

Caprine Arthritis Encephalitis and Ovine Progressive Pneumonia

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Caprine arthritis encephalitis or CAE is a viral disease affecting goats. CAE is caused by the caprine encephalitis virus, which is a lentivirus in the family Retroviridae. Other retroviruses in this family include the human immunodeficiency virus that causes AIDS. CAE is more widespread in developed countries, such as the United States, Canada, Norway and Sweden compared to indigenous goat populations in developing countries. CAE is more common among dairy goats and less common in meat and fiber goats.

Goats become infected with CAE at a young age, but may not display symptoms until months or years later, if at all. CAE causes multisystem diseases, with arthritis, pneumonia, mastitis, and weight loss being more common in does and encephalitis being more common in kids. Arthritis generally affects sexually mature goats, with them becoming lame suddenly or gradually and will become progressively worse. Goats can lose body condition and develop a rough hair coat. The does can develop mastitis, which cause the udder to become hard due to the body's immune response. This can result in low or completely absent milk production. Signs of labored breathing as a result of pneumonia can be seen in both mature goats and kids. Kids two to four months of age are more likely to show signs of encephalomyelitis, an inflammation of the tissues in the brain and brain stem. Eventually the kid will become paralyzed in either both limbs on the same side of the body or all four limbs. Standing will become impossible. Other signs that could indicate the kid has CAE are depression, walking in circles, head tilt, exaggerated upward or sideward tilt of the head, and muscle tremors.

CAE is a persistent, life-long disease; once the goat is infected, it will always be infected. The quality of life for goats infected with CAE is poor because of the pain and disability caused by the virus. Consumption of virus-infected colostrum by a kid is the major route of transmission. Other possible routes include transfer of the virus from doe to kid while the doe is pregnant, during the birthing process, and kids coming in contact with an infected doe's saliva or nasal secretions. Currently, there is no evidence that bucks transmit the infection to does via semen, but it is recommended to still use caution when using a breeding buck that has tested positive.

Over the past ten years, there is ample evidence to show that CAE can infect sheep and that the ovine lentivirus of sheep can infect goats. Routes of transmission include consumption of virus-contaminated colostrum or milk and direct contact between goats and sheep in closely stocked barns.

The viral disease cause by the ovine lentivirus in sheep is called ovine progressive pneumonia (OPP). Most sheep will not show any symptoms of the disease and if they do, they do not display signs until two years of age or older because of a longer incubation period for the virus. Loss of body condition is generally the first sign noticed. Another sign is labored breathing at rest and tiring easily. It is common for the infected animal to get secondary bacterial infections causing fever, cough, lethargy, and nasal discharge. Like goats, sheep can display signs of encephalitis, such as stumbling and twitching, and possible paralysis.

Despite knowing and studying CAE for more than 30 years. There is still no commercial vaccination available. There are management tools to minimize transmission and supportive treatments to help ease the pain caused by the symptoms. Preventing kids from nursing from infected does and separating or culling kids and does that have tested positive are two ways to help prevent the spread of the disease. Prior to bringing animals into your herd, it would be smart to have them tested. If the animal is displaying signs of arthritis, regular hoof trimming, adding bedding, and administering NSAIDs under the guidance of a veterinarian could help make the animal more comfortable. Using antibiotics to treat secondary bacterial infections may also help. Also, providing high-quality, easily digestible feed may delay weight loss.

Laboratory tests can be done using blood samples. If you have more questions about CAE or OPP, contact your local veterinarian or Extension Agent.