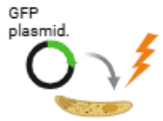
The challenge

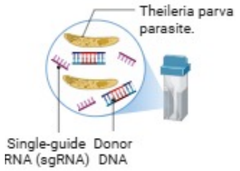
12 ECF affects cattle in 12 countries across East, Central and Southern Africa, killing animals within **three weeks.**

Farmers lose up to USD 600 million per year due to ECF. The impact is severe taking away the ability of families to provide for essential needs like food, education, and healthcare.

Our innovative approach

1 

Establish a transfection method for *T. parva* parasites.

2 

Establish a gene editing protocol based on the transfection method.

3 

Generate live attenuated vaccine and test in cattle.

CRISPR gene editing for East Coast fever's vaccine development

- *Theileria parva* is a tick-borne parasite that causes East Coast fever (ECF) in cattle.
- Current control measures have major limitations creating a need for a better solution.
- This project is geared towards creating an affordable vaccine for ECF that overcomes the shortcomings of existing methods.

Expected impact

- ✓ Improve animal health
- ✓ Food security and Improved Nutrition
- ✓ Economic benefits by better livelihoods

Ethel Webi,
PhD graduate fellow, ILRI
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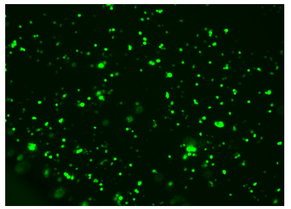
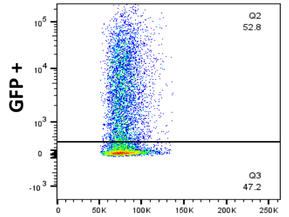
Outcomes

T. Parva transfection ✓



GFP positive *T. parva* infected cells 20X microscopy

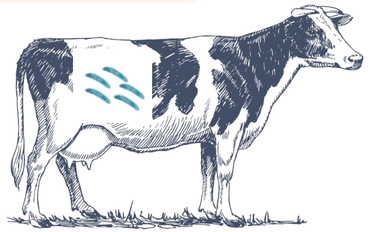


GFP-positive *T. parva*-infected cells. FACs analysis

Next steps

Establish a Gene editing protocol

Attenuate parasites and test in Cattle



ECF Vaccine

Partners

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