TARGETED SERO-SURVEILLANCE FOR INFECTIOUS ZOONOSES IN CATTLE

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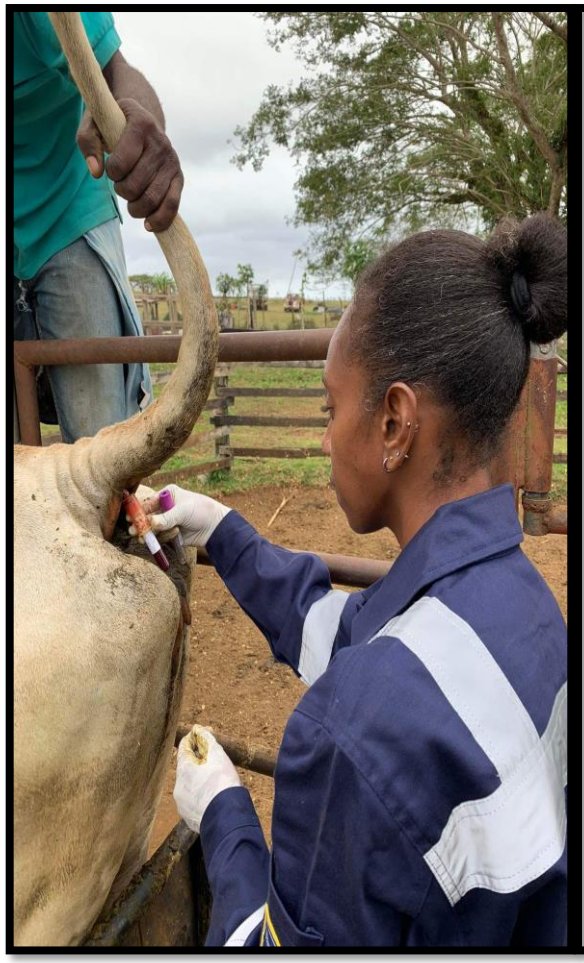
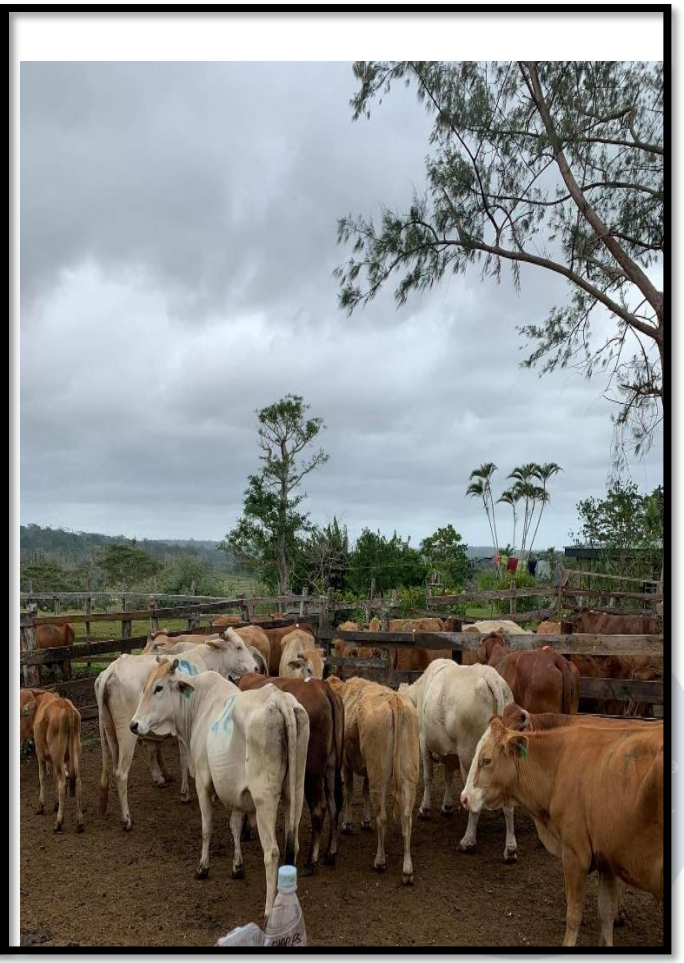
INTRODUCTION

- **Infectious zoonoses from domestic livestock can present significant public health risk for livestock sector workers including primary producers, stockmen, animal health workers and abattoir workers.**

- **In 2021 a total of 436 sera were collected from beef cattle from 4 farms on the island of Efate and tested for serological evidence of two zoonoses, brucellosis (*Brucella spp.)* and Q-fever *(Coxiella burneti).***

- **Vanuatu has historically been free from bovine brucellosis since 1994. For Q-fever, historical serological data in livestock are not immediately available to the authors.**





METHODS

- **Blood samples were collected in 10ml red-top (no anti-coagulant) vacutainer tubes from clinically healthy cattle. Serum was extracted from clotted blood samples, placed into 2ml cryovial tubes and frozen at -20C.**
- **Frozen sera were packaged as per International Air Transport Association requirements and sent to Wallaceville Animal Health Laboratory, New Zealand.**
- **Brucellosis testing was conducted using SVANOVIR *Brucella abortus* competitive ELISA Ab kits.**
- **Q-fever testing was conducted using IDEXX Q-fever Ab ELISA kits.**

RESULTS:

1. Brucellosis

Count of ELISA_B Abortus					
	Herd A	**Herd B**	**Herd C**	**Herd D**	**Total**
Negative	133	137	13	153	436
Positive	0	0	0	0	0
Total	**133**	**137**	**13**	**153**	**436**

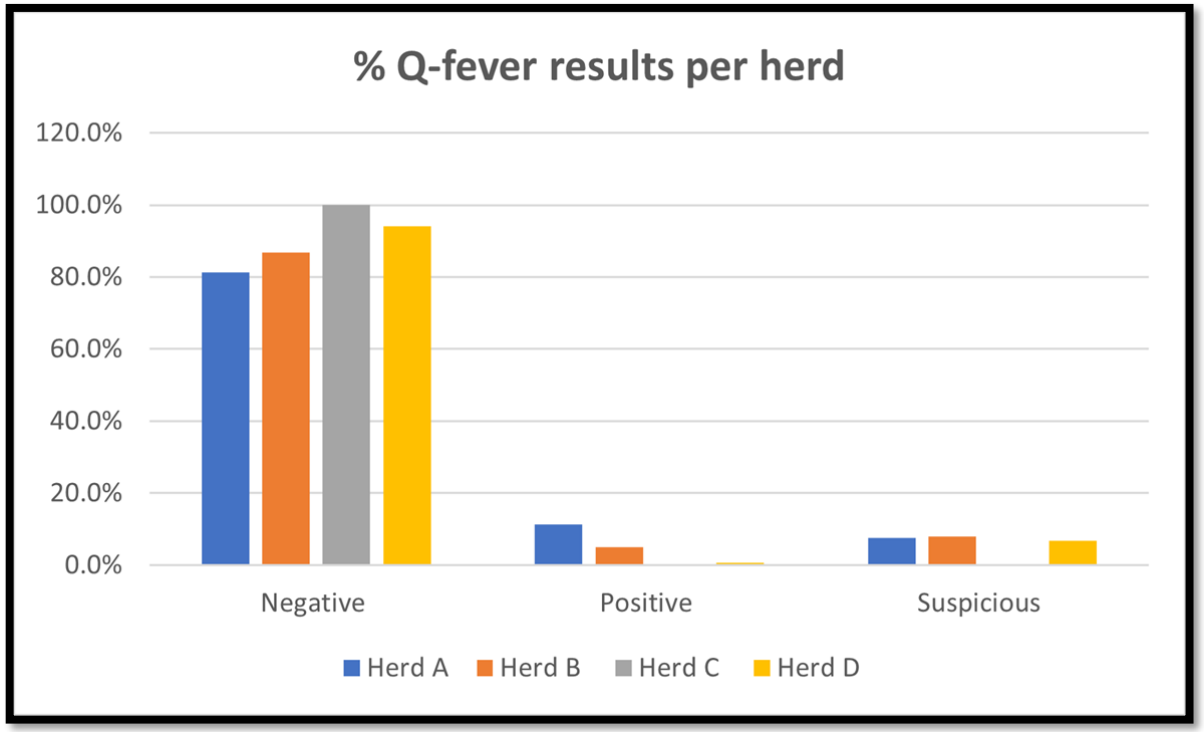
RESULTS

2. Q-fever

Count ELISA_Q-fever	Column1	Column2	Column3	Column4	Column5
	Herd A	Herd B	Herd C	Herd D	Total
Negative	108	119	13	144	384
Positive	15	7	0	1	23
Suspicious	10	11	0	8	29
Total	**133**	**137**	**13**	**153**	**436**

% ELISA_Q-fever	Column1	Column2	Column3	Column4	Column5
	Herd A	Herd B	Herd C	Herd D	Total
Negative	81.2%	86.9%	100.0%	94.1%	88.1%
Positive	11.3%	5.1%	0.0%	0.7%	5.3%
Suspicious	7.5%	8.0%	0.0%	6.7%	6.7%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

RESULTS



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DISSCUSSIONS & RECOMMENDATIONS

- Active eradication of bovine brucellosis (along with bovine tuberculosis) was successfully conducted in Vanuatu in the 1980s
- Negative serology results for brucellosis, while not comprehensive, are consistent with Vanuatu maintaining freedom from bovine brucellosis

- Sero-positive results for Q-fever indicate that Q-fever is present at a low prevalence in cattle herds in Vanuatu

- Further sero-surveillance is required in susceptible species (cattle, sheep, goats) to determine Q-fever distribution and prevalence and to better understand the associated public health risk

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