

# Best Practice in the Broiler House



**Biosecurity**



An Aviagen Brand

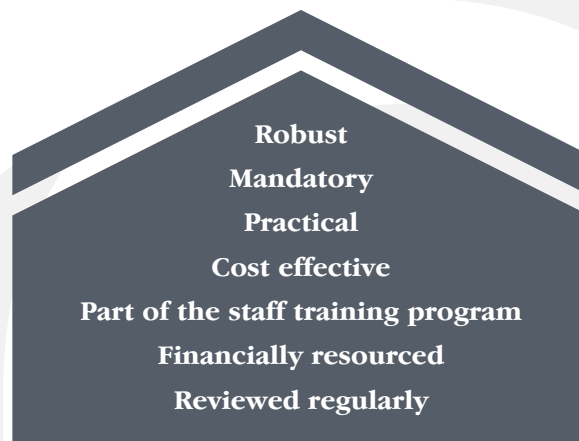


## Introduction

- 1 Biosecurity creates hygienic conditions within the poultry house to minimize the adverse effects of disease, optimize bird performance and welfare and provide assurance on food safety issues. Poor bird health has a negative impact on all aspects of flock management and production, including growth rate, FCR, mortality, condemnations, processing traits, and bird welfare.

## Best practice for Biosecurity

A biosecurity program should be:



Potential routes of disease exposure:



- 1 Site cleaning must remove all potential poultry and human pathogens and minimize the number of residual bacteria, viruses, parasites, and insects between flocks.
- 2 Providing a period of downtime in between flocks is key.



## Cleaning and Disinfection

### Step 1. Plan well

Draw up a plan detailing dates, times, labor, and equipment requirements prior to depleting the farm.



### Step 2. Insect Control

Wearing appropriate protective equipment, spray the interior of the house with a locally recommended insecticide as soon as the flock is removed (while the house is still warm). A second treatment with insecticide should be completed before fumigation.



### Step 3. Remove Dust

Remove all dust and cobwebs from interior surfaces and equipment.



### Step 4. Pre-Spray

Wearing appropriate protective equipment, spray detergent solution throughout the house interior to dampen down dust. Close the curtains in open-sided houses first.

### Step 5. Remove Equipment

Remove all equipment from the house and raise automatic feeders and drinkers.

### Step 6. Remove and dispose of litter

Litter must be removed to a distance of at least 3.2 km (2 miles) and disposed of in accordance with local government regulations.

### Step 7. Washing

Use a pressure washer with a foam detergent. Ensure the detergent is compatible with the disinfectant to be used. Rinse with hot water.



Step 6



Step 7



Step 7



## Cleaning and Disinfection

### Step 8.

#### Clean the water and feeding systems

##### Water System

- Drain, clean, and disinfect the water system.
- Water pipes should be cleaned at least once a flock to remove any biofilm that may have built up. If physical cleaning is not possible, use high levels (140 ppm) of chlorine.
- Flush water lines with clean, fresh water prior to placement.

##### Feeding System

- Empty, wash, and disinfect all feeding equipment.
- Empty bulk bins and connecting pipes and brush out. Clean out and seal all openings.
- Fumigate wherever possible.

### Step 9.

#### Disinfection

Use an approved disinfectant which is effective against specific poultry bacteria and viruses. Follow manufacturer's instructions at all times. Most disinfectants are not effective against sporulated coccidial oocysts. Selective coccidial treatments should be used by trained staff only.

N.B Disinfectants are ineffective in the presence of dirt and organic matter and should not be applied to wet surfaces (this will cause dilution).



### Step 10.

#### Fumigation

Where permitted, formalin fumigation should be completed by trained personnel, following local safety legislation and guidelines. Fumigate as soon as possible after disinfection; surfaces should be damp and the house warmed to a minimum of 21°C (70°F) and an RH of greater than 65%. Seal the house for 24 hours (no entry permitted). Ventilate the house to reduce formalin levels to 2 ppm before entry to the house is permitted. Repeat fumigation after the litter has been spread.



Step 8

*Drain, clean and disinfect the water system*



Step 8

*Empty and clean out bulk bins and connecting pipes*



Step 10



## Cleaning External Areas

**1 External areas around the house should be cleaned and disinfected thoroughly as well.** Particular attention should be paid to the area under ventilator and extractor fans, under feed bins, access routes, door surrounds, and gutters.

**2 Ideally, the house should be surrounded by an area of concrete or gravel (1-3 m / 3-10 ft in width).** If this is not possible, the area around the house must be free from vegetation and machinery / equipment, have a level surface, and be well drained.



## Evaluating Farm Cleaning and Disinfection Efficacy

**1 Monitor the efficacy of cleaning and disinfection regularly.** Complete bacterial and salmonella counts at least once a flock. Monitoring trends in salmonella / bacterial counts will allow continuous improvements in farm hygiene to be made.

**2 If cleaning and disinfection has been effective, no salmonella species should be isolated during sampling.**





### Water Quality

1 **Test water quality at least once a year.**

Criteria	Concentration (ppm)
Total Dissolved Solids	0-1000
pH	6.5-8.5
Sulphates	50-200
Chloride	250
Potassium	<300
Magnesium	50-125
Nitrate Nitrogen	10 (maximum level)
Nitrates	trace
Iron	<0.3
Fluoride	2 (maximum level)
Bacterial Coliforms	0 cfu/ml
Calcium	600 (maximum level)
Sodium	50-300

2 **Chlorination to give between 3 and 5 ppm free chlorine at drinker level is effective in controlling bacteria.**

3 **Where hard water is a problem (iron levels > 3mg / l), filter water with a 40 - 50 micron filter.**

4 **It is a good idea to routinely check the water supply throughout the flock.** Simply run water out of the end of the line and check for clarity. If a high level of dirt is visible, water line sanitation is not appropriate and needs to be altered.



### Preventing Diseases Transmitted by Humans

1 **Prevent unauthorized access to the farm.** The perimeter of the farm should be fenced and no entry signs posted.

2 **All people entering the farm should shower on and change clothing.**

3 **Maintain a visitor record.**

4 **Hands and boots should be sanitized when entering and leaving individual houses.** It is also a good idea to change to clean boots once inside the house.

5 **Clean and disinfect all equipment before bringing it into a house.**

6 **Visit the youngest flocks first.**

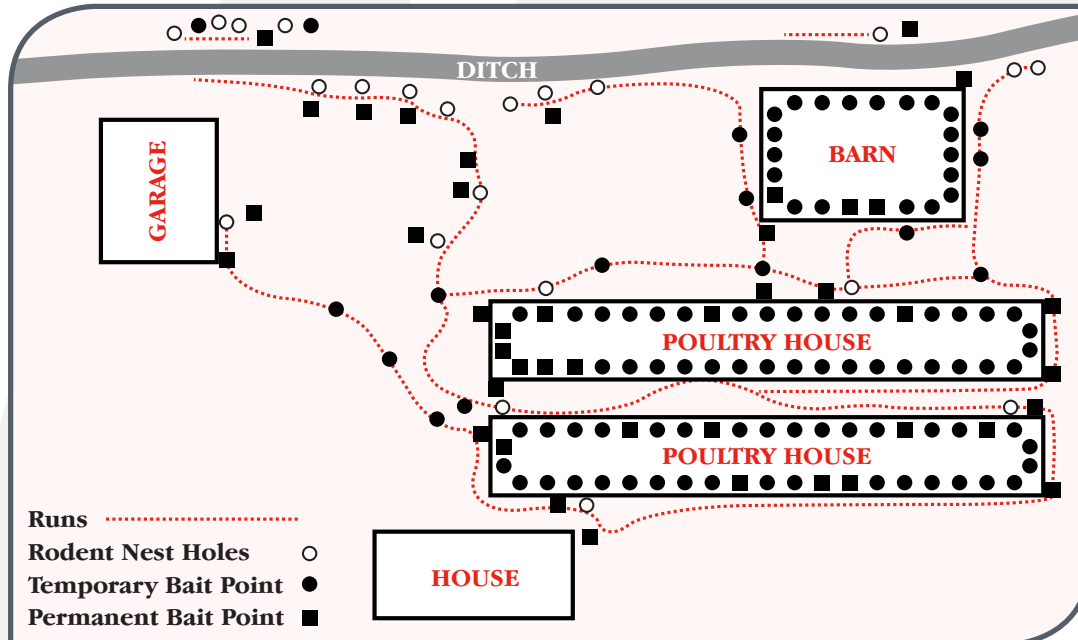




## Preventing Disease Transmitted by Animals

- 1 **Wherever possible use an 'all in/all out' cycle.**
- 2 **A period of downtime between flocks will reduce contamination.** The longer the downtime the lower risk of disease transmission between flocks. Downtime should not be less than 7 days. If there have been disease or health issues downtime should be extended.
- 3 **Keep wild birds out of all houses.**
- 4 **Do not leave equipment, building materials, or litter lying around.**
- 5 **Clean-up feed spills immediately.**
- 6 **Store litter materials and feed inside an enclosed storage bin or building.**
- 7 **Maintain an effective rodent / vermin program.**

Example of an effective rodent baiting plan:



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