Whisper® Lung Scoring vs. Manual Lung Scoring: A head-to-head comparison
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We followed a feedyard that utilized manual lung scoring for treatment protocol decisions. From the period of 5/30/2012 to 6/18/2013 (384 days) this feedyard randomly utilized either Whisper® lung scoring or manual lung scoring for treatment protocol decisions on an animal-by-animal basis. All data and outcomes were captured from the feedyard’s animal health system database.

The goal of this study is to determine if there were any differences in outcomes based on the lung severity assessments of Whisper® lung scores compared to manual lung scores.

Inclusion Criteria For Study:
• Pull diagnosis must be respiratory.
• If animal died, death diagnosis must be respiratory.
• No retreated or 2nd pull animals were included in the study.
• Deaths were attributed to pull diagnosis/treatment if the death occurred within 60 days of the pull date. If more than 60 days had lapsed since pull date and the animal died, the animal was excluded from the study.

Products Encountered:
• Processing Vaccine – Pyramid 5
• Metaphylaxis – Draxxin, Micotil
• Treatment Products – A180, Baytril, Bio-Mycin, Draxxin, Excede, Excenel, Naxcel, Nuflor, Resflor Gold, Zactran

Methods:
5,817 pulled animals made inclusion criteria and were analyzed controlling for effects of: Processing Vaccine, Metaphylaxis Antibiotics, Treatment Antibiotics, and Rectal Temperature. Concomitant use of Whisper® and manual lung scoring occurred 33 of the 54.8 weeks of the study. Analysis was able to account for different products used at treatment and processing as well as time of year and rectal temperature at pull.
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**Results:**

- Overall feedyard respiratory pulled case fatality rate was 5.67%.
- The 437 Whisper® lung scores distribution matches the distributions of over 16,800 animals scored with Whisper® to date.
- Respiratory pulled case fatality rate of **manual lung scored** animals = 5.89%.
- Respiratory pulled case fatality rate of **Whisper® lung scored** animals = 3.20%.
- Whisper® lung scored animals had a case fatality rate reduction of 45.6% over manual lung scored animals. The analysis yielded a strong statistical result (P<0.0001) with a power level of 0.832.
- Of the animals that died within 60 days of treatment, Whisper® lung scored animals had a longer survival time compared to manual lung scored animals.
- For those animals that died, Whisper® lung scoring was more predictable on number of days to death based on lung severity level. Manual lung scoring was not predictable across lung scores.
- Whisper® lung scored animals showed an improved across-the-lung-score spectrum response to BRD treatment protocols compared to manual lung scored animals.
- Had the feedyard used Whisper® lung scoring on all of its respiratory pulls, there would have been an estimated 144 fewer deaths during that period.
- Analysis was able to account for different products used at treatment and processing which revealed an underlying difference in diagnostic accuracy based on response to treatment. Whisper® lung scoring gives a more accurate assessment of lung status and therefore a more accurate diagnosis. The treatment protocol for BRD is most successful when applied to the correct BRD diagnosis.
A Dramatic and Statistically Significant Drop in Case Fatality*

Whisper isn’t a treatment, so why do we see this drop in case fatality?

*Chi-Square P< 0.0001, Power = 0.832
Is There Metaphylaxis/Treatment Combination Variability?

Which products and when they’re given to the animals does matter on survival time. But both Whisper and Manual lung scored animals received the same products. What else could explain the difference?
How Do Manual Lung Scored Animals Respond to Treatment?

Is the protocol ineffective or is the diagnosis not accurate? How does Whisper do?
How Do Whisper® Lung Scored Animals Respond to Treatment?

*Whisper has a nice response curve to the BRD protocol. How can we determine that higher lung scores mean greater severity and not something else?*
What Does Survival Time Look Like with Whisper® Lung Scored Animals?

Whisper lung scoring shows a decreasing trend in survival time with increasing BRD severity. This would be the expected trend and lends credibility to Whisper’s diagnostic validity. A lung score of ‘1’ (normal) probably indicates that BRD is not the primary morbidity. What about manual lung scoring?
Manual lung scoring doesn’t reveal a strong trend in survival time with increasing BRD severity scores. These results suggest that the treatment protocol isn’t as effectively aligned with manual lung scoring as it is with Whisper lung scoring.
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**Conclusion:**
This case study of a feedyard over the time period of one year along with controlling for the effects of vaccine, metaphylaxis products, and treatment products revealed that accurate diagnosis and BRD treatment protocols must be well aligned to maximize the benefits of treatment protocols. Whisper® has the advantage of only being able to assess lung status and isn’t swayed by other clinical or subjective information. As such, Whisper® demonstrates superior diagnostic accuracy which is revealed in reduced case fatality rates allowing for optimal results from the treatment protocol. The correct BRD diagnosis responds best to the BRD treatment protocol established by the feedyard’s veterinarian. When the accuracy of BRD diagnosis is reduced, the BRD protocol can’t be applied in the manner it was intended by the veterinarian. Had this feedyard been using Whisper® for all of its’ respiratory pulls during the same time period, we would expect 144 less deaths ($144,000 - $201,000) due to respiratory illness.