



World Organisation  
for Animal Health  
Founded as OIE



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## SEACFMD Laboratory Network Meeting

### Current FMD Laboratory Activities in [INDONESIA]

*[Drh, Edy Budi Susila, M Si  
and head of Pusvetma]*

*24-25 October 2023  
Lanzhou, China*



# BRIEF FMD SITUATION :

- FMD situation in 2021, Indonesia still free from FMD → OIE RESOLUTION No. 13 2021
- FMD situation in 2022, date taken from <https://siagapmk.crisis-center.id/index.php>., Dec,31,2022

MINISTRY OF AGRICULTURE  
THE REPUBLIC OF INDONESIA

Hewan Sembuh - Ekonomi Tumbuh

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Home

**FMD Outbreak Information and Prevention Measures**

Last Update : 13 Oct 2023, 15:46

Indonesia English

Province	City/District	Subdistrict	Village	Vaccinated
17 Active Case	10 Zero Reported Case	167 Active Case	148 Zero Reported Case	1.207 Active Case
				1.602 Zero Reported Case
				1.775 Active Case
				12.630 Zero Reported Case
				<b>9.349.511</b> (dosage)

Confirmed Case	Clinically Recovered	Slaughtered	Deaths
<b>591.553</b> (tails)	<b>551.671</b> (tails)	<b>14.094</b> (tails)	<b>10.675</b> (tails)

Tanggal: 2022-03-10 2022-12-31

Province: NASIONAL

City/District:

**FMD Contact Center**

+62 812-8634-5622

+62 812-8634-5633

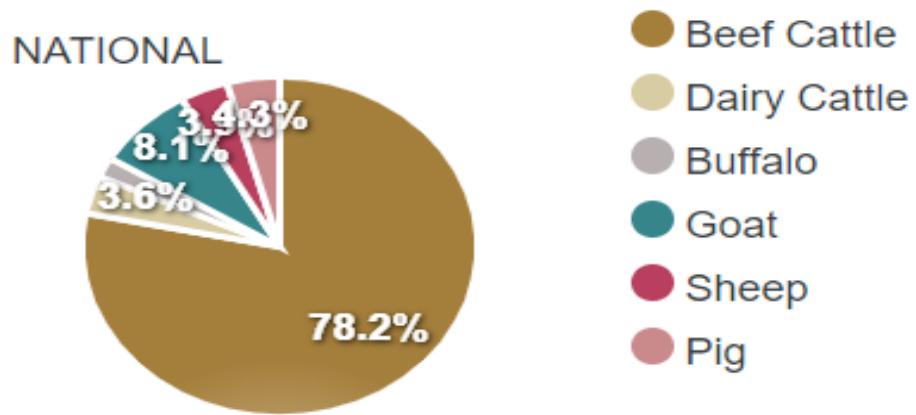
Zero reported case is no new case FMD found at least 14 days after the last case



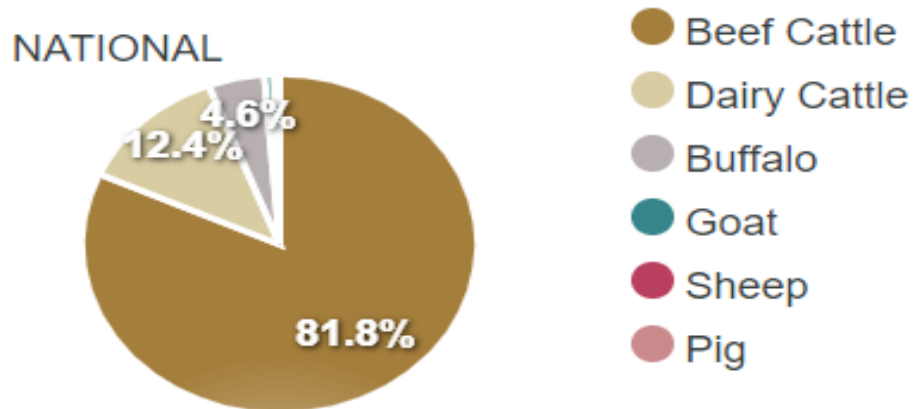
# BRIEF FMD SITUATION :

- FMD situation in 2022, date taken from <https://siagapmk.crisis-center.id/index.php>, Dec,31,2022

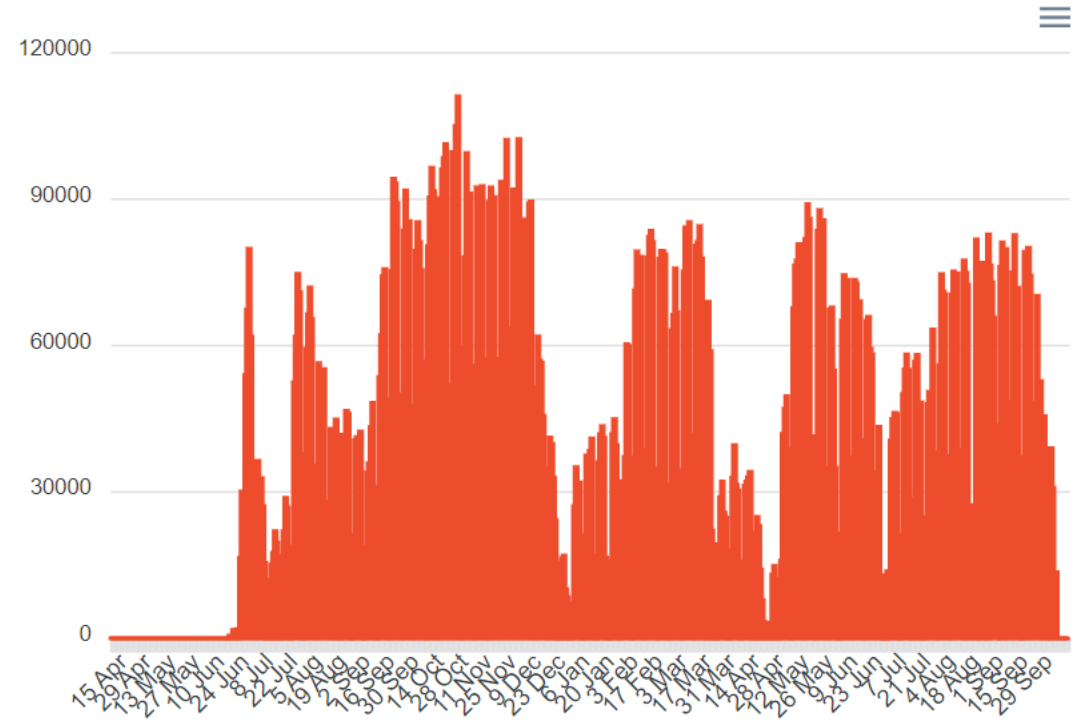
## Vaccination Based on Animals



## Animals Affected by FMD - Confirmed



## Daily FMD Vaccination Progress [NASIONAL]



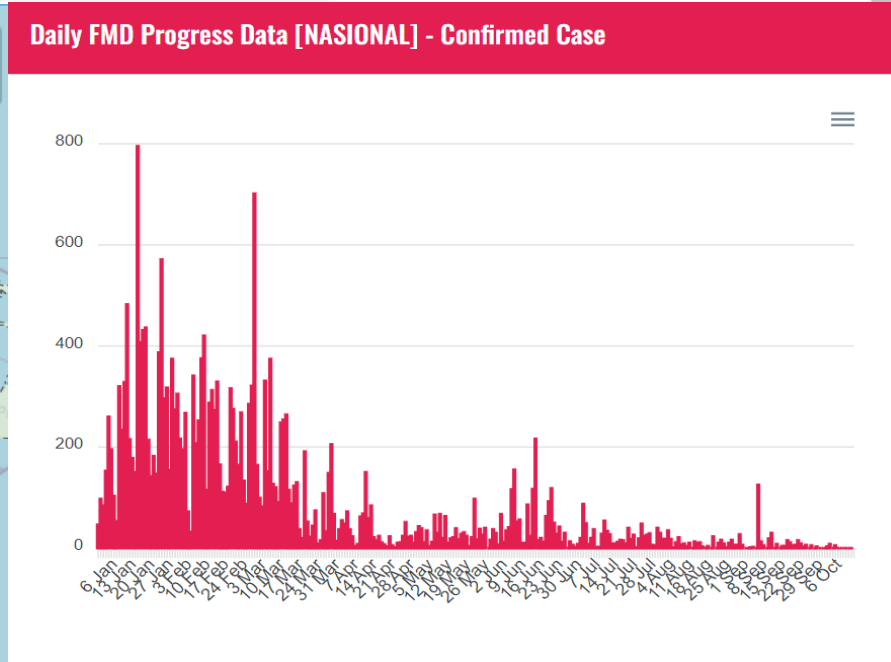
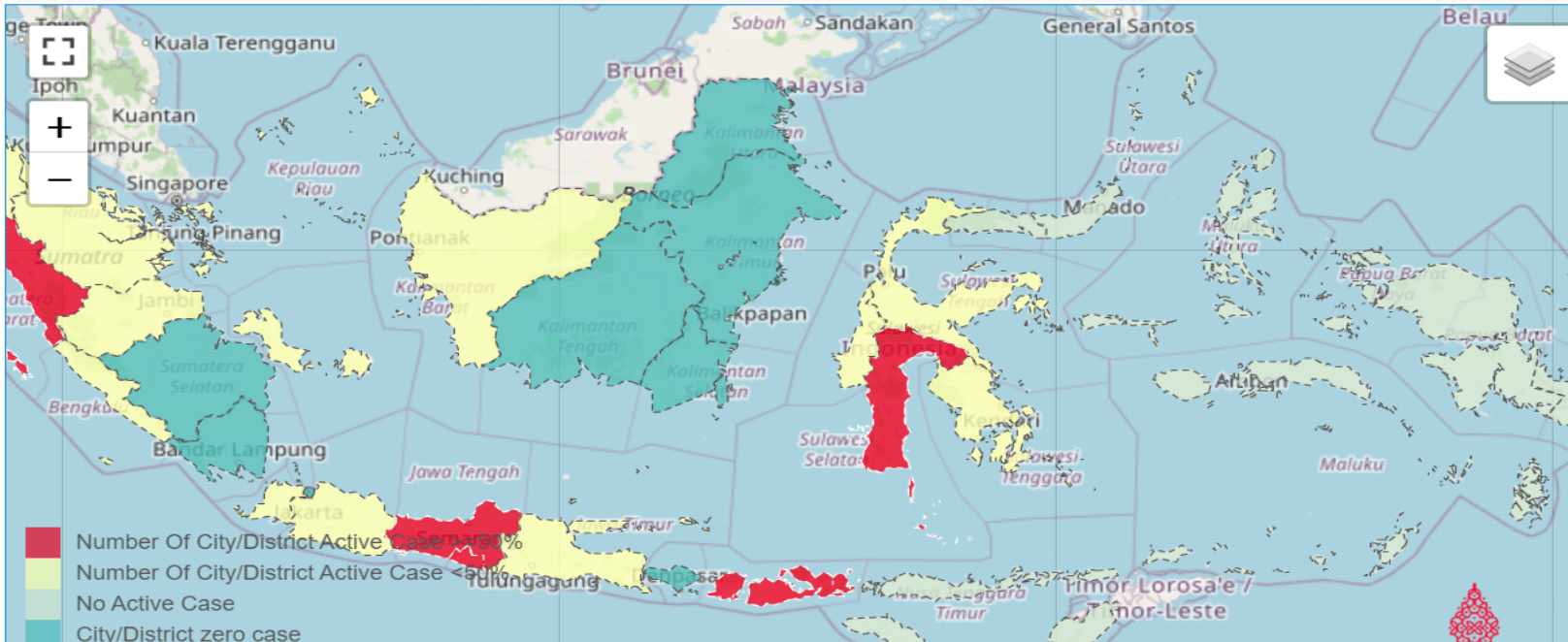
Vaccinated: 9.349.511



# BRIEF FMD SITUATION :

- FMD situation in 2023 (Oct, 12, 2023), data taken from <https://siagapmk.crisis-center.id/index.php>.
- FMD infected Map

<b>Province</b> <b>19</b> Active Case	<b>8</b> Zero Reported Case	<b>City/District</b> <b>125</b> Active Case	<b>196</b> Zero Reported Case	<b>Subdistrict</b> <b>719</b> Active Case	<b>2.172</b> Zero Reported Case	<b>Village</b> <b>2.162</b> Active Case	<b>13.045</b> Zero Reported Case	<b>Vaccinated</b> <b>21.059.945</b> (dosage)
<b>Confirmed Case</b> <b>615.441</b> (tails)	<b>Clinically Recovered</b> <b>570.909</b> (tails)	<b>Slaughtered</b> <b>14.663</b> (tails)	<b>Deaths</b> <b>11.839</b> (tails)					





# BRIEF FMD SITUATION :

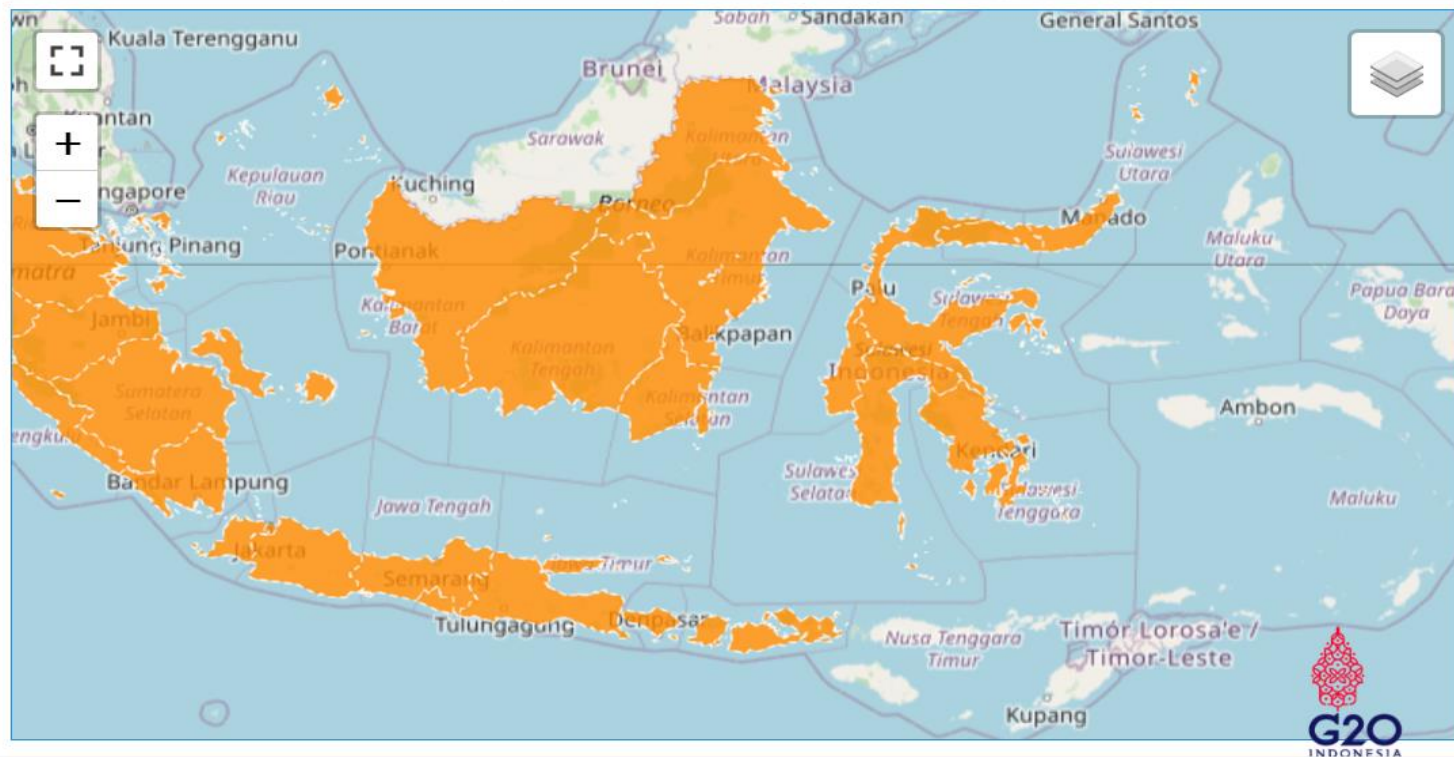
- FMD Vaccinated Map,

HOME | FMD INFECTED MAP | **FMD VACCINATED MAP** | FMD OFFICIAL INFORMATION | NEWS | INFOGRAPHIC | VIDEO

Home / FMD Vaccinated Map

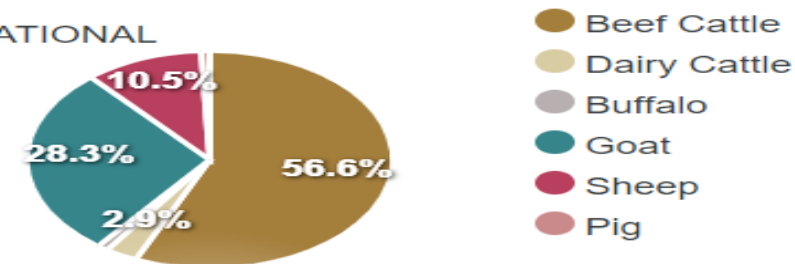
Indonesia English

Province	Active Case	City/District	Active Case	Subdistrict	Active Case	Subdistrict	Active Case	Vaccinated	dosage
<b>29</b>		<b>417</b>		<b>5.155</b>		<b>66.629</b>		<b>21.059.945</b>	
Province		City/District		Subdistrict		Village		Vaccinated	



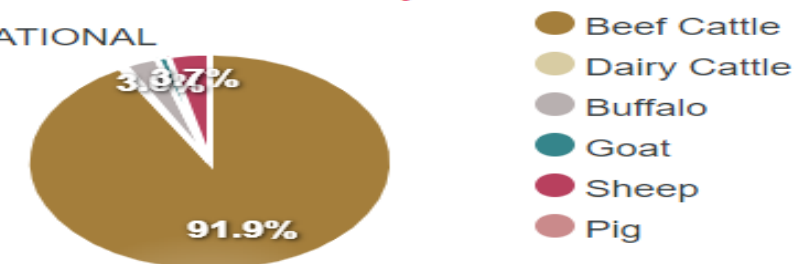
## Vaccination Based on Animals

NATIONAL



## Animals Affected by FMD - Confirmed

NATIONAL





### Surveillance :

- Risk base surveillans → Clinical Surveillance; Serology surveillance, Syndromic surveillance
- Reference Laboratory-Pusvetma; DIC, Province and District Animal Livestock Services, Quarantine
- FMD Ag and Ab detection → PCR with 5UTR and 3D primer; NSP Elisa
- Report to OIE → OIE Resolution



### Surveillance :

- Reference Laboratory-Pusvetma; DIC, Province and District Animal Livestock Services, Quarantine
- Clinical Surveillance
- Serology surveillance

### Reference Laboratory

- Confirmatory testing of samples
- Tracking the variation of FMD virus
- Surveillance FMD in free areas such as: Papua, Papua Barat, Papua Selatan, Papua Tengah, Papua Barat Daya, Nusa Tenggara Timur, Maluku, Maluku Utara, Gorontalo
- NQC and VNT



## Description of FMD active surveillance activities in 2022-2023 in Free Area

2022			2023		
Province	No. samples	Results	Province	No. samples	Results
PAPUA	477	Negatif ab, ag	Papua	334	Negatif
PAPUA BARAT	102	Negatif ab, ag	Papua Barat	1041	Negatif
			Papua Selatan	437	Negatif
			Papua Tengah	22	Negatif
			Papua Barat Daya	732	Negatif
			Papua Tengah	812	Negatif
Nusa Tenggara Timur	683	Negatif ab, ag	Nusa Tenggara Timur	2204	Negatif
MALUKU	232	Negatif ab, ag	MALUKU	344	Negatif
MALUKU UTARA	186	Negatif ab, ag	MALUKU UTARA	162	Negatif
GORONTALO	217	Negatif ab, ag	GORONTALO	974	Negatif



# FMD Virus characterization (serotyping and genotyping) result:

Year	Number of samples send to RRL and WRLFMD	O/Mya-98	O/PanAsia	O/Cathay	O/Ind2001e	A/SEA-97	Asia 1
2021	-	-	-	-	-	-	-
2022	6 (WRLFMD)	-	-	-	6 (WRLFMD)	-	-
2023	-	-	-	-	-	-	-
Total	6 (WRLFMD)	-	-	-	6 (WRLFMD)	-	-



## FMD Virus characterization (serotyping and genotyping) result:

Year	Number of samples received at National Laboratory	Number of samples tested	No. of serotype O viruses	No. of serotype A viruses	No. of serotype Asia 1 viruses
2021	-	-	-	-	-
2022	78	78	78	-	-
2023	19	19	17	-	2 *
Total	97	97	95	-	2

\* Samples from WRLFMD for proficiency test



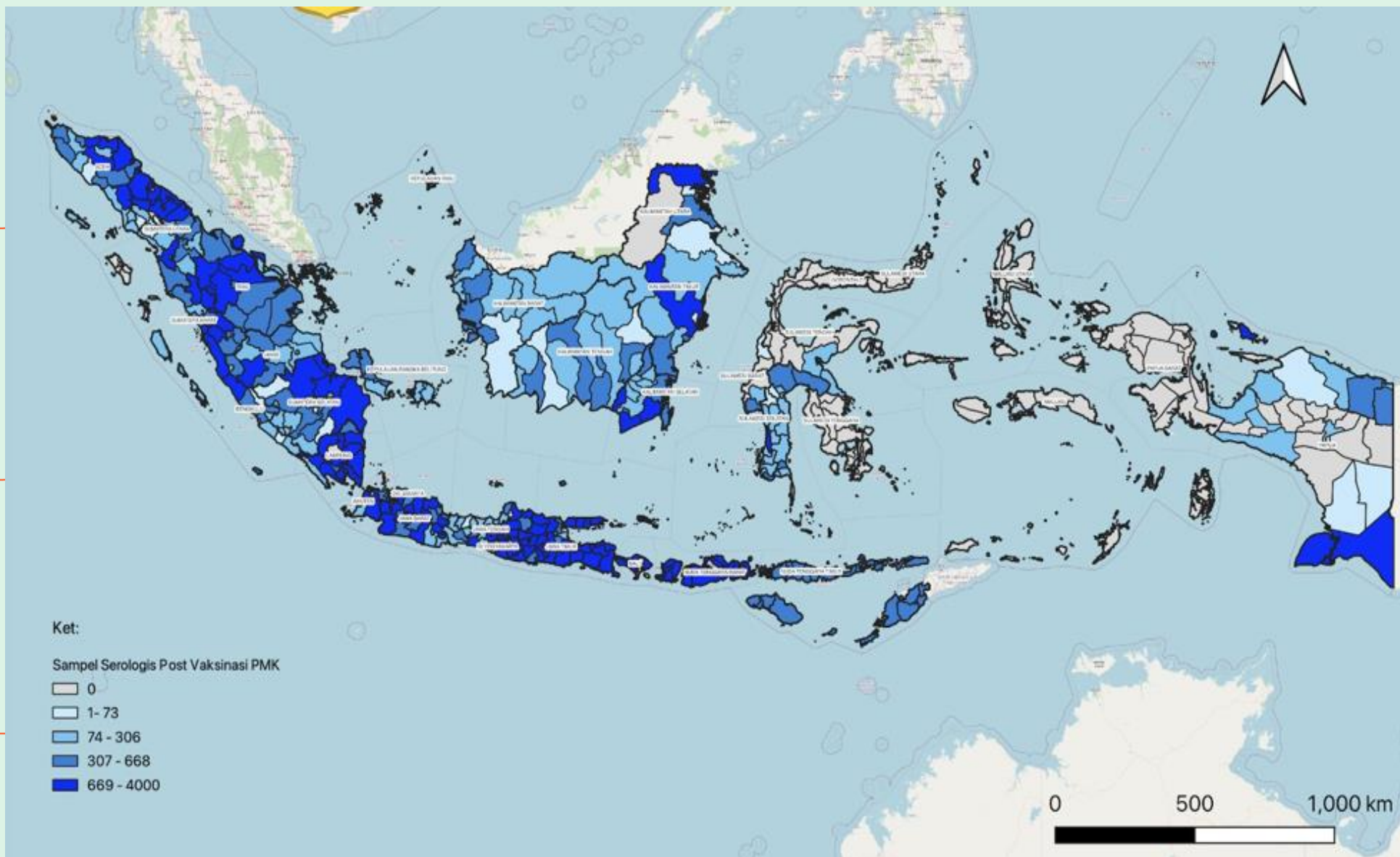
## Proficiency testing during the past 5 years

Type of test	Type of programme	Organiser	Participating date/year
Serology and Virology test, Capability level, Performance	WRLFMD Proficiency Test	WRLFMD	2022/2023



## Qualification ISO/17045 or other

Framework	Assured Organisation	Participating date/year
ISO 17045, FMD Assay (FMD PCR and FMD Elisa)	KAN Indonesian Accreditation Committee	2023 On Progress
ISO 17025 2017, FMD Assay (FMD PCR and FMD Elisa)	KAN Indonesian Accreditation Committee	2018-present





# Results of serological and virological tests on livestock that have been vaccinated against PMK in 2022

DIC	SP ELISA (positif)	NSP ELISA (positif)	PCR PMK (positif)
BVet Medan	91,9% (29.362/31.967)	38,2% (2.912/7.623)	44,2% (490/1109)
BVet Bukittinggi	90,3% (20.191/22.367)	22,6% (5.203/23.056)	5,8% (418/7.208)
BVet Lampung	91,3% (23.471/25.707)	17,2% (4.306/24.980)	3,8% (73/2.395)
BVet Subang	96,4% (19.897/22.926)	47,4% (9.699/20.480)	0% (53/22.275)
BBVet Wates	93,8% (71.161/75.854)	41,3% (28.660/69.424)	4,1% (838/20.440)
BBVet Denpasar	47,1% (12.462/26.459)	18,5% (4.892/26.427)	6,8% (74/1.088)
BVet Banjar Baru	85,1% (6.478/7.608)	10,1% (786/7.785)	1,6% (163/9.900)
BBVet Maros	82,7% (7.643/9.243)	0	0% (0/184)
<b>Total sampel</b>	222.131 sampel	179.775 sampel	64.599 sampel



### Research on PMK vaccine development 2022-2023

1. Detection and identification of foot-and-mouth disease O/ME-SA/Ind-2001 virus lineage, Indonesia, 2022,  
<https://www.tandfonline.com/doi/epdf/10.1080/09712119.2023.2229414?needAccess=true>
2. Genome sequence of a Foot and Mouth Disease Virus Detected in Indonesia 2022, ASM Journal, Microbiology Resource Announcements, Vol 12, No 2
3. Determination of Ag 146s Content at Pusvetma Product Vaccines
4. Improving the Quality of PMK Vaccine to Validate Production Methods Using BHK-21 Suspension Cells
5. VN Test Method Validation Measuring Vaccine Quality and Protective Titer of the Ministry of Agriculture's PMK Vaccine with the VN Test



## Challenges:

1. Illegal animal movement
2. Lab capacity and disease reporting system
3. High number of backyard farms that have low bio-security

## Way forward:

1. Enforce existing legislation on disease control and prevention.
2. Strengthen lab capacity, training for vet and para vets
3. in disease diagnostic and animal disease surveillance systems.
4. Improve stakeholder collaboration in FMD control and prevention.
5. Increase FMD vaccine coverage
6. Technical guidance for farmers on farms, simple biosecurity practices for small holder farmers





Thank You