Planning the Feeding of Your Beef Herd This Winter - Part II

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Last month's article focused on the feed availability and nutrient requirements of beef cows. This month we will look at a couple of the farms and implementation of a planned feeding program. A planned feeding program involves quantifying what feedstuffs are on hand combined with the nutrient requirements of the cow herd and feeding the feedstuffs at the appropriate time and providing any needed supplementation. Two important and often overlooked components of a planned feeding program are the body condition score (BCS) of the beef cows going into winter and the amount of available grazing before feeding starts and potentially after feeding commences. It is important that cows go into winter with an average BCS of 6 to insure they have energy reserves to cope with any hay that might not quite meet their requirements. If cows go into winter with only adequate BCS then there is no allowance for hay that does not meet energy requirements. If cows go into winter under-conditioned then it is almost impossible to exceed energy needs enough to increase body condition score. Time spent grazing is also a very important and underappreciated aspect to wintering cattle. The longer cattle can graze the better in most situations. In addition to cost savings, stockpiled grass usually exceeds the nutrient value of most hay. The proper stocking density that minimizes hay feeding days is a decision that varies from farm to farm. Some producers purposely stock higher knowing that they will have to feed cattle longer. Good economic records will provide some guidance as to what is best for each situation. The important thing is that the more days you have to feed hay the more important having high quality hay becomes.

Farm 3 is a fall calving herd that exhausted grass around December 1st. On average, this herd will have grass available to fully support the cow herd by April 15th. The average BCS of this herd is 6. This farm is lucky to have access to some very high quality 2nd cutting grass hay to feed these cows (Table 1). The highest nutrient requirements for this herd occur just as grass runs out. The highest quality hay should be fed from December 1st till after the breeding season ends. This high quality hay will meet or exceed the nutrient requirements for these cows. Once the breeding season ends and cows are later into their lactation; then the 1st cutting hays that have lower energy and crude protein values should be utilized. The 1st cutting hay will not meet the energy requirements of these cows. These cows will average losing 0.5 BCS if they receive no other supplementation. If this weight loss occurs after the breeding season ends, it should not have a serious negative impact on cow reproductive performance but milk production may be reduced. Since fall calving cows are typically grazing for 2-4 months after weaning calves, putting any lost body condition back on is usually not a difficult or expensive task. If quantities allow then saving some of the 2nd cutting grass till near grass time will serve two purposes. Fall born calves will be consuming quite a bit of hay by then and the higher quality the hay is the better they will grow; also, the more highly palatable the hay is the easier it will be to get the cows to eat the hay as spring approaches. If 2nd cutting hay quantities do not allow enough hay to have extra to feed the entire herd for a period of time near grass time then you may want to consider saving a few bales to use as creep feed for the calves.

This herd highlights the value of having a high quality hay to feed your cows when their needs are at their highest. One management practice producers have done to lower the days feeding cows hay and lower overall feed costs is to only make 1st cutting hay and allow the cows to "harvest" 2nd cutting hay. While this can certainly lower costs, it removes what has traditionally been the highest quality hay from being available to feed these cows. Feed costs for feeding this herd are $1.82 per head per day based on hay costs of $100/ton and 10% feeding losses.

Table 1. Hay quality for farm 3

				DM	CP	TDN %	NDF%
3	Southern Piedmont	Grass Hay	1st	87.7	10.2	57.1	64.7
		Grass Hay	2nd	87.3	14.7	60.9	51.7
		Grass Hay		87.7	10.5	58.4	63.9

Farm 13 is a spring calving herd. The herd starts calving about Feb 15th. This farm hauls about one third of its cows out to summer pasture. It is important to take this practice into account because the higher cow winter stocking rate will result in much less winter grazing. Farm 13 has a wide variety of forages available (Table 2). Unfortunately all these widely varied feedstuffs have almost identical nutrient values. All of these feedstuffs will meet the nutrient requirements of the mid-gestation dry beef cow. The issue with these cows will be when these cows are 1 month away from calving. If these cows are fed one of these hays without supplementation then they will lose 2 BCS scores from

January 1st till grass time. Even if these cows average a BCS of 6 at the start of the year they will be down to a 4 by grazing time and both colostrum quality and breeding back will be negatively affected. Most of the deficiency is TDN (energy). The cows TDN requirements will average 15 pounds while the hay only supplies 13.6 pounds of TDN. There is also a slight protein deficiency. The cow protein requirements average 2.5 pounds per day while the hay will provide 2.4 pounds of protein. Due to the forage quality these cows will need additional supplementation to maximize herd productivity. Providing cost effective supplementation is an important decision to avoid performance losses while spending as little as possible. Commonly used supplements and their representative costs per unit of CP and TDN are summarized in Table 3. Each farm is different in their ability to purchase, store, and feed different feedstuffs. The supplementation program must be individualized to each farm.

Table 2. Hay quality for farm 13

				DM %	CP %	TDN %	NDF %
13	Blue Ridge Mountains	Alfalfa		87.5	9.3	55.4	66.6
		Millet Wrapped		52.2	10.1	55.4	61.5
		Grass Hay	1st	85.4	9.3	53.7	71.3
		Grass Hay	1st	86.9	8.9	55.4	66.2
		Wheat Wrapped		59.6	8.7	58.8	60.3

Table 3. Daily supplement and total ration

	% Protein (as-fed)	% TDN (as-fed)	Price	Cost Per Lb. C.P.	Cost Per Lb. TDN
Protein block	24%	65%	$490/t	$1.02	$.38
Liquid protein	32%	60%	$335/t	$.52	$.28
Soybean meal	48%	78%	$400/t	$.42	$.26
Corn gluen feed	24%	75%	$130/t	$.27	$.09
Cottonseed meal	41%	72%	$320/t	$.39	$.22
Wheat midds	15%	70%	$130/t	$.43	$.09
Distillers grain	28%	80%	$180/t	$.32	$.11
Brewers grain (wet)	5%	15%	$45/t	$.45	$.15
Soyhulls	11%	70%	$125/t	$.57	$.09

The amount of each supplement required to balance the forages for the spring calving herd is presented in table 4. Total ration cost include hay and supplement but do not include storage, labor or feeding differences between supplement options. The protein block and liquid protein options which do not meet the lactating cow's needs are limited by either form or intake limiters in the case of liquid feed. To determine f the feeds in your area follows the examples presented read the feed tag on the particular product.

Table 4. Feed supplement and cost balancing hay

Supple-mental Feed	Lbs. Fed	Meets Energy Requir-ments[1]	Meets Protein Require-ments[2]	Supplement Cost Per Day[3]	Total Ration Cost Per Day[4]
Protein block	1	No	Yes	$0.27	$1.53
Liquid protein	2	No	Yes	$0.37	$1.63
Soybean meal	2	Yes	Yes	$0.40	$1.66
Corn distillers grain	2	Yes	Yes	$0.18	$1.44
Corn gluten feed	2	Yes	Yes	$0.13	$1.39
Soybean hulls	2	Yes	Yes	$0.12	$1.38
Wheat midds	2	Yes	Yes	$0.13	$1.39

[1]Based on cows losing less than 1 BCS score during the feeding period

[2]Based on meeting at least 90% of the NRC for protein

[3]Total supplement cost per day based on 10% wastage and a small yardage fee per day to feed cows where appropriate

[4]Total ration cost per day based on $100 per ton for hay and supplements prices found in Table 3 with 10% feed wastage.

One basic key common to both farms in making these important decisions is having a forage analysis available on their winter forage supply and a controlled calving season which allows targeting a winter feed program at cow herd's nutritional needs. The availability and costs of each winter feed option varies with location, your capacity to handle feed, location of the cattle and labor available. Each option has positives and considerations which must be weighed before making a final decision.

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