# 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,
Onderstepport 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 consentration 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 ($Log_{10}$/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

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Approved by : Dr LE Heath (Research Team Manager: TADP) Signature : [signature]

Date 15/05/2025.

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