

---

# EXPERIMENT 5    BIO-SECURITY MEASURES

---

## Structure

### 5.1 Introduction

Objective

### 5.2 Experiment

5.2.1 Principle

5.2.2 Requirements

5.2.3 Procedure

5.2.4 Observations

5.2.5 Results

### 5.3 Precautions

---

## 5.1 INTRODUCTION

---

“Bio-security” means “Secured Living”. For successful poultry farming, maintaining the health of flock is one of the important aspects for success of the enterprise. In other words, we have to make “living” of poultry “secure and safe” from disease-producing microorganisms which may enter the flock or birds through air, water, feed, men and material.

### Objective

After performing this experiment, you will be able to:

- summarize the concept of bio-security and its importance in preventing the diseases.

---

## 5.2 EXPERIMENT

---

### 5.2.1 Principle

Bio-security means preventing the entry of disease causing organisms into a designated area or farm. The measures include the provision of special clothes while working on the farm, insisting the employees to take bath and change their clothes before entering the farm, restricting the entry of visitors into the farm, elimination of wild birds and backyard chickens from poultry house, provision of foot bath (5% phenol), thorough cleaning of farm equipments and proper disposal of dead birds. The program should be as cheap and at the same time most effective in control of disease and its spread.

### 5.2.2 Requirements

- Properly constructed poultry farm.
- Arrangements of disinfectant spray with pressure pump for vehicles at the main entrance.
- Foot baths with disinfectant liquids for dipping foot wears at the main entrance, entrance of bird area and at the door of each poultry house.
- Disinfectants, fumigation chemicals.

### 5.2.3 Procedure

Observe for the bio-security requirements in the farm you are visiting and note down your observations with respect to each of the questions indicated below:

#### (i) Location of the farm

- 1) Is the farm constructed on an elevated area? (Yes/No)
- 2) Does the farm have different types (broilers/layers) of birds? (Yes/No)
- 3) Are the birds of different age groups maintained separately? (Yes/No)
- 4) Does the normal wind flow at the location is from younger flock to older flock? (Yes/No)
- 5) Proper distance is provided between the poultry houses? (Yes/No)
- 6) Is the poultry farm reasonably away (at least 1.6 km) from other poultry facility? (Yes/No)
- 7) Does the farm have proper water and electricity supply? (Yes/No)
- 8) Supply of feed, vaccine, medicine and other inputs are within a reasonable distance? (Yes/No)
- 9) Disease diagnostic facility is within a reasonable distance? (Yes/No)

**Note:** If all the questions above receive an answer “Yes”, the location of the farm meets the bio-security requirements.

#### (ii) Structural Bio-security

- 1) The buildings constructed are of permanent type (Cement concrete with standard roof)? (Yes/No)
- 2) Is the farm fenced to prevent entry of outside men and materials? (Yes/No)
- 3) Water source is found suitable for poultry as far as mineral, bacterial, chemical contamination and pathogen load is concerned? (Yes/No)
- 4) Separate location is available to store feed? (Yes/No)
- 5) Are the poultry houses, feed storage building and other structures protected from wild birds and rodents? (Yes/No)
- 6) Are the farm roads easy to clean? (Yes/No)
- 7) Is there a disinfectant dip constructed at the entrance so that tyres of all vehicles entering the farm disinfected? (Yes/No)
- 8) Whether separate structures (incinerator/disposal pits) were constructed for destroying dead birds, litter etc? (Yes/No)

**Note:** If all the questions above receive an answer “Yes”, the farm meets the structural bio-security requirements.

#### (iii) Operational Bio-security

- 1) Are all the visitors checked in after proper entry in a register with details of their name, company, purpose of visit, previous farm visited and next farm to be visited? (Yes/No)

- 2) Are all visitors needed to have a shower and wear clothing provided by the farm? (Yes/No)
- 3) Daily chart of routine being followed? (Yes/No)
- 4) Are there separate attendants for each building? (Yes/No)
- 5) Is there an arrangement for shower for all workers before entry into the farm? (Yes/No)
- 6) Is there a facility to provide separate clothing to attendants at the farm? (Yes/No)
- 7) Are foot dips with disinfectant provided at the entrance of each area and each pen/house? (Yes/No)
- 8) Regular water sanitation and testing of water undertaken at least once every six months? (Yes/No)
- 9) Regular vaccination schedule practiced with all precautions with records of Batch No. date of vaccination etc.? (Yes/No)
- 10) Periodical checking of antibody status after vaccination done by a recognized laboratory? (Yes/No)
- 11) Whether all poultry feeds used are regularly analyzed for their composition and safety? (Yes/No)
- 12) Are poultry house and equipments cleaned and disinfected after disposal of every batch? (Yes/No)
- 13) A minimum gap of two weeks provided between two successive batches; especially in broilers; in other words, all-in-all-out program followed? (Yes/No)
- 14) Whether recycled materials like packing material, egg filler flats are cleaned and disinfected before reuse? (Yes/No)
- 15) Are rodent control measures followed regularly? (Yes/No)
- 16) Are pest control measures followed regularly? (Yes/No)
- 17) Whether necropsy examinations are conducted, reports maintained and monitored regularly? (Yes/No)
- 18) Whether carcass disposal is undertaken scientifically? (Yes/No)

**Note:** If all the questions above receive an answer “Yes”, the farm meets the operational bio-security requirements.

**(iv) Bio-security measures for persons handling the birds**

- 1) Whether all persons handling the birds wear aprons, gum-boots, gloves and masks while on farm duty? (Yes/No)
- 2) Whether all persons are aware of importance of bio-security measures? (Yes/No)
- 3) Do all the persons actually follow all the bio-security precautions? (Yes/No)

**Note:** If all the questions above receive an answer “Yes”, the farm meets the bio-security requirements for the persons working in the farm.

### 5.2.4 Observations

- i) Give the total number of questions answered with Yes .....
- ii) Give the total number of questions answered with No .....

### 5.2.5 Results

Conclude with a comprehensive report of the status of bio-security measures you observed.

.....

.....

.....

---

## 5.3 PRECAUTIONS

---

- Take proper care while carrying out disinfection and fumigation so that it will not harm either the birds or the person carrying out the operations.