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Agriculture Skill Council of India

Facilitator Guide



Sector
Agriculture

Sub-Sector
Poultry

Occupation
Poultry Farming

Reference ID: **AGR/Q4309,**
Version 2.0 NSQF Level 3

Poultry Farm Worker



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Shri Narendra Modi
Prime Minister of India

“ Skilling is building a better India If We have to move India towards development then Skill Deveopment should be our mission ”

Acknowledgements

We are thankful to all organizations and individuals who have helped us in preparation of this facilitator guide. Our gratitude is also due to all organizations and individuals who have helped us in review of the content and provided valuable inputs for improving quality, coherence and content presentation. This facilitator guide will lead to successful roll out of the skill development initiatives, helping greatly our stakeholders particularly trainees, trainers and assessors.

It is expected that this publication would meet the complete requirements of QP/NOS based training delivery. We welcome the suggestions from users, industry experts and other stakeholders for any improvement in future.

About this Guide

This Trainer guide is intended to empower the trainer/facilitator to prepare the participant to become 'Poultry Farm Worker' as per the Qualification Pack (QP).

The objective of the guide is to provide an approach map for interacting with the trainees undergoing training on the job role. The aim of the course is to provide both theoretical and practical knowledge to the trainees, and also to guide them.

The guide is neither a substitute nor complete road map, but an aid to help you to pass on the knowledge on all the aspects to the trainees in a systematic manner. It is expected that the trainer is fully conversant with all the contents of the handbook. The guide is just to indicate that how to proceed for covering a topic and includes some additional information that may be necessary for the trainer to develop better comprehension. Facilitator with the help of this guide will be able to build among participants

- **Knowledge and Understanding:** Satisfactory operational learning and comprehension to play out the required chore
- **Performance Criteria:** Pick up the required aptitudes through hands on preparing and play out the required operations inside the predetermined measures
- **Professional Skills:** Capacity to settle on operational choices relating to the zone of work

The guide will also help them learn more by field visits and providing hands on training it is expected that irrespective of the region, knowledge on all aspects of poultry farm will be imparted to trainees.

Symbols Used



Notes



Objectives



Do



Ask



Explain



Elaborate



Field Visit



Exercise



Team Activity



Facilitation Notes



Learning Outcomes



Say



Resources



Activity



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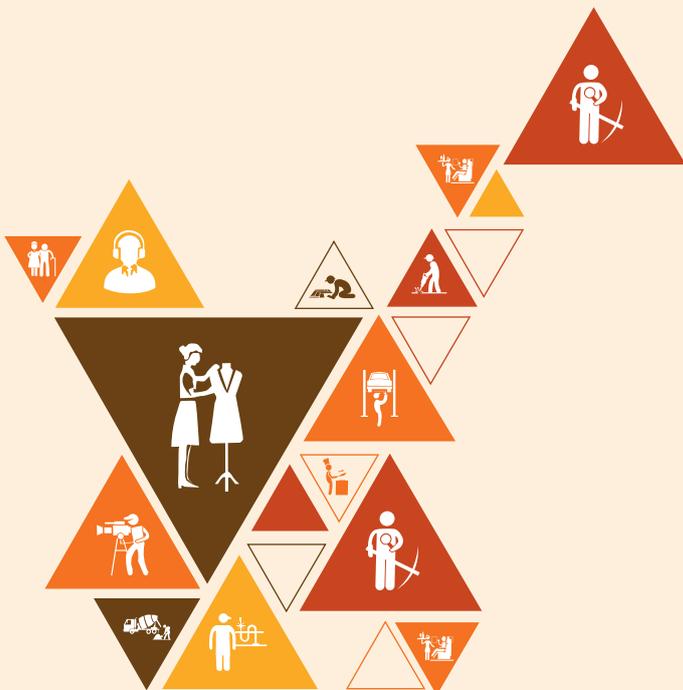


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1. Introduction

Unit 1.1 - Scope and Importance of Poultry Industry



Terminal Outcomes

After the completion of this module, the participants will be able to:

1. Identify the role and responsibilities of 'Poultry Farm Worker'.

Key Learning Outcomes

After the completion of this module, the participants will be able to:

1. Discuss the scope and importance of poultry farming in India.
2. Explain basic reading capabilities to enable reading of signs, notices and/or cautions at site.
3. Discuss about the poultry industry.
4. Explain the types of Poultry and list different poultry breeds
5. Discuss the role of a Poultry Farm Worker and the progression pathways.

UNIT 1.1: Scope and Importance of Poultry Industry

Unit Objectives

After the completion of this unit, the participants will be able to:

1. Describe scope and importance of poultry farming.
2. Identify basic practices of poultry rearing.
3. Identify different poultry breeds.
4. Discuss the role of poultry farm workers.

Resources to be Used

Available objects such as participant handbook, white board, duster, marker etc.

Power point slides, pictures/posters e.g., which can illustrate the use of equipments at poultry farm and their importance to farmers.

Activity

Purpose: To acquaint the participants with each other and knowing well before sharing space inside classroom.

Resources: Open ground, participants, big hall for accompanying the larger group of people sitting in small circles.

Methodology: Stage presentation and group discussion for about 15-20 minutes.

Ask participants to stand in circle. Then tell them that before going into learning mode firstly we will play number game. Number in this game is 2. It means that starting person will call number 1, other will not pronounce the number rather just raise his/her hand. Next person will say 3. If person will call the number 2 then he/she will be out of the same. Similarly, for number 6, 9, 12 and so on only hand should be raised. This way trainer can segregate the groups and as per the performance in number game people should sit for training session and this may result in the scenario that unknown people will sit each other. Then they should introduce themselves to each other.

It is up to trainer and sitting arrangements that how he/ she would like to keep the trainees. Either in circle with a group of 5 or group of 2 trainees. Trainees should introduce themselves to each other and within a group. Trainer can call the individuals to the stage and particular participant has to introduce their team member like this way introduction session of each participants should begin.

Expected Outcome

- Group activity and team building
- Ability to communicate with unknowns
- Enhancement in observation capacity

Say 

- 'Thank' you to everyone for their participation.
- Discuss with the participants to share their feeling about this exercise and what new things they have learned in this exercise.

Ask 

- Ask participants about their experience of handling different poultry breeds.
- Ask participants about basic signs observe at poultry farm.

Explain 

- Introduce participants about scope and importance of poultry farming and role of Poultry Farm Worker in poultry farming.
- Explain classification of poultry breeds on the basis of origin.

Elaborate 

- Elaborate the importance of poultry farming in India and how they can bring prosperity.
- Difference between broiler and layer strains.

Activity 

- This is pen and paper activity is for preparing participants to apply for various job platforms in a professional manner. Plan this activity for at least 20-30 minutes.
- Ask participants to prepare a short CV indicating name, educational details, academic achievements, work experience (if any), extra-curricular activities, hobbies and address details like email id, phone number.
- Ask them to upload their CVs on various platforms like indeed.com, careerbuilder.com, monster India etc.

Notes for Facilitation

- Help the participants to complete all the tasks involved in the participant hand book.
- Discuss with them regarding the points mentioned in the text box regarding different types of poultry breeds.
- Motivate the participants by involving them in sense of participation and realization of the importance of their work as a poultry farm worker.
- Tell them their important role for the farming community of the country and they will be service provider of a sector which is important to a country's economy, social and cultural well being.
- You can ask participants to identify mostly reared poultry breeds, in their area
- Ask participants about various websites of poultry industry, for regular updates.
- You can invite representative of any Poultry Farm, who employs poultry farm worker so that their expectation can be known to the poultry farm workers.
- You can end the session asking participants to take the following pledge:
- “We will work hard and ensure every work done is well performed. We will do our best to protect and keep the produce safe in the workplace like a banking institution keep the money. We will devote our life for the the betterment of farming community”

Exercise

Key Solutions to PHB Exercise

A. Short Questions

1. Around five crores population is dependent on poultry farming directly or indirectly. Around 50 lakh MT of poultry meat was produced by 2021, but per capita consumption is still at 3.4 kg. Around 109 billion eggs were produced by 2021, but per capita availability is 80 eggs only. Although poultry production is at par with international level and India is number three in egg production and number four in broiler production in the world, it suffered most before and during lockdown periods. False messages on social media brought chicken consumption to almost 10% of normal during February 2020. Due to efforts by the Government and private sector, it started picking up in the second week of March, but again went down during lockdown periods due to lack of supply chain and logistics issues. During 2021, bird flu outbreaks in January and February and then a second lockdown affected the poultry industry.
2. The primary importance of displaying Safety Signs is to prevent injury and ensure staff and visitors are well aware of the possible dangers and hazards ahead in certain situations and/ or environments.

Prohibition Signs: A sign prohibiting behaviour likely to increase or cause danger at poultry farms.

Mandatory Signs: The location and structural bio security principles are to be followed at the very beginning, while setting up the farm.

Warning Signs: Poultry birds, fences, machinery and equipment signs are designed to help keep everyone on ground safe.

Safe condition Signs: No objection certificate from local government in the area in which you are planning to set up a poultry farm. NOC from the pollution board of the area.

Fire equipment Signs: Preventing fires is the most important part of fighting them, as once they start they are often very difficult to stop.
3. Broiler: Broilers are young chicken of either sex, which are reared primarily for meat purposes and marketed at an age of 6-7 weeks. Some examples of commercial broiler strains are: VenCobb, Hubbard, Ross, AP 95, Anak etc.
 Layer: The management of birds during 21-72 weeks of age for the purpose of laying eggs (egg production). Some examples of commercial layer strains are: BV-300, Bovans, Hyline, Lohman etc

B. State whether true or False (T/F)

1. T
2. T
3. T

C. Fill in the Blanks

1. American
2. Aseel

D. Multiple Choice Questions

1. All of the above
2. Leghorn



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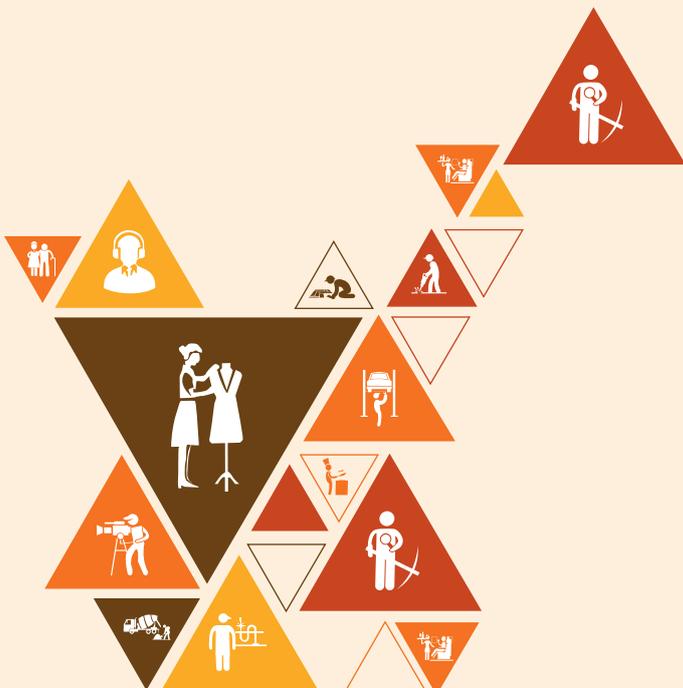
2. Preparation of Poultry Shed for the Placement of Chicks/ Birds

Unit 2.1 - Need, Types and Systems of Poultry Housing

Unit 2.2 - Site Selection and Best Practices

Unit 2.3 - Litter Management

Unit 2.4 - Importance of Bio security



AGR/N4307

Terminal Outcomes

After the completion of this module, the participants will be able to:

1. Preparation and maintenance of the Poultry Shed for placement of chicks.
2. Creating a conducive environment for the chicks/birds in poultry.

Key Learning Outcomes

After the completion of this module, the participants will be able to:

Theory	Practical
<ol style="list-style-type: none"> 1. Explain the need for poultry shed. 2. Discuss different types of poultry houses. 3. Explain systems of poultry housing. 4. Describe the parameters to be taken into consideration in selection of location. 5. Describe best practices of poultry farm management. 6. Explain the list of requirements for building the shed. 7. Explain about the standard sanitation procedure. 8. List the farm equipment required to build a poultry farm. 9. Discuss the frequency of resource requirements. 10. Explain the importance of litter management. 11. Explain the importance of maintaining of farm equipment. 12. Describe the environmental conditions required at poultry farm- adequate light, heat, clean water, feed. 13. Explain the importance of chick guards for the DOC. 14. Discuss the importance of bio security, Movement of people, workers in the shed, buyers entering into shed etc. 15. Explain the different stages of growth in the birds/poultry. 16. Explain the routine checks to be carried in Poultry shed. 17. Explain early chick management activities 18. Explain bio-safety measures to dispose the waste as per protocol. 19. Explain various chemicals and disinfectants used in the poultry management. 20. Explain relevant legislation, standards, policies and procedures at work. 21. Explain relevant health and safety requirements applicable to the work environment. 22. Explain impact of not following the health, hygiene, safety and quality standards on chicks, consumers and the business. 	<ol style="list-style-type: none"> 1. Demonstrate layout of poultry farm. 2. Demonstrate the process of cleaning, disinfection, sanitation and fumigation of the tools/ equipment and shed. 3. Create the Foot bath at the entrance (Chemicals/ disinfectants). 4. Demonstrate sanitary dry out procedure as directed by the supervisor prior to chick placement. 5. Demonstrate the procedure for sanitizing the incoming water through chlorination and filtering before distribution. 6. Demonstrate the procedure for storage of pesticides, disinfectants & fumigants. 7. Demonstrate the procedure of safe disposal of waste using the standard protocol. 8. Demonstrate the use of pesticides, disinfectants & fumigants in correct dosage at the recommended time. 9. Demonstrate preparation of the chick guards for DOC. 10. Demonstrate procedure for seasonal management for poultry birds. 11. Demonstrate how to maintain proper ventilation, light, water and feed requirements for raising chicks. 12. Demonstrate the procedure of handling the chicks at different stages of growth. 13. Demonstrate the use of personal protective equipment while working with the chemicals.

UNIT 2.1: Need, Types and Systems of Poultry Housing

Unit Objectives

After the completion of this unit, the participants will be able to:

1. Discuss layout of poultry farm.
2. Explain the process of cleaning, disinfection, sanitation and fumigation of the tools/ equipment and shed.
3. Create the Foot bath at the entrance(Chemicals/disinfectants).
4. Demonstrate sanitary dry out procedure as directed by the supervisor prior to chick placement.
5. Demonstrate the procedure for sanitizing the incoming water through chlorination and filtering before distribution.
6. Demonstrate the procedure for storage of pesticides, disinfectants & fumigants.
7. Demonstrate the use of pesticides, disinfectants & fumigants in correct dosage at the recommended time.

Resources to be Used

- Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop Tools, Equipment and Other Requirements Chemicals, Disinfectants, Cage Structure, Sawdust/ paddy husk (in case it is deep littered), PVC Pipes, Water Nipples, Ventilators, Tube lights, Egg Trays, other house construction material , Fans, chick guards etc.

Activity

Purpose:

- To acquaint the participants about the Need, Types and Systems of Poultry Housing.
- To understand procedure of cleaning disinfection and sanitation of poultry farm tools and equipment

Resources: Projector, system facilitating power point presentations, microphone, camera, round tables arranged in U shape for healthy discussion.

Methodology:

- Explain the layout of poultry farm.
- Discuss precautionary measures while using pesticide and disinfectant at poultry farm.
- Demonstrate participants on importance of Footbath and give hands on training if necessary To create awareness and train the participants on Layout of Poultry farm Make group of 4/5 participants and allow them to visit the entire unit and ask them to capture their hands on experiences on each parameter. Participants can also be subjected to the cleaning division of same unit to understand importance of effective Sanitation and disinfection for the poultry manager / owner. Participants are expected to learn how to carry out sanitizing procedure at poultry unit, This visit should help participants understand the layout of a poultry farm. Additionally, while visiting any poultry unit, participants should be aware of the procedure and precautions in poultry. Plan this activity for 30 minutes.

Expected outcomes:

- Skilling on efficient and cleaning and sanitation process
- Awareness on various product of pesticide and Disinfectant
- Efficient storage of pesticide, Disinfectant and Fumigants
- Enhancement in observation capacity

Say

- Thank you to everyone for their participation.
- Discuss with the participants to share their feelings about this exercise and what new things they have learned in this exercise.

Ask

- Ask the participants about their experience of Understanding of poultry farm layout.
- Ask the participants about their experience of use of pesticide , Disinfectants and fumigants.
- Ask participants to prepare a survey of Poultry Farm layout according to their nearby places.
- Ask the participants whether they have any solution for sanitary dry out procedure.

Explain

- Introduce participants to the basic layout and dimension of poultry farm.
- Explain various procedure of sanitizing and disinfection of poultry farm.

Elaborate

- Elaborate the importance of layout of poultry farm.
- Elaborate quality of water for drinking purpose for chicks.
- Elaborate procedure while entering in poultry farm.

Activity

- This pen and paper activity is for preparing participants to learn Layout of poultry farm. Plan this activity for at least 20-30 minutes.
- Ask the participants to prepare a flow chart on various steps involved cleaning and disinfection in the poultry house. This includes use of various product of disinfectant and fumigant. Also encourage them to list down various fumigants and disinfected products used in poultry farm.

Notes for Facilitation

- Help the participants to complete all the tasks involved in the participant hand book.
- Motivate the participants by involving them in sense of participation and realization of the importance of their work as a poultry farm worker.
- Tell them their important role for the farming community of the country and they will be service provider of a sector which is important to a country's economy, social and cultural well being.
- You can ask participants to identify different poultry breeds and keep visiting websites for regular updates.
- You can invite any poultry farm owner who perform all poultry farm operations.
- You can end the session asking participants to take the following pledge:
- "We will work hard and ensure every work done is well performed. We will do our best to protect and keep the produce safe in the workplace like a banking institution keep the money. We will devote our life for the betterment of farming community"

Exercise

Key Solutions to PHB Exercises

A. Short Questions

1. Extensive System

It is one of the oldest methods. This method is generally adopted where there is no shortage of land. Rearing of desi fowls in this system is profitable enterprise. The birds find appreciable amount of feeds in the surroundings during daytime and take shelter in a house during night. This method is not suitable for commercial poultry farming.

2. Semi-Intensive System

This system is adopted where the amount of free space availability is limited. The pen and run is situated in a small land surrounded by wire mesh. The birds spend the day time in the run and take shelter in the pen during night. The birds are provided with 3-4 sq. ft. per bird floor space in the pen and 150-200 sq. ft. per bird floor space in run. In practice the run is divided into two halves and the pen built at the centre. The runs are used alternately. Each half of the run is rested while the other is in use. During the resting period the run is dressed with lime to avoid serious fouling and deterioration of the grassland.

3. Intensive System

In this system, birds are confined in poultry houses or cages and do not have any access to grassland at all. Capital investment is high but protection is usually high also. In the intensive system of poultry rearing high attention must be paid to the feeding of birds by providing complete ration since they are not able to eat insects, worms and greens to supplement their feeding.

B. State whether True or false (T/F)

1. True
2. True
3. True

C. Fill in the Blanks

1. Phosphorus and calcium
2. Cage

D. Multiple Choice Questions

1. d) All of these
2. d) Both a and b

UNIT 2.2: Site Selection and Best Practices

Unit Objectives

After the completion of this unit, the participants will be able to

1. Demonstrate preparation of the chick guards for DOC.
2. Demonstrate procedure for seasonal management for poultry birds.
3. Demonstrate how to maintain proper ventilation, light, water and feed requirements for raising chicks.
4. Demonstrate the procedure of handling the chicks at different stages of growth.

Resources to be Used

- Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop Tools, Equipment and Other Requirements Chemicals, Disinfectants, Cage Structure, Sawdust/ paddy husk (in case it is deep littered), PVC Pipes, Water Nipples, Ventilators, Tube lights, Egg Trays, other house construction material , Fans, chick guards etc

Activity

Purpose: To acquaint and demonstrate participants about preparation of the chick guards for DOC.

To understand the procedure of handling of chicks at different growth stages.

Resources: Projector, system facilitating power point presentations, microphone, camera, round tables arranged in U shape for healthy discussion.

Methodology: Plan this activity for about 30 minutes.

Ask participants to prepare a group of 4/5 participants. Ask them to capture their hands on experiences on each parameter. One group will represent various types of chick guards used in nearby poultry house. Second group will represent ventilation and light maintenance in poultry house. Third group will explain feed and water management of chicks according to growth stages.

You will act as moderator and have to be sensitive about the outcome of discussion.

Expected outcomes:

- Awareness on various types of chick guard available.
- Efficient maintenance of ventilation and light in poultry house.
- Skilling up of participant on feed and water management of chicks according to growth stage
- Enhancement in observation capacity.

Say

- Thank you to everyone for their participation
- Discuss with the participants to share their feelings about this exercise and what new things they have learned in this exercise.
- Review the presentation of each group and enrich the same your comments.

Ask

- Ask the participants about their experience of chick guard preparation.
- Ask the participants whether they have seen any worker using PPE kit in Poultry House.

Explain

- Introduce participants about maintenance of proper ventilation, light at poultry farm
- Describe water and feed requirements for raising chicks.
- Explain various procedure for seasonal management of poultry house.

Elaborate

- Elaborate the importance of chick guard
- Elaborate the procedure while handling chicks.
- Elaborate procedure of wearing PPE Kit for poultry farm.

Activity

- This pen and paper activity is for preparing participants to learn procedure of handling the chicks at different stages of growth. Plan this activity for at least 20-30 minutes.
- Ask the participants to prepare a flow chart on seasonal management practises in poultry house.

Notes for Facilitation

- Discuss poultry site selection and criteria involved.
- Explain Importance of site selection for poultry farm operation and marketing.
- Provide in house explanation on various factors in scientifically planned house.
- Help the participants to complete all the tasks involved in the participant hand book.
- You may invite any representative of local village council to grace the training session; request him/her to give feedback on the team work of participants.

Exercise

Key Solutions to PHB Exercises

A. Short Questions

- Parameters for Site Selection Farm should be located as far as possible away from other poultry operations and human populations. Proper road access, ample good quality water supply, good air movement, moderate climate and electricity availability should also be considered while selecting a farm location. Each phase of production should be treated as a separate unit, according to the principle of “all in – all out”: this means it should be only one age group in the farm and only one origin. Brooder and grower houses should be completely isolated from layer house.
- Poultry equipment is basically meant for three purposes: Brooding, feeding and watering. In addition to this, other equipment for vaccination, debeaking, cleaning, disinfection etc. are also necessary. Poultry equipment can vary in sophistication from manual to fully automated feeding and watering systems.

Advantages of Automation:

- Dependence of labour is avoided.
- Labour costs are reduced considerably.
- Reduction in the wastage of feed and water.
- Provides round the clock fresh water and feed, leading to better feed intake, bird health and consequently higher production.

Disadvantages of Automation:

- High initial cost.
- Reliability of power supply.
- Need of service personnel.

3. Brooding Equipment

The objective of brooding equipment is to provide a suitable temperature to chicks from the day-old stage upto the time they are able to adapt and regulate themselves to the ambient environment. Brooding equipment consists of:

- Brooder guard
- Heater or Brooder
- Thermometer

B. State whether True or false (T/F)

- F
- F
- F

C. Fill in the Blanks

- 250
- Hover type

D. Multiple Choice Questions

- d) All of the above
- d) Both a and b

UNIT 2.3: Litter Management

Unit Objectives

After the completion of this unit, the participants will be able to

1. Demonstrate the procedure of safe disposal of waste using the standard protocol.

Resources to be Used

- Available objects such as a white board, duster, paper etc.
- Slides in power point presentation showing relevant images of different methods of safe disposal of poultry waste.

Activity

Purpose: To effective litter management methods.

Resources: Projector, system facilitating power point presentations, microphone, camera, round tables arranged in U shape for healthy discussion.

Methodology: Plan this activity for about 40 minutes.

Prepare participants to perform healthy discussion on various methods of poultry farm waste disposal. Make a group of 4/5 participants for each method of waste disposal. Ask participants to have healthy debate competition on each method with advantages and disadvantages of it according to groups. You will have to act as moderator and come at conclusion about which method is suitable according to locality.

Expected outcomes:

- Knowledge enhancement

Say

- Thank everyone for their participation.
- Describe participant's objectives of above activity.

Ask

- Ask participants about their experience of waste disposal methods at nearby poultry farm. And how it affects the environments.

Explain

- Introduce participants to the basic necessity of proper waste disposal method and how it play vital role in wellbeing of nearby people.

Elaborate

- Elaborate the importance of disposal methods to poultry farm worker in India and how they can avoid environmental damage.

Activity

- Encourage participants to have healthy group discussion on various waste disposal methods used in there area with its merit and demerits. You have to help participants to find out which method is best.

Notes for Facilitation

- Help the participants to complete all the exercises mentioned in the participant's handbook.
- Encourage the participants for group discussion to ask questions so that they can clear their doubts.
- Encourage participants to undergo field visit and how they can learn more through these visits.

Exercise

Key Solutions to PHB Exercises

A. Short Questions

1. Good rearing management is the starting point for healthy, productive and profitable poultry production in accordance with animal welfare. To obtain maximum production potential, management of the poultry production house environment is essential. An important measure of a suitable environment is proper maintenance of poultry litter. Litter is defined as bedding material, which acts as an absorbent that helps facilitate evaporation of moisture and gases from fecal material. It also absorbs moisture, dilutes fecal material (nitrogen), insulates floor from ground moisture and provides an environment that helps satisfy dusting instincts in birds.

2. Causes of Wet Litter

Nutritional - High mineral intake, Fiber rich ingredients – NSPs, Moldy feed

Diseases and Managemental- Climate Control and Equipment Failure, Potential Health Hazards of Wet Litter (Increased Ammonia Levels, Brooder Pneumonia)

Other Potential Hazards -Burnt footpads and leg problem, Breast blisters, Coccidiosis and fly problem, In breeders: soiled nest litter can cause contaminated egg shells.

3. Ammonia level greater than 20 ppm has a negative effect on poultry performance. Ammonia damages the bird's mechanical defence mechanism (cilia, excess mucus production). This allows disease organisms to enter the lungs and air sacs, which has an adverse effect on the bird's respiratory system. Ammonia can also cause eye irritation and have a detrimental effect on the performance of the flock. Exposure to high levels of ammonia for a short term is just as detrimental as exposure to lower levels for an extended period. Ammonia inactivates the effect of free chlorine in drinking water.

B. State whether True or false (T/F)

1. T
2. T
3. T

C. Fill in the Blanks

1. Cresol
2. Organic phenols

D. Multiple Choice Questions

1. d) All of these
2. c) *E.coli*

UNIT 2.4: Importance of Bio security

Unit Objectives

After the completion of this unit, the participants will be able to

1. Demonstrate the use of personal protective equipment while working with the chemicals.

Resources to be Used

- Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop Tools, Equipment and Other Requirements Chemicals, Disinfectants, Cage Structure, Sawdust/ paddy husk (in case it is deep littered), PVC Pipes, Water Nipples, Ventilators, Tube lights, Egg Trays, other house construction material , Fans, chick guards etc.

Activity

Purpose: To acquaint participants about the basic bio security measures to be follow at poultry farm.

Resources: Projector, system facilitating power point presentations, microphone, camera, round tables arranged in U shape for healthy discussion.

Methodology: This activity may be plan for 30 minutes.

Assign the participants the roles of some typical poultry farm visitors (such as farm workers, veterinarians, neighbours, suppliers, and maintenance personnel).

Pick a specific paint colour for each role (e.g., employees are purple, suppliers are green, etc.).

Watch the effects as the colours are spread out and mingled on the paper; this simulates the possibility of disease transmission if precautions are not followed to lower the danger of spreading diseases from one farm to another.

If more than one farm is visited each day and it can be foreseen that activities will take place in damp or manure regions, or in an area where animals will be in touch with people, schedule this farm visit for the end of the day. When feasible, start with the cleanest areas and finish with the dirtiest ones.

Have you observed that?

The paint is tracked just as pathogens. In the same way that infections can be unintentionally brought into farms on the soles of boots or shoes, paint can be prevented from entering farms by covering footwear before entering.

Expected outcomes:

- Enhancement of knowledge level of the participants regarding basic structure of bio security at poultry farm.
- Encourage students to have fun and be creative.

Say

- This unit says various plans to keep bio security at poultry farm and use of personal protective equipment while working at poultry farm.

Ask

- Ask participants to go through various factors affecting selection of bio security methods at poultry farm.
- One should decide it on the basis of cost or on the basis of service else on the basis of safety protection provided. If one has to chosen any of them what would be their choice and why?
- Ask participants to prepare various bio security plans which will be required at poultry farm.

Explain

- Explain the components and types of bio security.
- Explain how infectious disease can spread from farm to farm.

Elaborate

- Elaborate various methods adoption at poultry farm for ensuring bio security.

Activity

- Let the participants read about various bio security measures, importance of it and its impact in their nearby areas through newspaper.
- Display the images of biosecurity images to the participants.
- Ask participants to name the farming techniques that are depicted in the photographs as being biosecurity.
- Promote conversation on the reasons behind the biosecurity methods shown in the images, such as what they help to prevent or how they make these farms so.
- Encourage conversation on procedures or techniques that could be used to enhance agricultural biosecurity

Notes for Facilitation

- Describe various types of bio security measures.
- Provide complete notes regarding bio security at poultry farm.

Exercise

Key Solutions to PHB Exercises

A. Short Questions

1. Visitors to the farm should be limited to those who are essential for its operation. All visitors, staff and workers should enter the farm at a central location. Visitors should use a logbook to document their visits. Anyone having been on another poultry facility within 48 hours should not be permitted access. People from other poultry farms must be strictly banned. Workers on the farm must not keep poultry or pet birds at home or come into contact with other poultry. Dogs and cats should be kept out of the farm. Dedicated workers for culls with dress code. After finishing culls transportation, do not allow culls workers in the farm. Regular health check-up of farm personnel. Do not allow sales representative to visit on the farm site. Vehicle drivers should never be allowed to enter the houses. Clean clothing and foot wear should be provided for every one working in the farm or visiting the farm. Ideally, workers should be limited to a single house. Supervisor movement between sheds should be only after proper bio-security care.
2. 4. Shed Cleaning and Disinfection As soon as the flock has been transferred or liquidated, the house and the equipment should be thoroughly cleaned and disinfected. Cleaning and disinfection of the house between flocks serves to reduce the infection pressure for a new incoming flock. The total shed cleaning and disinfection programme can be grossly divided in three main steps as follows: Dry Cleaning (Before cleaning, Cleaning), Washing (Wet Cleaning), Terminal Disinfection.
3. Quality poultry equipment is necessary to raise healthy chickens and other poultry. Investing in poultry equipment is essential to running a successful poultry business that is capable of delivering a consistently high end product. Few types of equipment can be maintained on regular basis by using in-house tools by poultry farm workers for other hi-tech equipments engineers/ technicians from supplier companies will come under AMC. They will replace faulty spare parts time to time. Before arrival of new Batch of poultry, it is important to maintain all farm equipments. Regular maintenance will increase life of the equipments and will avoid accidental breakdown.

B. State whether True or False (T/F)

1. True
2. True
3. True

C. Fill in the Blanks

1. Dry manure management
2. Fly control

D. Multiple Choice Questions

1. d) Both a and b
2. d) Both a and b



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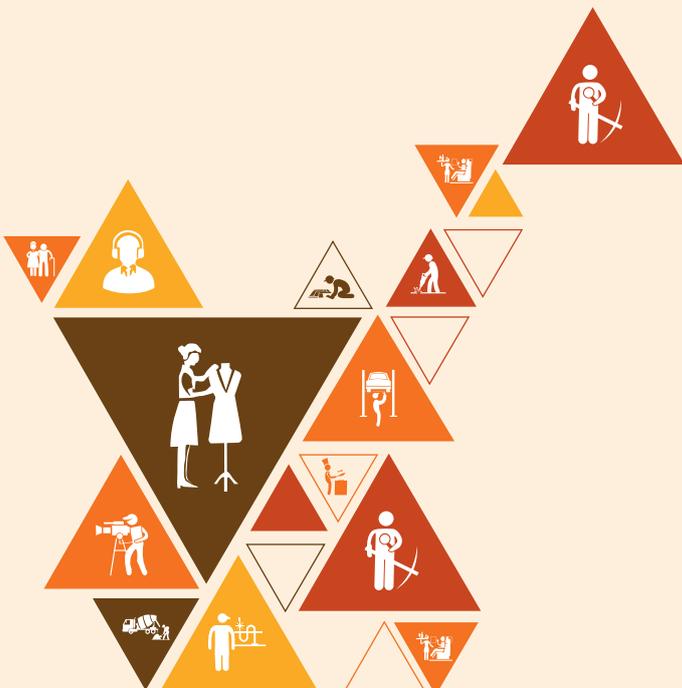
3. Brooding and Debeaking

Unit 3.1- Brooding Management

Unit 3.2 -Debeaking

Unit 3.3 - Feeding, Watering and Temperature Management

Unit 3.4- Safety and Standard Requirements



AGR/N4308

Terminal Outcomes

After the completion of this module, the participants will be able to:

1. Describe brooding management for Poultry Farm.
2. Practice debeaking.

Key Learning Outcomes

After the completion of this module, the participants will be able to:

Theory	Practical
<ol style="list-style-type: none"> 1. Describe the proper environment required in brooding house. 2. Describe classification of brooding. 3. Explain different types of brooders. 4. Explain the deep litter brooding and cage brooding. 5. Describe the characteristics of good quality litter for poultry. 6. Discuss basic principles of brooding. 7. Discuss essential operations to be carried out prior to receiving chicks. 8. Discuss essential operations to be carried out after receiving chicks. 9. Explain about debeaking and the Process of debeaking. 10. List the different Feed ingredients and composition required for Chicks, Brooders, growers and Layer birds. 11. Discuss about the space, light, heat and moisture requirement for the birds required for DOC. 12. List the litter material and their management practices. 13. Describe quality and quantity of brooding materials viz. tools, equipment, feeding material, litter, etc. 14. Discuss about the stocking density. 15. Describe thumb rules to monitor temperature, humidity and DOC comfort. 16. Explain how to care DOC and the requirements of caring DOC. 17. Explain about the quality and type of chicks to be released in the brooder. 18. Explain about seasonal and day-night management practices of raising chicks during the brooding stage. 19. Explain about effect of temperature and humidity on growth rate and ammonia production. 20. Explain about age-wise feeding programs, water Requirements for poultry birds. 21. Explain Relevant Legislation, standards, policies and procedures at work. 22. Explain relevant health and safety requirements applicable to the work environment. 23. Explain the importance of following health, hygiene, safety and quality standards and the impact of not following the standards on consumers and the business. 	<ol style="list-style-type: none"> 1. Demonstrate the methods of brooding. 2. Demonstrate the procedure for sanitation of the brooding area as per regulatory standards. 3. Demonstrate how to prepare the brooding room for the placement of chicks. 4. Identify and sort quality DOC for brooding. 5. Demonstrate How to maintain proper ventilation, light, water for raising poultry chicks. 6. Demonstrate how to monitor uniform temperature and humidity throughout the brooding area. 7. Demonstrate the procedure of debeaking. 8. Demonstrate the handling of debeaking machine. 9. Inspect the debeaked chicks for behavioural abnormalities. 10. Demonstrate stirring/raking to maintain hygiene and quality of litter material. 11. Demonstrate proper handling of chicks in the brooding house. 12. Analyze time and frequency of feeding, food diet of chicks in the brooding house. 13. Demonstrate the mixing of medicines through feed. 14. Select feed samples for analysis. 15. Demonstrate the procedure for good brooding and litter management practices. 16. Demonstrate the use of personal protective equipment. 17. Demonstrate the procedure for waste disposal as per SOP.

UNIT 3.1: Brooding Management

Unit Objectives

After the completion of this unit, the participants will be able to:

1. Demonstrate the methods of brooding.
2. Demonstrate the procedure for sanitation of the brooding area as per regulatory standards.
3. Demonstrate how to prepare the brooding room for the placement of chicks.
4. Identify and sort quality DOC for brooding.
5. Demonstrate stirring/raking to maintain hygiene and quality of litter material.
6. Demonstrate proper handling of chicks in the brooding house.
7. Demonstrate the procedure for good brooding and litter management practices.

Resources to be Used

- Available objects such as participant's handbook, white board, duster, marker etc.
- Power points slides, pictures/posters, videos e.g., which can illustrate brooding methods, brooding equipments, sanitary products etc.

Field Visit

- To create awareness and train the participants on how to minimize losses during brooding by managing temperature of brooding house by observing chicks behaviour. Arrange a visit to any nearby poultry unit/ farm.
- Make group of 4/5 participants and allow them to visit the entire unit and ask them to capture their hands on experiences on each parameter. Participants can also be subjected to the Brooding materials and which are also cost effective for the poultry manager / owner. Ask participants to prepare brooding room before arrival of chicks. You can arrange a healthy competition between groups, for brooding house preparation. Participants are expected to learn how to reduce mortality rate by maintaining brooding temperature. This visit should be helpful to the participants to understand the importance of brooding management and debeaking activity.

Expected outcomes

- Skilling on handling of day old broody chicks.
- Awareness on brooding temperature requirement for day old chicks.
- Management of sanitation of brooding area.

Say

- Thank you to everyone for their participation
- Discuss with the participants to share their feelings about this exercise and what new things they have learned in this visit.

Ask

- Ask the participants about their experience of brooding house preparation.
- Ask participants to prepare a survey on Debeaking practices
- Ask the participants whether they have any solution on how to avoid losses during the debeaking process.

Explain

- Introduce participants to the Importance and types of Brooding.
- Explain behavior of chicks In brooding house.
- Explain participants about debeaking process.

Elaborate

- Elaborate the importance of temperature maintenance in brooding house.
- Elaborate inspection the debeaked chicks

Activity

- This pen and paper activity is for preparing participants to learn efficient management during brooding of chicks. Plan this activity for at least 20-30 minutes.
- Ask the participants to prepare a flow chart on various steps involved in Debeaking and brooding of chicks in poultry house. Also with this prepare a flow chart for sanitation procedure at poultry farm.
- Both this activities are crucial one and need efficient management to run a successful poultry business ; hence participants are expected to understand and write down every minutes step involved in these stages which will contribute to achieve reduction of losses. The main motto behind this is to acquaint the participants about the brooding methods and sanitation of brooding area.

Notes for Facilitation

- Help the participants to complete all the tasks involved in the participant hand book.
- Discuss with them procedure debeaking of chicks.
- Discuss with them process of brooding.
- Provide complete set of notes on quality DOC for brooding.

Exercise

Key Solutions to PHB Exercises

A. Short Questions

1. First few days of life is critical for chicks, as their thermoregulatory system is not developed they are unable to maintain their body temperature on its own. Proper brooding helps to develop immune system of chicks. Layers are well adjusted in floor rearing as well as cage rearing. But rearing in cages is recommended during brooding and growing period followed by housing in layer cages.
2. Space requirement in Deep Litter: In deep litter brooding, during first 2 -3 weeks provide 0.3 to 0.4 sq. ft. per chick floor space and then increase gradually as age advance. After 2 -3 weeks increase floor space per chick up to 1 sq.ft per female up to 8 weeks of age. Feeding space required is 2.5cm per chick up to 4 week and 5 cm per chick from 5 to 8 weeks of age.

Space requirement in Cages: Two tier reversible cage design for chick cages are recommended for layer chicks. Cage front of 18 inches, depth of 18 inches and height of 15 inches are recommended up to 7 weeks. During first two weeks of brooding period more number of chicks can be placed per chick cage (maximum 15 chicks per cage – 18sq.inch/chick). As age advances reduce number of chicks per cage and keep 8 chicks per cage (40.5sq.inch/chick) up to 7 week of age. Ensure that all chicks have at least an access to 2 nipples.

3. Chick behaviour is the best indicator of correct brooder temperature. With spot brooding, correct temperature is indicated by chicks being evenly spread throughout the brooding area. If chicks crowd under the brooder indicates temperature is too low and if chicks are close to the surroundings indicates too high temperature.

B. State whether True or False (T/F)

1. True
2. True
3. True

C. Fill in the Blanks

1. 12-14 Days
2. 5°F

D. Multiple Choice Questions

1. a) 2.5 cm
2. a) 85 to 90°F

Unit 3.2: Debeaking

Unit Objectives

After the completion of this unit, the participants will be able to:

1. Demonstrate the procedure of debeaking
2. Demonstrate the handling of debeaking machine
3. Inspect the debeaked chicks for behavioral abnormalities

Resources to be Used

- Available objects such as participant's handbook, white board, duster, marker etc.
- Different debeaking equipments. Electricity board etc.

Activity

Purpose: To acquaint the participants about debeaking procedure and handling of debeaking machine.

Resources: Projector, system facilitating power point presentations, show video on debeaking of chicks.

Methodology: Plan this field visit for about 90 -120 minutes.

Arrange a visit to nearby poultry unit. Divide the all participants in two groups allow one group to demonstrate procedure of debeaking of chicks start from preparation and for second group handling of debeaking machine while performing debeaking activity. Ask participants to share their understanding on other group demonstration. During this visit participants are expected to learn importance and procedure of debeaking activity while rearing chicks.

Expected outcomes:

- Skilling up participants about debeaking.
- Efficient handling of chicks during debeaking

Say

- Discuss with the participants to share their feelings about debeaking and what new things they have learned in this field visit.

Ask

- Ask participants whether they performed these debeaking activities earlier.
- Ask the participants about their experience of debeaking of poultry birds.

Explain

- Explain participants about procedure for debeaking of chicks.

Elaborate

- Elaborate debeaking activity of chicks.
- Elaborate the behavioral abnormalities of debeaked chicks.

Activity

- Plan this activity for at least 20-30 minutes.
- This is pen and paper activity is for preparing participants to learn efficient behavioral abnormalities of chicks after debeaking. Ask participants to draw a schematic diagram on behavioral changes observed after debeaking of chicks. Discuss care to be taken after debeaking to avoid mortality.

Notes for Facilitation

- Provide a complete set of notes to participants on debeaking.
- Help the participants to complete all the tasks involved in the participant hand book.

Exercise

Key Solutions to PHB Exercises

A. Short Questions

1. It is a critical and most important operation of the rearing period. Beak trimming is done to reduce feed wastage and cannibalism (pecking).
For beak trimming hold the chick in one hand with the thumb behind the head holding the head firmly in position resting the beak on the forefinger. Tilt the chick's beak upwards at an angle of 15 degree above horizontal and cauterize the reinforced side edges of the beak to avoid unequal re-growth. Cauterization contact time should be between 2 and 2.5 seconds
2. Ensure that the flock is healthy. It is critical operation and it should be done by well trained staff under strict supervision of the farm manager. Use electrolyte and vitamins in the water two days before and two days after beak trimming. Pain reliver (Aspirin 500 mg/1000kg wt) is to be given on the day of and two days after beak trimming. Keep feed at the highest level for a few days after beak trimming. Ensure that birds are drinking water freely. Proper cauterization to avoid bleeding. Re-cauterize the bleeding beaks.
3. Cauterization contact time should be between 2 and 2.5 seconds. The proper size hole should be selected to provide the width of 2.5 to 3 mm between the nostrils and the cauterizing ring. Severe cutting of the beak may cause irreversible damage to the chicks and affect performance of the bird. A cherry red color blade with approximately 595°C (1100°F) temperature has been recommended for proper cauterization For beak trimming of day old chicks in the hatchery, an infrared beak trimming method is also in use. It uses a non-contact, high intensity infrared energy source to treat a specific portion of beak tissue. In this method, initially the beak remains intact but after a few weeks the sharp hook of the beak erodes.

B. State whether True or False (T/F)

1. True
2. True
3. False

B. Fill in the Blanks

1. 12-13 week
2. 2 to 2.5 seconds

C. Multiple Choice Questions

1. a) 7-10
2. c) Both a and b

UNIT 3.3: Feeding, Watering and Temperature Management

Unit Objectives

After the completion of this unit, the participants will be able to:

1. Demonstrate how to maintain proper ventilation, light, water for raising poultry chicks.
2. Demonstrate how to monitor uniform temperature and humidity throughout the brooding area.
3. Analyze time and frequency of feeding, food diet of chicks in the brooding house.
4. Demonstrate the mixing of medicines through feed.
5. Select feed samples for analysis.

Resources to be Used

- Available objects such as participant's handbook, white board, duster, marker etc.
- Different feeding and watering equipments used on poultry farm, Electrical Wires/ Folder/ Plugs etc., Electrical Bulbs, Insulation Tape, Brooders, Brooder Guards, Chick Feeders, Chick Drinkers, Taps, Newspaper, Thermometer, Foot Dips, Slippers/Footwear, Balance/ Weighing Scale, Platform Scale, Scoops, Feed Bins, Trolley/Wheel Barrow.

Field Visit

Purpose: To acquaint the participants about ventilation of poultry house.

Resources: Exhaust fans, feeding and watering equipments, and thermometer.

Methodology: Arrange a field visit for 90 minutes.

Arrange visit to nearby poultry farm. Ask participants to observe different ventilation mechanism followed at poultry farm. Discuss with the poultry farm owner about different ventilation system can be more efficient. Also with this ask participants to prepare a list of different ventilation mechanism available in the market and which one is cost effective.

Expected outcomes:

- Skilling on temperature and humidity management of brooding area.
- Awareness on analysis of feed sample.
- Efficient storage of feed.

Say

- Importance of ventilation, light, water while raising poultry chicks.
- Discuss with the participants to share their experience of analysis of feed sample.

Ask



- Ask the participants about how to monitor uniform temperature and humidity throughout the brooding area.
- Ask the participants about time and frequency of feeding, food diet of chicks in the brooding house.

Explain



- Demonstrate the mixing and application of medicines through feed.
- Demonstrate analysis of feed sample at regular interval.

Notes for Facilitation



- Provide complete set of notes on time and frequency of feeding in brooding.
- You can invite any poultry farm owner who performs all poultry farm operations.

Exercise

Key Solutions to PHB Exercises

A. Short Questions

1. Feedstuffs Ingredients

Cereal grains - Maize, Wheat, Barley, Rice, Sorghum, Millet, Rye

Vegetable proteins/Oil cakes - Soybean meal, Rapeseed meal, Linseed meal, Groundnut meal, CottonSeed meal, Mustard cake, Sesame cake, copra cake

Animal proteins - Fish meal, Meat and Bone meal, Blood meal, Feather meal.

By products from rice milling industry - Rice bran, rice polish

By products from flour milling industry - Wheat bran, wheat pollard, wheat germ

Sources from the edible oil industry - Palm kernel cake, palm kernel sludge palm oil.

Sources from the sugar cane industry - Molasses

By products from the brewery - Brewer's yeast

Sources of Xanthophyll - Corn gluten meal, leaf meal, Alfalfa Pellets, Grass meal.

Mineral sources - DCP/MCP/MDCP/TCP, Limestone, oyster shells.

2. The ideal relative humidity for poultry is 60-80%. In addition to ammonia levels and temperature, it's important to constantly monitor relative humidity levels for maximum effect. High relative humidity decreases the effectiveness of panting. RH within the broiler house should be monitored daily using a hygrometer. If it falls below 40-50% in the first week, the environment will be dry and dusty. The chicks will begin to dehydrate and be predisposed to respiratory disorders.
3. Currently many companies calculate stocking density by the pound. Instead of being expressed as the number of birds per unit area, density is calculated as bird weight per unit area. The ideal density at which to place broilers during grow-out is an ongoing debate. Factors to consider when determining stocking density include but are not limited to; Bird size, Feeder space, Drinker space House dimensions, Bird welfare Nutrition, Breed Performance Economic return

B. State whether True or False (T/F)

1. True
2. False
3. False

C. Fill in the Blanks

1. Brewery's yeast
2. Molasses

D. Multiple Choice Questions

1. a) 0.75 to 1.00 sq. ft.
2. a) 50%

UNIT 3.4: Safety and Standard Requirements

Unit Objectives

After the completion of this unit, the participants will be able to:

1. Demonstrate the use of personal protective equipment.
2. Demonstrate the procedure for waste disposal as per SOP.

Resources to be Used

- Available objects such as participant's handbook, white board, duster, marker etc.
- Different personal protective equipments, Slippers/Footwear etc.

Activity

Purpose: To acquaint the participants about use of personal protective equipment.

Resources: PPE kit

Methodology: Plan this activity for 15-20 minutes.

Arrange a personal protective equipment kit. You have to wear it and show participants different operations to be carried out by wearing PPE Kit. Ask participants to wear PPE kit and perform the same. By the time you have explain them importance of PPE kit and procedure for wearing of PPE kit.

To create awareness and train the participants on sequence of wearing PPE Kit.

There are 5 steps to evaluate health and safety performance of participants.

- Step 1- Know what your health and safety objective are.
- Step 2- Develop performance measure which indicate achievement of your objectives
- Step 3 – Collect information on your measure of effectiveness.
- Step 4- Analyse the result and decide upon improvements.
- Step 5– Implement changes and start again.

Expected outcomes:

- Skilling on wearing of PPE kit
- Awareness on Importance of PPE Kit.
- Efficient storage of PPE Kit

Say

- Discuss with the participants to share their feelings about wearing of PPE kit.

Ask

- Ask the participants about their experience of wearing PPE Kit.
- Ask participants to prepare a survey on safety benefits of using PPE kit at workplace

Explain

- Introduce participants to the Importance and types PPE Kit.
- Explain the Importance of using PPE Kit.

Activity

- Arrange a field visit and perform different activities to be carried out by wearing PPE kit. Explain them importance of foot bath at the entrance of poultry farm.

Notes for Facilitation

- Help the participants to complete all the tasks involved in the participant hand book.

Exercise

Key Solutions to PHB Exercises

A. Short Questions

1. Small Farmers: 5,000-25,000 birds
Medium Farmers: More than 25,000 and less than 1,00,000 birds
Large Farmers: More than 1,00,000 birds
2. Always report unsafe conditions. Wear protective equipment. Don't skip steps. Maintain proper posture. Create a comfortable space. Equipment safety checks and regular training. Keep a clean workstation. Takes breaks. Keep your team connected
3. Code of conduct, Recruitment policy, Internet and email policy , Mobile phone policy, Non-smoking policy, Drug and alcohol policy, Health and safety policy, Anti-discrimination and harassment policy.

B. State whether True or False (T/F)

1. True
2. True
3. True

C. Fill in the Blanks

1. Policies
2. 2020

D. Multiple Choice Questions

1. d) All of these
2. d) Both a and c



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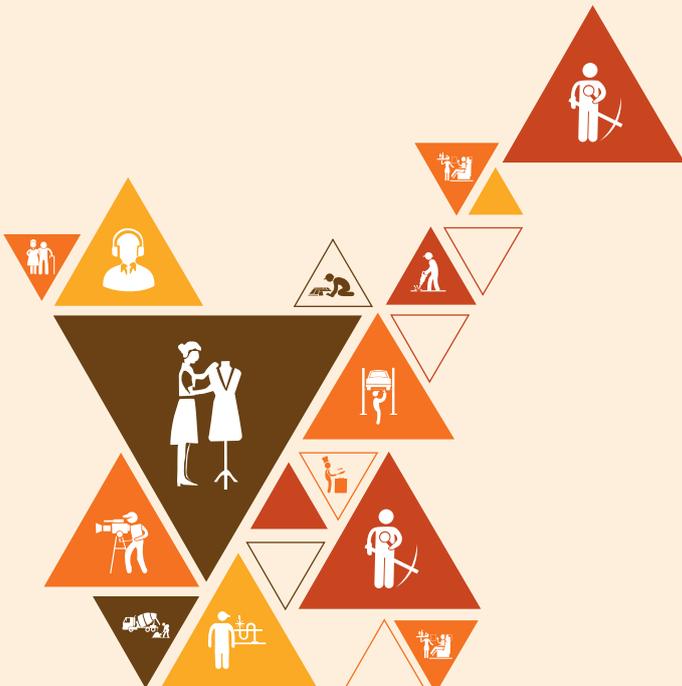
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4. Feed, Water and Litter Management

Unit 4.1: Chicks Feed Management

Unit 4.2: Poultry Waste Management and Feeding Schedule

Unit 4.3: Resource Management



AGR/N4336

Terminal Outcomes

After the completion of this module, the participants will be able to:

1. Maintain the health of poultry chick and workers to get the quality chickens as per Company's standards.
2. Maintain the hygiene at the farm.
3. Manage litter and dispose the waste litter effectively and safe manner.

Key Learning Outcomes

After the completion of this module, the participants will be able to:

Theory	Practical
<ol style="list-style-type: none"> 1. Discuss about balanced diet of chicks. 2. List measures for preventive health care of chicks. 3. Discuss the importance and maintenance of feeding and watering equipment. 4. Discuss the quality standards required for each grade of chicks based on their growth. 5. Explain about waste management and methods of waste disposal. 6. Explain feeding and drinking behavior of birds at various stages. 7. Explain how to maintain the record of feeding schedule and type of feed based on their growth. 8. Explain the feeders and drinkers requirement as per the proportion of number of chicks in the shed. 9. Explain about various types of pest infestation in feed and their remedial measures. 10. Explain the importance of proper storage of feed and how to fight various pest infestations. 11. Describe the consequences of improper storage of feed. 12. Explain the benefits of resource optimization. 	<ol style="list-style-type: none"> 1. Analyze the feed requirement of chicks, birds as per the growth stage. 2. Demonstrate how to provide the balanced feed. 3. Demonstrate the procedures for sanitizing the feed, feeders, water, and drinkers. 4. Demonstrate how to adjust the height of feeding and watering equipment as per the growth of chicks. 5. Estimate the number of feeders and drinkers required as per the proportion of birds in the shed. 6. Inspect the feeding and watering equipment for leakage, wear and tear. 7. Demonstrate the documentation of the feeding record as per the schedule for assessment purpose. 8. Demonstrate the disposal of the used litter as per the regulations. 9. Demonstrate how to minimize wastage of resources including water. 10. Calculate the Feed Conversion Ratio of the chicks. 11. Demonstrate the bio-security measures. 12. Calculate the weight of the birds at regular interval. 13. Demonstrate the way to segregate and dispose different categories of waste. 14. Document the feeding record as per the schedule for assessment purpose. 15. Inspect the quality of the litter in a timely manner.

Unit 4.1: Chicks Feed Management

Unit Objectives

After the completion of this unit, the participants will be able to:

1. Analyze the feed requirement of chicks, birds as per the growth stage.
2. Demonstrate how to provide the balanced feed.
3. Calculate the Feed Conversion Ratio of the chicks.
4. Calculate the weight of the birds at regular interval.

Resources to be Used

- Available objects such as participant's handbook, white board, duster, marker etc.
- Slides in power point presentation showing relevant images, Weighing balance, Feed material.

Field Visit

Participants can be accompanied to nearby poultry farm unit there they can observe different types of feeds given to chicks according growth stages. Participants can ask some questions to poultry farm worker in the form of survey like.

- What is feed requirement of chick at different growth stage?
- How you provide balance feed to growing chicks?
- How to calculate Feed Conversion Ratio for chicks?

These way participants' can prepare short survey on feeding requirements of chicks and balance feed preparation.

The poultry farm unit should have:

Chicks feeder, drinkers

Feeding material

Weighing balance

Purpose: To acquaint the participants about feed requirement of chicks, birds as per the growth stage.

Expected outcomes

Skill and knowledge enhancement on different feed ingredients for preparation of rations.

This chapter says feed ingredient classification and role of feed ingredients in poultry ration and define importance of feed additives in poultry ration.

Ask

- Ask participants whether they have experience of feeding of day old chicks.

Elaborate

- Elaborate importance of calculation of Feed conversion ratio of the chicks and weighing of birds at regular interval.
- Make this point clear that participants should focus more on feed requirement of chicks according to growth stages.

Do

- Identifications of different feed ingredients and its quality used in poultry feed.
- Field visit report to be presented by participants.

Notes for Facilitation

- Discuss different feed ingredients and its nutrient content.
- Explain the importance of feed ingredients quality in poultry ration production.

Exercise

Key Solutions to PHB Exercises

A. Short Questions

1. Birds will naturally peck at litter but avoiding 'out-of-feed' events helps to reduce the potential for bird to peck excessively at the litter. Keep the chicken coop clean . Avoid environmental stresses. Keep your chickens healthy. Implement a health management program. Avoid introducing disease and parasites into your chicken coop. Remove Sick Birds
2. Feeding Equipment- Feeders are equipment used to feed the birds, by placing feed in them. They may be conventional, semi-automatic or automatic of various designs and shapes such as linear, circular or hanging, made up of either metal or plastic. Sufficient number of feeders or feeding space is necessary for proper feed intake by the broilers, without any competition, cannibalism or starvation. Linear feeders: These are made of GI sheets with a grill over the trough to prevent birds from going inside. The trough may have an inward lip to prevent feed spillage. The feeders stand on suitable legs.
Watering Equipment- Leaking watering system, when not maintained in good working condition, can cause wet litter problems. The in-line water pressure must be within the manufacture's specifications. Roofs should be leak-free and ventilation systems should move an adequate amount of air to keep litter moisture levels in the proper range.
3. A top quality chick makes all the difference during production. What is the definition of a top quality day old chick? It should read like this. Eyes clear and bright Body dry – not wet. A body temperature at the vent (cloaca) 35.5°C. No cross beaks. Feet properly formed. Legs clean, no red hocks. No signs of gasping or heavy breathing. No stringy navels. No black buttons. Navels properly healed. Well developed legs, skin that is soft and well hydrated. No thick/fat bellies. Not a large amount of growth on the primaries. Fairly even wing feather growth throughout all the chicks.

B. State whether True or False (T/F)

1. True
2. False
3. False

C. Fill in the Blanks

1. Feeders
2. 770

D. Multiple Choice Questions

1. d) Both a and b
2. b) Cross beaks

Unit 4.2: Poultry Waste Management and Feeding Schedule

Unit Objectives

After the completion of this unit, the participants will be able to:

1. Demonstrate the documentation of the feeding record as per the schedule for assessment purpose.
2. Demonstrate the disposal of the used litter as per the regulations.
3. Demonstrate the way to segregate and dispose different categories of waste.
4. Document the feeding record as per the schedule for assessment purpose.
5. Inspect the quality of the litter in a timely manner.

Resources to be Used

- Available objects such as participant's handbook, white board, duster, marker etc.
- Power points slides, pictures/posters e.g., which can illustrate the waste disposal methods.

Activity

Purpose: To acquaint participants about disposal of the used litter as per the regulations and demonstrate the way to segregate and dispose different categories of waste.

Resources: Projector, system facilitating power point presentations, microphone, camera, and round tables arranged in U shape for healthy discussion.

Methodology: Plan this activity for 5 hours.

Arrange a visit where litter disposal rules and regulations are properly followed. Ask participants to note down different parameters of litter disposal. Encourage participants to have healthy group discussion on rules and regulation standards of litter disposal and actual practices are carried out at field level. You have to guide them to maintain right path of discussion. Due to this participants will be able to know gap between standard methods and methods which are actually followed at field and and their impact on surrounding.

Expected outcomes:

- Group activity and team building
- Ability to communicate with unknowns

Say

- Discuss with participants about importance of safe disposal methods of litter.
- Describe objective of above activity.

Ask 

- Ask participants about their experience of waste disposal methods at nearby poultry farm.

Do 

- Demonstrate the disposal of the used litter as per the regulations.
- Demonstrate the way to segregate and dispose different categories of waste.

Elaborate 

- Elaborate on key methods to segregate and dispose different categories of waste.
- Discuss about waste disposal methods followed in India and for more details refer to https://www.researchgate.net/publication/332092544_Poultry_waste_management_An_approach_for_sustainable_development

Activity 

- Make a group of 4-5 participants ask one group to collect information on inspection of litter quality in a timely manner. Another group should collect information on feeding record as per the schedule for assessment purpose. You have to help them to have healthy and worth discussion.

Notes for Facilitation 

- You can invite representative of any poultry unit who follow proper waste disposal method so that their expectations can be known to participants.
- Provide complete set of notes on feeding record documentation and waste disposal methods.
- Ensure presence of representative of village council to evaluate and encourage the team.

Exercise

Key Solutions to PHB Exercises

A. Short Questions

1. The habit of throwing dead birds and hatchery waste on the nearest manure pile or into an open field is the dangerous and unscientific way of disposal of dead birds because:
 - The smell of carcass and hatchery waste attract the dogs and cats, they consume the infected carcass and hatchery waste and harbour enteric organisms infectious for poultry.
 - Vultures and other wild birds invade the carcass and act as potential carriers of the disease causing agents from one farm to other even from one country to another (migratory birds).
 - The disease agents are carried through rain water and contaminate other water sources.
 - Some of the disease causing agents is carried through air (M.D. Virus in feather follicular epithelium) from one place to another.
 - On decomposition, the carcass may emit foul smell and cause air pollution
2. Burying : This is the suitable method of disposal for small farms which may not afford to construct an incinerator. This method is also used for severe losses creating a serious disposal problem.
 Pit Disposal : The pit disposal is an effective convenient means for disposal of hatchery waste and dead birds that is within the means of all poultry raisers.
 Incineration: Incineration is the burning of carcasses and hatchery waste. Incinerator is a furnace used for burning.
 Septic Tank Disposal: This method of disposal consists of digesting the carcasses and waste products in the electrically heated septic tank by the action of mesophilia bacteria.
 Rendering: In this method, the dead birds and hatchery waste are converted into fertilizers and other products.
 Composting: Composting is a controlled, natural process in which beneficial organisms (bacteria and fungi) reduce and transform organic wastes into a useful end-product called compost
3. Chickens have a rigid social structure called the “pecking order” by which every bird establishes who is dominant and who is submissive in relationship to every other bird. Dominant birds peck at submissive birds, pluck their feathers, and may chase them away or steal their food. Within their social group there is a distinct dominance hierarchy or pecking order. In the peck order, the dominant birds get first access to food, nesting locations, and roosting spots. The subordinate birds wait until the dominant birds leave the area before they will approach.

B. State whether True or False (T/F)

1. False
2. True
3. True

C. Fill in the Blanks

1. 25 liter, 15 kg
2. 100

D. Multiple Choice Questions

1. a) Burying
2. c) 50

Unit 4.3: Resource Management

Unit Objectives

After the completion of this unit, the participants will be able to:

1. Demonstrate the procedures for sanitizing the feed, feeders, water, and drinkers.
2. Demonstrate how to adjust the height of feeding and watering equipment as per the growth of chicks.
3. Estimate the number of feeders and drinkers required as per the proportion of birds in the shed.
4. Inspect the feeding and watering equipment for leakage, wear and tear.
5. Demonstrate how to minimize wastage of resources including water.
6. Demonstrate the bio-security measures.

Resources to be Used

- Available objects such as participant's handbook, white board, duster, marker etc.
- Power points slides, pictures/posters e.g., which can illustrate the role of poultry farm worker.

Activity

Purpose: To acquaint the participants about procedures for sanitizing the feed, feeders, water, and drinkers.

Resources: Projector, system facilitating power point presentations, drinkers, feeder, sanitizers for healthy discussion.

Methodology: Plan this activity for 25-30 minutes

Divide the participants in two groups, you have to demonstrate them how to adjust height of feeding and watering equipment as per the growth of chicks. Ask both groups to perform same. You have to assist them while performing. Discuss with participants how height of feeder and waterer changes according to age.

Expected outcomes:

- Skilling of participants
- Knowledge enhancement

Ask

- Let the participants go through various factors affecting sanitization of poultry farm and factors influence the selection of sanitizing products.
- Ask participants whether they have seen any sanitizing products used at poultry farm.

Explain

- Explain participants about number of feeders and drinkers required as per the proportion of birds in the shed.
- Explain participant's resources wastage minimizing methods and which methods followed in India.

Elaborate

- Demonstrate participants about procedures for sanitizing the feed, feeders, water, and drinkers.
- Elaborate participants about number of feeders and drinkers required as per the proportion of birds in the shed.

Activity

- Arrange a visit to nearby poultry farm, ask participants to inspect for feeding and watering equipment for leakage, wear and tear. Arrange a demonstration on how to minimize wastage of resources at poultry farm. Ask participants to follow bio security measures while entering at poultry farm. Explain them importance of bio security measure.

Notes for Facilitation

- Provide complete set of notes on bio security measures.
- Help the participants to complete all the exercises mentioned in the participatory handbook.
- Encourage participants to undergo field visits and how they can learn more through these visits.

Exercise

Key Solutions to PHB Exercises

A. Short Questions

1. The occurrence of one or more pest species in an area or location where their numbers and impact are currently or potentially at intolerable levels. Pest can carry a wide range of diseases causing organisms, including bacteria, viruses, protozoa and helminths that can cause harm to consumers and staff of businesses processing and handling food. They can also cause physical contamination of ingredients and processed products from, for example, droppings, shed fur and feathers, body parts, nesting material and damaged packaging.
2. Proper food storage helps to preserve the quality and nutritional value of the foods you purchase, and also helps make the most of your food dollar by preventing spoilage. Additionally, proper food storage can help prevent food borne illnesses caused by harmful bacteria. Wrong storage of food can attack food with harmful bacteria that can cause illness causing toxins when you consume them. These bacteria (staphylococcus specifically) do not get destroyed on cooking as well. Salmonella food poisoning is also caused by poor handling of food.
3. To maintain the workload and regulate project tasks, resource optimization helps in easy management of poultry farm. This will help the farm to manage budget if finances tend to exceed available resources. Poultry farm resource optimization system enables poultry farmer workers to maximize profits as well as minimize costs on the farm. The resources optimized include water, feeds, medicine also labor management.

B. State whether True or False (T/F)

1. True
2. True
3. True

C. Fill in the Blanks

1. Cool, dry
2. Baits

D. Multiple Choice Questions

1. d) All of these
2. d) All of the above



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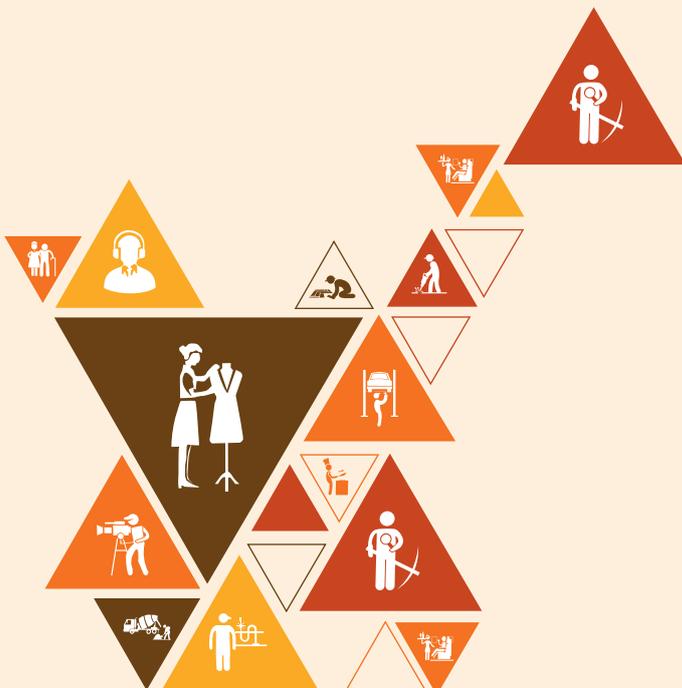
Agriculture Skill Council of India

5. Disease Prevention and Maintenance of Poultry Health

Unit 5.1 - Diseases Management

Unit 5.2 - Disease Prevention

Unit 5.3 - Industrial Norms



AGR/N4337

Terminal Outcomes

After the completion of this module, the participants will be able to:

1. Manage the diseases of birds in the farm.
2. Maintain the hygiene at the farm.

Key Learning Outcomes

After the completion of this module, the participants will be able to:

Theory	Practical
<ol style="list-style-type: none"> 1. Explain the key principles of poultry management. 2. List common diseases of layer chicks, their causative organisms, symptoms, vaccination schedule, day-to-day management of common diseases. 3. List the different types of vaccines and the frequency in which they are administered to the chicks. 4. Describe the importance of bio security and disinfection in disease prevention. 5. Explain the methods to identify the advanced symptoms in birds. 6. Describe culling. 7. Explain the management techniques of different pests and diseases which affect the chicks/birds. 8. Explain methods of disposing of dead chicks/birds following instructions by the supervisor. 9. Explain the importance of ventilation system is efficient in cleaning of any air-borne pathogen. 10. Explain the impact of not following safety guidelines. 11. Describe transmission of diseases from bird to bird, from birds to humans and vice versa, and their control methods 12. Explain about the different reportable diseases and their measures. 13. Describe the industrial norms related to stock density, adequate space requirement for chicks/birds, etc. 14. Explain the importance and contents of Chicken first kit and their uses. 	<ol style="list-style-type: none"> 1. Examine the behavior and health of chicks. 2. Identify the early signs of infection in chicks/birds. 3. Identify and segregate sick and dead birds 4. Demonstrate the disposal of the dead birds and other organic matter. 5. Demonstrate vaccination of Birds and medicines in case of diseases. 6. Demonstrate the sanitization of feed and water to prevent gut infection. 7. Demonstrate how to keep the ammonia levels in check and Rake/ stir litter to prevent disease spread. 8. Demonstrate the waste minimization practices. 9. Demonstrate how to take precautions for diseases in birds. 10. Demonstrate disease management practices. 11. Demonstrate how to record the weight of the birds and health check-up at regular interval. 12. Demonstrate litter management practices. 13. Demonstrate how to restrict the movement of free flying birds and other animals. 14. Demonstrate how to restrict the entry of men and material, in case of visitation use the safety and hygiene norms. 15. Demonstrate the culling of birds with advanced signs of disease/infection. 16. Inspect the birds for feather picking, cannibalism due to high stock density. 17. Calculate the mortality rate of chicks. 18. Demonstrate the use of PPE. 19. Demonstrate the use of chicken First aid kit.

Unit 5.1: Diseases Management

Unit Objectives

After the completion of this module, the participants will be able to:

1. Examine the behavior and health of chicks.
2. Identify the early signs of infection in chicks/birds.
3. Identify and segregate sick and dead birds.
4. Demonstrate the disposal of the dead birds and other organic matter.
5. Demonstrate disease management practices.
6. Demonstrate the culling of birds with advanced signs of disease/infection.
7. Inspect the birds for feather picking, cannibalism due to high stock density.

Resources to be Used

- Available objects such as white board, duster, paper etc.
- Slides in power point presentation showing relevant images of sick and dead poultry birds.

Field Visit

Plan a field visit for practical exposure of participants to understand healthy behavior of chicks. Simultaneously to observe early signs of disease infection. The visit may be planned for a day or for 2-3 hours depending upon location.

Take participants to nearby veterinary hospital for disease diagnosis of chicks. Explain them how diagnosis is so important? How it play role in prevention or spread of disease.

Ask

- Ask each participant to prepare a visit report and indicate key learning about different diseases of chicks and which they have seen during visit.

Elaborate

- Elaborate on segregation of diseased sick or dead birds. Also elaborate them how segregation help to prevent further spread of infectious/contagious disease.
- Elaborate participants on different disease management practices and methods followed in India.

Activity

This can be a self learning activity to enhance knowledge on different terms used in poultry disease management.

- Let participants read about 'Culling of birds' and how it prevent further spread of disease. In addition to this retrieved content on how stocking density play important role in disease management.
- Ask participants to prepare a power point presentation and discuss together about advanced signs of different diseases seen in poultry birds.
- This exercise can help participant to get in depth about disease seen in poultry birds.

Notes for Facilitation

- Help participants to complete all the exercises mentioned in the participant handbook.
- Ask participants to prepare list for different infectious and noninfectious diseases of chicks.
- Provide complete set of notes to participants on cannibalism.

Exercise

Key Solutions to PHB Exercises

A. Short Questions

1. Regular deworming of chicks with piperazine compounds is highly effective. Young birds should be separated from older birds. Avoid reuse of litter materials. Changing of litter can reduce infections. Treatment of the soil or litter to kill intermediate hosts is useful. Litter may be treated with suitable insecticides. Litter materials should always be kept in dry condition. Extreme care should be taken to ensure that feed and water are not contaminated. Provide clean feeding troughs and drinking water appliances. Poultry runs should be well drained. Include immune-stimulants like Vitamin E in the feed. Inflict heavy mortality in broilers and also in growers raised on deep litter.
2. There are multiple noninfectious diseases viz., Bone Disorder/ Fragility, Fatty liver disease, Egg Eating, caged layer Fatigue, Molting, Rickets, Stop Laying Eggs, Hysteria. and infectious diseases include such as Egg drop syndrome, Marek's Disease, Lymphoid Leukosis, New Castle Disease, Avian Infectious Bronchitis, Infectious Laryngotracheitis, Avian influenza, Wing rot, Avian encephalomyelitis Fowl pox, Fowl cholera etc.
3. A good bio-security program identifies and controls the most likely ways a disease could enter the farm. Provide a close room near main gate for disinfection of any material coming from outside. Unload material in the room, fumigate with Formalin and Potassium Permanganate: Use 40 ml formalin (40 %) and 20 g Potassium Permanganate ($KMnO_4$) for area of 1 cu meter (0.6 g $KMnO_4$ + 1.2ml formalin for 1 cu ft). Add formalin to potassium permanganate in porcelain bowl kept inside the room. (Caution - Never add potassium permanganate to formalin). Fumigate for 20 minutes and then ventilate the room through exhaust fan to allow formaldehyde gas to escape.

B. State whether True/False (T/F)

1. True
2. True
3. True

C. Fill in the Blanks

1. Avian infectious Bronchitis
2. Gangrenous dermatitis

D. Multiple Choice Questions

1. d) All of these
2. d) All of these

Unit 5.2: Disease Prevention

Unit Objectives

After the completion of this unit, the participants will be able to:

1. Demonstrate vaccination of birds and medicines in case of diseases.
2. Demonstrate the sanitization of feed and water to prevent gut infection.
3. Demonstrate how to take precautions for diseases in birds.
4. Demonstrate how to record the weight of the birds and health check-up at regular interval.
5. Demonstrate how to restrict the movement of free flying birds and other animals.
6. Demonstrate how to restrict the entry of men and material, in case of visitation use the safety and hygiene norms.

Resources to be Used

- Available objects such as white board, duster, paper, vaccine samples etc.
- Slides in power point presentation showing relevant videos on vaccination of poultry birds.

Field Visit

Arrange a visit to poultry unit, where vaccination of poultry birds is driven. There participants can observe different vaccine and their recommended dose, also mode of application. They can ask few questions to person who is giving vaccine to birds lie.

- What are the different types of vaccine available in market?
- Which one is most effective method of application of vaccine?
- What care should be taken before and after vaccination?
- Is there any side of vaccine on chick's health?
- What are the measures to be followed while carrying vaccine?

These way participants can prepare a short report on vaccination in poultry birds.

Do

- Ask participants to prepare power point presentation on highlight preventative measures to be followed such as sanitization of feed and water to prevent gut infection.
- You can arrange demonstration on sanitization of poultry equipments.
- Ask participants to prepare report on what are the precautionary measures to be followed prevention of diseases in birds.

Elaborate

Elaborate the participants by showing them how to record weight of poultry birds. And with this explain them importance of regular weight gain and health checkup in disease prevention.

Elaborate importance of movement restriction a poultry farm to prevent spread of disease.

1. Demonstrate how to restrict the movement of free flying birds and other animals.
2. Demonstrate how to restrict the entry of men and material, in case of visitation use the safety and hygiene norms.

Activity

- Ask them to prepare various movement restriction plans which will be required for poultry farm.
- Can have a group play activity on entry restriction of person or vehicles. You have to assist them while performing. Also ask participants to prepare a poster on safety and hygiene norms to be followed at poultry farm.

Notes for Facilitation

- Prepare a vaccination schedule chart for different age group of poultry birds with vaccine to be used.
- Provide complete notes regarding safety and hygiene norms to be followed at poultry farm.

Exercise

Key Solutions to PHB Exercises

A. Short Questions

1. Culling hens refers to the identification and removal of the non-laying or low producing hens from a laying flock. Unless the birds are diseased, they are suitable for marketing or home cooking
2. The pests affecting poultry production are divided into two categories: premise and ectoparasites pests. The premise pests include darkling beetles, flies, moths, cockroaches and rodents, while ectoparasites include mites, lice, bedbugs, fleas and soft ticks. Food grade diatomaceous earth (DE) makes an effective treatment for poultry lice. Dust each chicken with DE on their entire bodies, concentrating on the vent area and under the wings. Be sure to get the DE all over the base of the feathers as that's where lice live and lay their eggs.
3. Better overall performance from day one to slaughter. Birds reach their genetic potential (Meat or eggs production birds). Less mortality. Better FCR and weight gain. Better litter conditions. Removing of heat during summer periods.

B. State whether True or False (T/F)

1. True
2. False
3. True

C. Fill in the Blanks

1. Culling hens
2. 19.6

D. Multiple Choice Questions

1. d) All of these
2. a) 19.6%

Unit 5.3: Industrial Norms

Unit Objectives

After the completion of this unit, the participants will be able to:

1. Demonstrate how to keep the ammonia levels in check and Rake/ stir litter to prevent disease spread.
2. Demonstrate the waste minimization practices.
3. Demonstrate litter management practices.
4. Calculate the mortality rate of chicks.
5. Demonstrate the use of PPE.
6. Demonstrate the use of chicken First aid kit.

Resources to be Used

- Available objects such as white board, duster, paper etc.
- Slides in power point presentation showing relevant images of poultry unit.

Activity

Purpose: To acquaint participants about level of ammonia in poultry house to avoid further disease spread.

Resources: Big hall for accompanying the larger group of people sitting in small circle. Videos showing effect of ammonia on health of poultry birds. Projector etc.

Methodology: Plan this activity for 30 minutes.

Make a group of 4-5 participants you have to initiate discussion on gasses present in atmosphere at what percentage. Ask each group role of each gas and what happened if their level exceed and lower down. Accordingly you have to move them towards gaseous composition of poultry litter. Motivate participant to find out level of ammonia in poultry litter. What are the effects of exceeds ammonia on health of poultry birds.

Expected Outcome

- Enhancement in knowledge and observation capacity.
- Group activity and team building.

Say

- Discuss with the participants to share their feelings about this activity and what new things they have learned during this activity.
- Discuss with the participants about mortality rate of chicks.

Do

- Ask the participants whether they have any experience on waste minimization practices.
- Ask participants to perform different litter management practices by visiting nearby poultry unit.

Elaborate

- Elaborate participants about mortality of chicks and how to calculate the mortality rate. Also with this discuss optimum mortality rate of poultry birds.
- Demonstrate the use of PPE.
- Demonstrate the use of chicken First aid kit.

Activity

- Plan this activity for 20-25 minutes.
- Under this activity lets participants read about different personal protective equipments (PPE) to be used while working at poultry farm.
- Make arrangement of PPE kit and ask participants to discuss role of each equipment to be used for personal protection. You have to lead discussion towards sequence of wearing PPE kit and its importance in poultry farm.

Notes for Facilitation

- Describe different parts of Personal Protective Equipment kit.
- Provide complete set of notes regarding first aid kit.

Exercise

Key Solutions to PHB Exercises

A. Short Questions

1. The ideal density at which to place broilers during grow-out is an ongoing debate. It is natural to assume that birds will perform better when given more space. However, it's not more space but the improved environment that the added space may provide that is important.
2. This is taken up in breeders farms that have identified transovarian transmission of disease organisms in the farm such as salmonellosis and mycoplasma infection
3. Medication schedule of poultry birds
 For days 1 – 3 give Antibiotic course Vitamin A, D, E, K Water sanitizer Electrolytes
 4th day give – 7 Probiotic course
 From 8th – 14th days give Vitamin A,D,C,E Vitamin B complex Water Sanitizer
 In-between 15th to 21th days give Growth promoters Immuno stimulants Coccidiostat.
 From, Days 22th – 28th Calcium supplements
 Lastly from 29th to 42th day give, Liver tonics Growers and Adults Vitamins and Growth promoters.

B. State whether True or False (T/F)

1. True
2. True
3. True

C. Fill in the Blanks

1. Disease
2. External application

D. Multiple Choice Questions

1. a) 0.75 to 1.00 sq. ft
2. b) 1.00 to 1.50 sq. ft

Terminal Outcomes

After the completion of this module, the participants will be able to:

1. Apply techniques for effective communication with the stakeholders.
2. Explain how to mentor an apprentice.
3. Discuss ways to promote diversity and inclusion at the workplace.

Key Learning Outcomes



After the completion of this module, the participants will be able to:

1. Demonstrate the perquisite level of proficiency in verbal and non-verbal communication at the workplace.
2. Demonstrate appropriate verbal and non-verbal communication that is respectful of gender and disability.
3. Demonstrate effective methods of sharing and seeking information and feedback at the workplace.

UNIT 6.1: Effective Communication

Unit Objectives

After the completion of this unit, the participants will be able to:

1. Demonstrate the requisite level of proficiency in verbal and non-verbal communication at the workplace.
2. Demonstrate appropriate verbal and non-verbal communication that is respectful of gender and disability.
3. Demonstrate effective methods of sharing and seeking information and feedback at the workplace.

Resources to be Used

- Available objects such as participant's handbook, white board, duster, marker etc.
- Power points slides, pictures/posters e.g., showing relevant video of different communication methods.

Activity

Purpose: To acquaint the participants about verbal and non-verbal communication with respect to genders and disability.

Resources: Projector, system facilitating power point presentations, microphone, camera, and round tables arranged in U shape for healthy discussion.

Methodology: Group discussion for about 15-20 minutes.

Tell the participants that you are going to give them a series of instructions and you want them to follow them as fast as they can.

State the following actions as you engage in them:

Put your hand to your nose.

Clap your hands.

Stand up.

Touch your shoulder.

Sit down.

Put your hand to your mouth (but while saying this one, put your hand to your nose). Observe how many participants copied what you did instead of what you said. After that discuss on how body language can influence our understanding and our reactions. It can reinforce what we hear or it can interfere with the verbal communication we receive.

Expected outcomes:

- Skilling participants in communication.
- Inclusion of gender.

Say 

- Thank you to everyone for their participation.
- Discuss with the participants to share their feelings about this exercise and what new things they have learned in this exercise.

Ask 

- Ask participants about their experience of above activity.
- Ask participants about need of apprentice at the workplace.

Explain 

- Explain how to improve communication skills at workplace.
- Explain different perspective for mentoring an apprentice at workplace.

Elaborate 

- Elaborate the type of instruction that is provided during an apprenticeship and provide a schedule.
- Elaborate how to create gender equality in the workplace.

Activity 

- Ask participants about the wages paid for men and women in your area and ask them the importance of paying equal wages for all the genders. Allot task of packaging of flower crops to participants and check their proficiency in work after that have a healthy debate on gender equality.
- Ask participants to prepare a report on disability Act in India.

Notes for Facilitation 

- Assist all the participants in performing all the activities.
- Provide a complete set of notes on gender inclusion and disability at workplace.

Exercise

Key Solutions o PHB Exercise

A. Short Questions

1. verbal communication is oral communication with words that you or others speak out loud. Verbal communication skills allow employers to share information across the company, and help them reinforce relationships with their colleagues. Verbal communication is when two or more people communicate orally. The ability to communicate without words could influence how employees perform. Nonverbal communication in the workplace can indicate your understanding of directions, project goals or assignments from your supervisor or co-workers.

2. Constructive Feedback- It is the type of feedback aimed at achieving a positive outcome by providing someone with comments, advice, or suggestions that are useful for their work or their future. The outcome can be faster processes, improving behaviors, identifying weaknesses, or providing new perspectives.

3. Steps in successful business documentation
 - Step 1: Process Name
 - Step 2: Process Boundaries
 - Step 3: Process Outputs
 - Step 4: Process Inputs
 - Step 5: Process Activities
 - Step 6: Process Organization
 - Step 7: Process Review
 - Step 8: Process Roles
 - Step 9: Create a Flowchart
 - Step 10: Final Review.

B. State whether True or False (T/F)

1. True
2. True
3. True

C. Fill in the Blanks

1. Gender equality
2. Cohesive

D. Multiple Choice Questions

1. d) All of the above
2. d) Both a and b



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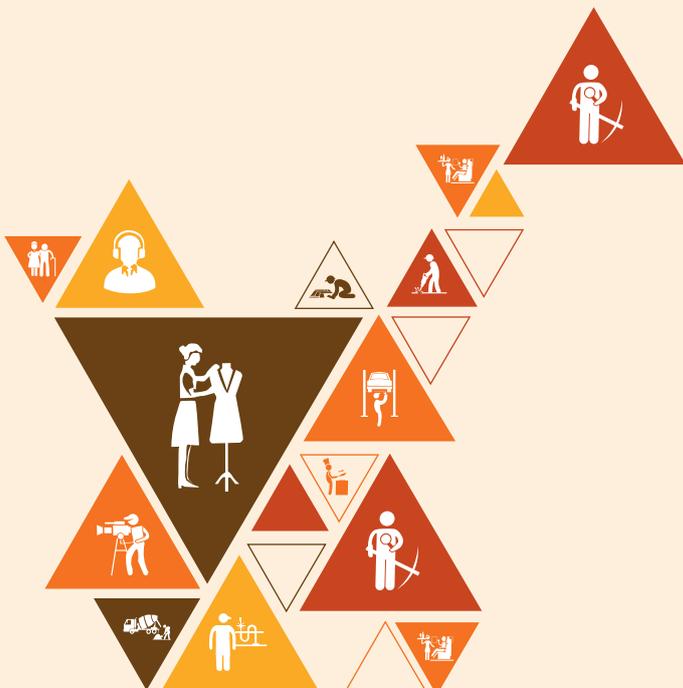
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7. Maintenance of Poultry Farm Equipment, Building and Environment

Unit 7.1 - Poultry Farm Equipment Maintenance

Unit 7.2 - Hygiene, Ventilation and Litter Management

Unit 7.3 - Production Cycle and Safety Measurement



AGR/N4303

Terminal Outcomes

After the completion of this module, the participants will be able to:

1. Maintain the farm equipment, building and environment required for quality standards.

Key Learning Outcomes

After the completion of this module, the participants will be able to:

Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ol style="list-style-type: none"> 1. List the farm equipment required in the poultry farm. 2. Explain productivity and quality standards. 3. Discuss about importance of maintaining of farm equipment. 4. Describe the environmental conditions required at poultry farm. 5. Explain Importance of hygiene in and around the farm. 6. Discuss the precaution to take care before and after the starting the production cycle. 7. Explain the Standard Operating Procedure used for disinfecting and safety. 8. Explain the significance of proper ventilation and adequate air circulation in the poultry farm. 9. Explain the permissible levels of moisture, dust and ammonia levels. 10. Explain the infrastructure requirement for protection of chicks. 11. Explain good brooding and litter management. 12. Explain about specific poultry production systems, such as broilers and breeders. 13. Explain about farm's environment control mechanism in different climatic conditions of the locality. 14. Explain about poultry shed design specifications, distance required between two sheds and between the poultry farm and residential houses for proper raising of poultry birds. 15. Explain relevant legislation, standards, policies, and procedures at work. 16. Explain relevant health and safety requirements applicable to the work environment. 17. Explain the impact of not following the health, hygiene, safety and quality standards on consumers and the business. 18. Explain environmentally sound methods for raising poultry birds. 	<ol style="list-style-type: none"> 1. Identify different tools and equipment in the poultry farm. 2. Inspect farm tools and equipment daily. 3. Inspect the tools and equipment such as brooder unit, chick guard, feeder, drinker, etc. for the water spillages, blockage or cracks. 4. Inspect the plastic / rubber water pipes and sewerage pipes for any kinks or blocks. 5. Inspect the physical infrastructure periodically as per standards. 6. Examine the electrical system and wiring for any damages. 7. Demonstrate the procedure of cleaning, disinfection and sanitization of the farm. 8. Demonstrate culling and proper disposal of culled birds. 9. Demonstrate how to maintain optimum moisture level, temperature, light intensity, ventilation in the farm. 10. Demonstrate the disposal of the litter material after the batch. 11. Demonstrate the measures for protection of chicks/birds from predators. 12. Demonstrate sanitary dry out procedure prior to bird placement as per the supervisor's instruction. 13. Demonstrate the procedure for cleaning of feeding, watering and brooding equipment. 14. Demonstrate the procedure for disinfection empty rooms thoroughly by fumigation/spray as per the company's SOP / veterinary doctor's advice. 15. Demonstrate the procedure and care in cleaning and disinfecting the incoming water through chlorination and filtration before being distributed to different working areas. 16. Demonstrate the good brooding and litter management practices. 17. Demonstrate the use of personal protective equipment.

UNIT 7.1: Poultry Farm Equipment Maintenance

Unit Objectives

After the completion of this unit, the participants will be able to:

1. Identify different tools and equipment in the poultry farm.
2. Inspect farm tools and equipment daily.
3. Inspect the tools and equipment such as brooder unit, chick guard, feeder, drinker, etc. for the water spillages, blockage or cracks.
4. Inspect the plastic / rubber water pipes and sewerage pipes for any kinks or blocks.
5. Inspect the physical infrastructure periodically as per standards.
6. Examine the electrical system and wiring for any damages.

Resources to be Used

- Participant's Hand Book, Training Kit (Presentations, Trainer Guide), Whiteboard, Marker, Duster, Note Pad, Pen, Paper, Audio Visual Aids such as Presentation Slides, set of equipments and tools used at poultry farm etc.

Activity

Purpose

To identify different types of tools and equipments used in the poultry farm and for which purpose

Resources

Piece of land for operations with dry soil, Participant's hand book, Poultry farm implements like brooder, chick guard, feeder, drinker, etc. for the water spillages, blockage or cracks. Plastic / rubber water pipes and sewerage pipes for any kinks or blocks etc.

Expected Outcomes

- Participants should be able to understand different equipments used on poultry farm with appropriate usage of it.
- Participants should be able to use the equipments and tools without getting injured.

Methodology

- Display different poultry farm equipments in the form of presentation and arrange any 10 implements used on poultry farm.
- Explain brooder and chick guard feeder and waterer and give participants general idea about how to and what to observe in the picture. Identify any one brooder guard and mention its characteristics.

Say 

- Discuss about the specific requirement of chick guard and brooder in poultry unit.

Ask 

- What are the different types of chick guard used in poultry farm to which you have visited?
- Do you remember any peculiar features of any poultry farm equipments?

Explain 

- Explain the need of different poultry farm equipments or tools. Mention the differences in dimensions according to ages of poultry birds. Similarly explain the change in equipment and tools selection.
- Inspection of different poultry farm equipments and tools for water spillages, blockage or cracks.

Elaborate 

- Importance of different poultry farm equipments and tools while working in poultry farm.
- Importance of physical infrastructure periodically as per standards.
- Examination of electrical system and wiring for any damages.

Activity 

- Visit the nearest poultry farm and try to observe equipments and tools used on poultry farm. List down different tools used and try to identify their use.
- Inspection of plastic / rubber water pipes and sewerage pipes for any kinks or blocks. Discuss how to rectify it.

Notes for Facilitation 

- Invite experts that have worked in poultry farm and ask them to talk about equipments installation process.

Exercise

Key Solutions o PHB Exercise

A. Short Questions

1. There are different poultry farm equipments which are as follows; Incubator, Egg Tray, Ventilation Fan, Laying Nest, Feeder, Waterer, Heater, Egg Handling Nest etc
2. Gaseous emission (NH_3 & H_2S) and Feed Mill Dust: Minimization of odour/gaseous pollution: Proper ventilation and free flow of air over manure collection points to keep it dry shall be ensured. Well-designed storage facilities should be provided to contain manure /litter. Dust from Feed Mills: Feed mill and Go-down should be located on a well elevated ground preferably near the entrance of the farm and isolated from other poultry sheds. Workers in the feed mill shall be provided with dust masks to protect them from dust. Floor of the feed mill and Go-down shall be concrete and raised above the ground level by a minimum of 2 feet.
Waste water Management: The waste water generated from the cleaning operations (after each batch removal) shall be collected in appropriate holding tank and put to use in the green belt. Improve drainage, reduce standing water and water ditches to control mosquitoes and flies Use of pressure pumps, hot water or steam in cleaning activities instead of cold water and plain water scrubs may be encouraged to improve sanitation and reduce the quantities of wash water
3. Importance of maintaining farm equipments No matter the type of equipment used, it should be periodically maintained and repaired in order to better guarantee or extend the service life of the equipment. The authors who follow will discuss the many equipment categories used in chicken farming and inform the farmers about the benefits and maintenance requirements of each piece of equipment.

B. State whether True or False (T/F)

1. True
2. True
3. True

C. Fill in the Blanks

1. water
2. Incubator

D. Multiple Choice Questions

1. d) All of these
2. d) All of these

UNIT 7.2: Hygiene, Ventilation and Litter Management

Unit Objectives

After the completion of this unit, the participants will be able to:

1. Demonstrate the procedure of cleaning, disinfection and sanitization of the farm.
2. Demonstrate culling and proper disposal of culled birds.
3. Demonstrate how to maintain optimum moisture level, temperature, light intensity, ventilation in the farm.
4. Demonstrate the disposal of the litter material after the batch.
5. Demonstrate the good brooding and litter management practices.

Resources to be Used

- Participant's Hand Book, Training Kit (Presentations, Trainer Guide), Whiteboard, Marker, Duster, Note Pad, Pen, Paper, Audio Visual Aids such as Presentation Slides on different cleaning products etc.

Activity

Purpose

To acquaint participants about cleaning, disinfection and sanitization methods used on poultry farm and culling and disposal of culled birds.

Resources

Piece of land for performing different waste disposal methods for culled birds, Ventilation system etc.

prayer, Disinfectants, brooder units, chick guards, oven, various kinds of feeders and drinkers etc.

Methodology

Demonstrate cleaning, disinfection and sanitization of poultry farm.

Demonstrate operations such as culling and proper disposal of culled birds.

[Change in sequence] Ask participants visit nearby poultry farm. Ask them to observe different cleaning and disinfection procedure and product used for it. Encourage participants to prepare report on it.

Expected Outcomes

- Participants should be able to understand different methods of culled birds and culling of birds.
- Participants should be able to understand procedure of cleaning, disinfection and sanitization of the farm.

Say 

- Thank everyone for their participation and the work they have done.
- Discuss about the difficulties they faced while performing the exercise.

Ask 

- Ask for suggestions to carry out cleaning, sanitation practices more efficiently using other methods or tools.
- Ask whether they have done culling of poultry birds earlier.

Explain 

- Importance of maintenances of optimum moisture level, temperature, light intensity, ventilation in the farm.
- Importance of disposal of the litter material after completion of one batch.
- Explain how good brooding and litter management practices help in healthy growth of chicks.

Elaborate 

- Elaborate optimum moisture level, temperature, light intensity, ventilation to be maintained in the farm.
- Similarly, demonstrate disposal of the litter material after completion of one batch.
- Show them good brooding and litter management practices through video link.

Notes for Facilitation 

- Gather information on different brooding methods and litter management.
- Find out optimum moisture level, temperature, light intensity, ventilation required at poultry farm.

Exercise

Key Solutions o PHB Exercise

A. Short Questions

1. A successful cleaning and disinfection program for poultry houses will reduce the negative effects of disease, improve bird performance and welfare, and offer guarantees regarding food safety concerns. The maintenance of hygiene is a crucial component of keeping any poultry house in good condition for a number of reasons. While farmers in earlier generations frequently focused on treating sick animals, time and experience have shown that approach to be one of the least efficient ways to stop widespread disease in a farm setting. Focusing time, resources, and effort on poultry house hygiene allows flocks to be better managed and disease-protected while saving money on doctoring methods that frequently fail to stop the most prevalent poultry diseases.
2. The higher humidities seem to favor better growth and feed conversion. Poultry dust is a mixture of bird feed, bedding material (e.g. wood shavings/shreds or straw), bird droppings, feathers and dander (dead skin), dust mites and storage mites, and microorganisms such as bacteria, fungi (moulds) and endotoxins (cell wall components of bacteria). Dust concentrations in poultry houses vary from 0.02 to 81.33 mg/m³ for inhalable dust and from 0.01 to 6.5 mg/m³ for respirable dust. However, in practice, the concentration of ammonia in some broiler houses may easily exceed 30-70 ppm, particularly in wintertime. Some of ammonia is used to for growth or to lay eggs, most of it leaves the chicken in the form of the compounds uric acid (80%), ammonia (~10%) and urea (~5%).
3. A concrete floor is suggested for a perfect disinfection at the end of each batch, even though litter will operate better on an earthen floor. Remove the caked-on and soggy litter debris before adding new litter. With the use of the litter racker, thoroughly rack the litter to break up any clumps, then let it air dry. To stop ammonia gas from escaping from litter, add wood ash and fertilizer-grade superphosphate in a 4:1 ratio at a rate of 5 kg per 10 m² of space before racking the litter. Because the bacteria that break down manure can only be active when the litter is 30% damp. Many birds occasionally have “balls” on the ends of their claws made of litter items.

B. State whether True or False (T/F)

1. True
2. True
3. True

C. Fill in the Blanks

1. 50% and 70 %
2. Brooding period

D. Multiple Choice Questions

1. a) 50 to 70%
2. a) 3-5''

UNIT 7.3: Production Cycle and Safety Measurement

Unit Objectives

After the completion of this unit, the participants will be able to:

1. Demonstrate the measures for protection of chicks/birds from predators.
2. Demonstrate sanitary dry out procedure prior to bird placement as per the supervisor's instruction.
3. Demonstrate the procedure for cleaning of feeding, watering and brooding equipment.
4. Demonstrate the procedure for disinfection empty rooms thoroughly by fumigation/ spray as per the company's SOP / veterinary doctor's advice.
5. Demonstrate the procedure and care in cleaning and disinfecting the incoming water through chlorination and filtration before being distributed to different working areas.
6. Demonstrate the use of personal protective equipment.

Resources to be Used

- Participant's Hand Book, Training Kit (Presentations, Trainer Guide), Whiteboard, Marker, Duster, Note Pad, Pen, Paper, Audio Visual Aids such as Presentation Slides, First Aid, Hypothetical or actual Plantation plan for a plot, Land survey report and map, site visit, note pad, writing material, PPE against sun and extreme soil conditions, BOQs and Quotation.

Activity

Purpose

- To be able to work on protection of chicks/birds from predators.
- To be able to work on sanitary dry out procedure prior to bird placement as per the supervisor's instruction.

Resources

Participant's hand book, note pad, writing material, PPE against sun and extreme soil conditions.

Expected Outcomes

- Participants should be able to understand protection of chicks/birds from predators.
- They should know how to read the various procedures while carrying out sanitary dry out procedure prior to bird placement.

Methodology

- Arrange a site visit and poultry farm that is ready for carrying out sanitary dry out procedure prior to bird placement.
- Demonstrate participants about the procedure for cleaning feeding, watering and brooding equipment.

Say 

- Thank everyone for their participation.
- Discuss the sanitary dry out procedure prior to bird placement and procedure for cleaning of feeding, watering and brooding equipment

Ask 

- Ask if the participants have seen any cleaning of feeding, watering and brooding equipment.
- Ask the participants about different sanitary dry out procedure prior to bird placement as per the supervisor's instruction.

Explain 

- Importance of disinfection of empty rooms thoroughly by fumigation/spray as per the company's SOP / veterinary doctor's advice.
- Importance of cleaning and disinfecting the incoming water through chlorination and filtration before being distributed to different working areas.

Elaborate 

- Disinfection empty rooms thoroughly by fumigation/spray as per the company's SOP / veterinary doctor's advice.
- Procedure and care in cleaning and disinfecting the incoming water through chlorination and filtration before being distributed to different working areas.

Activity 

- Arrange different personal protective equipments to be used in poultry unit. Ask participants to discuss role of PPE kit. You have guide them procedure for wearing, donning and storage of PPE kit.

Notes for Facilitation 

- Arrange visits to near-by poultry farm, in cleaning time for a better understanding of the subject.

Exercise

Key Solutions o PHB Exercise

A. Short Questions

1. Birds of different age groups should not be kept together with chicks raised for reproductive purposes. In developing nations with hot climates, the majority of chick rearing takes place in naturally ventilated homes. In industrial settings, chicks scratch in the waste, causing uneven levels of waste, especially near feeders and drinkers. If the litter levels are not maintained evenly, small birds won't be able to access the feeders or drinkers. In major commercial operations in colder climates, the building should be pre-heated so that when the chicks are deposited, the floor is warm and the air temperature is close to 32°C. For the first 48 hours after the chicks arrive, illumination should be left on continuously, if available.

2. The climate in poultry houses influences the well being and health of humans as well as the birds.
 - **Temperature:** Body temperature is kept quite constant and is regulated by part of the chicken brain (the hypophyse). Contraction and widening of blood vessels and the speed of respiration influence heat emission and retention which consequently influence the body temperature.
 - **Relative Humidity :** Maximum humidity: maximum grams of moisture that can be present in 1 m³ of air at a given temperature
Relative humidity: the relationship between the moisture content of the air and the maximum moisture content at the current air temperature expressed in percentages
 - **Air Composition:** The most important components of air are nitrogen (N₂, approximately 79%) and oxygen (O₂, 20.3%). In addition to these main components there are several other gasses such as carbon dioxide (CO₂), and water (H₂O). Birds inhale O₂ and exhale CO₂ and H₂O. True 'lack of oxygen' does not occur in poultry houses because animals can inhale sufficient oxygen even if the oxygen levels in the air are substantially lower than normal.

3. Holistic approaches focus on how the health of animals is integrated with the health of the environment and people. Bird health can be maintained with practices that prevent the introduction of disease, such as bio security and vaccination. Increasingly, poultry producers raise birds without the routine use of antibiotics. Medically-important antibiotics are only used under the supervision of a veterinarian to treat disease. Animal welfare guidelines help ensures the physical and mental well-being of farm animals

B. State whether True or False (T/F)

1. True
2. True
3. True

C. Fill in the Blanks

1. Feed
2. East to west

D. Multiple Choice Questions

1. d) All of these
2. a) 20°C



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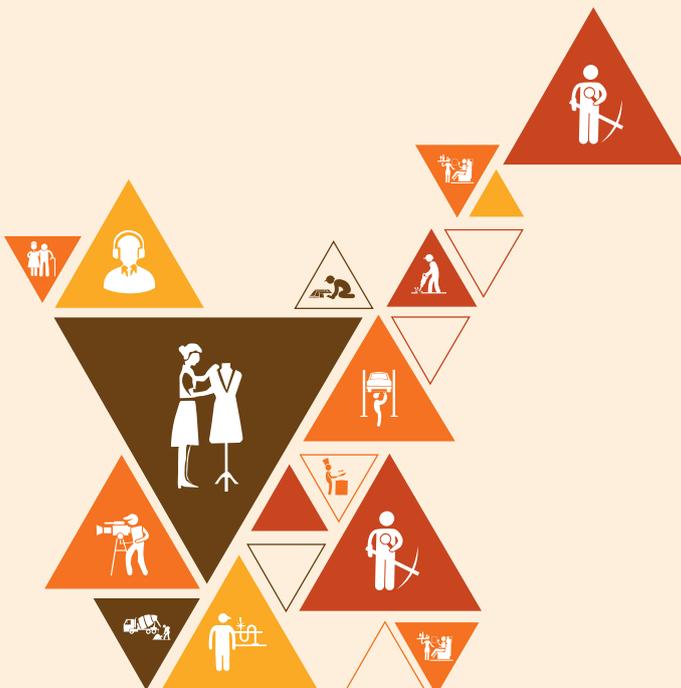
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8. Collection, Grading, Storing and Packaging of Eggs

Unit 8.1 - Eggs Collection, Handling, Packaging and Transportation

Unit 8.2 - Importance of Record Keeping



AGR/N4341

Terminal Outcomes

After the completion of this module, the participants will be able to:

1. Perform Collection, Grading, storage, packing and transportation of hatching eggs/
table eggs.

Key Learning Outcomes

After the completion of this module, the participants will be able to:

Theory	Practical
<ol style="list-style-type: none"> 1. Explain how to identify the egg laying birds. 2. Discuss parameters to grade the eggs for table/ hatching purpose. 3. Discuss factors which affect the egg production and fertility of the egg. 4. Discuss about the maintenance of cool room such as temperature, cleaning, storage of eggs etc. 5. Discuss the packing material used in the transportation of eggs. 6. Explain the procedure of egg collection and storage. 7. Explain about the FIFO method. 8. Explain the methods of disinfection of vehicle and its importance. 9. Explain seasonal management to combat the climatic stress on egg production. 10. Explain about safe handling of eggs. 11. Explain the importance of documentation and maintenance of accurate and complete production records. 12. Discuss about methods to track back the record from finished product to raw material. 13. Explain the importance of emery paper in cleaning of dirty eggs. 14. Explain the intervals at which eggs are collected. 	<ol style="list-style-type: none"> 1. Demonstrate the procedure for cleaning and disinfecting the nest box. 2. Identify the egg laying birds. 3. Estimate the number of eggs to be harvested from the shed. 4. Demonstrate the procedure for collection the eggs in a container without disturbing the birds. 5. Demonstrate the way of handling eggs before collecting eggs. 6. Demonstrate how to handle the eggs with precautions. 7. Demonstrate the disposal of soiled and floor edges. 8. Demonstrate the procedure for fumigation of eggs. 9. Demonstrate different techniques and method for the collections of eggs and lifting of birds. 10. Identify and separate the poor layer birds. 11. Demonstrate grading and storing the eggs. 12. Demonstrate the procedure of loading and staking the egg cases in the vehicle. 13. Demonstrate the procedure for storing the eggs in the cool room at the recommended temperature and relative humidity percentage. 14. Demonstrate the use of emery paper for cleaning dirty eggs. 15. Demonstrate grading the hatching eggs based on various physical parameters such as weight, size, shape, shell thickness, cleanliness on the egg shell, etc. 16. Create foot dip and hand wash at the entrance.

UNIT 8.1: Eggs Collection, Handling, Packaging and Transportation

Unit Objectives

After the completion of this unit, the participants will be able to:

1. Demonstrate the procedure for cleaning and disinfecting the nest box.
2. Demonstrate the procedure for collection the eggs in a container without disturbing the birds.
3. Demonstrate the way of handling eggs before collecting eggs.
4. Demonstrate how to handle the eggs with precautions.
5. Demonstrate the disposal of soiled and floor edges.
6. Demonstrate the procedure for fumigation of eggs.
7. Demonstrate different techniques and method for the collections of eggs and lifting of birds.
8. Demonstrate grading and storing the eggs.
9. Demonstrate the procedure of loading and staking the egg cases in the vehicle.
10. Demonstrate the procedure for storing the eggs in the cool room at the recommended temperature and relative humidity percentage.
11. Demonstrate the use of emery paper for cleaning dirty eggs.
12. Demonstrate grading the hatching eggs based on various physical parameters such as weight, size, shape, shell thickness, cleanliness on the egg shell, etc.
13. Create foot dip and hand wash at the entrance.

Resources to be Used

- Available objects such as participant's handbook, white board, duster, marker etc.
- Power points slides, pictures/posters e.g., which will explain egg collection, egg packaging, storage facilities.

Activity

Purpose: To acquaint the participants about the procedure for cleaning and disinfecting the nest box and collection of eggs without disturbing the birds.

Resources: Projector, system facilitating power point presentations, round tables arranged in U shape for healthy discussion.

Methodology: Plan the visit for a whole day for 3-4 hours depending on location.

To create awareness and train the participants on how to minimize losses during the handling, storage and transportation of poultry eggs arrange a visit to any nearby poultry unit/ farm. Make group of 4/5 participants and allow them to visit the entire unit and ask them to capture their hands on experiences on each parameter. Participants can also be subjected to the packaging division of same unit to understand customer friendly packaging materials and which are also cost effective for the poultry manager / owner. Coming to the storage and logistic part of the poultry eggs all necessary set up and transportation requirements should be shown to the participants to understand the efficient utilization of space, infrastructure elements like electricity, deep fridges. Participants are expected to learn how to avoid or minimize spoilage of eggs. To carry these eggs to the end user participants should also collect list commonly used disinfectants and the method of disinfection as well. To This visit should be helpful to the participants to understand journey of egg from laying via to customer via different stages.

Expected outcomes:

- Skilling on efficient and losses free egg handling
- Awareness on various cost effective packaging materials
- Efficient storage & logistic practices
- Management of poultry farm eggs through FIFO method
- Utilization of disinfectants during transportation
- Enhancement in observation capacity

Say

- Thank you to everyone for their participation.
- Discuss with the participants to share their feelings about this exercise and what new things they have learned in this exercise.

Ask

- Ask the participants about their experience of Egg handling, packaging & storage at home.
- Ask participants to prepare a survey format on packaging material preferences by customers while buying eggs.
- Ask the participants whether they have any solution on how to avoid losses during the transportation of eggs.

Explain

- Introduce participants to the basic functions of packaging of poultry eggs in transportation.
- Explain various method of collection of eggs.
- Explain participants about grading of hatching egg.

Elaborate

- Elaborate the importance of safe handling and packaging of poultry eggs.
- Elaborate different grading parameters for table or hatching eggs.
- Elaborate procedure collection the eggs in a container without disturbing the birds.
- Elaborate disposal of soiled and floored.

Activity

- This pen and paper activity is for preparing participants to learn efficient management during handling of poultry bird's eggs. Plan this activity for at least 20-30 minutes.
- Ask the participants to prepare a flow chart on various steps involved in post handling management of eggs in the poultry house. This includes Handling of eggs after laying, Packaging, storage & Transportation.
- All these 4 stages are crucial one and need efficient management to run a successful poultry business; hence participants are expected to understand and write down every minutes step involved in these stages which will contribute to achieve reduction of losses.

Notes for Facilitation

- Help the participants to complete all the tasks involved in the participant hand book.
- Discuss with them procedure for cleaning and disinfecting the nest box.
- Discuss with them regarding safe handling, transportation and storage of eggs.
- Motivate the participants by involving them in sense of participation and realization of the importance of their work as a poultry farm worker.

Exercise

Key Solutions to PHB Exercises

A. Short Questions

1. A good layer should have flexible pubic bones, wide apart to allow three fingers to fit between them while those of a poor layer are tight, quite rigid and narrow, not allowing the fingers. The poor laying bird will have the vent dry, small/tight, round and cold. Clean-cut, strong and refined heads. The eyes of a good layer should be large, bright, prominent and sparkling. A poor layer often has small, sleepy/dull and sunken eyes. Good layers have clean-cut, strong, refined heads while poor layers have coarse, meaty/ thin, blocky, weak looking head. A good layer has an abdomen that is deep and soft, easily pliable without body fat accumulation by probing fingers while a poor layer has a hard and shallow abdomen.

2. Poultry production is gaining popularity in all over the world due to overcoming the protein malnutrition, economic empowerment of the resource poor's segment of the society and also fits well in the farming systems to commonly practice. Parameters for grading of eggs are as below;
 - By hatching methods – By natural incubation, which involves setting the eggs under a broody hen, and by artificial incubation, using an incubator.
 - Clean Eggs without Dirt and Faecal Material: For the production of clean egg the parent stock flock needs to be housed in well ventilated houses with correct indoor temperatures, litter in good condition (dry, not dusty, not crusty, without moulds), a well-adjusted lighting program, sufficient feeder and watering space.
 - Nesting Material: Good nesting material should be used during egg production.
 - Egg Collection: Fluctuations in temperature are disastrous for hatching egg, so hatching eggs should be collected frequently to obtain high quality hatching eggs.

3. Fertility disorder due to bad management

There are a variety of possible causes for fertility disorders, such as improper mating ratios and male body weight control. The fertility disorders is divided into four egg laying sections - early, peak, mid-lay, and late period.

 - Early egg lay hatches (26-28 weeks) - Insufficient number of active males. Physiological Castration - Some normal appearing males at housing may have been “physiologically castrated” temporarily (or permanently) due to a very stressful event. Male Aggression: Frightened females will remain on the slats or hide in the nests, resulting in reduced mating activity.
 - Peak egg lay hatches (29-39 weeks)- Insufficient Active Males or Male Aggression: The effects of either problem that occurred during the early mating period will generally (but not always) carry through the peak hatchability period. Reduced Male Feed Consumption: This causes some males to “cull out” while other normal looking males stop semen production due to body weight loss.
 - Mid-egg lay hatches (40-50 weeks)- Reduced Male Feed Consumption. Insufficient Water Consumption. Disease or Leg Problems. Crowding (floor space). Male Feeder Space. Insufficient Active Males - Usually need to “spike” with 2-3% younger males (2-3 males per 100 females) to achieve 8-1/2 - 9-1/2% total males in the flock. Ratio

reduction - due to male mortality and normal culling. Male Aggression - The aggressive behavior is often established during the early mating period.

- Late egg lay hatches (50-65 weeks)- Due to age-related reduced mating activity, semen quantity and quality, etc. a minimum of 9% total males should be maintained to have 7-8% active males during this final mating period. Overweight Males - Although mentioned in previous sections, this cannot be over emphasized.

B. State whether True or False (T/F)

1. True
2. True
3. True

C. Fill in the Blanks

1. Clean and Damage.
2. 80 and 85 %

D. Multiple Choice Questions

- 1.d) All of these
2. c) 31 Weeks

UNIT 8.2: Importance of Record Keeping

Unit Objectives

After the completion of this unit, the participants will be able to:

1. Identify the egg laying birds.
2. Estimate the number of eggs to be harvested from the shed.
3. Identify and separate the poor layer birds.

Resources to be Used

- Available objects such as participants handbook, white board, duster, flip chart board, different record books etc.
- Slides in power point presentation showing different photos of record books.

Say

- Discuss purpose of record of egg laying birds with participants.
- List out various types of register.
- Importance of record analysis and assess the number of eggs harvested from layer shed.

Explain

- Explain importance of record of egg laying birds and egg production per bird during laying period.
- Explain how record registers could help to find out good and poor layer birds.

Elaborate

- It was necessary to develop a metric that would predict the extent to which a farm operator maintained and utilized these records for analysis in a particular sector of the farm business. For the total agricultural company, index scores for record keeping and analysis were created to satisfy this demand.
- For effective profit, daily, weekly and monthly stock count of egg laying birds in production can be done. At the start of week for instance you would count and keep record of birds physically on farm.

Activity

- Plan this activity for 30-35 minutes.
- Ask participants to prepare record book of their daily activity. You have to guide them how records can be used for and how records helps in completion of their planned work and improving their efficiency.
- Discuss on different records used farming. Search on goggle what are the major types of records used in poultry farming. For details you can refer to http://www.agritech.tnau.ac.in/expert_system/poultry/Poultry%20Farm%20Records%20Maintenace.html

Do

- Practicing recording of date in various registers.
- Practicing them to calculate and interpret the record keeping and analysis indices, or index scores (feed consumption rate, flock egg production average, etc.)

Notes for Facilitation

- Enumerate and describe various types of record keeping followed in farm
- Observation of various register.
- Ask participants to prepare different disease and treatment records.

Exercise

Key Solutions to PHB Exercises

A. Short Questions

1. To keep records is simply to collect relevant information that can help you to take good decisions and to keep track of activities, production and important events on a farm. Records can be about any performance of the animals, economic development, or any activity of the farmer or veterinarian. It is important to keep record keeping simple, and to keep records systematic. If records should be of use for the farmer, than they must be complete (none missing), they should be true (collected carefully). When record can't be trusted because they are not complete or true, time should not be spent on it at all.
2. An identification method should be cheap, not harming the animal, reliable to read at a distance of at least 2-3 meters and by preference be permanent.
 Permanent Identification - Tattooing (ear or under), Brand (Hot iron, freeze and chemicals), Ear-notching, Punching, Tags (Ear-tags, Flank-tags, tail-tags and Brisket-tags; permanent if they do not fall off)
 Non-Permanent identification - Collars or neck or leg straps (chains), Paint and dyes (can be very animal friendly, but if the paint is full of chemicals it is not healthy and is not recommended, please check)
3. These records are useful in measuring the performance of the animals and the herd. It contributes greatly to the economic appraisal of the enterprise. Production records are kept of animal product like eggs per hen per week and milk per cow per day in combination with milk quality data and the animals which are slaughtered, in terms of for example weight, weaning age and weight, daily gain, production period, and how many animals
 e.g. per litter reached slaughtering. Production records are also necessary when farmers start selling products together, to know how much is available every day or every week or in a certain period.

B. State whether True or False (T/F)

1. True
2. False
3. True

C. Fill in the Blanks

1. 27-32
2. The importance of _____ records is to measure the productive efficiency of the herd and to enable culling and selection.

D. Multiple Choice Questions

1. d) All of these
2. d) All of these



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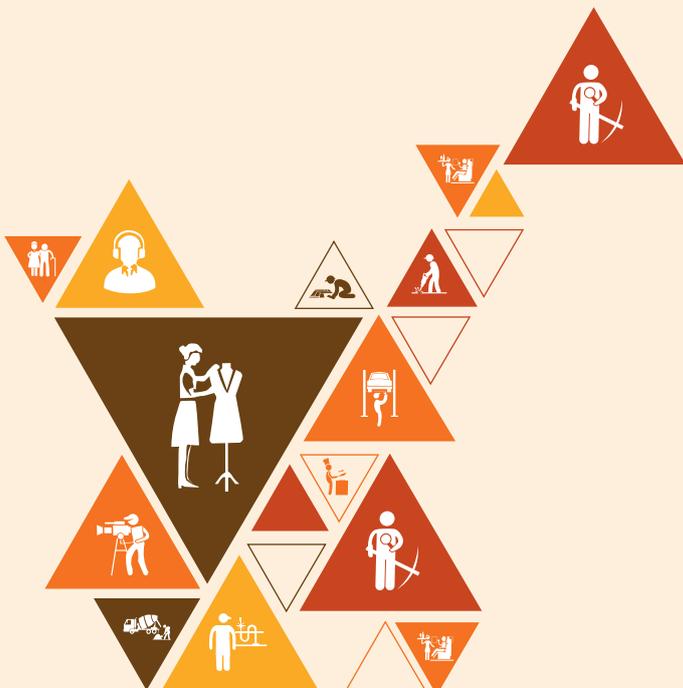


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9. Hygiene and Cleanliness

Unit 9.1 - Personal Hygiene Practices



AGR/N9903

Terminal Outcomes

After the completion of this module, the participants will be able to:

1. Discuss how to adhere personal hygiene practices.
2. Demonstrate ways to ensure cleanliness around the workplace.

Key Learning Outcomes

After the completion of this module, the participants will be able to:

Theory	Practical
<ol style="list-style-type: none"> 1. Explain the requirements of personal health, hygiene and fitness at work. 2. Explain common health hazards in poultry farm as per International Labour Organization(ILO). 3. Describe common health-related guidelines laid down by the organizations/Government at the workplace. 4. Explain the importance of using mask (3layersof cloth-piece). 5. Explain the importance of good housekeeping at the workplace. 6. Explain the importance of informing the designated authority on personal health issues related to injuries and infectious diseases. 7. Explain the importance of hygiene in the farm. 	<ol style="list-style-type: none"> 1. Demonstrate personal hygiene practices to be followed at the workplace. 2. Demonstrate the correct way of washing hands with soap and water, and alcohol-based hand rubs. 3. Demonstrate the cleaning and sanitization of worn clothes as per SOP. 4. Demonstrate the steps to follow to put on and take off a mask safely. 5. Show how to sanitize and disinfection work area regularly. 6. Demonstrate adherence to the workplace sanitization norms. 7. Show how to ensure the cleanliness of the work area.

Unit 9.1: Personal Hygiene Practices

Unit Objectives

After the completion of this module, the participants will be able to:

1. Demonstrate personal hygiene practices to be followed at the workplace.
2. Demonstrate the correct way of washing hands with soap and water, and alcohol-based hand rubs.
3. Demonstrate the cleaning and sanitization of worn clothes as per SOP.
4. Demonstrate the steps to follow to put on and take off a mask safely.
5. Show how to sanitize and disinfection work area regularly.
6. Demonstrate adherence to the workplace sanitization norms.
7. Show how to ensure the cleanliness of the work area.

Team Activity

Purpose: To acquaint the participants about personal hygiene practices to be followed at the workplace and cleaning and sanitization of worn clothes as per SOP.

Resources: Sitting hall personal hygiene products for cleaning, List of SOP.

Methodology: Plan this activity for 30 minutes

Glitter, soap, and a sink are all you need to get started on the activity. Put some glitter on the hands of the participants, explaining that the glitter stands in for the bacteria that are on their hands when they haven't been washed. Take the soap out after that, and demonstrate to everyone how to properly wash their hands (have in mind that it will take about 30 seconds to scrub the glitter off their hands). This will aid participants in better understanding the idea of washing their hands to help prevent the spread of germs.

Expected outcome

- Improvement on personal hygiene practices
- Skilling in hand washing

Say

- Discuss with the participants to share their experience of hand washing at home and what new things they learned in this activity.

Ask

- Ask participants about personal hygiene practices they followed and their experience of how personal hygiene affects workplace environment.
- Ask participants about Do and Don'ts of personal hygiene in the workplace.

Explain

- Introduce basic workplace hygiene guidelines should also require that each employee cleans and maintains his or her own workplace or work areas.
- Demonstrate various types of mask available in the market and steps to follow to put on and take off a mask safely.

Elaborate

- Various washing and sanitization techniques for used for worn clothing in accordance with SOP.
- Adherence to workplace sanitation standards is crucial.
- Ensure the cleanliness of the work area.

Do

- Wear masks and make a plan to stroll around the nearby chicken farm. Ask participants to observe other farm visitors engaging in appropriate social distance; use this as an opportunity to discuss why it's still crucial to maintain this distance, even when everyone is wearing masks.
- Demonstrate the actions to take in order to safely put on and remove a mask.
- Demonstrate how to frequently sanitize and disinfect the work environment.

Notes for Facilitation

- Help the participants to complete all the exercises mentioned in the participant handbook.
- Encourage participants for group discussion on personal hygiene practices.

Exercise

Key Solutions to PHB Exercises

A. Short Questions

1. Brush your teeth every morning as part of your daily grooming routine to help reduce the risk of tooth decay, oral diseases and bad breath. You should use a good toothbrush and fluoride toothpaste, making sure you brush for at least 2 minutes, making sure you reach all surfaces of all teeth. Using dental floss or inter dental sticks to clean between the teeth and a good mouthwash after brushing can help reduce the risk of decay and gum disease.

2. Many studies have shown that poultry farmers have a greater risk of respiratory problems than non-farmers. Each poultry house contains its own complex mixture of dusts and gases. Nature of this mixture is dependent on numerous factors including ventilation, type of poultry, feeding system, and waste management. Dust and gas levels are usually highest in winter. Organic dust is the most common respiratory contaminant. Organic dust is a combination of dusts with bacteria or fungi (fungal spores).

3. The organization should prepare an occupational safety and health policy programme. They will contribute to all aspects of business performance as part of a demonstrable commitment to continuous improvement. Responsibilities to people and the working environment will be met in a way that fulfils the spirit and letter of the law.
 - Declutter Workspace
 - Create an Ergonomic Workplace
 - Emergency Exit Ways
 - Hazardous Zones
 - Combustible Dust
 - Protective Gear

B. State whether True or False (T/F)

1. False
2. True
3. True

C. Fill in the Blanks

1. 24
2. Poultry workers

D. Multiple Choice Questions

1. d) All of these
2. d) All of these



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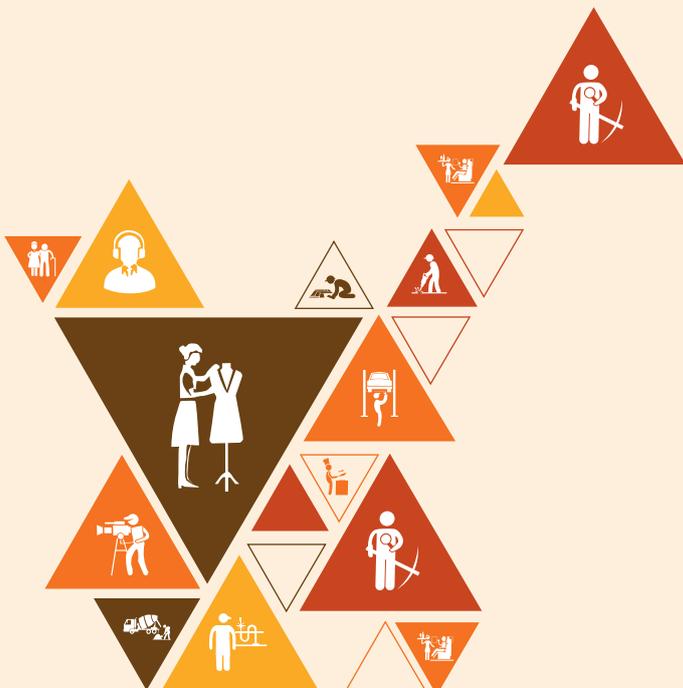


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10. Safety and Emergency Procedures

Unit 10.1 - Safety Guidelines



AGR/N9903

Terminal Outcomes

After the completion of this module, the participants will be able to:

1. Describe how to adhere to safety guidelines.
2. Show how to administer appropriate emergency procedures.

Key Learning Outcomes

After the completion of this module, the participants will be able to:

Theory	Practical
<ol style="list-style-type: none"> 1. List the Personal Protective Equipment (PPE) required at the workplace. 2. Explain the importance of follow the instructions mentioned on the labels of chemicals/pesticides/fumigants etc. to avoid hazards. 3. Describe the hazards caused due to chemicals/pesticides/fumigants. 4. Describe the basic safety checks to be done before the operation of any equipment/machinery. 5. Describe the common first aid procedures to be followed in case of emergencies. 6. State measures that can be taken to prevent accidents and damage at the workplace. 7. Explain the importance of reporting details of first aid administered, to the reporting officer/doctor, in accordance with workplace procedures. 8. Explain treatments for various accidents and injuries in accordance with recognized first aid techniques. 9. State common health and safety guidelines to be followed at the workplace. 10. Discuss about importance of maintaining of farm equipment. 11. Explain government / workplace advisories related to outbreak of any disease/disaster. 	<ol style="list-style-type: none"> 1. Demonstrate the basic safety checks before operation of all tools, implements, and machinery. 2. Estimate risks prior to performing manual handling jobs. 3. Inspect various areas of the workplace for leakages, water-logging, pests, fire etc. 4. Demonstrate the use of PPE and implements as applicable to the workplace. 5. Demonstrate the correct way of donning, doffing and discarding PPE such as face masks, hand gloves, face shields, PPE suits etc. 6. Demonstrate the procedure to sanitize the tools, equipment and machinery properly. 7. Demonstrate the safe disposal of waste. 8. Demonstrate procedures for dealing with accidents, fires and emergencies. 9. Demonstrate emergency procedures to the given workplace requirements. 10. Demonstrate the use of emergency equipment in accordance with manufacturers' specifications and workplace requirements. 11. Demonstrate how to administer first aid. 12. Demonstrate how to prepare a list of relevant hotline/emergency numbers.

Unit 10.1: Safety Guidelines

Unit Objectives

After the completion of this unit, the participants will be able to:

1. Demonstrate the basic safety checks before operation of all tools, implements, and machinery.
2. Estimate risks prior to performing manual handling jobs.
3. Inspect various areas of the workplace for leakages, water logging, pests, fire etc.
4. Demonstrate the use of PPE and implements as applicable to the workplace.
5. Demonstrate the correct way of donning, doffing and discarding PPE such as face masks, hand gloves, face shields, PPE suits etc.
6. Demonstrate the procedure to sanitize the tools, equipment and machinery properly.
7. Demonstrate the safe disposal of waste.
8. Demonstrate procedures for dealing with accidents, fires and emergencies.
9. Demonstrate emergency procedures to the given workplace requirements.
10. Demonstrate the use of emergency equipment in accordance with manufacturers' specifications and workplace requirements.
11. Demonstrate how to administer first aid.
12. Demonstrate how to prepare a list of relevant hotline/emergency numbers

Resources to be Used

- Available objects such as participant's handbook, white board, duster, marker etc.
- Power points slides, pictures/posters e.g., showing relevant images of different personal protective equipment.

Activity

Purpose: To acquaint the participants about basic safety checks before operation of all tools, implements, and machinery.

Resources: Projector, system facilitating power point presentations, microphone, camera, and round tables arranged in U shape for healthy discussion.

Methodology: Group discussion for about 15-20 minutes.

Prepare the participants for healthy group discussion. Make groups of 4-5 participants and allot them one personal protective equipment's (PPE). Ask them to discuss about their role, use and how it helps in protection. Also ask them to prepare power point presentation on all basic safety checks before operation. You have to guide them while selecting different equipments, tools which are frequently used at poultry farm. Else Ask participants to prepare a presentation on various waste disposal methods after choose any participants and ask them to explain their respective group presentation and after completion of presentation on all methods find out which disposal method is economical.

Expected outcomes:

- Knowledge about personal protective equipment
- Knowledge enhancement in first aid

Say

- Thank you to everyone for their participation.
- Describe the objective of above activity.

Ask

- Inspect various areas of the workplace for leakages, water logging, pests, fire etc.
- Ask participants whether they know any emergency numbers and procedures for dealing with accidents, fires and emergencies.
- Importance of use of emergency equipment in accordance with manufacturers' specifications and workplace requirements.
- Ask participants about whether they have seen any leakage pest attack at workplace.

Explain

- Explain proper ways of donning, doffing and discarding various personal protective equipment (PPE).
- Importance of sanitizing equipment and machinery at workplace.
- Different first aid administration in emergencies.
- Areas of the workplace for water-logging and fire.
- Purpose of safe disposal of waste.

Elaborate

- Elaborate how to sanitize the tools, equipment and machinery properly.
- Elaborate the use of various emergency equipment and emergency procedures at workplace.

Activity

- This activity may be planned for 20-30 minutes.
- Ask participants about their experience of using first aid kit in emergency. Tell them to list down five different emergency equipments and explain their usage and explain about the use of emergency equipment's.
- Plan a group activity in which one group is attacked by fire and the other participants assist them in escaping; you have to assist them in completing this activity successfully. The purpose of this activity is to teach participants how to act in the situation when a fire attack.

Notes for Facilitation

- Assist all groups to systematically arrange collected information and analyse them when required.
- Constantly motivate each student to participate. Arrange award for group involvement, presentation skills, use of tools etc.

Exercise

Key Solutions to PHB Exercises

A. Short Questions

1. There are different health and safety guidelines to be followed at workplace: Always Report Unsafe Condition, Always Report Unsafe Condition, Wear protective equipment, Take a Break, Don't skip steps, Stay up to date with new procedure or protocols, . Maintain proper posture, Offer Guidance to new employees, Avoid drugs and alcohol at work
2. Your farm tools and equipment will last longer when you maintain them. By taking proper care of farming tools, you are extending the life of each tool. Regular maintenance also ensures that each tool works more efficiently. When tools are in proper condition, they can get the job done faster. When you properly care for your farm tools and equipment, you reduce the risk of injury to the operator. Regular maintenance reduces the cost of maintenance down the road. If you keep up with the smaller maintenance tasks, you'll be less likely to have to spend a large amount of money to fix significant issues or replace tools. While regularly maintaining tools can seem like a lot of extra work, it will pay off in the long-run
3. In order to contain the spread of Novel Corona virus (COVID-19), some precautionary measures are required to be taken by all the employees and the Ministries/ Departments.
Install thermal scanners at the entry of Government buildings, as feasible. Discourage, to the maximum extent, entry of visitors in the office complex. Avoid non-essential official travel. Undertake essential correspondence on official email and avoid sending files and documents to other offices, to the extent possible. Facilitate delivery and receipt of dak at the entry point itself of the office building, as far as practicable. Close all gyms/recreation centres/creches located in Government buildings. Ensure proper cleaning and frequent sanitization of the workplace, particularly of the frequently touched surfaces. Ensure regular supply of hand sanitizers, soap and running water in the washrooms.

B. State whether True or False (T/F)

1. True
2. True
3. True

C. Fill in the Blanks

1. Supervisor
2. Important

D. Multiple Choice Questions

1. a) Danger
2. d) Both a and b



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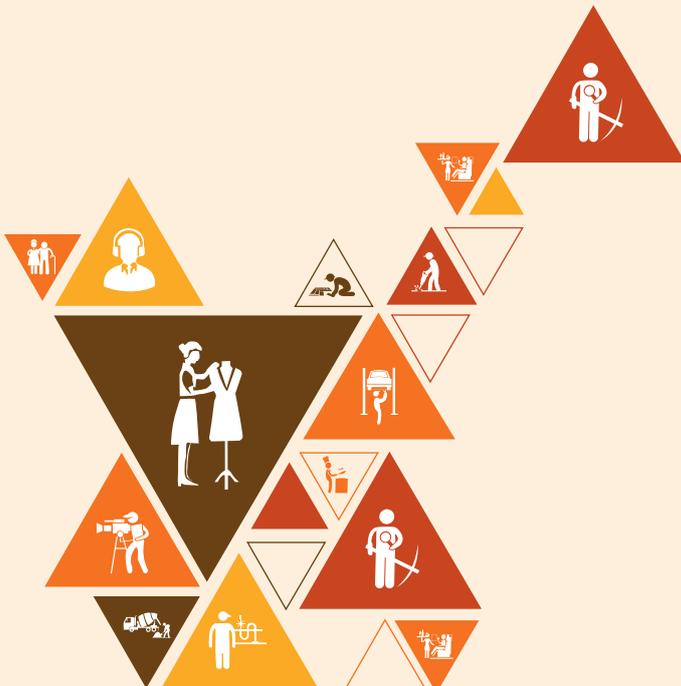
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11. Employability Skills (30 Hours)

To access content on Employability Skills, click here:

<https://eskillindia.org/NewEmployability>

Scan the QR code below to access the ebook



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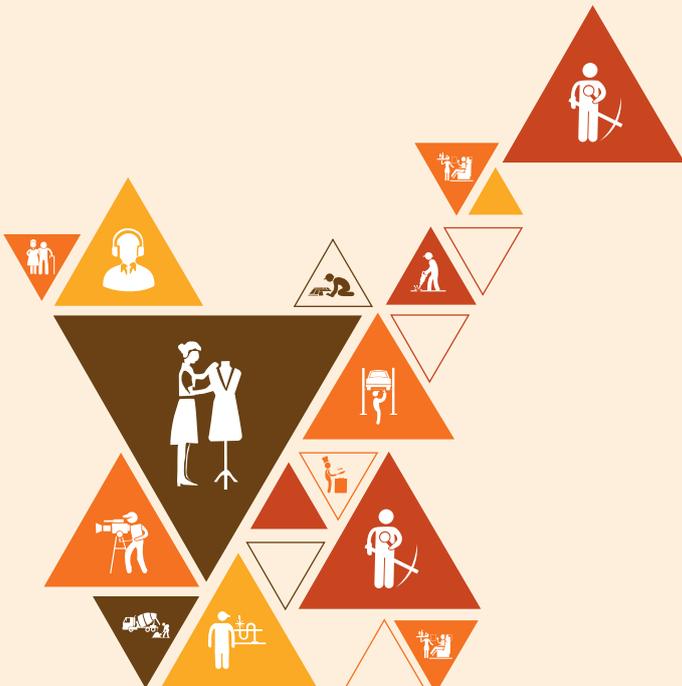
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12. Annexures

Annexure - I - Training Delivery Plan

Annexure - II - Assessment Criteria

Annexure - III - Annexure for QR codes



Annexure I

Training Delivery Plan

Training Delivery Plan			
Program Name:	Poultry Farm Worker		
Qualification Pack Name & Ref. ID	AGR/Q4309		
Version No.	2.0	Version Update Date	18/08/2021
Pre-requisites to Training (If any)	8th Class (with 1 Year of relevant experience) OR Certificate-NSQF (Level-3 (Trained on Hatchery Operator) with 6 months of relevant experience) OR Ability to read and write (with 3 Years of relevant experience)		
Training Outcomes	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> • Prepare Poultry shed: Introduction to Poultry Farm, site selection, construction of shed. • Carry out the Brooding Management: Work environment, brooding management of chicks. • Carry out the routine work in shed: Handling and caring, health management, vaccination, Egg handling etc. • Maintain health and safety: Clean and disinfect the shed, hygiene maintenance 		

Sr. No	Module Name	Session Name	Session Objectives	NOS Reference	Methodology	Training Tools/ Aids	Duration
1	Introduction T: 5:00 P: 0:00 (HH:MM)	Scope and Importance of Poultry Industry	<ul style="list-style-type: none"> • Describe scope and importance of poultry farming. • Identify basic practices of poultry rearing. • Identify different poultry breeds. • Discuss the role of poultry farm workers. 	NA	Team activity, Number game	PHB, Chairs, round table in U shape sitting shape	T: 5:00
2	Preparation of Poultry Shed for the Placement of Chicks/ Birds T: 10:00 P: 25:00 (HH:MM)	Need, Types and Systems of Poultry Housing	<ul style="list-style-type: none"> • Discuss layout of poultry farm. • Create the Foot bath at the entrance (Chemicals/ disinfectants). • Demonstrate sanitary dry out procedure • Demonstrate the procedure for sanitizing the incoming water. 	AGR/N4307 PC1, PC5 KU1 KU4 GS1, GS5	Flow chart preparation, Group discussion	PHB, Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop Tools, Equipment	T: 1:00 P: 6:00
		Cleaning and sanitization of poultry farm	<ul style="list-style-type: none"> • Explain the process of cleaning, disinfection, sanitation and fumigation. 	AGR/N4307 PC6, PC10 KU5, KU8 GS1, GS5	Demonstration	PHB, Chemicals, Disinfectants, Cage Structure, Sawdust/paddy husk (in case it is deep littered), PVC Pipes,	T: 1:00 P: 6:00

			<ul style="list-style-type: none"> • Demonstrate the use of pesticides, disinfectants & fumigants. • Demonstrate the procedure for storage of pesticides, disinfectants & fumigants. 			Water Nipples, Ventilators, Tube lights, Egg Trays, other house construction material , Fans, chick guards etc.	
		Site Selection and Best Practices	<ul style="list-style-type: none"> • Demonstrate preparation of the chick guards. • Demonstrate procedure for seasonal management. • Demonstrate how to maintain proper ventilation, light, water and feed requirements. • Demonstrate the procedure of handling the chicks. 	AGR/N4307 PC11, PC18 KU9, KU15 GS1, GS5	Chicks handling activity	PHB, Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop Tools	T: 3:00 P: 4:00
		Litter Management	<ul style="list-style-type: none"> • Demonstrate the procedure of safe disposal of waste. 	AGR/N4307 PC8, PC10 KU16 GS1, GS5	Demonstration and group discussion	PHB, white board, duster, paper Presentations). Whiteboard, Marker, Projector, Laptop Tools	T: 3:00 P: 4:00
		Importance of Bio security	<ul style="list-style-type: none"> • Demonstrate the use of personal protective equipment. 	AGR/N4307 PC19 GS1, GS5	Power point presentation Group activity and group discussion	PHB, Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop Tools, Equipment and Other Requirements Chemicals, Disinfectants,	T: 2:00 P: 5:00
3	Brooding and Debeaking T: 10:00 P: 25:00 (HH:MM)	Brooding management	<ul style="list-style-type: none"> • Demonstrate the methods of brooding. • Demonstrate the procedure for sanitation of the brooding area. • Demonstrate how to prepare the brooding room • Identify and sort quality DOC for brooding. • Demonstrate stirring/raking to maintain hygiene and quality of litter. • Demonstrate proper handling of chicks. 	AGR/N4308 PC1, PC9 KU1, KU14 GS1, GS2	Field Visit	PHB, Power points slides, pictures/posters, videos e.g., which can illustrate brooding methods, Brooding equipments, sanitary products etc	T: 2:00 P: 5:00

			<ul style="list-style-type: none"> • Demonstrate the procedure for good brooding and litter Management. 				
		Debeaking	<ul style="list-style-type: none"> • Demonstrate the procedure of debeaking • Demonstrate the handling of debeaking machine • Inspect the debeaked chicks. 	AGR/N4308 PC10, PC13 KU5	Field Visit	PHB, debeaking equipments. Electricity board	T: 2:00 P: 5:00
		Feeding and watering	<ul style="list-style-type: none"> • Analyze time and frequency of feeding, food diet of chicks. • Demonstrate the mixing of medicines through feed. • Select feed samples for analysis. 	AGR/N4308 PC3 KU15, KU16	Visit, Listing of medicine used in poultry industry	PHB feeding and watering equipments used on poultry farm, Electrical Wires/ Folder/Plugs etc., Electrical Bulbs, Insulation Tape, Brooders, Brooder Guards, Chick Feeders, Chick Drinkers, Taps, Newspaper, Thermometer, Foot Dips,	T: 2:00 P: 5:00
		Temperature management	<ul style="list-style-type: none"> • Demonstrate how to maintain proper ventilation, light, water. • Demonstrate how to monitor uniform temperature and humidity. 	AGR/N4308 PC2 PC3	Group activity and demonstration	PHB, Chemicals, Disinfectants, Curtains-Gunny Bags/Plastic, Binding Wire, Cutting Player, Electrical Wires/ Folder/Plugs etc.	T: 2:00 P: 5:00
		Safety and Standard requirements	<ul style="list-style-type: none"> • Demonstrate the use of personal protective equipment. • Demonstrate the procedure for waste disposal. 	AGR/N4308 KU17, KU18 GS3, GS7	Group activity and demonstration	participant's handbook, white board, duster, marker etc. personal protective equipments, Slippers/Footwear etc.	T: 2:00 P: 5:00
4	Feed, water and Litter Management T: 10:00 P: 25:00 (HH:MM)	Chicks Feed Management	<ul style="list-style-type: none"> • Analyze the feed requirement of chicks, birds. • Demonstrate how to provide the balanced feed. • Calculate the Feed Conversion Ratio. • Calculate the weight of the birds. 	AGR/N4336 PC1, PC7 KU1, KU6 GS1, GS9	Field visit	PHB, power point presentation showing relevant images, Weighing balance, Feed material.	T: 2:00 P: 5:00
		Poultry Waste Management	<ul style="list-style-type: none"> • Demonstrate the documentation of the feeding record. • Demonstrate the disposal of the used litter. 	AGR/N4336 PC9, PC11 KU7 GS1, GS9	Group activity and discussion	PHB, Power points slides, pictures/posters e.g., which can illustrate the waste disposal methods	T: 3:00 P: 5:00

			<ul style="list-style-type: none"> • Demonstrate the way to segregate and dispose different categories of waste. • Document the feeding record as per the schedule. • Inspect the quality of the litter in a timely manner. 				
		Feeding Schedule	<ul style="list-style-type: none"> • Demonstrate the documentation of the feeding record. • Document the feeding record as per the schedule for assessment purpose. 	AGR/N4336 PC8 KU8 GS1, GS9	Classroom teaching and Group Discussion	PHB, Record book, different type of Feed & Drink equipment	T: 3:00 P: 5:00
		Resource Management	<ul style="list-style-type: none"> • Demonstrate the procedures for sanitizing the feed, feeders, water, and drinkers. • Demonstrate how to adjust the height of feeding and watering equipment. • Estimate the number of feeders and drinkers required. • Inspect the feeding and watering equipment for leakage, wear and tear. • Demonstrate how to minimize wastage of resources including water. 	AGR/N4336 PC12, PC13 KU9, KU11 GS1, GS9	Group discussion, Classroom teaching	participant's handbook, white board, duster, marker etc.	T: 1:00 P: 5:00
		Biosecurity measures	<ul style="list-style-type: none"> • Demonstrate the bio- security measures. 	AGR/N4336 PC14, PC15	Group discussion, Classroom teaching	PHB, Vaccines, Balanced Feed Chart, Record book, different type of Feed & Drink equipment	T: 1:00 P: 5:00
5	Disease Prevention and Maintenance of Poultry Health T: 10:00 P: 25:00 (HH:MM)	Diseases Management	<ul style="list-style-type: none"> • Examine the behavior and health of chicks. • Demonstrate the disposal of the dead birds and other organic matter. • Demonstrate disease management practices. 	AGR/N4337 PC8, PC12 KU11, KU13 GS1, GS13	Field visit	PHB, as white board, duster, paper etc power point presentation showing relevant images of sick and dead poultry birds.	T: 2:00 P: 5:00

		<ul style="list-style-type: none"> • Demonstrate the culling of birds with advanced signs of disease/ infection. • Inspect the birds for feather picking, cannibalism. 				
	Disease Identification	<ul style="list-style-type: none"> • Identify the early signs of infection in chicks/birds. • Identify and segregate sick and dead birds. 		Classroom teaching and identification	PHB, point presentation showing relevant disease symptoms	T: 2:00 P: 5:00
	Disease Prevention	<ul style="list-style-type: none"> • Demonstrate vaccination of Birds and medicines in case of diseases. • Demonstrate the sanitization of feed and water. • Demonstrate how to take precautions for diseases in birds. • Demonstrate how to record the weight of the birds and health check-up. 	AGR/N4337 PC1, PC7 KU1, KU10 GS1, GS13	Field visit	PHB, as white board, duster, paper, vaccine samples etc. power point presentation showing relevant videos on vaccination of poultry birds.	T: 2:00 P: 5:00
	Movement restriction	<ul style="list-style-type: none"> • Demonstrate how to restrict the movement of free flying birds and other animals. • Demonstrate how to restrict the entry of men and material, in case of visitation. 		Group discussion and classroom teaching	PHB,	T: 2:00 P: 5:00
	Industrial Norms	<ul style="list-style-type: none"> • Demonstrate how to keep the ammonia levels in check and Rake/ stir litter to prevent disease spread. • Demonstrate the waste minimization practices. • Demonstrate litter management practices. • Calculate the mortality rate of chicks. • Demonstrate the use of PPE. • Demonstrate the use of chicken First aid kit. 	AGR/N4337 PC13, PC16 KU3, KU4, KU14 GS1, GS13	Group activity and classroom teaching	PHB, power point presentation showing relevant images of poultry unit	T: 2:00 P: 5:00

6	Effective Communication at the Workplace T: 5:00 P: 10:00 (HH:MM)	Effective Communication	<ul style="list-style-type: none"> • Demonstrate the requisite level of proficiency in verbal and non-verbal communication. 	NA	Group discussion, Showing of relevant video	PHB, pictures/posters e.g., showing relevant video of different communication methods	T: 2:30 P: 5:00
		Communication methods	<ul style="list-style-type: none"> • Demonstrate appropriate verbal and non-verbal communication. • Demonstrate effective methods of sharing and seeking information and feedback. 	NA	Group discussion, Classroom teaching	PHB, Power-Point Presentation, Computer, Projector, Black/ Whiteboard. Charts and Videos on Workplace Communication Workplace Records and Documents.	T: 2:30 P: 5:00
7	Maintenance of poultry farm equipment, building and Environment T: 10:00 P: 20:00 (HH:MM)	Poultry Farm Equipment Maintenance	<ul style="list-style-type: none"> • Identify different tools and equipment in the poultry farm. • Inspect farm tools and equipment daily. • Inspect the tools and equipment such as brooder unit, chick guard, feeder, drinker, etc. • Inspect the plastic / rubber water pipes and sewerage pipes for any kinks or blocks. • Inspect the physical infrastructure periodically as per standards. • Examine the electrical system and wiring for any damages. 	AGR/N4303 PC1, PC6 KU1, KU13	Field visit	Participant's Hand Book, Training Kit (Presentations, Trainer Guide), Whiteboard, Marker, Duster, Note Pad, Pen, Paper, Audio Visual Aids such as Presentation Slides, set of equipments and tools used at poultry farm etc.	T: 4:00 P: 4:00
		Hygiene, Ventilation and Litter Management	<ul style="list-style-type: none"> • Demonstrate the procedure of cleaning, disinfection and sanitization. • Demonstrate culling and proper disposal of culled birds. • Demonstrate how to maintain optimum moisture level, temperature, light intensity, ventilation. • Demonstrate the disposal of the litter material after the batch. • Demonstrate the good brooding and litter management practices. 	AGR/N4303 PC7, PC14 KU14, KU17	Demonstration	Participant's Hand Book, Training Kit (Presentations, Trainer Guide), Whiteboard, Marker, Duster, Note Pad, Pen, Paper, Audio Visual Aids such as Presentation Slides on different cleaning products etc.	T: 3:00 P: 5:00

		Production Cycle	<ul style="list-style-type: none"> • Demonstrate sanitary dry out procedure prior to bird placement. • Demonstrate the procedure for cleaning of feeding, watering and brooding equipment. • Demonstrate the procedure for disinfection empty rooms. • Demonstrate the procedure and care in cleaning and disinfecting the incoming water through chlorination and filtration. 	AGR/N4303 PC15, PC31 KU18, KU22 GS1, GS5	Field visit	Participant's Hand Book, Training Kit (Presentations, Trainer Guide), Whiteboard, Marker, Duster, Note Pad, Pen, Paper, Audio Visual Aids such as Presentation Slides	T: 2:00 P: 5:00
		Safety Measurement	<ul style="list-style-type: none"> • Demonstrate the measures for protection of chicks/birds from predators. • Demonstrate the use of personal protective equipment. 	AGR/N4303 KU5 GS1, GS5	Group discussion	PHB,	T: 1:00 P: 6:00
8	Collection, Grading, Storing and Packaging of Eggs T: 15:00 P: 30:00 (HH:MM)	Eggs Collection, Packaging and Transportation	<ul style="list-style-type: none"> • Demonstrate the procedure for cleaning and disinfecting the nest box. • Demonstrate the procedure for collection the eggs in a container. • Demonstrate different techniques and method for the collections of eggs and lifting of birds. • Demonstrate the procedure of loading and staking the egg cases in the vehicle. • Demonstrate the procedure for storing the eggs in the cool room. 	AGR/N341 PC1, PC16 KU8, KU11 GS1, GS3	Field visit	participant's handbook, white board, duster, marker	T: 2:00 P: 8:00
		Egg disposal	<ul style="list-style-type: none"> • Demonstrate the disposal of soiled and floor edges. • Demonstrate the procedure for fumigation of eggs. 	AGR/N341 PC6,	Demonstration and group discussion	PHB, Projector, Laptop Trays, container, Different grades of eggs, egg handling equipment	T: 2:00 P: 8:00

		Egg handling and grading	<ul style="list-style-type: none"> • Demonstrate the way of handling eggs before collecting eggs. • Demonstrate how to handle the eggs with precautions. • Demonstrate grading the hatching eggs based on various physical parameters. • Demonstrate grading and storing the eggs. 	AGR/N341 PC8, KU1, KU11	Demonstration and classroom teaching	PHB, Trays, container, Different grades of eggs, egg handling equipment	T: 4:00 P: 5:00
		Egg Cleaning	<ul style="list-style-type: none"> • Demonstrate the use of emery paper for cleaning dirty eggs. • Create foot dip and hand wash at the entrance. 	AGR/N341 PC7	Classroom teaching and Showing of relevant videos	PHB, Trays, container, Different grades of eggs, egg handling equipment	T: 4:00 P: 4:00
		Importance of Record Keeping	<ul style="list-style-type: none"> • Identify the egg laying birds. • Estimate the number of eggs to be harvested from the shed. • Identify and separate the poor layer birds. 	AGR/N341 KU1, KU7 GS1, GS3	Individual activity	PHB, power point presentation showing different photos of record books	T: 3:00 P: 5:00
9	Hygiene and Cleanliness T: 5:00 P: 5:00 (HH:MM)	Personal Hygiene Practices	<ul style="list-style-type: none"> • Demonstrate personal hygiene practices. • Demonstrate the correct way of washing hands • Demonstrate the cleaning and sanitization of worn clothes. • Demonstrate the steps to follow to put on and take off a mask safely. • Show how to sanitize and disinfection work area regularly. • Demonstrate adherence to the workplace sanitization norms. • Show how to ensure the cleanliness of the work area. 	AGR/N9903 PC1, PC4 KU10, KU17 GS1, GS9	Team activity and classroom teaching	PHB, Sitting hall personal hygiene products for cleaning, List of SOP Personal Protective Equipment, Cleaning Equipment and Materials, Sanitizer, Soap, Mask	T: 5:00 P: 5:00
10	Safety and Emergency Procedures T: 5:00 P: 10:00 (HH:MM)	Safety Guidelines	<ul style="list-style-type: none"> • Demonstrate the basic safety checks before operation of all tools, implements, and machinery. • Estimate risks prior to performing manual handling jobs. 	AGR/N9903 PC5, PC20 KU1, KU9 GS1, GS9	Group Discussion, Demonstration	Participant's handbook, white board, duster, marker etc. Personal Protective Equipment, First Aid Kit, Equipment used in Medical Emergencies	T: 2:30 P: 5:00

			<ul style="list-style-type: none"> • Inspect various areas of the workplace. • Demonstrate the use of PPE and implements. • Demonstrate the correct way of donning, doffing and discarding PPE. • Demonstrate the procedure to sanitize the tools, equipment and machinery properly. • Demonstrate the safe disposal of waste. • Demonstrate procedures for dealing with accidents, fires and emergencies. • Demonstrate emergency procedures to the given workplace requirements. • Demonstrate the use of emergency equipment. • Demonstrate how to administer first aid. • Demonstrate how to prepare a list of relevant hotline/emergency numbers 				
	PPE kit	<ul style="list-style-type: none"> • Demonstrate the use of PPE and implements. • Demonstrate the correct way of donning, doffing and discarding PPE. 	AGR/N9903 PC19, PC20	Group activity and demonstration	PHB, white board, duster, marker etc. Personal Protective Equipment, First Aid Kit, Equipment used in Medical Emergencies	T: 2:30 P: 5:00	

S. No.	Module Name	Session Name	Session Objectives	NOS References	Methodology	Training Tools/Aids	Durations
11.	Employability Skills (30 hrs)	Introduction to Employability Skills	<ul style="list-style-type: none"> Describe the importance of Employability Skills Prepare a note on different industries, trends, required skills 	DGT/VSQ/N0101	Team Activity: Interactive discussion	White-board and Markers Chart paper and sketch pens LCD Projector, Laptop for Presentation, audio visual aids, note pad, paper, pen, computers etc.	1 hr
		Constitutional Values: Citizenship	<ul style="list-style-type: none"> Detail the principles of the constitution of India Identify the various environmentally sustainable practices 		Class room lecture, discussion, Demonstration, practical		1 hr
		Becoming a Professional in the 21st Century	<ul style="list-style-type: none"> Discuss relevant 21st century skills required for employment Practice critical thinking and decision making skills 		Class room lecture, discussion, Demonstration, practical		1 hr
		Basic English Skills	<ul style="list-style-type: none"> Read English text with appropriate articulation Practice basic English words, sentences and punctuation 		Team Activity: Role play, video session		2hrs

S. No.	Module Name	Session Name	Session Objectives	NOS References	Methodology	Training Tools/Aids	Durations
		Communication Skills	<ul style="list-style-type: none"> Explain the importance of communication at workplace Demonstrate effective communication strategies Demonstrate how to communicate effectively using verbal and nonverbal communication 	DGT/VSQ/N0101	Class room		4 hrs
		Diversity and Inclusion	<ul style="list-style-type: none"> Demonstrate effective communication strategies Demonstrate how to communicate effectively using verbal and nonverbal communication Explain the need of diversity at workplace Identify the various PwD policies applicable at workplace Discuss the significance of the POSH Act 	DGT/VSQ/N0101	Class room session, Team Activity: Round of Inter-active discussion,		1 hr

S. No.	Module Name	Session Name	Session Objectives	NOS References	Methodology	Training Tools/Aids	Durations
		Financial and Legal Literacy	<ul style="list-style-type: none"> Discuss various financial institutions, products, and services Explain the common components of salary such as Basic, PF, Allowances (HRA, TA, DA, etc.), tax 	DGT/VSQ/N0101	Class room lecture, Group discussion, demonstration, activity		4 hrs
		Essential Digital Skills	<ul style="list-style-type: none"> Detail the use and features of various MS Office tools, like MS Word, MS Excel, MS PowerPoint, etc. Demonstrate how to operate digital devices Create an e-mail id and follow e-mail etiquette to exchange e-mails <p>Describe the role of digital technology in day-to-day life and the workplace</p>	DGT/VSQ/N0101			3 hrs

S. No.	Module Name	Session Name	Session Objectives	NOS References	Methodology	Training Tools/Aids	Durations
		Entrepreneurship	<ul style="list-style-type: none"> Describe the types of entrepreneurship and enterprises Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement 		Class room lecture, discussion, Demonstration, practical		7 hrs
		Customer Service	<ul style="list-style-type: none"> Identify types of customers and how to deal with them Identify methods to get customer feedback and how to implement them Explain various tools used to collect customer feedback Discuss the significance of maintaining hygiene and dressing appropriately 	DGT/VSQ/ N0101	Class room lecture, discussion, Demonstration, practical, Team Activity: Role play, video session		4 hrs
		Apprenticeships and Jobs	<ul style="list-style-type: none"> Practice personal grooming strategies Illustrate the use of online platforms for job hunting Detail the concept of Apprenticeship Demonstrate how to enroll for Apprenticeship programs. Draft a professional Curriculum Vitae (CV) Role play a mock interview 	DGT/VSQ/ N0101			2 hrs

Annexure II

Assessment Criteria

CRITERIA FOR ASSESSMENT OF TRAINEES

(For Updated 'Assessment Criteria', please refer to Qualification Pack of this Job role available at <https://www.nqr.gov.in/>)

Assessment Criteria for Poultry Farm Worker	
Job Role:	Poultry Farm Worker
Qualification Pack	AGR/Q4309
Sector Skill Council	Agriculture Skill Council of India

Sr. No.	Guidelines for Assessment
1.	Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2.	The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3.	Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4.	Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
5.	Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion.
6.	To pass the Qualification Pack, every trainee should score a minimum of 50 % of aggregate marks to successfully clear the assessment.
7.	In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
AGR/N4307.Prepare poultry shed for the placement of chicks/birds	30	40	-	30	100	10
AGR/N4308.Carry out brooding management	30	40	-	30	100	20
AGR/N4336.Carry out feeding, watering and litter management of chicks/birds	35	40	-	25	100	15
AGR/N4337.Carry out disease prevention and maintain poultry health	30	35	-	35	100	20
AGR/N4303.Maintain poultry farm equipment, building and environment	30	30	-	40	100	10
AGR/N4341.Collect, grade, store and pack the hatching eggs/table eggs	30	45	-	25	100	10
AGR/N9903.Maintain health and safety at the workplace	40	25	-	35	100	10
AGR/N9926.Follow the relevant employability and entrepreneurial practices	30	40	-	30	100	5
Total	255	295	-	250	800	100

Annexures III

Annexure of QR Codes for Poultry Farm Worker

Chapter No.	Unit No.	Topic	QR Code Links	QR code (s)
Chapter - 1 Introduction	Unit 1.1 - Scope and Importance of Poultry Industry	Scenario of Poultry Industry	http://youtube.com/watch?v=s8000EzHINA	 Scenario of Poultry Industry
Chapter - 2 Preparation of Poultry Shed for the Placement of Chicks/Birds	Unit 2.1 - Need, Types and Systems of Poultry Housing	Range Housing System	http://youtube.com/watch?v=ypul2h3hWSO	 Range Housing System
Chapter - 3 Brooding and Debeaking	Unit 3.1 - Brooding Management	Brooding Preparation	http://youtube.com/watch?v=G9sO39p71lc	 Brooding Preparation
Chapter - 4 Feed, Water and Litter Management	Unit 4.1 - Chicks Feed Management Unit 4.2 - Poultry Waste Management and Feeding Schedule	Poultry Farm Management	https://www.youtube.com/watch?v=jscHbXWSiqA&t=3s	 Poultry Farm Management
Chapter - 5 Disease Prevention and Maintenance of Poultry Health	Unit 5.1 - Diseases Management Unit 5.2 - Disease Prevention	Poultry Disease Management	https://www.youtube.com/watch?v=nV7lk3lht60	 Poultry Disease Management
Chapter - 6 Effective Communication at the Workplace	Unit 6.1 - Effective Communication and Working Environment	Environment at Workplace	https://www.youtube.com/watch?v=PDDIT6oSC04	 Environment at Workplace
Chapter - 7 Maintenance of Poultry Farm Equipment, Building and Environment	Unit 7.1 - Poultry Farm Equipment Maintenance	How to start Poultry Farm?	https://www.youtube.com/watch?v=dSYrG85ccEQ	 How to start Poultry Farm?
Chapter - 8 Collection, Grading, Storing and Packaging of Eggs	Unit 8.1 - Eggs Collection, Handling, Packaging and Transportation	Egg Collection at Poultry Farm	https://www.youtube.com/watch?v=uUdMua9yT-4	 Egg Collection at Poultry Farm

Chapter No.	Unit No.	Topic	QR Code Links	QR code (s)
Chapter - 9 Hygiene and Cleanliness	Unit 9.1 - Personal Hygiene Practices	Hygiene and Cleanliness	https://www.youtube.com/watch?v=qPaLFjZAA0s&t=118s	 Hygiene and Cleanliness
Chapter - 10 Safety and Emergency Procedures	Unit 10.1 - Safety Guidelines	Safety Measures	https://www.youtube.com/watch?v=olBJ5F9nqR0	 Safety Measures



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