BRITISH COLUMBIA | Ministry of Agriculture and Food

Caprine Arthritis and Encephalitis

Alternate Names: CAE.

Species Affected: Goats.

What causes CAE? Caprine Arthritis Encephalitis Virus (CAEV) which is related to the Maedi-Visna virus that affects sheep.

How is CAE transmitted? CAEV is present in milk, lung fluids, and manure of infected animals. Drinking infected colostrum or milk is the main mode of transmission to baby goats. Direct or indirect contact with the secretions of infected animals can also transmit CAEV.

What are the clinical signs of CAE? Most goats infected with CAE don't show signs of disease but remain persistent carriers and a source of the virus. CAE is more common in dairy goats than in meat- and fiber- producing goats. Approximately 20% of adult goats develop clinical disease at some point in their life.

Kids (goats from 2-6 Months)

- In baby goats the virus causes inflammation of the brain and spinal cord.
- Initial signs include weakness, loss of balance, difficulty walking, stiffness, and exaggerated reflexes.
- Partial paralysis of the hind limbs may progress to paralysis of all four limbs.
- Other clinical signs include head tilts, circling, and paddling of the limbs.

Adults

- In adult goats the CAEV affects the joints (arthritis) and the udder (mastitis).
- Arthritis - swollen and painful joints, commonly the knees, persistent lameness.

- Mastitis – often called “hard bag” or “hard udder” is more common in goats birthing (“kidding”) for the first time. The udder appears hard and full but doesn’t produce milk.
- Progressive weight loss and poor hair coat.
- Pneumonia with persistent respiratory problems is less common.

What are the consequences of CAE infection? Death due to CAE is low in adult animals but carriers of the CAEV will persistently produce infected colostrum and milk thus infecting suckling kids and maintaining the CAEV in the herd.

How is CAE detected? Based on herd history, clinical signs, and laboratory testing including serology (blood test to detect antibodies). To confirm CAEV tissue samples are tested with virology (to detect the CAEV), and PCR (a molecular test to detect viral RNA).

How can CAE be prevented? There are no vaccines available. Good management and biosecurity practices prevent transmission to other animals. Maintaining a closed herd, or if needed, purchasing from low-risk herds and blood testing all animals before bringing them to the farm is recommended. The main way CAE is transmitted is through contaminated milk and colostrum, avoid feeding kids with pooled milk or colostrum.

How can CAE be treated? There is no specific treatment. Supportive care is necessary for animals with clinical disease. This includes pain management (anti-inflammatory medication), keeping hooves well-trimmed, and providing deep bedding.

Is CAE zoonotic (transmitted from animals to humans)? No

References:

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- Spickler, Anna Rovid. 2015. Small Ruminant Lentiviruses: Maedi-Visna and Caprine Arthritis and Encephalitis. Retrieved from http://www.cfsph.iastate.edu/DiseaseInfo/factsheets.php