

Carcass Management Course Secure Transport Module



United States
Department of
Agriculture



CUBIC
Enabling a Safer World

Table of Contents

Overview	2
Objectives	3
Introduction Lesson Overview	4
Introduction Lesson Contents.....	5
Modes of Transportation.....	6
Regulations.....	8
Certificates and Permits.....	10
Planning Lesson Overview	12
Planning Lesson Contents	13
Transport Planning	14
Route Planning	15
Hauler Identification.....	16
Materials, Supplies, and Equipment	17
Heavy Equipment	19
Communications.....	20
Biosecurity and Safety	21
Operations Lesson Overview	23
Operations Lesson Contents.....	24
Container Management	25
Managing Infected Material	27
Transporting Contaminated Material	30
Unexpected Situations.....	32
Summary.....	33

Overview

Welcome to the Secure Transport Module of the online Carcass Management Course. While completing this module, you may encounter references to Emergency Management Tools; Health, Safety, and Personal Protection Equipment; and to Biosecurity, which are broadly covered in their own separate training modules. These modules are found in the Introduction Modules, beginning with the Orientation Module.

Effective management of animal carcasses and associated materials is a critical component of a successful response during an animal health emergency. Carcass management measures contain, treat, or destroy contaminated or potentially contaminated materials in order to:

- Prevent spread of a disease outbreak to protect the nation's agricultural industry
- Protect the environment by preventing carcass waste products from contaminating soil, water, and air
- Protect decaying carcasses from insects and scavengers which can transport pathogens to other locations
- Safeguard public health by removing potentially contaminated food products from the human food supply
- Safeguard animal health by removing potentially contaminated feed from the animal feed supply

Objectives

This module presents information in three different lessons:

1. Introduction
2. Planning
3. Operations

Upon completing this module, you should be able to:

- Define secure transportation
- Identify modes of transporting contaminated or infected carcasses
- Consult with state and local officials to obtain regulations which govern transporting infected carcasses and any associated hazardous materials
- List the criteria transport and route planning
- Know the procedures for ordering and preparing disposal containers
- Identify loading and unloading procedures
- Understand cleaning and disinfecting (C&D) procedures
- Recognize unexpected situations and recommended actions

Introduction Lesson Overview

Definition: Secure transportation of large numbers of contaminated or infected livestock carcasses requires significant planning and preparation to prevent undesired environmental impacts, public health risks, and further disease spread. Following protocols is essential for the safe and successful transportation of carcasses to a carcass management location. Secure transportation includes:

- Protecting the health of personnel involved in the removal and transportation of infected carcasses
- Containing any liquid, solid and airborne emissions from the contaminated carcasses and byproducts during transport
- Determining load requirements based on the location of the selected carcass management site, routes and transportation limits

Figure 1. Container Truck



Introduction Lesson Contents

This lesson is divided into the following sections:

- Modes of Transportation – Identifies the various types of transportation conveyances available for moving carcasses or materials
- Regulations – Discusses the rules and regulations governing the transportation of contaminated waste materials from affected premises to carcass management locations
- Certificates and Permits – Presents a brief notation that documentation requirements exist for the movement of contaminated or infectious substances

Figure 2. Container Truck



Modes of Transportation

Contaminated or diseased carcasses may be transported via roadways or rail. Below are listed different forms of highway transportation:

- Render Haul Vehicles
- Custom-built trucks, including trucks with gaskets on the tailgate, assuming the gaskets can be adequately cleaned and disinfected
- Roll-off containers:
 - Solid waste - designed to carry solid/bulk waste and may not have closed seams
 - Sludge - designed for transporting sludge or liquid waste products. These containers have continuously welded seams to prevent leaks.
 - Intermodal - containers may be transported via truck or rail and normally have watertight seams and door seals
 - Available in 10, 20, 30 and 40 cubic-yard sizes. Twenty and 40 cubic yard are recommended for transporting contaminated or infected carcasses.

Figure 3. Roll-off Container



Modes of Transportation (cont.)

Rail transportation offers quick, efficient transfer of large quantities of animal carcasses across great distances. However, origin and destination points are fixed, and may not correspond to the affected premises or carcass management facility destination; therefore, highway transport may still be required to and from rail yards. Also, rail carrier companies may refuse to take infected animal materials.

Elements of the rail transport process include the following:

- Rail transport - trains transport the containerized waste on rail cars to a remote carcass management site
- Remote rail yards or intermodal facilities - containerized material may be transferred at remote locations, prior to reaching its final carcass management destination

Figure 4. Railroad Transportation



Regulations

Transportation of contaminated waste materials from affected premises to off-site locations requires special procedures to prevent the spread of disease. If infected carcasses will be transported under the authority of the Pipeline and Hazardous Materials Safety Administration, the U.S. Department of Transportation (DOT) requires materials to be classified prior to transport on public roads:

- From DOT Hazardous Materials Program Definitions and General Procedures found at [49 CFR 105.5 \(b\)](#), “Hazardous material means a substance that is capable of posing an unreasonable risk to health, safety, and property when transported in commerce.”
- According to [49 CFR 173.134 \(a\)\(1\)](#), an *Infectious Substance* means a material known or reasonably expected to contain a pathogen. A pathogen is a microorganism (including bacteria, viruses, rickettsiae, parasites, fungi) or other agent, such as a proteinaceous infectious particle (prion) that can cause disease in humans or animals. An infectious substance must be assigned the identification number UN 2814, UN 2900, UN 3373, or UN 3291 as appropriate.

Figure 5. Hazardous Materials Regulations



Regulations (cont.)

Diseased or contaminated carcasses may fall into the [Federal Select Agents](#) category, and must be transported in accordance with DOT, USDA, and Centers for Disease Control and Prevention (CDC) regulations. Additional rules and regulations can be located here:

- [9 CFR Part 121](#) - Possession, Use, and Transfer of Biological Agents and Toxins
- [Federal Motor Carrier Safety Administration](#) (FMSCA) hazardous materials regulations
- DOT, Pipeline and Hazardous Materials Safety Administration (PHMSA), [Transporting Infectious Substances](#)
- DOT, PHMSA, [Office of Hazardous Materials Exemptions and Approvals](#) (OHMEA)
- The [Gateway to State Resource Locations](#) provides access to a variety of state resource locator tools, including state environmental regulations

Figure 6. UN 2900 Warning Sign



Certificates and Permits

If contaminated materials will be managed by USDA under authority of the Animal Health Protection Act, official documents may be required to accompany any trucks that are transporting these materials. Contact the APHIS Incident Management Team for specific forms associated with a particular animal health emergency response.

Each state or local government may have different documentation requirements for the movement of contaminated or infectious substances. For more information, review the APHIS [Veterinary Services Contacts](#) website.

A *permit* (can be paper, electronic, or both) is used to approve and document movements into, within, and out of a regulatory Control Area.

- A *permit* conveys two critical pieces of information:
 - Approval for a movement (from a specific origin point A to a specific origin point B) and
 - Approval for a specific item associated with this movement (animals, products, materials, etc.)
- A *permit* may also define specific requirements that must be met for movement, depending on the item that is moved (e.g., diagnostic testing)
- A *permit* must be approved by the origin State (where the movement begins) and, if an interstate movement, the destination State (where the movement ends)

Certificates and Permits (cont.)

NOTE

In an FAD outbreak, there are two types of permits issued: specific permits and continuity of business (COB) permits. The first type of permits relate to controlling and containing the disease outbreak, ensuring that Infected Premises do not let the FAD off their premises and non-infected premises do not bring the FAD on their premises. The last type of permit—the COB permit—is to facilitate business continuity/continuity of operations for non-infected premises inside the regulatory Control Area.

Specific permits and associated requirements should be based on science and risk-based information. USDA APHIS recommends the following guidance for the unified State-Federal Incident Command in deciding when to require specific permits for movement to/from Infected, Contact, and Suspect Premises.

All specific permits are entered into EMRS2. A VS Form 1-27 form may be requested based on the unified Incident Command's discretion for specific permits. Refer to the [NAHEMS Guidelines: Quarantine and Movement Control](#) for additional details.

Planning Lesson Overview

Although not always possible, on-site carcass management is preferred over off-site carcass management so that biosecurity issues associated with transportation of carcasses are avoided. However, onsite options have serious limitations making transport to off-site facilities likely for large numbers of animals.

Use of Secure Transport has extensive requirements:

- Transportation of carcasses requires thoughtful and careful planning
- Potentially infected waste must be transported in closed, leak-proof containers
- Additional or secondary containment may be necessary
- There are considerable costs involved in transporting, as well as, time and investment in biosecurity and cleaning and disinfection
- Pre-processing of carcasses may also be necessary before transportation to the main facility or carcass management area

Planning Lesson Contents

This lesson presents the following information:

- Transport and Route Planning – Defines policies, practices, and available resources for planning transportation on public roads
- Hauler Identification – Lists several considerations when selecting a hauler to transport infected material
- Materials, Supplies, and Equipment – Provides a list and examples of the materials and equipment needed to ensure safe transport procedures
- Heavy Equipment – Discusses the types of equipment designed to move, lift, and deposit heavy loads
- Communications – Describes basic coordination efforts involved in transportation activities
- Biosecurity– Summarizes biosecurity steps and practices which must be implemented during transport procedures

Transport Planning

If the waste must travel on public roads, it should be transported in closed, leak-resistant trucks or containers. Secondary containment may be needed, depending on the type of waste being transported. Consult a certified waste management professional (CWMP) as defined by [National Registry of Environmental Professionals](#) or similar) when developing this section of the carcass management plan.

Some transport planning considerations are listed below:

- Do carcass management facilities selected for this premises have any special offloading requirements?
- Have the carcass management facilities agreed to accept the type and amount of waste you plan to send them and are they permitted appropriately?
- Are all permit, agreement, and/or contract conditions delineated and will the shipments meet the conditions? If not, what corrective actions would be needed?
- Are haulers to be used for the response properly equipped to haul carcasses in accordance with all applicable laws?
- Are transport vehicles designed to handle the materials to be transported?
- Are the drivers adequately trained for an emergency?
- Can two-way communications be maintained with the hauler during transport?
- Do shipments require law enforcement escorts?
- Will travel routes from the premises to the carcass management site avoid uninfected farms, road construction, neighborhoods, and densely populated areas?
- Has an alternate travel route been identified?
- What procedures will be followed if the vehicle is damaged during transit?
- How is the waste classified for transport? If it will be transported under DOT authority, what DOT packaging standards apply? Will all standards consistently be met, including labeling, placarding, and manifesting?
- If the waste will be transported under USDA authority, who is the permitting official who will sign the forms?
- How will transport vehicle traffic be minimized into the Control Area?

Route Planning

The route taken during the transport operation should be thoroughly inspected and monitored. If the technology is available, it may be useful for each truck to carry a Global Positioning System (GPS) tracking device for monitoring, recording, and ensuring planned routes are followed. In some cases, escorts may be needed, if public opposition to the waste transportation process is encountered. Additionally, dispatch should be able to contact drivers in case re-routing is necessary. Other considerations include:

- Use only prearranged and designated routes
- Travel through minimally populated areas and away from other livestock or poultry farms
- Utilize roads that allow for maneuverability of the transport trucks
- Assign transport escorts such as security/law enforcement/military assistance
- Avoid unplanned stops and adhere to posted speed limits

Resources to assist with route planning:

- [Transportation Routing Analysis Geographic Information System \(TRAGIS\)](#) - A model used for calculating highway, rail, or waterway routes within the U.S.
- [National Hazardous Materials Route Registry](#)- A national repository of both non-radioactive and radioactive hazmat routes designated for restricted use by hazmat carriers
- GPS based software tools for route planning used by trucking companies

Hauler Identification

Identify haulers who:

- Are trained in incident-specific biosecurity and strictly adhere to the requirements
- Are equipped and licensed (if applicable) to haul carcasses in accordance with state and federal laws
- Have secure, leak resistant transport containers for use with contaminated or infected carcasses and materials
- Employ appropriately licensed drivers
- Possess vehicles in good mechanical condition and capable of carrying the load
- Have vehicles which can be securely covered with a tarpaulin
- Employ drivers trained in emergency response per [49 CFR 172](#) and [49 CFR 173](#)
- Have emergency plans and associated emergency supplies

Figure 7. Covered Vehicle



Materials, Supplies, and Equipment

The Disposal Group must identify all necessary material, supplies, and equipment to ensure secure transport is available for the carcass management activities.

The following is an example of items which may be needed:

- Sufficient quantities of Personal Protective Equipment (PPE) required by Health and Safety and Biosecurity plans. Refer to the Health, Safety, & PPE Module and the Biosecurity Module.
- Guidance documents such as SOPs related job aids
- Vehicles such as rendering trucks
- Vehicle liners and liner sealing equipment and material
- Loading equipment
- Absorbent material to minimize leakage
- U.S. DOT approved containers, labels, and placards
- Suitable containers (20-40 cubic yards) for the contents
- Secure tarps to cover loads
- Regulatory approved containers, including sharps containers
- Bio hazardous waste bags and containers, if applicable Note: use biohazard bags only for identified biohazard waste. Putting non-biohazard waste into biohazard bags results in excess expenses for carcass management.

Biohazard Waste

Includes plastic ware such as pipettes or pipette tips, culture plates, specimen vials, etc. that are contaminated with biological specimens, bacterial and cell culture material, or nucleic acids. It also includes towels and bench paper that are biologically contaminated (i.e., used where samples or cultures are opened and manipulated). It may also include culture or sample containers (e.g. plastic tubes of blood) that are contaminated with biological materials. The categories are based on the UN assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods ([UNECE](#)).

Materials, Supplies, and Equipment (cont.)

Additional items required for transport operations may include:

- Scaffolding, ladders or mobile elevating work platforms for accessing the top of equipment and containers
- Utility knives for cutting the plastic polyethylene
- Sawdust, wood shavings or similar materials to absorb liquids in the containers
- Water tanks, for cleaning prior to disinfection and for mixing with disinfectant
- Sprayers to clean equipment and tools
- Shovels for scraping material from vehicle surfaces
- Lighting for work sites
- Covers for waste bins
- Stabilizing material (e.g. gravel) for wet soil conditions
- Appropriate disinfectants and application equipment. Refer to the [FAD PReP SOP: 15 Cleaning and Disinfection](#) for information about EPA registered products.

Heavy Equipment

Heavy equipment refers to heavy-duty vehicles, specially designed for executing certain tasks, frequently involving earthwork operations or moving large objects. Heavy equipment needed to load and transport carcasses are dependent on the size, number, and condition of the carcasses, as well as site conditions at the affected premises.

The types of heavy equipment that may be required include:

- Forklifts
- Skid-steer loaders, front end loaders
- Cherry pickers

Bulk transportation requires loaders with a six to eight foot wide bucket driven by a skilled operator. Operators must have received appropriate training per the equipment manufacturer or Occupational Safety and Health Administration standards. See the Health, Safety, & PPE Module for more details.

Figure 8. Heavy Equipment



Communications

Coordination among federal, state, local governments; private groups and industries; and health officials is required during an animal health emergency.

Communication during transport:

- Radio communication may be used to provide communication at the carcass management site entrance, to C&D units, with drivers, with government officials, with traffic controllers, and the Incident Command Post
- The site manager or other designated official on the affected premises should inform the traffic controller (if there is one assigned) or carcass management site of the number of loads and vehicles to expect
- The traffic controller, if assigned, should inform the site manager or other designated official and the carcass management site operator (i.e., landfill, renderer, etc.) when to expect arrival of the load
- Any delays or compromise in biosecurity procedures should be conveyed to the Disposal Group Supervisor
- Completion of transport should also be conveyed to the Disposal Group Supervisor

Biosecurity and Safety

Biosecurity is a collection of management practices designed to minimize the risk of disease introduction and spread during an operation such as carcass management. Refer to the [FAD PReP SOPs:15 Cleaning and Disinfection](#) and [FAD PReP SOPs: Biosecurity](#)

Precautions during loading

- Line the roll-off bin only while it rests on the ground and not when it is mounted atop the trailer
- Use only fixed ladders to gain access into the bins; never enter from the top without a ladder
- Use a minimum of two persons for lining operations--the supervisor should observe and assist
- Conduct all heavy lifting mechanically

Precautions during inspections

- Prohibit climbing up the sides, backs, or onto roll-offs when inspecting vehicles
- Do not allow staff to stand or walk on top of carcasses for any reason
- Inform the driver of all activities at all times

Figure 9. Vehicle Inspection



Biosecurity and Safety (cont.)

Precautions during Decontamination

Risks associated with vehicle decontamination include vehicle movements, contact with disinfectant chemicals, and exposure to pathogens

- Where possible, the vehicle decontamination process should be a one-way system that controls vehicle access
- Ensure drivers of vehicles turn off engines prior to vehicle decontamination

Figure 10. Biohazard Sign



Operations Lesson Overview

This lesson contains general procedures in preparing for safe transport practices during an emergency animal response. The following topics will be briefly addressed:

- Ordering, inspecting, and lining the containers
- Loading infected materials, such as carcasses, eggs and manure
- Inspecting the loaded containers
- Cleaning and disinfection procedures
- Transporting infected material
- Unloading procedures
- Unexpected or unusual situations

Operations Lesson Contents

This material in this lesson is presented in a step-wise and chronological manner that provides detailed instructions and key steps based on the criteria and measures instituted during recent U.S. animal disease outbreak responses.

- Container Management – Discusses steps for obtaining, preparing, loading, and inspecting loaded containers
- Cleaning And Disinfection – Presents information for C&D activities, before the material is transported
- Transporting Contaminated Material – Details the actions in moving contaminated material from the premises to a carcass management site
- Unexpected Situations – Discusses unforeseen events which may occur and the actions to mitigate the situation

Container Management

Ordering Containers

Complete the container order through the ICS Logistics Section. For general information about logistics in the context of an emergency response, refer to the [FAD PReP APHIS Foreign Animal Disease Framework: Roles and Coordination](#).

When requesting containers through the Logistics Section, you may have to:

1. Specify the type of container delivery:
 - Switch (bring empty container and haul away a full one)
 - Drop-off (deliver an empty container)
 - Pick-up (take away a full container and do not return it)
2. Specify the type (e.g., solid waste, sludge, intermodal, or render haul).
3. Specify the size of the waste container(s):
 - By volume, such as a 20 cubic yard container
 - By dimensions, such as a 40 foot long container
4. Specify the delivery time. Coordinate with concurrent on-site loading activities.
5. Specify the bin identification number if ordering a Pickup or Switch at a location with multiple containers.
6. Provide a contact name and phone number for the job site.

Figure 11. Render Haul Trailer



Container Management (cont.)

Inspecting the Containers

Look for breaches, holes, large cracks, or sharp edges, giving special attention to seams, joints and gaskets during the inspection process. If any defects are significant enough to compromise the safety of the load, reject the container, and use one which will not pose a risk.

Lining the Containers

When preparing the containers to transport infected material, ensure the containers will not allow infected material to escape from the load to the surrounding environment.

Measures to prevent release include,

- Lining the container with bio bags, large plastic sheeting, or absorptive materials to contain leakage of liquids during transport
- Securely covering the load to ensure no airborne particles are released
- Refer to the February 2014, University of Minnesota, [Risk Assessment for the Transmission of FMD via Movement of Swine and Cattle Carcasses](#) for additional information

Managing Infected Material

Loading Infected Material

1. After lining the container with two layers of plastic sheeting, load carcass material evenly into container.
 - For short containers, use a skid steer loader.
 - For taller containers, use two skid steer loaders and a front-end loader by using the smaller skid steer loader or a telehandler (as shown below) to pick up the carcasses and place them into the front-end loader, which can then be used to load them into the container.
2. When the container is full (contents are approximately one foot from the top), or it meets the maximum weight limit, whichever is less, take appropriate measures to prevent flying debris and to decrease virus spread.
3. Consider spraying the top of the load with a disinfectant. For poultry, spraying the load with an EPA-registered disinfectant can prevent feathers from being released, regardless of how well the load is sealed or covered.
4. Seal the load using a mobile work elevating platform (MWEP) or similar equipment.
 - If the container does not have a lid, use tarpaulin covers and polyethylene sheeting
 - Seal any lining material and secure the tarpaulin cover

Figure 12. Telescopic Handler (Telehandler)



Managing Infected Material (cont.)

Loading Eggs

1. Line the container with two layers of plastic sheeting.
2. Load two feet of wood shavings or sawdust into the container.
3. Deposit 1/3 of the eggs into the container using a skid steer loader.
4. Load an additional one-foot layer of wood shavings into the container.
5. Deposit another 1/3 of the eggs into the container.
6. Repeat the process until the container is full (one foot from the top) or meets maximum weight limit; then seal the load using an MWEP or similar equipment.
7. Alternatively, vacuum trucks may be used.

Loading Manure

1. Deposit the manure into a double-lined container.
2. When the container is filled to within one foot of the top or meets maximum weight limit, whichever is less, then seal the load using an MWEP or similar equipment.

Figure 13. Loading Container



Managing Infected Material (cont.)

Inspecting the Loaded Containers

After loading the contaminated material into the containers and sealing them, inspect transport containers before their departure. Inspect for the following to minimize risk of virus dissemination in transit:

- The load is not too large
- There are no leaks or dripping. If the load is dripping, the contents must be transferred to a correctly lined container - no leaking container may leave the contaminated site
- The tarpaulin cover is secure and has no cuts or holes

Cleaning and Disinfection

The final step is to C&D the outside of the truck and the container. Vehicles must undergo C&D before they leave the affected premises and again after the material has been unloaded at the carcass management site.

Figure 14. Vehicle Undergoing Cleaning and Disinfection



Transporting Contaminated Material

When transporting contaminated material from the affected premises to off-site locations, carcass management personnel must follow procedures to prevent the spread of disease agents. To ensure secure transportation, do the following:

1. Contact the carcass management facility to ensure it is prepared to provide a secure location for vehicles, containers, or other means of storage if there is a delay of more than one day.
2. Coordinate with appropriate State and local authorities to verify any transport restrictions and obtain any necessary permits.
3. Coordinate contracting for hauling services with the Logistics and Finance and Administration Branches of the Incident Management Team.
4. Load contaminated material only in the Hot Zone-EZ and drive trucks across biosecurity lines a minimal number of times.
5. The driver must stay in the vehicle with the windows closed from the time the infected farm is entered until the vehicle has been cleaned and disinfected and leaves the premises. The driver should only leave the vehicle if an approved biosecurity plan is followed. A cell phone or two-way radio should be used to communicate with responders outside the truck instead of opening the window.
6. Ensure that vehicles are marked with the appropriate identifier and in accordance with [49 CFR 172.323](#) and [49 CFR 172.432](#), if the vehicle will travel under DOT authority on public access roads or otherwise enter commerce.
7. Ensure the waste is properly transported to the off-site facility.

Figure 15. Vehicle Labels & Placards



Transporting Contaminated Material (cont.)

Unloading Procedures

Procedures for unloading infected materials vary depending on the carcass management method. Drivers must follow the methods specified by the facility where they are unloading.

- The unloading must be conducted at or as close to the carcass management site as practical
- All biosafety measures to contain the infectious agent must continue until carcass management is complete
- After unloading the container, proceed to the cleaning and disinfecting area

Cleaning and Disinfection

Cleaning and disinfection at the carcass management site is similar to the C&D of trucks and containers that takes place before they leave the infected sites.

- After delivering their load to the facility, drivers must follow the C&D procedures specified by Incident Command, which may involve going through the same process as other vehicles from the infected site

Unexpected Situations

Unanticipated or emergency situations may occur during any response. Although every contingency cannot be anticipated, developing a good emergency plan can help to quickly respond to and recover from unforeseen events.

Unplanned situations may include:

- Inadequate supply of trucks/transport equipment
- Impassable routes, route delays or off-site spillage due to accident
- Unanticipated adverse publicity requiring a change in operations
- Misrouting of materials—wrong destination
- Inclement weather that slows operations
- Misinformed laborers who may be intimidated by the hazards and refuse to work
- Unsafe work practices, personnel injury or high risk
- Vehicular problems, including spills, excess leakage
- Terrorist or other attack situations

Response strategies include:

- Using the ICS structure and expertise
- Training all workers for the unexpected; cultivating a “safety first” mentality
- Planning for temporary storage
- Preparing public messaging; maintaining a single public information point-of-contact
- Thinking and equipping for “Plan B” from the outset
- Keeping a list of consulting experts who can be contacted for advice

Summary

Congratulations! You have completed the Secure Transport Module of the Introduction Modules. In this module, you have been introduced to:

- Define secure transportation
- Identify modes of transporting contaminated or infected carcasses
- Consult with state and local officials to obtain regulations which govern transporting infected carcasses and any associated hazardous materials
- List the criteria transport and route planning
- Know the procedures for ordering and preparing disposal containers
- Identify loading and unloading procedures
- Understand cleaning and disinfecting procedures
- Recognize unexpected situations and recommended actions

Please click [here](#) to download the certificate of completion for this module. You can enter your name on the certificate and save or print it for your records. Proceed to the Home Page and select a carcass management training module.