Poultry production

Level II

Learning Guide # 29

Unit of Competence: Clean out intensive production sheds

Module Title: Cleaning out intensive production sheds

LG Code: AGR PLP2 M09 LO1 LG-29

TTLM Code: AGR PLP 2 TTLM1219v1

LO1. Prepare to clean shed

Instruction Sheet	Learning Guide #29

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

- Interpreting requirements for the work to undertaken
- Identifying OHS hazards, and implementing suitable controls.
- Selecting, using and maintaining Suitable personal protective equipment's.
- Identifying the environmental implications of cleaning the shed.
- Cleaning of equipment to avoid contamination.
- Covering electrical switchboards and other equipment

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

- Interpret and confirm the work
- Identify OHS hazards, and implementing suitable controls.
- Select, use and maintain Suitable personal protective equipment's.
- Identify the environmental implications of cleaning the shed.
- Cleanequipment to avoid contamination.
- Cover electrical switchboards and other equipment

Learning Instructions:

1. Read the specific objectives of this Learning Guide .
2. Follow the instructions described in number 1 to 6.
3. Read the information written in the “Information Sheet (**1, 2, 3, 4,5 and 6**) in page 3**,7,11,14** and **15**respectively
4. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
5. Accomplish the “Self-check 1, Self-check 2, Self-check 3, Self-check 4, Self-check 5 and Self-check 6” in page 3, 5,7, 9 and 21 respectively.
6. If you earned a satisfactory evaluation proceed to “the next topic”. However, if your rating is unsatisfactory, see your teacher for further instructions or read back the Learning guide information sheets 1-6.Submit your accomplished Self-check. This will form part of your training .

Information sheet -1	Interpreting and confirming the work

1.1. Interpreting and confirming the work

Any activates in poultry work should required to be interpreted and confirmed in a proper and safe manner .Creating a suitable working environment is required to confirm the work in a proper manner so a safe and suitable environment should be created .If any problems in countering during confirming cleaning activities of shed making a deep analysis based on the work require for farther activates and make a clear information on it .

Before confirming the work preconditions has to be taken this are:

- Putting on all necessarily PPE
- Setting of proper procedures and guide line for the work to be confirmed
- Having every tools, equipment and materials where ready to the work
- Creating safe and suitable environment
- Dismantling and sealing equipment and materials if necessary
- Electrical equipment mus removed or sealed or the power shall turn off
- Dusty environment could happen so sprinkling of water is necessarily before the work

Having arranging all the things now you can confirm the work in a safe and proper manner . After completing any work directed by supervisor any work outcome and work problems have to be interpreted.

Creating pre- operation and operational activates to confirm the work

Pre-Operation actives

1. Confirm that Cleaning &Disinfectant equipment is clean and ready for operation.

2. Ensure that water levels are correct, temperature of wash water is at target temperature (90ºF minimum), chemical supply lines for detergents and sanitizes are connected, concentrations are at suppliers (equipment) recommendations, and that fresh water supply line is open.

3. Record and sign operation log noting date and time, temperature of wash and rinse, detergent concentration, and chlorine concentration in rinse.

Operation/ confirming the work

1. Introduce washable flats, pallets, and dividers into washing system after all pre-operation checks are successfully completed.

2. Maintain operating log noting:

a. Temperature of wash and rinse waters

b.Detergent, anti-freeze (if any) and chlorine concentrations, and c. condition of wash water from excessive foaming and build-up of egg. Note: Systems using manual addition of detergents will require frequent monitoring for detergent and chemical strength compared to systems using online monitoring of detergent concentration. Chlorine in rinse must be at or above 50 ppm and less than 100 ppm.

3. Visually inspect after Cleaning &Disinfection to confirm that the materials are free of or other organic soil. If not clean, use a brush on observed areas and repeat the cleaning and sanitation cycle to completely remove any observed organic matter.

4. Make corrective changes as required to operate system within established ranges for temperature and chemical concentrations.

5. At mid-shift, drain wash-water tank and perform mid-shift cleaning.

6. Repeat pr-operational checks before starting operations.

Self Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. List down the activates before confirming your job . (5pts)

Note: **Satisfactory rating – 5 points** **Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date _____

1.

- _____
- _____
- _____
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- _____

Information sheet-2	Identifying OHS hazards, and implementing suitable controls

1.2. Identify OHS hazards, and implementing suitable controls

OHS Hazards during poultry productions

Personnel working in the poultry industry are permanently exposed to hazards. These have either a physical, chemical or biological nature. Proper management is needed to avoid accidents and to keep the staff motivated.

According to the International Labor Organization (ILO), health hazards in poultry working environments are categorized as accidental, physical, chemical, and biological. Here are just a few examples for each category mentioned by this organization

Physical

- Exposure to high levels of noise.
- Long-time exposure to heat and cold.
- Skeletal problems resulting from lifting and moving of animals, feed bins (bags), egg collection.
- Dust

Chemical

- Respiratory problems resulting from exposure to dust, which is composed of feathers, dander, micro-organisms, etc.
- Respiratory, skin, and eye diseases due to exposure to gaseous chemicals.(e.g. NH3, H2S, CO2, and CH4.
- Exposure to disinfectants, detergents, formaldehyde and pesticides.

Biological

- Zoonotic diseases .These diseases are transmitted between birds and humans & they also are transmitted from animals to humans and include bacterial, viral,

fungal, and parasitic diseases. Among this the most commons are salmonellosis, campylobacteriosis, chlamydiosis, bird flue and avian influenza are among the most . Poultry workers are at a greater risk of being affected by these diseases.

Implement control majors

Implementation measure where set depending of rules and regulation of poultry farm Many farm could be prevented or their impacts reduced by wore proper personal protective equipment (PPE) and following OHS requirements among this **OHS requirements are:**

- Using of relevant protective clothing and equipment,
- Use of tooling and equipment,
- Workplace environment and safety handling of material,
- First aid kit
- Hazard control and hazardous materials and substances.
- Using gowns, rubber boots of appropriate size, goggles, gloves etc,
- Following OHS procedure designated for the task
- Checking and fulfilling required safety devices before starting operation

Self-Check # 2	**Written Test**

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Write types of hazardous ? (2pts)
2. Write the advantages of using PPE? (5pts)

Note: **Satisfactory rating - 7 points** **Unsatisfactory - below 7 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

1._____

_____

_____

2._____

_____

_____

3._____

_____

_____

_____

Information sheet-3	Selecting, using and maintaining Suitable personal protective equipment's

1.3. Selecting, using and maintaining Suitable personal protective equipment's

Personal protective equipment (PPE) refers to any specialized equipment or clothing worn by farmers and ranchers for protection against health and safety hazards. PPE does not prevent accidents, but it does prevent or reduce injury and even fatalities when used. The protective clothing and equipment must always be:

- appropriate for the particular hazards
- maintained in good condition
- properly stored when not in use, to prevent damage or loss
- Kept clean, fully functional, and sanitary.

There are different types of materials, tools and equipment and supplies to perform different activities in poultry raising activity. Therefore, identifying, selecting, using and maintaining to the working activity are very important aspect in poultry work.

Basic Types of PPE

The strict controls will not necessarily eliminate all the risks associated with most job tasks and this is where the need for PPE must be evaluated. A hazard assessment can help identify which specialized PPE will be required. However, the following basic types of PPE should be made available in worksite.

Eye and face protection

To provide protection during exposure to hazards like flying particles, metal or sparks, liquid chemicals, caustic liquids, light radiation, i.e., welding, lasers. Eye

protection should always be worn where there is potential for injury to the eyes or face from small particles, toxic chemicals, flying particles, large objects, thermal or radiation hazards, an lasers.

According to the types and extent of hazards, different PPE should be worn. These must always remain clean and free of contaminates.

Goggles

Goggles offer good protection against front and side impact. Unvented or indirect vented chemical splash goggles provide protection from chemical vapors and liquids.

Hearing protection: - To provide protection during exposure to high pitch and loud noise levels. Exposure to high levels of noise may result in hearing loss. PPE should be worn when the noise level is 85 decibels or greater averaged over an eight-hour period. Most hearing protection devices have a noise reduction rating (NRR) that indicates the amount of protection provided. In general, look for NRR of 25 or greater.

Hand protection: - To provide protection during exposure to potential hazards such as sharp objects, abrasive surfaces, temperature extremes, and chemical contact.

Selecting proper gloves is very important since the hands are used to handle hazardous materials. In addition, traumatic injuries such as cuts, sprains, and punctures may occur. With the wide rangeof hazards, there are also a wide range of gloves that may be used as PPE. Chemical-resistant gloves are always recommended when working with pesticides and chemicals. Chemical-resistant aprons add protection from body absorption of hazardous chemicals.

Padded cloth gloves

Protects hands from sharp edges, slivers, dirt, and vibration. Not acceptable for handling hazardous materials.

Metal mesh gloves

Better protection than cloth gloves against sharp edges and cuts. Not acceptable for handling hazardous materials.

Rubber gloves

Offer protection when working around electricity.

Heat-resistant gloves

Offers protection from heat and flames.

Vinyl/neoprene gloves

Protects hands against toxic chemicals. Selecting the right glove is critical in handling the varying level of chemical toxicity. See link below for description of protective material used in gloves.

Nitrile protective gloves

Provides good protection when using many different pesticides.

Barrier laminate gloves

Offer the best chemical resistance in gloves designed to handle hazardous chemicals. Avoid cotton-lined or rubber gloves that absorb chemicals that result in continued absorption.

Head protection: - To provide protection to potential hazards such as falling objects, striking against low-hanging objects, electrical hazards, or chemical application.

Chemical-resistant hats with added wide brim

Offers protection when applying pesticides but may not be compatible with certain types of respiratory PPE.

Respiratory

Protection: - Respirators are used to prevent the exposure to air contaminated with harmful dusts, fumes, mists, gases, smokes, sprays, or vapors.

All respirator usage, including disposable respirators, air purifying respirators, and air-supplied respirators, require annual fit testing and testing and training prior to use.

Foot protection - To provide protection for situations with the potential of injuries such as falling or rolling objects, chemical or liquid exposures, piercing objects, and where feet are exposed to electrical hazards.

Latex/rubber footwear

Resists chemicals and provides extra traction on slippery surfaces.

Electrical hazard footwear

Insulated with tough rubber to prevent shocks and burns from electricity.

Nitrile footwear

Resists animal fats, oils, water, chemicals, and pesticides.

Body Protection- PPE includes safety vests and suits and should be used for tasks that can cause body injuries from extreme temperatures, flames and sparks, toxic chemicals, insect bites and radiation. Ensure that they are clean and free from cuts and burns. Always get a good fit to ensure full body protection.

Chemical-resistant coveralls and aprons

Coveralls and aprons (single-use or reusable) worn over regular work clothing offer additional protection when diluting, mixing, or applying pesticides. Pesticide labels may require them for certain pesticides.

We have to considered the followings:

- Protective clothing should be selected to prevent skin contact with contaminated materials or environments.
- Consideration should be given to the type of work being performed by the worker when selecting personal protective clothing.

Self-Check -3	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1.write major PPE and their major functions (8pts)

Note: **Satisfactory rating – 8 points** **Unsatisfactory - below 8 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____

Name: _____ Date _____

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Information sheet-4	**Identifying the environmental implications of cleaning the shed**

1.4. Identifying the environmental implications of cleaning the shed

During cleaning the shad there are different waste material or product which will be produced and could affect the environment directly or indirectly main waste material and other things which will produced at the poultry are the following

- litter
- Poultry dung
- plant debris

- plastic
- broken objects
- dead chickens
- Ammonia gas
- Feathers, foul smell and high noises

These waste materials which are produced in poultry have to be removed from the site on regular manure properly;

Disposable materials properly buried in deep enough trench and should be covered with quicklime and then with soil or use Burning. But Burning is the most difficult because the Fumes and smoke may be a problem to the surrounding environment. Mud holes should be frequently filled or exclude the animals away from it quickly.

❖ ***N.B. Never dispose waste materials everywhere.***

Work site have to be clean and safe for efficient work of employee. So any poultry farmer or employee in poultry farm has to keep sanitation of his work site; which mean that he has to clean his work shed after completing his task by doing these he can keep healthy himself and his staff members.

Self-Check -4	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Mention some waste materials produced in poultry farm. (5pts)

Note: **Satisfactory rating – 5 points** **Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date _____

1. _____
2. _____
3. _____
4. _____
5. _____

Information sheet-5	**Cleaning of equipment to avoid contamination**

1.5.Cleaning of equipment to avoid contamination

Cleaning is the process of removing unwanted substances, such as dirt, infectious agents, and other impurities, from an object or environment. Cleaning occurs in many different contexts, and uses many different methods. Several occupations are devoted to cleaning.

Cleaning -is a two-step process

step 1. Dry cleaning

•Using a broom, brush, shovel, rag or compressed air to remove dust, soil and dry organic material

Remember! Dry cleaning should not be used for cleaning poultry housesinfectedwithair-borndiseasessuchas:Avian houses infected with airborn diseases such as: Avian Influenza or Newcastle it may through in air of the virus and increase the risk of spreading the disease

step2Wetcleaning step

- Using detergent/soap and water soakthe areaandscrubtoremove
- remaining and scrub to remove remaining organic material as well as dirt and grease

Disinfectants are chemicals that Slow disease agents activity multiplication and their growth Slow disease agents activity, multiplication and their growth or -Kill disease agents

Disinfection is the least reliable step of bio security, depends on many factors such as:

- the quality of cleaning
- the hardness of water
- Quality and suitability of disinfectant
- correct dilution and application

Common types of disinfectants

Disinfectants are divided into several groups based on their chemical structure

Like:

- ✓ Halogens (iodophors and chlorines, halamid®, dettol®)
- ✓ Alcohols
- ✓ Oxidizing agents (hydrogen-peroxide, hyperox®,virkon®)
- ✓ Phenols (fenix®, Prophyl 75®) eos(e®,opy5®
- ✓ Aldehydes (glutheraldhyde –TH4®, formalin)
- ✓ Quaternary ammonium compound (Timsen®Medisep®)

Major guidelines during cleaning poultry sheds

1. Establish a plan

Any good poultry house cleaning and disinfection program will start with a plan, detailing dates and times, along with the labor and equipment needed, and this should be established prior to depleting the farm.

2. Control insects

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

3. Remove dust

Remove all dust and cobwebs from interior surfaces and equipment.

4. Pre-spray

Again, wearing appropriate protective equipment, spray detergent solution throughout the broiler house interior to dampen any remaining dust. Close the curtains in open-sided poultry houses first.

5. Remove equipment

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

6. Remove and dispose of litter

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

7. Wash

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

8 . Clean water and feeding systems

Drain, clean and disinfect the water system. Water pipes should be cleaned at least once per flock to remove any bio film that may have built up. If physical cleaning is not possible, use high levels (140 ppm) of chlorine.

- ✓ Flush water lines with clean, fresh water prior to flock placement.
- ✓ Empty, wash and disinfect all feeding equipment.
- ✓ Empty bulk bins and connecting pipes and brush out. Clean out and seal all openings.
- ✓ Wherever possible, fumigate.

9. Disinfect

Use an approved disinfectant that is effective against specific poultry bacteria and viruses. Follow manufacturer's instructions at all times. Most disinfectants are not effective against sporulated coccidial oocysts, and selective coccidial treatments should be used by trained staff only.It is always worth remembering that disinfectants are ineffective in the presence of dirt and organic matter and should not be applied to wet surfaces, as this will result in dilution.

10. Fumigate

Where permitted, formalin fumigation should be completed by trained personnel, following safety legislation and guidelines.

Fumigate as soon as possible after disinfection; surfaces should be damp and the house warmed to a minimum of 21C (70F) and a relative humidity of greater than 65 percent. Seal the house for 24 hours.Prior to permitting any re-entry, ventilate the house to reduce formalin levels to 2 ppm.Repeat fumigation after the litter has been spread.

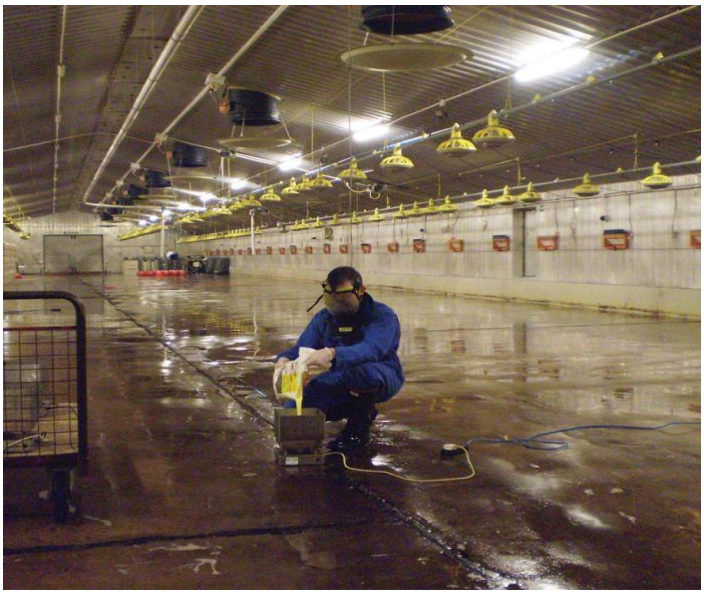

Fig.1 cleaning operation

Methods of cleaning materials, tools and equipment

Cleaning is broadly achieved through mechanical action and/or solvent action; many methods rely on both processes.

- ***Washing***, usually done with water and often some kind of soap or detergent
  - *Pressure washing*, using a high-pressure stream of water
- ***Abrasive blasting,*** typically used to remove bulk material from a surface, may be used to remove contaminants as well
- ***Acoustic cleaning,*** the use of sound waves to shake particulates loose from surfaces

- *Ultrasonic cleaning*, using ultrasound, usually from 20–400 kHz
- *Megasonic cleaning,* a gentler mechanism than ultrasonic cleaning, used in wafer, medical implant, and industrial part cleaning

- ***Carbon dioxide cleaning,*** a family of methods for parts cleaning and sterilization using carbon dioxide in its various phases
- ***Dry cleaning*** of clothing and textiles, using a chemical solvent other than water
- ***Flame cleaning*** of structural steel with an oxyacetylene flame
- ***Green cleaning,*** using environmentally friendly methods and products
- ***Plasma cleaning,*** using energetic plasma or dielectric barrier discharge plasma created from various gases
- ***Sputter cleaning,*** performed in a vacuum by using physical sputtering of the surface
- ***Steam cleaning,*** in both domestic and industrial contexts
- ***Thermal cleaning,*** in industrial settings, involving pyrolysis and oxidation
- ***Wet cleaning,*** methods of professional laundering that avoid the use of chemical solvents

Fig1. Cleaning methods

Cleaning agents are substances (usually liquids, powders, sprays, or granules) used to remove dirt, including dust, stains, bad smells, and clutter on surfaces. Purposes of cleaning agents include health, beauty, removing offensive odor, and avoiding the spread of dirt and contaminants to oneself and others. Some cleaning agents can kill bacteria (e.g. door handle bacteria, as well as bacteria on worktops and other metallic surfaces) and clean at the same time. Others, called degreasers, contain organic solvents to help dissolve oils and fats.

Different cleaning agents are used depending on the item to be cleaned, the cleaning method and the type of soiling found on the item. There are four main types of cleaning agents used in commercial kitchens:

1. Detergents
2. Degreasers
3. Abrasives
4. Acids

Detergents

Detergents are the most common type of cleaning agent and are used in home and commercial kitchens. They work by breaking up dirt or soil, making it easy to wash it away. The detergents used in commercial kitchens are usually synthetic detergents made from petroleum products and may be in the form of powder, liquid, gel or crystals.

Degreasers

Degreasers are sometimes known as solvent cleaners and are used to remove grease from surfaces such as oven tops, counters and grill backsplashes. Methylated spirits or white spirit were commonly used as degreasers in the past. Most food businesses now try to use non-toxic, non-fuming degreasers in their operations to prevent chemical contamination.

Abrasives

Abrasives are substances or chemicals that depend on rubbing or scrubbing action to clean dirt from hard surfaces. In commercial kitchens, abrasives are usually used to clean floors, pots and pans. Abrasives should be used with care as they may scratch certain types of materials used for kitchen equipment such as plastic or stainless steel.

Acids

Acid cleaners are the most powerful type of cleaning agent and should be used with care. If they are not diluted correctly acid cleaners can be very poisonous and corrosive. Acid cleaners are generally used to remove mineral deposits and are useful for descaling dishwashers or removing rust from restroom facilities.

Always follow cleaning with sanitizing:

Cleaning is only the first step to a germ-free kitchen. Cleaning is done using detergent, but it doesn't kill bacteria or other microorganisms that can cause food poisoning. To kill bacteria and ensure a clean workplace, you must follow cleaning with sanitizing. Effective cleaning and sanitizing also helps to:

- ✓ prevent pests from entering your business
- ✓ prevent cross-contamination
- ✓ prevent allergic reactions caused by cross-contamination

Fig 3. Cleaning under pressure

Self check-5	Written test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. List down some of cleaning methods and agents.(5pts)
2. List dawn some of disinfectants . (5 points)

Note: **Satisfactory rating – 10 points** **Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date _____

1. _____
2. _____
3. _____
4. _____
5. _____

Information sheet-6	**Covering electrical switchboards and other equipment**

1.6.Covering electrical switchboards and other equipment

During cleaning electrical switchboard and other equipment s should required to be covered and sealed properly this will important for:

- To avoid sudden out break of power
- It avoids contamination of equipment s
- Avoid electric contacts
- Easy to perform the work
- Avoid rusting of metal materials

Apply safe operating procedures regarding to:

- Electrical safety
- Machinery movement and operation
- Working in proximity to others and site visitors

Apply emergency procedures on:

- ✓ Emergency shutdown and stopping of equipment
- ✓ First aid application and site evacuation. Electrical safety
- ✓ Machinery movement and operation
- ✓ Working in proximity to others and site visitors.

Self check-6	Written test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Why electrical board and equipment where covered before cleaning the shed.(5pts)

Note: **Satisfactory rating – 5 points** **Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date _____

1. _____
2. _____
3. _____
4. _____
5. _____

References

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French, K.M. 1984, Practical Poultry Raising Peace Corps, Trans- Century Corporation, Washington D.C.

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Poultry production

Level II

Learning Guide # 30

Unit of Competence: Clean out intensive production sheds

Module Title: Cleaning out intensive production sheds

LG Code: AGR PLP2 M09 LO2 LG-30

TTLM Code: AGR PLP2 TTLM 1219v1

LO2. Clean shed and surrounds

Instruction Sheet	Learning Guide # 30

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

- Identifying OHS hazards relating to the cleaning process.
- Servicing and preparing the available machinery
- Servicing filters and flushing drinker lines and tanks
- Removing and disposing of litter and manure according to establishment hygiene practice.
- Preparing Cleaning agents and using according to manufacturer's instructions
- Airing the shed to ensure evacuation of cleaning agent's intoxicant.
- Safely handling and applying of Chemical agents
- Managing of Run-off from cleaning activity

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

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

- Identify OHS hazards relating to the cleaning process.
- Service and prepare the available machinery
- Servicing filters and flushing drinker lines and tanks
- Remove and dispose of litter and manure according to establishment hygiene practice.
- Prepare Clean agents and use
- Air the shed to ensure evacuation of cleaning agent's toxicants.
- Safely handle and apply of Chemical agents
- Manage of Run-off from cleaning activity

Learning Instructions:

1. Read the specific objectives of this Learning Guide .
2. Follow the instructions described in number 1 to 8.
3. Read the information written in the “Information Sheet (**1, 2, 3, 4,5,6,7 and 8**) in page **2,4,9,12,15,19,23** and **27**respectively
4. Accomplish the “Self-check 1, Self-check 2, Self-check 3, Self-check 4, Self-check 5” Self-check 6”Self-check 7” and Self-check 8”in page **3, 5,11, 13,17,19,21 and 23**respectively.
5. Do the “LAP test” in page 25 (if you are ready). Request your teacher to evaluate your performance and outputs. Your teacher will give you feedback and the evaluation will be either satisfactory or unsatisfactory. If unsatisfactory, your teacher shall advice you on additional work
6. If you earned a satisfactory evaluation proceed to “the next topic”. However, if your rating is unsatisfactory, see your teacher for further instructions or read back the Learning guide information sheets 1-8.Submit your accomplished Self-check. This will form part of your training portfolio.

Information sheet -1	Identifying OHS hazards relating to the cleaning process

2.1. Identifying OHS hazards relating to the cleaning process

During cleaning proper utilization of PPE is very crucial some chemical are toxic ,irritable to the skin contacts and can inhale to the respiratory trace which directly affect the health of the person .

Breathing in disinfectant vapors or spray particles

- The main danger exist when:
- Mixing chemicals –
- Spraying in confined spaces –
- Using fumigants such as formaldehyde or chlorine

Take care Accidental drinking of chemical by children

If the label states a respirator to be worn then TOXIC vapors will be released

- ✧ You must use a full face or half face respirator fitted with appropriate filters

Remember! Dust or biological masks are not designed to filter chemical's spray droplets and vapors

Eye protection

Contamination of the eyes can result from:

- ➢ drift, splash or spill of chemicals rubbing eyes with contaminated hands or clothing

- Chemical absorbed through the eye very rapidly
- Always wear eye protection when handling or spraying chemicals

Skin absorb

Absorption is highest when temperature is hot and skin is perspiring(hot season) skin is perspiring (hot season)

- Longer chemicals are in contact with skin, the more chemical is absorbed Don't wait! wash your skin with soap and plenty of water immediately water immediately
- Clothing which has been sprayed must be removed
- Clothing which has been sprayed must be removed as soon as possible and washed with soap and water

Protect hand

Protect Hands and Arms

- Gloves that cover the fore arms are the best
- Gloves that cover the forearms are the best
- Make sure they are resistant to chemicals -PVC)
- Turn base of glove over when spraying overhead

Physical

- Exposure to high levels of noise.
- Long-time exposure to heat and cold.
- Skeletal problems resulting from lifting and moving of animals, feed bins (bags), egg collection.
- Dust

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. List down how some chemicals may affect during cleaning . (5pts)

Note: **Satisfactory rating – 5 points** **Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

Score = _____

Rating: _____

Answer Sheet

Name: _____ Date _____

1.

Information sheet-2	Servicing and preparing the available machinery

2.2. Identifying OHS hazards relating to the cleaning process

Machinery and equipment where serviced and prepared regularly under based on the schedules of the farm .Any faulty item were identified and serviced

Main ten of machinery and equipment

Whenever every machinery and equipment used in poultry production enterprise, its maintenance should be kept for future sustained and durability. These can be achieved through the following point.

- Be sure to keep owners' manuals for specific maintenance instructions
- Check if every machine and equipment is stalled in proper ways.
- Check whether all equipment locate at a site
- Monitoring if all wires are properly connected in electrical machine
- Turn off switch unless it is no way of service.
- Clean equipment before service
- Repair malfunctioned machine
- Sanitize and disinfect machine and equipment after services.

Attached is a schedule outlining what to check on a daily, weekly, monthly and biannual basis? For further maintain use or read the manufacture's instruction accordingly.

Recording systems for machinery use

There are two general types of machinery records, the first is a cost record to permit the calculation of machinery costs for individual machines and the second is a record of scheduled repair and maintenance. Table is a machinery record form which emphasizes cost information but it also contains space for recording all repair and maintenance activities. Entries on this form can be made daily or weekly for non powered machines which receive little use during the year. For machines which require fuel and daily servicing and receive heavy use, many managers apply another procedure.

Each machine carries a form to record daily fuel and oil consumption and minor repairs. These forms are collected weekly or monthly and the total for each item are entered on a form.

The bottom of the form contains spaces for recording the fixed costs as well as total of the variable costs. This information can be used to calculate the machine cost per hour

Self-Check # 2	**Written Test**

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. How we can achieve sustainable utilization of machinery?

Note: **Satisfactory rating - 5 points** **Unsatisfactory - below 5 points**

Score = _____

Rating: _____

Answer Sheet

Name: _____ Date _____

1.

- _____
- _____
- _____

Information sheet-3	**Servicing filters and flushing drinker lines and tanks**

2.3. Servicing filters and flushing drinker lines and tanks

Filters and flushing drinker lines and tanks can be cleaned on the places with or with out dismantling based on its nature of the material.

Flushing tanks and lines are often done with an approved anti-algal chemical included, and treated water may be allowed to stand in lines prior to flushing.

- Flushing can dislodge algae and particles that can block valves in drinkers and cause flooding.
- Flushing also requires checking in-line filters for efficiency of operation.

Tables for cleaning equipment

Table 1. Cleaning operations for tankers

Process	Time in min.	Temperature	Concentration	Flow
		Ambient		
Pre-rinse	5	150 ^{O}F	1.5–2.5%	70 gal/min
Caustic wash	7	Ambient		
rinse	3	ambient		
sanitizer	2	ambient	1500–2500 ppm	

Table 2. Cleaning operations for line

process	Time	temperature	concentration	flow
		Ambient		
Pre- rinse	5min.	150 ^{o}F	1.5–2.5%	70 gal/min
Caustic wash	10min.	Ambient		
rinse	5min.	ambient		
sanitizer	2min.	ambient	1500–2500 ppm	

Self-Check -3	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What kinds of chemicals shall we used for cleaning of lines and filters (5pts)

Note: **Satisfactory rating – 5 points** **Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

Score = _____

Rating: _____

Answer Sheet

Name: _____ Date _____

1

- _____

Information sheet-4	Removing and disposing of litter and manure

2.4. Removing and disposing of litter and manure

Disposing Materials

Disposing: - is removal or riddance of wastes, excess, scraps, manure, etc, under proper method. Is simply removal of excess or unwanted material safely. Tools and equipment should be stored and disposed according to the manufacturer's specifications, enterprise procedures and regulations. This is used to increases life span of tools and equipment and avoids scarcity of tools and equipment at critical periods.

After completion of all farm establishment activities all containers, leftover fluids, waste and other unwanted materials should be disposed safely and appropriately. Waste materials which may be toxic to human beings or pollutants environmental conditions should be properly disposed to minimize hazards.

Removal of hatchery waste : is a very important consideration, and an efficient method of disposal must be planned. Vacuum disposal systems are now becoming fashionable, and space needs to be available for this equipment. Some areas within the hatchery do not lend themselves to the use of water under pressure, e.g. the top surfaces of incubators and hatching machines, electrical equipment and controls, ledges, tables and other horizontal surfaces. These surfaces readily collect dust and debris in which microorganisms multiply rapidly and should therefore be reduced to a minimum. The remaining horizontal surfaces must be cleaned regularly. For this purpose, a commercial industrial vacuum cleaner may be used. Disinfection may then be performed using a disinfectant solution in spray form .For cleaning measures of this kind, an aerosol generator is useful. It follows from the above that routine fumigation alone is no longer sufficient. Nevertheless, fumigation using formaldehyde (formalin) has proved to be a very effective means of destroying microorganisms on eggs, egg

cases, setters, hatching machines and fibre chick boxes, provided that these items have been subjected to preliminary cleaning.

Fig. 1 how litter is sprayed on the field

Waste materials include;

- Manure
- Moulding fed
- Scratch feeder/ watered
- litter and broken components,
- Bedding materials.

These may be recycled, re-used, returned to the manufacturer, or disposed of according to enterprise work procedures.

Classification/Type:-

There are two types of wastes.

A. **Solid wastes disposal (plastic bottle, scratch paper, poultry dung)**
B. **Liquid wastes disposal(industry released waste)**

-To remove waste and unwanted material safely from work site

-To clean work site suitably and make it attractive

Importance of disposal

- Minimizes and reduces the risk of accidental injury to staff, clients, visitors, and the local community
- Helps provide an aesthetically pleasing atmosphere
- Reduces odors
- Reduces the likelihood of contamination of the soil or ground water with chemicals or microorganisms

Recycling of nutrients in deep litter system

- The dropping from chicken when mixed with litter synthesizes Riboflavin (Vitamin B2) and Vitamin B12 by the chemical and bacterial actions.
- The built-up litter also contains niacin, phosphorus, potassium, magnesium, sodium and calcium.
- Deep litter bird often pecks and eats a small quantity of litter material which contains above nutrients. This phenomenon is known as recycling.
- Even if the poultry feed is slightly deficient in some of the nutrients, the deep litter birds will not show any deficiency symptoms due the recycling of nutrients.
- In cage rearing the recycling of nutrients is completely absent.
- So, all the nutrients including calcium, phosphorus and sodium must be balanced meticulously in poultry ration.

Self-Check -4	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Why we dispose wastes (8pts)

Note: **Satisfactory rating – 8 points** **Unsatisfactory - below 8 points**

You can ask you teacher for the copy of the correct answers.

Score = _____

Rating: _____

Answer Sheet

Name: _____ Date _____

1. _____
2. _____
3. _____

Information sheet-5	Preparing Cleaning agents and using according to manufacturer's instructions

2.5. Preparing cleaning agents and using according to manufacturer's instructions

Cleaning agent is very dangerous unless we properly utilized under the guide lines and instructions. Every cleaning agent has information on the pack how to use and how to apply including with safety handling and their effect if not properly utilized.

Reading the label of disinfectants

- Before using any disinfectant the label MUST be red and understood.
- The label gives you valuable information.

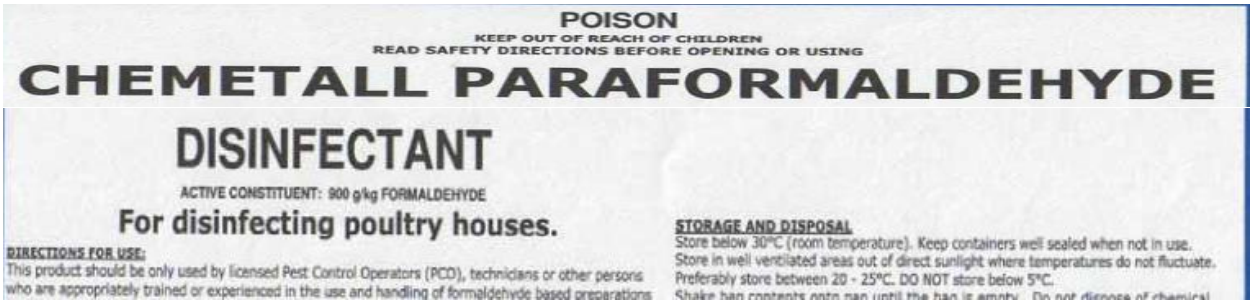

Fig 2 . Indications of chemical poison

Disinfectants are Dangerous!

- Disinfectants are dangerous chemicals = poisons
- we have to be careful when we use disinfectants

Disinfectants might cause poisoning:

- Acute (fast) toxicity with certain disinfectants may cause: dizziness, nausea and itchy eyes or skin
- Chronic (slow) toxicity may occur gradually over many years AI Technical Unity ears, may cause: permanent disability because the body has become very sensitive AI Technical Unit

Self-Check -5	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Mention how disinfectant affect our health . (5pts)

Note: **Satisfactory rating – 5 points** **Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

Score = _____

Rating: _____

Answer Sheet

Name: _____ Date _____

1. _____
2. _____
3. _____

Information sheet-6	**Airing the shed to ensure evacuation of cleaning agent's toxicants**

2.6. Airing the shed to ensure evacuation of cleaning agent's toxicants

Shades required to be aired after cleaning the operation. Wet objects where dried and chemicals which are toxic will let to evacuate from the cleaned are. There are differ systems and facilitate could be used to air the shade this are:

- Opening of doors ,windows and other facilitate
- Blower were applied
- If the environment is cold heater where used to dry the wet objects
- Letting the wind to in in the shade
- Exposing to the sun drying

Self check-6	Written test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What facilitate will arranged to air the shade.(5pts)

Note: **Satisfactory rating – 5 points** **Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

Score = _____

Rating: _____

Answer Sheet

Name: _____ Date _____

1. _____
2. _____
3. _____

Information sheet-7	Safely handling and applying of Chemical agents

Safe handling and applying of chemicals is very important for the users. Chemicals are very dangerous even can lost the lives of the person if not properly utilized. Chemicals like disinfectants are applied after being cleaning or removing clearly seen wastes so make it direct contact that make effective sanitation.

Following the following guide lines is very crucial :

- Every chemical has a proper guidelines where posted on or labeled on the pack .
- Before using the chemicals we should to follow the procedures and guidelines to avoid risk factors.
- Wore the PPE before any operation will reduced the problems of toxic chemicals.

Chemicals can enter your body through 3 ways:

- through the lungs when breathing or smoking
- through the mouth when eating and drinking
- through the skin and eyes

Remember!

When handling chemicals you need to make sure you wear the right clothes and equipment for your protection

How dangerous a disinfectant is?

Depends on:

- The type of substance and what it is made of
- The speed and the way it enters the body
- The amount of substance that enters the body

Ninety percent of hatchery sanitation is dependent on design of the premises, good management of the hatchery and of supply flocks, cleanliness, and a programme whereby dust is removed and prevented from reaching the hatching areas. The remaining 10% requires the additional hygienic measures provided by fumigation and disinfection.

- A disinfectant, whether used as a solution, gas or aerosol, cannot compensate for faulty cleaning or for a hatchery which is inadequately designed to permit a thorough cleaning programme.
- Hygiene control in a hatchery is essentially a result of cleanliness complemented by disinfection.
- To date, formaldehyde has been the fumigant recommended for use in hatcheries due to its efficacy and ease of application . However, the use of this product presents a serious hazard for human health and safety, and it is possible that the use of formaldehyde will be further restricted, if not prohibited, at some time in the future.
- Suitable alternative sanitizes must therefore be found for use in the hatchery environment, including for disinfection of incubating eggs. When eggs are properly washed, sanitized and dried, the level of bacterial contamination on the shell is greatly reduced.
- Inadequate egg-washing can allow microorganisms to enter the egg.

Self check-7	Written test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Write How chemicals are dangerous depend on.(5pts)

Note: **Satisfactory rating – 5 points** **Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

Score = _____

Rating: _____

Answer Sheet

Name: _____ Date _____

1. _____
2. _____
3. _____

Information sheet-8	**Managing of Run-off from cleaning activity**

2.8. Managing of Run-off from cleaning activity

Particular attention should be paid to the areas under the ventilator and extractor fans, under feed bins, access routes, door surrounds and gutters.

Ideally, the poultry house should be surrounded by an area of concrete or gravel (1-3 meters/3-10 feet in width). If this is not possible, the area around the house must be free from vegetation and machinery and equipment and have a level, well-drained surface Other considerations such as the layout of farms, erection of fences, and construction of drainage, all weather roads, equipment for decontamination; bulk feed installations, change rooms, exclusion of rodents and wild birds, and the interior finishes in houses. Structural bio-security can be enhanced in the intermediate term with appropriate capital investment.

Self check-8	Written test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

2. What facilitate run-off.(5pts)

Note: **Satisfactory rating – 5 points** **Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

Score = _____

Rating: _____

Answer Sheet

Name: _____ Date _____

1. _____

2._____

Operation sheet-1	Cleaning and disinfection of poultry Shed

Objectives:

- Prevention and controlling of poultry disease
- To produce clear and safe environment
- To produce healthy chicken

Procedures

- Put on all the necessary PPE
- Assembled all necessary tools, equipment and material
- Remove old litter and web combs
- Dry cleaning after removal of litter
- Start cleaning from the roof ,then walls and floors lastly
- Wet cleaning with caustic soda/liquid soap/ bleaching powder and water under pressure
- Cleaning of tanks, line with anti-fungal
- Do on place of cleanings for fixed machines and equipment
- Remove \rinse the disinfectants
- Fumigate the shade with potassium permanganate for 24 hr
- Aired the shade
- Repair of cracks and crevices
- After cleaning the house must be left empty for at least 15 days.

Operation sheet-2	Cleaning of tankers

Objective :

- To prevent disease transmissions
- To create safe and healthy environment

Procedures:

- Put on PPE
- Assembled all the necessary materials, tools and equipment
- Follow the next table guide lines for cleaning operations of tankers

Table. 1 Cleaning of tankers

process	Time in min.	temperature	concentration	flow
		Ambient		
Pre-rinse	5	150 oF	1.5–2.5%	70 gal/min
Caustic wash	7	Ambient		
rinse	3	ambient		
sanitizer	2	ambient	1500–2500 ppm	

LAP Test	Practical Demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within 8 hours.

Task 1. Clean and disinfect of poultry Shed

Task 2: Cleaning of tankers

:

References

MAGWOOD S.E & MARR H. 1964. The effect of airborne bacterial populations on contamination of eggs and embryo surfaces. Poult. Sci., 43,1567-1572. 16. - Studies in hatchery sanitation.

A simplified method for assessing bacterial populations on surfaces within hatcheries. Poult. Sci., 43,1558-1566.

CAB International, 1987. Manual on poultry production in the tropics Wallingford, Oxon, United Kingdom

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G.C Banerjee , 2000. A text book of Animal Husbandry. 8th ed Oxford & IBH publishing CO. Pvt.ltd, New Delhi / Calcutta, India

Poultry production

Level II

Learning Guide # 31

Unit of Competence: Clean out intensive production sheds

Module Title: Cleaning out intensive production sheds

LG Code:AGR PLP2 M09 LO3 LG-31

TTLM Code: AGR PLP 2 TTLM1219v1

LO3. Complete hygiene and administration tasks

Instruction Sheet	Learning Guide # 31

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

- ❖ Cleaning equipment based on procedures and regulations.
- ❖ Disposing all containers, leftover fluids, waste and debris
- ❖ Completing all required records and documentation accurately and promptly.

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

- o Clean equipment based on procedures and regulations.
- o Dispose all containers, leftover fluids, waste and debris
- o Complete all required records and documentation.

Learning Instructions:

1. Read the specific objectives of this Learning Guide .
2. Follow the instructions described in number 1 to 6.
3. Read the information written in the “Information Sheet (**1, 2, and 3**) in page **2,5** and **10**respectively
4. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
5. Accomplish the “Self-check 1, Self-check t 2, Self-check and 3, in page 3, 5,7, 9 and 11 respectively.

6. If you earned a satisfactory evaluation proceed to “the next topic”. However, if your rating is unsatisfactory, see your teacher for further instructions or read back the Learning guide information sheets 1-3.Submit your accomplished Self-check. This will form part of your training portfolio.

Information sheet -1	Cleaning equipment based on procedures and regulations.

3.1.Cleaning equipment based on procedures and regulations

Effective cleaning and disinfection programme are vital in the poultry hatchery. These programme control key organisms, such as Salmonella spp., Pseudomonas spp., Proteus spp., E. coli, Staphylococcus spp., Streptococci spp. and Aspergillus spp. , and concentrate on four key areas of concern: the egg, surfaces which can contaminate the egg, air-borne contaminants, and movable equipment and personnel.

Washing is necessary prior to disinfection, as the presence of organic matter (e.g. soil, dust, feathers and litter) protects harmful organisms from the action of chemical disinfectants. In some instances, this organic matter will actually inactivate certain types of disinfectants. An adequate supply of water is therefore necessary for the cleaning of hatching areas and machines, the chick boxing area, and some permanent and movable equipment. Cleaning of floors, walls and equipment requires adequate and suitably located drainage for waste water. Incubators must be cleaned after each transfer of eggs. This can be accomplished by scraping, vacuuming and mopping the floors, and wiping down wall areas and fan blades at the same time. Exterior surfaces require damp mopping at least once a week. The top surfaces of incubators should never be used for storage. Once yearly, each machine should be emptied and thoroughly cleaned. To avoid incubator contamination, eggs should be transferred before egg pipping starts.

The following procedures provide minimum steps for the Cleaning &Disinfection of plastic, washable, egg handling materials.

- Alternative procedures/methods to accomplish C&D objectives may be used contingent upon specific.

Disinfectants Follow manufacturer's directions for concentration and for contact time when using approved disinfectants.

- Disinfectants should be applied to clean surfaces.
- Each operator should evaluate drying time post disinfectant application to ensure prescribed contact time is achieved.
- If surfaces and ambient temperature are below freezing, either heat the surfaces to prevent freezing, use heat blankets around liquid containers, or add up to 40% propyleneglycol in water when mixing solutions.
- N***ot only the cleaning and disinfection of surfaces are important, but also your waterlines should be cleaned and disinfected!***

Cleaning means removing the scale and the bio film. The bio film is a polysaccharide layer , caused by adding vitamins, medication etc. through the water. It harbor mainly enter bacteria (Salmonella, E. coli,) and impedes the good functioning of medicine, vaccines, etc. It will, as scale, block the nipples and reduce the water flow. Chlorine (that gets neutralized by organic matter) will not remove the scale an not even penetrate the bio film. Removing the biofilm is only possible by OXIDATION. Stabilized hydrogen peroxide will do the job ! In combination with organic acids, it will also remove scale. And, if the products do not contain heavy metals (like silver nitrate), it can also be given during production, avoiding a new build up and sanitizing the drinking water. All this without leaving residues in the neither meat nor eggs. CID 2000® is such a product.

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. List down the activates operation of cleaning and disinfection . (5pts)

Note: **Satisfactory rating – 5 points** **Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

Score = _____

Rating: _____

Answer Sheet

Name: _____ Date _____

1.

- _____
- _____
- _____
- _____
- _____

Information sheet-2	Disposing all containers, leftover fluids, waste and debris

3.2. Disposing all containers, leftover fluids, waste and debris

These waste materials which are produced in poultry have to be removed from the site on regular manure properly; Disposable materials in differ manner this could be:

Buried

- properly buried in deep enough trench and should be covered with quicklime and then with soil or use Burning.

Burning / incineration

- Burning is one of the methods in disposing of waste and reducing the quantity of huge dry waste in to very small amount producing ashes which can be used as fertilizer for the plants ,But Burning is the most difficult because the Fumes and smoke may be a problem to the surrounding environment. Mud holes should be frequently filled or exclude the animals away from it quickly.

- **Used as bio fuel**

I,e producing of methane gas by fermentation of chicken drops

- Used as compost very important for soil fertility

❖ **N.B. Never dispose waste materials everywhere.**

- Disposing of all Disposing all containers, leftover fluids, waste and debris based on rules and regulation of Enterprise. all waste should dispose properly

Self-Check # 2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Write some disposing methods of waste? (5pts)

Note: **Satisfactory rating - 5 points** **Unsatisfactory - below 5 points**

Score = _____

Rating: _____

Answer Sheet

Name: _____ Date: _____

Short Answer Questions

1._____
_____
_____

2._____
_____
_____

Information sheet-3	Completing all required records and documentation accurately and promptly

3.3. Completing all required records and documentation accurately and promptly

Proper recording and documenting after the activates is very important for the following reasons

- To find out faulty items
- To clarify problems
- To control any activates

Evaluating farm cleaning, disinfection efficacy

- The efficacy of clean and disinfection should be monitored regularly.
- Bacterial and salmonella counts should be completed at least once per flock.
- Monitoring trends in *Salmonella* counts will permit continuous improvements in farm hygiene to be made.
- It should be remembered that if cleaning and disinfection have been effective, no *Salmonella* species should be isolated during sampling.

Table 1 : Records sanitized equipment sheet on

Equipment	Caustic concentration	Sanitizes concentration	Inspection
Tanker			
Crates			
Trays			

Supervisor Review: _____

The entire farm with clear demarcation of clean and dirty areas with unidirectional approach (one-way route) roads/ access points/ clean-dirty water demarcation etc. - all color coded should be displayed in office with Critical Control Points clearly marked

- Personnel roster- shed-wise/ entry/exit time; duty /job chart-cleaning of shed, feeding pans/ watering channels, cage cleaning, litter turning etc.
- Visitor's entry log
- Vehicle entry log
- Disinfectant spray schedule for houses; wheel/ foot-dip change roster
- Trace-in and Trace-out for both consignments (chicks/ Hatching Eggs etc.)arrivals and transfers respectively
- Log for feed / equipment arrival and allocation shed-wise, in hatchery/ disinfection of equipment
- Health check-up and cleanliness check-up schedules for personnel
- Schedule for vector/ rodent control program & monitoring
- Record of dead bird, hatchery waste disposal/ manure disposal
- Water

Self check-3	Written test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Why electrical board and equipment where covered before cleaning the shed.(5pts)

Note: **Satisfactory rating – 5 points** **Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

Score = _____

Rating: _____

Answer Sheet

Name: _____ Date _____

1. _____
2. _____
3. _____
4. _____
5. _____

Operation sheet-1	ICC (Integrated Chain Control) Hygiene

Procedures

The ICC (Integrated Chain Control) system describes the procedures for poultry houses as follows :

1. Remove litter, empty drinkers and clean dry all visible dirt
2. Wash down with a cleaning agent and allow for enough contact time (20 min) and clean drinker lines (and flush them afterwards)
3. Rinse and let dry
4. Disinfect (by spray or foam; foaming will visualize better where the product has been applied and stays longer on vertical surfaces and ceilings)
5. Install new litter, re-install and fill the feeders and drinkers
6. Do a terminal disinfection by fogging
7. Do a continuous disinfection of trucks (wheel dips) , people (hand hygiene, foot dips) and drinking water.

LAP Test	Practical Demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within 8 hours.

Task 1.Integrated Chain Control

References

CAB International, 1987. Manual on poultry production in the tropics Wallingford, Oxon, United Kingdom

French, K.M., 1984. Practical Poultry Raising Peace Corps, Trans- Century Corporation, Washington D.C.

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