Managing Malnourished Beef Cattle

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The vast majority of beef cattle are very well cared for. Unfortunately, occasional groups of cattle are found to be malnourished and in need of special care. Little science-based information is available regarding the care of these cattle. These cattle may require careful return to normal feeding to prevent overwhelming their digestive system and may be at increased risk of health problems. This extra care can be expensive. This fact sheet contains suggestions for feeding and care of malnourished cattle, though each situation is different and different approaches may be needed.

For this discussion, cattle are considered malnourished if they are:

- In body condition score 1 or 2,
- Or have had no feed at all in the last five days,
- Or have lost more than 20 percent of their body weight over the last 60 days.

Body condition score 3 cattle are not physically weak, but all ribs can be seen. The bones in the hip area are prominent. There is no fat in the brisket area or around the tail head and the spine is visible above the surrounding area. Body condition score 2 cattle are not physically weak but do have some muscle loss. Their spine is visible well above the surrounding area and all ribs are visible. The outline of the bones in the hip area is prominent and external body fat is not visible anywhere. Body condition score 1 cattle are thinner yet than body condition score 2 cattle and are weak. They may have trouble walking or standing up after lying down. An excellent publication on body condition scoring beef cattle can be found at **pubs.ext.vt.edu/400/400-795/400-795.html**.

Knowing something about the current state and recent history of the malnourished cattle may be of use in planning their care. Questions to ask include:

- How long have these cattle been on this farm?
- What feed (and in what amounts) has been available?
- What is their water source and availability?
- Have they had any recent health problems or health care?
- What is the age and pregnancy status of the cattle? Note: Malnourished cattle are often weak and putting them through a chute to determine age and pregnancy status may not be a good idea until they begin to recover.

It is a good idea to inventory the entire herd, if possible. The most important thing to determine and record is the current body condition score of individual animals. How many cattle are body condition score 1, body condition score 2 or body condition score 3 and above? Cattle of body condition 3 and higher likely will not need special care.

Often, some malnourished cattle are beyond help and putting them to sleep (euthanasia) is the most humane option if they cannot be marketed or rehabilitated. Veterinary injection of approved euthanasia solutions and properly performed gunshot wound to the head are the acceptable methods most often used. Information on proper gunshot wound euthanasia can be found at **aabp.org/resources/euth.pdf**. The following groups of cattle might be candidates for euthanasia:

- Body condition score 1 cattle.
- Cattle that cannot be marketed and adequate care is not available for economic or logistical reasons.
- Downer cattle that do not stand up within 48 hours of the beginning of care.
- Cattle that do not eat within 48 hours of the beginning of feeding.
- Cattle with injuries or other serious health problems.
- Cattle that are still weak after 14 days of adequate feeding.
- Cattle whose body condition does not improve within 60 days of adequate feeding.

In Tennessee, legal methods of disposal of dead cattle include incineration, rendering, composting, burying or landfilling. For more information on cattle disposal options, go to **extension.tennessee.edu/publications/Documents/W259.pdf**. Animal autopsy (necropsy) at the state animal disease diagnostic lab is often a good way to establish the cause of the problem or find out more about it for a few animals. However, necropsy is not an appropriate method of mass disposal.

If the current state of the cattle and facilities allow, individually examining and identifying the cattle is a good idea. Then, cattle can be sorted into groups for better care. Logical groups might be:

- Cattle in body condition score 1 or 2 and cattle with health problems to remove feeding competition from this at risk group.
- Cattle in body condition score 3 or higher that are nursing calves and heavily pregnant cattle.
- Other cattle in body condition score 3 or higher.
- Bulls should be separated from the cow herd to avoid injuries due to mounting activity.
- Calves that are 4 months or older which can be sold.

To begin feeding starved cattle, determine what resources (hay, pasture, supplemental feeds and money) are available. Also determine the quality of the feeds by reading the feed tags on purchased feed and submitting a hay sample for analysis. Having higher quality hay available will result in the need for less supplemental feed. Available equipment such as hay feeders and feed troughs should be evaluated. Another consideration in feeding malnourished cattle is the season of the year. Feeding cattle through the winter will be more costly than feeding cattle in the spring or fall.

Increasing one body condition score requires 50 to 100 pounds of body weight gain. Increasing body condition score is a long process, sometimes taking months to reach ideal body condition. The supplemental feed for malnourished starving cattle should be moderate in energy (55-70 percent TDN), moderate in protein (10-14 percent) and high in digestible fiber. The supplemental feed should contain an ionophore (such as monensin or lasalocid) and be fortified with vitamins and minerals. A free choice mineral source should also be

available, but should not be counted on to meet each cow's mineral requirements.

Body condition score 1 and 2 cattle should be fed only free choice hay for the first 10 days. After that time, supplemental feed can be fed beginning with 1 pound per head per day and increasing 1 pound every other day until a total of 5 to 7 pounds of supplemental feed is offered per head daily. While eating the hay and supplemental feed mixture, cattle may be gaining 0.50 to 0.75 pounds per day, depending on hay or pasture quality. While body condition score 3 or above cattle can regain lost condition by eating hay and pasture alone, having supplemental feed available will aid in them reaching ideal condition faster.

Depending on the situation that led to underfeeding and malnourishment, water availability and quality might also be an issue. Fresh water is the most essential nutrient and should be available at all times. Make sure that tanks and waterers are free of debris, algae and dirt and are easily accessible. Ball waterers might pose a problem for cattle that are weak or not accustomed to using them. If ball waterers are to be used, remove the balls until the cattle are healthy and familiar with using them. If refeeding occurs in the winter, make sure that ice is broken in tanks and ponds.

Malnourished cattle do need shelter though crowding them into a small area like a barn lot or barn would likely increase the risk of injury and disease. Trees and a mud-free place to lie down should provide adequate shelter. Heat stress worsens the problems experienced by underfed cattle.

Malnourished cattle are at an increased risk for disease, parasites and other health problems. These cattle should be dewormed as soon as possible, with the deworming of thin cattle being repeated in 4 to 8 weeks. Vaccinations should be delayed until the cattle are noticeably gaining weight as they likely will not respond well to vaccines before this time.

Rehabilitating starved cattle is expensive. The budget on page 4 is an example for estimating the cost associated with rehabilitating a 50-cow herd of malnourished cattle and does not include fixed costs, pasture renovation or labor.

The economics of feeding starved cattle should be evaluated on a case-by-case basis. In some situations, such as court orders, economics cannot be considered. However, when profitability can be considered there are many variables that must be evaluated such as:

- Cost of inputs.
- Time of year.
- Cost of required feeding equipment.
- Labor required.
- Cost of required pasture renovation.
- Pregnancy status or how long will it take to get the cows bred.

The other consideration that must be evaluated is the current value of the marketable cattle. Depending on the price of cull cows and the time of year the best options could like be to market the cattle.

Cattlemen in the state of Tennessee and across the country are responsible stewards of the land and animal resources they oversee. Unfortunately situations do occasionally arise where irresponsible individuals fail to care for their cattle and a group of malnourished cattle must be rehabilitated. It should be noted that, while these situations receive a great deal of public attention, they are certainly not representative of the industry as a whole.

The ideas presented in this fact sheet should be helpful in resolving these situations quickly while limiting the negative impact on these cattle.

6 Months' Variable Cost for Cow Rehabilitation (Cash Outlay) 2011

	Per Mature Cow				50-Cow Herd
	Amount	Unit	Cost	Total	Farm Total
Feed					
Hay[1]	1.8	Ton	75.00	135.00	6,750.00
Feed Mix[2]	1260	lb	0.13	163.80	8,190.00
Salt & Mineral[3]	45.63	lb	0.33	15.06	752.90
Bunk Feeders[4]	1/10	bunk	150.00	15.00	750.00
Hay Ring	1/10	Ring	150.00	15.00	750.00
Fuel[5]	4.24	gals	3.60	15.26	763.20
Pasture	2	acres	108.22	216.44	10,822.00
Vet & Medicine[6]					
Palpation & Aging	1	cow	7.00	7.00	350.00
Deworming[7]	1	cow	3.26	3.26	163.00
Vaccination[8]	1	cow	2.50	2.50	125.00
Vet Trip cost[9]		Trip	$75-$150	variable	variable
Total				**$588.32**	**$29,416.10**

1. *Hay is being fed for 120 days, at 30 lbs per day. Hay may have to be fed longer depending of pasture quantity, quality and time of year.*
2. *Feeding an average of 7 lbs of feed mix a day per mature animal, for 180 days.*
3. *Four ounces of salt and mineral per day.*
4. *One bunk feeder per 10 cows at a cost of $150 per bunk. Bunk feeders and hay ring will have residual value following the recovery period.*
5. *Assuming a 75 hp tractor using 3.3 gal of fuel per hour, taking 15 min to feed per bale. One 700 lb bale will feed 23 cows. Therefore, feeding 1 cow 23 days, each cow will consume 5.14 bales of hay for 120 days using 0.825 gallons per bale.*
6. *Vet & Medicine cost are estimates; this is not a recommendation. The recommendation should come from a certified DVM.*
7. *Deworming is using benzimidazole dewormer, followed up with a macrocyclic lactone product.*
8. *Vaccinations are for IBR, BVD, BRSV, PI_3, and Leptospira. Vaccinations may not be beneficial if animals are to be marketed and should only be administered after the animals are in good condition and withdrawal times are past.*
9. *Trip cost is not estimated. The amount of trips and cost can vary greatly.*

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