Iowa Beef Center
IOWA STATE UNIVERSITY

Managing 2010-11 Cow Herd Feed Needs

Iowa cow-calf producers are being impacted by a number of feed-related issues in 2010.

In many areas of the state, both hay quality and quantity are falling "short" for the upcoming winter feeding period. Excessive rainfall during the growing season delayed harvest time, increasing maturity at harvest and reducing the nutrient quality of the harvested hay. Plus, much of the hay crop was rained on during the harvest process, contributing to hay quality concerns. Escalating grain prices and competition for forage producing areas continue to impact the financial status of cow-calf producers. These situations challenge many producers as they finalize their winter feed programs. As these issues are addressed, a basic question comes to mind: "Which management areas should producers focus on to best utilize available feed resources?"

A simple cattle and feed inventory can be a valuable management tool when planning your livestock feeding program for the upcoming year. By completing this type of inventory, you can:

- Determine your available feed supply.
- Estimate your total feed needs for your planned herd size.
- Adjust livestock numbers or plan feed purchases when prices are favorable.

When feed supplies are tight, prices for the commonly needed feeds usually increase dramatically. Thus, you need to look at various methods to balance on-farm feed supplies with your herd's need.

Reducing herd needs for feed

If cattle prices are favorable, scrutinize your herd carefully for non-producing or low-producing cattle. This might be the ideal time to cull poor-producing cows, cows with bad udders, certainly open cows, late-calving cows and cows with poor dispositions. Your goal should be to use your feed resources for cows that have the best chance of producing a profitable market calf next year.

Look critically at the plan for your winter feed program. Do you know which feeds are the best or poorest quality? Try to match these feedstuffs with the production cycle of the cow and to any heifers that might be in the herd. It only makes sense to feed your poorest-quality feeds during the first part of the winter season when the mature cows are in the middle part of pregnancy and then start changing over to better-quality feeds in late pregnancy. Once the cows calve, you should be feeding only better forages and making sure that all the energy and protein needs are met.

Make every affordable effort to reduce feed waste. If you are using hay rings or panel feeders, are they in a good state of repair? If you are unrolling hay bales out in the open field, are you feeding only what is needed on a daily basis? Feeding more than one day's feed supply results in substantial feed waste. Tub grinding feeds and combining together total mixed rations (TMR) and feeding in bunks, tires or other types of feeders have dramatically reduced feed waste and lowered winter feeding bills for producers in similar situations. Additionally, tub grinding of poor-quality forages has improved intakes in research trials and made it more feasible to supplement them with better-quality forages in a TMR.

Correctly supplement low-quality feeds so the nutrient demand is met. It is amazing how well some of the low-quality feeds will meet feed requirements for 30 days or so if properly supplemented. For instance, baled cornstalks are low in both protein and energy. If one supplements the cornstalks with a protein supplement and small amount of grain, a very low-cost ration can be formulated that will achieve acceptable performance.

Use the best-quality feeds for replacement and other young females (1st and 2nd calving heifers). These females have a higher energy and protein need and still cannot consume as much feed as their older herd mates.

Consider substituting corn for hay.
When grain substitution is economically competitive and forage supplies are tight, it makes sense to replace some of the forage requirements with corn. Research and producer experience have shown you can switch a cow herd over to a controlled high-concentrate feeding program, which reduces the need for hay and saves substantial dollars. An Ohio State University trial showed that a high-concentrate feeding program will reduce wintering hay needs from more than 6,000 lbs to less than 500 lbs.

With the abundance of co-products from the state's ethanol industry, consider using them to supplement energy and protein.
Wet and dry distillers grains run about 30% crude protein on a dry matter (DM) basis, and they contain more energy than corn because of the concentrating of the oil fraction of the corn in the co-product. Additionally, these co-products have substantial fiber (48% neutral detergent fiber, or NDF); thus, they will not have a negative impact on fiber digestion.

Estimating forage needs

Table 1 outlines the forage needs for beef cows during gestation and early lactation. These are simply estimates; exactness can be achieved by utilizing a ration analysis program where you plug in your own feedstuffs with results from a feed test.

The worksheet (Figure 1) can be used to estimate your feed needs; then compare it against your on-farm feed supplies. Part I is used to calculate the feed amount for the main part of the cow herd, the young and adult cows. Part II is used to calculate the feed supply on hand, and Part III allows you to summarize the feed shortage or excess. Of course, this is absolutely critical so you can then look at various ways to solve the shortage(s). If you will be short of feed, you can decide whether to modify your normal feeding program, reduce your livestock numbers or purchase additional feeds.

Table 1. Estimated feed disappearance for a producing beef cow. [1,2,3]

	Cornstalks + Corn Silage + Soybean Meal	Alfalfa-brome hay + DDGS	Alfalfa-brome hay + Cornstalks + DDGS	Poor Quality Hay + DDGS
Cow Weight	(10% Waste)	(10% Waste)	(10% Waste)	(20% Waste)
	----------tons or lbs/cow----------			
1200	2.1 tons stalks 2.2 tons silage 200 lbs SBM	2.4 tons hay .3 tons DDGS	1 ton hay 1.2 tons stalks .55 ton DDGS	2.3 tons hay .6 ton DDGS
1400	2.3 tons stalks 2.5 tons silage 200 lbs SBM	2.6 tons hay .3 tons DDGS	1.1 tons hay 1.3 tons stalks .6 ton DDGS	2.5 tons hay .7 ton DDGS

[1] Assumes 125 days of winter pregnancy and 30 days of lactation before spring pasture turnout.
[2] Assumes ad lib intake and feed wastage as outlined for each forage.
[3] SBM = soybean meal or an equivalent protein supplement

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Figure 1. Feed Inventory Worksheet

I. Mature Beef Cow Feed Needs (use estimates from Table 1)

	Amount/animal	x	No. of animals	=	Amount needed
A. Forage-hay(tons)	_____	x	_____	=	_____
B. Silage (tons)	_____	x	_____	=	_____
C. Cornstalks (tons)	_____	x	_____	=	_____
D. Corn (lbs)	_____	x	_____	=	_____
E. Protein supplement(lbs)	_____	x	_____	=	_____
F. Other feeds (DDGS)	_____	x	_____	=	_____

II. Feed Available

A. Forage:	Bales	x	lb/bale	=	lb	÷	2000	=	Tons Available
Hay	_____	x	_____	=	_____	÷	2000	=	_____
Hay	_____	x	_____	=	_____	÷	2000	=	_____
Cornstalks	_____	x	_____	=	_____	÷	2000	=	_____

	Acres of Crop	x	Tons/acre		
B. Silage	_____	x	_____	=	_____
Silage	_____	x	_____	=	_____

III. Summary:

	Available	-	Need	=	Shortage(-) / Excess(+)
Forage-Hay	_____	-	_____	=	_____
Silage	_____	-	_____	=	_____
Cornstalks	_____	-	_____	=	_____
Corn	_____	-	_____	=	_____
Other feeds (DDGS)	_____	-	_____	=	_____

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