Brucellosis, tuberculosis and caprine arthritis-encephalitis, are goats and sheep in El Salvador affected?

Brucellosis and tuberculosis are two animal diseases that occur in Salvadoran cattle and humans may get infected by drinking raw milk. When herds get infected for the first time with brucellosis, massive abortions in the last third of pregnancy is the main symptom. Tuberculosis on the other hand causes the animal to suffer from weight loss, coughs and difficulties to breathe. Both sheep and goats may get infected with brucellosis and tuberculosis. Caprine arthritis-encephalitis also known as CAE causes chronic inflammation of the joints or inflammation of the brain and spinal cord in goats. This disease is caused by a virus and does not affect humans; however, the economic loss for the goat owners is severe. The study did not focus on animals having the diseases per se, but to see whether goats and sheep had been infected i.e. investigating the occurrence of antibodies to the before mentioned diseases. A national survey of this type had never been executed in Salvadoran sheep and goats before.

Fig. 1. Interpretation of the SICT test by measuring the skin thicknes with calipers.
Source: K. Linderot de Cardona

Blood was collected from 396 sheep and 335 goats in the west and central parts of El Salvador and tested for two different kinds of bacteria that cause brucellosis. The samples from the goats were also tested for CAE. All the animals were negative for one of the bacteria (*Brucella abortus*) causing brucellosis and only four sheep reacted positive to the second test. All the goats were negative for CAE. To detect a possible infection with tuberculosis a different test called single intradermal cervical tuberculin (SICT) test was used. For this test a liquid containing small pieces of the bacteria that cause tuberculosis is injected into the skin of the animals' neck. Out of 383 tested sheep and 330 tested goats, 70 and 43 animals respectively reacted positive to the SICT test.

Those animals were omitted to another test called single intradermal comparative cervical tuberculin (SICCT) test. This test implies that small pieces of the bacteria that causes tuberculosis and fragments of another close related bacterium, which does not cause tuberculosis, were injected on either side of the animals´ neck. All animals were negative but one goat that was positive to this test. The positive goat was sacrificed and examined for lesions with the typical characteristics of tuberculosis. Samples were taken from changed tissue but the animal was considered negative after concluding analyses.

According to the results from this survey the possibility of infection in sheep and goats seems negligible low. However, further studies are necessary to fully determine whether or not Salvadoran sheep and goats are free of the investigated diseases and the results from this project will serve as a base for future investigations.

K. Linderot de Cardona *and* ***P.G. Braun***
Organismo Internacional Regional de Sanidad Agropecuaria (OIRSA), Headquarters, Calle Ramón Belloso, Final Pasaje Isolde, Edeficio OIRSA, Colonia Escalón, San Salvador, El Salvador
Institute of Food Hygiene, Center of Veterinary Public Health, Faculty of Veterinary Medicine, Universität Leipzig, An den Tierkliniken 1, Leipzig, Germany

Publication

First results on small ruminant brucellosis and tuberculosis and caprine arthritis-encephalitis in El Salvador.
Linderot de Cardona K, De Gracia Scanapieco A, Braun PG
Trop Anim Health Prod. 2016 Jun