

Country experiences on bovine TB/ zTB diagnosis, surveillance and control

Indonesia

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Ministry Of Agriculture Of Indonesia



中国动物卫生与流行病学中心
China Animal Health And Epidemiology Center

**WOAH Regional Hands-on Training on
Zoonotic TB Diagnosis**
Qingdao, China P.R., 1 – 5 September
2025





- ❑ According to WHO data (2023) in Global Tuberculosis report, eight countries with high TB cases of the global is India (27%), Indonesia (10%), China (7,1%), the Philippines (7.0%), Pakistan (5.7%), Nigeria (4.5%), Bangladesh (3.6%) and the Democratic Republic of the Congo (3.0%).
- ❑ Bovine tuberculosis in dairy cattle increases tuberculosis cases that it can be transmitted to humans (zoonoses). Investigation of *M.bovis* a cause of bovine tuberculosis in both animal and human populations is still very limited in Indonesia (Putra et al, 2023)



- The Government of Indonesia, through the Ministry of Agriculture, has established Veterinary Centers, also known as Disease Investigation Centers (DICs), as part of its strategy to strengthen surveillance, diagnosis, and control of zoonotic diseases, particularly zoonotic tuberculosis (ZTB)

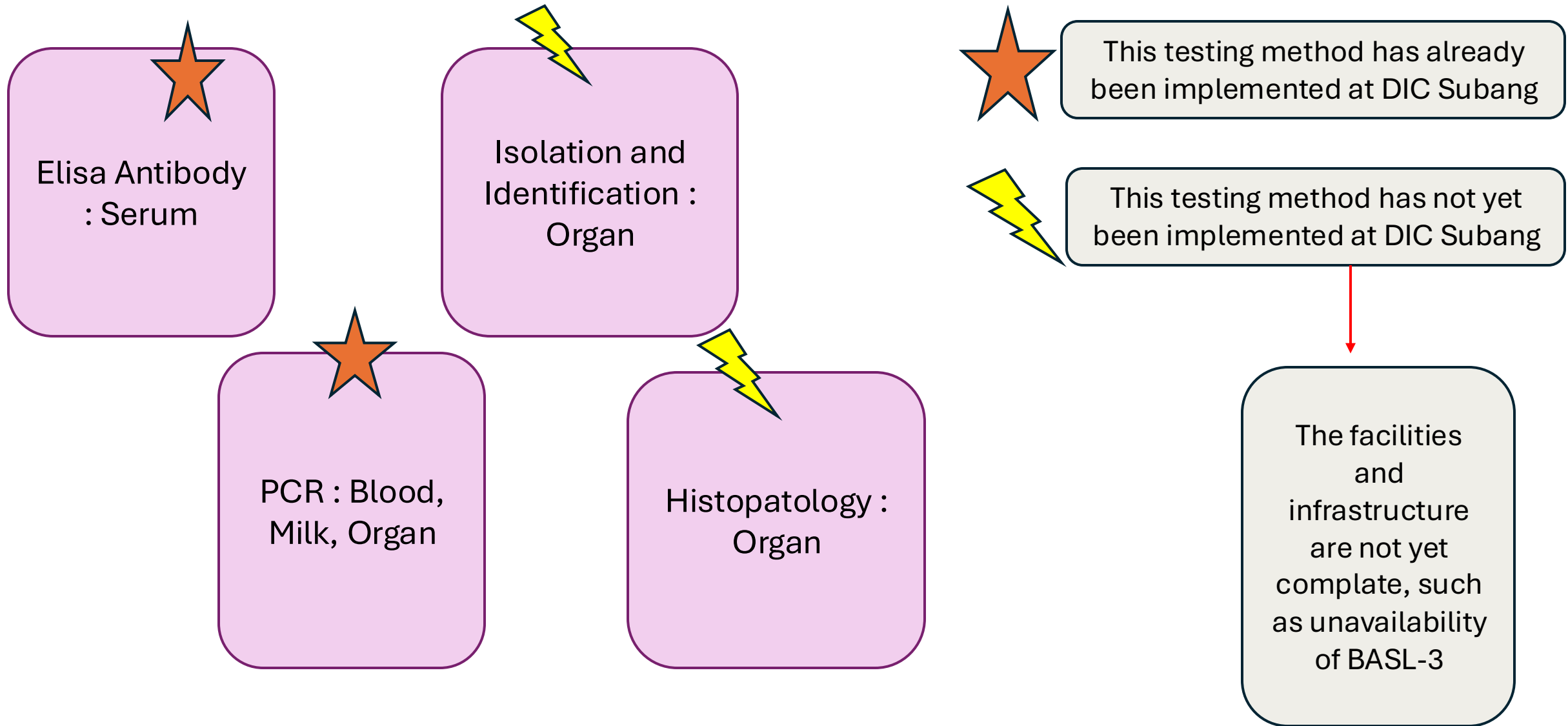


DIC Subang in West Java (with the working area of West Java, DKI Jakarta, and Banten)

DIC in Indonesia :

1. DIC medan
2. DIC Bukittinggi
3. DIC Banjarbaru (Ziehl nielsen)
4. DIC wates (Elisa & PCR)
5. DIC lampung (PCR)
6. DIC Denpasar
7. DIC maros
8. DIC subang (Elisa & PCR)
9. DIC loka papua

Note : red color is DIC
has been testing ZTB





3 Type Disease Surveillance in DIC Subang

Active Surveillance

- monitoring activities and data collection that are conducted regularly and directly in the field, according to the working area of DIC Subang.

Pasive Surveillance

- Sample shipment from individual customers, companies, or livestock services

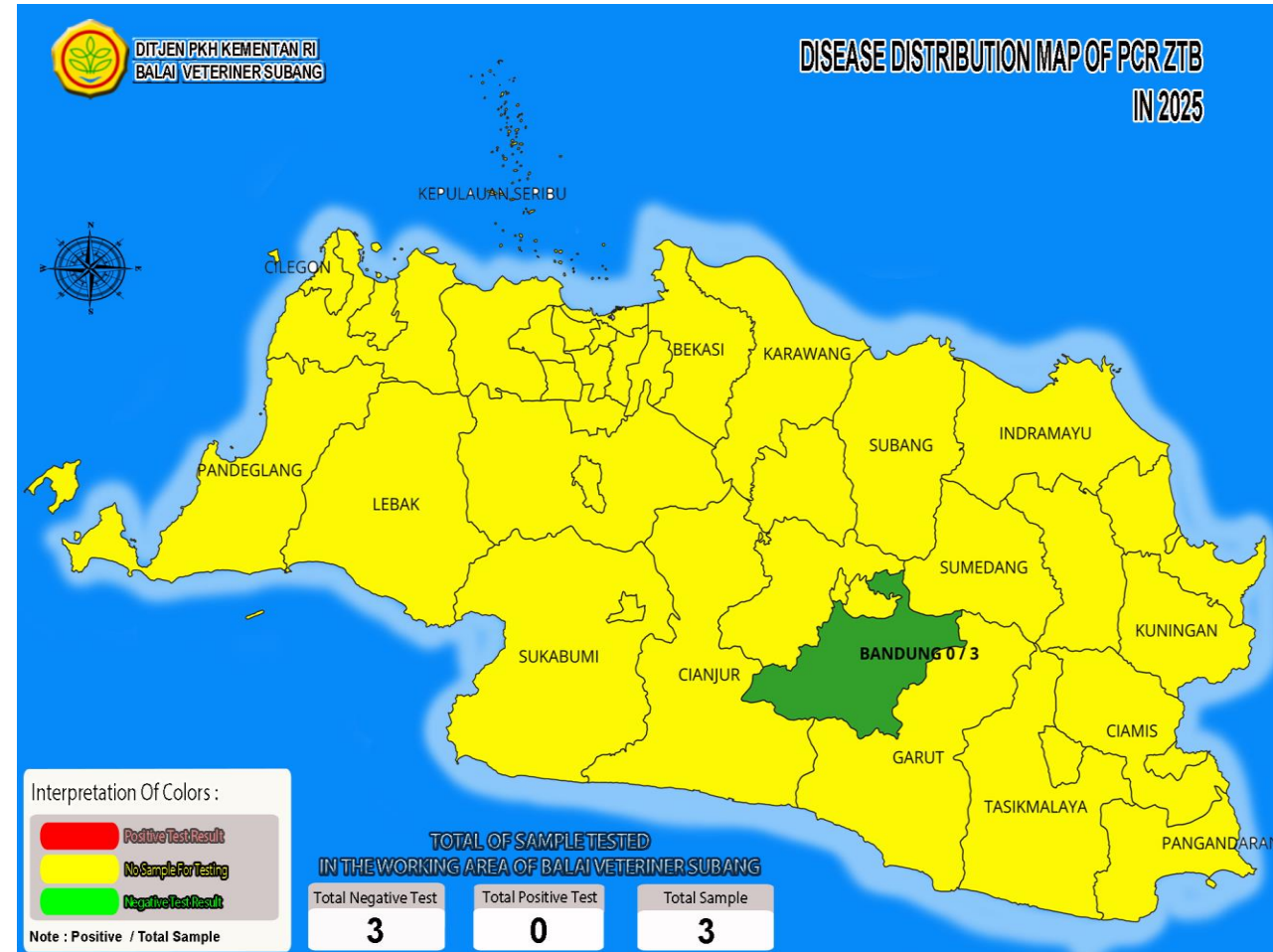
Investigation

- report from the livestock department (for example from the community in that area)
- report from ISHIKNAS program



1. Diagnostic PCR For ZTB in DIC Subang In 2025

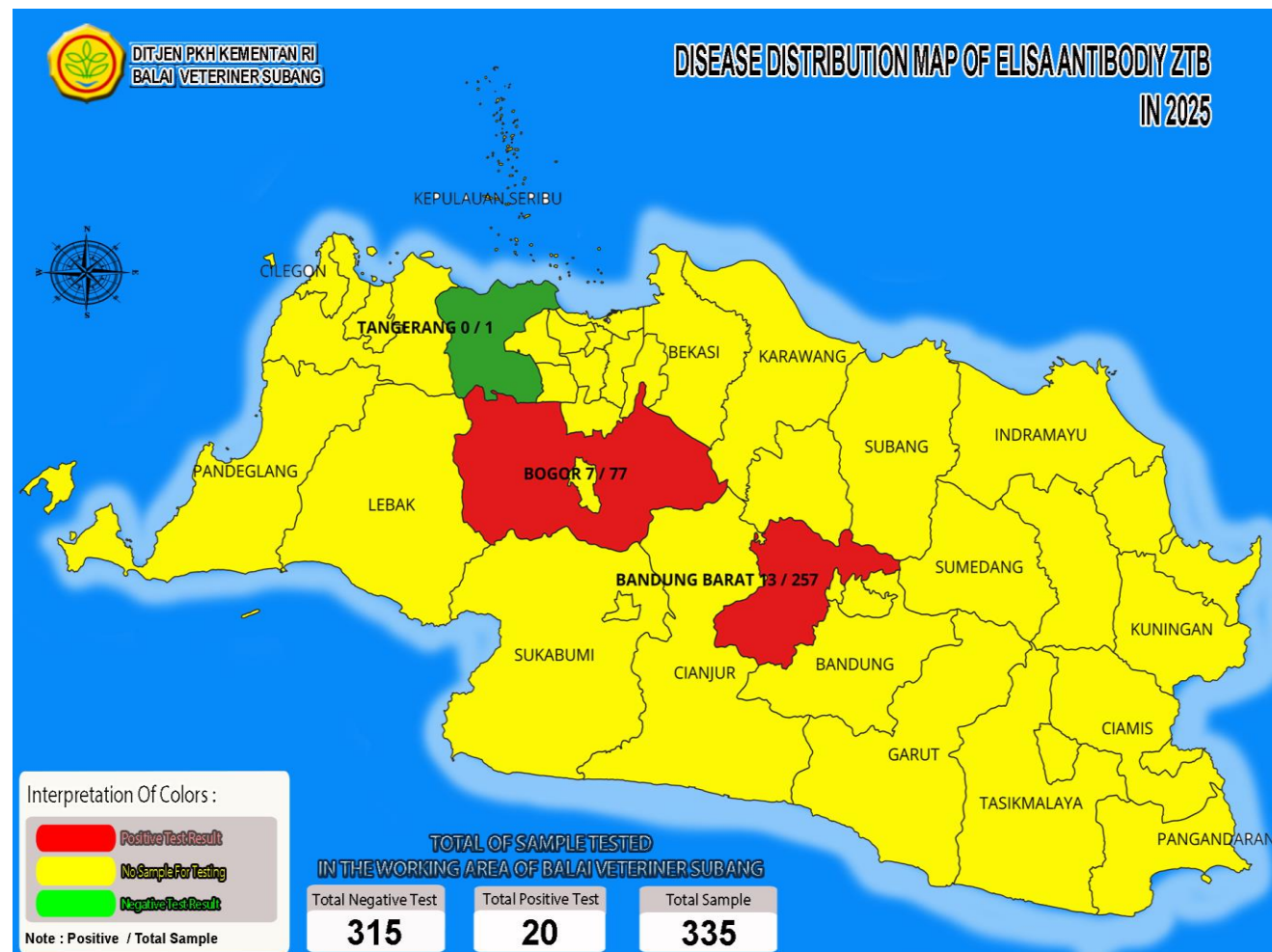
No	type of service	District	sample	Animal	Total sample	Type of Test	Result
1	Research	Bandung	Milk	Cow	3	PCR	Negatif





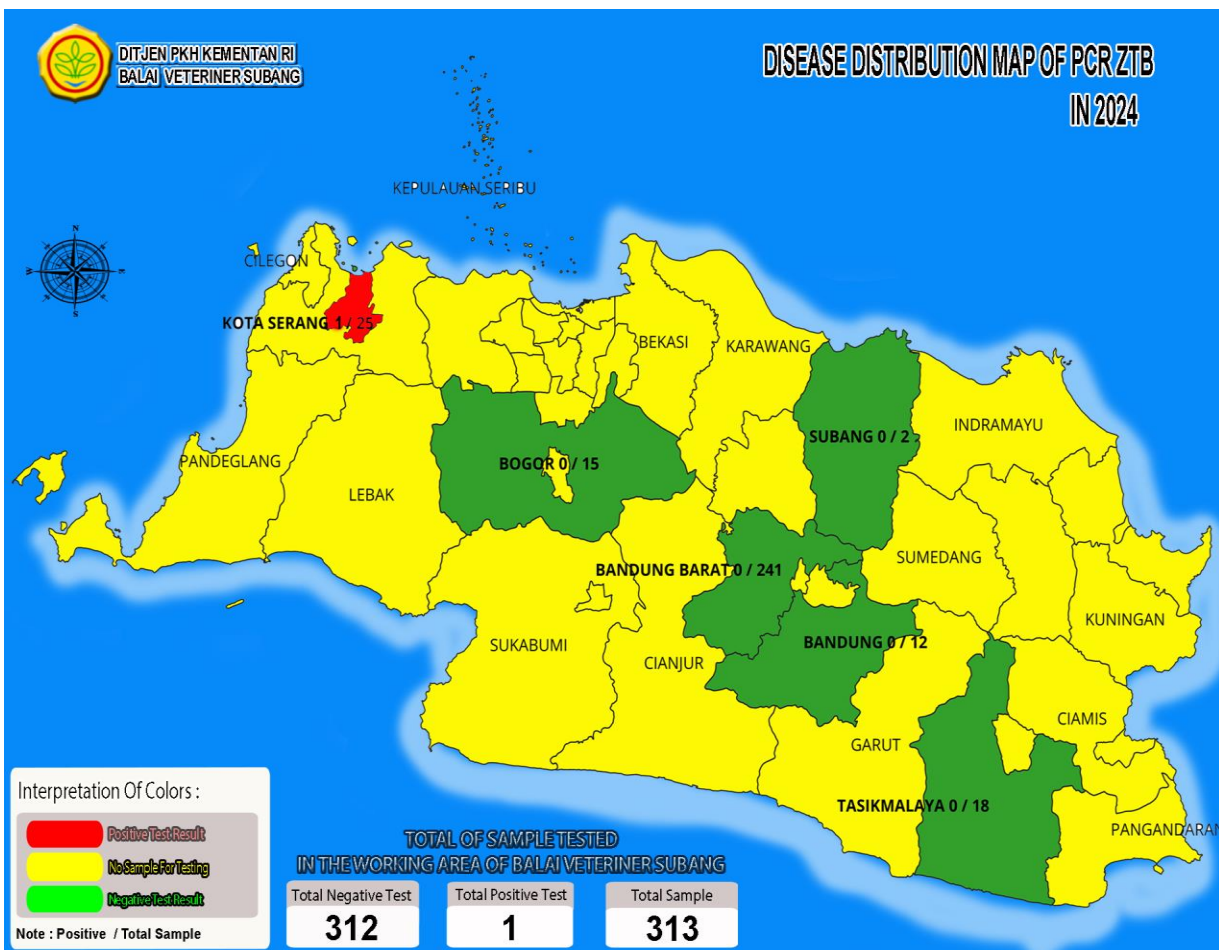
2. Diagnostic Elisa Antibody For ZTB in DIC Subang In 2025

No	type of service	District	sample	Animal	Total sample	Result
1	Surveillance	Tangerang	Serum	Cow	1	Seronegatif
2	Diagnostic	Bogor	Serum	Cow	25	Seronegatif (18), Seropositif (7)
3	investigation	Bandung Barat	Serum	Buffalo	4	Seronegatif (4)
4	investigation	Bandung Barat	Serum	Cow	239	Seronegatif (226), Seropositif (13)
5	investigation	Bogor	Serum	Cow	52	Seronegatif (52)
6	Animal movement	Bandung Barat	Serum	Cow	14	Seronegatif (14)





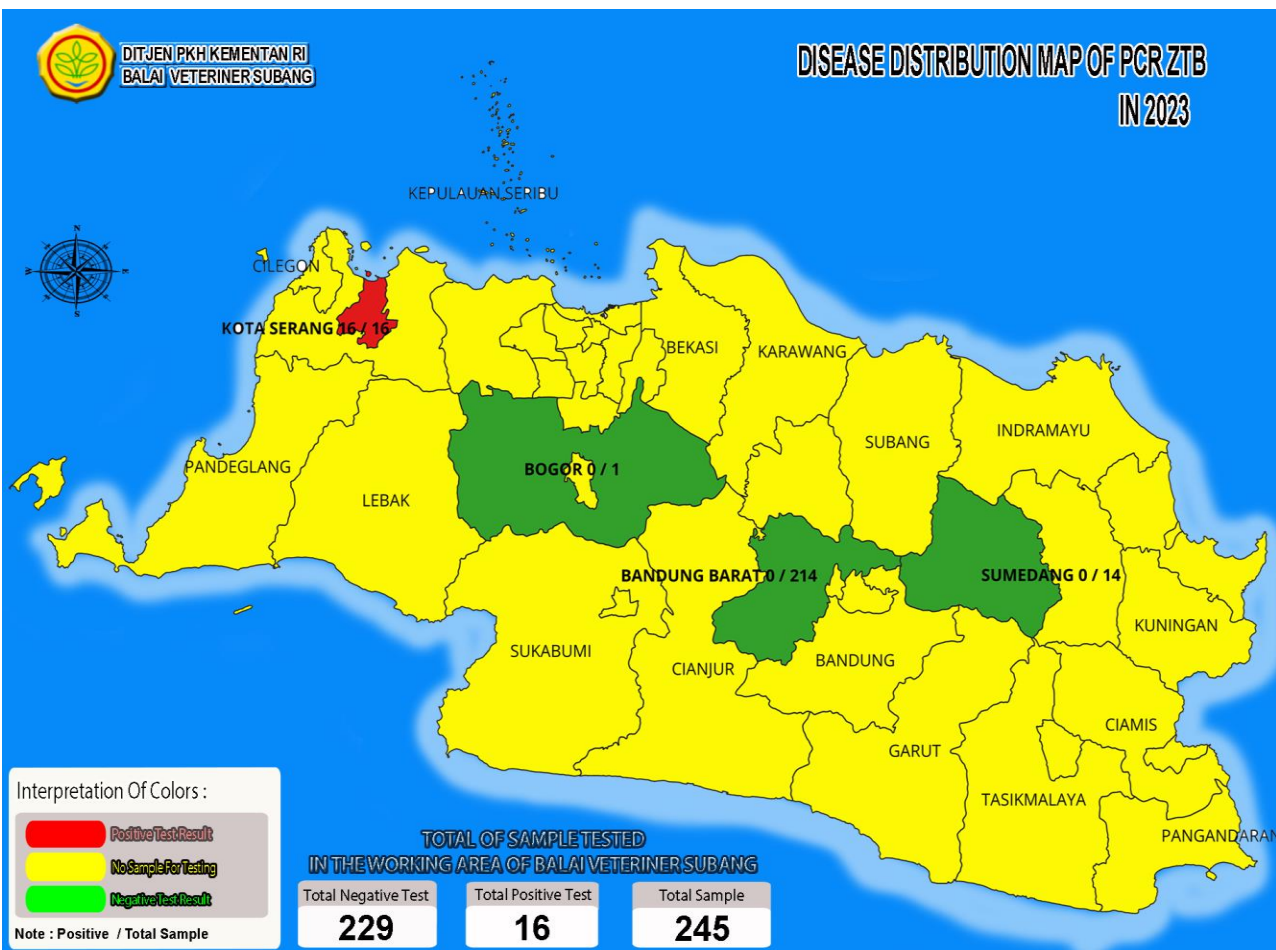
3. Diagnostic PCR For ZTB in DIC Subang In 2024



No	type of service	District	Sample	Animal	Total sample	Result
1	Diagnostic	Subang	Organ	Sheep	1	Negatif
2	investigation	Tasikmalaya	Blood	Cow	18	Negatif
3	Diagnostic	Serang City	Organ	Cow	1	Positif
4	Diagnostic	Bandung Barat	Nasal swab	Cow	2	Negatif
5	Diagnostic	Subang	Nasal swab	Cow	1	Negatif
6	Diagnostic	Bogor	Orofaring swab	Monkey	3	Negatif
7	Diagnostic	Serang City	Swab	Cow	2	Negatif
8	Diagnostic	Bandung Barat	Swab	Cow	6	Negatif
9	Diagnostic	Bogor	Oral Swab	Girrafe	5	Negatif
10	Diagnostic	Bogor	Nasal discharge	Elephant	1	Negatif
11	Diagnostic	Serang City	Swab	Cow	22	Negatif
12	Surveillance	Bandung Barat	Nasal swab	Cow	230	Negatif
13	Diagnostic	Bandung Barat	Nasal swab	Buffalo	3	Negatif
14	investigation	Bandung	Swab	Cow	12	Negatif
15	Diagnostic	Bogor	Orofaring swab	Monkey	6	Negatif
Total Sample					313	



4. Diagnostic PCR For ZTB in DIC Subang In 2023

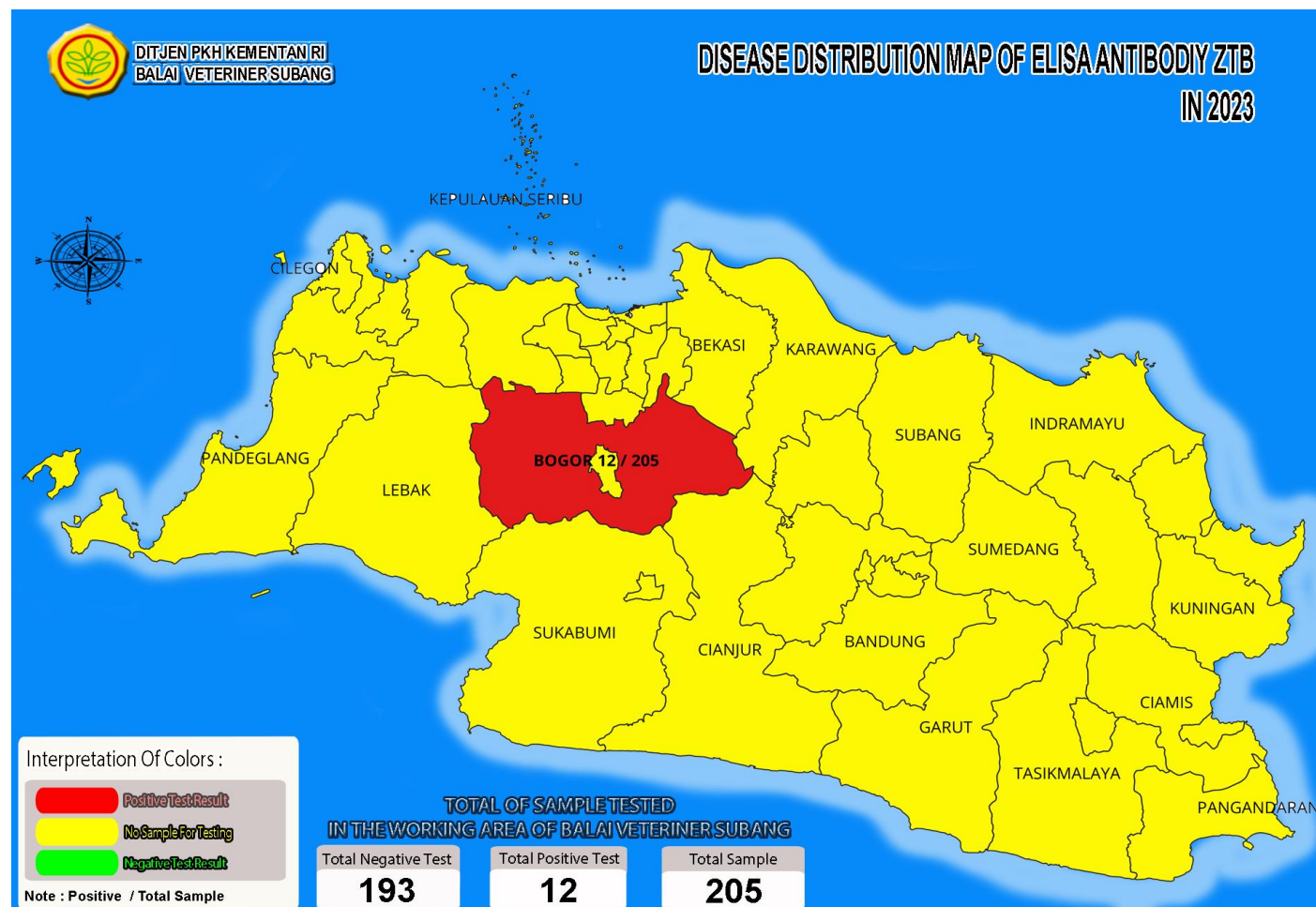


No	type of service	District	sample	Animal	Total sample	Result
1	Diagnostic	Bandung Barat	Organ	Monkey	1	Negatif
2	investigation	Serang City	Nasal swab	Sheep	4	Positif
			Blood		4	Positif
			Nasal swab	Cow	4	Positif
			Blood		4	Positif
3	investigation	Sumedang	Blood	Cow	14	Negatif
4	Surveillance	Bandung Barat	Fresh Milk	Cow	28	Negatif
5	Surveillance	Bandung Barat	Fresh Milk	Cow	42	Negatif
6	Surveillance	Bandung Barat	Fresh Milk	Cow	105	Negatif
7	Surveillance	Bandung Barat	Organ	Cow	26	Negatif
8	Surveillance	Bandung Barat	Fresh Milk	Cow	7	Negatif
9	Diagnostic	Bogor	Swab	Cow	1	Negatif
11	investigation	West Java	Swab	Cow	3	Negatif
12	Diagnostic	Bandung Barat	Blood	Cow	1	Negatif
13	Diagnostic	Bandung Barat	Organ	Cow	1	Negatif
Total Sample					245	



5. Diagnostic Elisa Antibody For ZTB in DIC Subang In 2023

No	type of service	District	sample	Animal	Total sample	Result
1	Diagnostic	Bogor	Serum	Cow	205	Seronegatif (193), Seropositif (12)





Decision of the minister of agriculture of the republic Indonesia : Kepmentan no 121/KPTS/PK.320/M/03/2023 about determination of types of strategic animal disease. ZTB one of the most strategic animal disease.

government regulation : PP no 47 tahun 2014 about: Disease control and prevention.

One of the point is coordination one health

to enhance human resource capabilities regarding laboratory testing, for example through training for all DIC or scientific discussions

improving laboratory facilities, both equipment and media. for example, the presence of bSL 3 at DIC

surveillance of traffic of animals, animal products, and other carriers of animal diseases



Difficult ZTB diagnosis

- Symptoms of TB in animals are often non-specific (ZTb Laten)
- the laboratory facilities are not yet complete (BSL3)

A diverse animal reservoir

Its hard to control transmission when many species are involved

Limitations surveillance system

Surveillance of the tb of animals has not been evenly throughout the region

Resorce constraints

- The availability of experts, diagnostic equipment, and laboratories is still limited.
- The budget for controlling animal tb is generally small compared to that of humans

Socio economic factors

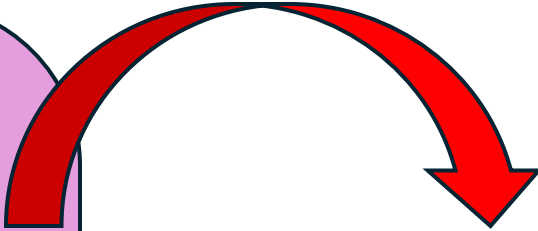
Farmers are often to report sick animal for fear of economic losses

Lack of public awareness

There is still alow understanding of breeder's risk of Ztb and its prevention methods
Consumption of unpasteurized animal product raw milk.



- Conducting surveillance and monitoring of ZTB in Indonesia continuously
- Completing media and laboratory equipment for ZTB (At least BSL 3 is required in the reference DIC)
- Need for a ZTB reference laboratory, especially DIC in Indonesia
- Improving human resource capabilities
- Improving one health collaboration



All these steps become the target for the future so that Ztb in Indonesia can be addressed and all involved agencies can collaborate well.



Thank you!

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