



TRANSPORTATION AND FITNESS-TO-TRAVEL RECOMMENDATIONS FOR CATTLE

GENERAL GUIDELINES FOR THE HANDLING, LOADING, AND UNLOADING OF ALL CATTLE CLASSES

Farm personnel should be trained on assessing health and welfare of calves: evaluating fitness for transport, proper handling techniques, decision-making for euthanasia, and conducting and documenting humane euthanasia supported by AABP/AVMA guidelines.

All personnel handling or transporting cattle or calves should have documented training sufficient to ensure that the health, safety and welfare of animals can be assessed and an appropriate plan followed. Willful abuse at any time during the pre-loading, loading or unloading periods must not be tolerated.

- Water should be made available to animals until the time of loading.

- The shipper must ensure that transportation arrangements have met required guidelines of the receiver of the cattle.

- Verify through records that cattle being transported to slaughter meet appropriate withdrawal times for previously administered pharmaceuticals.

- Identify and plan for weather conditions that could impact the safety and well-being of the cattle during transportation (extreme heat/cold). This is especially pertinent during cross-country trips when consideration should be given to the different types of weather that may be encountered at various points en route to the destination.

- Verify the transporter understands the travel route directions and has the destination address.

- Verify the transporter has all required paperwork, including certificates of veterinary inspection and brand inspection records if required. Include all relevant treatment records and withdrawal times for cattle and calves being transported.

- Make sure the driver has important emergency phone numbers that may be needed en route or at delivery. Have an emergency plan in place that addresses potential transportation emergencies and unexpected situations.

- Facilities and equipment used for loading cattle and/or calves onto transport vehicles should be designed to minimize stress and injury. Inspect the loading facility to make sure all contact surfaces are smooth and free of sharp edges in addition to ensuring all equipment is well-maintained and in proper working order to aid in prevention of injuries to cattle.

- Ensure that the load-out area is appropriate for the type of trailer being used to haul the cattle, and the load-out chutes/gates are in good repair. It is recommended that the load-out ramp be at least 12 feet long and the rise be no greater than 3.5 inches/foot. Ramp height should be appropriate for type of conveyance.

- Verify that the transportation vehicles are safe and provide adequate space for each animal.

- Use a clean trailer. Fecal-oral transmission of diseases are less likely to occur when cattle are hauled in clean trailers. Additional steps to disinfect trailers are particularly important in disease prevention when hauling young calves.

- The trailer bed should be clean, dry and have a non-slip floor. Appropriate bedding should be provided if necessary. Cattle are less likely to be injured when provided with secure footing.

- The trailer should be inspected for properly working latches/gates and any defects that could impact cattle safety and well-being.

- The trailer should be in the proper position in the load-out area to minimize the potential for cattle injury during loading.



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■ Prior to loading into a trailer, a load plan should be formulated based on the animal weight, frame size and type of transportation equipment being used. Consideration should also be given to the environmental conditions, and adjustments in loading plan made accordingly.

■ All handling of cattle and/or calves should be performed using low-stress cattle handling methods. Electric prod use should be minimal and reserved only for animals that do not respond to low-stress cattle handling methods. Electric prod use is strongly discouraged for calves less than three months of age.

■ Do not commingle animals with large variations in size and weight in the same trailer compartment.

■ Delay or cancel transport of an animal that appears to be exhausted or dehydrated until the animal is rested, fed and rehydrated.

■ Cancel transport of any animal that appears injured or sick unless transporting them to receive veterinary care or, when appropriate, for immediate slaughter. See sections Handling and Transport Special Needs/Compromised Cattle and Calves and Handling and Transport of Non-Ambulatory Cattle/Calves for additional information.

■ If cattle are unable to be transported and must be euthanized, it is recommended that veterinarians develop a written plan with their clients for protocols to be used for making euthanasia decisions as supported by AABP/AVMA and assist clients with proper training of animal handlers. AABP euthanasia guidelines can be found at https://aabp.org/about/AABP_Guidelines.asp.

■ Cattle being transported more than 28 hours must be unloaded, fed and watered as specified under U.S. federal regulation (49 U.S. Code

§ 80502). This regulation would not pertain to air and sea transportation methods that supply, feed, water, space and opportunity for rest.

■ Prior to unloading, check that there are no cattle in a compromised position that might be injured during unloading.

■ Position the trailer properly to minimize the potential for cattle injury during unloading.

■ Have the driver transfer all appropriate documents in their possession to the responsible party receiving the cattle.

HANDLING AND TRANSPORTATION OF YOUNG CALVES

This section of the guidelines applies to young calves being transported to an off-site rearing facility such as another location of the same farming operation, a veal operation, or commercial self-rearing operation i.e., “calf ranch” or “heifer grower.” It also applies to young calves being transported to a slaughter facility.

Veterinarians are a vital part of the cattle operation’s team and should be directly involved with their clientele during the development, implementation, and associated documentation of policies and procedures for calf management and transportation.

PRINCIPLES OF CALF SELECTION FOR TRANSPORT

Calves shipped to a calf raising facility should be healthy, individually identified and fit for transport. Personnel determining fitness of individual calves for transport should be trained in assessment of calf health and welfare.

A calf should not be transported unless it is sufficiently fit, meaning that newborn calves should have received colostrum or an appropriate



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colostrum replacer. Young calves should have recently had a milk meal as well as access to fresh water and feed. All calves should be dry, well hydrated and free from illness, injury and be able to stand without assistance.

Calves that are unfit for transport due to nutrition issues, disease or injury should be evaluated immediately, treatment instituted, or be euthanized using methods supported by the AVMA/AABP guidelines. See FSIS 81 FR 46570 for specific information regarding requirements for the disposition of non-ambulatory disabled veal calves at <https://www.fsis.usda.gov/wps/wcm/connect/d14f378b-4ef6-479b-8088-678079e10a42/2014-0020.html?MOD=AJPERES>.

Drivers should be willing to accommodate seasonal changes during an individual trip that may impact calf morbidity and mortality. Very young calves tolerate a narrower range of temperature than older calves, therefore the effects of temperature and weather on their specific requirements should be mitigated by tactics such as targeting optimal timing of movement to account for ambient temperature and weather conditions, adjusting ventilation on transport vehicles, providing a sufficient amount of bedding, or individual calf coverings in winter, i.e. “calf jackets.”

PRINCIPLES OF HANDLING AND TRANSPORTING YOUNG CALVES

Calves are more susceptible to stress, particularly during transportation, and extra attention to their well-being is important. All personnel handling or transporting calves should be trained on the farm’s protocols to ensure that the health, safety and welfare of calves is maintained.

Personnel should also be aware of applicable local, state, and national guidelines, pertaining to transport of calves. Calves should be moved using the concept of flight zones when possible. Younger calves may not respond to efforts to move them by using the concept of flight zones and therefore may need to be handled individually when loading, unloading and moving.

All handling should be performed as calmly as possible to avoid unnecessarily exciting calves. All moving aids, including flags and paddles, should be used judiciously. Electric prods should never be used on calves. Calves must never be handled solely by the ears or tail. Willful or purposeful abuse, neglect or other maltreatment of calves for any reason, including the use of electric prods on young calves, and withholding of food/milk or water during the pre-transportation period, should not be tolerated.

Calves should have an adequate amount of space during transport. The Veal Quality Assurance Certification Resource Manual at https://static1.squarespace.com/static/5460f3b6e4b0b862de5e3ce1/t/5af0bc7288251b9fb60c80aa/1525726331942/VQA_Manual_2018_FINAL.pdf recommends that very young calves weighing 100 or 150 pounds to be stocked at a density of 2.6 and 2.2 animals per linear foot (assumption is a 7.7-foot wide trailer). In addition to recommendations outlined in the VQA manual, additional guidelines for the amount of space during transportation for calves of different weights are available from the Federation of Animal Science Societies (FASS) at <https://www.aalac.org/the-guide/>. These recommendations should be consulted when developing on-farm transportation guidelines for calves 200 pounds and greater.



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The following table lists FASS recommendations for minimum area allowances during transportation for calves from 200-600 pounds.

Calf weight (pounds)	Area per animal (ft ²)
200	3.5
300	4.8
400	6.4
600	8.5

**TRANSPORTATION OF STOCKER
AND FEEDER CATTLE**

All stocker and feeder cattle must have their processing, treatment and feeding records checked to ensure all cattle have met assigned medication withdrawal times if destined for slaughter.

All cattle must be examined and fit for transport under the conditions the cattle are to be transported (see the section on transportation of compromised cattle). Arrangements for special needs of the cattle such as protection from weather, bedding, traveling at night during hot weather, arrangements for offloading rest periods, etc., must be made ahead of securing transportation.

The trailer should be the appropriate size for the number of cattle scheduled to be hauled, the following recommendations by the FASS at https://www.aaalac.org/about/ag_guide_3rd_ed.pdf for stocker calves weighing between 300-600 pounds are as follows:

Calf weight (pounds)	Area per animal (ft ²)
300	4.8
400	6.4
600	8.5

For larger cattle weighing between 800-1,400 pounds, the FASS makes the following recommendations:

Cattle weight (pounds)	Area/animal if horned (ft ²)	Area/animal if hornless (ft ²)
800	10.9	10.4
1,000	12.8	12.0
1,200	15.3	14.5
1,400	19.0	18.0

**CATTLE DESTINED FOR AIR AND
OCEAN TRANSPORTATION**

Prior to loading the cattle, a load plan should be formulated based on animal weight, frame size and type, transportation equipment being used, and duration of transportation. Feed and water availability must also be considered. At no time shall any method of transportation exceed 28 hours without the availability of feed and water. Any surface transportation (ship or barge) should not exceed 24 hours without the availability of water. Additional information regarding animal transportation by sea and air can be found in Chapters 7.2 and 7.4 of the OIE Terrestrial Animal Health Code.

It is suggested that first time shippers seek consultation and advice from people with experience in ocean and air transportation of cattle.

Air Load plans are generally consistent as the environment within the aircraft is relatively predictable. However, considerations must be given for environmental conditions and temperatures while animals are being held on the tarmac.

Ocean/water Load plans should be reviewed based upon environmental conditions anticipated



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during each portion of the transportation period and location of animals during the trip (on the deck versus in the hold). These considerations include temperature, humidity, and wind speed both on the docks and onboard the ship.

Water shall be made readily available at all times prior to the loading process. Feed

the cattle. At no time shall the cattle go without feed or water for more than 28 hours. Maintenance of cattle general health and well-being shall be the priority for feeding and watering protocols for air and ocean shipments.

The following load recommendations are

HAWAII HIGH CUBE 40-FOOT COWTAINERS: LOAD RECOMMENDATIONS

Animal weight (pounds)	Animals/ Pen	Animals/ Cowtainer	Weight/ Cowtainer	Square foot/ Cowtainer*	Square foot/ Animal
200	22	88	17600	517.5	5.88
250	22	88	22000	517.5	5.88
275	21	84	23100	517.5	6.16
300	20	80	24000	517.5	6.47
325	19	76	24700	517.5	6.81
350	18	72	25200	517.5	7.19
375	17	68	25500	517.5	7.61
400	17	68	27200	517.5	7.61
425	16	64	27200	517.5	8.09
450	16	64	28800	517.5	8.09
475	15	60	28500	517.5	8.63
500	14	56	28000	517.5	9.24
525	14	56	29400	517.5	9.24
550	13	52	28600	517.5	9.95
600	12	48	28800	517.5	10.78
650	11	44	28600	517.5	11.76

* L39.5'xW7.5"minus 5'x7.5' feed and water units

should be readily available but may be withheld for a period of up to 18 hours prior to the onset of the loading process provided that the feeding protocols have been reviewed and agreed upon by the attending veterinarian and an agent of

typical for cattle traveling from Hawaii to the U.S. West Coast in 40-foot "cowtainers." Cattle being loaded in these containers are limited in height and should not exceed 50 inches at the withers.



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TRANSPORTATION OF CULL/MARKET BEEF AND DAIRY CATTLE DESTINED FOR MARKET OR IMMEDIATE SLAUGHTER

Veterinarians should help clients develop and implement plans to manage beef and dairy cull/market cow issues, including fitness for transport, treatment for conditions if warranted, or euthanasia of animals unfit for transport, slaughter and human consumption. For the purposes of this document, “fitness for transport” refers to the animal’s ability to withstand transportation without compromising their welfare.

Veterinarians should develop a written plan with their clients for protocols to be used for ambulatory cow culling decisions, and assist clients with proper training of employees.

■ Milk all dairy cows that are still lactating just prior to transporting to a terminal or non-terminal market.

■ Minimize the number of times cattle need to be handled from time of loading to arrival at the sale barn or slaughter house to reduce stress as well as risk of bruising.

■ Do not load/transport animals with distended udders causing pain and ambulatory issues.

■ Do not transport ambulatory animals with conditions that will not pass pre-slaughter inspection at a packing or processing plant. These include, but are not limited to:

- cancer eye, blindness in both eyes
- fever greater than 103°F
- drug residues
- peritonitis
- fractures or lameness (4 or 5 on a 5-point scale)
- unreduced prolapses
- cows that are calving or have a high likelihood of calving during transport

- suspected central nervous system symptoms
- visible open wounds

Ensure that proposed stocking density meets minimum area allowances as outlined by the Federation of Animal Science Societies (FASS). The following table is adapted from the FASS Guide for the Care and Use of Agricultural Animals in Research and Teaching (https://www.aaalac.org/about/ag_guide_3rd_ed.pdf).

Cattle weight (pounds)	Area/animal if horned (ft ²)	Area/animal if hornless (ft ²)
800	10.9	10.4
1,000	12.8	12.0
1,200	15.3	14.5
1,400	19.0	18.0

HANDLING AND TRANSPORT OF SPECIAL NEEDS/COMPROMISED CATTLE AND CALVES

Identify “special needs/compromised” cattle such as those with mobility issues, low body condition score, or suspected or confirmed disease issues.

■ Special needs/comprised animals that have conditions that increase the likelihood of becoming non-ambulatory because of commingling in transport should be either left at the farm or transported in a separately portioned compartment without other-animal contact.

■ If injured ambulatory cattle must be transported, they should not be commingled with others. Injured ambulatory cattle should only be transported to a veterinary facility or for emergency slaughter at a terminal market.



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■ Care should be exercised during loading, unloading and handling of injured ambulatory cattle to prevent further injury. Special needs/compromised cattle should be protected on the trailer and be loaded on the back of the trailer to make it easier for them to unload (loaded last/unloaded first).

HANDLING AND TRANSPORT OF NON-AMBULATORY CATTLE/CALVES

Non-ambulatory cattle/calves are not fit for transport, and should not leave the farm of origin unless being transported for veterinary attention. Either treat and allow sufficient time for recovery, or euthanize.

■ Do not transport animals with fractured limbs or injuries to the spine unless transporting to receive veterinary care. Do not use electric prods on sick or injured cattle.

■ Segregate sick or injured animals into a safe area separate from ambulatory cattle. Minimum space requirements for non-ambulatory cattle and calves may vary based on disease condition. Non-ambulatory cattle and calves must be provided enough space to lay or stand in a natural position.

■ Veterinarians should encourage cattle producers to seek veterinary consultation to determine if cattle/calves are likely to respond to treatment or should be euthanized. If euthanasia is the best option, proceed using AABP/AVMA recommended euthanasia methods.

HEALTH CERTIFICATES/CERTIFICATES OF VETERINARY INSPECTION

The certificate of veterinary inspection (CVI) is required for transportation of cattle across state lines and may be required for transport within a state. It assures that transported animals are officially identified for marketing and regulatory purposes and that the veterinarian signing the CVI deems the inspected animal apparently free from signs of infectious, contagious and communicable diseases at the time of inspection.

States regulations may require that animals being transported into their state are free of certain diseases and have no clinical signs of other disease. A CVI does not guarantee that cattle are disease-free as cattle with no clinical signs of illness may still carry diseases such as Johne's Disease and bovine viral diarrhea virus.

Veterinarians are encouraged to help clients determine the best strategy to prevent disease introduction into clients' herds, including having cattle tested prior to shipment and recording the results on the CVI. It is recommended that veterinarians advise clients about state requirements or disease testing two-to-four weeks prior to transport of cattle.

REFERENCES

- Clyde Lane, Jr., Richard Powell, Brian White, and Steve Glass. *Handling Facilities for Beef Cattle*. University of Tennessee. SP690. <https://extension.tennessee.edu/publications/Documents/SP690.pdf> accessed on 31 May 2019
- *The latest BQA Manual* https://www.bqa.org/Media/BQA/Docs/bqa_manual_final.pdf

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