

What impact does winter or temporary livestock feeding sites have on feed and animal performance?

UNL Extension WebSite <http://www.extension.org/faq/2558>

The use of temporary feeding sites during winter and early spring months to supply feed and/or water to livestock is a common management practice with livestock producers. When selecting a location, producers need to be aware of the impacts of these sites on both environmental and animal performance. The growth performance of animals can be greatly affected if sites are improperly selected and managed. Below are some considerations producers should evaluate when selecting a winter feeding site on animal performance.

Lots and feeding areas can turn into muddy areas very rapidly after moisture events with high animal activity. Research is clear on the negative impacts of muddy conditions on animal performance. Mud can reduce daily gains of animals by 25 to 37% and increased the amount of feed required per pound of gain by 20 to 33%. The NRC (1981) reports that small amounts of mud (4 to 8 inches deep) can reduce feed intake of animals by 5 to 15%, while larger amounts of mud (12 to 24 inches deep) can decrease feed intake by up to 15 to 30%. The University of Nebraska has estimated the effect of mud on animal performance based on temperature conditions in the range of 21 to 39°F. There are reports that animals in areas of muddy conditions have an increased need for energy to maintain their maintenance requirement.

The relationship between animals and their thermal environments can be described by first determining the thermoneutral zone. This is defined as the range in effective ambient temperature where rate and efficiency of performance in animals are maximized. For healthy cattle, this is typically from approximately 23° to 77°F. As the temperature falls below an animal's lower critical temperature or rises above an animal's upper critical temperature (UCT), the animal must expend more energy in order to keep warm or cool down. Also, as temperatures rise above or fall below the thermoneutral zone, animal bunching may occur, which can reduce or eliminate vegetative cover. The most important aspect about an animal's lower critical temperature is the effect of a wet hair coat. There are estimates that a steer may experience cold stress at 32°F with a dry winter coat, but this may change to 60°F if the animal's coat is wet.

Climatic variation is a large component in determining the comfort level of cattle. Cattle given access to shelter during winter months had the following benefits; they have increased gain by 15% and improved feed efficiency by 11% .

More information can be accessed at www.oznet.ksu.edu/library/lvstik2/mf2673.pdf.