**Project Title:** Production of an ECF vaccine batch

**Institute:** Veterinary Research Institute

**Center(s):** KALRO Muguga North

**Principal Investigator:** Sammy G Ndungu;

**Other investigators:** Monica Maichomo; Erick Mungube Ouma; J. Wanjohi; N Mbugua; S. Waruri; J. Wafula; J. Macharia; M. Olum; P.N. Ndirangu; J.N. Gitau Gitau;

**Problem Statement:**
ECF is a major constraint to cattle productivity in the country. It causes losses due to mortality, morbidity, high cost of control and prevention of the disease during rearing of high producing exotic and grade cattle in areas of the country where the disease is endemic. These areas coincide with the high potential areas of the country. The cheapest and most effective method of control is through vaccination of animals at risk. The vaccines available are highly effective and give life-long protection. However their availability is limited. Only two institutions, Kenya Agricultural and Livestock Research Organization (KALRO) and Centre for Ticks and Tick-Borne Diseases (CTTBD) produce the vaccine. At KALRO, the infrastructure and materials for production are available. The available stocks of ECF vaccine at KALRO cannot meet the current demand. It is therefore imperative that more vaccine is produced to meet the current and future demand.

**Objective(s):**
1. To build human and infrastructural capacity for mass production of ECF vaccine
2. To produce high quantities of ECF vaccine of at least 350,000 doses
3. To build capacity and establish systems for delivery of the vaccine to the end users

**Planned Activities:**
1. Rear at least 60,000 Rhipicephalus appendiculatus nymphal ticks
2. Infect 4 susceptible cattle with Theileria parva Marikebuni stablate 3014
3. Pick the infection with the 60,000 ticks
4. Make stablate with the 60,000 ticks
5. Determine viability of the stablate in cattle
6. Determine user dilution by titration of stablate in cattle
7. Test for cross immunity to several T. parva strains in cattle.
8. Package and brand for use. Also Package in smaller volumes to reduce the number of doses
9. Analyse all the generated data and write a report with recommendations on the new batch of the ECF vaccine

**Outputs:**
1. At least 300,000 doses of an ECF vaccine produced
2. A registered ECF vaccine availed

**Outcomes:**
1. Enhance cattle productivity through reduced prevalence of ECF.
2. Reduction of poverty through increased cattle productivity.
3. Improved nutrition through increased milk and meat.

**Budget:** 12,690,300.00

**Start date:** 2017-05-01

**End date:** 2019-05-31

**Funded by:** USAID;

**Collaborators:**