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The Spread of East Cost Fever in South Sudan - Results of a Baseline Study

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Abstract

East Coast Fever (ECF) is of the most important livestock diseases in Africa caused by the protozooan parasite *Theileria parva*. Although formerly prevalent in Central, Eastern and Western Equatorial states only, ECF has been spreading to other states after the Peace Agreement, with resulting high mortalities/morbidities. In recognition of the high importance of cattle ownership in South Sudan, both economically and socially, the Food and Agriculture Organisation (FAO) funded a study to investigate the epidemiology of the recent ECF spread in the states of Lakes States, Jonglei State, Western and Eastern Equatoria State. Data collection was based on literature review, interviews and sample collection for laboratory diagnosis, based on a two stage herd level sampling, with a sample size of 5 % per herd, and consisted of an analysis of disease morbidity, herd movements, vector distribution and and the level of vector infection with *Theileria parva*. Non-migrant calf samples were used as controls.

In total 721 animals were tested and 95 ticks (*Rhipicephalus appendiculatus* (*R.a.*)) collected. *R.a.* was found in 90 % of the tested herds out of which 36,7 % were ECF-positive whereas 0 % to 66.7 % of the tested herds were sero-positive for ECF.

The study found that livestock movements with associated mutual grazing grounds of infected and non-infected animals that compete in search of grazing land, water and salt is the key factor in the spread of ECF. It may be concluded that cattle that do not migrate extensively, are more prone to ECF infections, probably due to accumulation of *R.a.* in the environment of animals which do not move significantly. However, traditional quarantine mechanisms have proved pivotal on the control of the disease. Also, traditional cattle grooming practices, such as using cow dung ash /urine were found to demonstrate significant potential for reducing the tick burden on cattle.

The study established areas considered ashigh ECF risk location- Guthum and Golo where further research is needed to support the observation. A key recommendation as result of the study is to place cattle owners at the centre of any ECF control strategy and undertake a countrywide tick collection and identification.

Keywords: East coast fever, migration, pastoralism, ticks

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