Texas Dairy Matters

*Higher Education Supporting the Industry*

# LASTING EFFECTS OF BRD IN CALVES

Ellen Jordan, Todd Bilby, and Kevin Lager
Extension Dairy Team
Department of Animal Science
Texas A&M AgriLife Extension Service
The Texas A&M University System

Despite vaccinating heifers, managing colostrum and providing adequate ventilation bovine respiratory disease (BRD) complex continues to plague calves. These calves appear dull and listless, and have a decreased appetite. In addition, they usually have an elevated rectal temperature, a nasal discharge, and labored breathing. Prompt treatment minimizes death loss, but is the recovery complete?


Generally the costs associated with BRD include the veterinary fees, reduced performance during the disease, and replacement cost for heifers lost. A recent study from the University of Guelph evaluated the long term effects of BRD in he ifers diagnosed with the disease in the 60 days following weaning. At weaning the calves moved from individual housing to group housing.

This study began as a clinical trial to evaluate whether treating heifers with antibiotics at the time of movement to group housing reduced the incidence of BRD during the subsequent 60 days. Initially, 1392 calves were enrolled in the study. All heifers were on one commercial heifer raising operation until after they were confirmed pregnant, at which time they returned to their farm of origin at varying times. Of those, 248 calves were diagnosed and treated for BRD within 60 days of moving to their first group housing situation.

Researchers tracked the calves from treatment through the first 120 days of their first lactation. The table contains some key parameters that were found to differ between heifers that had BRD compared to those that were not diagnosed with BRD.

| **Key parameter differences between heifers with and without bovine respiratory disease (BRD) complex during 60 days following weaning.** | |
|---|---|
| **Parameter** | **Measurement** |
| Reduction in weight of heifers with BRD within 60 days of weaning to: | |
| 3 months of age | 15.6 lbs |
| 6 months of age | 25.1 lbs |
| 9 months of age | 33.9 lbs |
| Height differential at 13 mos. | 0.67 in |
| Survival to first calving | |
| Without BRD, n=1105 | 84 % |
| With BRD, n=238 | 66 % |
| Median age at first calving | |
| Without BRD | 702 d |
| With BRD | 714 d |
| Percent failing to calve before 25 mo | |
| Without BRD | 17 % |
| With BRD | 27% |

In addition, to these parameters, milk production data for 1044 heifers was collected. The heifers that had BRD produced 2.4 pounds less milk per day on first test day when the records were controlled for days in milk, age at calving, source farm and calving season. For the 1019 heifers that had sufficient milk data collected to calculate projected 305 day milk production, milk production declined by 6.2 pounds for each day that age at first calving increased. Bovine Respiratory Disease complex did not affect age adjusted 305 d milk production or survival to 120 days in milk.

With tight margins and high feed costs today, many producers are looking at reducing the number of heifers they retain. Since BRD has long-term negative impacts on heifer growth and development, consider whether or not a heifer has had BRD when making culling decisions.

**Reference**

Stanton, A.L., D.F. Kelton, S.J. LeBlanc, J. Wormuth, and K.E. Leslie. 2012. The effect of respiratory disease and a preventative antibiotic treatment on growth, survival, age at first calving, and milk production of dairy heifers. J. Dairy Sci. 95:4950-4960.