

**Cattle Business in Mississippi – April 2018**

**“Stocker Cents” article**

## **What do hair and health have in common?**

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Keeping cattle healthy is a goal for all cattle producers, and any insights we can learn in to ways to keep cattle healthy without expensive intervention strategies is always welcome. Bovine respiratory disease (BRD) remains the most costly disease for beef cattle after weaning, and is a large area of concern. Numerous research studies have shown that when cattle experience forms of stress during post-weaning period, they are at greater risk of getting sick. We’ve often studied and discussed those factors such as weaning, transportation, co-mingling, and processing can cause cattle to get sick. While all cattle owners strive to decrease these sources of stress, it is important to understand that they can never be fully eliminated

Calves that get sick will gain less weight than their healthy contemporaries during the post-weaning phase, and even on in to the feedlot phase. This means that these cattle will then need more time to reach the same weight as the other cattle in the group that stayed healthy. This relationship between sickness and decreased performance has been shown over and over again in numerous studies, including those conducted recently here at the Mississippi State University Beef Unit.

How cattle shed their winter hair coats as temperatures rise has an impact on how affected the cow will be by heat stress. The major method that cattle use to remove heat is through evaporative cooling, and the success an animal may have at cooling itself in hot, humid climates depends on a number of factors. Environmental factors include humidity and wind speed, while physiological factors include respiration rate and activity of sweat glands. As temperature and humidity rises, cattle with thick and wooly hair coats are at increased risk of heat stress.

Several researchers, including Dr. Trent Smith at MSU, have looked at the relationship between the hair coat shedding of a cow and the weaning weight of her calf. To do this, they observe hair coat scores at several times prior to weaning and during the time when temperatures start to rise. These scores range from 1 to 5, with a cow with a score of 1 being completely shed, and a cow with a score of 5 being not shed at all. Dr. Smith, along with collaborators at North Carolina State University, evaluated the cow herds at MSU, NCSU, as well as producer’s cattle from 18 different farms in Texas, Missouri, Kentucky, Tennessee, Alabama, Mississippi, North Carolina, South Carolina, and Virginia. This research has suggested that cows that shed later in the summer weaned lighter calves. In addition, there’s evidence that we can select for this trait, and make progress toward improving shedding ability and in turn weaning weights in herds.

While this relationship between gains is important, we started this discussion with the question of what do hair and health have in common? To answer this question, we need to look back on a research project conducted here at MSU in 2015. The objectives of this study were to evaluate the effects of initial bodyweight, dietary supplementation, and hair coat shedding on growth performance and health. The cattle used in this study were heifer calves who weighed either 300 or 500 lbs on average at the start of the trial, and were purchased through auction markets. These heifers were grazed on ryegrass pastures for 45 days in the late spring. They were observed daily for signs of respiratory disease, and weighed every 14 days. Of the 120 heifers on the study, 75 calves (62.5%) were treated for BRD. Heifers that arrived at a lighter weight were 2.8 times more likely to be treated for BRD compared to those heifers that arrived at a heavier weight. each increase in hair shed score increased risk for BRD 1.6 times. In addition to the relationship

with health, it was observed that cattle with lower hair shedding scores also gained more weight over the length of the trial.

This trial offers some of the first results comparing the relationship between hair and health. As a part of our research program examining the relationships between management, nutrition, and animal health in high risk stocker cattle, our research team has continued to record observations on the relationship between hair shedding on each set of cattle brought in to the South Farm for research. Stay tuned as we look to examine these questions in more detail as we get more information.

What does this mean for you? Many producers may already be selecting for improved hair shedding in their cow herd and not realize it. Often we associate cows that “stay hairy” as being less thrifty and less productive, and simply these cows may be less adapted to your environment. However, consciously selecting for this trait can bring added benefits to the herd. Research investigating factors that affect price of calves auction markets in Arkansas has shown that calves with a dead retained hair coat received a \$14 discount at sale. The implications of the relationship with health and hair coat shedding may mean that as stocker producers are selecting or purchasing cattle it may be beneficial to use a different management strategy on those calves with a thicker, less shed hair coat. These research questions are designed to help you as a producer implement these changes and management strategies into your herd to become more profitable and efficient.

For more information about beef cattle production, contact an office of the Mississippi State University Extension Service, and visit [extension.msstate.edu/beef](http://extension.msstate.edu/beef).

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