaviour such as feather pecking or cannibalism
- In hot weather or cold, wet weather, that the birds have sufficient ventilation
- Overcrowding is not becoming a problem (particularly with fast-growing birds)
- There is no evidence of disease.

Will housing my birds mean that I cannot market my poultry as free-range or organic poultry?

You will need to consult your representative organisations or the relevant marketing section in the Department of Agriculture and Food, for up-to-date advice in relation to marketing rules.

6. EMPLOYERS – AVIAN INFLUENZA ADVICE

The current outbreak of avian influenza H5N1 in Asia, Africa, Middle East and Europe is a cause of great concern to the poultry industry. It is important that everyone plays their part in protecting the industry. Please bring these important points to the notice of your workers and visitors:

1. **People who are travelling to avian influenza infected countries** should avoid poultry farms, bird markets and other places where live birds are kept, and other locations that may be contaminated with bird faeces.
2. **Workers or visitors from other countries** should not have had contact with poultry or other birds for at least **one week** before they work on/visit a poultry farm.
3. **Workers or visitors to poultry farms** should:
 - Only enter poultry houses or areas where poultry are kept if this is essential
 - Wear clean protective clothing and footwear which is cleaned and disinfected¹ after use, or disposable protective clothing and footwear which is disposed of safely on site after use
 - Wash their hands thoroughly before and after handling birds or equipment.
4. The **import of poultry and game meat and meat products in personal luggage** of travellers is prohibited from countries outside the European Union.
5. The **import of live poultry, other birds, eggs, unprocessed poultry and game meat/meat products and untreated feathers or poultry manure** is prohibited from countries infected with highly pathogenic avian influenza².
6. The **feeding of meat or meat products (including that of poultry) to poultry or other farm animals** is prohibited under the Diseases of Animals Act, 1966 (Prohibition on the Use of Swill) Order, 2001 [S.I. No. 597 of 2001].

¹ Consult the Department's website for a list of approved disinfectants at: <http://www.agriculture.gov.ie>

² Consult the OIE website for a list of countries that are currently infected with HPAI H5N1 at: http://www.oie.int/download/AVIAN%20INFLUENZA/A_AI-Asia.htm

7. VEHICLE CLEANING & DISINFECTION PROTOCOL

1. Choose a location that will avoid solutions entering surface water drains or water courses, and preferably with a concrete surface.
2. First remove any equipment (modules, module lifting equipment, crates, pipes, covers etc.) for cleaning.
3. Starting from the top and working down, **remove any solid debris** from the outside and inside of the vehicle by scraping, then brushing. Pay special attention to the underside of the vehicle, wheels, wheel arches, tyres, mud-guards and exposed chassis. Dung and soiled bedding may contain high levels of infective material, and should be safely disposed of e.g. by composting.
4. Apply **detergent** using a knapsack sprayer or pressure washer, at low pressure (approx. 500 psi or 35 bars), to avoid dispersal of potentially infective material.
5. Soak all external and internal surfaces of the vehicle, starting from the top and working down. Pay special attention to the wheels, wheel arches, tyres, mud-guards and underside of the vehicle. Allow at least *10 minutes contact time* for the detergent to penetrate and loosen the dirt. Rinse at high pressure with clean water.
6. Check that all surfaces are visibly clean, before disinfecting.
7. Use an **approved disinfectant***. Ensure that disinfectant has been properly stored, is in date, and is used in accordance with manufacturer's instructions.
8. Apply the disinfectant with a pressure washer (at low pressure) or knap sack sprayer. Ensure that the *recommended contact time* for the disinfectant is allowed. If the disinfectant affects untreated metals or damaged galvanised metals, it should be rinsed off after the recommended contact time.
9. Outside of vehicle - start at the top and work down each side. Inside the vehicle - disinfect the walls and floor of the transporter, and then the loading ramp and tail gate lift. Pay special attention to the wheel arches, tyres, mudguards and underside of the vehicle.
10. Take all removable items out of the **cab** of the vehicle including the floor mats, clothing, wellington boots etc. Use a dustpan and brush to remove any debris from inside the cab and dispose of it into a refuse sack.
11. Use a soft hand brush and a bucket of detergent to clean the cab floor, floor mats and foot pedals. Rinse. Use a clean cloth soaked in a solution of disinfectant at the recommended dilution rate to disinfect the cab floor, floor mats and foot pedals.
12. Ensure that all items packed back into the cab are clean.
13. Park the vehicle on a slope away from the wash area, to drain and dry.
14. Once the vehicle is removed from the wash area, wash down the concrete surface with **detergent**. (ensure that cleaned and disinfected vehicles do not become re-contaminated when using pressure washers to clean the wash area or other vehicles).
15. Clean and disinfect waterproof overalls and boots and the cleaning equipment.

*A list of approved disinfectants can be found on the Department of Agriculture at: <http://www.agriculture.gov.ie>

8. DISINFECTION PROGRAMME FOR POULTRY FARMS

The following procedures should be followed for each house to be disinfected after depopulation to prevent the carry over of infection.

Removal of feed, equipment, litter etc.

1. Remove any residual food from the silo and feed equipment.
2. Take out any removable equipment.
3. Remove any dead bird carcasses from the litter, and dispose of with other carcasses.
4. Remove all litter from the house.
5. Load litter to ensure that all outside areas such as concrete pads at doors are cleared of old litter.
6. Ensure loads are covered before transport from the site.

Dry cleaning

1. Work from the top of the house and work down.
2. Blow down all surface dust from ceilings, water pipes, fan boxes and inlets.
3. Blow or brush loose debris from walls.
4. Scrape floor using mechanised scrapers.
5. Blow or wash down bulk feed bins.

Water sanitization

Drainable systems

1. Drain the header tank and check that it is free from debris. Clean as required.
2. Fill the tank with that volume of water required to fill the entire drinking system and add sanitizer at recommended dilution.
3. Allow sanitizer solution to fill the drinking system. Leave for one hour.
4. Drain the system and fill with fresh water.

Non-drainable systems

1. Shortly before depopulation, add sanitizer to the header tank.
2. Isolate supply from header tank and allow the water to be consumed until the tank is empty.
3. Remove any debris from the header tank.
4. Fill the tank with water, and add sanitizer at recommended dilution.

Cleaning and disinfection of the buildings and equipment

1. Include any stores in this cleaning procedure.
2. Wash all surfaces with a pressure washer with the detergent sanitizer solution.
3. Externally, spray air inlets, deposits from around fan boxes and the loading area.
4. Internally include air inlets, fan boxes, partitions, feeders and drinkers and all other equipment removed from the house, ensuring that everything is visibly clean.
5. Use a soak tank if available for removable equipment.
6. Soak all surfaces for 20-30 minutes, and then rinse all surfaces with water at high pressure.
7. Also ensure that all dirty areas such as concrete aprons around houses and bulk bin pads are washed clean.

Disinfection of the buildings and equipment

1. Ensure that disinfectants* have been properly stored, are in date, and are used in accordance with manufacturer's instructions.
2. Use a knapsack sprayer or pressure washer at a low pressure setting (300 psi) to apply.
3. Disinfect the feed silo.
4. Disinfect all removable equipment and store in a clean area under cover, or replace in cleaned house.
5. Disinfect the cleaned house, applying disinfectant solution evenly to all washed surfaces to achieve thorough wetting.
6. Pay particular attention to corners, cracks, seams and porous surfaces. Ensure that all sides of supporting posts are covered.
7. Spray into the apex of the roof and work down the walls to the floors.
8. On completion of disinfection, close all doors and place foot dips at entrances.

Fogging

1. Cold/thermal fogging or fumigation may also be carried out.

Parasite, insect and rodent control

1. Implement parasite and insect control programmes if necessary.
2. Replenish rodent bait points.

House repairs

1. Inspect all parts of the house for damage.
2. Carry out repairs to ensure that the house is wild bird-proof, and surfaces are intact and easily cleaned.
3. Bird-proof netting should have a maximum mesh size of 25mm.

Rest period

1. The longer a house can be rested after depopulation the better, as some infectious organisms can remain in the environment for months.
2. A minimum period of one week should be allowed before the house is re-stocked.

* An up-to-date list of approved disinfectants which are effective against Newcastle disease (fowl pest) and avian influenza (fowl plague) may be accessed at: <http://www.agriculture.gov.ie>

9. LIST OF APPROVED DISINFECTANTS

DEPARTMENT OF AGRICULTURE AND FOOD

Diseases of Animals (Disinfectants) Order, 1975 (Amendment) Order, 1978

LIST OF APPROVED DISINFECTANTS (13/03/2008)*

DISINFECTANT	Fowl Pest (Newcastle Disease, Fowl Plague(Avian Influenza))*
	Dilution rate ¹
Activ8 Hard Surface Cleaner	Ready to use
Agrisept MC Tabs	271
Antec Hyperox	375
Antec Virkon S	280
Bio Dine	145
Bio Guard	80
Bio Kill	365
Bi-OO-Cyst	125
Bio Phen	190
Bio Phen Plus	210
Bio Shield	155
Bio VX	285
Chlorasol	200
Citrox	0.66
Clinidine	140
Clinidine 28	170
Deosan Iodel FD	130
Dermicidal Extra	125
Envirocare A	99
Enviroguard	150
Equissept	450
FAM (New Formulation)	150
FAM 30	125
GPC 8 (New Formulation)	190
HPPA	400
Iodosure Bio	110
Iosan Farm Disinfectant	80
Jentabs	449
Jeyes Fluid	30

Kick Start 2	145
Microcleanse concentrate	5
Novagen FP	80
Omnicide 325	125
Opticide 200	125
Osmodex	150
Purogene	20
Septrivet	449
Septrivet 17	700
Sorgene 5	100
Spectocide 2000	150
Supercide	200
Superdine	125
Superkill	100
SWC Maxikleen	100
Tegodor FARM	51
V26	200
Vandox	300
Vesphene D39	50
Verucidal Extra	300
Victor	280
Virex	300
Virochlor	271
Viroguard	175
Virophen	210
Virophen Plus	240
Virophor 2.8%	185
Viroshield	165
Zal Perax II	145

¹Dilution rate is expressed as one part (1 gram or 1 ml) of the preparation to the number of mls of water shown. Note that Equicept is prepared as a 10g tablet to dilute in 4.5 litres of water.

* **This list is provisional.** Disinfectants approved by DAF must fulfil the following criteria:

- (1) Notification to the Pesticides Control Service of DAF, the Competent Authority for the purposes of the Biocidal Products Directive (98/8/EC, S.I. No. 624 of 2001 and S.I. 625 of 2001). Under this legislation, biocidal products (includes disinfectants) on the Irish market on or before 1st February 2002 must be notified to the PCS. Biocidal products not on the Irish market on or before 1st February 2002 must be notified to PCS and get prior approval before being placed on the market and used. Each notification must include documentation and information to identify the nature and composition of each biocidal product as well as the manufacturer of each such product and each component thereof. Forms for notification of biocides are available at www.pcs.agriculture.gov.ie
- (2) The disinfectant must have demonstrated efficacy in laboratory testing against the agent for which it is approved for use. Testing is conducted either at the Institute of Animal Health, Pirbright, or the Veterinary Laboratory Agency, Weybridge depending on the pathogenic agent. Details are available at www.defra.gov.uk
- (3) For each of the products listed, DAF must be provided with the following:
 - Material Safety data sheet
 - PCS number
 - Certificate of testing against one or more of the diseases (including dilution rates)
 - Copy of DEFRA list showing relevant product (if the product distributed in Ireland has a different trade name, there should be a letter from the company stating that the products are identical)
 - Sample labels in conformity with Irish requirements

**NOTE: READ CAREFULLY THE MANUFACTURER'S INSTRUCTIONS BEFORE USAGE
PARTICULARLY IN RELATION TO SPECIFIED PRECAUTIONS**

List of approved disinfectants regularly updated at: <http://www.agriculture.gov.ie>

10. CONTACT DETAILS

DEPARTMENT OF AGRICULTURE, FISHERIES & FOOD LOCAL DISTRICT VETERINARY OFFICES

COUNTY	ADDRESS	TELEPHONE
Carlow	Athy Road, Carlow	059 9170022
Cavan	Farnham St., Cavan	049 4368200
Clare	Government Offices, Kilrush Road, Ennis, Co. Clare	065 6866042
Cork North	Hibernian House, 80A South Mall, Cork	021 4851400
Cork Central	Hibernian House, 80A South Mall, Cork	021 4851400
Cork West	Darrara, Clonakilty Co. Cork	023 36200
Donegal	Meeting House St, Raphoe, Co. Donegal	074 9145298
Dublin/ Wicklow East	St John's House, High St, Tallaght, Co. Dublin	01 4149900
Galway	Dockgate Building, Merchants Rd., Galway	091 507600
Kerry	Spa Road, Tralee, Co. Kerry	066 7145052
Kildare/ Wicklow West	Poplar House, Poplar Square, Naas, Co. Kildare	045 873035
Kilkenny	Hebron Road, Kilkenny	056 7772400
Laois	Abbeyleix Road, PortLaoise, Co. Laois	057 8674400
Leitrim	Cranmore Road, Sligo	071 9682000
Limerick	Houston Hall, Ballycummin Avenue, Raheen Industrial Estate, Raheen, Co. Limerick	061 500900
Longford	Ballinalee Road, Longford	043 50020
Louth	North Quay, Drogheda, Co. Louth	041 9838933
Mayo	Michael Davitt House, Castlebar, Co Mayo	094 9035300
Meath	Athlumney, Kilcairn, Navan, Co Meath	046 9082900
Monaghan	Main Street, Ballybay, Co. Monaghan	042 9748800
Offaly	Clonminch, Tullamore, Co. Offaly	057 9346037
Roscommon	Convent Road, Roscommon	090 6630100
Sligo	Cranmore Road, Sligo	071 9142023
Tipperary North	St Conlon's Road, Nenagh, Co. Tipperary	067 50014
Tipperary South	Government Offices, Davis Street, Tipperary	062 80100
Waterford	Govt. Offices, The Glen, Co. Waterford	051 301700
Westmeath	Bellview, Dublin Road, Mullingar, Co. Westmeath	044 9339300
Wexford	Vinegar Hill Lane, Enniscorthy, Co Wexford	053 9242008



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