

Developing large, disease free herds: how to help producers start or grow operation with success

Andrea Mongini, DVM, MS

M&M Veterinary Practice, 5213 S Gratton Road, Denair, CA 95316

Abstract

Sheep and goats differ from cattle with respect to the diseases which infect them. In general, small ruminant diseases are chronic and incurable. There are a multitude of diseases that will decrease production and efficiency of feed conversion, while increasing cull rates and death loss. On a large-scale operation, these diseases must be prevented in order for a farm to be economically viable. In this article, we discuss how to successfully develop large herds and prevent future spread of disease or introduction of disease into the herd.

Key words: sheep, goats, small ruminants, disease, production

Résumé

Les moutons et les chèvres diffèrent des bovins au niveau des maladies qui les affligent. En général, les maladies chez les petits ruminants sont chroniques et incurables. Il existe une multitude de maladies qui vont décroître la production et l'efficacité de la conversion alimentaire et qui augmentent le taux de réforme et les pertes d'animaux. Dans une entreprise à grande échelle, ces maladies doivent être prévenues pour assurer la viabilité économique de la ferme. Dans cet article, nous discutons comment développer avec succès un grand troupeau et prévenir la propagation ultérieure des maladies ou l'introduction de la maladie dans le troupeau.

Introduction

Veterinarians are generally called out to assist in disease outbreak control or to diagnose the cause of illness in large herds. A disease-causing organism can either enter the herd through a purchase of new stock or be spread within the herd via carrier animals. In a large herd setting, owners are more likely to buy animals on a regular basis, and they are at greater risk of having a positive goat or sheep that can act as a herd source for disease transmission. A proactive approach to herd health management may come across as a novel idea to many producers, but convincing herd owners that a veterinarian should be involved from day 1 will benefit the owner, the animals, and the bank account of the producer.

Veterinarians have access to a vast network of professionals and breeders to assist in purchasing negative-status youngstock. A herd ideally grows from youngstock—either raised replacements or purchased kids. The longer an animal lives at the farm of origin, the higher the risk of becoming positive for a specific disease. Although youngstock should only be purchased from 'negative' herds with annual testing data; it is always best to assume all purchases are positive and treated as such.

Biosecurity

Newly purchased animals must go into quarantine for 3 to 4 weeks. After that period, all animals will live with purchased herd mates for the entirety of their time at the farm. It is important to consider the social aspects related to goats. Goat families travel together. Goats that grow up together will live together as adults. Reducing stress is essential in a production setting where large groups of goats are housed together.

All suspect animals must be tested and culled if they test positive. Generally, a premium is paid for 'negative' goats or sheep. A replacement should always be made for problem animals. As a veterinarian, monitoring this aspect of the transactions is invaluable. Credibility and professionalism are tools that can benefit your clients on a daily basis. Do not forget to use them!

The key to growing a large herd is to assume that the herd is positive for any and all transmissible diseases. As a veterinarian, constant education and reminding the owners that tests are not always accurate is very important. Without a veterinarian, producers often buy goats or sheep from a negative herd on a handshake deal, then use it as an excuse not to perform herd disease surveillance themselves because all their stock are 'negative'. It only takes one false-negative test to ruin a great herd of animals. As long as disease control is in place, the herd can suffer a positive popping up periodically. It can be dealt with in an efficient manner and not affect the whole-herd health status.

Managing Stressors

The other main area to manage when growing a large herd is management of string size and pen count. Over-crowding is a major issue with many goat and

sheep operations, with a direct limitation on productivity. I like to see 12 inches (30 cm) of bunk space per doe or ewe for milking or adult small ruminants; 18 to 20 inches (45 to 50 cm) for close-ups. Most herds that I visit have grossly limited production by over-crowding both feed bunks and bedding areas. Disease expression becomes much more prevalent when animals are stressed in their environment. Incidence of contagious lymphadenitis (CL) abscesses is a great indicator of stress, and can be used as a 'litmus test' when evaluating a herd. In a developing herd, where you can influence the disease status, keeping pen size in check with growth is extremely important. According to Langston University, mature goats require 20 square feet (1.85 m²) of covered shelter with 25 square feet (2.3 m²) of exercise yard. In conditions with barns only, I encourage 36 square feet (3.35 m²) per doe.

Crowding in kid and lamb pens is another bottleneck in growing dairies. Forecasting pens that will be required before each kidding or lambing season starts helps manage the coming chaos. There are many different kid-rearing systems, and many reasons why they are implemented. If the goal is minimal death loss, pen size must be small (under 10 kids per pen). I feel 6 kids per pen is the maximum number for optimal disease control, and efficiency of feeding/management. Within a group, there are always weaker kids. In larger pens, these kids fail to thrive and often die. To raise the small triplets and weaker neonates, they must be housed in smaller groups. Optimal housing density is 3 to 4 square feet (0.28 to 0.37 m²) per kid or lamb. As a cattle veterinarian, it is safe to manage kids and lambs like Jersey calves, keeping in mind that they are group-housed, so diarrhea-causing organisms and viruses like contagious ecthyma (Orf or Sore Mouth) are easily spread within a group where they can be amplified and then spread throughout the barn.

Veterinary Input to Reduce Losses

Start-up herds have tremendous opportunity and also tremendous risk. When the veterinarians are able to insert themselves in the process of building the herd and dairy structure, they can assist in deciding how money should be allocated. New producers can end up spending money in the wrong way, then not have adequate money to spend where it counts. For instance, there should be enough money allocated for housing of youngstock and labor to care for the kids. I have seen many dairies that focused heavily on milking and milk production, yet the kids were not cared for properly and very high (50 to 80%) death loss occurred. All the money spent on quality genetics is useless when replacements are lost and subsequently, more goats must be purchased the following year to make up for a lack of youngstock.

This is one of the most common ways a new dairy goes bankrupt. Another common mistake made by growing herds is to keep every goat they purchased, because the producer feels they made an investment. Diseased animals should be isolated and culled or treated. The common mycoplasmas that affect goats can be devastating to new herds. It is a VERY common pathogen in developing herds where many animals are stressed and commingled. Veterinarians often do not get called until it has spread from a few animals to a large portion of the new herd. Education regarding how mycoplasma infections begin in a herd, as opposed to how it looks once the epidemic has set in, can also be valuable. Early mycoplasma infections present as recurrent or very severe pneumonia. Sometimes, producers will comment on does with swollen joints (which they mistake for caprine arthritis-encephalitis virus [CAEV]) and severe pain. The infectious arthritis associated with mycoplasma is extremely painful. Once the epidemic has set in, the chief complaint is acute death, sometimes with severe pneumonia symptoms. The key is to catch the initial infection and have owners well educated in how to effectively isolate suspect animals until further testing or a decision can be made.

Managing the Labor Force

The greatest hurdle for growing herds is matching labor to needs of the operation. Utilizing labor efficiently as the herd grows is a challenge. Owners start with a set number of employees, train them to their jobs, then slowly add work responsibilities as the herd grows. At some point, labor must be retrained to new systems as needs change within the dairy operation. It may be necessary to add new employees also. When these issues are not addressed, corners are cut and errors made due to the inability to 'get it all done'. For instance, at some point, it becomes necessary to add a second or third milker in the milk barn. This depends on the size of barn and size of strings. Once the goats are standing for more than one hour per string, production will suffer. Keeping track of milking times is essential. If the machines are hanging on the goats for too long, teat damage occurs which leads to mastitis and teat sores. Goat dairies do not use automatic take-offs, and milkers must take time to ensure proper milk-out without over-milking. Large strings require multiple milkers for maximum efficiency and animal throughput.

When the kid feeder has too many kids to feed, hygiene generally suffers, which results in more neonatal diarrhea. At some point, additional kid barn employees become necessary to maintain herd health. Many growing herds start with an overabundance of labor, then outgrow their labor force. When this happens the herd performance suffers, profitability drops, and the demise

of the dairy sets in. As a consulting veterinarian, you can monitor the workload and labor force and help keep jobs in line with the herd's demands. SOPs (Standard Operating Procedures) are a great tool where each job is clearly defined. The employee has a clear definition of what is expected of them. The management can monitor the SOP versus the employee performance, and also edit the SOP or add SOPs as more tasks become necessary.

Conclusions

Large herds generally grow from small herds, and maintaining the dairy structure is a simple and neces-

sary requirement. Failure in large herd settings usually comes from abandoning the management framework or never creating it from the start. A well-defined goal with a map or plan for the upcoming growth will help maintain order throughout the stages. As a management consultant or veterinarian, you can help the producer forecast the future and prepare for the workload and cost while limiting risk. Management of disease and maximizing production through proper housing are areas in which veterinarians are trained. Use your skills to make a lasting partnership with your clients. You are an integral part of the success of your dairies. Make sure they know it!