



Livestock Care Standards Advisory Council

Transportation Guidelines for Cattle



On Farm Recommendations:

- Lactating dairy cows ideally should be dry. If not, milk just prior to transport to market or slaughter¹.
- Transport of cows within two weeks prior to or after calving should be avoided².
- Feeding a high-fiber dry feed for 48 to 72 hours prior to transport can help to reduce the moisture content of manure, and improve air quality, animal comfort, animal and vehicle hygiene³.
- Cattle should be well hydrated and able to stand and walk on their own prior to transport.
- For traceability, each animal should be individually identified using a RFID implant or an official ear tag as well as a temporary “back tag” for larger loads from multiple producers.
- Required “withdrawal times” must be met for all antibiotics and medications.
- To keep cattle hydrated, provide water until the time when loading begins. Review transport time and distance to determine feed withdrawal time (up to 18 hours prior to loading)¹.
- U.S. Code states that cattle being transported should be fed, watered and rested at least every 28 hours¹. Extended time without feed can greatly reduce welfare and meat quality.

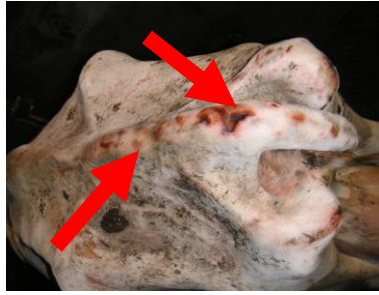
Selecting Cattle Fit to Transport⁴:

- Required interstate movement paperwork should be accurate and complete and accompany the load.
- Do not ship cattle that appear exhausted or dehydrated until rested, fed and rehydrated.
- In order to pass State and USDA inspection for human food, cattle destined for slaughter must meet minimum health requirements. Do not accept cancer eye, debilitated thin animals or cattle that appear sick. Cattle must stand and walk without assistance at slaughter.

Do **NOT** load non-ambulatory cattle. Cattle that are unfit for transport due to disease or injury should be evaluated immediately with treatment instituted or be euthanized. Follow AABP euthanasia guidelines for decision making and procedures¹: www.aabp.org.



Dairy cows fit for transport



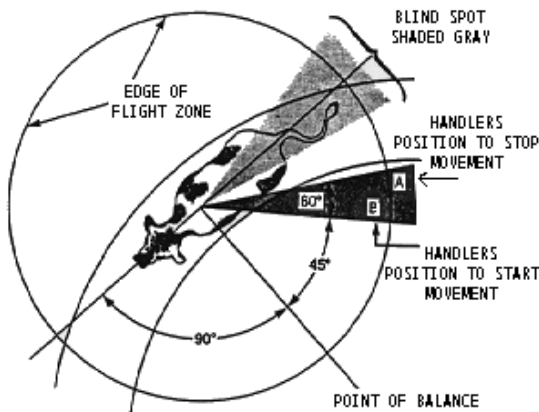
Thin: body score of 1, open wound



Distended udder, hock lesion

Ambulatory Cattle Conditions that will NOT pass Pre-slaughter Inspection¹:

1. Cancer eye; blindness in both eyes
2. Fever greater than 103°F.
3. Presence of drug residues
4. Peritonitis
5. Fractures or lameness (4 or 5 on a 5-point scale)
6. Unreduced prolapses
7. Cows that are calving or have a high likelihood of calving during transport
8. Distended udders causing pain and ambulatory issues (difficulty walking)
9. Suspected central nervous system symptoms
10. Visible open wounds
11. Emaciated cattle with a body score of less than 2 on a 5-point scale³



This diagram illustrates the general flight zone of an animal. The actual flight zone of an individual animal will vary depending on how "tame" the animal is.

An animal's flight zone will vary depending on how calm it is. The flight zone gets bigger when an animal becomes excited. The flight zone is also bigger when you approach "head on". Calm cattle are easier to move. If cattle become excited, it takes 20 to 30 minutes for them to calm back down. People should be quiet when moving animals. Yelling and loud noise is very stressful.

Flight zone and point of balance explanation: www.Grandin.com

Handling of Cattle:

- All handlers and transporters should be trained on quiet, **low stress** handling of cattle.
- Handlers should understand the flight zone and point of balance and how to use herd instincts to move cattle quietly. Document training and verify that practices are followed.
- Use caution when closing gates. Do not slam gates as cattle fear loud noise and can be easily bruised.
- Minimize or avoid the use of electric prods. If used, apply to the fleshy portion of rear quarters. **Never** apply an electric prod to sensitive areas such as the head, anus, udder, vulva or scrotum.
- Driving tools such as canes, flags, sticks with streamers or plastic strips and paddles should be the primary tools utilized to move livestock.



Plastic pvc pipe & plastic strips



Livestock rattle paddle



Stick/plastic bag, bottle caps on wire

- These “persuaders” can be used to turn cattle by blocking vision on one side of the animal’s head⁴.
- Do not ever drag a live, conscious animal. Euthanize cattle that are unable to rise and walk.
- Ramps, if used, should have a maximum slope of 25°. Ideal step height: 3.5 in. (10 cm) and step length should be 12 to 24 in. long (30 – 60 cm).
- Use of 2 in. x 2 in. (5 cm x 5 cm) cleats on ramps, spaced 8 inches (20 cm) apart can minimize slips and falls.
- Trailer and loading ramps, chutes and alleys should provide safe footing and have sides high enough to prevent cattle from falling or jumping off². Using solid side walls or shade cloth to block view on ramps and alleys can keep animals calm and minimize distractions.
- Avoid herding techniques such as yelling, rapid movement or use of dogs which can cause stress and injuries.



Good footing prevents slips and falls Square stock welded to truck floor Non-slip flooring in new stock trailer

Preparing Transport Vehicle:

- Thorough cleaning and disinfection is important to reduce the potential for disease transmission to livestock and between facilities. Clean and disinfect after each shipment.
- Use USDA APHIS approved disinfectants or hot water at a minimum of 180°F (82°C). http://www.aphis.usda.gov/wps/portal/aphis/ourfocus/animalhealth?1dmy&urile=wcm:path:/aphis_content_library/sa_our_focus/sa_animal_health/sa_emergency_management/ct_disinfectants
- Inspect the vehicle to ensure that all latches and gates are working properly. Repair any deficiencies prior to transport.
- Vehicles used for cattle hauling should be well constructed without sharp edges, broken gates, bolt heads, angles and other projections that could bruise or injure animals².
- Vehicle floors should be non-slip, or provide secure footing by adding bedding material.
- Provisions need to be made for drainage or absorption of urine.

- Bedding used to transport cattle is usually straw in colder weather. Bed at least 4 inches (8-10 cm) deep; other bedding options for warm weather include sawdust or wood shavings at a depth of 2 inches (5 cm) or sand at least 1 inch (3 cm) deep⁵.
- Pay close attention to compartment height, as cattle are now larger and heavier than in previous years. The trailer ramp openings and compartment heights should be tall enough to allow for cattle to enter and exit without scraping their backs, which can result in injury or bruising.
- During transport, the animal's head and back should **not** be touching the roof of the trailer.
- There should be continuous ventilation to provide fresh air and protection from exhaust.
- Vehicle exhaust can cause adverse effects on livestock. Measures must be taken to prevent exhaust from entering the livestock areas². Exhaust diverters and air filtering systems can be utilized.
- The height and size of trailer openings should be constructed so that no part of the animal can protrude from the vehicle. Prevent cattle from attempting to escape.
- Have key phone numbers, alternative routes and a rescue plan ready in case of traffic, an accident, breakdown or other emergency.



Sawdust bedding, cleats on ramp



Straw bedding in semi-trailer



Double ramp on semi-trailer

Cold Weather Considerations:

- Market dairy cows are more susceptible to cold stress than other cattle. For cold weather transport, dairy cows should be bedded and the trailer should be boarded or plugged if possible to protect from wind chill⁷.
- During winter and cold weather, cover any openings which cause drafts or freezing rain and/or snow to enter the vehicle. Close nose vents and replace bottom slats; however, check to assure that ventilation is maintained².
- Plastic plugs, boards or slats can be used to cover holes in punch sided trailers for market dairy cattle. Number of holes covered will vary depending upon ambient temperatures, number and type of animals, travel time and cow condition⁵.
- When temperatures drop below 50°F (10°C), bed with ample straw, which provides excellent insulation to keep cattle warm and dry².
- Metal floors should be suitably bedded or have non-slip flooring such as cleats, to prevent slips and falls during transport. Wet manure and bedding can freeze and should be removed. Inspect the truck frequently and re-bed if necessary².
- Pay close attention to condensation which can occur on trailer walls, causing wet bedding along the floor joints. If wet bedding is noted, remove and add fresh bedding.
- Stop to check cattle and ventilation at least once every 2 hours. Too much air can cause frostbite or chilling; too little, respiratory stress².

Hot, Humid Weather Considerations:

- Protect cattle from direct sunlight, high temperatures and high humidity. Keep loaded vehicles moving to provide air flow and evaporative cooling and to prevent gas build-up.
- Open trailer nose vents if present. Aerodynamic airfoils utilized to enhance fuel efficiency must not restrict truck airflow in the trailer².
- Provide shade on open topped trucks (shade cloth) and leave slats open on closed trailers.
- Never park a trailer in direct sunlight. Avoid high traffic routes that result in frequent stops².
- Avoid transporting cattle during the hottest hours of the day - 11 am to 4 pm⁴. Transport at night and in the early morning if possible⁷.
- Heat and humidity become critical at temperatures above 80°F (27°C) and 80% humidity⁷. Decrease loading density when weather is extremely warm and humid.
- Load and unload promptly and minimize stops to prevent heat buildup inside the trailer.
- If unloading is not immediately possible, provide shade, water and ventilation for cattle.



Shade cloth blocks cattle view in alley Barn lime used to prevent slips Sloped dirt unload for small trailers

Loading and Unloading:

- Closely observe drive alleys and ramps to ensure that non-slip surfaces are provided. Barn lime, salt or sand can be used to improve traction if ice or slippery conditions exist.
- Level surfaces work best for loading and unloading. Check to be sure the trailer is in proper alignment. Avoid gaps or large steps where livestock can trip or fall.
- Segregate animals of substantially different sizes and weights in separate compartments.
- Mature males should be partitioned separately from cows and heifers.
- Segregate any weak or compromised cattle in a separate, rear compartment. These should be loaded last and unloaded first.
- A severely distressed cow that is unfit for transport should **not** be loaded.
- Loading density should be reduced by 15% for transport of dairy cattle (see red figures)⁷.
- Do **not** overload trucks!

American Meat Institute/Grandin Optimum Transport Stocking Density⁷

Weight of animal		Horned: Area per animal		Horned: Area per Dairy* animal		Hornless: Area per animal		Hornless: Area per Dairy* animal	
(kg)	(pounds)	(meters ²)	(feet ²)	(meters ²)	(feet ²)	(meters ²)	(feet ²)	(meters ²)	(feet ²)
364	800	1.0	10.9	1.15	12.5	0.97	10.4	1.1	12.0
455	1,000	1.2	12.8	1.4	14.7	1.1	12.0	1.3	13.8
545	1,200	1.4	15.3	1.6	17.6	1.4	14.5	1.6	16.7
636	1,400	1.8	19.0	2.1	21.9	1.7	18.0	2.0	20.7



Raised cement cleats on alley ramp



Example of square grooved floor**



Level dock with solid sides**

****Instructions for manufacture: <http://grandinlivestockhandlingsystems.com/construction.html>**

Best Practices for Drivers:

- **Communicate with the assembly yard or plant to schedule delivery and prevent delays.**
- **Accelerate slowly and avoid fast stops. Careful trucking can prevent bruising, shrink and injuries. Plan the most direct route, but avoid un-paved roads or those needing repair⁷.**
- **Take curves slowly to prevent injuries⁶.**
- **For longer hauls, check cattle after the first two hours and then every 4 hours or more frequently, depending upon weather and road conditions⁴.**
- **FSIS maximum allowed transport time is 28 hours before cattle are required to be unloaded, fed, watered and rested. Ideally, transport time should be 8 hours or less.**

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References:

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3. National Dairy FARM Program, Animal Care Reference Manual, page 38.
4. National Beef Quality Assurance Guide for Cattle Transporters
5. Agriculture Marketing Service Cattle and Swine Trucking Guide for Exporters.
6. Animal Welfare Approved Standards for Dairy Cattle and Cattle, 2014, 3/27/14.
7. American Meat Institute Recommended Animal Handling Guidelines & Audit Guide, July 2013 Edition, Rev. 1.
8. Grandin Livestock System Website: <http://grandinlivestockhandlingsystems.com/construction.html>
9. Temple Grandin's Website: www.grandin.com