

# BOVINE RESPIRATORY DISEASE: PRECONDITIONING CALVES

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Livestock Series | Health

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One of the most common and costly cattle diseases in North America is bovine respiratory disease (BRD; Griffin 1997 and Taylor et al. 2010). Due to its widespread impacts, research efforts to understand and reduce BRD began in the late 1800's. Despite over a hundred years of research, BRD still continues to harm the cattle industry, especially feedlot and stocker cattle. Contraction of BRD can cause significant rates of mortality or decreases in average daily weight gain, hot carcass weight, dressing percentage, actual carcass value, fat level, marbling and yield grade (Holland et al. 2010). It has been estimated that approximately 75% of morbidity and 50 to 70% of mortality at feedlots are caused by BRD (Edwards 1996; Galyean et al. 1999 and Loneragan et al. 2001). BRD is very expensive to treat. Holland and colleagues (2010) found that a one-time treatment for calves with BRD yielded a net return \$40.64 less per head than for non-treated calves. Calves treated twice yielded \$58.35 less, and those treated three or more times netted an average of \$291.93 less than non-treated calves. In 2001, Chirase and Greene estimated that the feedlot industry was losing \$800 million to \$900 million annually in economic losses from BRD due to mortality, reduced feed efficiency, and treatment costs. Due to the high cost of treatment, much of the research occurring today is focused on preventing BRD through preconditioning or metaphylaxis (treatment of an entire group of calves with an antibiotic upon arrival to a buyer). While metaphylaxis is an opportunity to control BRD for operators receiving cattle, preconditioning is an opportunity for producers to improve the health of calves before they exchange hands.

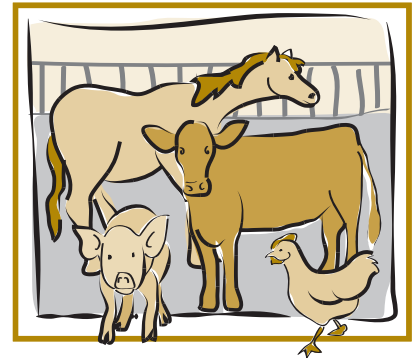
Over the last two decades, preconditioning has been gaining in popularity as a

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means to increase feeder calf health (USDA 2000) with half of feeder calf producers retaining ownership beyond weaning (NAHMS 2007). Preconditioning is designed to reduce mortality and decrease sickness in calves. One strategy for preconditioning calves is to increase their weight. Recent research shows that calf weight is linked to health, with heavier calves being less likely to get sick upon entrance to the feedlot (Sanderson et al. 2008). Based on this research and benefits already observed by feeders, many calf-feeding operations are now willing to invest more in preconditioned calves (King et al. 2006).

Several programs are available to producers who are considering adopting preconditioning. Most plans include a health plan, weaning period, and weight gain period immediately following weaning. Vaccination plans used, weaning methods, and criteria for feeding after weaning vary greatly between programs. There is no perfect one-size-fits-all precondition program. There are pros and cons to each program, depending on the situation and scale of the calving operation. In fact, cattle producers are fully capable of designing a unique or adapted preconditioning program for their own operation. However, some programs are widely known and bring with them a reputation that cattle buyers may recognize. Whether producers choose a well-known program or create their own, it is important to focus on building their reputation as a cattle producer that raises healthy, productive calves.

There are some increased risks for producers investing in preconditioning their calves. The main consideration is that producers are responsible for the health of their calves after weaning. Although calves may not have the added stress of transportation, comingling, or novel feed and environment; weaning can still be a stressful time. Vaccinating calves is one of the most critical tools in disease prevention after



## Quick Facts

- Death and disease are mitigated through preconditioning when compared to weaning on the truck.
- Preconditioning programs consist of a health plan, on-site weaning and a weight gain period.
- Preconditioning may not always have financial merit. An economic analysis with a partial budget will help producers make an informed decision.



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weaning, and it is one of the major tools determining whether preconditioning will be a success. Producers should work with their local veterinarian to develop a health plan and treatment regimen during preconditioning, regardless of the popularity of the initial preconditioning program selected.

Most preconditioning programs require 45 or more days of feeding calves after weaning. Producers should choose their preconditioning program with the buyer in mind. For instance, it makes sense to adapt calves to feed bunks and troughs if they are destined for the feedlot. Alternatively, if going to a stocker operation, calves can be fed much more economically on grass hay or pasture after weaning. Bottom line: knowing the end buyer of the cattle will allow producers to more effectively manage and market their calves.

Producers should stay informed of current agricultural and commodity market data and predictions. Sale prices received at weaning may change by the time the preconditioning programs are complete. Additionally, when beef prices are high, there may be a “price slide” that is seen between different weight categories of animals. For example, a calf weighing 550 pounds, and bringing a price of \$285/cwt may only bring \$240/cwt when weighing 700 pounds. In this case, the overall value of the heavier calf only increased by \$112.50 even though it weighed 150 pounds more than the smaller calf. Because of these potential situations, producers should always be mindful of whether or not preconditioning is the most economical option.

In all, preconditioning has the potential to increase overall calf health, improve calf quality, and increase sale margins, but preconditioning may not be an effective management tool every year (Avent et al. 2004). Markets, consumer preference, and feed availability can vary year to year. An economic analysis through a partial budget can be completed relatively easily and help producers make informed decision whether or not to choose preconditioning. For help with a partial budget or for any other preconditioning questions, livestock producers should consider contacting their local Extension office.



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