Ovine Progressive Pneumonia OPP

Ovine progressive pneumonia (OPP), known as maedi-visna outside of the US, is caused by a lentivirus that resides in the white blood cells of sheep. It is a slow-growing virus that causes wasting and replaces healthy tissue with solid non-functional tissue. Caprine Arthritis Encephalitis (CAE) is a related disease affecting goats. Cross transmission is possible but rare.

Because of the slow progression of the disease, most infected sheep show no visible signs. As the disease progresses the signs may result in a general decrease in flock productivity, due to increased culling and death of young animals. Visible signs depend on the organ involved. Common symptoms include respiratory distress, swollen joints, wasting ("thin ewe" syndrome"), and hard bag (mastitis), leading to lots of orphan lambs..

The most common way the OPP virus is spread is from adult to adult via respiratory particles. Seventy to 90% of new infections occur in this manner. Only about 10-30% of infections occur from the dam to the lamb (via colostrum and milk) in the time before weaning. In utero transmission occurs about a 5% of the time.

In 2013, USDA researchers discovered a gene that affects susceptibility to the OPP virus. Sheep that have two copies of the desirable gene (haplotype 1) are three to five times less likely to contract the disease than sheep with one or two copies of haplotypes 2 or 3 during their lifetime,

A diagnosis of OPP infection is usually made by identifying antibodies in the blood. However, the presence of antibodies does not convey immunity. Once infected, animals remain infected for life, although many never will show clinical signs of the disease. Flocks infected with OPP can have lowered production efficiency because of early culling, decreased milk production and lower weaning weights. There is no treatment or vaccine for OPP. The economic impact of OPP is unknown, but likely substantial, especially in some flocks. While all breeds can get OPP, prevalence and susceptibility vary by breed. Suffolk and Katahdin may be more genetically susceptible than other breeds.

Eradication of OPP is usually preferable to control. Eradication involves repeated blood testing and culling of test-positive animals. It is possible to retain test-positive ewes, if they are kept separate (no nose-to-nose contact) from non-infected ewes. It is especially important that replacements test negative before being added to the adult flock. If possible, new breeding stock should be sourced from OPP-negative flocks. OPP prevalence can be reduced by selecting breeding stock with low genetic susceptibility.

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