NUTRITION AND MANAGEMENT PRACTICES AROUND THE TIME OF KIDDING

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As does move through lactation, into the dry period, and back to lactating, there are some guiding practices that can help bridge nutrition and overall health of the doe and consequently kids as they are born.

- Maintain body condition
- Maximize dry matter intake
- Reduce metabolic disease
- Strong immune response
- Produce healthy kids
- Optimize milk production

It is important to remember nearly 70% of fetal growth is put on in the last six weeks of pregnancy, making the energy needs of the doe high, but leaving minimal room for the doe to consume enough nutrients. Reduced feed intake results in the doe being forced to breakdown fat stores for energy, thus resulting in a metabolic disorder known as pregnancy toxemia or ketosis. This challenge can be escalated when carrying multiple fetuses.

Dry and Transition Doe Diet Considerations

A dry doe diet is fed starting when the doe is dried off. This diet should help to maintain or restore body condition, support udder tissue growth to produce milk, provide growth and development of a doeling, while providing nutrients for growth of the fetus. Knowing the doe will have limited capacity for feed intake, the diet must be energy dense. This includes feeding a quality mixed grass legume hay and ½ to 1 pound of concentrate, providing 11.5% crude protein. Mineral supplementation free choice is a consideration where soil mineral deficiencies are known. Visit with your nutritionist to assist in both providing mineral supplementation in the diet and monitoring of calcium levels for prevention of milk fever.

The transition period is a critical time as the doe moves from being pregnant and dry to then being pregnant and starting to lactate. This period is defined as 3-4 weeks prior to kidding and lasts through the third or fourth week of lactation. The doe needs to be in good body condition moving into this stage as energy requirements will start to increase 3 times the normal level. To respond to the additional energy requirements, the doe should be entering this stage consuming at least 1 pound of concentrate, with a gradual increase of 2 to 2 ½ pounds per day by kidding. Reducing stress and making gradual changes to the diet and introduction to the lactating diet will aid in the prevention of postpartum illnesses and overall level of milk production produced by the doe.

Once the doe has freshened, another challenge begins. During early lactation, body condition can rapidly decline as the doe's nutrient intake does not meet the milk production peak. Does will peak in milk production 4-8 weeks after kidding, while not peaking in nutrient intake until 12-16 weeks after kidding. This causes the doe to draw from body reserves to meet the energy and protein needs for milk production. When this happens, the doe goes into a negative energy balance and this will limit milk production throughout the remainder of her lactation.

Nutritional strategies during early lactation can be implemented to reduce the level at which the doe experiences this negative energy balance:

• Depending on the energy level of the concentrate diet and the quality of forages fed, crude protein levels will range from 14 – 18%. It is important to have a forage analysis done to determine nutrient levels in the diet.

• Gradually increase the concentrate every few days until the doe is consuming 3 to 3 ½ pounds per day, adjusting up or down according to level of milk production. If does are consuming more than 4 pounds of concentrate, consider offering feedings more than two times a day to reduce the potential for acidosis.

• Maintain a total diet of no more than 55% concentrate, allowing for consumption of high-quality forages to stimulate a healthy rumen. A good rule of thumb is to feed forage at 2.5% of bodyweight.

• Providing fresh, clean water is necessary for the health of the doe in all stages. A typical 100-pound goat will consume 1-3 gallons of water per day. If they are lactating, for every two pounds of milk produced, an additional ½ gallon of water should be consumed.

Figure 2 Reference: Sahlu T. and A. Goetsch. 1998. Feeding the Pregnant and Milking Doe. Pages 4-20 in Proc. 13th Ann. Goat Field Day, Langston University, Langston, OK.

Monitor Body Condition

Routinely observing body condition score in all stages of the doe's production cycle is needed to understand how nutrition and management practices are working. A scale of 1 – 5 is used to determine a body condition score, with 1 being extremely thin and 5 being obese. Three areas to observe include the ribs, loin, and chest area. An under conditioned doe will have visible space between the ribs, a concave loin, and no fat around the chest, while an over conditioned doe will have the opposite; hard to see or feel the ribs, very rounded loin, and a fleshy chest. Generally accepted body condition score during late lactation is 3 and no higher than 4 during the dry period to maintain condition. Weak kids, higher mortality rates, and lower production will result if body condition score of 1 is observed prior to kidding. A score of 1 indicates more energy is needed in the diet. Does will lose 1-2 scores in early lactation and score closer to a 2 as they are not able to consume enough nutrients to match the peak in milk production. They should regain body condition as they reach mid lactation.

Management beyond Nutrition

Stress will impact dry matter intake and overall health of the doe as she transitions to lactation. Avoid overcrowding and provide clean, well-drained, dry pens. Adequate resting and feeding space should be considered for all groups of goats (milking, dry, newborn, etc.). Providing good, fresh air, without creating a draft is important in the prevention and reduction of respiratory illnesses. Consider ventilation needs and rates for all seasons by working with an ag engineer on proper fan size, placement, and design. Many facilities can be used or retrofitted to house dairy goats and flexible pen layouts should be considered to accommodate and maximize the needs throughout the year. Other facilities to take into consideration are ones that provide efficiency to those working with freshening does (restraint areas, gates, kid processing area, health supply room, etc). ■

Resource used: Dairy Goat Production Handbook and Dairy Goat Production Basics, Langston University