

Special points of interest:

- Learn all about Hay alternatives in Feed and Forage Outlook Part 2.
- Amino Acids are very important for growing piglets, learn more on page 2.
- Winter brings many changes, including nutritional adjustments to rations, see Winter Gestation Feeding Recommendations.
- Super Lamb Milk could be the product that improves your lambing season.

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Mineral Nutrition For Beef Cattle by: Tim Osborn Ph.D., Nutritionist, Akey/ Provimi

There are 17 minerals that are required in the diet of beef cattle. These minerals can be divided into two general categories based on the quantity required. Macrominerals are required in gram quantities per day and include calcium (Ca), magnesium (Mg), phosphorus (P), potassium (K), sodium (Na), chlorine (Cl), and sulfur (S). This class of minerals are important structural components of the skeleton and other tissues. These macrominerals also play a large role in normal body functions like maintaining acid-base balance, osmotic pressure, membrane electric potential and nerve transmission. Additionally, macrominerals are also important components of body fluids (think electrolytes). The second category, microminerals, or trace minerals, are required in milligram and microgram quantities in the diet; they include chromium (Cr), cobalt (Co), copper (Cu), iodine (I), iron (Fe), manganese (Mn), molybdenum (Mo), nickel (Ni), selenium (Se), and zinc (Zn). These trace minerals are present in body tissue in very low concentrations. Some essential functions include serving as components of enzyme systems in the cell for maintenance and production, and as components of hormones. Trace minerals are especially critical for optimum immune function, which will aid in

disease resistance and improve vaccine response. There are several factors that can impact animal's mineral an requirements such as seasonality, environmental conditions, and stage of production ranging from brood cow production status to growth rate of growing steers. Many of these minerals can be below the animal's requirement in grazing or harvested forages and feeds. To help remedy these situations a properlyformulated, nutritionally-sound mineral supplementation program can fill the nutritional gap that exist between what the animal's requirement is and what the forage and feedstuffs can supply. Because it is common for consumed forages or feedstuffs to not meet animal requirements for all 17 necessary minerals, supplementation of a wellformulated free choice mineral is encouraged. Often we view free choice mineral as strictly an expense rather than a necessity and part of our general herd management and animal husbandry program. Average mineral cost per cow per year is around \$40-\$50. This cost should be viewed as an investment rather than an expense in order to achieve optimal performance from your herd. Fixing a marginallydeficient situation or improving a subclinical problem through mineral supplementation is difficult to see or measure. However, an open cow or a sub-optimally performing calf will more than cover the cost of a mineral program for a cow for a year. One thing to keep in mind relative to return on investment for mineral supplementation is that on average, calves weaned from cows that have had access to a properly-formulated free choice mineral will be 35 pounds heavier at weaning than calves from cows with access to only salt. Cowboy math for an extra 35 pounds of weight would be worth: \$50.00 mineral cost ÷ 35 lb. of added weaning weight = 1.43/lb. of calf gain. Now what about the cost of that open cow? What is her value with a calf at side compared to being open, particularly if she is open because of sub-optimal mineral nutrition. Think about mineral supplementation this way: View your mineral feeder as a necessary piece of equipment, probably the cheapest one you have on your farm. Just like you view your hay baler - it is necessary to get the job done, get the cows to pay their way, and to be a profitable part of your operation.

Hunter Nutrition Feed & Forage Outlook: Part II By: Jeff Hunter

How To Stretch Your Hay Supply

Reduce hay waste by limit feeding, processing, and supplementing hay with another fiber source and/or grain. Correctly designed feeders are a must and always avoid feeding on the ground. Hay storage is also a big issue in determining your usable hay supply. Minimizing hay waste could provide you with an additional 10% or more of available forage. Indoor hay storage is preferred. If you have outside large round bale storage, place the bales in the open, with air space between bales and the rows in a well drained location. Forage testing and ration balancing (done early) will be a real asset in terms of feed savings and animal performance.

Products To Stretch Your Hay Supply

Hay Saver Pellet, Beef Cow Pellet, Soy Hull Pellets, Calf Pellets, and Co-Product Pellets are

nutritional feed options which can supplement both hay and grain at affordable prices. While I do not expect that we will have a 'cheap feed option', I do think that we can use some of the co-products as dual purpose feed (energy) and fiber supplements. The pelleted co-products will likely be priced less than energy grains such as corn, wheat, and barley. The next to zero waste of these products, plus their higher energy value compared to hay make them a wise decision to stretch your hay supply.

Wise Hay Purchasing

Buying your hay needs early (during harvest) can reduce your hay costs by 50% or more. Buying early and developing on-going relationships with hay growers is critical in keeping hay costs in line. Buy by the ton whenever possible, instead of buying by the bale. You do not want to be looking for hay in a short crop year and certainly not shopping for hay during the winter. Either one of these will use up a lot of your time and have you spending too much money for forage. Be cautious on what hay you buy. You do not want to fill up your hay storage area with a lot of light weight bales. Those light weight bales take up about the same area as a 'good' heavy bale. Some bales are so light in weight that you have to feed twice as many of them. This increases labor, when your time is better spent managing your stock.

You should keep 150% of your annual hay needs. The 'extra' 50% will get you thru long winters and late springs. Storing 'extra' hay puts you in control of your feed costs and allows you to feed the way you want.

The Importance of Amino Acids

When thinking of an ideal feed for livestock, generally our first thought is focused on the percent of protein most valuable to the animal's growth and stage of life. What we don't always realize, is the importance of what makes up those proteins. Amino acids are the building blocks of all proteins and make up a large part of animal health. That being said, making sure all amino acid requirements are met for every animal is essential. The main amino acid we focus on for swine is lysine. As pigs grow, their lysine and amino acid requirements will increase, so it is





by: Katie Marchino

imperative that the producer adjust rations to meet the changing stages of the hog, as well as the increase in body weight. Also, lysine is something producers that feed a primarily corn and soybean meal diet should pay attention to. Due, to the lower levels that corn provides naturally. Lysine along with other amino acids can be added to diets in either synthetic or organic forms. In conclusion, when selecting or creating a diet, you should always ask your nutritionist about protein and amino acid levels in consideration of body weight and age of the animal to ensure healthy, profitable livestock.

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Feeding Gestating Ewes

Most of you will be lambing late this fall and winter. As you head into winter, remember that good preparation is everything. Assuming you have adequate forage supplies then our attention goes to nutrition and health concerns for the gestating ewe. In much of the country, we will be out of grass and all of its benefits by December, most likely earlier. Without high quality grass, the ewe flock becomes totally dependent upon the shepherd's feeding skill. Nutritional supplementation of the winter forage supply becomes critical. We will be in a demanding winter environment and need to fulfill the increased nutritional demands of late gestation. Much of this years winter hay supply will be first cutting or lower quality hay. The 2019 hay crop is of both lower quality and lesser volume. Hay sampling and ration balancing based on forage quality should be considered for most flocks. With lower quality hay, fed at a lower rate, we will need to feed more of the correct amounts of grain and supplement. You will have to adjust your traditional gestation feeding program this year.

The annual reproduction of sheep in the winter and early spring can be demanding. Preventative health (vaccination programs), nutrition and stockmanship must be at a high level for successful winter production. A good late gestation vaccination (CD/ T, Pasturella, etc) program for ewes will lead to success at lambing and during the early life of the lambs. Gestational nutrition is critical, as we are supplementing almost all of the needs of the ewes due to the stage of production and the low quality of much of our forage.

Winter gestation feeding has a double challenge of low quality hay and the fact we are feeding for that highly demanding production stage. The fact that winter gestation feeding coincides with low quality forage makes supplemental feeding critical for success. The probability of deficiencies of even a basic nutrient

such as energy or protein and certainly selenium, magnesium, calcium, Vitamin E, etc. is high! A good Gestation Feeding Program starts 6-8 weeks prior to lambing. Without adequate energy, newborns will be small and weak, stillborn and abortions will also be at a higher level. Adult animals that are shorted on energy will lose weight, have low milk production, a shortened live span, and have a longer re-breeding interval. Protein will be needed to maximize milk production and for the viability of newborns. Calcium, magnesium, and, to some extent, potassium play a big role in metabolic disorders which can be disastrous. The sudden onset of hypocalcemia and hypomagnesia frequently seen in otherwise healthy ewes are results of those deficiencies. Feeding these nutrients as a preventive measure is more successful than the treatment options. lodine is very important in reducing stillborns and preventing goiter. Low selenium and/or vitamin E results in white muscle disease in newborns, weakness, low birth weight & viability, lamb death loss, stillborns, dystocia, delayed breed back time, and lowered performance.

Production stage specific feeding programs can address these concerns. While ewe maintenance requirements are usually filled with free choice mineral and pasture/forage. Gestation and Lactation have a much greater need for all classes of nutrients. The first significant nutritional change for the ewe occurs during late gestation (the last 4-6 weeks). For a ewe carrying twin lambs, her dry matter needs increase by 30%, energy (TDN) by 60%, and protein by 50%. These are dramatic changes at any time of the year! Adequate levels of these nutrients are necessary because 70% of fetal growth occurs during the last 4 weeks of gestation. A good gestation feeding program will increase lamb birth weight and survival. Sufficient energy is needed to prevent pregnancy disease (ketosis) in the ewe. Gestation feeding programs affect the ewe's milk production during lactation. Too much feed can cause fat deposits in the udder reducing production. Over feeding can lead to lambing difficulties due to large lambs. Not enough feed can also cause a

by: Jeff Hunter

delayed onset of lactation and lower milk production. Proper grouping of ewes so that they have 4-6 weeks on the 'late gestation ration' will minimize these problems. What you do to the ewe flock in late gestation determines the success of your lambing ! Pre-lambing vaccinations and feeding to prevent coccidiosis, abortions, stillborn, and white muscle disease should be routine practices. Typical Gestation feeding recommendations would be about 4 -4.5 # of hay equivalent and about 1-1.25 # of grain daily. Recommendations vary with ewe body weight/condition, breed, fleece length, temperature, and forage quality.

Good gestation feeding programs that supplement important nutrients such as energy, protein, selenium, vitamin E, magnesium, iodine, etc. are vital to success. A feeding program is really about fulfilling animal health needs. Planning ahead so that you can manage the sudden increase in nutritional needs during gestation is very important. A good gestation program determines your lambing success and enjoyment.



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A new program called "We Feed and Recommend" is being offered to Hunter Nutrition customers in partnership with *The Banner Sheep Magazine*. Hunter customers will receive a 10-percent discount on their ad in *The Banner Sheep Magazine*, which will include a "We Feed and Recommend" logo incorporated into that. *The Banner*'s excellent graphic designers will help you promote your flock by designing and customizing each ad to fit the needs of your farm.

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