

Calf Housing and Environments Series

II. Transportation of the Newborn to the Calf-Rearing Facility

A popular dairy management practice is to move heifer calves off of the dairy to a separate rearing facility, whether it is part of the dairy complex or a contract heifer-raising facility (Stull & Reynolds, 2008; Eicher, 2001; Botheras, 2006). Bull calves are moved at a very young age either to a grower facility to become veal or for dairy-beef production (Botheras, 2006). Handling and movement are strong stressors for livestock, with calves being affected to a greater extent. In this factsheet, aspects regarding transport such as handling, vehicle environment, and loading and unloading will be discussed to meet the health and welfare needs of the newborn.

Key Points for Transporting Calves

- **Make sure calves are dry and got colostrum before transport**
- **Provide plenty of bedding for footing, warmth and comfort**
- **Provide about 4 ft² per calf in the trailer**
- **Don't force them to walk or jump – use a calf cart or carry**



Calves loaded into a livestock trailer.

Calves are typically transported via covered pick-up truck beds, trailers, specialized semi trailer trucks, or calf trucks. Neonatal calves prefer to lie down during transport so plenty of space needs to be provided for them to do this (Stull & Reynolds, 2008; Eicher, 2001; Botheras, 2006). For calves weighing 200 lbs, there should only be 2 animals per linear foot, giving each calf a minimum of 3.8 ft² (Stull & Reynolds, 2008). The calves need protection from wind chill and rain, but also need to be provided with proper ventilation (Botheras, 2006). In hot weather, especially with high humidity, stocking density should be lower and plenty of time allowed for animals to load and unload avoiding overexertion.

Shade is required in summer, and in extreme temperatures it may be necessary to wet the calves down (Stull & Reynolds, 2008). It is vital for calves to maintain their body temperature due to length of time between feedings and their inability to cope with extreme temperatures (Eicher, 2001). To aid in this during winter, they should have protection from wind on both sides and the front of the truck. Clean, dry bedding like straw or sawdust should be used to keep the calf warm. Not only does the bedding keep calves dry and warm, it also provides a comfortable lying area.

Before transporting calves, there are a few procedures to perform to ensure a healthy calf at the end of the journey. Make sure that the navel and the calf is dry, and that all calves have received a sufficient amount of high quality colostrum (Botheras, 2006). This is important because the stress of transport adds to the chance of illness and is compounded by immunosuppression due to lack of antibody absorption.



Loading and unloading calves is stressful, based on observations of elevated blood cortisol (a stress hormone) levels (Eicher, 2001). The calves have not yet learned to be herded or to navigate ramps and inclines (Eicher, 2001; Botheras, 2006). Non-slip flooring in the loading area and transport vehicle is recommended (Stull & Reynolds, 2008). Calves may have trouble walking without help and some are missing “following” behaviors (Botheras, 2006). Forcing their movement leads to calves being treated roughly during loading and unloading. If calves refuse to or can’t walk, use calf carts, sleds, slings, or simply carry the calf.



Calf being unloaded using a calf cart.

During transport it is common for calves to lose weight due to food and water withholding. This can lead to dehydration, loss of electrolytes and low blood sugar (Botheras, 2006). To help counteract this, electrolytes can be given orally during or after transit, or subcutaneously after transport. This will help reduce dehydration and increase appetite or food interest upon arrival.

Calves transported at 4 days of age are more susceptible to stress and disease because they have a lower immune response than calves before or after 4 days of age. While only a small number die during the transportation process, they may get sick within 4 weeks of transport (Eicher, 2001; Botheras, 2006).

The length of time traveled is more important than the distance traveled (Eicher, 2001). While there is no specific guideline for newborn calves, the federal law known as the "28 Hour Rule" states that the maximum time span is 28 hours without unloading animals for rest, food, and water, but this rule applies mostly to older animals. Within that time, a calf can become severely dehydrated. At the start of the trip (including loading and unloading) and up to an hour afterwards, cortisol levels rise (Eicher, 2001). These levels then drop 2 to 6 hours after initiating transport. A skilled driver should be able to start and stop smoothly, reduce speed for curves and turns to lower the risk of injury (Stull & Reynolds, 2008).

If all the above aspects are addressed in transportation and management, the trip should go smoothly for the calves. The destination facility will receive a healthy calf ready to be raised as a replacement or grown for beef.

References

Botheras, N. (2006). Handling and transporting neonatal calves. Buckeye Dairy News [On-line]. Available: <http://dairy.osu.edu/bdnews/v008iss06.htm#national>

Eicher, S. D. (2001). Transportation of cattle in the dairy industry: Current research and future directions. J.Dairy Sci., 84, E19-E23.

Stull, C. & Reynolds, J. (2008). Calf Welfare. Vet Clin Food Anim, 24, 191-203.

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