SOME DISEASES THAT AFFECT SHEEP

Abortion

Abortion is when pregnancy is terminated and the ewe loses her lamb(s), or she gives birth to weak or deformed lambs that die shortly after birth. While it is not unusual for some ewes to abort, flock abortion rates in excess of 5 percent are usually considered problematic.

There can be many reasons for abortion, and it is not always easy to determine the cause. In the US, the most common infectious causes of sheep abortion are *chlamydia* (enzootic abortion, EAE) and *campylobacter* spp. (vibriois). Toxoplasmosis is also a common cause of ovine abortion. Less common causes include bluetongue, border disease, brucellosis, Cache valley virus, listeriosis, and salmonellosis.

Good hygiene and management will go a long way towards minimizing losses due to abortion. The feeding of antibiotics during late-gestation and the feeding or administration (Rx) of antibiotics during an “abortion storm” may help to reduce losses.
There are approved vaccines for both *Chlamydia* and Vibrio. There is no vaccine (in the US) for toxoplasmosis, but it may help to feed Rumensin® (Rx) during pregnancy. Spaying and neutering barn cats may also help to control toxoplasmosis, as kittens and young cats are the ones responsible for shedding infective oocytes

References:https://www.sheepandgoat.com/overviewsheepdiseases

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Caseous lymphadenitis (CL, CLA)

Caseous lymphandentitis (CL) is an infectious, contagious disease of sheep (and goats). It is caused by a bacterium called *Corynebacterium pseudotuberculosis*. CL causes the formation of internal and external abscesses. Internal (visceral) abscesses form in different organs, resulting in a debilitating (wasting) disease, often referred to as "thin ewe syndrome." Subcutaneous (external) abscesses form near the lymph nodes, mostly around the head and neck region. If/when these abscesses rupture, they release pus into the environment, providing the vector of transmission to other animals.

While not all abscesses are CL, until proven negative by culture, they should be treated as if they are. Bacterial culture is the most reliable test for determining the CL status of an animal, whereas blood tests can determine if a flock is infected. While abscesses are often surgically drained and flushed (with iodine), draining the abscesses increases the risk of transmission, and there is no guarantee that an abscess will not reappear. There is no treatment or cure for CL. Affected animals should be isolated (minimum) and culled (preferably). Vaccination has been shown to reduce the number of abscesses in infective flocks. It should only be used in flocks in which CL is already present.

References:https://www.sheepandgoat.com/overviewsheepdiseases

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Foot scald and rot

Foot rot and foot scald are the two most common diseases affecting the hooves of sheep (and goats). Lameness is the primary symptom. Foot scald is an infection of the tissues between the sheep's toes, whereas footrot is an infection of the underlying tissue of the hoof. Footrot has a characteristic foul odor. Foot scald is caused by a bacteria (*Fusobacterium necrophorum*) that is a normal inhabitant of sheep, goat, and cattle farms, whereas footrot is caused by the introduction of a second bacteria (*Bacteroides nodosus*) which usually walks onto the farm in the hooves of an infected animal. Unlike foot scald, foot rot is highly contagious.

Foot rot can be one of the most difficult diseases to control and/or eradicate. Typical control measures include hoof trimming, topical treatments, foot soaking, isolation of infected animals, and administration of antibiotics (usually Rx). Culling is the most powerful tool for eradicating foot rot. Animals which do not respond to treatment or have re-occurring infections should be removed from the flock. Some animals are more resistant to foot rot; they (especially rams) should be favored for breeding. In addition to the costs associated with footrot (and scald), hoof disease is an important welfare issue.

NOTE: Foot Rot is highly contagious and therefore affected animals and lambs need to be quarantined

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Internal Parasites

Internal parasites (worms) is the most common health problem affecting sheep (and goats) worldwide. There are many kinds of parasites that can infect sheep, and the significance of each will vary by geographic region, farm, and year. They include roundworms (nematodes), flat worms (tapeworms and flukes), and protozoa (single-cell organisms). The most pathogenic worm is the barber pole worm (*Haemonchus contortus*) which causes bottle jaw (submandibular edema) and anemia (blood loss). Coccidia is probably the next most important parasite on sheep farms. It is a protozoan parasite that damages the lining of the small intestines, resulting in poor weight gain and ill thrift.

Effective internal parasite control requires a combination of management tools, including administration of effective drugs (called anthelmintics). Success will differ by season, year, farm, and animal. The widespread development of anthelmintic-resistant worms makes effective control even more challenging. Lambs (and occasionally sheep) may die from parasitic infection, but sub-clinical losses are probably far more costly to the average sheep farm.

References: https://www.sheepandgoat.com/overviewsheepdiseases

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Mastitis

Mastitis is an infection or inflammation of the udder (or mammary gland). The most common cause is a bacterial infection. When both halves of the udder are affected, the cause may be OPP. Mastitis is most common in intensively-managed flocks (that practice early weaning) and among heavy-milking ewes. It is the most common reason for culling, especially young ewes.

Mastitis may be acute or chronic. The first sign may be lameness or hungry or poor-performing lambs. The ewe's udder may be hard, warm, or discolored. The milk may or may not be abnormal. In extreme cases (gangrenous, "blue bag"), mastitis can be life-threatening. On the other hand, ewes with chronic mastitis may go unnoticed. In fact, sub-clinical mastitis is probably the most costly form of mastitis.

Treatment of mastitis usually involves antibiotics (systemic and/or intramammary, Rx) and anti-inflammatory drugs (Rx). While some ewes respond to treatment, ewes with spoiled udders should not be retained for breeding. Proper management during the drying off period is essential to preventing mastitis in flocks that practice early weaning. Good hygiene is especially important for housed flocks.

NOTE: Mastitis is highly contagious and therefore affected animals and lambs need to be quarantined!

References: https://www.sheepandgoat.com/overviewsheepdiseases

Ovine progressive pneumonia (OPP)

Ovine progressive pneumonia (OPP) is a viral infection that affects many body systems and causes a variety of symptoms in sheep. It is a common cause of wasting in ewes.
Hard bag is another symptom that is frequently observed. Hard bag is mastitis that affects both sides of the udder, usually resulting in little or no milk being produced from an otherwise healthy-appearing udder. The primary cost of OPP is lost production and premature culling of affected ewes. OPP is transmitted laterally from infected sheep to uninfected sheep. It is also transmitted to offspring via the milk from infected dams.

There is no treatment or cure for OPP. It is difficult to control and/or eradicate. Ewes can be blood tested for OPP and positives can be isolated or culled. Another strategy is to remove lambs from infected dams and feed them heat-treated colostrum and milk. Scientists recently discovered genes which code for reduced susceptibility to OPP. Use of rams with desired haplotypes should reduce incidence of OPP in an infected flock and offers an alternative to the more draconian measures of culling and/or rearing lambs artificially.

Pregnancy Toxemia

Pregnancy toxemia is the most common metabolic disease of sheep. It is caused by a deficiency in the intake of energy during late pregnancy, when fetuses are making their most rapid growth. Pregnancy toxemia is most common in ewes carrying multiple births. Ewes that are over-conditioned are also more prone to the disease, as the breakdown of their fat reserves produces toxic ketone bodies. Treatment of pregnancy toxemia depends upon the progression of the disease and varies from the oral administration of glucose (usually propylene glycol) to a caesarian section. Pregnancy toxemia is usually a flock issue, indicative of a wider feeding problem.

References: https://www.sheepandgoat.com/overviewsheepdiseases

Respiratory disease

Respiratory disease (e.g. pneumonia) is usually only second in importance to diseases of the digestive tract. Respiratory disease may have many causes: viral, bacterial, or environmental. Affected animals are usually depressed and go off feed. They may cough and show some respiratory distress. A fever (>104ºF) is common, but not always observed. Death may appear sudden or the disease may progress over a course of several days.

Respiratory disease is usually treated with antibiotics (usually Rx) and anti-inflammatory drugs (Rx). Unfortunately, the sheep industry lacks effective vaccines for respiratory disease. Anything that strengthens the animal's immunity (e.g. adequate intake of colostrum) will improve its resistance to respiratory disease. For housed sheep, proper ventilation is a must.

Soremouth (Orf)

Endemic to the sheep industry, soremouth is the most common skin disease affecting sheep (and goats). It is caused by a virus in the pox family. Soremouth is characterized by lesions (or blisters) on the mouth, lips, noses, and sometimes other areas of the body. Young animals are most susceptible to the disease and its effects. If soremouth occurs during lambing season, lambs may spread lesions to the udders and teats of ewes, possibly resulting in mastitis.

Soremouth is highly contagious to both animals and people. There is no effective treatment, though there is antidotal evidence that it may help to spray the lesions with WD-40. The disease usually runs its course in a matter of a few weeks. Soremouth vaccine can be given to control the timing and location of infection. However, the vaccine should not be used on farms which have never experienced soremouth, as vaccination will introduce the disease to the premises, as it is a live vaccine.

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Scrapie

Scrapie is an always fatal disease that affects the central nervous system of sheep (and goats). It is in the family of diseases called transmissible spongiform encephalopathies (TSEs), which also includes bovine spongiform encephalopathy (BSE, mad cow disease), chronic wasting disease (CWD), and Creutzfeldt Jakob's Disease (CJD).

Scrapie develops very slowly, taking years before symptoms appear. Scrapie is not known to occur in animals under 14 months of age. The disease is transmitted during lambing via infected placenta. While it is not a genetic disease, a sheep's genotype determines if it will become infected if it is exposed to the infective agent (believed to be a prion). Sheep can be blood-tested to determine if they are carrying susceptible genes.

While the incidence of scrapie in the US is low, the sheep industry is committed to eradicating the disease for reasons of public health and perception. In fact, as a result of mandatory tagging requirements (all sheep must carry official USDA scrapie ID) and other efforts, the US is getting close to eradicating (classical) scrapie. Producers can help find the "last" cases of scrapie by submitting the heads (for necropsy) from sheep over 14 months of age (that die).

References: https://www.sheepandgoat.com/overviewsheepdiseases