

AGRICULTURAL RESEARCH COUNCIL

ONDERSTEPOORT VETERINARY INSTITUTE

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TRANSBOUNDARY ANIMAL DISEASES PROGRAMME

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FAO Collaborating Centre for sub-Saharan Africa: foot-and-mouth disease and African swine fever

OIE Reference Laboratory: foot-and-mouth disease and African swine fever

STUDY REPORT: DISINFECTANT EFFICACY TEST

GENERAL STUDY INFORMATION

STUDY TITLE: Test for efficacy against foot-and-mouth disease virus

Client: PeroXsil

Test facility: Transboundary Animal Diseases Laboratory,
Onderstepoort Veterinary Institute.

TEST SUBSTANCE IDENTITY:

Test substance name: PeroXsil
Batch number: 20241111
Lot number: N/A

STUDY DATES

Experiment start date: 14-Apr-25
Experiment end date: 17-Apr-25

OBJECTIVE:

The objective of this study was to determine the effectiveness of the disinfectant to inactivate foot-and-mouth disease virus at temperature with a contact time of was 30 minutes.

STUDY MATERIALS

Test organism	Isolate	Growth medium	Cell line
FMDV	KNP 10/90/3	GMEM	BHK-21C cells

Cultures used:

BHK-21C cells grown in 6 well plates with GMEM medium supplemented with 5 % FBS.

TEST METHOD:

Preparation of test organism:

FMD virus isolate, KNP 10/90/3, was utilised from a stock stored at -80 °C.

Preparation of test substance:

PeroXsil was prepared in water to a final concentration of 50 parts per million (ppm)

Exposure conditions:

0.5ml of the test organism and 4.5ml of the disinfectant were mixed together,
This was followed by adding PeroXsil Ag Neutraliser after exposure.

Test system recovery:

Following the completion of the exposure period, ten serial tenfold dilutions of the test solution, untreated control (disinfectant + GMEM) and positive control (virus only) were prepared in GMEM. These were inoculated into 6-well plates containing a monolayer of BHK-21C cells.

Incubation and Observation:

The plates were held at 37°C for 48 hrs, then stained with methylene blue dye overnight and plaques scored.

Study retention:**RESULTS:****Control results**

Test organism: KNP 10/90/3 Titer $10^{6.4}$

Test results

Test sample	Sample dilution	Reduction of titer ($\text{Log}_{10}/\text{ml}$)
PeroXsil	50 ppm	6.4 logs

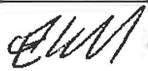
Conclusions:

PeroXsil was **SUCCESSFUL** in demonstrating a $> 4 \log_{10}$ reduction of foot-and-mouth disease virus when used as it is following an incubation period of 45 minutes at room temperature. PeroXsil **PASSED** the disinfectant efficacy test against FMDV.

Produced by: Ms R Malesa

Reviewed by: Dr L Heath

Approved by : Dr LE Heath
(Research Team Manager: TADP)

Signature : 

Date 15/05/2025.

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LAB REF : TAD 24/2538
ARCLAB REF : 2024-E-1738
CLIENT REF : None