



## Small Ruminant Edition Fall 2020

### In this Issue...

Can We Manipulate Milk Components in Dairy Goat Herds?

Company Update

Managing Late Gestation Ewes to Avoid Pregnancy Toxemia

Dairy Goat 18% Pre-Fresh Ration

Right Start 22% Kid Goat Creep Ration



## Can We Manipulate Milk Components in Dairy Goat Herds?

*Written by: Kristin Thompson, MSc., PAg, Ruminant Nutritionist & Srdjan Nesic, MSc, Ruminant Business Manager*

Dairy goat milk composition is extremely variable. There are multiple factors that influence milk components, including breed, stage of lactation and parity, season and nutrition.

### Breed and Genetics

Domestic dairy goat breeds have been specifically bred for milk production. Each breed has an expected average milk fat and protein content, as well as volume of milk produced. High component breeds, such as Nubian and LaMancha, tend to have a lower average milk production when compared to breeds such as Saanen and Alpine, which have higher milk production but lower components.

Due to genetics having a significant influence on milk fat and protein composition it is important to focus on the selection of high-performance animals. With a short generation interval and a high rate of fertility, it is possible to apply increased genetic selection pressure in goat herds. Buck testing is recommended to understand and control the genetic potential of your herd. Artificial insemination can be performed in those selected does with proven higher milk production and components. For evaluation



and selection, it is also important to maintain organized records of both production and reproduction management. Dairy Herd Improvement (DHI) testing is available to help with whole herd evaluation.

### Production Parameters

Irrespective of breed, **stage of lactation** has the highest degree of influence on milk composition. Milk fat and protein are highest during early lactation when fresh does are entering the lactating herd. These levels decrease as lactation progresses but rise again sharply in late lactation as total milk production declines. Lactation performance and milk components are also influenced by age, the impact directly related to an increase in body weight and maturity. Research has shown that larger and heavier does produce more milk, with peak milk production reached in the third and fourth parity.

### Seasonal Impact

There are **seasonal** fluctuations in goat milk components. A recent study found that milk fat and protein levels were lower during the summer months

(April to August), and peak in December-January. The negative impact observed on fat levels is more pronounced than on protein. This information can be used to determine the appropriate kidding season. Keeping in mind that milk fat and protein levels are also lowest in mid-lactation, it is not desirable to have the majority of lactating does in mid-lactation during the summer months, as this combines the two effects that will reduce milk fat and protein. The addition of yeast and palm fat in the diet will help maintain butterfat levels through the summer months, although the individual response can be variable.

## Nutrition

In order to produce milk, the mammary gland needs energy. This energy is provided through the microbial fermentation of feedstuffs in the rumen. The different fermentation products from these microbes determines the milk composition, including fat, protein and lactose. The **key determinant** of dairy goat nutrition is forage quality, which is directly correlated to milk production. Selected legumes and grasses as well as appropriate maturity at harvest of the forage will provide baleage or haylage of the desired digestibility and quality. Another **important component** of the balanced ration is the concentrate (grains). Evidence shows that a higher concentrate feeding level can increase milk protein.

New-Life Mills' Complete 18% Dairy Goat Ration is formulated to provide optimal energy, protein, sugar, minerals and vitamins required for the dairy goat. The feeding rate will vary from 0.9kg (2lbs) and 1.36kg (3lbs) depending on the milk production and stage of lactation. A high energy **top dress** feed is also recommended in early lactation to boost milk production. New-Life Mills' 30/40 HF Top Dress is designed to supplement the extra energy, protein, minerals and vitamins required for the first 5-6 months of lactation.

## Conclusion

Milk components in dairy goats are influenced by an interaction of breed, age, stage of lactation and parity, season and nutrition. One path with significant potential for improving milk composition is **genetic selection**. Therefore, it is important to keep records that will allow you to evaluate your herd's

performance and make key management decisions. Another important aspect is the investment in the quality of your **forages** and **appropriate source** of concentrates that will provide the required nutrients for excellent performance.

## Company Update

*By: Phil Roberts, National Sales and Marketing Manager*

Over the past six months, we have experienced firsthand how connected our world is and how dependent supply chains are on each step in the process. Thankfully, agriculture is a remarkable sector to work in and is quite familiar with being adaptable and flexible while working through challenges. New-Life Mills took numerous steps, through various practices to ensure we were able to meet the needs of our clientele, while ensuring the well-being of our staff, our clients, and their businesses.

Today we continue to navigate the diverse challenges the pandemic has created, and I am overwhelmed with how the New-Life Mills team came together and demonstrated their ability to be creative in finding ways to meet the needs of our clients and the industry. Looking ahead through the ongoing challenges, our mission continues to remain front of mind. We are committed to building long-lasting business relationships, where we exceed your expectations and work alongside our clients to add value to their business. We are continuously striving to provide the best combination of people, products, and services to meet your on-farm needs and support you in the development of your business.



## Managing Late Gestation Ewes to Avoid Pregnancy Toxemia

*Written by: Rami Kridli, PhD, Ruminant Technical Representative*

Proper management during late gestation is important for the ewe as well as her future lamb(s). Good management and nutrition during this period not only ensure acceptable lamb growth rate, adequate birth weight and post-lambing survival, but also have a positive impact on a healthy transition to lambing and the ensuing lactation. Simple, affordable practices and management procedures can be implemented for a healthy gestation and lambing season. One such practice is to monitor body condition score (BCS) of pregnant ewes which is done on a scale of 1 to 5 (1 being very thin and 5 being fat). New-Life Mills representatives provide expert advice on the body condition scoring of the flock for optimal productivity.

Gestation in sheep lasts approximately 5 months. The first trimester is characterized by minimal placental or fetal growth. During the middle trimester, there is rapid placental growth, whereas in the final trimester of gestation is when most of the fetal growth occurs. It is during these last 6 weeks of gestation when both maternal and fetal nutritional demands are highest. When compared to non-pregnant ewes, single-bearing ewes require 50% more feed while twin-bearing ewes require 75% more feed during

late gestation. Special attention should be given to prevent over-conditioning of ewes during late gestation to avoid complications such as pregnancy toxemia, dystocia, uterine prolapse and other associated conditions.

Pregnancy toxemia (twin lamb disease) is one of the most prevalent metabolic disorders in late gestation ewes and is usually seen during the last 2 to 3 weeks of gestation. It is the result of reduced energy intake leading to low blood glucose (sugar). This condition is typically seen in more prolific ewes carrying multiple fetuses, and in ewes that are over- or under-conditioned. Multiple fetuses restrict the physical space for the rumen in the abdominal cavity, thus reducing feed intake. Affected ewes start to breakdown fat tissue to generate energy, which produces ketones. As ketones build up in the body, they overflow into the bloodstream causing ketosis. Almost 80% of affected ewes die within a few days as a result of this condition. As a preventative measure, ewes approaching lambing should be between 3 and 3.5 BCS and be closely monitored to observe early symptoms associated with the disease. Symptoms such as going off feed, dull behavior and muscle twitching are observed before the progression to an


irreversible state. Although chances for recovery are not very high, animals showing symptoms should be immediately placed on a treatment program, such as drenching with a high energy product like propylene glycol 2 to 4 times daily and preferably inducing lambing with corticosteroids.

Predisposition to toxemia occurs in those flocks where pregnant ewes are managed in a single group without accounting for the number of fetuses. Under ideal situations, it is strongly recommended to house single-bearing and multiple-bearing ewes separately, however this can be hard to accomplish in small flocks. In these cases, the practice of body condition scoring becomes essential in order to prevent over/under feeding. Producers should check BCS regularly during this period and adjust the amount of feed offered accordingly. If possible, thin ewes should be offered more grain while fat ewes should be fed a restricted diet to control the reduction of body condition without predisposing them to pregnancy toxemia.

Pregnancy toxemia is more prevalent in mature ewes compared to primiparous ewes because they have a higher twinning rate. Despite this fact, primiparous ewes should be given special attention during pregnancy as they are finishing their growth in addition to gestation. Primiparous ewes are expected

to gain 15 to 20kg during gestation and, as such, should be kept in a separate group from mature ewes due to having different nutritional requirements.

A clean and ventilated barn, good genetics and high-quality feeds are important, but they do not substitute good management. Remember, it is always easier to prevent pregnancy toxemia than to treat it.



The 3 Benefits of Our  
**Dairy Goat 18% Pre-Fresh Ration**

- 1**  
Yeast inclusion for improved rumen health and feed utilization
- 2**  
Chelated trace minerals for increased bioavailability
- 3**  
Propylene glycol for prevention of pregnancy toxemia



**Right-Start 22% Kid Goat Creep Ration**

**Palatable starter feed to promote early intake**

- Enhanced rumen development
- Smoother weaning transition

**22% protein**

- Early frame development
- Increased preweaning weight gain

## Contact Information

Sales & Nutrition Office  
1-800-463-1196  
info@newlifemills.com  
www.newlifemills.com

Clavet Mill  
1-800-667-4693

Inkerman Mill  
1-800-565-5175  
Wyoming Mill  
1-800-265-7507

**new-life mills**  
*Feeding Your Future*  
A division of Parrish & Heimbecker, Limited