



EUVET – Veterinary Emergency Team

Mission on *Brucella melitensis* in Cyprus

4-6 May 2022

Outbreak of Cattle Brucellosis due to *Brucella melitensis*

Standing Committee on Plants, Animals, Food and Feed
Brussels, 10 June 2022

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Terms of reference of the EUVET mission to Cyprus

1. The experts should provide scientific, technical, managerial and practical assistance on the spot on the handling of an outbreak of *Brucella melitensis* in a hitherto free country and on refinement of the most suitable preventive, control and eradication strategies and measures for *Brucella melitensis* under local conditions which are compliant with the relevant EU animal health rules, in particular with those laid down in Commission Delegated Regulation (EU) 2020/689.
2. The experts should report exclusively to the Commission services and the Cypriot authorities. Continuous contact should be guaranteed between the team, the Commission services and Cypriot authorities.
3. The experts should provide a written report with conclusions and recommendations aimed to the competent authority. A report to the Commission and the Member States in the framework of the Standing Committee on Plant, Animal, Food and Feed should be delivered.

Background

- According to Implementing Decision (EU) 2015/129 of 26 January 2015, Cyprus is a Member State recognized as officially free of brucellosis (*B. melitensis*).

Last confirmed case 2010

- According to Implementing Decision (EU) 2017/1910 of 17 October 2017, Cyprus is a Member State recognized as officially bovine brucellosis-free country.

Last confirmed case 2008

*Cyprus listed in Annex I of Commission Implementing Regulation (EU) 2022/214 as MS free of infection of *B. abortus*, *B. melitensis* and *B. suis* in bovines, sheep and goats*

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Animal population

Bovine animals	Holdings	Total No of animals	Animals >12 months	Animals >24 months
Breeding with more than 10 animals >24 months	259	81427	58684	42187
Breeding with less than 10 animals >24 months	30	429	331	98
Local breed*	58	1050	826	
TOTAL	347	82906	59841	
Fattening**	25	551	247	

* Kept for the maintenance of the breed - no milk
 ** Male animals for slaughter

Surveillance programme
 ELISA bulk milk tank
 (Twice a year)

Sheep and Goats	Flocks	Total No of animals	Animals >6 months
Breeding (milk and meat production)	2569	475944	471870
Animal collection centers *	62	5772	5772
Fattening**	13	385	385

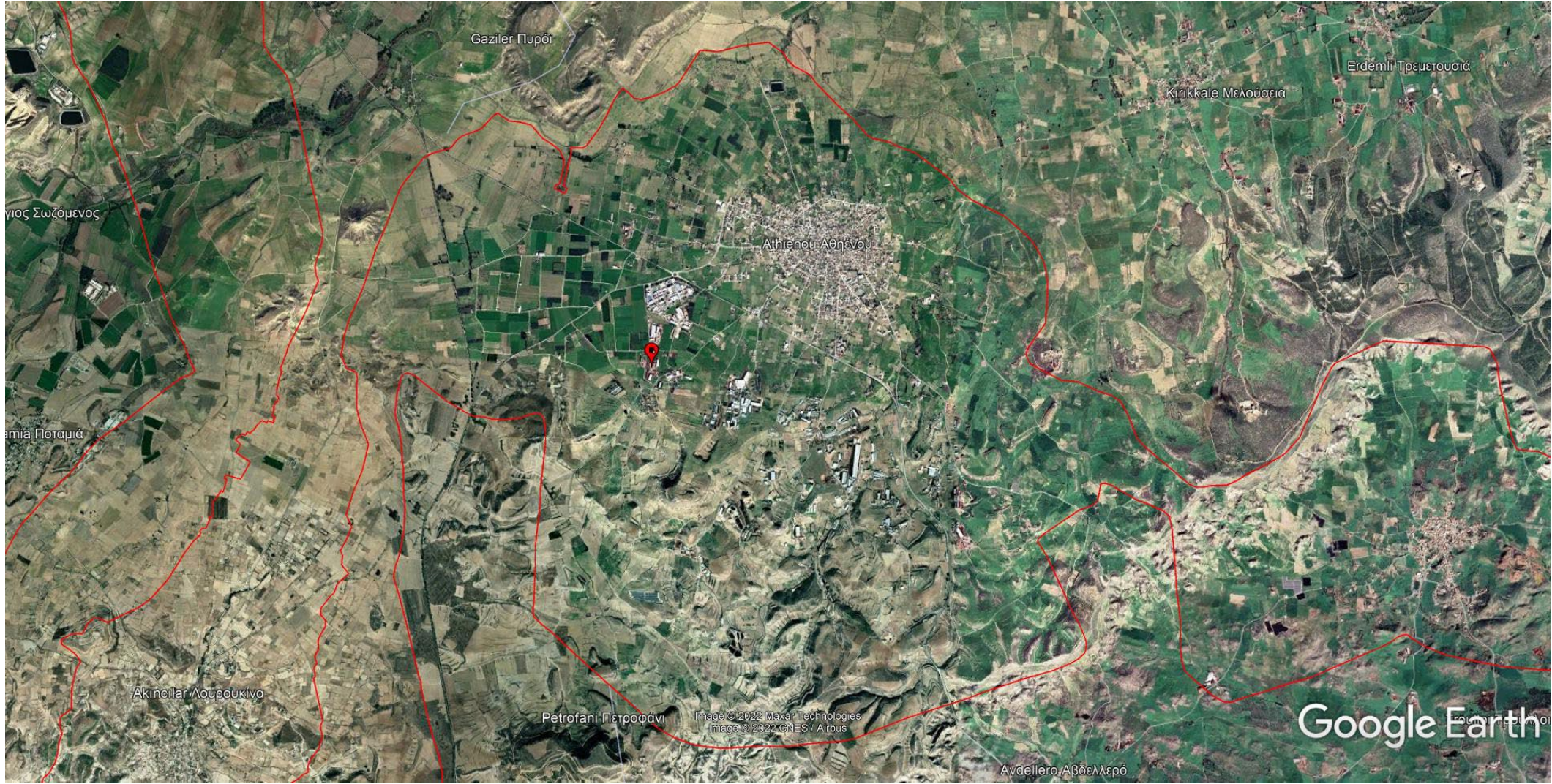
*Animals remain in the collection centers up to 29 days
 **Animals move to slaughter - <11 months of age

Surveillance programme
 (0,2%; 95%)
 Individual serological tests

Case Presentation

- 22.03.2022: the ELISA bulk milk test from one dairy cattle holding (Athienou, Larnaca district) showed positive reaction for antibodies against *Brucella* spp.
- 23 & 24.03.2022: blood samples were collected from dairy cattle > 12 months (RBT & CFT parallel)
- 24 & 25.03.2022: 54 cattle tested positive
- 06.04.2022: *B. melitensis* isolation
- 19 & 20.04.2022: 30 additional cattle tested positive





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Αθηνού Αθηνού

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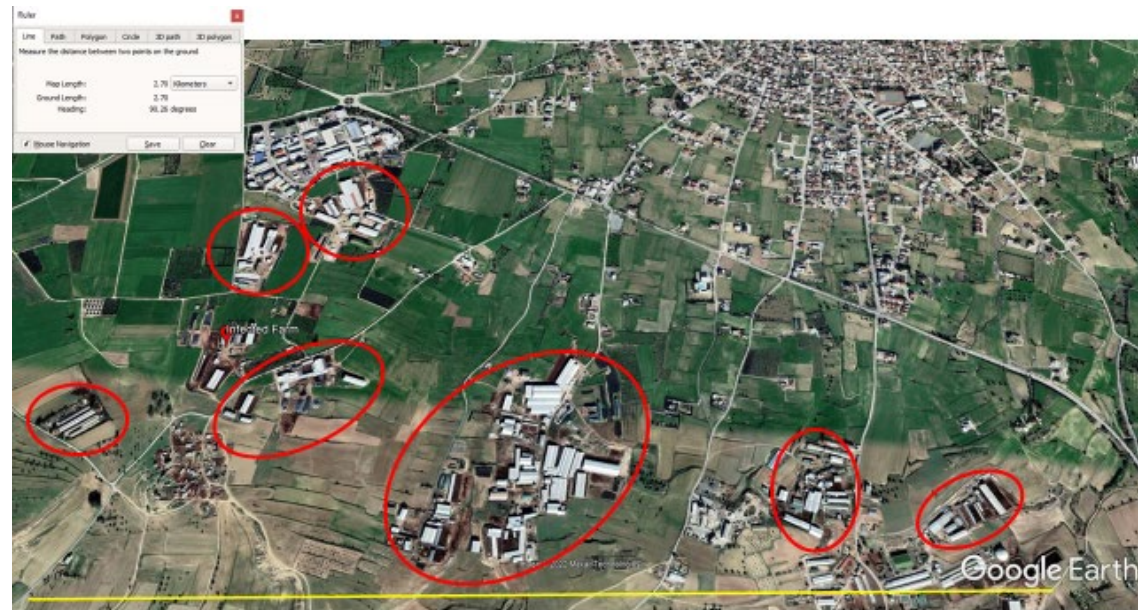
Ρετροφάνι Πετροφάνι

Image © 2022 Maxar Technologies
Image © 2022 CNES / Airbus

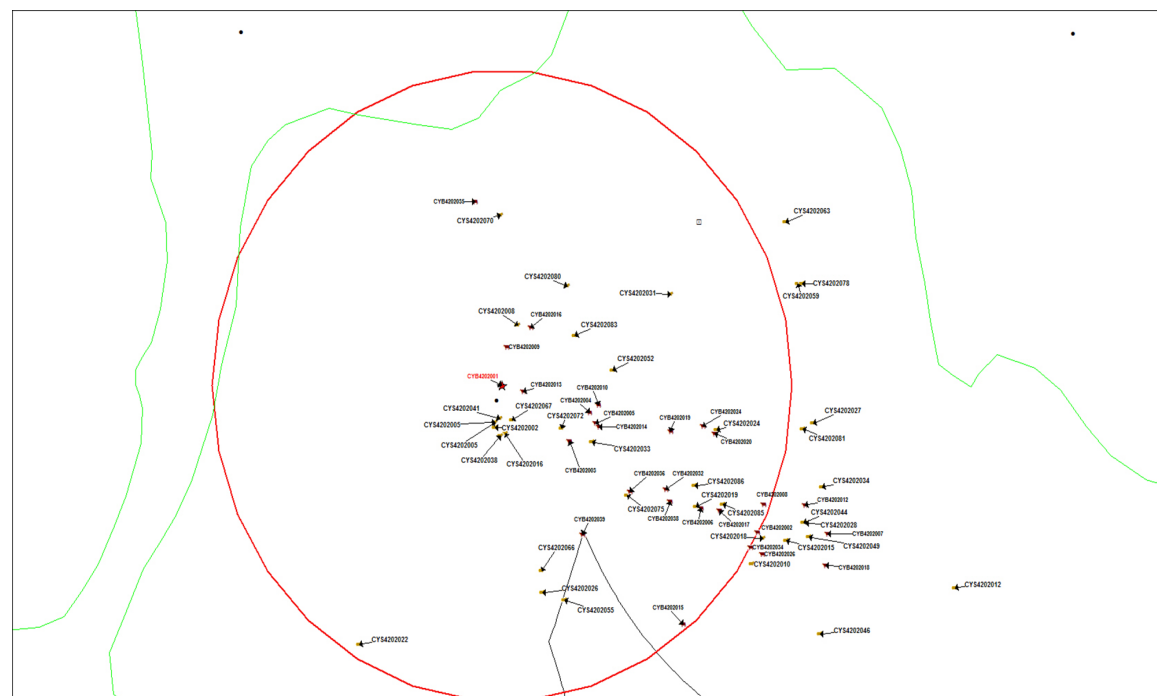
Ανδελερο Αβδελλερό

Google Earth

From 23/03/2022 onwards, all cattle commercial farms (28; 12.609 animals) in Athienou were tested twice (end of March, beginning of April) in bulk tank milk samples, with negative results.



Regarding small ruminants, all farms of Athienou were serologically tested in all individual animals aged more than six months. Few animals with low titers CFT, not confirmed by bacteriology.



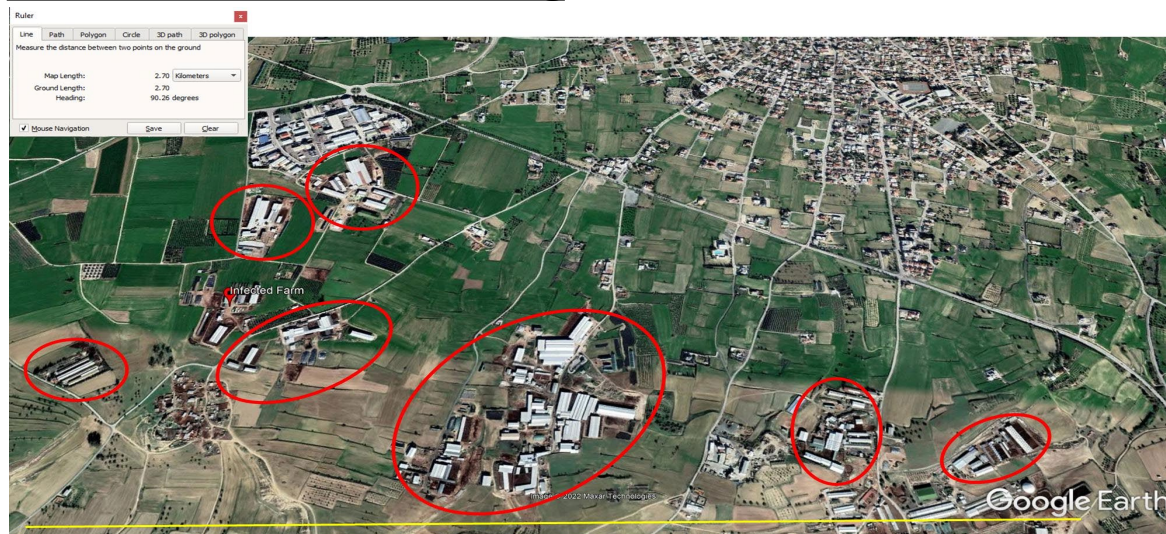
Visit to the farm and epidemiological investigations



Meeting with farmer's association representatives

- indirect information about the unfavourable situation of the disease in villages of the occupied zone close (and in) the buffer zone;
- probability that, accidentally or intentionally, small ruminants of this zone feed on lands of their part, as the green line is only a virtual separation (only a narrow road, without fences);
- the affected farm has a big land divided by the green line;
- possibility that the owner of the infected farm has harvested this forage left to the ground, to give it fresh to his animals;
- use of common machines to cut forages

Visit to the fields at the border with the Green Line and to the area of cattle farming



Ruler

Line Path Polygon Circle 3D path 3D polygon

Measure the distance between two points on the ground

Map Length: 2.70 Kilometers

Ground Length: 2.70

Heading: 90.26 degrees

Mouse Navigation Save Clear

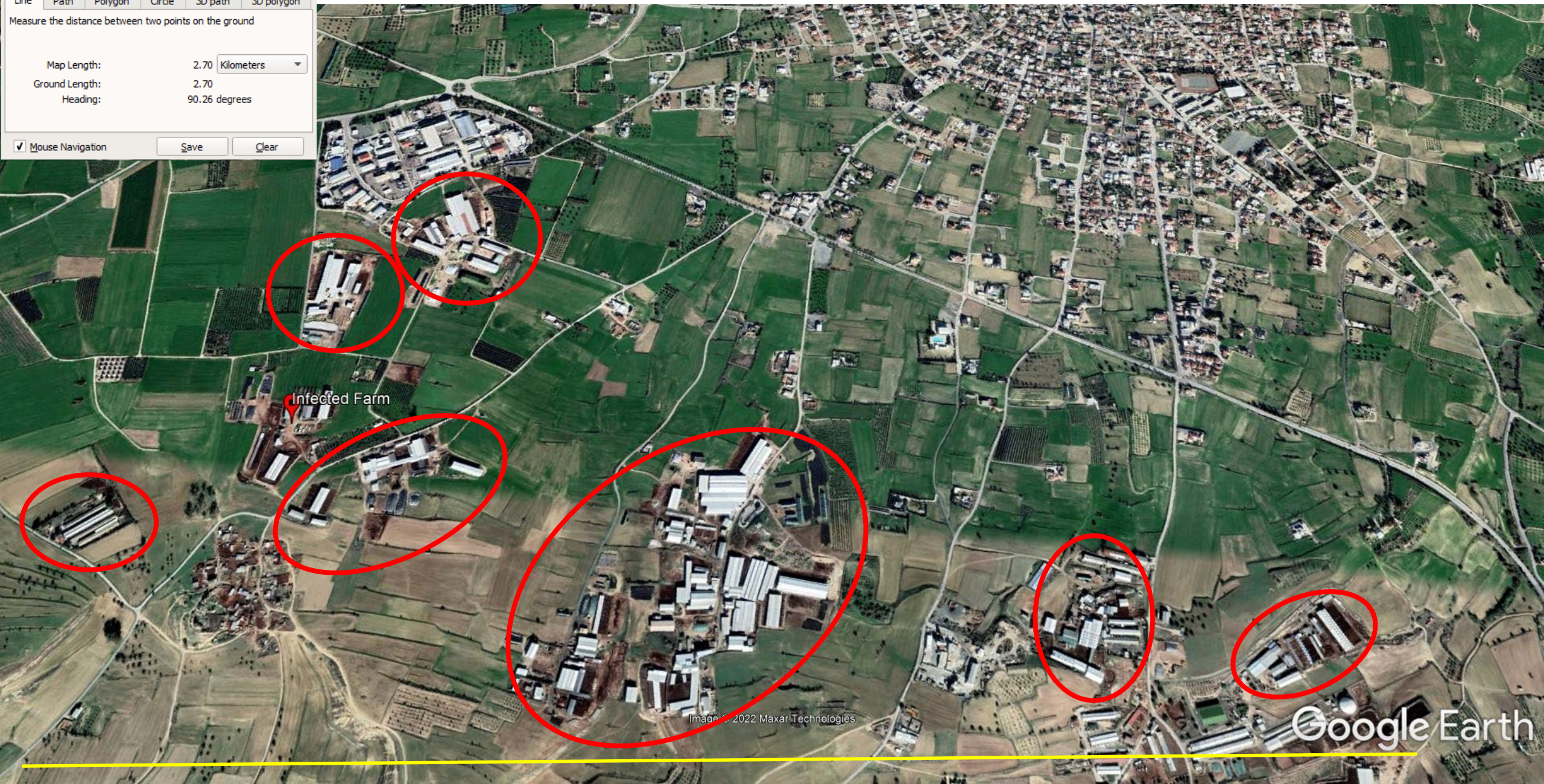
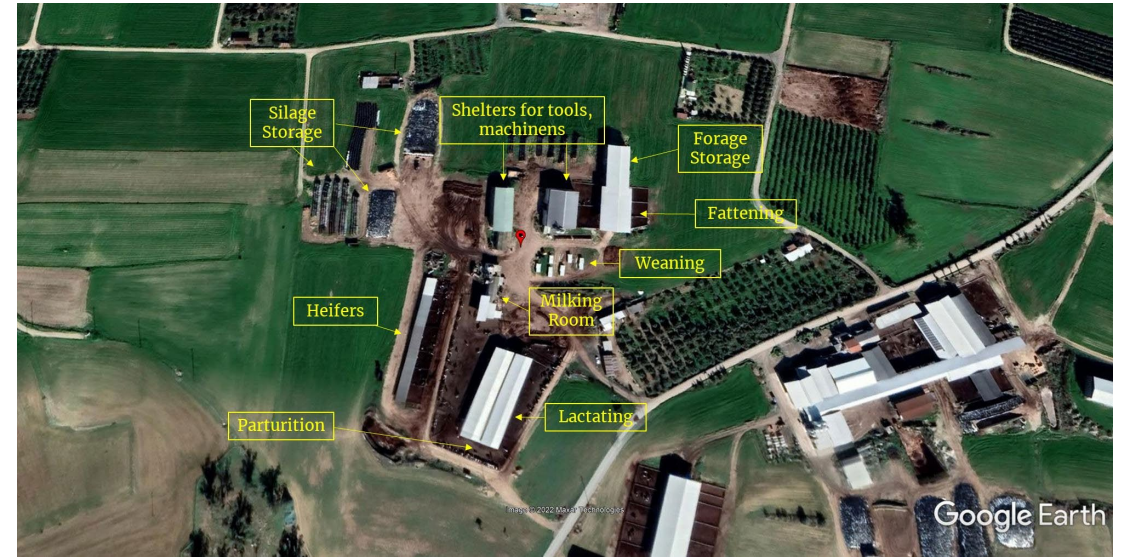


Image © 2022 Maxar Technologies

Google Earth

Visit to the affected farm

- No history of the disease;
- No movements in (own replacement);
- Movements out to slaughterhouse;
- No biosecurity (open, many ways of entry);
- First positives in pen of pregnant cows, afterwards in all pens;
- Use of own forage harvested and dried in several lands owned by the farm, located thorough the Athienou area.

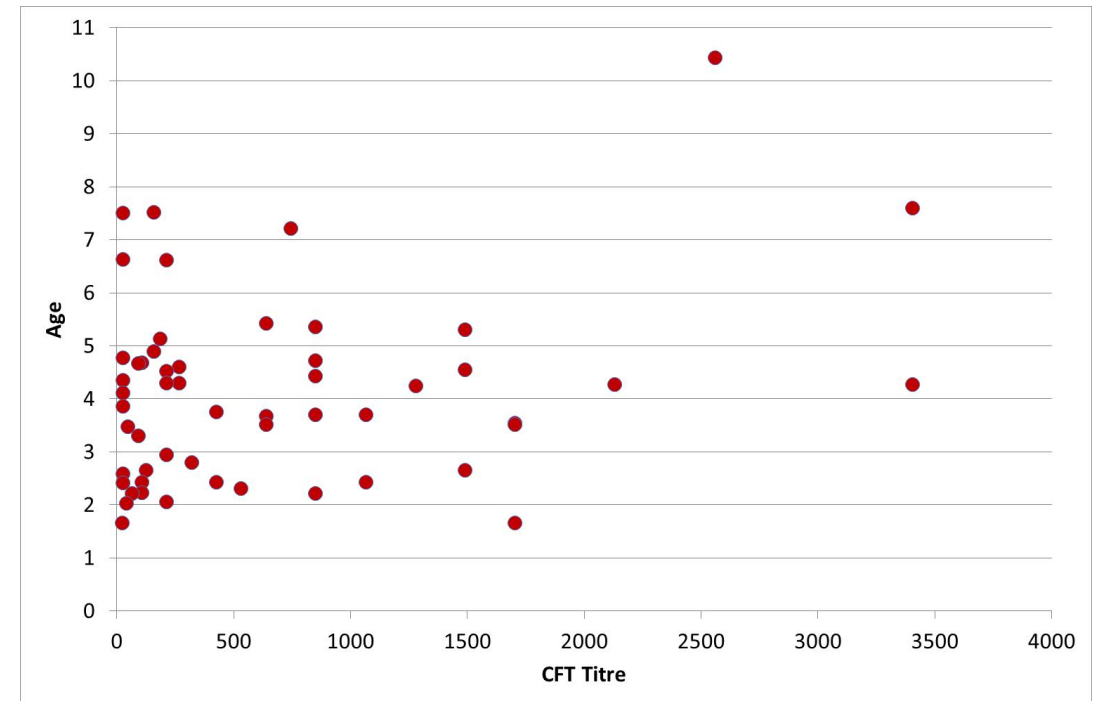
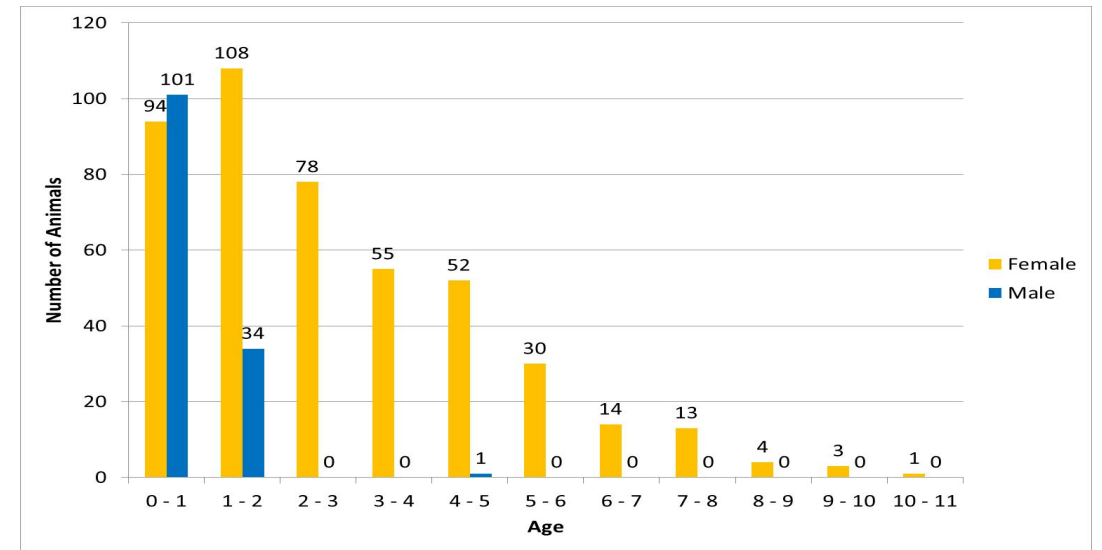
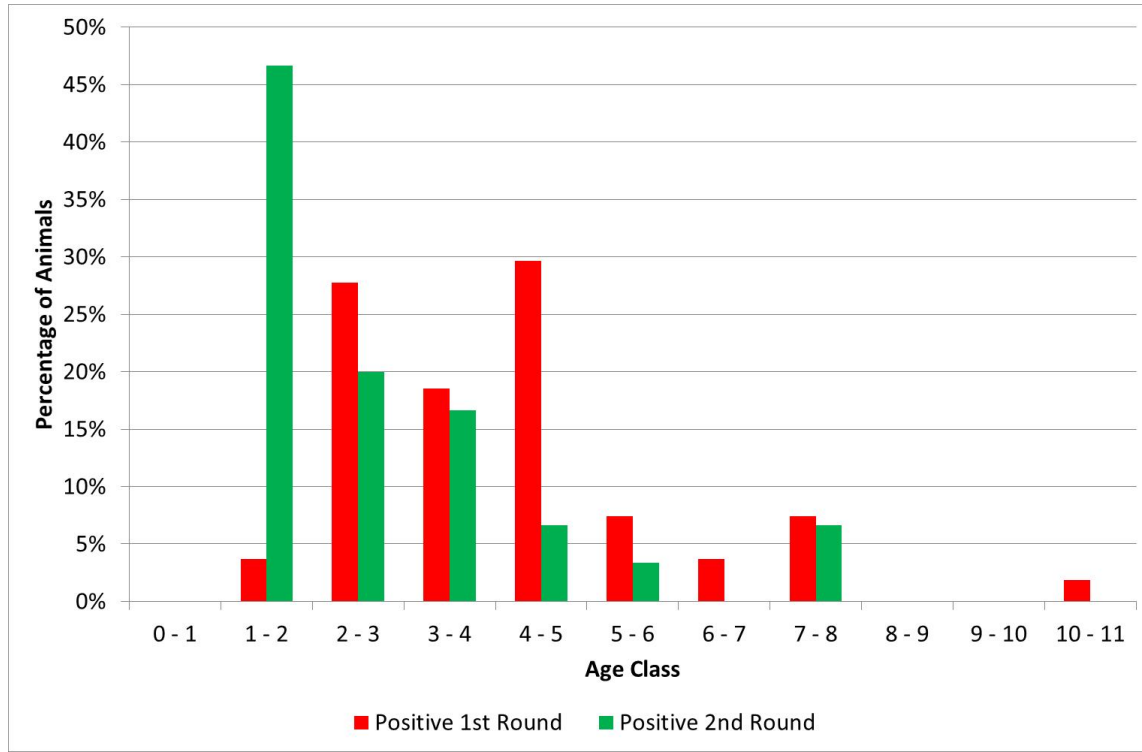


- Farms in the area surrounding the infected farm are very close each other, with very high density of animals, with no fencing nor systems of disinfection for vehicles, as the farm are open and have many point of entry.
- There are very close relationships between farmers.

Overall, good level of organization in paddocks

No abortions recorded, only one the day before the visit
This animal was examined and proved to be serologically negative.

Some additional investigations



Main findings and conclusions

No source investigated can be discarded as origin of the infection yet, due to the poor/no biosecurity of the affected farm and the others farms in the area, completely open (not fenced at all) to different possible sources from the “northern part” or from a still non-detected source inside or outside the affected area.

The close proximity (separation by a simple road) to other big dairy farms with the same poor biosecurity may suggest a risk of spread of the disease from the affected farm to the contiguous farms (testing with bulk milk ELISA not enough sensitive to quickly detect new cases).

Appropriate cleaning and disinfection of the affected farm very difficult .

Testing of small ruminants in the area has been much more sensitive. Overall results indicate that in principle and at the time of the visit the problem can be still limited to cattle in the Athienou area.

Farmers have taken some preventive measures, as forages harvested close to the occupied zone are perceived to be a risk of disease transmission. In the case of the infected farm it seems that last spring some forages were used fresh and coming from a land close to the occupied zone border.

The most probable sources of the infection were suspected as:

- The use of forages harvested from a land of the farmer near to the buffer zone and divided by the green line ;
- The lack of biosecurity of the farm, in particular:
 - Common use of machines, tools and equipment, especially for harvesting forage.
 - Mechanical vectors, such as:
 - Lorries of traders;
 - Lorries for milk collection;
 - Domestic/Wild Animals.

Less probable source of infection may have been:

- The direct contact or the illegal movement of animals from the northern part.
- Latent animal.
- The contact with neighbouring infected herds/flocks, even if not revealed at the time of visit.

Recomendations

In the short time:

1. Depopulation of affected farm.
2. If more positive farms are detected in the area, an alternative strategy to depopulation could be implemented (frequent testing individual serology in parallel).
3. Improve sensitivity of the testing (cattle) in the area (and in the district).
4. WGS of new and “old” strains.
5. Testing of all local breed farms.
6. Management of forages and machines (GPC).

In the medium term:

7. Improve biosecurity of farms in the area.
8. Adapt the surveillance programme in cattle and small ruminants in Cyprus for 2022 and 2023.
9. Draft a contingency plan with decision trees, including a protocol to manage suspected serum samples.
10. Design surveillance programmes adapted to the human and technical resources available in each moment



Thank you !!!!!

To the colleagues from Cyprus, that gave all their support and assistance to facilitate a fruitful mission, in an excellent working atmosphere.

Fabrizio and Jose