Biosecurity Manual
For NZ Meat
Chicken Growers
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1.1 MANUAL GUIDELINES

1.1 INTRODUCTION
This manual is the agreed standard between New Zealand meat chicken-growing companies and the Ministry for Primary Industries. It describes the recommended minimum standards to be used in New Zealand’s meat chicken production systems and is aimed at contributing to products meeting food safety, suitability requirements and consumer needs. These standards can be built on to include recommended best practice.

Note: this manual can be applied to other poultry kept for meat production, such as for turkey, duck and quail.

Legal status
This manual is intended as a guide for New Zealand meat chicken-growing companies, except where specific references are made to mandatory requirements (see section 1.7). When the minimum standards are incorporated into individual company manuals they then may become part of the contract between the grower and the company and be enforceable under this contract.

Acknowledgement
This document will apply to all the meat chicken-growing companies that are members of PIANZ. PIANZ has been instrumental in constructing this document for the whole of the New Zealand poultry industry. PIANZ will be the key co-ordinator of this manual and responsible for its maintenance.

1.2 REVISIONS OF THIS MANUAL
The manual will be reviewed as required in consultation with NZ meat chicken-growing companies, PIANZ and MPI. However, PIANZ members and/or MPI may
request review of any part of the manual if the need arises, and with due consultation with all parties.

Agreed changes, in consultation with company representatives and MPI and PIANZ, will be issued from time to time. Manual holders will be required to delete redundant sections from the manual if the manual is held offline and replace them with new sections as advised.

Suggestions for improvement to the manual are welcome from MPI, PIANZ, growers and non-PIANZ commercial growers and should be forwarded to PIANZ in writing. PIANZ will ensure that the appropriate people are consulted before any changes are made. PIANZ can be contacted at:

Poultry Industry Association of New Zealand (Inc.)
96D Carlton Gore Road
Newmarket 1023
AUCKLAND
Phone: (09) 520 4300
Fax: (09) 520 1553
Email: info@pianz.org.nz

1.3 DISTRIBUTION OF MANUAL UPDATES TO COMPANIES

The current manual can be found at the following web link:

Biosecurity Manual September 2015.docx

Notifications of updates will be sent by email to PIANZ members and MPI.

1.4 PURPOSE

This manual is intended to be used as a guide to the recommended minimum standards that company biosecurity manuals should contain. The guidelines may be a stand-alone document or incorporated into company documents.
Company manuals are the guideline manuals that the company provides to the chicken contract growers and company farms. These company manuals are included as part of the legal contract between companies and growers.

Where programmes need significant detail, e.g. catching, clean-out, water management, vermin control, the programme should contain:

- purpose and scope (reason for procedure, range of application)
- authorities and responsibilities (responsibilities for monitoring, corrective action and internal verification)
- materials and equipment (specific tools required to carry out a procedure)
- training
- actual procedure:
  o control measures (acceptable limits)
  o monitoring of control measures to ensure they are effective (what, how, when, where)
  o corrective action taken when control measures go wrong (what, how, where, for restoration of control and prevention of recurrence)
  o internal verification (what, how, when, where) covering review/audit calibration and further microbiological testing.

1.5 SCOPE

This manual will cover all the elements of on-farm biosecurity relating to both exotic and endemic disease control for meat chicken-growing.

This manual can be applied to other poultry meat farming, such as turkey, duck and quail.

1.6 DEFINITIONS

**Animals**: All animals apart from meat chickens.
Clean litter: Wood shavings or other suitable material that is placed on the floor of a poultry shed prior to chick entry.

Company: The meat chicken company that owns the meat chickens and contracts the growing of the meat chickens.

Contractor: Person who provides services to the farm, e.g. electrician.

Contractor grower/Farmer/Grower/Farm Manager: Person who is in day-to-day charge of the meat chickens.

Dirty litter: Wood shavings or other suitable material placed on the floor of a poultry shed, soiled with faecal matter.

End pads: A defined sealed area external to the shed, used for the loading and unloading of birds and materials.

Farm: The property on which the poultry site is located.

Free-range Area: The area within the site designated for meat chickens to range freely outside. This area shall be outlined on the site map.

Meat Chicken: Male or female chicken kept primarily for meat production.

Reused litter: Litter that is used for more than one run. This litter has been modified/treated/groomed/ to ensure it is fit for purpose.

Site/Farm Manager: Person who has day-to-day control over the site or the farm and or the site.

Site: The area within a farm specifically designated for poultry farming. This will include the shed, feed storage areas and access ways plus all amenities within the exclusion area. This area will normally be fenced and have controlled entry. A site map to outline the site area and the range areas is recommended.
Visitor: Any person not normally employed on the site.

Whole health flock scheme: In relation to a flock of farmed birds, this means a documented programme of health surveillance and includes, where applicable:

- disease control or eradication, and
- The management of agricultural compounds and veterinary medicines according to any general or specific conditions of use.

An example of a whole flock health scheme can be found in Appendix C: Whole Flock Health Scheme of the Generic RMP for slaughter and dressing of meat chickens. This is linked below:

Animal Products (Specification for Products Intended for Human Consumption) Notice 2013

1.7 MANDATORY REQUIREMENTS

Below is a summary of the legislation under the Animal Products Act 1999 that is most applicable to commercial poultry industry meat chicken growers. Web links for documents current at the date of the issue of this manual are given. These may become out of date and the summary is not exhaustive. To access all current legislation, go to the general link:


Animal Products Act 1999

New Zealand Legislation: Animal Products Act 1999

Animal Products Regulations 2000
New Zealand Legislation: Animal Products Regulations 2000

Animal Products (Specifications for Products Intended For Human Consumption) Notice 2013

The particular sections of relevance are Human Consumption Specifications 40, 41, 70 and 71, as described in the specification below.

Animal Products (Specification for Products Intended for Human Consumption) Notice 2013

The “Supplier statement for the supply of poultry for slaughter for human consumption” can be found in Schedule 5 of the Animal Products (Specifications for Products Intended for Human Consumption) Notice 2013 link above.

1.8 RESPONSIBILITIES

It is the responsibility of the individual meat chicken companies to ensure the implementation and internal auditing of the requirements of this manual.

1.9 NON-COMPLIANCE

Meat chicken companies should have a procedure in place to deal with non-compliance with any recommended minimum standard from this manual that is incorporated into the company manuals.

This should include corrective actions expected, i.e.:
- restoration of control
- management and processing of affected poultry, if relevant
- follow-up
- prevention of recurrence
- records
- audit records
2. **BIOSECURITY**

2.1 **INTRODUCTION/PURPOSE**

Biosecurity is an integral part of any successful meat chicken production system. It refers to those measures taken to prevent or control the introduction and spread of infectious agents to a flock. The diseases these cause whether clinical or sub-clinical can significantly reduce the productivity and profitability of a poultry operation.

Particular attention is paid to minimising the risk of contamination and/or infection by zoonotic pathogens associated with poultry meat.

The New Zealand meat chicken industry's approach is to design, implement and maintain biosecurity systems to ensure that the health, welfare and food safety of the country's commercial chicken meat is maintained or improved.

The biosecurity procedures within this manual are regarded as recommended **minimum standards**. However, there may be times when emergencies, bird welfare or logistical problems will arise and will take primary concern over biosecurity issues. At these times, deviations to procedures may be authorised by the appropriate representatives within meat chicken companies.

Any deviations to the recommended minimum standards should be documented and authorised by appropriate meat chicken company representatives.

2.2 **OBJECTIVES OF BIOSECURITY PROGRAMME**

The high health status of New Zealand poultry is unique worldwide. To maintain this status, it is important that meat chicken companies and growers take all reasonable steps to ensure that the risk of introduction of disease to meat chicken operations is minimised.

The objectives of our biosecurity programme are as follows:
• To minimise the risk of the introduction of disease agents into our meat chickens (that may have a measurable impact on performance)
• To prevent the spread of disease from an infected area to an uninfected area
• To limit the general environmental pathogenic load, so that birds do not have to expend energy in responding to environmental pathogenic challenges
• To minimise the incidence and spread of organisms of public health concern, e.g. *Salmonella*, *Campylobacter*
• To ensure New Zealand’s unique avian health status is maintained.

Some diseases impact us through direct financial loss such as mortality, reduced productivity and medication costs. Other diseases cause no direct bird effect, but impact is due to the effects of these diseases on human health – for example, *Salmonella* and *Campylobacter*.

### 2.3 OVERVIEW OF BIOSECURITY PRACTICES

Biosecurity quite simply means protecting flocks from any type of infectious agent – viral, bacterial, fungal or parasitic. This includes exotic and zoonotic agents.

Biosecurity requires:
1. Control of human traffic
2. Control of rodents, insects and wild birds
3. Control of vehicular traffic
4. Control of equipment movement
5. Control of stock movement
6. Control of litter and dead birds
7. Control of inputs (e.g. feed, water)
8. Effective clean-down and sanitation procedures
9. Use of a suitable vaccination/medication programme
10. Use of a suitable sampling and testing programme
11. Implementation of a suitable action plan, should any infectious agent become evident in a flock.

Sources or carriers of diseases or disease agents include:
• **Poultry**  
  o Transfer of birds from farm to farm  
  o Dead bird disposal.

• **Chicks**  
  o Vertical transmission of many diseases is an important consideration.

• **Animals and their products**  
  o All species of domesticated and wild birds  
  o Pets, and feral or domestic animals, as well as their by-products  
  o Animal by-products  
  o Insects, e.g. flies, litter beetles  
  o Rodents – rats/mice.

• **People/Visitors/Contractors**  
  o All people moving onto and within the site, including contractors, lab persons, maintenance personnel, neighbours, service people, friends, site visitors, etc.  
  o Disease can be transmitted by hands, boots, clothing, hair etc.

• **Equipment and materials**, including maintenance equipment, toolboxes, wheelbarrows, buckets, catching equipment etc.

• **Vehicles**  
  o All vehicles entering and moving within the site, e.g. farmer, feed delivery, chick delivery, dead bird pickup, dirty litter removal and catching vehicles.

• **Wind/air**  
  o Transmission as an aerosol or dust.

• **Water**  
  o Untreated water
• Surface water attracts water fowl.

• Clean litter material
  o Source of litter, litter delivery.

• Contaminated feed
  o e.g. Salmonella.

• Waste and waste treatment operations

• The site environment

2.4 TRAINING
Training is an important part of understanding and implementing the biosecurity programme. All company personnel involved with meat chicken as well as contractors (including clean litter suppliers, dirty litter contractors, catching crews, shed cleaning crews, electricians, etc.) and growers will undergo the necessary awareness training required to understand and implement what is in this manual. This can take the form of a formal presentation, workshop, discussion group, or individual visit (see below).

Training can also take place on the farm in a one-on-one session with the grower. These individual sessions may cover a range of topics, including issues associated with or arising from an audit. Growers need to sign off their attendance at training sessions.

2.5 EXOTIC DISEASES

Suspected Exotic Disease – MPI website

Suspicion of Exotic Disease

On suspicion of an exotic disease or pest, the farmer/grower should:

- Contact the meat chicken company and vet
- Contact MPI via the Exotic Disease Hotline:
  
  0800 80 99 66

- Stay on the farm and stop any movement of poultry off the farm.
2.6 LIST OF MEAT CHICKEN SITE CONTACTS

Intent: To ensure that all personnel associated with farms can be contacted if necessary, and to ensure that these contacts have been advised of their responsibilities in the area of on-farm biosecurity.

A list of contacts needs to be maintained for all meat chicken farms. Below is a suggested example. This list will be held by the meat chicken farm manager and updated every six months. All contractors should sign the Visitor’s Form (see Section 3.3: Meat Chicken Farm Visitor’s Form).

FARM: ……………………………………………………………………………. Date Compiled………………………………………………………………………………

<table>
<thead>
<tr>
<th>Contact</th>
<th>Name, Address, Phone Number</th>
<th>What other poultry or risk areas are serviced by this contractor?</th>
<th>Have they been made aware of industry biosecurity requirements?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrician</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Plumber</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Builder</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Dead Bird Disposal Contractor</td>
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<tr>
<td>Clean Litter Supplier</td>
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<tr>
<td>Clean Litter Spreader</td>
<td></td>
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<tr>
<td>Software Servicing Contractor</td>
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<tr>
<td>Rubbish Removal Contractor</td>
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<tr>
<td>Dirty Litter Removal Contractor</td>
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<td></td>
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<tr>
<td>Where Dirty Litter Goes To</td>
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<tr>
<td>Dirty Litter Transport</td>
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<td></td>
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<tr>
<td>Sanitise Contractor</td>
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<tr>
<td>Washing Contractor</td>
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<tr>
<td>Fumigation Contractor</td>
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<tr>
<td>Gas/Fuel Supplier</td>
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<tr>
<td>Chick Delivery Drivers</td>
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<tr>
<td>Feed Delivery Drivers</td>
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3. PEOPLE

3.1 GROWER RESTRICTIONS

Intent: To ensure that the biosecurity risks posed by growers’ activities are minimised.

All growers and other persons (under the control of the grower) in regular contact with meat chickens will not be engaged in any of the following activities:

- keeping of any avian or porcine species for any purpose whatsoever at their place of residence
- if young bovines (calves) are kept, then extra precautions like clean clothes or overalls must be used to enter the site after contact with these animals
- the operation of any retail outlet where such activity would mean contact with pet birds or poultry
- regular contact with, or ownership of, pet birds or racing pigeons
- regular contact with any operation that uses poultry or animal manure in bulk
- regular contact with any diagnostic laboratory which carries out biological work on animals or animal products and animal material
- regular contact with any external poultry operations, including feed-milling or meat chicken processing plants.

There is a total ban on all animals (including domestic pets) on-site. There is a total ban on avian and porcine species in growers’ places of residence.

Duck shooting is a high-risk activity and the meat chicken company and farm manager needs to manage this risk by including restrictions for both staff and visitors.
3.2 RESTRICTIONS ON VISITORS (INCLUDING CONTRACTORS)

**Intent:** To ensure that the biosecurity risk posed by visitors and contractors is minimised.

**Only essential visits will be made to meat chicken sites.** Such visits need to be approved by the grower/farm/site manager.

A record should be kept of the name, date, time, reasons for visits, and date and place of last contact with poultry or other avian species for all visitors to meat chicken sites guided by section 3.3. The right to enter will be under the conditions stipulated by the manager and company policies. Visitors should also state whether they are going to be entering the sheds or free-range areas. All visitors should sign the Visitor’s Book on arrival at the site. For an example of a Visitor’s Book, see 3.3: Meat Chicken Farm Visitor’s Form. It will be made clear to all visitors that signing the Visitor’s Book means they understand and accept the company/farm biosecurity restrictions (including stand-down periods) and that they are abiding by them.

Contractors and visitors to the site are required to be made aware of the requirements of the contents and practices required in the manual by the grower/farm manager. The signing of the Visitors’ Book can serve as a record of this awareness. For some contractors it may be prudent for the grower/manager to accompany them while they are on-site.

The farm/site/company manager is responsible for all personnel and visitors being aware of and understanding biosecurity procedures. It is the responsibility of the farm manager to ensure that non-company visitors adhere to the meat chicken company’s/farms biosecurity procedures and stand-down periods. Farm managers will not allow entry if they are not fully satisfied that biosecurity procedures have been met. Regular visitors, growers and personnel should sign an annual declaration that they will comply with biosecurity restrictions.
### MEAT CHICKEN SITE VISITOR’S FORM

**Farm:**......................................................................................................................................................................................

Your name below indicates that you have had explained to you the company/farm biosecurity restrictions (site hygiene, biosecurity, visitors and staff, stand-down times) and that you comply with any procedures, including a minimum ‘stand down’ period after visiting any of the following:
- any external company operation (including poultry and processing) – **overnight**
- any pig farms – **overnight**
- any bird shops/aviaries – **overnight**
- any quarantined meat chicken or breeder site – **overnight**
- zoos – **overnight**
- any operation that uses poultry or animal manure – **overnight**
- any places of residence with poultry – **overnight**
- any laboratories processing poultry/pig samples – **overnight**
- any contact with avian species (including duck shooting) – **overnight**
- any calf-rearing operations

<table>
<thead>
<tr>
<th>Date (dd/mm/yy)</th>
<th>Time of arrival</th>
<th>Visitor’s name</th>
<th>Avian contact today prior to arrival? What/where?</th>
<th>Avian contact yesterday? What/where?</th>
<th>Purpose of visit</th>
<th>Will you be entering the sheds today?</th>
<th>Time out</th>
<th>Visitor signature</th>
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3.4 STAND-DOWN PERIODS

3.4.1 DOMESTIC VISITORS

Intent: To ensure that there is an adequate break between activities which have a biosecurity risk associated with them and contact with meat chickens.

Stand-down times for domestic visits to meat chicken sites will be as follows:

- any external company operation (including poultry and processing) – overnight
- any pig farms – overnight
- any bird shops/aviaries/pet birds – overnight
- any quarantined meat chicken or breeder site – overnight
- zoos – overnight
- any operation that uses poultry or animal manure – overnight
- any places of residence with poultry – overnight
- any laboratories processing micro-samples – overnight
- any contact with avian species (including duck shooting) – overnight
- any calf-rearing operations overnight

3.4.2 INTERNATIONAL VISITORS

Intent: To ensure that the risk of introduction of exotic diseases or more pathogenic strains of diseases currently in New Zealand is controlled.

All overseas visitors will need to get their visits approved and authorised by the appropriate company person, e.g. company livestock manager, veterinarian.

All overseas travellers – including overseas visitors and company personnel/growers – who have, while overseas:

- made visits to, or had contact with, commercial avian farms, including processing facilities, hatcheries, live bird markets (of any sort), featuring ducks, chicken, ostriches, emus, geese, turkey and quail, etc.
- visited any pig farms or calf-rearing farms
- visited any bird shops/aviaries
- visited any quarantined meat chicken or breeder sites
- visited any zoos
- visited any operations that use poultry or animal manure
- visited any places of residence with poultry
- visited any laboratories processing micro-samples
- had contact with any avian species

Should have a minimum four (4)-day break before visiting any New Zealand poultry site (this can be done overseas). Any footwear and clothing worn needs to have been thoroughly cleaned.

In countries where there have been recent disease episodes, e.g. avian influenza, Newcastle Disease, further restrictions may apply. This decision is to be made by the appropriate company persons before the visit is approved, e.g. company livestock manager, veterinarian.

Company personnel, growers and people likely to visit New Zealand poultry farms on their return to New Zealand should be discouraged from visiting countries with active avian influenza infections. Growers who visit poultry operations overseas need to be especially vigilant when returning to their sites, to ensure that exotic diseases are not introduced on their person or clothing. Specific requirements regarding returning to work should be discussed with the relevant company authorities.
4. SITE SET-UP

4.1 SIGNAGE

Intent: To alert visitors that there are restrictions on entry into the site.

All sites are to have a sign at the entrance, stating that this site is a biosecurity area and that all visitors are to contact the farm manager before entry. All sites will be clearly marked to prevent unauthorised entry.

4.2 EXCLUSION OF ANIMALS

Intent: Animals can carry unwanted organisms, and their presence on the site needs to be excluded.

A fence should enclose all meat chicken sites, with the site boundaries clearly defined in a site plan.

All animals, including domestic animals and livestock, should be excluded from within the site and be kept a minimum of two metres from the sheds and the free-range areas.

Where a shared driveway is used to access the site, there needs to be a minimisation of contact with other animals on the driveway.

To reduce the attractiveness of the areas to other species and to vermin within and in close proximity to the meat chicken site, trees, wet areas and organic material should be removed, grass kept cut and good housekeeping maintained.

4.3 DRAINAGE REQUIREMENTS

Intent: To maintain drainage systems to prevent the pooling of water. Pooling of water can harbour unwanted organisms and attract insects or birds as well as overflow onto defined pathways. Drains should be kept clean, free of vegetation and free-flowing. If shed guttering is used, it should be kept clean and allow water to flow freely.
4.4 DEFINED PATHWAYS

Intent: To ensure that annexes and sheds are kept as clean as possible, thus helping to prevent shed contamination.

Roadways, foot pathways and traffic areas are to be constructed of hard-packed material to avoid water pooling and mud/contamination being trampled into sheds.

4.5 SHED ANNEX/SERVICE ROOM

Intent: Annexes are the point at which clean and dirty areas are differentiated. Therefore, this area should be kept as clean as possible.

All sheds should have an annex for personnel entry.

Shed annexes will not be used as storage areas for anything other than clean, essential equipment for the day-to-day running of the sheds. This equipment is to be stored off the floor to allow sufficient cleaning of the annex. Anything stored in the annex should be cleaned and disinfected as part of the shed cleaning process, and protected from dust.

Floors in shed annexes will be kept clean during the run and should be disinfected weekly or more frequently if required.

4.6 END PADS

Intent: To help prevent the transmission of dirt or organic matter into the shed.

All sheds should have sealed end pads of sufficient size to allow the loading of trucks and trailers.

End pads should be maintained so that they can be easily cleaned.

End pads should be cleaned and sanitised immediately prior to clean litter delivery and chick entry.
End pads should be as clean as possible prior to catching

4.7 SHED DESIGN

Intent: To ensure new design features are incorporated into new sheds.

New sheds will have incorporated into their design features such as:

- Large end pads that can accommodate catching equipment
- Surfaces within the shed that are all cleanable and non-porous.
5. SHED ENTRY

5.1 GENERAL

Intent: To ensure that entry procedures are adequate to prevent contamination of sheds, between sheds and from other external sources.

Entry through other doors, e.g. end doors, is to be discouraged when meat chickens are present in the shed.

The area around sheds can be contaminated by the droppings of a number of different animals, e.g. rats, mice, ducks etc. These droppings can potentially provide a source of infection to meat chickens, e.g. IBD, or can introduce organisms important in food safety, e.g. *Salmonella* in rat/mice droppings, or *Campylobacter*.

A written procedure prescribing the biosecurity steps that should be taken before entering the shed, and the order in which these steps should progress, should be placed on the wall of the shed annex in plain view.

This procedure should include:

- Dedicated within-shed footwear for the grower staff and all visitors
- The use of clean overshoes is permitted
- Cleaning of hands by washing or use of a sanitiser is also required.

5.2 FOOT BATH REQUIREMENTS

Intent: To ensure that foot baths, where used, are used effectively.

Where foot baths are used, companies/growers should have a detailed procedure as to how the usage and maintenance of foot baths is performed. This procedure should cover:

- cleanliness of footwear prior to entering the foot bath
- cleanliness of the foot bath itself
- where the bath is located - inside or protected from weather
- the frequency of changing the bath contents
what approved chemicals are to be used and how.

Use of footbaths is not a substitute for the use of dedicated inside footwear.

**5.3 CLOTHING REQUIREMENTS**

**Intent:** To minimise the risk of shed contamination resulting from contaminated clothing and hair.

Poultry site staff and growers are reminded that clean clothes and specific dedicated shed clothes and footwear reduce the potential for introducing pathogens into the sheds.

All visitors and contractors who enter the sheds will be required to wear dedicated clean clothing, preferably overalls.

Clothing should be stored in a clean area and laundered or replaced after each use or on a daily basis. Clean and dirty clothing should be kept separately to prevent cross-contamination.

**5.4 HAND HYGIENE**

**Intent:** To minimise the risk of shed contamination resulting from unclean hands.

All persons should wash their hands with soap and water, or hand sanitiser, immediately prior to entering the shed from the shed annex. Hands should also be washed or sanitised:

- Before starting work, and before and after breaks
- Before handling food, eating, drinking or smoking
- After handling rubbish, birds or any litter
- Before and after using the toilet.
- After leaving a meat chicken shed

If washing facilities are provided which require the use of water, drying facilities should also be made available.
5.5 FOOTWEAR REQUIREMENTS

**Intent:** To minimise the risk of shed contamination resulting from contaminated footwear.

The objective of footwear hygiene is to exclude the entry into meat chicken sheds of certain organisms carried by footwear.

Footwear worn outside sheds should be covered (or preferably changed) in the annex before entering a shed.

Dedicated shed footwear is strongly recommended.

If dedicated boots are used they should be preferably of a different colour to outside boots.

To ensure that footwear change is done effectively, a strict routine needs to be followed. Dirty and clean areas should be clearly marked in annexes. A physical barrier is required in ensuring separation. On some sites where the annex doorway is next to the shed door, the barrier can be incorporated into the shed entrance.

An example is included below:
6. VEHICLES AND EQUIPMENT

6.1 VEHICLES COMING ON-SITE

6.1.1 GENERAL

Intent: To minimise the risk of cross-contamination from external areas to the site, caused by vehicle exteriors.

Vehicle entry to sites will be kept to a minimum.

Any vehicles not associated with essential services, e.g. delivery of feed, clean litter, or chicks etc., should be parked in a defined parking area outside the site. The parking area should be chosen with thought given to avoidance of dust and other contamination.

6.1.2 FEED TRUCKS

Intent: To minimise the risk of cross-contamination from external areas to the site and between different sites caused by feed truck drivers.

Drivers should limit movements to the essential activities of feed delivery. Documentation covering feed delivery should not be taken into sheds.

6.1.3 CHICK DELIVERY TRUCKS

Intent: To minimise the risk of contaminating sheds caused by the chick delivery process.

The end pad will be cleaned and sprayed with sanitiser immediately prior to delivery of chicks.

Drivers should limit movements to the essential activities of chick delivery. If entering sheds, chick delivery truck drivers will wear protective clothing. Footwear must be changed on entry to the sheds to use inside shed footwear only.
6.1.4 CLEAN LITTER DELIVERY TRUCKS
Intent: To minimise the risk of shed contamination caused by the delivery of clean litter.

Vehicles that deliver clean litter should not be used for carrying meat chicken manure. All equipment, e.g. tractors, spreaders, etc. used to distribute new litter will be thoroughly cleaned and disinfected before entering the shed being prepared.

End pads and traffic areas used in the process of transferring clean litter into sheds should be cleaned and sprayed with sanitiser immediately prior to placement of clean litter.

6.2 EQUIPMENT SANITATION

6.2.1 GENERAL
Intent: To minimise the risk of shed contamination from on-farm equipment used by growers.

Purchase and installation of any imported second-hand poultry equipment, e.g. feeders etc. should be notified to, and cleared by, the appropriate representatives of the meat chicken-growing company.

Equipment used in sheds should not be stored outside of sheds, unless there is a programme to clean and sanitise the equipment prior to taking it into the shed.

6.2.2 CLEAN LITTER TRANSFER EQUIPMENT

Intent: To minimise the risk of shed contamination through clean litter transfer equipment.

All equipment, e.g. tractors and blades, spreaders, etc. used in transferring and/or spreading clean litter or paper into sheds should be physically cleaned and sanitised before clean litter handling. The standard is removal of all dirt, mud, feathers,
manure, litter etc. and the thorough wetting of all surfaces with sanitiser.

7. **WATER SUPPLY**

7.1 **STANDARD**

**Intent:** To minimise the risk of introducing organisms into the shed via the drinker system and to limit the spread of any organisms at drinker level.

All water is to be sanitised with a product that will have a residual sanitising effect at the drinker.

The water supply available to meat chickens should meet the following standard of having nil *E.coli* present in the drinking water. (This is derived from the Drinking Water Standards for New Zealand 2005, revised 2008).

**Search:** *Drinking-water Standards for New Zealand 2005 (Revised 2008)*

Annual testing for compliance to the bacteriological standard mentioned above should be performed to ensure that the drinker water supply conforms to this standard. This test should be performed at the point the water source enters the farm or immediately after treatment.

7.2 **MAINTENANCE OF WATER STANDARD**

**Intent:** To ensure that the aforementioned intent (7.1: Standard) is maintained.

Testing of the residual sanitising at the drinker will be checked weekly by the grower and documented. This testing will be done at drinker level in the shed. If the test fails, an action plan needs to be implemented.
8. VERMIN AND WILD BIRD CONTROL

8.1 GENERAL

Intent: To ensure that the biosecurity risk posed by vermin (rats, mice, stoats, wild cats, etc.) and wild birds is minimised.

A vermin and wild bird control programme should be in place. This can include, baiting and trapping for rodents and discouragement measures for vermin and wild birds.

8.2 SHED CONSTRUCTION

Intent: To control the risk associated with ingress of wild birds and vermin into sheds.

Sheds should be constructed to prevent, to the extent practicable, the ingress of wild birds and vermin. Attention should be given to air inlets and other possible entry points.

Sheds should also be constructed to minimise roosting and nesting sites on the shed itself.

8.3 VEGETATION EXCLUSION

Intent: To discourage the presence of rodents and wild birds.

Site and shed surrounds will be kept clean, tidy and free of debris.

Around the immediate vicinity of the shed, vegetation is to be kept short or cleared with herbicide where it is not possible to be kept short.

Grassed areas should be mowed regularly.
8.4 STORAGE SHED EXCLUSION

**Intent:** To ensure that equipment and supplies used in sheds are not contaminated with wild bird or vermin droppings.

Sheds and areas used for storing equipment and supplies used within sheds (e.g. brooders, brooder paper, etc.) should be constructed to exclude wild birds and vermin.

8.5 WILD BIRD DISCOURAGEMENT

**Intent:** To discourage the presence of wild birds.

Wild birds should be discouraged from gathering in and around sheds by ensuring the following measures are met:

- any feed spills from feed deliveries are immediately cleaned up and disposed of
- any feed leaks from silo auger boots are immediately repaired when noticed
- any potential nesting sites on and around sheds and feed sites should be prevented, and where found, eliminated
- during clean-out, shed end doors are not to be left open, allowing the entry of wild birds.

8.6 INSECT DISCOURAGEMENT

**Intent:** To discourage the presence of flies and other insects.

Flies are known to carry *Campylobacter* and the introduction of this organism to flocks by means of flies is a possibility. Insect discouragement programmes should include fly control measures to minimise their presence in sheds, as detailed below.

Flies and other insects should be discouraged from gathering in and around sheds by ensuring the following measures are met:
- feed spills from feed deliveries are immediately cleaned up and disposed of
- feed leaks from silo auger boots are immediately repaired when noticed
- pooling of water on-site should be avoided
- potential breeding grounds for flies should be cleaned up. These include areas of rubbish and areas of dirty litter
- dead birds are to be handled appropriately (see 9: Dead Bird Disposal)
- a procedure needs to be in place for when litter beetles are identified.

Fly screens can be considered as an option for fly and insect control in sheds.

8.7 RODENT CONTROL PROGRAMME

8.7.1 GUIDELINES

Intent: To ensure that the rodent control programme is effective.

An effective documented rodent control programme should cover the whole site, and should be maintained during the lifecycle of the sheds, including clean-out.

All sites should have a Rodent Control Site Plan, which records the following information:

- A site plan showing where rodenticides (baits) and bait stations are placed
- Name and contact details of operator (where applicable)
- What baits are in use, and when they have been checked and replenished
- The name of the bait and the active ingredient
- Inspection dates
- Any noted signs of rodent activity, and any action taken
- Any additional comments.

Rodent control also involves keeping the premises and environment clean and tidy, and keeping vegetation from around sheds.
9. DEAD MEAT CHICKEN/BIRD DISPOSAL

Intent: To ensure that dead meat chickens are disposed of in a manner that is hygienic and does not encourage the presence of rodents and insects.

Dead meat chicken disposal methods should not attract rodents, wild birds, cats and/or dogs, or insects, and should comply with environmental requirements. Dead meat chickens are to be removed from sheds at least daily or whenever they are seen.

Any dead meat chicken containers should be sanitised before entry into the shed.

Where meat chickens are taken off-site, the vehicle used to remove dead meat chickens from the site will be washed daily to a standard that shows no visible soiling and be disinfected using an approved chemical.

The collector's truck will be constructed such that the meat chickens within are out of sight, i.e. a high-sided truck and trailer, and which allows no spillage of liquid contents.

The collector of the dead meat chicken will not enter the sheds or shed annexes. Where freezers are located in annexes, bagged meat chickens will be taken out to the collection area at the site boundary.

Contact with the collector and the collector's equipment should be avoided.

The dead meat chickens ideally should be collected from outside the site.
10. HARVEST

10.1 VEHICLES AND EQUIPMENT

Intent: To minimise cross-contamination between sites caused by vehicles and equipment.

All equipment used during harvest - trucks, other vehicles, crates, forklifts and modules - will be physically cleaned and sanitised between sites to a visibly clean standard. Trucks, crates, modules and forklifts are to be washed to a standard where there is no faecal material, litter or feather, then completely wetted with sanitiser.

Truck and vehicle interiors will also be kept clean.

Live bird (meat chicken) crates are cleaned, sanitised and, where practicable, dried before use.

Reducing the number of entries into the sheds will reduce the likelihood of transfer of pathogens into the sheds.

10.2 CATCHING CREW CLOTHING REQUIREMENTS

Intent: To minimise cross-contamination between sites caused by clothing, footwear or hair.

Catching crews are to change into clean clothes, including hats, beard covers, footwear, and, if used, gloves, prior to each site visited, and/or between sheds on multi-age farms.
11. CLEAN-OUT

11.1 GENERAL PRINCIPLES

Intent: To ensure that meat chicken companies/growers/contractors have a clear, prescriptive procedure to prevent carryover infection from one flock to the subsequent flock.

All repairs and building maintenance will be done at intercrop stage (emergencies accepted) before cleaning and sanitation (including the replenishing of bait stations). Sheds and annexes will be checked for bird-proofing, and repairs performed if necessary.

All dirty litter should be removed from the site before sanitation of the sheds commences. All equipment brought on to any meat chicken site to clean out dirty litter will be thoroughly cleaned and disinfected before entering the site. The standard will be the washing off of all manure, dirt, feathers and dirty litter, and the complete wetting of all areas with sanitiser. Dirty litter will be removed in a covered container and taken from the site. Dirty litter should not be spread closer than 100 m to sheds.

All meat chicken companies/growers/contractors should have a detailed clean-out procedure, which should cover the following elements:

1. Dirty litter removal and containment of dirty litter, as well as procedures to clean up any areas of dirty litter spilled during removal.
2. Cleaning and sanitation of all shed equipment including:
   feeders and removal of feed
   drinkers
   equipment taken out of sheds (e.g. brooding curtain)
   brooders and heaters
   shed dividers
3. Cleaning and sanitation of annexes.
4. Cleaning and sanitation of internal shed surfaces, e.g. pay special attention to expansion cracks.
5. Cleaning and sanitation of air intakes and vents.
6. Cleaning and sanitisation of header tanks and drinker lines.
7. The removal of biofilm from header tanks and pipes on an annual basis.
8. The control of litter beetle when identified by the insect control programme.
9. Sheds should be dry prior to the introduction of clean litter.
10. Maintenance of integrity of shed floor and walls.
11. Prevention of site contamination from wet cleaning.
12. Cleaning and sanitising checklist (an example of a checklist can be found below in Section 11.4)
13. Pathogen testing if an issue within the shed.

11.2 CLEAN LITTER

Clean litter is defined as new clean dry wood shavings or other suitable material that is placed on the floor of a shed prior to chick entry.

These dry wood shavings should be from untanalised or untreated wood and free of any chemical contaminants and animal products.

11.3 REUSED LITTER

1. Litter is only to be reused with company permission
2. The reuse of litter is an option to be considered when circumstances result in a shortage of new litter or specific procedures to handle the reused litter are described and followed.
3. Litter must be managed to ensure that it is suitable for chick placement
4. The litter should be managed, by drying and cultivating, to reduce the bacterial loading from the previous meat chicken placement. Ammonia levels must also be managed when litter is reused.
5. Litter from a *Salmonella* positive flocks shall not be reused
### 11.4 EXAMPLE OF CLEAN-OUT CHECKLIST

**Intent:** To ensure that all clean-out procedure tasks have been performed.

#### PREPARATION

<table>
<thead>
<tr>
<th>Task</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you sprayed for beetles (if present)?</td>
<td></td>
<td></td>
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<tr>
<td>Have you removed all dead birds from sheds?</td>
<td></td>
<td></td>
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<tr>
<td>Have you cleaned out the annex?</td>
<td></td>
<td></td>
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<tr>
<td>Are the sheds ready for clean-out?</td>
<td></td>
<td></td>
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<tr>
<td>Have you carried out any planned maintenance?</td>
<td></td>
<td></td>
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<tr>
<td>Have you emptied the cross auger, feed lines and pans of feed?</td>
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</table>

#### DIRTY LITTER CLEAN-OUT

<table>
<thead>
<tr>
<th>Task</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has all dirty litter been removed from sheds?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have dirty litter spillages off the pads and in the traffic areas been cleaned up?</td>
<td></td>
<td></td>
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<tr>
<td>Is there any damage to sheds?</td>
<td></td>
<td></td>
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<tr>
<td>Have sheds been cleaned out to the aforementioned standards?</td>
<td></td>
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</table>

#### WASH-DOWN

<table>
<thead>
<tr>
<th>Task</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have brooders and chick equipment been cleaned and sanitised?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have drinker lines/header tanks been flushed out with appropriate sanitiser?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have sheds and equipment been cleaned, and if so, with what?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have floors, walls and ceilings been cleaned?</td>
<td></td>
<td></td>
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<tr>
<td>Have all fans and vents, including vent cavities, been cleaned?</td>
<td></td>
<td></td>
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<tr>
<td>Have feeders and drinkers been dismantled?</td>
<td></td>
<td></td>
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<tr>
<td>Have annexes been cleaned?</td>
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<td></td>
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<tr>
<td>Have silos, silo boots, feed hoppers, and auger head drives been cleaned?</td>
<td></td>
<td></td>
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<tr>
<td>Have shed doors been closed after cleaning?</td>
<td></td>
<td></td>
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<tr>
<td>Are clean footwear and fresh foot baths (if used) in place?</td>
<td></td>
<td></td>
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<tr>
<td>Are the sheds and annexes maintained as bird-proof?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have any repairs and maintenance required on sheds or traffic areas been completed?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have sheds been washed to standard?</td>
<td></td>
<td></td>
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</tbody>
</table>
### SANITISING

<table>
<thead>
<tr>
<th>Question</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Were shed and annex doors closed after washing-out prior to sanitising?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have all internal surfaces of sheds and annexes been sanitised, including vent cavities?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has all equipment been sanitised?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have all end pads been sanitised?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have all silos been sanitised?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have sheds and annexes been closed after sanitisation?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are silo boots and augers completely drained and dry?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has the shed been sanitised to standards?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are clean foot baths (if used) and sanitised footwear in place?</td>
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</tbody>
</table>

Comments:

### INSECTICIDE

<table>
<thead>
<tr>
<th>Question</th>
<th>YES</th>
<th>NO</th>
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</thead>
<tbody>
<tr>
<td>Have all surfaces inside sheds and annexes been sprayed with insecticide?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has all equipment been sprayed with insecticide?</td>
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Comments:

### CLEAN LITTER INTAKE

<table>
<thead>
<tr>
<th>Question</th>
<th>YES</th>
<th>NO</th>
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</thead>
<tbody>
<tr>
<td>Have the end pads been sanitised prior to delivery?</td>
<td></td>
<td></td>
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<tr>
<td>Has the tractor been cleaned and sanitised?</td>
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<td></td>
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<tr>
<td>Have spillages of clean litter been cleaned up and disposed of (not in shed)?</td>
<td></td>
<td></td>
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<tr>
<td>Have silo lids and boots been closed up?</td>
<td></td>
<td></td>
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<tr>
<td>Have all doors been kept shut after clean litter has been put in?</td>
<td></td>
<td></td>
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<tr>
<td>Have procedures for managing reused litter been followed?</td>
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</table>

Comments:

### FOGGING (IF NECESSARY)

<table>
<thead>
<tr>
<th>Question</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have sheds and all equipment used during the run been fogged to standard?</td>
<td></td>
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<tr>
<td>Has terminal fog been used?</td>
<td></td>
<td></td>
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<tr>
<td>Has the annex been fogged?</td>
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</tbody>
</table>

Comments:
11.5 INSECT CONTROL DURING CLEAN-OUT

Intent: To minimise the biosecurity risk posed by insects in transmitting organisms between subsequent flocks.

Insecticide should be applied immediately after the birds have been removed from the shed (if beetles are seen during the run, use appropriate chemicals).

11.6 FEED CARRY-OVER

Intent: To minimise the biosecurity risk posed by feed in transmitting microorganisms and insects between subsequent flocks.

Feed held over between batches should be stored in such a way to prevent contamination during shed clean-out. Only feed that was contained within the storage systems can be carried over – any feed open to the shed environment, e.g. feed pans, or contained within the augers should be disposed of.

12. FEED SUPPLY

Intent: To minimise the risk of microorganism transmission to flocks through feed.

The New Zealand Code of Good Manufacturing Practice for Compound Feeds, Premixes and Dietary Supplements, as issued by the New Zealand Feed Manufacturers Association, Inc. and approved under the Agricultural Compounds and Veterinary Medicines Act, provides good guidelines for the control of microbiological contamination of feed. Feed should be sourced from manufacturers who meet this Code where possible.

FeedSafeNZ-accredited mills are the preferred source of feed for meat chickens.

13. CONTROL OF CHEMICALS

Intent: To ensure the appropriate and effective use of chemicals on-site.

The use of any restricted veterinary medicines should be as per label instructions or if used off label with written veterinary instructions. The use of pesticides, herbicides
and sanitisers, are only to be used with the company's permission and according to the conditions of label.

Companies may have a list of all approved chemicals used on and around sites. This list should detail the chemical, where it will be used and for what purpose and ensure use in accordance with conditions of approval.

Any off-label use is not permitted unless written approval from the company is obtained. This off-label use must be supported by a written risk document.

14. FREE-RANGE SYSTEM BIOSECURITY

**Intent:** To minimise the biosecurity risks represented by features unique to free-range farming systems.

Free-range farms should be sited away from areas which attract wild waterfowl.

Wild birds should be discouraged.

Grazing animals and domestic pets should be excluded completely from the site and the free-range areas. There should be a physical boundary between the birds and all animals.

Ranges should be constructed to provide good draining and avoid pooling of water.

Entry to the sheds should be through the annex with inside-shed-dedicated footwear and hand sanitisation available.
15. **AUDITING**

**Intent:** To ensure that biosecurity procedures are maintained on-farm.

Companies should have a planned audit system in place, including specified frequency of audits and directions on how corrective actions should be taken.

Independent, external audits may be undertaken as considered appropriate to maintain the robustness of the system, and as agreed between MPI and the New Zealand poultry industry.

Records of the audits and any actions required must be documented.