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# FIELD EVALUATION OF A SAFE AND COST-EFFECTIVE SHIPMENT OF FMDV SUSPECTED SAMPLES TO DIAGNOSTIC LABORATORIES USING LATERAL FLOW DEVICES

Aurore Romey, Graham J. Belsham, Abdalnaci Bulut, Claude Hamers, Pascal Hudelet, Syed Jamal, Eve Laloy, Anthony Relmy, Hussaini Ularamu, Stéphan Zientara, et al.

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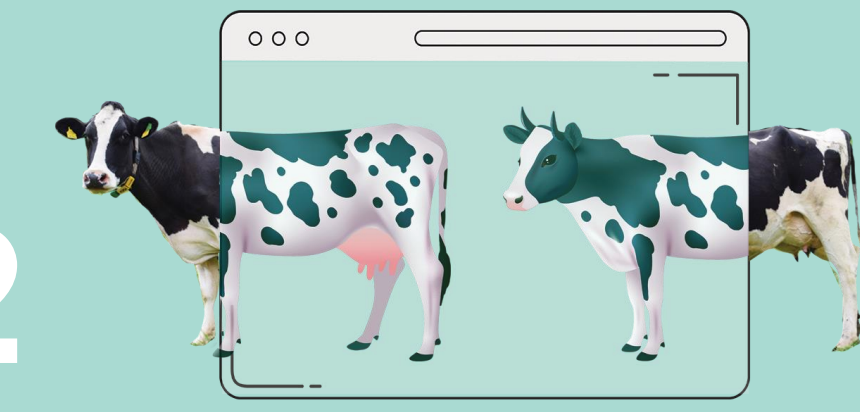
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# Field evaluation of a safe and cost-effective shipment of FMDV suspected samples to diagnostic laboratories using lateral flow devices

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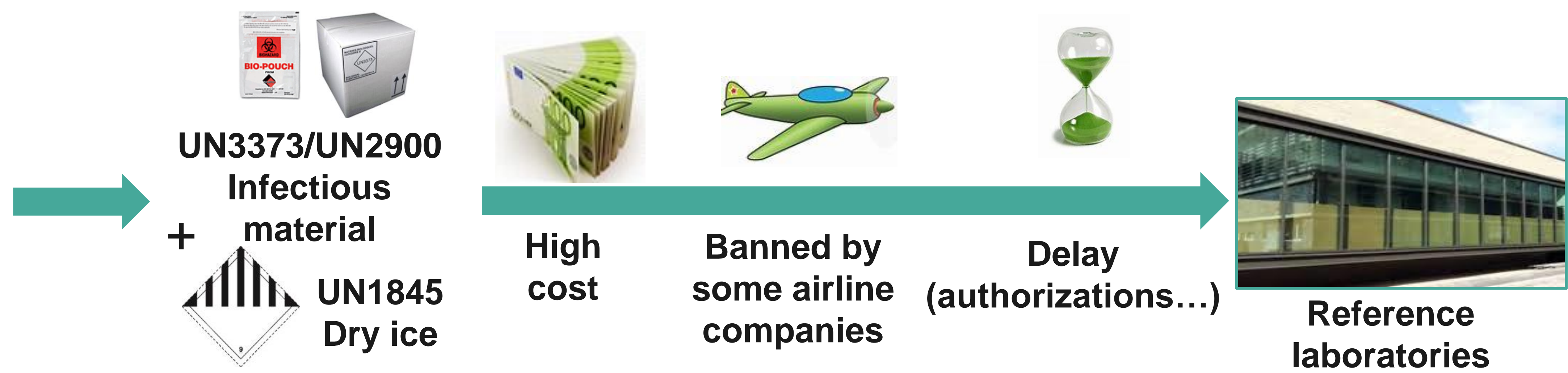
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## INTRODUCTION

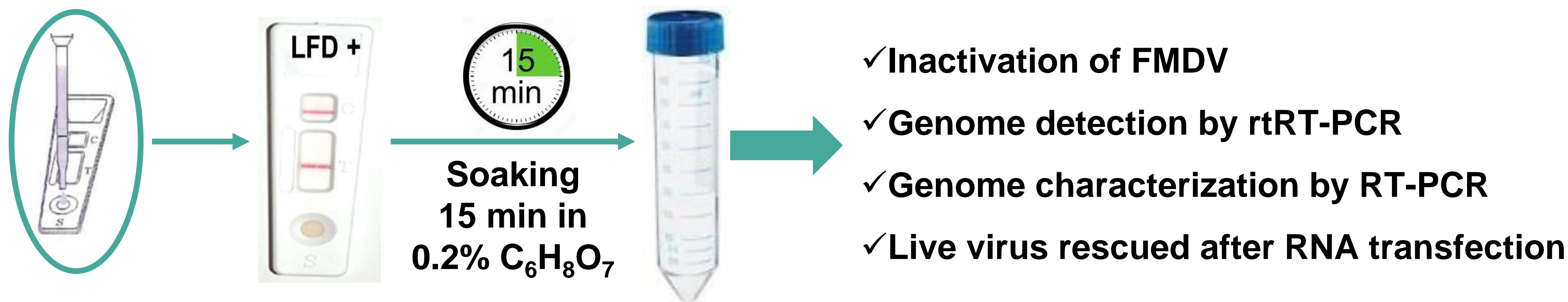
### Context: Clinical suspicion



FMD?  
Serotype?  
Strain characterization?  
Origin?



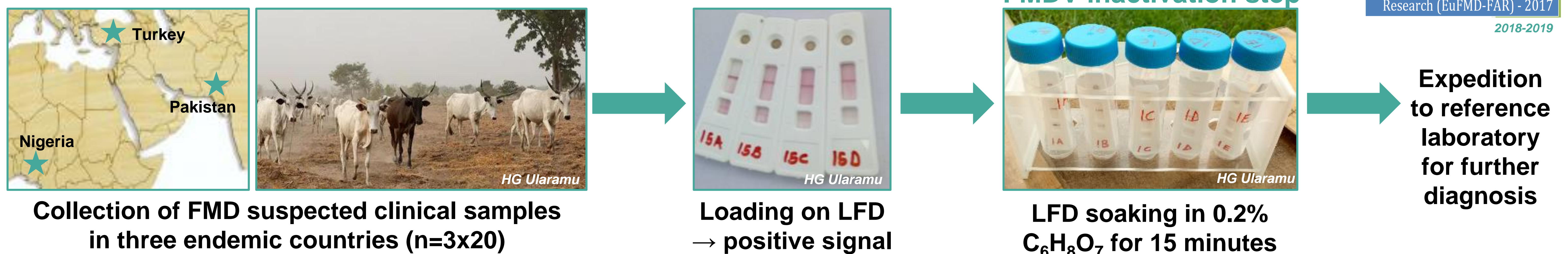
### Evaluation of the inactivation protocol on archival samples



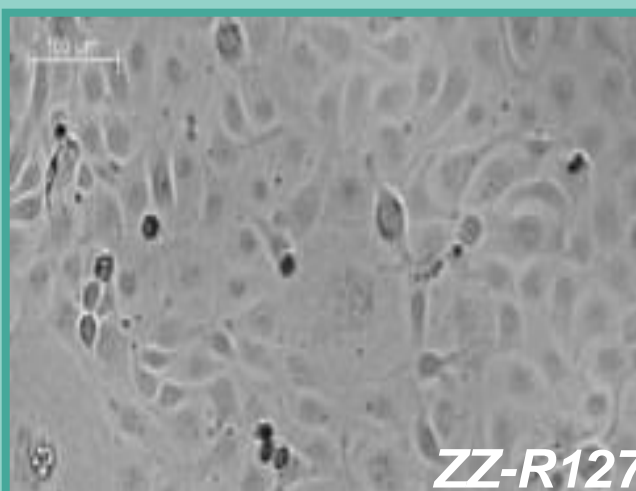
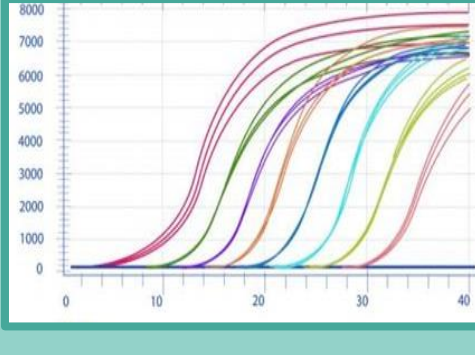
Transboundary and Emerging Diseases Feb. 2018  
ORIGINAL ARTICLE  
Safe and cost-effective protocol for shipment of samples from Foot-and-Mouth Disease suspected cases for laboratory diagnostic  
2013  
EUFMD – Fund for Applied Research (EuFMD-FAR) 2014-2015  
eofmd  
european commission for the control of foot-and-mouth disease

## MATERIALS & METHODS

### Evaluation of the inactivation protocol on field samples

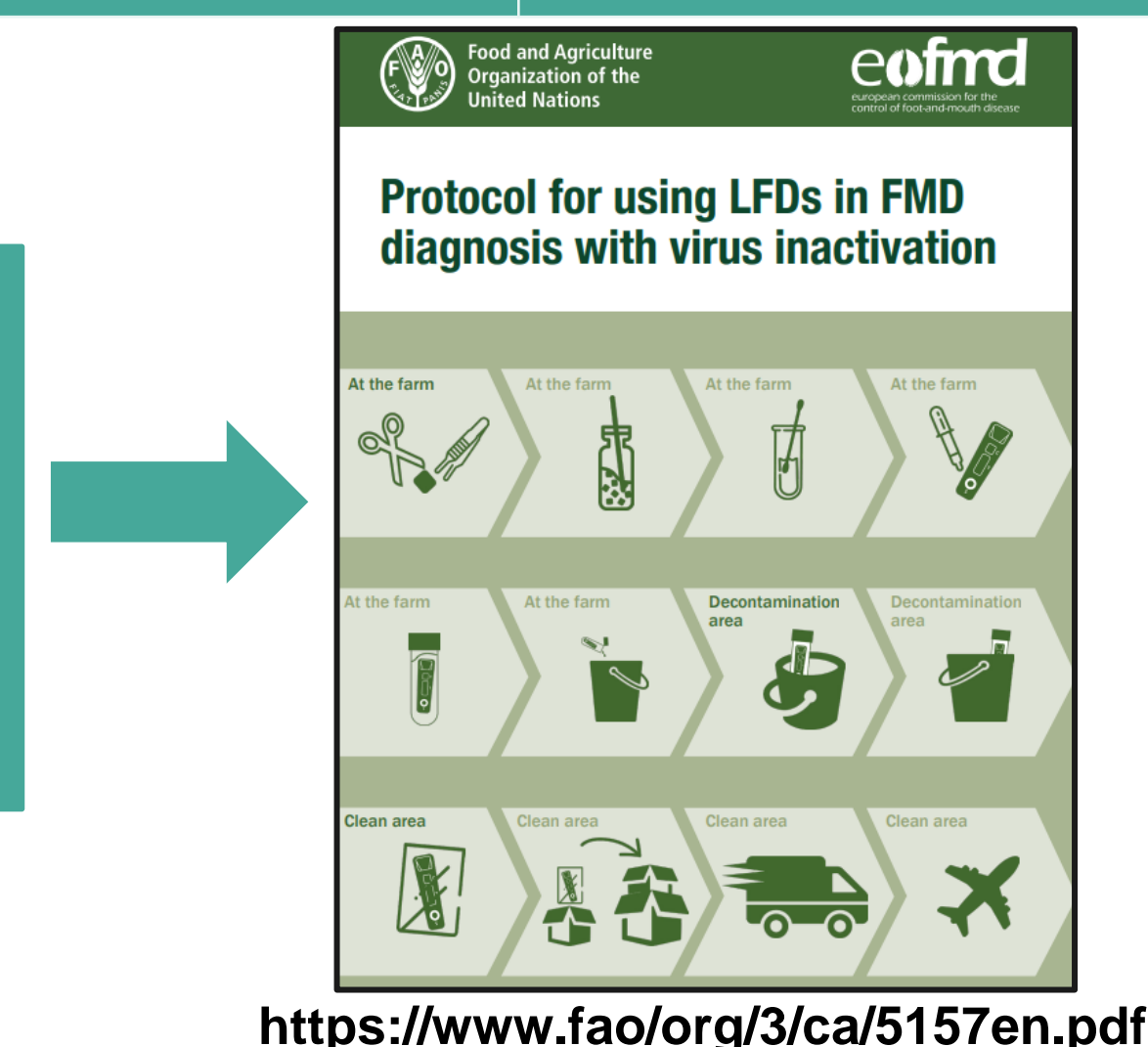


## RESULTS & CONCLUSIONS

Sample origin	Number of sample	LFD result	Inactivation step	Result of viral isolation on cells after inactivation	Result of rtRT-PCR after inactivation (3D + IRES)	Result of genotyping by RT-PCR (VP1)	Live virus rescue after RNA transfection
Nigeria	N=20*	20 positive	15 min in 0,2% C <sub>6</sub> H <sub>8</sub> O <sub>7</sub>	No cytopathic effect after two passages 		O-EA3 (n=12) SAT2/VII (n=3)	N=10
Turkey	N=20*	20 positive				O/ME-SA (n=19)	No
Pakistan	N=20*	20 positive				Asia-1/ASIA (n=4) O (n=6) A (n=5)	No
Experimental infection	N=6#	6 positive			Not done	Not done	Not done

\*: epithelium tissues; #: vesicular fluid.

- ✓ Confirmation of the biosafety of the LFD-based viral inactivation protocol
- ✓ Detection and typing of FMDV genome by (rt)RT-PCR
- ✓ Complete characterization of FMDV strain involved, from live virus rescued by RNA transfection



<https://www.fao.org/3/ca/5157en.pdf>

A safe and low cost way to submit FMD samples to reference laboratories, directly applicable in the field