

No More Mud – BEEF Magazine

W. Mark Hilton, DVM and Susannah Hinds

If you live in an area of the country with a “mud season”, you can eliminate that concern in your winter-feeding area by utilizing hay pads and limiting access to the feeding areas.

The idea of making a hay pad was brought to my attention almost 20 years ago by former Purdue University Animal Science graduate student and current manager of the Southern Indiana Purdue Agricultural Center, Jason Tower. Jason’s initial job after his bachelor’s degree was as the farm manager at Hedgeapple farm in Maryland. This farm utilized hay pads, also called heavy use areas, to eliminate the problem of mud around the hay feeders. These pads are constructed as follows:

- Find a fairly level or gently sloping area with good drainage
- Build the pad adjacent to an existing fence and ideally next to the hay storage area
- Scrape off any existing hay and manure and remove ~8” of dirt.
- Lay down geotextile fabric (critical step to ‘hold’ the rock and keep it separate from the soil)
- Place ~6” of crushed stone (#53’s) over the geotextile fabric
- Add ~4” of crushed limestone
- Drive over limestone with a tractor to pack the limestone
- A few good rains will also help pack the limestone prior to animal use

Site selection for the feeding pad is crucial. Ultimately, it would be near the hay storage area and away from water like streams and ponds. If ground is rolling, near the top of the hill is ideal. If the site is level, the surface of the pad should be slightly higher at the center, gently sloping to all sides. If the site has a gentle slope, then the pad should follow the topography of the land and gently slope to one side. If the site has a slope, the entrance/exit from the pad should be on the high side of the pad. In general, there should be 10-12 feet of rock/limestone for the cattle to stand on around the bale feeder (see diagrams below). The option of placing hay rings side by side is one option to utilize existing round bale feeders. A superior option is to use a rectangular hay feeder as a smaller hay pad can be used than if round bale feeders are used. **With any system it is critical to ensure that there is enough bunk space for the entire herd to eat at the same time.** A conservative cost estimate for construction of a feeding pad is \$2.50 per sq. ft. (materials and labor costs will vary).

Maintenance of the feeding pad is necessary but easy. Remove excess hay and manure and add lime to the surface at least annually. Apply these nutrients to pastures or hay fields to maintain fertility levels.

In some cases, cost share for building a hay pad is available. Check with your local Natural Resources Conservation Service (NRCS) for more specifics on selecting a site, building a hay pad and potential for cost share. A website we have found valuable on construction instructions is:

<http://www2.ca.uky.edu/agcomm/pubs/AEN/AEN115/AEN115.pdf>

Limit feeding cows

Fifty years ago, beef cows were fed a finite amount of hay typically delivered via small square bales. The number of cows was known, and the amount of hay needed each day was calculated. Currently a common way to feed cows is to allow 24/7 access to round bales of hay. Therefore, 50 years ago, the

owner was in charge of how much hay the cows received, and now the cows are in charge of how much hay is utilized. That does not seem like progress to me!

A system that works well with the hay pad is to place a single strand of electrified wire around the hay pad. Include a “spring gate” for the entrance/exit to limit access.

Research at Purdue showed that cows that had access to hay for only 4 or 8 hours/day had 37 and 18% less hay disappearance respectively compared to cows with 24/7 access to hay with no difference in cow weight change. **24/7 access to hay is almost never the most cost-effective ration.**

In a situation where very high quality hay is being fed, it is possible that 4 hours/head/day access could provide all the energy and protein for a third trimester cow. It is also possible that this same cow could be fed a more average quality hay where 8 hours/cow/day would be needed. The key is to always test the hay for nutrient quality and have your nutrition company sale representative, nutritionist, extension beef specialist or veterinarian help to determine the ideal ration for your cows.

When first cutting hay is harvested significantly later than normal, this over-mature hay will likely be lower in energy and/or protein than normal. This hay will need supplemented with energy and/or protein. Testing hay before feeding will pay huge dividends in your cowherd’s nutritional status.

For producers that find it inconvenient to let cows in and out of a hay feeding area each day so that cows only have 4-8 hours access/day, there are technologies to make this chore easier. An online search led me to gate release timers and automatic gates. One is called the “Batt-Latch Gate Kit” and the other is the “Graze-Mate”. For the Batt-Latch, the timer is set to open at a certain time and for the Graze-Mate the automatic gate is opened via a text message. A system like this could be a tremendous benefit to a producer that has an off-farm job. In this case, cows could be automatically let into the hay feeding area at noon. When the producer arrives home at 6pm, they would be moved out of the feeding area and the entrance/exit gate manually closed. The gate is then reset for automatic opening at noon the following day.

Economics of limit feeding hay

If a 1400lb. cow needs to consume 2.5% of her bodyweight in hay each day (35lb.) and 24/7 access to hay results in a 28% hay wastage (10lb.), that 10lb. of hay can be saved every day. In a herd of 100 cows fed for 150 days during the winter where you limit access to 6 hours/day, your total hay savings per year is 75 tons! At \$100/ton, that is a savings of \$7500/year!

If hay supply is short, you can program cows to spend less time eating hay and supplement them more. The same Purdue study as above showed that cows will consume about 10lb. hay in one hour, ~16lb. after 2 hours and ~25lb. after 4 hours. These times are based on average quality hay and as stated earlier, having hay tested and utilizing a trusted advisor to help balance the ration is always recommended.

As an example, cows could be allowed 2 hours access to average quality hay and fed 8.5lb of DDGS/head/day to supply the cow’s energy and protein needs. Another advantage of this system is that the salt-mineral-vitamin mix can be top-dressed onto the concentrate or co-product feed. This gives a much more uniform consumption of this product vs. it being fed free choice. To save an additional 10% of your hay Rumensin at 200mg/hd/day should be included in the ration.

When I quiz beef producers that have built hay pads and now utilize time feeding of cows, 100% of them state that they would never go back to feeding in the mud or giving 24/7 access to hay. In fact, after I ask, the most common response is, "I should have done this years ago!"

W. Mark Hilton, DVM, PAS, DABVP (beef cattle) is a technical consultant with Elanco Animal Health's Beef Team. Susannah Hinds is a grazing specialist with USDA-NRCS in Lafayette, Indiana.

