Prevention and control of sheep infectious diseases

Problem: Infectious diseases are an important cause of reduced fertility, productivity and survival rates in the flock. These diseases lead to an increase in costs for their elimination, thus decreasing the profitability of the company.

The main infectious diseases in terms of frequency and importance affecting sheep are represented by: Paratuberculosis, Maedi Visna and Pedaina. Other diseases that can affect the flock are: Blue tongue, Abscess disease, Q fever, Scrapie, Clostridiosis, Mastitis and diarrhea of an infectious nature.

The necessary measures must therefore be implemented in the prevention plan to prevent the introduction of new diseases in a healthy population.

Solutions: Prevention can take place through knowledge of animal health, the implementation of biosecurity and biocontrol measures, the use of vaccines and knowledge of emerging diseases. The fact remains that the starting point in prevention is that animals with an adequate immune system have greater resistance to infection. Other prevention systems are knowledge of the pathogen entry and transmission routes, the cleaning of environments, the use of vaccines and preventing contact between infected and healthy animals.

Practical recommendations:

- prevention for Paratuberculosis, supported by Mycobacterium avium subs. Paratubercolosis consists in ensuring the health status of the purchased animals, the quality of the purchased fodder and that the animals do not come into contact with wild animals. In Italy there are no registered vaccines, however, there is the possibility of requesting authorization for the use of vaccines that can create cross-reactivity to tuberculin tests;

- for the prevention of Maedi Visna, supported by viruses of the genus Lentivirus, there are no effective vaccines and the currently available means is represented by continuous serological monitoring, followed by the eventual elimination of seropositive animals from the flock;

- the prevention of Pedaina, supported by Dichelobacter nodosus and Fusobacterium necrophorum, being a pathology that affects subcorneal tissues with the development of lameness, involves cleaning and hygiene of the environment and the periodic execution of farriery operations;

- for the prevention of Blue Tongue, a virus carried by diptera of the genus Culicoides, it is possible to resort to the use of live attenuated vaccines. Furthermore, since the vector is an insect, prevention can be applied through direct methods of control with the use of insecticides or through indirect methods of control such as prevention aimed at containing insect reproduction sites, such as stagnant water and accumulations of liquid waste. ;

- the prevention of abscess disease mainly involves biosecurity measures and the cleaning and disinfection of any equipment that may come into contact with animals;

- for the prevention of Scrapie, caused by a prion, attention must be paid to the elimination of morbid products such as placenta, childbirth residues and blood. Furthermore, at the population level, the aim is to select animals with genetic resistance characteristics.