



Mastitis in Sheep and Goats

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Abstract: Mastitis is an important disease of sheep and goats because it decreases the amount and quality of the milk produced by a dairy animal and reduce weight gain in lambs and meat kids. It can also affect the animals well-being. Mastitis is an inflammation of the udder most commonly caused by and infection in sheep, goats it is considered to be one of the principal reasons (along with lameness) for the culling of ewes. Clinical and sub-clinical mammary infections are considered a welfare issue and the primary cause of milk drop syndrome in ewes.

In dairy sheep flocks mastitis has obvious financial implications due to the reduction in milk yield, milk quality and rejection of milk if antibiotics are administered. Nevertheless mastitis is also important in meat production flocks as a reduction in milk can cause sub-optimal growth of lambs. Other costs include replacement ewes and vet expenses.

Keywords: Mastitis, Disease, Sheep, Goat, Udder, Milk, Infection.

When bacteria enter the udder, a mastitis infection may occur. Good udder and teat conformation can help to reduce the risk of mastitis. One way to help prevent mastitis is to keep milking and living areas clean.

Preventing respiratory disease in lambs and nursing kids can also help prevent mastitis and *Pasteurella hemolytica*, bacteria that causes pneumonia in lambs and kids can cause mastitis. Also post dipping teats after milking can greatly reduce the risk of mastitis in milking does and ewes.

Treatment of mastitis is generally done with the use of either injectable or intramammary antibiotics. There are no antibiotics that are labeled for use in sheep or goats for the treatment of mastitis. Therefore all treatment of mastitis for sheep and goats is considered extra-label and must done on the advice and under the supervision of a veterinarian.

Extra-label is the use of any drug that is used for something that is not specifically listed on the label and is only permitted under the written orders of a veterinarian. Does and ewes with clinical mastitis are can be very ill and often require other supportive care.

The use of intrammary dry off treatment can help with treatment of mastitis during the dry period but must be done under the direction of a veterinarian as there are no dry treatment antibiotics labeled for sheep and goats.[1]

Diagnostic procedures for mastitis include clinical examination (swollen painful udder or obvious teat lesions, abnormal milk, high rectal temperature, lameness not associated to lesions on the limbs), bacterial culture and screening of individual and bulk milk tank milk samples.

Selective bacteriological testing serves to cut the cost of extensive sample collection. Usually on (ideally, post-milking) sample is all that is needed for a positive diagnosis. However, consecutive positive samples from the same udder half is better and as this should minimize false-negatives. Mammary pathogens can remain viable in frozen milk samples for longer than the lactation period and thus can be used in a mastitis control programme.[2]

Control of mastitis requires high standards of hygiene both in the shed and during milking, balanced ewe nutrition, and regular on-farm monitoring of the ewes as this provides an indication to the general health status and in particular mammary health status of the ewes.

Ewes affected by mastitis should be segregated and culled so as to minimize the spread of infection from cross suckling. Culling ewes prone to infection at the end of the lactation period will contribute to reducing incidence of mastitis in the flock, this will also reduce vet bills, eliminate a potential source of infection.[3]

Hygiene in the sheep shed-issues such as insufficient clean straw, poor ventilation, lack of regular removal of faeces, inadequate disinfection of the shed all contribute to poor hygiene in the shed as they all lead to the build-up of environmental pathogens

Milking practice-incorrect milking practices, poorly trained staff, over-milking, insufficient cleaning of milking equipment, over-use of liners, poor water hygiene and malfunctions of the milking machine (incorrect vacuum, pulse rate and ratio) all led to pathogen build up and are potential causes of mastitis. Regular checking of the milking equipment, good milking protocol (including post-milking teat dipping) and regular observations of the udders all help in minimizing ewe mastitis.[4]

Feeding ewes-Vitamin A deficiency has been identified in cases of clinical and subclinical mastitis.

Udder conformation-teat placement and udder shape may be linked to mastitis incidence. Machine milkability of such udders is difficult, the cluster often fall off, milk may be retained in the teat canal, thus requiring further stripping.

Number of suckling lambs-The more lambs suckling from the ewe. Also lambs from infected mothers' milk thereby spreading infection throughout the flock. Additionally, ewes with multiple lambs will encounter more suckling events with longer suckling periods and an increased risk of teat bites and lesions, and therefore potential colonization of bacteria in the udder causing mastitis.[5]

Health status-immunocompromised animals are more susceptible to diseases, including mastitis. Stress can affect the health status of ewes. The phenomenon known as peri-parturient relaxation which when the immunity in ewes is thought to relax in the weeks pre- and post-lambing may also be responsible for some cases of mastitis seen immediately after lambing. In general overall high health status of ewe will support in controlling mastitis by preserving good immunity.

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