

## Vaccinations: Preventing the Preventable Diseases!

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You now have a pen full of gorgeous lambs/kids that you have spent the last year planning for, assisting in the delivery, and insuring that they have the best start available with adequate nutrition from their dam or feed. You go down to the barn to feed and you hear a young animal in distress. You see your best performing lamb/kid laying down in obvious pain with a distended abdomen. Within an hour, the young animal has passed away despite all attempts to save him/her. So, what happened? How could this happen? What could have been done to prevent it? Vaccination is the key!

In sheep/goat production, we are very fortunate that we only have to deal with a few diseases versus within cattle production. The most common disease which is prevented through vaccination is "Overeating disease" or *Clostridium perfringens* enteritis. We commonly see type C & D and this is what we vaccinate against.

Another disease which affects sheep and goats is Tetanus. Once again this is easily prevented through vaccinating young kids/lambs against tetanus especially during times of surgical procedures such as tail docking, castration, and disbudding.

The best time to vaccinate to protect the very young is actually by vaccinating the dams 30 days prior to lambing/kidding against *Clostridium Perfringens* Type C & D/ Tetanus. And guess what, these vaccines are commercially available together.

If the dam was vaccinated correctly, the lambs and kids do not need to receive their first vaccination until they are 4 weeks old, followed by a booster in 3-4 weeks.

Goat kids usually are not castrated until they are 8 weeks of age. When the vaccination schedule is followed as above, they receive their second booster at the time of castration which should protect them against tetanus. When docking tails and castrating lambs at a young age, you may need to administer tetanus antitoxin to protect them against tetanus if, the dam was not vaccinated 30 days prior to lambing. If the dam was given her

booster vaccination 30 days prior to lambing/kidding, then the offspring should be protected against tetanus and enterotoxemia for the first several weeks of life, and tetanus antitoxin does not need to be administered prior to docking tails, castration of lambs in first week of life, and disbudding.

Now what about the "other" vaccinations? Below is a list of diseases which have a vaccine developed to prevent infections from the causative organism:

### Soremouth –

"Contagious ecthyma", "orf"

### Pneumonia –

Can be caused by several infectious agents both viral and bacterial.

### Contagious Abscesses –

caused by *Corynebacterium pseudotuberculosis*

### Abortion Diseases:

*Chlamydia psittaci* Bacterin  
("Enzootic Abortion of Ewes" (EAE)  
*Campylobacter fetus-jejuni* vaccine  
("Vibriosis")

The diseases listed above are ones which should be vaccinated against if it is a management problem/disease within the herd. A brief description of each disease and how to control the disease in your herd/flock through vaccination follows.

### SOREMOUTH

Soremouth is caused by a poxvirus which causes ulcerative sores/scabs at the mucocutaneous junction of naïve sheep and goats skin. Lesions are primarily on the lips, coronary band of the foot and teats but have been seen on eyelids, vulva and ears of infected animals. Since it is a virus, once an animal is infected and demonstrating lesions, the producer must allow the virus to run its course and wait on the animal's immune system to heal the lesions. This may take 3-4 weeks if severe lesions are present. Some kids/lambs with severe lesions are reluctant to nurse and does/ewes with lesions on their teats may not allow their young to nurse due to this painful condition.

There are some topical lotions that

help speed the healing of the lesions but prevention minimizes the severity of the lesions and the producer can administer the vaccine at a time which is more convenient to have the disease. Vaccinating young kids and lambs with the LIVE virus vaccine allows all of them to become infected with a mild case and develop life-long immunity. This is very important if you have show animals because if they develop soremouth in the middle of show season, the animal cannot be shown until completely healed; therefore, it is easier to infect them at an early age and be exposed to the disease before show season even starts. One critical point is this is a LIVE vaccine! If you do not have soremouth in your herd do not vaccinate your animals against soremouth. This will introduce soremouth virus onto your premise.

### PNEUMONIA

There are many viral/bacterial causes for pneumonia in sheep and goats. One of the more common causes is *Mannheimia haemolytica* (used to be called *Pasteurella haemolytica*) and *Pasteurella multocida*. There is a vaccine manufactured to aid in prevention against these two bacterial causes of pneumonia.

Figure 1. Pneumonia Vaccine



The bacterin must be administered with a booster in 2-4 weeks followed by a yearly booster.

Another method of pneumonia prevention in sheep and goats is to administer an intranasal virus vaccine designed for cattle. Research shows that if you can prevent the respiratory viruses (Infectious bovine rhinotracheitis, parainfluenza, and bovine respiratory syncytial virus) from causing damage to the epithelial cells of the trachea and destroying the protective epithelial/cilia barrier in the trachea then, you can prevent infection from the opportunistic bacteria such as those listed above. There are several intranasal vaccines designed for calves (Inforce -3, TSV-2, Nasalgen). These can be used on sheep and goats using ½ the cattle dose intranasally.



There are no approved vaccines against these diseases in goats, but working with your veterinarian you could utilize these vaccines to hopefully protect your goats if one of these diseases have been diagnosed within your herd. Another way to control abortions caused by *Campylobacter* is to feed tetracycline daily to your pregnant ewes/does beginning 30 days prior to parturition. In order to feed tetracycline, a Veterinary Feed Directive will have to be filled out by your veterinarian and taken to your feed distributor.

## ABSCESSSES

Contagious abscesses, “CL”, Caseous Lymphadenitis, is caused by the bacteria *Corynebacterium pseudotuberculosis*. This bacteria prefers to set up shop inside a lymph node. The abscess can be found in internal as well as external lymph nodes. When an abscess occurs internally it usually causes severe organ dysfunction where the lymph node is located, i.e. lung, kidney, liver, brain, spinal cord. There are two vaccines commercially available at this time: Case-Bac® for sheep and *Corynebacterium pseudotuberculosis* bacterin for goats. Figure 2.

### Figure 2.

#### Abscess vaccine for sheep and goats.



Producers should be aware that these vaccines are not 100% effective at preventing abscesses in sheep and goats. It does assist with control of abscesses within the herd, as does isolating the infected animal and cull/treat to minimize/remove the exposure to the bacteria.

Young lambs/kids should be vaccinated as early as one month of age with a booster given in 3-4 weeks. Then a yearly booster should be given, preferably one month prior to lambing/kidding, to increase antibodies within the colostrum. In recent years, there have been more producers requiring a new purchase to be serologically tested for the presence of antibodies to CL. If an animal is vaccinated against *Corynebacterium pseudotuberculosis* there is no way to serologically test between active disease and antibodies to the vaccine. So if you plan on marketing your animals as “CL Free” you will not be able to vaccinate them against this disease.

## ABORTION VACCINES

In sheep, late term abortions caused by chlamydiosis/campylobacter can be prevented by administering vaccines prior to breeding. These vaccines are commercially available through Colorado Serum Company and marketed as *Chlamydia psittaci* and *Campylobacter Fetus-Jejuni* Bacterins. The vaccines must be given prior to breeding and usually involve administering two doses 4 weeks apart initially, then yearly booster prior to breeding.

## HOW TO ADMINISTER VACCINES:

It is great to be able to prevent diseases through the use of vaccines, but if not performed properly the vaccine may not be effective or could possibly cause trauma to the vaccinated animal through improper/nonsterile technique. The hind leg and loin area of sheep and goats contain the most valuable product of their carcass. If injections are given back in this area, there is a high probability of destroying these cuts of meat due to abscess or scar tissue development from an injection. Therefore, all injections should be given in the neck or axillary area (located under front leg or right behind the elbow). Be sure to practice aseptic technique when the vaccine is pulled up into the syringe and administered to the animal. Never enter a bottle of medicine with a used needle. Use a new, sterile needle each time you pull up vaccine/antibiotics to administer to animal(s). This prevents bacteria from being introduced into a bottle of vaccine/antibiotics and contaminating the bottle which may lead to injection site abscesses.

Hopefully, this article has helped you with your decision of what, when, why, and how to vaccinate your sheep and goats to prevent many of the preventable diseases we deal with daily.

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