

# POULTRY PRODUCTION

## Level- II

# Learning Guide -41

**Unit of Competence: Set up shed for placement of  
day-old chickens**

**Module Title: Setting up shed for placement of  
day-old chickens**

**LG Code: AGR PLP2 M12 LO1-LG-41**

**TTLM Code: AGR PLP2 TTLM 1219v1**

**LO-01: Prepare to work in poultry  
shed**

<b>Instruction Sheet</b>	<b>Learning Guide #41</b>
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This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics –

- Holding discussion with workers who may be affected by the activities
- Selecting, using and maintaining Suitable personal protective equipment
- Selecting, checking and maintaining tools and equipment suitable for the work to be undertaken

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, **you will be able to:**

- Hold discussion with workers who may be affected by the activities
- Select, use and maintain suitable personal protective equipment
- Select, check and maintain tools and equipment suitable for the work to be undertaken

#### **Learning Instructions:**

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 1 to 7.
3. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask your teacher for assistance if you have hard time understanding them.
4. Accomplish the “Self-check 1-3” **in page 4-13**
5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).
6. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
7. Submit your accomplished Self-check. This will form part of your training portfolio.



**The points should be considered for discussions with workers related to placement of day old chicken are:**

### **Preventive Measures (safety)**

- Wash your hands often and thoroughly, especially before and after leaving the chicken house and after handling machinery that comes in contact with poultry. Wash with soap and warm water for at least 20 seconds. Dry hands with disposable towels.
- Keep it clean by wearing clean clothes. Disinfect boots and shoes before and after visiting chicken houses.
- Keep equipment and vehicles clean. Insist that all machinery and vehicles be cleaned before entering your property.
- Wear PPE whenever working in or around the chicken house. Use respirators, gloves, boots and coveralls to protect yourself.
- Use ventilation to reduce heat and gases in the chicken house. Make sure fans are operating properly before entering.
- Drink plenty of fluids to prevent dehydration.
- Use biosecurity. Don't haul diseases home with you. Always change your clothes or remove outer work wear and wash your hands before returning to your home.
- If you or your family get sick please see doctor



**Figure 1.** Group discussions of workers

<b>Self-Check -1</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is the importance of group discussion? (4pts)
2. What are the critical points should be discussed related to placement of day old chicken?(4pts)

**Note: Satisfactory rating - 5 points**

**Unsatisfactory - below 5 points**

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Short Answer Questions**

1. \_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

<b>Information Sheet-2</b>	<b>Selecting, using and maintaining Suitable personal protective equipment</b>
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## 2.1. What is personal protective equipment?

Personal protective equipment, commonly referred to as "PPE", is equipment worn to minimize exposure to hazards that cause serious workplace injuries and illnesses. These injuries and illnesses may result from contact with chemical, radiological, physical, electrical, mechanical, or other workplace hazards. Personal protective equipment may include items such as gloves, safety glasses and shoes, earplugs or muffs, hard hats, respirators, or coveralls, vests and full body suits.

## 2.2. Selecting Personal Protective Equipment

**The selection of appropriate PPE is based up the hazard assessment**

In selecting PPE, one should be consider these factors:

- Type of hazardous materials, processes, and equipment involved
- Routes of potential exposure (ingestion, inhalation, injection, or dermal contact)
- Correct size for maximum protection

To work with chicken shed or to prepare chicken shade for replacement or arrival, the following PPE are required:

- **Rubber boots:**



**Figure 2.** Rubber boots



- **Glove:**



**Figure 3. Gloves**

- **Overall:**



**Figure 4. Overall**

- **Respiratory mask**



**Figure 5.** Respiratory mask

#### **How to use PPE?**

- Wear PPE whenever working in or around the chicken house. Use respirators, gloves, boots and coveralls to protect yourself.



**Figure 6.** How to wear PPE



## Maintaining PPE

Clean and properly maintained PPE is important to ensure the effectiveness and proper functioning of PPE and to prevent transmitting infection (such as pink eye, respiratory illness).

## Potential hazards

Some of the Potential hazards related with improperly cleaned or maintained PPE include

- Severe burns due to employees performing hot work while wearing greasy or oily clothing
- Impaired vision due to using eye and face protection with dirty, scratched, or fogged lenses or shields
- Skin irritation or chemical absorption due to contaminated PPE such as clothing, gloves, face pieces, gloves and boots
- Inhalation of toxic chemical due to damaged respiratory valves
- Spread of infectious diseases due to shared equipment

## Requirements and example solutions

- The all PPE must be cleaned often
- Defective, damaged, or contaminated PPE must not be used.
- Unsanitary PPE must be cleaned and disinfected before it is re-used.
- employees must be instructed in the proper care, maintenance, useful life, and disposal of PPE

Self-Check -2	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What are the common PPE used for setting shed and placement of day old chicken(2pts)
2. What are the potential hazards associated with improperly cleaned or maintained PPE? (2pts)

**Note: Satisfactory rating - 3 points**

**Unsatisfactory - below 3 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Questions

1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Operation Sheet 1	Selection of PPE
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### Procedures for selection of PPE

**Step 1-** Identifying the potential hazards

**Step 2-** Determining the type of protective equipment available for the present hazards

**Step 3-** Evaluating the effectiveness of the PPE

**Step 4-** Selecting appropriate protective equipment

**Step 5-** Providing a variety of size to properly fit all users

**Step 6-** Selecting equipment that is compatible with other PPE

LAP Test	Practical Demonstration
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Name: \_\_\_\_\_ Date: \_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

**Instructions:** Given necessary templates, tools and materials you are required to perform the following tasks within **--1- hour**.

**Task 1.** Select appropriate PPE following is procedures?

### Information Sheet-3

## Selecting, checking and maintaining tools and equipment

A good care should be taken of the tools and equipments, which would then have a long life. It is not wise to keep workers sitting idle at critical periods of work because of shortage of tools.

**Rules in handling and using tools and equipments are:**

- Used all tools for what they are designed or constructed.
- Clean the tools and equipments always before storing them away.
- Store them in a neat dry place.

### 3.1. Inspecting and checking tools and equipments

The purpose of an inspection and checking is to identify whether work equipment can be operated, adjusted and maintained safely with any deterioration detected and remedied before it results in a health and safety risk. Not all work equipment needs formal inspection to ensure safety and, in many cases, a quick visual check before use will be sufficient. However, inspection and checking is necessary for any equipment where significant risks to health and safety may arise from incorrect installation, reinstallation, deterioration or any other circumstances. The need for inspection and inspection frequencies should be determined through risk assessment.

### Importance selecting, checking and maintaining

- To perform poultry production operation without any interruption
- In order to separating functional & un functional tools & equipment
- Ready for repaired & maintenance
- Care for environmental condition
- Disposing or sale out of depreciated/ retired equipment
- For kaizen application
- To know loss equipment
- To separate well cleaned & un cleaned tools

### 3.2. Selecting tools and equipments

Poultry raising farmer/ keepers must be using the correct types of hand tools and basic equipment during their operations. Selection of tools and equipments should be based on functionality, durability, accessibility and easy for cleaning. Thus for chicken raising the following tools and equipments are required.

1. **Chicken feeder:** the feeder may be metal or plastic



**Figure 7.** Chicken federer

2. **Chicken waterer**



**Figure 8.** Chicken waterer



### 3. Disinfectant dips



Figure 9. Disinfectant dip

### 4. Transportation crates



Figure 10. Transportation crate

## 5. Bedding materials



Figure 11. Chicken bedding materials

## 6. Cleaning-out kit



Figure 12. Chicken cleaning materials

## 7. Shovel



Figure 13. Shovel

### 3.3. Maintaining tools and equipments

All tools and equipments must be properly maintained so that workers are not endangered. Maintenance regulation requires inspection of materials, tools and equipments before use. Preventive maintenance is a systematic care and protection of tools and equipment in order to keep them in safe, useable condition, limit down time and extended productivity. We must always be aware that maintenance tasks themselves are potentially hazardous and can result in injury. The successful maintenance program is:

- Well organized and scheduled
- Control hazards
- Define operational procedures
- Train key personnel
- Handle and store tools with care

Self-Check -3	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What are the importance selecting, checking and maintaining materials, tools and equipments(7pts)

**Note:** Satisfactory rating - 3 points

Unsatisfactory - below 3 points

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Questions

1. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Operation Sheet 2	Maintenance of tools and equipments
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### Procedures for maintaining of tools and equipments

- Step 1-** Wear PPE
- Step 2-** inspecting tools and materials
- Step 3-** Identifying un functional tools and equipments
- Step 4-** Maintaining tools and equipments
- Step 5-** checking tools and equipments
- Step 6-** Replacing or purchasing

LAP Test	Practical Demonstration
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Name: \_\_\_\_\_ Date: \_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

**Instructions:** Given necessary templates, tools and materials you are required to perform the following tasks within **-2- hour**.

**Task-1.** Maintain tools and equipment following its procedure?



### List of Reference Materials

**FAO, (2015). Advanced Livestock and Poultry Production**

<http://www.fao.org/docrep/008/y5169e/y5169e00.htm>

**Hy-line international welfare goals and principles guide line 2018**

[www.Hyline.com](http://www.Hyline.com)

**Agromisa (2003). Chicken farming in the tropics 2: lecture notes. (ed. E.H. Ketelaars)**

**Educational material no. 33. ISBN 90-5285-060-7.**

# POULTRY PRODUCTION

## Level- II

# Learning Guide -42

**Unit of Competence: Set up shed for placement of  
day-old chickens**

**Module Title: Setting up shed for placement of  
day-old chickens**

**LG Code: AGR PLP2 M12- LO2-LG-42**

**TTLM Code: AGR PLP2 TTLM 1219v1**

**LO-02: Check and maintain shed  
and equipment**

## Instruction Sheet

## Learning Guide #42

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics –

- checking Level of shed cleanliness and where required
- Carrying out and controlling shed repair and maintenance to maximize pest and vermin exclusion.
- Operating and checking Lights, time switches and all other shed equipments.
- Placing Quarantine procedures to prevent entry of pathogens on personnel and equipment.

This guide will also assist you to attain the learning outcome stated in the cover page.

Specifically, upon completion of this Learning Guide, **you will be able to:**

- check Level of shed cleanliness and where required
- Carry out and controlling shed repair and maintenance to maximize pest and vermin exclusion.
- Operate and check Lights, time switches and all other shed equipments.
- Place quarantine procedures to prevent entry of pathogens on personnel and equipment.

### Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 1 to 7.
3. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
4. Accomplish the “**Self-check 1-4**” in page 19 - 27
5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1)
6. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1
7. Submit your accomplished Self-check. This will form part of your training portfolio.

<b>Information Sheet-1</b>	<b>Checking Level of shed cleanliness</b>
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Disease is always a hazard in poultry rearing with the establishment of large farms the risk of disease increases. The first requirement for good hygiene is effective cleaning with good cleaning one can eliminate more than 90% of all disease.

The following hygienic measures are used to protect poultry against diseases.

- Isolation of the farms. Locate them as far away from other poultry farms as practical.
- No admittance of visitors. The poultry house has to be closed properly. If any person is to be admitted to the poultry house he must be made to change his footwear and clothes and should disinfect his hands.
- Get feed in bulk transport or in proper houses.
- Prevent entry of wild birds into poultry house.
- Keep one category of poultry on the farm at any one time and if possible keep birds of one age. Young chicks are more sensitive to diseases than older birds. Microorganisms can be transmitted easily from adults to chicks and vice versa.
- Prevent children, dogs, cats or other animals from entering poultry house.
- Poultry house personnel should not be allowed to keep poultry at home.
- All poultry equipment in the poultry house should be cleaned and disinfected before use.
- Good housing solid floor e.g. cement and smooth walls are essential for cleaning and disinfection.
- All insects' rats and mice should be destroyed since they are carriers of diseases. Rats are vicious predators of young chicks.
- Good ventilation is essential to maintain temperature and humidity.
- Use of healthy stock all the time is very important.
- A scheme of vaccination based on sound veterinary advice is essential.
- Cull all sick birds at the first sign of disease.
- An immediate removal of dead birds is necessary and all dead birds should be disposed of either by burning or by burial.
- Avoid overcrowding and overheating of the birds.

- Buy chicks or hatching eggs from known flocks source.
- Give well balanced and adequate feed from a reputable mill or give fresh home mixed concentrate.
- Provide a footbath of disinfectant at the entrance of poultry houses.

<b>Self-Check -1</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is the importance of checking the cleaner of shade? (10pts)

**Note: Satisfactory rating - 6 points**

**Unsatisfactory - below 6 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Questions

1. \_\_\_\_\_  
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 \_\_\_\_\_



<b>Information Sheet 2</b>	<b>Carry out and controlling shed repair and maintenance</b>
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### 2.1. Repairing chicken shed

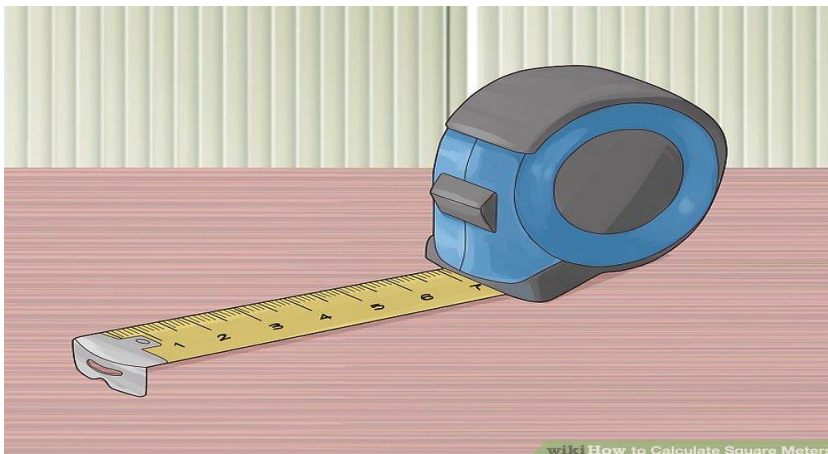
Conducting shed repair and maintenance is an important pre-placement activity in brooding chicken. Poultry raising activity and the house condition or status should be monitored daily.

This activity and conditions includes:

- Avoiding any holes that let the rats to enter in to the house
- Maximize pest and vermin exclusion
- Avoiding leak of the house roof
- Identify, check and maintain materials, tools and equipments that needs repair
- Maintain the chickens wire and rodent barriers when necessary
- All insects' rats and mice should be destroyed since they are carriers of diseases. Rats are vicious predators of young chicks.
- Repaire and maintain damaged shed

#### Some of required materials and tools for repairing day old chickens shed

- Iron sheet
- Nail
- Hammer
- Meter: used for measuring length, height and width in chicken house construction or maintenance



wiki How to Calculate Square Meters

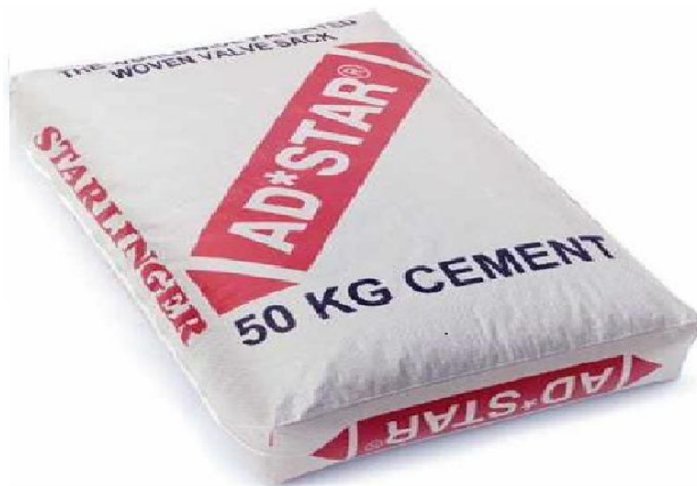
**Figure 1.** Measuring tape

- **Wire mesh:** Chicken mesh in old plaster was used to prevent cracking and hold the plaster together should the house experience settlement. The mesh also helps fight cracks caused by the twisting of plaster laths. Nowadays, I use galvanized wire mesh screwed to old wooden lath to protect my repairs against cracking



**Figure 2.** Chicken wire mesh

- **Cement:** Is a building materials used for construction



**Figure 3.** Cement

- Shovel: used for removing litter



**Figure 4. Shovel**

- Other material (Stone, woods, nails, etc)

The size and quantity of each materials is depends on shed condition and size of the house to be repaired

Self-Check -2	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is the importance of repairing shed? (10pts)

**Note:** Satisfactory rating - 6 points

Unsatisfactory - below 6 points

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Questions

1. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Information Sheet 3	<b>Operate and check Lights, time switches and all other shed equipments</b>
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## Brooder Light

Chicks are attracted more to light than to heat, which is why commercial brooders have a small light, appropriately called an attraction light, near the heat source. One 25-watt bulb will adequately light about 10 square feet (1 sq m). To help chicks find feed and water, light the brooder continuously for the first 48 hours. If the brooder gets natural daylight, after the first 2 days you can turn the light off during the day. Windows on the south side furnish the best sunlight.

Even if the light is also your source of heat, turn it off for half an hour during each 24-hour period but obviously not during the coolest hours so the chicks learn not to panic later when the lights go out at night or in the event of a power failure. Putting the brooder light on a timer will save you the trouble of remembering to turn it off and on each day.

Light affects the growth rate of chicks, so never keep them in the dark. Even if you have to dim the lights to control cannibalism, the light should still be bright enough for you to see what's going on in the brooder. A rule of thumb is that dimmed lighting should be at least bright enough to barely read a newspaper.

## Brooder Temperature

A chick's body has little in the way of temperature control, although a group of chicks can keep themselves warm by huddling together in a small space which is why a box full of newly hatched chicks may be shipped by mail. When given sufficient space to exercise, eat, and drink, chicks need an external source of warmth while their down gives way to feathers, starting at about 20 days of age.

Chicks tend to feather out more quickly in cooler weather, but if the air temperature is quite low, they need auxiliary heat longer than chicks brooded in warmer weather. For this reason chicks hatched in winter or early spring typically require brooder warmth longer than chicks hatched in late spring or early summer.



Start the brooder temperature at approximately 95°F (35°C) and reduce it approximately 5°F (3°C) each week until the brooder temperature is the same as ambient temperature. Within the chicks' comfort zone, the more quickly you reduce the heat level, the more quickly the chicks will feather out.

### Brooder floor

Cover the floor of the brooder with pine shavings or other absorbent bedding. Do not use cedar shavings or kitty litter. Do not use newspaper. For the first two days only, cover the litter with paper towels or a piece of old cloth to keep chicks from eating the litter until they find the food.

### Other requirements may include

**Feed:** Use baby chick starter feed for all chicks except meat bird chicks, which meat bird starter need feed. For the first day or two, sprinkle feed on a white paper plate or some white paper towels to make it easy to find. Feed must be available in feed dishes.

**Water:** Baby chicks need water in a shallow, narrow container so they can't drown. Dip their beaks into the water gently as you put them into to the brooder so they know where it is. Always have water available.

### Daily activities to keep Chickens Healthy

- **Keep water available at all times.** This may mean a heat source to keep water from freezing in winter.
- **Provide chickens with a quality feed formulated for their needs.** For example, meat birds need a feed with lots of protein and layers need a feed that addresses their need for additional calcium and other minerals. Feeding chickens scraps and odd grains usually leads to nutrient deficiencies.
- **Keep chickens dry and protected from weather extremes.** Their quarters should also be well ventilated to prevent lung problems.
- **Give chickens enough space.** Crowded conditions lead to stress and injuries from fighting. Each chicken needs a minimum of two square foot of shelter and three square foot of outdoor run area.

- **Biosecurity:** Biosecurity is the best method of avoiding disease. A good biosecurity program identifies and controls the most likely ways a disease could enter the farm. Human and equipment movement onto the farm should be strictly controlled. Visitors to the farm should be limited to those who are essential for its operation.

<b>Self-Check -3</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What should be the temperature of chicken shed? (10pts)

**Note: Satisfactory rating - 6 points**

**Unsatisfactory - below 6 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Questions

1. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Information sheet 4	Quarantine procedures
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## Definitions of terms

**Quarantine:** is the act of isolating a chicken or chickens that has been potentially or actually exposed to contagious illness from the rest of your flock.

### 4.1. Why isolate/quarantine new birds?

- Prevent the spread of disease between new birds and current flock
- Birds can harbor and transmit disease while appearing healthy
- Birds that appear healthy when leaving a location may pick up infectious disease en route
- Isolation gives owners and veterinarians time to observe new birds for signs of disease
- Newly added birds have time to recover and acclimate to a new environment after movement

### 4.2. When should you isolate/quarantine?

- Immediately upon arrival of any bird from another location (off-site)
- Prevent movement of birds on/off property during an outbreak of Newcastle disease, avian influenza, or other contagious diseases
- Immediately after you observe sign of diseases

### Sign of healthy bird will:

- Be active and alert.
- Be normal size/weight for the strain, age and sex.
- Have no lameness or paralysis.
- Have no injuries.
- Have no deformities.
- Have no discharges from the nostrils or eyes.
- Have no stained feathers around the vent.
- Have no swellings.
- Generally have good plumage related to the whether in a moult or in lay



#### 4.3. Quarantine in having purchased poultry:

- Examine the bird for external parasites such as lice, mites, ticks, etc. These parasites may give rise to stress via anemia and can carry other diseases such as tick fever. Parasites such as these will rapidly spread and colonise other birds in close contact. If evidence of these parasites is seen, dust the bird with an insecticide powder recommended by your veterinarian. If you are at all unsure, dust the bird anyway, and repeat the treatment in 14 days.
- Have the droppings examined for round worm and tapeworm eggs (see your veterinarian). If present, worm the bird with an anthelmintic recommended by your vet. You will need to resample the bird in 6 weeks. This is because the round worm life cycle is about 6 weeks, so if you were unlucky and your bird picked up a roundworm egg the day you bought it, the first sample will be negative and it will take 6 weeks for mature egg-laying worms to develop. Ideally, two negative samples 6 weeks apart should be obtained before declaring the bird worm free.
- Have the droppings examined for evidence of coccidiosis (see your veterinarian). If negative, resample in 14 days; if positive treat with an appropriate drug. Wait for 2 clear samples.
- The routine use of antibiotics is **not** recommended during the quarantine period. However, if a bird becomes ill while in quarantine, treatment is required. If antibiotics are given routinely to new birds (especially over the entire quarantine period) there are several undesirable possibilities.
  - Over growth in the bowel of non-susceptible pathogenic organisms, especially yeasts and fungi;
  - The possibility of creating resistant strains of bacteria which will be transferred to the main flock via droppings, after the quarantine period has finished.
- It is important to use antibiotics sparingly and only when there is a good reason. Antibiotics are **NEVER** a substitute for good management, good nutrition and good housing.
- Vaccinate the birds to bring them up to the health status of the rest of the flock.
- Trim the bird's nails and renovate plumage if needed.

#### **4.4. Quarantine - feeding**

In quarantine, good nutrition is important. Seed, pellets, greens, and other food offered to the birds in quarantine should parallel those given in the main run. This avoids any potential digestive disturbances when transfer eventually occurs. Clean fresh water should be available continually. Vitamin and mineral supplements recommended by your veterinarian may also be used.

Self-Check -4	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is the importance of isolating chickens? (10pts)

**Note:** Satisfactory rating - 6 points

Unsatisfactory - below 6 points

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Questions

1. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Operation Sheet -3

## Quarantine chicken

### Procedures of quarantine

#### Step 1- Set up an isolation/quarantine area

- Set up a separate quarantine area more than 10 meters (approx. 33 feet) from other birds
- Only use equipment designated for this area (e.g. water dishes, food, cleaning equipment, cages)
- Set up disinfectant stations; change clothes and shoes before entry and exit from the area (see Cleaning and Disinfecting handout)

#### Step 2- Bird care

- Have all birds enter and leave quarantine at the same time
- Examine quarantined birds and feces for signs of disease on a daily basis
- Keep a daily log of birds and note down if any unusual symptoms are seen
- Make sure to visit these birds as a last step after caring for other birds that are not in your designated quarantine area
- Acclimate birds to your bird management routine (e.g. vaccination, feeding, etc.)

#### Step 3- Length of time in isolation/quarantine area/releasing to the stock

- 30 days free of illness
- 90 days if birds come from different sources
- Thoroughly clean and disinfect the area after birds are removed



LAP Test	Practical Demonstration
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Name: \_\_\_\_\_ Date: \_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

**Instructions:** Given necessary templates, tools and materials you are required to perform the following tasks within -2- hour.

**Task 1. Identify the chicken that shows sign of disease and quarantine?**

## List of Reference Materials

Lauber, J. K., Shutze, J. V., & McGinnis, J. (2016). Effects of Exposure to Continuous Light on the Eye of the Growing Chick.\*. *Proceedings of the Society for Experimental Biology and Medicine*, 106(4), 871-872

**Dan L. Cunningham & Brian D. Fairchild:** “Biosecurity Basics for Poultry Growers,” *The University of Georgia Poultry Extension*.

**Hy-line international welfare goals and principles guide line 2018**

**[www.Hyline.com](http://www.Hyline.com)**

**Agromisa (2003). Chicken farming in the tropics 2: lecture notes. (ed. E.H. Ketelaars) Educational material no. 33. ISBN 90-5285-060-7.**

# POULTRY PRODUCTION

## Level- II

# Learning Guide -43

**Unit of Competence: Set up shed for placement of  
day-old chickens**

**Module Title: Setting up shed for placement of  
day-old chickens**

**LG Code: AGR PLP2 M12 LO3-LG-43**

**TTLM Code: AGR PLP2 TTLM 1219v1**

## LO-03: Prepare shed

## Instruction Sheet

## Learning Guide #43

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

- Ordering litter correctly to provide adequate quantity for new chickens.
- Spreading or laying of litter or paper evenly on shed floor or brooder cages
- Cleaning, reinstalling and testing watering, feeding, ventilation systems
- selecting and adjusting of Lighting levels for day old chickens

This guide will also assist you to attain the learning outcome stated in the cover page.

Specifically, upon completion of this Learning Guide, **you will be able to:**

- Order litter correctly to provide adequate quantity for new chickens.
- Spread or laying of litter or paper evenly on shed floor or brooder cages
- Clean, test water, feed, heat and ventilation systems
- select and adjust of Lighting levels for day old chickens

### Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 1 to 7.
3. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
4. Accomplish the “Self-check 1-5 in page -.41,43,47,50 and 53
5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).
6. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
7. Submit your accomplished Self-check. This will form part of your training portfolio.

<b>Information Sheet-1</b>	<b>Order litter correctly to provide adequate quantity for new chickens</b>
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## Definitions of terms

**Litter:** is bedding material (shavings, rice hulls, etc.), which is used for the maintaining health and welfare of birds, as well as the people who work in the houses. The most obvious requirement is that it should be safe for your birds to use but there are other desirable qualities in bedding: it should not compact down and be absorbent for as long as possible. Damp bedding not only encourages bacteria, some of which can be harmful to poultry but also releases ammonia which damages the respiratory system

## LITTER ALTERNATIVES

- **Pine Shavings** - excellent absorptive qualities.
- **Hardwood Shavings** - may contain tannins which cause toxicity concerns and splinters that may cause crop damage.
- **Sawdust** - often high in moisture, prone to mold growth and chicks may consume it, which may cause aspergillosis.
- **Chopped straw** - wheat straw is preferred to barley straw for absorptive qualities.
  - Coarse chopped straw has a tendency to cake in the first few weeks.
- **Paper** - difficult to manage when wet, may have a slight tendency to cake and glossy paper does not work well.
- **Rice Hulls** - an inexpensive option in some areas, rice hulls are a good litter alternative.
- **Peanut Hulls** - tend to cake and crust but are manageable.
- **Cane Pummage** - inexpensive solution in certain areas.

An increased incidence of breast blisters, skin burns, condemnations and downgrades may result. Litter with high moisture content may also contribute to elevated ammonia levels.

If litter becomes wet beneath drinkers, drinker water pressure should be evaluated and prompt action taken. After the cause has been identified and addressed, fresh litter or dry

litter from within the house must be applied to the problem areas. Taking this action will encourage birds to utilize this area of the house again. When reusing litter, it is imperative to remove all of the wet, caked litter.

### 1.1. Important functions of litter

Important functions of litter include the ability:

- ✚ To absorb moisture.
- ✚ To dilute excreta, thus minimizing bird to manure contact.
- ✚ To provide an insulation from cold floor temperatures.

Though several alternatives may be available for litter material, certain criteria should apply.

Litter must be absorbent, lightweight, inexpensive and non-toxic. Litter characteristics should also lend to post production applications whether for use as compost, fertilizer or fuel.



Self-Check -1	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is the importance of litter? (10pts)

**Note:** Satisfactory rating - 6 points

Unsatisfactory - below 6 points

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Questions

1. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

<b>Information Sheet-2</b>	<b>Spread or laying of litter on shed floor or brooder cages</b>
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## 2.1. Litter application:

When it comes to bird performance and food safety, the brooding period is arguably the most critical in a chicken's life. The moment a chick arrives on the farm, the environmental conditions present set the pattern for the remaining grow-out period. Chicks are unable to regulate their body temperature for the first 72-96 hours of life and chilling places those under a significant amount of stress and can cause them to become immunocompromised. If chilled, chicks also undergo vasoconstriction to retain heat which interferes with the passage of maternal antibodies into the chick through yolk sac absorption and results in retained yolks. The stress of chilling, combined with impaired yolk sac absorption, retards the immune response of the chick and makes a flock much more susceptible to any disease-causing agents present in the house, which may also influence the microbiological profile of the chickens in the processing plant.

### Recommended litters to day old chickens

The most suitable day old chickens litters are:

- Wood shavings
- Dry sawdust
- Chopped straw
- Rice hulls
- Sunflower Husks

### Minimum litter requirements

Litter type with minimum depth for day old chicken:

- ✚ 2.5 cm (1 in.) Wood shavings
- ✚ 2.5 cm (1 in.) Dry sawdust
- ✚ 1 kg/m<sup>2</sup> (0.2 lb/ft.<sup>2</sup>) Chopped straw



✚ 5 cm (2 in.) Rice hulls

✚ 5 cm (2 in.) Sunflower Husks

Self-Check -2	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What are the appropriate litters should be used in day old chicken? (6pts)

**Note: Satisfactory rating - 4 points**

**Unsatisfactory - below 4 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Questions

1. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



Operation Sheet- 4	Litter application
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**Step 1-** Wear appropriate PPE

**Step-2-** Remove all old litter from the house and haul it away from the house.

**Step 3-** Clean the house and disinfect it.

**Step 4-** Clean the materials, tools and equipment and disinfect it

**Step 5-** Clean and fumigate feed bin

**Step 6-** Place good litter material on the floor at 2.5 -5cm depth depending on the env't

LAP Test	Practical Demonstration
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Name: \_\_\_\_\_ Date: \_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

**Instructions:** Given necessary templates, tools and materials you are required to perform the following tasks within --- hour.

**Task 1.** Remove old litter from the poultry farm and Spread or laying of anew litter?

### Information Sheet 3

### Clean, test water, feed, heat and ventilation systems

#### 3.1. Maintain proper hygiene

Proper hygiene is a key to the success of this venture; ensure all the equipment and materials used are cleaned and possibly sterilized; especially your farm outfit, your boot and coat. Do not enter into another pen with it, even if you have other pens in your farm, use a particular outfit for your brooding pen. This is because chicks are very vulnerable to little infection. You have to ensure that you are cleaned and disinfected before going to the brooding pen. Also, the feed and water you serve must be very clean and safe from contaminants.

#### 3.2. Ventilation system

Proper ventilation is very important in brooding; it can make or mar the business. Day old chicks need heat to survive, therefore, adequate heat has to be supplied to ensure their well-being. The behavioral response of the birds to heat supplied is the best way to determine if the heat supplied is enough or not. This is why the farm manager has to be more vigilant and observant. When the heat is too much, you will see the chick move away from the heat source, pant and are drowsy; but when the heat is not adequate, the birds cuddle and cluster together near the heat source to generate more heat within them. However, if the heat is adequate, you will see the birds dispersed evenly; move freely in the brooding pen.

#### 3.3. Heat management of day old chicks

During the first 10 days of the operation, the temperature of brooding must be around 35 °C or 95 °F, the temperature should be reduced by 5 °F every week till the chicks are about 4-5 weeks of age, when the temperature is around 70 °F or 21 °C. The brooding pen has to be fully covered to ensure adequate warmth but as the birds grow feathers, the inflow of air to the brooding pen has to be increased, as soon as the bird grow enough feather, they covering should be removed totally. Also, the source of heat has to be uninstalled or dispatched as soon as the birds grow enough feathers.

**Table 1.** Range of temperature required for chicken

Days	Temperature (°c)
0-3	33-36
4-7	30-32
8-14	28-30
15-21	26-28
22-28	23-26
29-35	21-23
36-42	21

### 3.4. Feeding and watering of day-old chicks

Feeding of day-old chicks is very important, at their early stage in life; they are very voracious and eat a lot. Do not put them on a routine feeding program; rather feed them Ad-Libitum. Ensure they eat always and serve them fresh water. Water is very important in day old, ensure water is always available at all time, even when feed is not available. The feeders or drinkers should be placed in the brooder or brooding pen such that they point toward the heat source to aid the birds have access to warmth. The size of the feed is always clear; the feed particles size must be very small to enhance palatability and aid digestion. Quality feed has to be provided; avoid deteriorated or caked feed, it might be detrimental to the chicks' health.

### 3.5. Day old chicks management

Upon the arrival of your chicks, they should be dislodged from their pack and introduced into the brooding pen. They should be served water and glucose solution; this gives the chicks' strength and agility. Feeding should commence immediately, feeding should be done Ad-libitum, that is, feeds must be made available all the time.

At their tender age, they are very voracious and eat a lot. However, do not panic, it is normal and very helpful. Observe weak and unthrifty birds; separate them from the healthy ones, to enhance feed efficiency and utilization. Serve fresh clean water with vitamin supplements in it to boost their immune system. During the first week, supply them feed in a tray or used





newspaper. After a week, raise the feeders and drinkers to their chest level; this reduces contamination and wastage of feed and water.



<b>Self-Check -3</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What the importance heat and ventilation management in day old chicken house? (6pts)

**Note: Satisfactory rating - 4 points**

**Unsatisfactory - below 4 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Questions

1. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

<b>Information Sheet-4</b>	<b>select and adjust of Lighting levels for day old chickens</b>
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#### 4.1. Brooder Light

Chicks are attracted more to light than to heat, which is why commercial brooders have a small light, appropriately called an attraction light, near the heat source. One 25-watt bulb will adequately light about 10 square feet (1 sq m). To help chicks find feed and water, light the brooder continuously for the first 48 hours. If the brooder gets natural daylight, after the first 2 days you can turn the light off during the day. Windows on the south side furnish the best sunlight.

Even if the light is also your source of heat, turn it off for half an hour during each 24-hour period but obviously not during the coolest hours so the chicks learn not to panic later when the lights go out at night or in the event of a power failure. Putting the brooder light on a timer will save you the trouble of remembering to turn it off and on each day.

Light affects the growth rate of chicks, so never keep them in the dark. Even if you have to dim the lights to control cannibalism, the light should still be bright enough for you to see what's going on in the brooder. A rule of thumb is that dimmed lighting should be at least bright enough to barely read a newspaper.

#### Lightening during brooding period

**Table 2. Lightening program of chickens**

Age of chickens in days	Light
0-3	22 hours
4-7	21 hours
8-14	20 hours
15-21	18 hours
22-28	16.5 hours
29-35	15 hours
36-42	13.5 hours

**Intermittent reducing of lighten helps the chickens to:**

- ☐ Intermittent dark period provides rest periods to chicks
- ☐ Establish more natural behavior and activity
- ☐ Synchronizations of chicks activities and feeding
- ☐ May improve antibody response from vaccination

<b>Self-Check -4</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What the importance of light to day old chicken house? (3pts)
2. What is the importance of reducing lightening time to the chickens?(3)

**Note:** Satisfactory rating - 4 points

Unsatisfactory - below 4 points

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Questions

1. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
2. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## List of Reference Materials

**FAO, (2015). Advanced livestock and Poultry production**

**Effective heating and lightening systems for poultry houses – World Poultry, Vol.22, No.2, 2005**

**Agromisa (2003). Chicken farming in the tropics 1: basics. Educational material no. 32. ISBN 90-5285-006-2.**

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**[www.Hyline.com](http://www.Hyline.com)**

**Agromisa (2003). Chicken farming in the tropics 2: lecture notes. (ed. E.H. Ketelaars) Educational material no. 33. ISBN 90-5285-060-7**



# POULTRY PRODUCTION

## Level- II

# Learning Guide -44

**Unit of Competence: Set up shed for placement of  
day-old chickens**

**Module Title: Setting up shed for placement of  
day-old chickens**

**LG Code: AGR PLP2 M12 LO4-LG-44**

**TTLM Code: AGR PLP2 TTLM 1219v1**

## LO-04: Prepare shed

## Instruction Sheet

## Learning Guide #44

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

- Ordering litter correctly to provide adequate quantity for new chickens.
- Spreading or laying of litter or paper evenly on shed floor or brooder cages
- Cleaning, reinstalling and testing watering, feeding, ventilation systems
- selecting and adjusting of Lighting levels for day old chickens

This guide will also assist you to attain the learning outcome stated in the cover page.

Specifically, upon completion of this Learning Guide, **you will be able to:**

- Order litter correctly to provide adequate quantity for new chickens.
- Spread or laying of litter or paper evenly on shed floor or brooder cages
- Clean, test water, feed, heat and ventilation systems
- select and adjust of Lighting levels for day old chickens

### Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 1 to 7.
3. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
4. Accomplish the “Self-check 1 and in page -.55 and 59
5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).
6. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
7. Submit your accomplished Self-check. This will form part of your training portfolio.

<b>Information Sheet-1</b>	<b>Place the chickens</b>
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### 1.1. Place the chickens

#### During chicken placement:

- Unload box quickly and gently place chicken in brooding area
- Brood chick in groups from similar aged breeder flock
- Start chickens in the warmer and brighter brood
- Ensure there are no shadow on drinker
- Chick from young breeder flock should be placed in warmer and brighter areas of the house

### 2.1. Place the chickens

During deliverance of day old chicken from producer, the day old chickens growers must:

- Check that feed, water and shed conditions are adequate
- Carry chick containers safely and gently remove chickens from boxes and place on litter or paper
- Before chicks arrive, check that everything in the house is working properly: high temperature, enough fresh air coming in, feed and water and enough light.
- Heat the house 24 hours before the chicks arrive.
- Maintain a temperature of 30°C to 32°C in the first week. Prevent cold air from falling on chicks. Ensure the drinking water is lukewarm: greater than 20°C but less than 28°C.
- Ventilate the house to remove stale air and bring in the fresh oxygenated air. High carbon dioxide levels may kill your birds or cause water born disease.
- Use Paper or gunny bag material in feeding for a minimum of 3 days.

### 1.2. Observe chicken behavior

After a time of placing chickens the growers one should have to observe:

- Check chick behavior and health regularly after placement

- Drinking of water or not
- Eating the feed or not
- Their activities or distribution of the day old chicken
  - Scattered or moving towards side: indicates high temperature
  - Normal distribution: good temperature
  - Condensed together: indicate low temperature or too cool
- Check shed and litter are at required temperatures

Self-Check -1	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What are the activities to be undertaken during chicken placement? (6pts)

**Note:** Satisfactory rating - 4 points

Unsatisfactory - below 4 points

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Questions

1. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

<b>Information Sheet-2</b>	<b>complete hygiene and activities</b>
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## 2.1. Hygiene Activities

A Programme of hygiene and disinfections is of the greatest importance in controlling infection disease caused by microorganism and other parasites. The following hygienic measures are used to protect poultry against disease.

- Isolation of the farms. Confinement of the animal within a controlled environment (Fence)
- Do not allow visitors to enter the house
- If possible keep birds of only one age on the farm. Use an all in all out program: Bring all the birds onto the farm at one time and remove them all at one time
- If it is necessary to keep birds of different ages, separate the flock by at least 12 m
- Poultry house should be completely cleaned and disinfected before new birds are moved in.
- Attendants should not be allowed to keep poultry at home.
- Buy stock from a reliable disease free source
- All dead birds must be disposed of promptly by burning burring
- Do not pill up manure outside of the poultry house
- Wear clean and disinfected coverall, rubber foot wears when entering the area.

## 2.2. Recording

It is essential that you keep good records of feed consumed, water consumption, bird deaths and removal of sick chicks, starting date and selling or distribution date. A sample record sheet is given so that you can know accurately how your flock is performing. [[Example of a layer record sheet here](#)]

The recording activities day old chickens may include:

- Chicken breed
- Arriving date
- Number of chicken

- Distribution date
- Mortality rate
- Vaccination schedule and administration

### Recording sheet format

- Name of the producer: \_\_\_\_\_
- Chicken breed: \_\_\_\_\_
- Arriving date: \_\_\_\_\_
- Distribution date: \_\_\_\_\_
- Number of chicken arrived : \_\_\_\_\_

Chicken age	Date	Mortality rate	Number of existing chicken	Reason of death	Vaccination schedule



Self-Check -2	Written Test
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1000202350759

2. What are sanitation activities should be undertaken in chicken house? (6pts)

**Note: Satisfactory rating - 4 points**

**Unsatisfactory - below 4 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Questions

2. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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### The instructor (who developed the Learning Guide)

No	Name of Learning guide developer	TVET Represent	Phone number	e-mail
1.	Abadi Brhanu	Maichew ATVET College	0920870056	adonayabadi@gmail.com
2.	Alemayehu Tolera	Bako ATVET College	0994132626	toleraalex@gmail.com
3.	Alemu Abate	Burie Poly-technic TVETC	0912355534	adoni4@gmail.com
4.	Alula Tesfaye	Assosa ATVET College	0912004697	alula188@gmail.com
5.	Bekele Abdissa	Agarfa ATVET College	0920839098	bakeabdi@gmail.com
6.	Dereje Kebede	Nedjo ATVET College	0911530210	derejekebede2012@gmail.com
7.	Ewunetu Bekele	Bako ATVET College	0920096917	esewunetu@gmail.com
8.	Mesfin Getachew	Walaita Soddo ATVET College	0916475289	dukekeshamo@gmail.com
9.	Terefe Tolcha	Alage ATVET College	0911067132	terefetc@gmail.com