Feeding the buck for long term gain

If you have raised goats for very long, you know the value of a buck. How one buck can change the face of a program for the better or worse. How a good buck is not generally cheap, or how the measure of a buck is in his daughters not his pedigree. You also likely know how commonly bucks die at a younger age than does. Sometimes it is a natural death, while other times it is disease or accident. In any case bucks tend to be buried quicker than a producer would choose. While no producer can control every variable, when we consider nutrition there are many things that can be done to keep our bucks kicking for years to come. With this in mind let us ask: what does a buck require each day?

A buck’s requirements can be broke down into seven main categories; Water, protein, fats, energy, fiber, minerals, and vitamins. While the ratios of each requirement may change based on environmental factors, age of the goat, and growth; each goat will require all of the categories in varying degrees at all times. Remember, nutrition is not measured in percentages but rather in pounds of intake per day. While you may order based on the percentages guaranteed on the label; it is in the quantity fed that you will garner results. Additionally, the perfect diet on paper that a goat will not eat is an imperfect diet. The inverse is also true. A seemingly poor diet that goats love to eat can in fact be an effective diet. With this in mind, let us consider the requirements of a buck.

Water: The most often ignored yet the most important requirement each day is water. When I talk to producers it is generally the last item of concern, yet affects everything they do. Placement of water tanks, freshness of supply, and cleanliness can all affect feed or forage intake and even susceptibility to disease. Mineral balances of diets can be skewed by high sulfur or iron contents found in the water supply. As I mentioned in last month’s article, producers must be mindful that neither water cleanliness nor safety is a certainty. Testing is always a valuable asset when questions arise. Water problems can create enormous issues for the producer. A buck needs continuous access to easily accessible cool, clean, fresh water.

Protein: Protein is muscle, protein is muscle, protein is muscle! Saying it over and over will not make it true. Protein is used in the production of muscle but feeding more protein will not inherently create more muscle. Protein is derived from nitrogen and non-protein nitrogen sources and is used for many purposes including structural development, and feeding rumen microbes. Additionally it is often the leading cost of a ration. Increases in protein compared to the available fat/energy will fuel a leaner growth or leaner goat in general, whereas decreases in protein compared to the available fat/energy will result in a heavier conditioned animal and less structural growth overall. When considering protein requirements each day, all protein sources of the daily diet must be considered. If poorer forage is offered, more supplemental protein will need to be offered through other sources. A shortage of protein can cause retarded growth, and permanent stunting. Excess will create conditioning issues, and increases in nitrogen excreted in the urine. Managing protein in the daily diet can be a constantly moving target but it is worth chasing.

Fats/Energy: Energy is carbohydrates and starches. It is used to support many bodily functions from conditioning to maintaining body heat on a cold day. Energy is one of the cheapest investments in the daily diet and is often fed in an imbalance to protein due to variances in forage growth, maturity in a pasture or stored forage, and the variability of grain feeding practices themselves. Fat content of ruminant diets is typically low because the fat content of forages is low. Fats have more than twice the energy value of carbohydrates and are often added to diets to increase energy levels when the need arises. Adding fat at high levels however can reduce total daily intake.

Fiber: Like all ruminants, goats require fiber to maintain proper rumination, digestive motility, and for nutrients themselves. It is primarily provided through our forages and can be broken down into two categories: NDF and ADF. Neutral Detergent Fiber (NDF) is the structural components of the plant, specifically cell wall. NDF is a predictor of voluntary intake because it provides bulk or fill. In general, low NDF values are desired because NDF increases as forages mature. Acid Detergent Fiber (ADF) is the least digestible plant components, including cellulose and lignin. ADF values are inversely related to digestibility, so forages with low ADF concentrations are usually higher in energy. Forage or browse need to be accurately considered when choosing or designing a grain. Additionally, all forages should be nutritionally tested before use. Once a producer has tested their forages and designed a feeding strategy, a grain supplement can be selected.

Minerals: Minerals are essential yet often shorted in the daily diet. They are required for an array of important functions in the animal body and can be classified into two categories: macro and microelements. Macro elements are calcium, phosphorus, magnesium, sodium, chlorine, potassium, and sulfur. Microelements include copper, zinc, selenium, iodine, manganese, cobalt, and iron. Other elements may be essential based on geographical location yet all minerals are used in the structural components of organs, and tissues including bones and teeth. Many health issues are caused by deficiencies or imbalances of these essential building blocks. As an example, Urinary Calculi is primarily caused by an imbalance of calcium, phosphorus, and magnesium.

Vitamins: Vitamins are essential for normal metabolism, and physiological processes. Unfortunately, naturally occurring vitamins lose efficacy through sun bleaching, time of storage, and weather patterns, making daily supplementation a requirement for farmed livestock. This supplementation is easiest achieved in grains and minerals. All vitamins have value in the daily diet but typically the greatest focus is placed on vitamins A, D, and E due to their effects on reproduction and overall health.

So how much does a buck need? This really depends on the age and status of a buck. If a buck is growing he can benefit from higher protein and energy to maximize his growth and development. This is often achieved through good forage and a heavier grain supplementation. His grain diet should be fortified with vitamins and minerals to provide for his development. Additionally, the grain should contain ammonium chloride at 1.0-1.8% to assist in the prevention of Urinary Calculi. Most growing bucks are fed a continuously available daily diet (all things consumed combined) consisting of 14-18% protein. It is this nutritionist’s opinion that fat/energy offered should be up to 20% of the protein value offered daily. As an example, if a 16% protein daily diet is offered, a fat level of up to 3.2% should be maintained. Special care should be taken to prevent obesity in a growing buck as health risks increase with excess weight.

A mature buck however, can in many cases maintain himself on good forage or browse alone. This continuously available daily diet may be as low as 10-12% protein. All supplementation beyond the forage or browse should be on an as needed basis taking into consideration the body condition score of the buck himself. A breeding buck should maintain a 2.5-3.0 on a 1-5 scale where 1 is skeletal and 5 is a marshmallow with legs. Proper conditioning is essential in maintaining a buck for many years. Condition that is too low can be just as detrimental as obesity. As most mature bucks should require minimal grain supplementation per day, mineral and vitamin requirements are most easily met through offering a free choice mineral.

Understanding the daily requirements is only part of the equation to keeping a buck healthy for years to come but it is a very important part. Producers must be able to measure what they are providing in order to guarantee those requirements are truly met on a daily basis. All parts of the diet must work together in complete balance. In order to accomplish this, stored forages and water sources should be tested before grain is considered. Once tested, proper grain supplementation can be selected and feeding rate established. Working with your local extension office for testing and your nutritionist to build a complete and balanced diet can be worthy investments toward extending the life of your herd sire.