

Reduced Hay Rations

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During some winter feeding periods Michigan producers find themselves short of available stored forages and often unable to locate even high-priced baled hay. As a result, many ewes receive inadequate nutrition and are extremely thin at lambing time. Furthermore, brutal cold weather and the resulting increased nutritional demands further decrease flock body condition score to the point where starvation can become an issue. Those producers fortunate enough to have an ample supply of hay, or able to locate a supplier, often question the logic of paying for and feeding \$150.00 - \$180.00/ton hay to the ewe flock. However, before you get too depressed just thinking about forage shortages be thankful that you don't raise cattle and that you often have record lamb markets to counter balance costs. Also, remember to avoid the pitfall of designing your yearly management program around abnormal events involving anything - markets, grain prices, hay prices, weather, etc. Instead, remember to design your production system around ten year averages, not \$100.00/cwt lambs or \$180.00/ton hay. As my neighbor says - "if your expectations aren't so high you'll be less likely to be disappointed".

Why do forage shortages occur? - Michigan producers can usually buy exceptional quality hay during the winter for \$60.00 to \$80.00/ton. Buying at these prices is usually cheaper than owning equipment. However, hay shortages do occur when optimistic farmers, in response to higher grain prices, return available hay ground to cash crops. When a reduction in hay acreage is coupled with a lack of moisture, a hay shortage throughout much of the Midwest can occur. When grain prices return to normal and weather cooperates, available hay acreage usually expands and prices return to normal.

Extend your hay supply with shelled corn and a reduced hay ration during early pregnancy -

It is important to recognize hay shortages early in the winter feeding period - before the flock begins lambing. Producers who fail to recognize that their hay is in short supply until their flock begins lambing will find it difficult to feed lactating ewes a reduced hay ration. However, recognition of shortages early in the fall allows producers to conserve hay during early pregnancy by replacing several pounds of hay per head per day with often cheaper, more available shelled corn. Producers wishing to feed reduced hay rations should actively work on conserving as much hay as possible during early and mid gestation - before the increased nutritional demands of late gestation and lactation occur. If your ewes are thin, producers need to remember that protein, vitamins, calcium, phosphorus, etc. are not the main concerns - energy is. In early and even late pregnancy, a ewe has a very minimal requirement for most nutrients except energy. If sufficient energy is supplied to maintain condition, usually the other nutrients "fall into place" and are not a concern.

During normal years producers customarily feed ewes as much hay as possible during all phases of production. Typical amounts of hay and grain fed in normal and reduced hay rations might be as follows:

Stage of production & ration type for 150lb ewe	Medium quality hay 50% TDN @\$140/ton	Shelled corn 88% TDN @\$.05/lb	Good quality hay 55% TDN @\$180/ton	Cost/ewe /day	Savings/ewe
Normal early preg. ration @ 1.7 lbs TDN req.	4 lbs	none	none	\$0.28	none
Reduced hay early preg. ration @ 1.7 lbs TDN req.	2 lbs	1.0 lbs	none	\$0.195	\$0.085/day savings
Normal late preg. Ration - twins @ 2.8 lbs TDN req.	None	1.0 lb	4 lbs	\$0.41	none
Reduced hay late preg. Ration - twins @ 2.8 lbs TDN req.	none	2.25 lbs	2 lbs	\$0.2925	\$0.1175/day savings

It should be obvious that reduced hay rations can do an adequate job of supplying energy to the ewe - if an appropriate amount of corn is substituted for the removed portion of hay. Using the above calculations, a reduced hay ration for a commercial ewe would save about \$0.09/day during early gestation and about \$0.12/day during late pregnancy. Savings for a 100 ewe flock would amount to about \$270.00/month during early pregnancy and about \$360.00/month during late pregnancy.

Common sense should prevail when feeding reduced hay rations to sheep. Sheep are ruminants, and as such, they do require a base amount of roughage to maintain rumen function and prevent acidosis and problems with overeating disease. Most sheep will do fine with a daily minimum of 2 pounds of hay. Ewes should be vaccinated for overeating disease and gradually introduced to the ration. To reduce digestive upsets, corn should be fed whole (not ground or cracked) and grain rations over 2 lbs per day should be split into two feedings. Limit feeding hay during early gestation can reduce total hay consumption each winter by as much as 25% - if you start early in gestation. However, it should be stressed that reduced hay rations are not for every producer. Due to great variations in hay quality, forage analysis is a must. Producers must also design a feeding system that allows equal consumption by individual ewes. Larger flocks often feed whole shelled corn onto frozen ground or into existing tracks in the snow pack. Ewes leave little to waste. Some producers will also use hog panels to partition off a small area of pasture with feeders and a gravity bed wagon. This allows convenient storage and un-bothered filling of feeders before allowing ewes access to the area. While the feeding frenzy produced by feeding grain to a large number of ewes is not a pleasant phenomenon, it may be a

necessary to contain costs and provide adequate nutrition when hay shortages occur.

Example 1 feeding small square bales: Producers with good quality 1st cutting alfalfa, clover or mixed hays might consider limiting hay consumption during early pregnancy to 2 pounds of hay daily for a 154-pound commercial ewe instead of the customary 4 pounds or more that a ewe will typically eat. The 2 pounds (or more) of hay saved from the diet can then be replaced with shelled corn. Most better quality hays provide excessive protein when fed free choice. Reducing the amount of hay fed, controls over-feeding of protein during early pregnancy and allows cheaper corn to be utilized as an energy source.

Example 2 feeding large round bales: Red clover hay testing 13.3% crude protein, 55.2% TDN, 1.1% calcium, and .23% phosphorus is an excellent early pregnancy ration for a typical commercial ewe if fed at the rate of 3.6 pounds of hay daily. In a free choice round bale feeding system, the same ewe may actually eat about 4 to 5 pounds of this quality hay. Standard feeding methods then, would use about 360 to 450 pounds of this hay for a ewe during early pregnancy at a cost of about \$.30 a day (\$140/ton). Calculating a reduced hay ration allows us to feed 2 pounds of the same hay and 1 pound of shelled corn daily and still meet the nutritional needs of the ewe. This ration should cost about \$.19 a day (\$140/ton hay, \$2.50 corn) saving \$.11 per ewe on a daily basis. Additionally, 160 to 250 pounds of hay can be conserved during early pregnancy for feeding during late pregnancy and lactation.

Producers with adequate hay should realize the cost advantage of feeding reduced hay rations, and market their excess hay. Producers with hay in short supply should consider a reduced hay ration as a method of stretching hay supplies.