

# Dairy Details

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NORTHERN VALLEY DAIRY PRODUCTION MEDICINE CENTER

## Who Goes and Who Stays? Thoracic Ultrasound May Be the Answer to Your Question!

A couple months ago in our July Dairy Details, I discussed Net Herd Replacement Cost (NHRC). Raising more heifers than you need will increase your NHRC which is highly correlated to decreased profitability on dairies. With the great advances in reproduction management that many dairies have made over the past few years, many dairies find more heifers are born on their farm than they will need as replacements in their milking herd. Culling some of these heifers out of the herd as early in life as possible will help to decrease NHRC's. But, how do you choose who goes and who stays? One tool, among many, to help dairy producers with this problem is Thoracic Ultrasound (TUS).

You've all seen our veterinarians use our ultrasounds to check for pregnancies and uterine health on your farms. We can use this same machine to check the respiratory health status of your calves. There is a lot of research showing that calves that have a pneumonia event in the first 60 days of life will have lower production, longevity, and poorer reproductive performance.

In one study, calves' lungs were ultrasounded and scored 1-4 (1's having no lung lesions and 4's having severe lung lesions), 37% of calves with a score 4 never made it to the milking string, while only 8% of the calves with a score 1 never made it to the milking string.

Putting ~\$2,000 into a calf that either won't make it into your milking herd or won't perform is a costly occurrence that regularly occurs on many dairy farms. Regular use of TUS will help you weed out these calves before pouring dollars into them that you will never get back.



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## Why TUS?

Other techniques commonly used to identify calves with pneumonia aren't near as accurate as TUS. TUS is 88% sensitive in identifying calves with lung lesions, while a physical exam looking at a calf's general appearance, increased respiratory rates, coughing, and or increased respiratory effort is about 60% sensitive. Using a stethoscope to listen for harsh lung sounds is even worse at diagnosing lung lesions at only 10% sensitive! Many calves with lung lesions are "subclinical" meaning they do not show any outward signs of pneumonia, but may still feel the effects of lower production down the road. TUS can help us weed out these "sleepers" that may lose us money down the road.

## Where Does TUS Fit in on Your Farm?

Besides "Who Should I Sell?", there are many different questions that TUS can answer. You just have to define what questions you want answered on your farm.

Possible uses for TUS include:

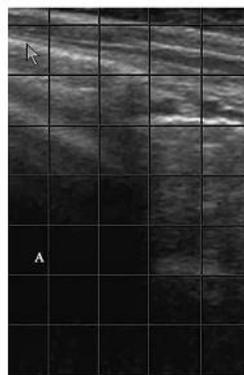
- Culling decisions: Your healthiest animals will be your most profitable. Identifying and selling animals with lung damage will save money in the long run.
- Number of clinical and sub-clinical cases of respiratory disease in calves: What percentage of your calves have lung damage? Are you effectively managing respiratory disease in your youngstock?
- Treatment protocol success: Ultrasounding calves that were recently treated and then re-ultrasounding them 1-2 weeks later tells us if your pneumonia treatment protocols are effective.

- Staff competency: Are employees finding sick calves early enough? Or are employees over treating calves, unnecessarily increasing your antibiotic costs?
- Did an intervention work? Ultrasounding calves before and after an intervention such as a new ventilation system or new vaccine can tell us if the intervention was a good investment or not.

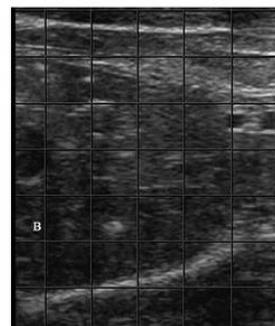
## How Does TUS work?

Veterinarians use the same ultrasound machine that they use for pregnancy check cows. Using alcohol to wet the calf's chest area, the ultrasound probe is placed between each rib space on each side of the calf's chest. Once trained and practiced, a veterinarian will usually need less than 1 minute per calf to give a "lung score". We use the University of Wisconsin's scoring system of 1-5. A lot of information can be obtained from TUS including is there lung consolidation (normally air-filled spaces in the lungs are filled with inflammatory cells), abscesses, fluid, or even fractured ribs (see pictures).

So, why not make the most educated decision you can about who stays and who goes? There's no sense in putting money into youngstock who won't be profitable for you down the road. Feel free to talk to any of our veterinarians if you have any questions about implementing TUS on your farm!



Normal lung



Lobar pneumonia

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