Australian Government
Department of Agriculture, Fisheries and Forestry

# National **Farm Biosecurity** Manual

# POULTRY PRODUCTION



DEPARTMENT OF AGRICULTURE, FISHERIES AND FORESTRY

**A cooperative initiative between the Commonwealth Department of Agriculture, Fisheries and Forestry, Animal Health Australia and the Poultry Industry**

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# ACKNOWLEDGEMENTS

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**Commonwealth Department of Agriculture, Fisheries and Forestry**

**Animal Health Australia**

**Australian Chicken Meat Federation Inc.**

**Australian Chicken Growers' Council**

**Australian Egg Corporation Limited**

**Australasian Turkey Federation**

**Free Range Egg and Poultry Australia**

**Australian Duck Meat Association**

**Emu Industry Federation of Australia**

**Australian Ostrich Association**

**Game Bird Industry**

**New South Wales Department of Primary Industries**

**Queensland Department of Primary Industries and Fisheries**

## PURPOSE

The purpose of the manual is to establish a minimum set of biosecurity standards, applicable to all poultry producers (including ratites). While the manual was produced with commercial producers in mind, the principles of good biosecurity apply to any poultry or bird-raising operation.

Individual producers and companies may wish to develop enhanced biosecurity manuals, which should nevertheless incorporate these minimum standards in addition to any specific company or industry sector requirements.

## DEFINITION OF POULTRY

In the context of this manual, the following definition of poultry is adopted to define the meaning of poultry:

> ***'Poultry' means chickens, turkeys, guinea fowl, ducks, geese, quails, pigeons, pheasants, partridges, ostriches and emus reared or kept in captivity.***

## SCOPE

The manual applies to poultry enterprises from the time of delivery of birds, until pick-up, slaughter or disposal of live birds. While the manual stipulates the minimum requirements for any poultry farm, it should be noted that biosecurity measures in place on breeder farms would generally be much more stringent, reflecting the economic importance and the extended life cycle of breeder flocks. The pick-up of birds and transport to the processing plant is covered in Appendix 10.

## STATUS

At the second Government–Industry Avian Influenza Forum held in Canberra on 11 June 2008, a draft Generic Farm Biosecurity Manual was presented to industry and jurisdictional representatives. It was agreed that the manual filled an important gap and should be adopted by all industry sectors as the base document upon which sector specific manuals should be developed. The sector specific manuals must, as a minimum, satisfy the requirements stipulated in this generic manual but may provide more specific guidance or additional requirements that reflect the characteristics of the industry sector.

# IMPLEMENTATION

Implementation is the responsibility of each poultry industry sector and several industry associations have already commenced adapting the generic manual to their specific operational circumstances and requirements. The adoption of the new Primary Production and Processing Standard (PPPS) for Poultry Meat, currently being finalised by Food Standards Australia New Zealand and to be implemented over the coming years by all states and territories, presents a good opportunity to promote adoption of the biosecurity standards set out in this manual. While the biosecurity requirements in this manual are in some areas broader than strictly required from a food safety point of view, it is the group's expectation that adoption of the measures stipulated in this manual will meet the PPPS requirements for the production phase.

Ratites are not covered by the poultry PPPS. Biosecurity requirements in that sector are largely mandated by the requirements of its export markets.

The egg industry has a Code of Practice for Biosecurity (Grimes and Jackson, Rural Industries Research and Development Corporation, 2001), which is currently the industry standard with respect to biosecurity. This standard was used to develop the third party auditable EggCorp Assured™ program (ECA), which also includes food safety, environmental and welfare operating practices. In order to implement the objectives of this National Farm Biosecurity Manual, the egg industry will incorporate the objectives and ensure that requirements of this manual are incorporated into the ongoing development of these aforementioned documents.

In general, implementation of this manual relies on each poultry industry sector achieving the objectives as indicated. The development of sector specific practices is fundamental to the success of improved biosecurity for the entire poultry industry. It is acknowledged that each production system will have a different spectrum of biosecurity challenges and operating environments, which must be addressed with relevant approaches based upon the objectives identified within this manual.



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# POULTRY PRODUCTION BIOSECURITY

## Objectives

- **to prevent the introduction of infectious disease agents to poultry**
- **to prevent the spread of disease agents from an infected area to an uninfected area**
- **to minimise the incidence and spread of microorganisms of public health significance**

Biosecurity and quarantine are integral parts of any successful poultry production system. Biosecurity refers to those measures taken to prevent or control the introduction and spread of infectious agents to a flock. Such infectious agents, whether they cause clinical or subclinical disease, significantly reduce the productivity, profitability and long term financial viability of a poultry operation.

Biosecurity is about managing risk to meet the objectives stated above. It is essential that a risk assessment be conducted for each enterprise to establish what level of risk exists in each phase of its operations and to identify and implement control measures appropriate to these levels of risk.

This manual identifies areas of risk common to most poultry enterprises and appropriate measures to minimise these risks. When undertaking the risk assessment underpinning the farm-specific biosecurity measures, it is important to take into account all factors that may impact on the biosecurity of the production area. These factors should include the species of bird being produced, location and layout of property and production area, source of water supply, disease status of the district, proximity to other production areas with avian species, presence and type of wildlife, and interface with the organisations and/or individual clients that are being supplied. These interactions include bird pick-ups, servicemen, industry personnel, contractors and deliveries of day-old chicks and feed.

An additional element in the prevention of introduction and spread of disease is the use of vaccination. The manual does not cover this aspect but the importance of an appropriate vaccination strategy is acknowledged, and vaccination as a possible risk management measure should form part of the overall biosecurity assessment and strategy.

The purpose of the manual is to establish a minimum set of biosecurity guidelines, applicable to all poultry producers (including ratites) from hatcheries to the point of delivery at the processor. Commercial enterprises which raise poultry for egg production or for human consumption, or for the purposes of breeding these poultry, fall within the scope of this manual.

Individual producers and companies may wish to develop enhanced biosecurity manuals, which should nevertheless incorporate these minimum standards in addition to any specific company or industry sector requirements.

A biosecurity self audit/auditable checklist for continuous improvement is attached as Appendix 9. This document may also form the basis for either second or third party audits where this is required.

***Biosecurity is like any other insurance policy and as such it is a prudent investment.***



# MAJOR ROUTES FOR DISEASE AND PATHOGEN TRANSMISSION

## Poultry

- transfer of birds from production area to production area
- dead bird disposal

## Other animals

- wild birds
- feral and domestic animals, including other livestock and pets
- insects
- rodents—rats/mice
- domestic birds

## People

- farm personnel and family members living on site
- contractors, maintenance personnel, neighbours, serviceperson, visitors
- disease can be transmitted by, for example, hands, boots, clothing, dirty hair

## Equipment

## Vehicles

## Air

- transmission as an aerosol or dust

## Water supply

- water supplies may become contaminated with faeces from contact with avian or other animal species

## Feed

- feed may be contaminated by the raw materials used, post-production and during transport, or by exposure to rodents and birds on the property. Bacteria and mould in poor quality or damaged feed may also be a concern.

# DEFINITION OF THE CONCEPT OF PRODUCTION AREA AND PROPERTY

In this document, **the production area** includes the poultry sheds, the ranges used for free range production, the areas used for feed storage and handling, and the area immediately surrounding the sheds, including pick-up areas.

**The property** is the land on which the production area is located and typically includes the facility manager's home and may include other farm land used for livestock or cultivation. The boundary of the production area and the boundary of the property may be the same.

Any reference to **sheds** is a reference to roofed buildings capable of and used for holding poultry securely within the perimeter. Any reference to **range** is a reference to fenced pastures that are, or at times are, accessed by the poultry being farmed.

# LEVELS OF BIOSECURITY

## Level 1—routine biosecurity procedures

These procedures should be implemented and followed on a daily basis. They give a high degree of assurance that diseases and pathogens will not be carried into poultry production areas and will reduce the risk of transmission between production areas. These should be seen as a minimum requirement.

### Action plan for suspected emergency animal disease

Each owner must establish and document clear guidelines regarding the circumstances when an emergency animal disease alert should be raised (e.g. an unusual increase in mortality or drop in production), and who must be informed. The action plan must also clearly state that, if an alert is raised, movements on and off the production area and the property must be limited to the absolute minimum and special precautions must be taken as outlined in the section Level 2—high risk biosecurity procedures.

## Level 2—high risk biosecurity procedures

In the event of an outbreak of an emergency disease or serious endemic disease, high risk biosecurity procedures will be implemented.

In the case of an emergency animal disease and where applicable, standard operating procedures (SOPs) will be implemented in line with the relevant AUSVETPLAN disease strategy (see www.animalhealthaustralia.com.au).



## SPECIES DIFFERENCES

This biosecurity manual reflects the minimum standard to apply to all poultry operations. Some elements may not be relevant to certain species, in particular those referring to a batch type operation as it is practiced in the broiler industry.

While ratites (emus and ostriches) are classified as poultry, their size and production practices are substantially different from those of other species. For this reason, **several of the requirements do not generally apply to the production of ratites but do apply to the sheds used for incubation/ hatching and the enclosed brooder sheds holding young ratite chicks**. The paragraphs which have such limited applicability are 2.2, 2.7, 2.8, 2.10, 2.12, 2.13, 2.14 and 4.3.5 (a comment in italics is inserted into each of these sections noting these special circumstances).

## FREE RANGE PRODUCTION OPERATIONS

This manual applies equally to conventionally housed birds and free-range operations. It is recognised that free-range birds will have some exposure to wild birds. However, in these environments measures should be taken to minimise the congregation of waterfowl and the impacts of wild birds generally, and these measures should be documented.

While footbaths are not appropriate for a free range paddock, a system should be implemented to monitor and prevent any potential hazardous organic material or litter entering free range paddocks and these measures should be documented. Paragraph 4.3.4 covers some specific range management issues to be followed by free range operations.

Good fencing is required around free range farms to prevent the entry of animals such as dogs, foxes and cats. In many situations, however, fencing alone is insufficient to stop such intrusions; therefore, some free range enterprises keep specially trained dogs with the chickens, as protection against other animals and against unauthorised human entry. Guard dogs such as these are not regarded as a biosecurity risk but rather as a biosecurity tool.

# LEVEL 1 ROUTINE BIOSECURITY PROCEDURES

## 1 Documentation and training

**Objective: to ensure awareness by and training of all production area employees in all relevant biosecurity requirements**

1.1 Each production facility must keep a copy of the National Farm Biosecurity Manual (the manual), or a more detailed document that encompasses the National Farm Biosecurity Manual, that is readily accessible to staff.

1.2 Staff must be provided with training in the relevant parts of the manual and such training is to be recorded.

## 2 Facility standards

**Objective: to limit and control access to poultry production areas by people and prevent as much as possible access by livestock, wild birds and other animals (including rodents)**

2.1 The production area must have a perimeter fence or otherwise well defined boundary (e.g. creek, vegetation) establishing a clearly defined biosecurity zone.

2.2 If livestock graze the property then the production area must have a stock proof fence. Grazing near sheds (i.e. on part of the production area as defined in this manual) is only permitted where the grazing area is separated by a stock proof barrier from the area used by poultry, effectively preventing transmission of contaminants from grazing livestock to poultry, and the grazing area is not used for access to other parts of the production area. Drainage from livestock pastures or holding areas must not enter poultry enclosures or areas that can be accessed by poultry (e.g. through fences). *(Note restricted applicability to ratites, see page 4)*

2.3 A sketch or map of the layout of the property, showing the production area, sheds, ranges, access roads and gates must be created and kept up-to-date.

2.4 The main entrance to the production area must be capable of being closed to vehicle traffic (e.g. lockable gate which, where feasible, should be kept locked at all times) and must display appropriate signage including *Biosecure Area No Entry Unless Authorised* or similar wording. In addition, signage must direct visitors to contact the producer before proceeding i.e. telephone number and/or enquire at house.

2.5 There must be a parking area for vehicles not entering the production area. There must be a change area away from sheds with clean protective clothing and boots provided.



2.6 Entry to sheds must only be made through entrances with a footbath containing a suitable disinfectant used in accordance with company or manufacturer's instructions and changed on a regular basis. There must be provision for scraping the soles of boots before dipping to ensure the sanitiser makes contact with the soles of the boots. An alternative system using separate production area and shed footwear may be used. Facilities for hand sanitation must also be placed at the entry to each shed.

2.7 Dead bird disposal method must conform with applicable environmental compliance requirements (collection as per Appendix 7, incineration with after burner, composting as per Appendix 8). *(Note restricted applicability to ratites, see page 4)*

2.8 All poultry housing must be designed and maintained so as to prevent the entry of wild birds and limit the access of vermin as far as is practical. *(Note restricted applicability to ratites, see page 4)*

2.9 Landscape—trees and shrubs should be selected to minimise wild bird attraction, particularly in free-range operations. The area around sheds must be kept free from debris and vegetation should be mown regularly. Vegetation buffers for environmental compliance should not be compromised. Trees may be used as shelter belts, along fence lines and on free range premises (including ratites) to provide shade and protect birds from harsh weather conditions.

2.10 Drainage—the production area should be adequately drained to prevent accumulation and stagnation of water likely to attract water fowl, especially in the areas around sheds and range areas. *(Note restricted applicability to ratites, see page 4)*

2.11 An appropriate vermin control plan must be developed and implemented, including rodents, foxes, and wild dogs and cats.

2.12 A baiting program for rodents must be implemented where a risk assessment deems this necessary (e.g. live rodents, droppings, nests). Such a baiting program must include the following features:

2.12.1 bait stations must be numbered and a map kept of their location.

2.12.2 bait stations must be placed at regular intervals around the sheds. The number of bait stations should be increased in areas where there are signs of increased rodent activity.

2.12.3 bait stations must be designed to minimise the opportunity for other mammals and birds to access the bait. *(Note restricted applicability to ratites, see page 4)*

2.13 Drinking water for poultry, as well as cooling water used in poultry sheds, must meet appropriate water standards. The poultry drinking water standard can be found in Appendix 4. Water that does not meet the standard must be treated (e.g. chlorination, ultraviolet, iodine) to ensure that the standard is met. See also section 4.1.

All surface water (dam, river etc.) must be treated before being used as drinking water for poultry. See also section 4.1.

Treated water supply must be kept in a closed system from the point of treatment to the drinker. *(Note restricted applicability to ratites, see page 4)*

2.14 Sheep and other domestic stock must not have access to the production area at any time except under the specific condition stipulated in 2.2 above. Dogs and cats must not enter sheds unless dogs are part of the flock security strategy. *(Note restricted applicability to ratites, see page 4)*

2.15 Only commercially produced avian species are to be kept in the production area and no other avian species (including aviary birds and pet birds) or pigs are to be kept on the property.

2.16 If more than one commercially produced avian species is kept in the production area, the species should be housed and managed separately, with suitable biosecurity arrangements for each species. Shared equipment should be cleaned and disinfected between use. Despite this general requirement, emus and ostriches may be farmed together.

2.17 Feeding systems must wherever possible be closed to ensure that feed in silos and feed delivery systems are protected from access and contamination by wild birds and rodents. Feed spills should be cleaned up without delay to prevent the congregation of wild birds.

2.18 Where bird weighing is practised, it must be carried out using the production area's own weighing frames and scales. Company service personnel can use their own scales provided they are cleaned and disinfected when moved between production areas.

# 3 Personnel standards and procedures

**Objective: to minimise the risk of introducing or spreading a disease or contaminant through people movement, including**

- **staff (including production personnel and company service personnel)**
- **contractors, suppliers and other service personnel**
- **visitors and family members**

**and to document such movements to facilitate tracing in case of a concern**

## 3.1 Production personnel

**Objective: to minimise the risk of introduction of disease or contaminants by production personnel**

3.1.1 Production area personnel or any person residing on the property must not have contact with any other poultry, cage birds, racing pigeons or pigs unless they have a complete head-to-toe shower and change into new protective footwear and clothing prior to entering the production area (see Appendix 1 Personnel Quarantine Declaration).

3.1.2 Production area personnel must wear laundered clean clothes each day at the commencement of their work. Personnel must ensure that they do not become contaminated by contact with avian species or pigs on their way to work. It is critical that boots worn in sheds are not worn or taken outside the production area. They are the most likely method for disease spread by personnel.



## 3.2 Company service personnel

**Objective: to minimise the risk of introduction of disease or contaminants by company service personnel**

3.2.1 Company service personnel by necessity make multiple production area visits on a single day. Protective clothing and footwear, as approved by the production facility manager, should be worn in the production area. Hands must be sanitised before entering sheds.

3.2.2 Visits should always be made from 'clean' areas i.e. home, younger or healthy production area. In an emergency, visits may be made from production areas with lower standards of biosecurity after a shower and complete change of clothing.

## 3.3 Repair and maintenance

**Objective: to minimise the risk of introduction of disease or contaminants by contractors carrying out maintenance and repair work**

3.3.1 Repair and maintenance contractors who have had contact with poultry or other birds that day or keep birds at their home must not enter sheds and/or ranges populated or ready to be populated with birds unless (a) it is an emergency and (b) they have showered from head-to-toe and changed clothes and boots and wear a hair covering.

3.3.2 Routine maintenance should be conducted, where possible, between batches prior to final disinfection where a batch system is practiced.

3.3.3 Tools taken into the production area must be cleaned before entry into sheds and must be free of dust and organic matter.

## 3.4 Contractors, suppliers, other service personnel and visitors

**Objective: to minimise the risk of introduction of disease or contaminants by contractors, suppliers, service personnel and visitors**

3.4.1 Conditions of entry to poultry sheds and poultry ranges—all personnel (other than those farm personnel covered by the Personnel Quarantine Declaration (Appendix 1)) must agree to comply with the entry conditions as stipulated in Appendix 2A (which must be displayed prominently near the visitors' log) by signing the visitors' log and such visits must be approved by the manager before visitors may enter sheds and ranges. This requirement also applies to vaccination crews.

3.4.2 Visitors' log—a record must be kept of all visitors (non-production area staff) to the poultry sheds and poultry ranges including company personnel (see Appendix 2B regarding details to be recorded and a possible format).

3.4.3 Any authorised visitor, including neighbours, friends, other producers or equipment suppliers, likely to have been exposed that day to poultry, other birds or pigs must not enter the sheds unless they have had a head-to-toe shower and changed clothes and boots or must limit their visit to the property's residence while wearing clean clothes.

3.4.4 All visitors should park their vehicles outside the production area unless it is essential that the vehicle be taken on site e.g. some maintenance contractors. Visitors entering sheds or ranges must complete and sign the visitors' log (see Appendix 2B).

## 3.5 Requirements for specified movements

**Objective: to minimise the risk of introduction of disease or contaminants by specified movements**

3.5.1 Pick up of poultry—pick-up crews should work from youngest to oldest or all young birds or all old birds on a shift basis in accordance with the processing company's pick-up biosecurity procedures. Pick-up crews must not keep birds at their home.

3.5.2 Day-old chick delivery—trucks and dollies must be cleaned and disinfected each day and between properties not owned/operated by the same entity. Drivers must sanitise their hands and boots before and after each delivery to a production area.

3.5.3 Litter delivery and collection of used litter—trucks carrying new or old litter must be cleaned and disinfected between production areas.

3.5.4 Other deliveries (e.g. gas and feed drivers)—drivers must not enter sheds and thus are not required to sign the visitors' log.

3.5.5 There must be a system for tracing movements of delivery personnel (e.g. through delivery dockets and feed company records).

## 3.6 Entry procedures for bird sheds and ranges

**Objective: to prevent the introduction of disease agents and contaminants into bird sheds and ranges through people movements**

Any person entering sheds must sanitise hands and use footbaths (unless separate shed boots are being used) before entering each shed.

3.6.1 Soles of boots must be scraped before disinfecting in the footbaths.

3.6.2 A hand sanitiser must be available at all shed entrances and must be used before entering.

3.6.3 Facilities should be available for the cleaning and disinfection of equipment before entry.



# 4 Operational standards

## 4.1 Water supply (see also 2.13)

**Objective: to ensure that water used in poultry sheds for drinking, cooling and cleaning, is of a standard suitable for livestock**

The use of a suitably treated water supply is critical to achieving good biosecurity. In general, water with a high level of organic matter is unsuitable for chlorination alone, while ultraviolet treatment is of little use for turbid water. It may be necessary to seek expert advice to ensure a safe water supply. Effective treatment of surface water to reduce contamination is essential but complex. The water treatment process should be monitored regularly.

4.1.1 For a chlorinated water supply the treatment must achieve a level of 1.0–2.0 parts per million (ppm) free available chlorine (FAC) at the point of use.

4.1.2 When chlorinating water, there must be a minimum of 2 hours contact time between chlorine and water prior to use.

4.1.3 Testing must be conducted and recorded daily (see Appendix 5) and a maintenance program needs to be in place.

4.1.4 The effectiveness of water treatment systems, including alternative systems (e.g. ultraviolet), must be validated before use and treatment systems require a program of maintenance and monitoring to ensure effectiveness. Production area records able to demonstrate the effectiveness of water treatment must be kept. Microbiological validation of the efficacy of the treatment system must be carried out at least annually.

4.1.5 Drinking water quality must be maintained at a standard suitable for use in livestock (Appendix 4).

4.1.6 Guidelines regarding the treatment of surface water are available in Appendix 3.

## 4.2 Vermin baiting (see also 2.11 & 2.12)

**Objective: to minimise the potential for introduction of infectious agents and pathogens by vermin, in particular rodents, through their presence in the production area**

4.2.1 Bait stations must be checked weekly and fresh baits laid as required.

4.2.2 A record should be kept of each inspection and vermin activity noted (see Appendix 6).

## 4.3 Cleaning and ground maintenance

**Objective: to hinder the introduction of disease agents and contaminants into poultry sheds and enclosures and reduce the attraction of rodents and birds to production areas**

4.3.1 Feed spills must be cleaned up as soon as practicable. Feed attracts birds and rodents to the production area.

4.3.2 Grass on and around the production area must be kept cut—long grass attracts rodents and favours the survival of viruses and bacteria.

4.3.3 Footbaths must be inspected daily (e.g. for excessive organic matter) and the contents replaced as required to achieve an adequate concentration of suitable disinfectant according to company or manufacturer's recommendations.

4.3.4 On free-range production sites:

- manure deposits outside the hatch openings must be removed after each batch
- ramps to free range area must be scraped and cleaned after each batch.

4.3.5 The production area must be adequately drained to prevent accumulation and stagnation of water, especially in the areas around sheds and range areas. *(Note restricted applicability to ratites, see page 4)*

## 4.4 Record keeping

**Objective: to assist early detection of animal health issues and the response to any biosecurity breach**

4.4.1 Bird mortality must be recorded on a regular basis to assist monitoring for any unusual animal health problems potentially indicating a biosecurity breach.

4.4.2 A record of bird movements must be maintained to facilitate tracing in case of an animal health or food safety concern.

## 4.5 End of batch procedures

**Objective: to minimize the risk of introducing or spreading disease or contaminants by delivery and pick-up operations**

This section applies specifically to those production areas that run a batch operation, such as meat chicken production areas.



4.5.1 After final pick-up the shed doors must be kept closed except during litter removal. After washing and disinfecting, shed doors must be kept closed. If drying is a problem ventilate using fans or bird wire screens in shed doorways. Wild birds must be kept out after disinfection.

4.5.2 Litter and manure must not be stockpiled in the production area (see definitions page 3). Litter and manure must be stored in an appropriately designed storage area, off the production area, with sufficient buffering zone from the bird sheds and enclosures.

# 5 Species specific additional biosecurity requirements

**Objective: to build on the generic poultry biosecurity requirement and reflect the species specific measures that must be adopted by the different poultry sectors**

Any additional requirements that must be followed by all those producing a particular species of poultry should be added here.

# LEVEL 2 HIGH RISK BIOSECURITY PROCEDURES

**Objective: to increase biosecurity protection by minimising movements on and off the property, and to protect the property from the increased threat of a disease being introduced in a suspected outbreak of an emergency disease or a serious endemic disease**

## 1 Action plan for suspected emergency animal disease

1.1 Each owner must establish and document clear guidelines regarding the circumstances when an emergency animal disease alert should be raised (e.g. an unusual increase in mortality or drop in production), and who must be informed. The action plan must also clearly state that, if an alert is raised, movement of birds must cease immediately, other movements on and off the production area and the property must be limited to the absolute minimum, and special precautions must be taken as outlined in this section Level 2—high risk biosecurity procedures.

## 2 Facilities

2.1 Gates must be kept locked.

2.2 Shed doors must be locked at night.

2.3 Facilities for the cleaning and disinfection of equipment coming on and off the production area must be in place.

## 3 Personnel

3.1 No visitors are to enter the production area unless absolutely essential. Company personnel will discontinue routine visits except on suspicion of problems.

3.2 Repairs and maintenance—no routine work, only emergency work to be carried out.

## 4 Operational

4.1 Essential visits—head-to-toe shower before and after visit. A complete change of clothes, footwear, hair covering and breathing protection is required. Used clothing and all used personal protection equipment must remain on the property.

4.2 Any vehicle which must enter the property must be washed and disinfected at the wash pad before and after going onto the property (e.g. feed trucks, gas). Vehicle driver cabins must also be sanitised inside.



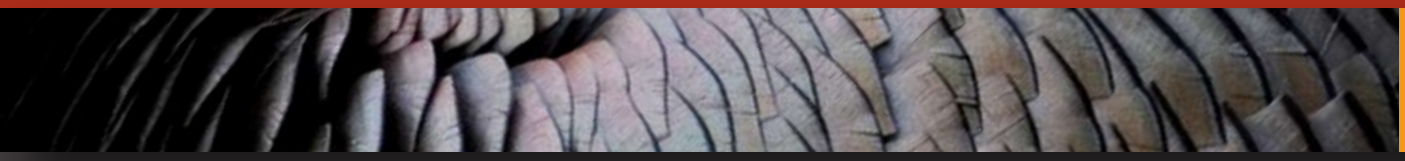

4.3 No birds or litter to be moved on or off properties until disease status is clarified.

4.4 If a major outbreak should occur, further measures will be stipulated by the processor and/or the state's Chief Veterinary Officer.

## 5 Standard operating procedures (SOPs)

Standard operating procedures will be available for any specific outbreak of an emergency animal disease from Animal Health Australia in accordance with AUSVETPLAN (see www.animalhealthaustralia.com.au).

# APPENDIXES



# APPENDIX 1
## PERSONNEL QUARANTINE DECLARATION

(Production Area Employee)

I, .....hereby agree to abide by **MY EMPLOYER'S BIOSECURITY** rules and standards.

I **understand** that the following quarantine rules/standards apply at all times:

1. No avian species are to be kept at my place of residence i.e. no poultry or birds of any type (e.g. ostriches, aviary birds or racing pigeons). If any exemptions to this are approved by the employer, I must shower and change clothes before entering the production area.
2. No pigs are to be kept at my place of residence.
3. No untreated poultry manure from other properties is to be used at my place of residence.
4. No member of my household is to work in any area where contact can be made with poultry or pigs. For example, on other properties or at hatcheries, processing plants, by-product plants, laboratories or with pick-up crews, unless I shower and change clothes before commencing work.
5. I will not visit poultry abattoirs, pig production areas or poultry shows unless approved by my employer and appropriate quarantine measures are taken.

Signature ..... Date .....

Residential Address.....

.....

# APPENDIX 2A ENTRY CONDITIONS FOR VISITORS TO POULTRY SHED AND/OR RANGE AREAS

**Entry to poultry sheds and/or range areas is subject to the following conditions:**

- ☑ Visitors must **not keep poultry, caged birds or pigs** at home.
- ☑ Visitors must **not have been in contact with any avian species or untreated poultry manure** on the same day, unless a full head-to-toe shower and a change of protective clothing have been carried out.
- ☑ Visitors must **wear protective clothing** provided.
- ☑ Visitors must **wear protective boots**.
- ☑ Visitors must **sanitise boots in the footbath** provided on entering production area/shed, or change into a separate pair of shed boots.
- ☑ Visitors must **sanitise hands** before entering sheds.



# APPENDIX 2B VISITORS' LOG

By signing this visitors' log, you agree to comply with the conditions as detailed in the accompanying list of conditions of entry.
All visitors entering poultry sheds or ranges must sign this log.

| Date | Name | Company | Poultry contact in last 36 hours | Reason for visit | Time in | Signature | Time out | Signature |
|---|---|---|---|---|---|---|---|---|
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# APPENDIX 3 SURFACE WATER TREATMENT

**Objective: to eliminate or reduce contamination of water supplied to poultry, especially contamination by faeces from wild water birds**

## Water treatment checklist

***Reminder—untreated drinking water should not be supplied to farmed birds. The objective of water treatment is to minimise bacteria, viruses, algae and other organisms that birds consume in their drinking water, and that they are exposed to through shed cooling systems.***

***Surface water provided to birds for drinking and surface water used for cooling must be treated. Wash-down water should also be treated prior to use.***

***All surface water that comes from sources other than the mains (e.g. from dams, rivers) should be treated on the farm before being used for poultry. Bore water should be tested and if not satisfying the water quality guidelines set out in Appendix 4 must be treated.***

## Chlorination

Chlorination is an excellent way to effectively treat your farm water. However, chlorination will only be effective if the water is already relatively free of organic matter and solids. Filtration of the water supply prior to chlorination will nearly always be necessary.

There are a number of different chlorination systems available to poultry farmers. These can be obtained from a range of specialist water treatment companies, pumping companies or swimming pool suppliers. Assistance with the installation, operation and maintenance of these systems is usually offered by the supplier, as are kits for monitoring chlorination levels.

To effectively treat a poultry water supply, the water must contain chlorine at a concentration of 5 ppm (or equivalent) while held for a minimum of 1 to 2 hours in a holding tank. This may require the use of a two-tank system, where water is being consumed by birds from one tank, while the other tank is refilled and stored with freshly chlorinated water until the required contact time of 1 to 2 hours has elapsed. Chlorine is more effective if the pH of the water is between 6 and 7 i.e. slightly acidic.

The chlorine concentration at the drinker must be at between 1 and 2 ppm (or equivalent) to ensure any contamination that might have occurred in the lines between the holding tank and the drinker has been effectively treated.

Water chlorination levels from drinkers in the shed should be monitored at least twice weekly to ensure the system is effectively treating the incoming water supply.

## As a guide:

1. Fill the test tube with water from drinkers in the shed.
2. Insert test strip (provided in the test kit) into the test tube.
3. Compare the colour of the chlorine square on the test strip with the chlorine colour squares on the standard colour chart (provided).
4. Record the concentration level of the colour on the standard colour chart with that which most closely matches the test strip colour.
5. If the chlorine concentration is less that 2 ppm[1] or greater than 5 ppm the concentration should be rechecked in one hour. If the concentration remains outside these limits, the unit should be adjusted and the concentrations checked again in 1 hour.

Alternative chlorination monitoring systems are available from companies that supply chlorination equipment.

## UV treatment

Ultraviolet (UV) treatment is an alternative method of treating farm water. However, UV will only be effective on **clean, filtered** water (not turbid water). It should only be considered on farms where the lines from the storage tank to the drinkers and the drinkers themselves are clean, in good repair and are well maintained, to minimise contamination after UV treatment. UV treatment units and water filtering systems are available from specialist water treatment or pumping companies.

Source: AI Preparedness Document for Australian Meat Chicken Growers, Australian Chicken Meat Federation Inc., April 2006.

## More information on treatment of water

A detailed document on water biosecurity for poultry farms can be found at the following websites:

**www.daff.gov.au/birds**
and
**www.farmbiosecurity.com.au/toolkit.cfm**

1 ppm—parts per million





# APPENDIX 4 WATER QUALITY GUIDELINES

## Poultry drinking water standards

### Microbiological analysis—maximum permissible levels

| Bacterial Standards (Organisms / 100ml) | |
|---|---|
| **Bacteria** | **Poultry (max)** |
| Total colony count | ≤1,000 |
| E. Coli (Faecal coliforms) | NIL |
| Coliforms | ≤100 |

# APPENDIX 5 WATER SANITATION RECORD

| Water sanitation record | | | | |
|---|---|---|---|---|
| **Date** | **Time** | **Test result** (e.g. ppm of free available chlorine) | **Corrective action** | **Name or initals** |
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Test method: .....

.....



# APPENDIX 6 RODENT CONTROL RECORD

| Rodent control record | | | | | |
|---|---|---|---|---|---|
| Date | Time | Bait station No. | Activity level | Corrective action | Name or initials |
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**Note:** For activity level record 'N' for no signs of rodent activity and 'Y' where signs of rodent activity where observed (e.g. droppings / bait eaten).

# APPENDIX 7 DEAD BIRD COLLECTION
(not applicable to ratites)

**Objective: to eliminate as much as possible infection or contamination spreading between sheds and between batches**

1. Dead birds must be collected regularly from the property. Frequency of collection will be determined by factors such as type of poultry, size and climatic conditions. Dead birds should be stored in a freezer if the frequency of collection is likely to cause environmental impacts or increased biosecurity risk.
2. If used, the freezer must have sufficient capacity to adequately handle carcasses between collections and must be cleaned and sanitised between batches.
3. Collection area must be as far as practical away from the production area so that the collection vehicle does not enter the site. For example a shed could be provided on a concrete base with doors on both sides, one for birds in, the other for birds out. Dead birds must not be left in the public view.
4. All containers used for collecting dead birds must be washed and disinfected before returning them to the production area.





# APPENDIX 8 DEAD BIRD COMPOSTING

**Objective: to eliminate as much as possible infection or contamination spreading between sheds and between batches due to dead bird disposal**

Composting is the aerobic microbial breakdown of organic matter, usually incorporating a thermophilic phase[2]. The adoption of composting systems for poultry waste has received attention due to its ability to reduce litter volume, dispose of carcasses, stabilise nutrients and trace elements and reduce pathogens.

1. Rodents, cats, dogs, feral animals, scavenging birds and flies must be kept away from composting carcasses.
2. Composting areas must be away from sheds and boundary fences.
3. Composting area must be kept neat and clean at all times.
4. Cleaning and disinfection of equipment such as bins, buckets and wheelbarrows must be done before returning them to the production areas and when moving between sheds.
5. Adequate instructions/guidelines for safe composting must be available.

2 Thermophilic phase—a phase during which there is a temperature rise in the compost sufficient to inactivate pathogenic micro-organisms

# APPENDIX 9
## PRODUCTION AREA AUDIT CHECKLIST

**Audit date** .....

**Auditor's name** ..... **Auditor's signature** .....

**Auditee's name** ..... **Auditee's signature** .....

**Notes**:



| 1.0 | Documentation and training | Part 1 paragraph ref. | Yes | No | N/A | Corrective action |
|---|---|---|---|---|---|---|
| **1.1** | Is a copy of the current National Biosecurity Manual held on the production area and readily available? | 1.1 | | | | |
| **1.2** | Have staff been given instruction in the relevant parts of the Manual? | 1.2 | | | | |
| **1.3** | Is a record kept of all relevant training received by employees? | 1.2 | | | | |
| **1.4** | Is a bird mortality register being maintained? | 4.4 | | | | |
| **1.5** | Is an appropriate bird movement register being maintained? | 4.4 | | | | |

**Notes**:

| 2.0 | Facility standards | Part 1 paragraph ref. | Yes | No | N/A | Corrective action |
|---|---|---|---|---|---|---|
| **2.1** | Does the production area have a perimeter fence and can access routes be closed off to prevent vehicle entry? | 2.1<br>2.4 | | | | |
| **2.2** | Is there a sketch or map clearly defining the production area and the property, including all access roads and gates? | 2.3 | | | | |
| **2.3** | Is there adequate signage to inform visitors of the Biosecure Area and what action they should take? | 2.4 | | | | |



| 2.0 | Facility standards | Part 1 paragraph ref. | Yes | No | N/A | Corrective action |
|---|---|---|---|---|---|---|
| **2.4** | Is there an off-site parking area for visitors? | 2.5 | | | | |
| **2.5** | Are footbaths available and used at all entrances allowing personnel access to sheds? | 2.6 | | | | |
| **2.6** | Are the footbaths inspected daily and replenished as required? | 4.3.3 | | | | |
| **2.7** | Alternative to 2.5 and 2.6: Is a separate pair of boots available and used for each poultry enclosure? | 2.6 | | | | |
| **2.8** | Is the area around the sheds neat and tidy? E.g. mown grass. | 2.9 | | | | |
| **2.9** | Is hand sanitiser or washing facilities available and used at all entrances allowing personnel access to sheds? | 2.6 | | | | |
| **2.10** | Are other livestock excluded from the production area or effectively restricted so that their faeces cannot come in contact with poultry either directly or indirectly, e.g. water draining into poultry areas/sheds? | 2.2<br>2.14 | | | | |
| **2.11** | Are the sheds bird proof? | 2.8 | | | | |
| **2.12** | Are no other pet caged or aviary birds or pigs held on the property? | 2.15 | | | | |

**Notes**:

| 3.0 | Personnel standards | Part 1 paragraph ref. | Yes | No | N/A | Corrective action |
|---|---|---|---|---|---|---|
| **3.1** | Is there a signed Personnel Quarantine Declaration for each employee? | 3.1.1 | | | | |
| **3.2** | Is there a visitors' log and are all production area visitors required to complete their details in the book? | 3.4 | | | | |
| **3.3** | Are the conditions of entry to the production area prominently displayed near the visitors' log? | 3.4.1 | | | | |

**Notes**:

| 4.0 | Water treatment | Part 1 paragraph ref. | Yes | No | N/A | Corrective action |
|---|---|---|---|---|---|---|
| **4.1** | Is there a water sanitising system in place for the production area? | 2.13<br>4.1 | | | | |
| **4.2** | If chlorination is used, is the level tested daily and recorded? | 4.1<br>4.1.2 | | | | |
| **4.3** | If another sanitising system is used, is there a system in place to ensure that the water is being sanitised effectively? | 4.1.4 | | | | |
| **4.4** | Is the effectiveness of the sanitising confirmed by independent microbiological testing on an annual basis if required? | 4.1.4 | | | | |

**Notes**:



| 5.0 | Vermin control program and rodent baiting program | Part 1 paragraph ref. | Yes | No | N/A | Corrective action |
|---|---|---|---|---|---|---|
| **5.1** | Is an appropriate vermin control strategy documented? | 2.11 | | | | |
| **5.2** | Is there a rodent baiting program in place in the production area? | 2.12 | | | | |
| **5.3** | Is there a plan showing the location of bait stations? | 2.12 | | | | |
| **5.4** | Are the baits regularly checked for activity and replaced; and is there a record of this process? | 2.12<br>4.2 | | | | |

**Notes**:

| 6.0 | Cleaning and ground maintenance | Part 1 paragraph ref. | Yes | No | N/A | Corrective action |
|---|---|---|---|---|---|---|
| **6.1** | Has spilt feed been cleaned up around silos? | 2.17<br>4.3 | | | | |
| **6.2** | Is the feed system closed to prevent contamination of feed by rodents and birds? | 2.17 | | | | |
| **6.3** | Is there adequate drainage of the production area and in particular the area around the sheds? | 2.10<br>4.3.5 | | | | |
| **6.4** | For free range production only: are ramps to the outside area and the area around the hatch openings cleaned after each batch? | 4.3.4 | | | | |

**Notes**:

| 7.0 | Dead bird disposal | Part 1 paragraph ref. | Yes | No | N/A | Corrective action |
|---|---|---|---|---|---|---|
| **7.1** | Is there an appropriate procedure in place for the disposal of dead birds? | 2.7 | | | | |
| **7.2** | Is the procedure both environmentally sound and biosecure? | 2.7 | | | | |

**Notes**:

| 8.0 | Species specific requirements | Part 1 paragraph ref. | Yes | No | N/A | Corrective action |
|---|---|---|---|---|---|---|
| **8.1** | | | | | | |
| **8.2** | | | | | | |
| **8.3** | | | | | | |
| **8.4** | | | | | | |
| **8.6** | | | | | | |
| **8.7** | | | | | | |
| **8.8** | | | | | | |

**Notes**:



# APPENDIX 10 PICK-UP AND TRANSPORT TO PROCESSING PLANT

An issue that deserves a special mention is biosecurity during pick-up and transport to a processing plant. During that procedure, the aim of appropriate biosecurity measures is to prevent the spread of any disease or microbial contamination from one farm to another. This can happen readily through the movement of people, vehicles and equipment, for example transport crates, and measures have to be taken by all those involved in this operation to minimise the likelihood of such exposure.

In the majority of commercial arrangements, the processor is responsible for organising pick-up and transport, while the task is often carried out by specialised contractor crews. The onus is on the processor to ensure that those involved in this operation are fully aware of the biosecurity requirements and implement and enforce appropriate standards.

The table below should assist in clarifying the roles and responsibilities for contract growers. It lists the main steps and procedures that need to be considered and indicates who is responsible for each step and who is usually expected to undertake the necessary action. For arrangements that differ from the contract grower/processor situation found in the majority of meat chicken operations, the responsibilities may shift more towards the grower. Regardless, the tasks and actions to be undertaken remain the same, and these need to be assigned and carried out appropriately.

| Task / action | Responsibility | Execution |
|---|---|---|
| Scheduling farms for daily pick-up from youngest to oldest bird population | Processor | Pick-up Crew |
| Scheduling farms for daily pick-up so that farms or flocks with real or suspected health issues are picked up last | Processor | Pick-up Crew |
| Cleaning of crates, modules and trailers before the start of work each day | Processor | Processor |
| Cleaning catching barriers, all other machinery and equipment, vehicles, trucks, forklifts etc. before the start of work each day | Catching Contractor | Catching Contractor |
| Disinfecting shoes and hands at the start and at the conclusion of work in each shed | Pick-up Crew | Each Member of Pick-up Crew |
| All personnel involved in pick-up operation to wear clean clothes and boot (at beginning of each shift) | Pick-up Crew | Each Member of Pick-up Crew |





In addition to the above daily requirements, every 12 months all personnel should be screened for:

- nil contact with poultry, pet birds or pigs in home environment
- nil contact with commercial caged birds, racing pigeons, hatcheries and non-commercial aviaries.

The practice of partial depopulation, while important to the industry's economic viability, is recognised as having the potential of introducing new disease or contamination into the remaining flock. For this reason, it is particularly important to be meticulous about the biosecurity measures taken at each step.

DAFF job no. 950745

DEPARTMENT OF AGRICULTURE, FISHERIES AND FORESTRY