Bluestem Breezes
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**Mud – A Not So Hidden Cost**

This week, I am sharing information on controlling muddy cattle pens. You may be starting to wonder why this topic continues to show up here. In short, mud is an animal welfare issue and it's hard on your pocket book. Please read on for K-State Environmental Management Specialist Joel DeRouchey's take on the mud issue:

In many areas of Kansas, an accumulation of initial winter moisture, both from snow in western and rain in central-eastern Kansas, has left many producers with saturated pen conditions. Since pen drying occurs more slowly during the winter, these conditions may not go away anytime soon. This encompasses producers of all types of production from those with winter calving areas to backgrounding and finishing lots.

From a growth perspective, cattle in muddy conditions have an approximately 30% higher net energy maintenance requirement, thus a higher portion of the feed they consume is not directed to growth and reproduction. Logically this makes sense as the weight of the mud on the feet and legs as well as the chilling that occurs from lying down on a wet surface contributes to a higher maintenance requirement. Research has also shown that feed intake is reduced by 5 to15 percent in 4 to 8 inch mud and can decrease 15 to 30 percent in 12 to 24 inch mud. ***Subsequently, daily gains are reduced 7 percent for dewclaw deep mud and 28 percent when battling hock deep mud.***

In order to minimize mud within confined feeding areas, producers should grade the pens so excess water is allowed to runoff and not pool. Routinely pens are designed for adequate drainage, but overly aggressive manure cleaning creating low spots or a simple lack of manure removal can cause pens not to drain excess water properly. Often "high spots" of manure between or at the end of a pen can cause a ridge, thus blocking the drainage pattern.

The use of mounds is a practical means to provide an area that dries more quickly than the pen surface itself. Mounds should be designed and built where the drainage pattern from other parts of the pen are not blocked. Finally, the use of a solid floor feeding pad (concrete, packed crushed rock or screenings) is essential to encourage cattle to come to the bunk or feeding area during muddy conditions. Pens without a solid feeding pad generally have the deepest mud where cattle stand to consume the feed, thus discouraging feed consumption.

Snowfall accumulation in pens or temporary winter feeding areas can contribute to a significant amount of soil saturation. Producers should take action to prevent future problems with excess mud. There are two main options, first depending on the area size, removal of the snow from pens or the feeding area. More practically, simply pushing the snow away from the bunk and lying areas and downgrade so that when the snow melts, it has less or no effect on the soil conditions where it was cleared from. Also, producers need to consider clearing snow in areas above the pens where

runoff water may enter.

Mud can create challenging conditions for livestock, increasing maintenance requirements and reducing energy for growth or fetal development. Pen design, manure and snow removal and mound maintenance can improve animal welfare and performance.

For additional information, visit the Extension Office (215 Kansas, Courthouse, Alma; kamayer@ksu.edu; 765-3821). For Bluestem Breezes archives, check out wabaunsee.ksu.edu.