

JOB ROLE – DAIRY FARMER

Sector – Agriculture

(Qualification Pack Code: AGR/Q4101)

Class XII



PSS Central Institute of Vocational Education
Shyamla Hills, Bhopal – 462 013 , Madhya Pradesh, India

www.psscive.ac.in

UNIT 3: Maintaining Health and Safety Standards at the Workplace

Session 1: Hygiene and Biosecurity in a Dairy Farm, and Disposal of Carcass

Content

Title	Slide No.
Session Objectives	4
Introduction	5
Cleanliness and Hygiene in a Dairy Farm	6
Biosecurity	7
Disposal of carcass	9
Summary	13

Session Objectives

- The student will be able to:
- Describe cleanliness and hygiene in a Dairy Farm
- Discuss biosecurity.
- Explain disposal of carcass.

Introduction

Cleanliness and hygiene in a dairy farm

Cleanliness refers to the removal dirt and debrisCleanliness refers to the removal dirt and debris, whereas, hygiene can have a broader meaning.

In dairy farming, particularly, when livestock are raised in confinement, cleanliness is of utmost importance for their health. However, it is not the sole factor.

The focus is also on the floor of the shed, milking equipment, surroundings, etc. Cleanliness and hygiene are directly related to Somatic Cell Count (SCC) present in milk.

Safe Handling of Equipment and Animals

There are number of risk associated in day to day dairy operations. They are depicted in following Fig.

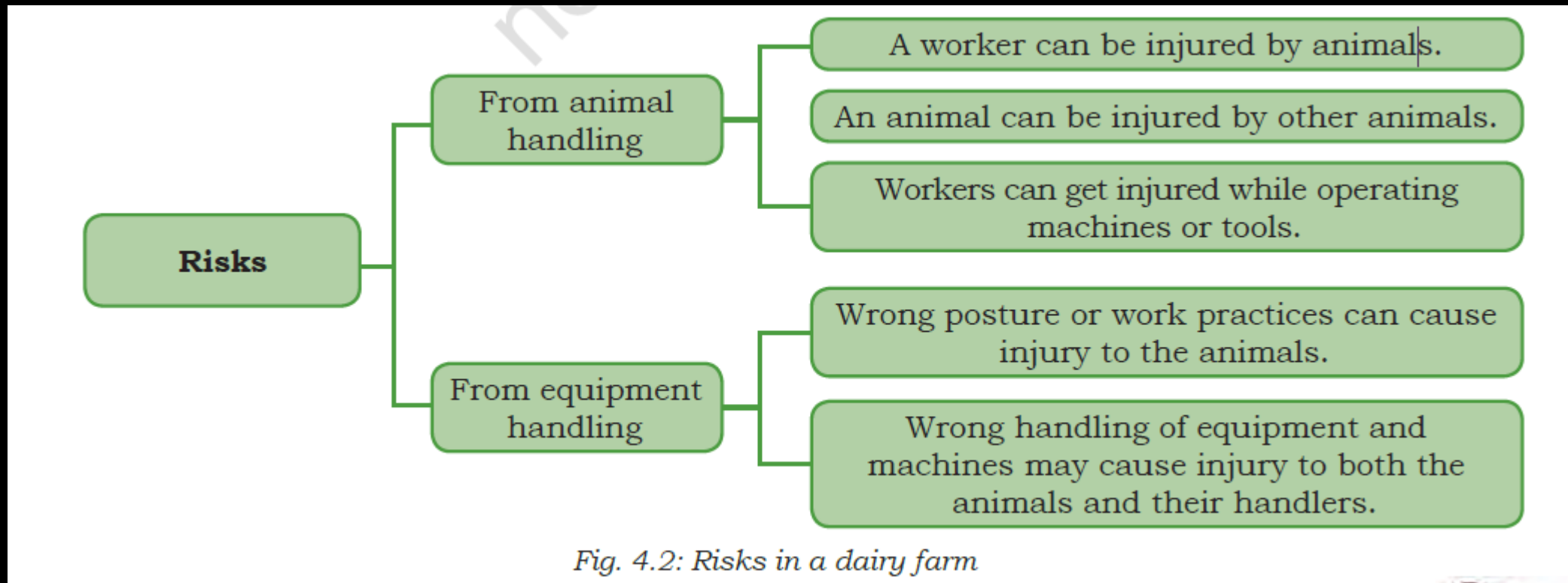


Fig. 4.2: Risks in a dairy farm

Safe Handling of Equipment and Animals

Recommended safe practices:

1. Plan and design work surfaces for safe and comfortable working.
2. Store objects for regular use safely in easily accessible areas.
3. Move large and heavy equipment carefully using lifts, trolleys, etc.
4. Keep yards, housing and milking areas clean and dry to avoid tripping and slipping.
5. Ensure that the gates open smoothly.
6. Avoid slippery surfaces while handling and moving animals.
7. Do not wear slippery footwear in the work area.

(cont...)

Safe Handling of Equipment and Animals

8. Keep all equipment and tools at their designated places after use.
9. Reduce risk to bystanders while operating machines or tractors, and moving or handling the animals.
10. One must communicate with the help of hand signals and signalling tools while working with noisy machines.
11. Follow all government rules and environmental regulations at the workplace.
12. Have clear work instructions and train the workers to reduce risks of accidents and hazards.
13. Carry out mock drills to check the functioning of emergency equipment.

Biosecurity

It refers to institutional and personal security measures to prevent the release of pathogens and infectious diseases in the environment. Hence, biosecurity involves actions to reduce chances of infectious diseases being carried to a dairy farm by people, animals, equipment or vehicles. Some of the biosecurity measures that need to be adopted to check the spread of diseases and infections in animals are as follows.

1. Restricted access to farm

A livestock farm must be secured by fences or walls to check unauthorised entry of people or stray animals



(cont...)

2. Provision of Footbath:

phenol or lime powder, must be maintained at the entry and exit gates of the farm to prevent the spread of pathogens.



3. Wear personal protective equipment

Animal workers and veterinarians must wear personal protective equipment, such as apron, gloves, mask, goggles and gumboots while handling the animals. Besides, they must wash their hands with water and an anti-bacterial soap and sanitise them frequently, especially, before and after coming in contact with the animals.

Cleaning and Disinfecting the Farm

1. Remove used bedding and waste material from the farm.
2. Clean the animal shed floor and walls with detergent and water.
3. Spray disinfectants like phenol or bleaching powder on the floor and walls of the shed.
4. Clean the equipment, feed tubs and buckets meant for animals with detergent and water.
5. Dispose waste properly.



Cont...

Disposal of Animal Carcass

The dead body of an animal is called carcass.

An animal carcass is a source of infections, therefore its proper disposal is a regulatory requirement.

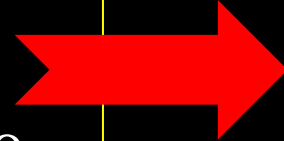


Fig. 1: Calf carcass after some moments of death

Carcass disposal methods:

The following disposal methods can be adopted for the proper disposal of animal carcass:

- (i) Burial
- (ii) Burning
- (iii) Composting
- (iv) Rendering
- (v) Fermentation

(i) **Burial:** Most commonly used method. In this method, animal carcasses are disposed in a deep pit, followed by covering it with layers of lime and soil.

Carcass Disposal Methods

Various method for carcass disposal are shown in Fig. below:

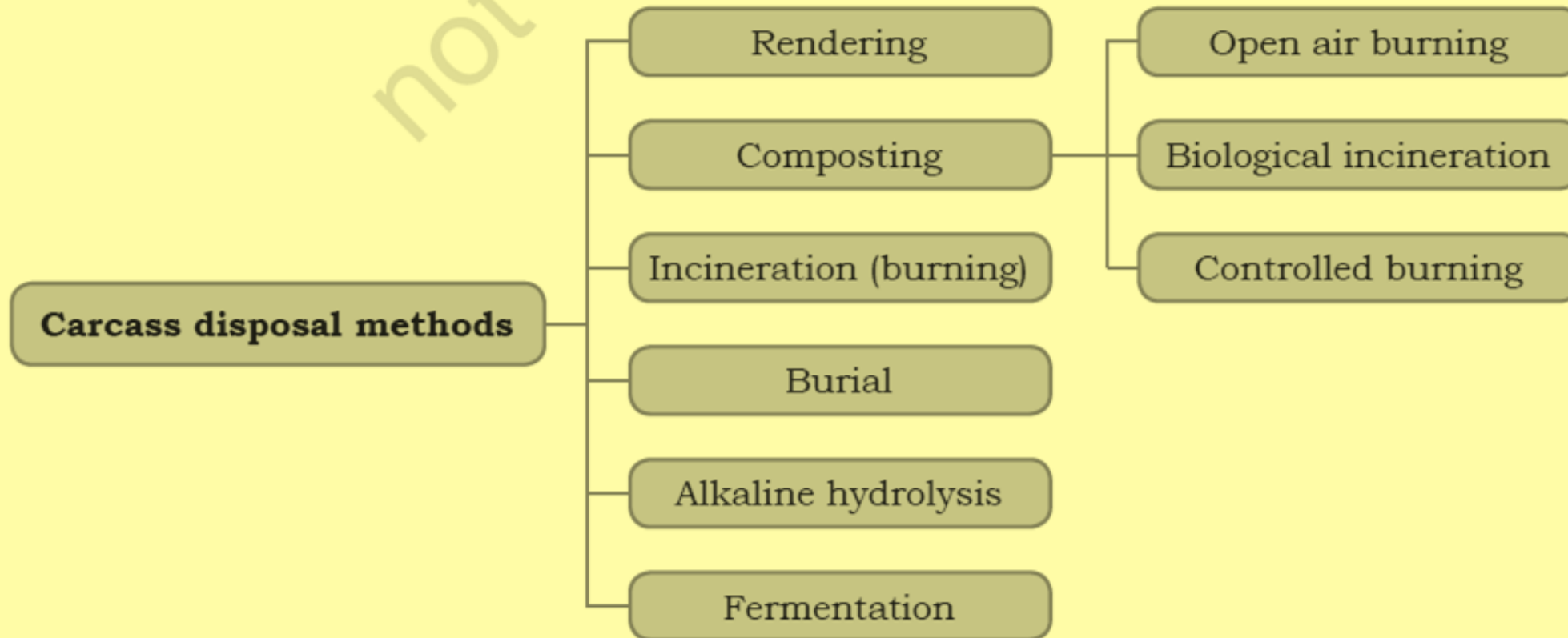


Fig. 4.7: Various carcass disposal methods

Disposal of Animal Carcass (contd...)

Burning:

Burning is a well-established procedure where wood or fire beds soaked in kerosene or diesel are kept around the animal carcass and ignited with fire.

Care is taken to keep away the vehicles and burning materials from the ignition point.

Disposal of Animal Carcass (contd...)

Incineration:

In this method, animal carcasses are incinerated in an incinerator which is a fixed machine fuelled by natural gas or electricity.

The whole carcass is burned and reduced to ashes.

This method effectively inactivates the pathogens but is quite expensive.

Disposal of Animal Carcass (contd...)

Composting

It refers to controlled decomposition of organic material. It is a process of aerobic microbiological decomposition conducted in open or closed systems.

The process produces carbon dioxide, water vapour, heat and compost. 'Composting' is considered to be one of the most effective environment friendly methods of carcass disposal as the end product can be utilised as fertiliser.

Disposal of Animal Carcass (contd...)

Rendering

It is a heat-driven process, wherein, the carcass is exposed to a temperature of around 130 °C under pressure for killing pathogens.

It is an environment friendly method of carcass disposal as it recycles animal protein from the carcass back into usable form as meat or bonemeal.

Disposal of Animal Carcass (contd...)

Fermentation

This process is a closed system of anaerobic microbiological decomposition, which requires prior mechanical and thermal treatment.

It produces biogas. This process does not inactivate pathogens but, typically, uses non-dried rendered product as input material.

Disposal of Animal Carcass (contd...)

Alkaline hydrolysis

Also called 'tissue digestion', alkaline hydrolysis is the latest technique for carcass disposal.

The only by-product of the process are mineral constituents of the carcass's bones and teeth.

The bone remnants can be collected and reused as calcium phosphate powder (sterile bonemeal). The process requires specialised equipment and works at 150 °C for three hours.

Summary

In this session, you have learnt about cleanliness and hygiene in a dairy farm, biosecurity and methods of disposing carcass.

Project Coordinator : Dr. Kuldeep Singh

Assistance

Dr. Preeti Dixit



Joint Director

**PSS Central Institute of Vocational Education
Shyamla Hills, Bhopal – 462013 , Madhya Pradesh, India**

E-mail: jdpsscive@gmail.com

Tel. +91 755 2660691, 2704100, 2660391, 2660564

Fax +91 755 2660481

Website: www.psscive.ac.in