Sheep pox and goat pox in Greece

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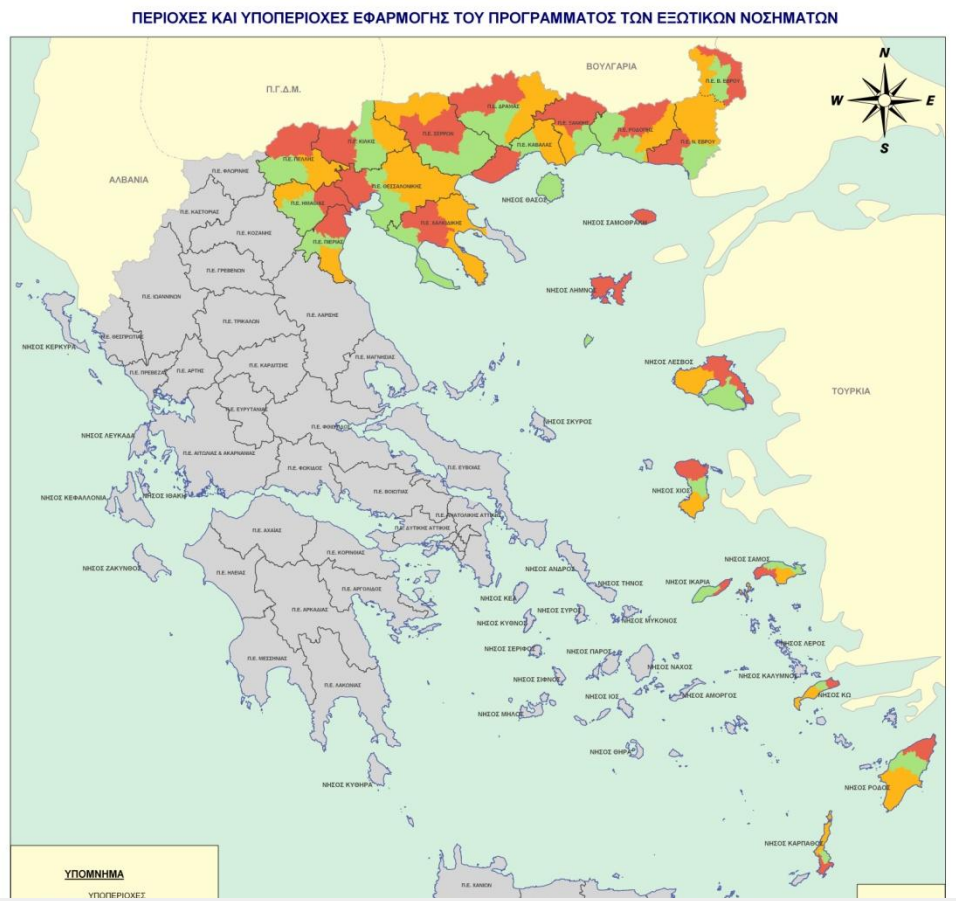
4-Transboundary Exotic Disease Program



Clinical surveillance for SGP, PPR, FMD in small ruminants

Clinical surveillance for LSD, FMD in bovines

Serological surveillance for PPR, FMD in small ruminants

Serological surveillance for LSD in bovines

August-October 2024

19 -25 August (1st week)
1st outbreak in Orestiada
20.08.2024

9-15 September (4th week)

30 Sept -6 Oct (7th week)

Entry of SGP- Main reasons for the introduction

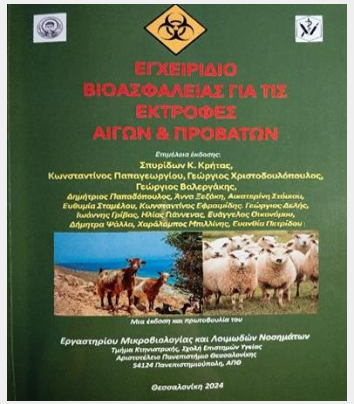
- Gathering of farmers at the border
- Big importing flow of goods
- Trucks, containers at the border
- Visits of farmers in the neighboring country (turism, markets, fuel, medicine)
- River Evros (natural barrier) dried, passage of animals
- Migration, refugees

Main reasons for the spreading within the country

- **Animal movements** (traders)
- **Epidemiological correlation** (relatives, common workers, sheep shearing, veterinarians etc)
- **Shared pastures, shared watering**
- **Trucks** (transport of milk, feeding stuff, ABP)
- **Common equipment** (milking machines, agricultural machinery)
- **Non-compliance or lack of biosecurity measures in place** (disinfection at the entrance of the holding shoes and clothing for exclusive use in the farm)
- **Illegal trade of animal by-products** (wool, hides and skins) or feedingstuff
- Congregation **of farmers in social events, exhibitions, markets etc**

Measures adopted

- Political support at central and regional level - Meetings in each Region and Regional Unit with outbreaks
- Suspension of animal movements from Greece to other Member States and third countries
- Standstill of movements for sheep and goats in Greece
- Cooperation of traders and livestock breeders/farmers
- Continuous surveillance
- Use of technology (drones) for the disinfection of the road network (Evros, Aitoloakarkania)
- Intensification of actions to increase awareness



Seminars

(Z-0) Thessaloniki (4/3/2025)
(Z-1) Orestiada (11/3/2025)
(Z-2) Alexandroupoli (12/3/2025)
(Z-3) Komotini (13/3/2025)
(Z-4) Kavala (14/3/2025)
(Z-5) Larisa (31/3/2025)
(Z-6) Lamia (1/4/2025)
(Z-7) Korinthia (2/4/2025)
(Z-8) Mesollogi (3/4/2025)

Teleconferences

(Δ-1) (7/4/2025)
(Δ-2) (9//4/202

Additional measures adopted since 16/06/2025

- Provisions of Delegated Regulation **687/2020** & Implementing Decision **2024/3233** are implemented
- Due to the epidemiological situation of the last weeks together with the high number of outbreaks in the affected areas, additional measures were put in place:
- Ban on all movements of sheep and goats within the protection, surveillance, and further restricted zones (including slaughter) **for 21 days** starting on the 16th of June 2025.
- Ban of any movements to pastures outside the FRZ
- Ban of movements of sheep and goats from the Free areas/zones to the FRZ
- Ban of restocking in the FRZ
- Ban of transit of consignments of live ruminants through the restricted zones

Additional measures adopted since 16/06/2025

- Enlargement of currect PZ, SZ and FRZ to 5, 20 and 40 km and prolongation of the duration of measures to 30, 45 and 65 days respectively, pending the vote and publication of the new Implementing Decision.
- The ban of movements of animals (cattle, sheep/goats, and pigs) to participate in fairs, markets, exhibitions etc is still in force.
- Collaboration with the Police with intensification of controls so as to ensure the correct implementation of measures.
- In case of non compliance, application of National Law 4235/2014 and sanctions or prosecution

Phase 1 (August 2024 – December 2024)

First outbreak was detected in 20th of August 2024, culminating in a peak of 37 confirmed cases in December 2024.

Phase 2 (January 2025 – April 2025)

This period was characterized by a marked decline in incidence, with reported outbreaks ranging from 0 to 4 per week.

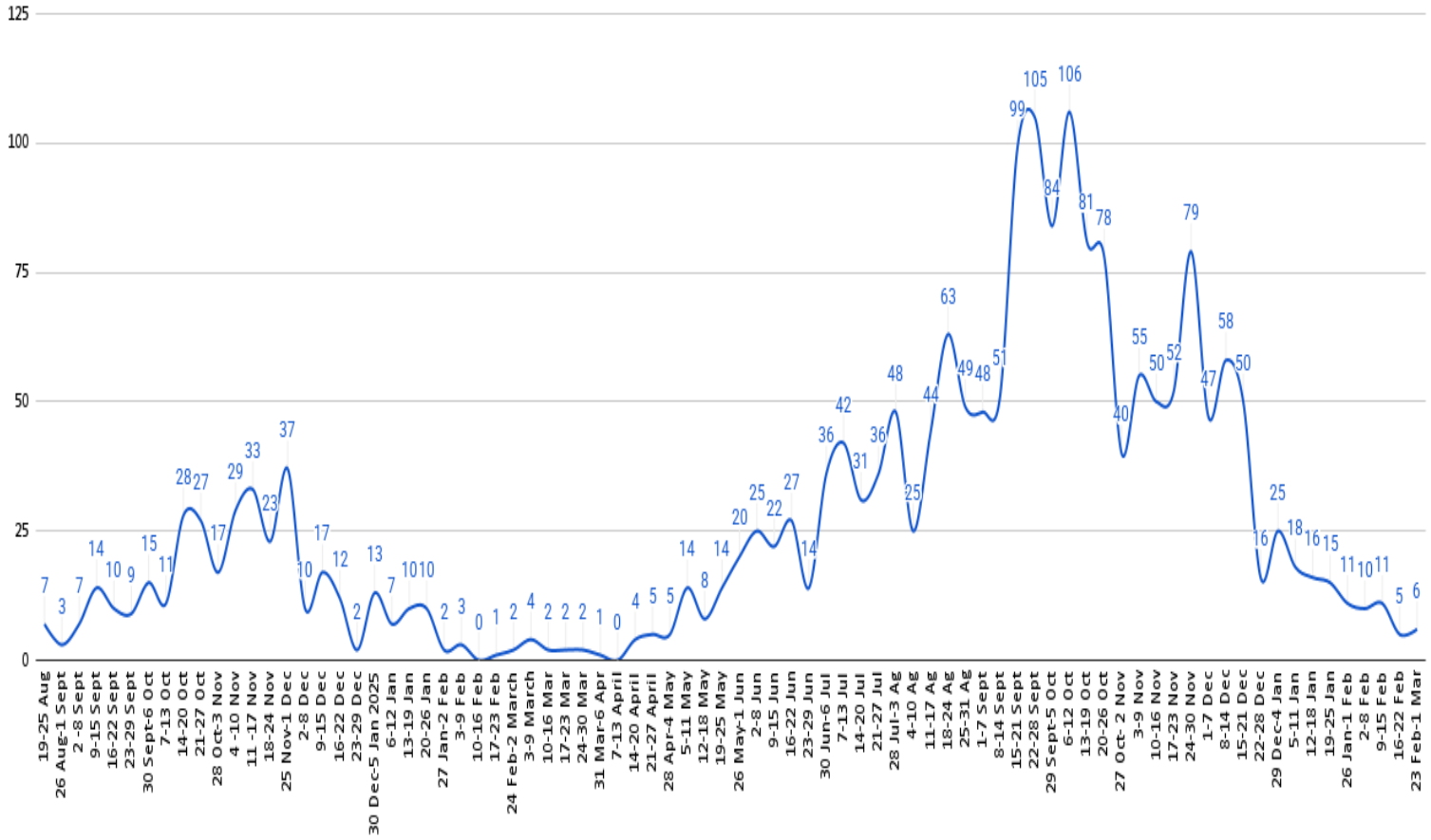
Phase 3 (May 2025 – October 2025)

Beginning in May 2025, a rapid and sustained increase in incidence was observed. This escalation led to the epidemic peak representing the most critical period of the outbreak in terms of number of cases and geographic spread.

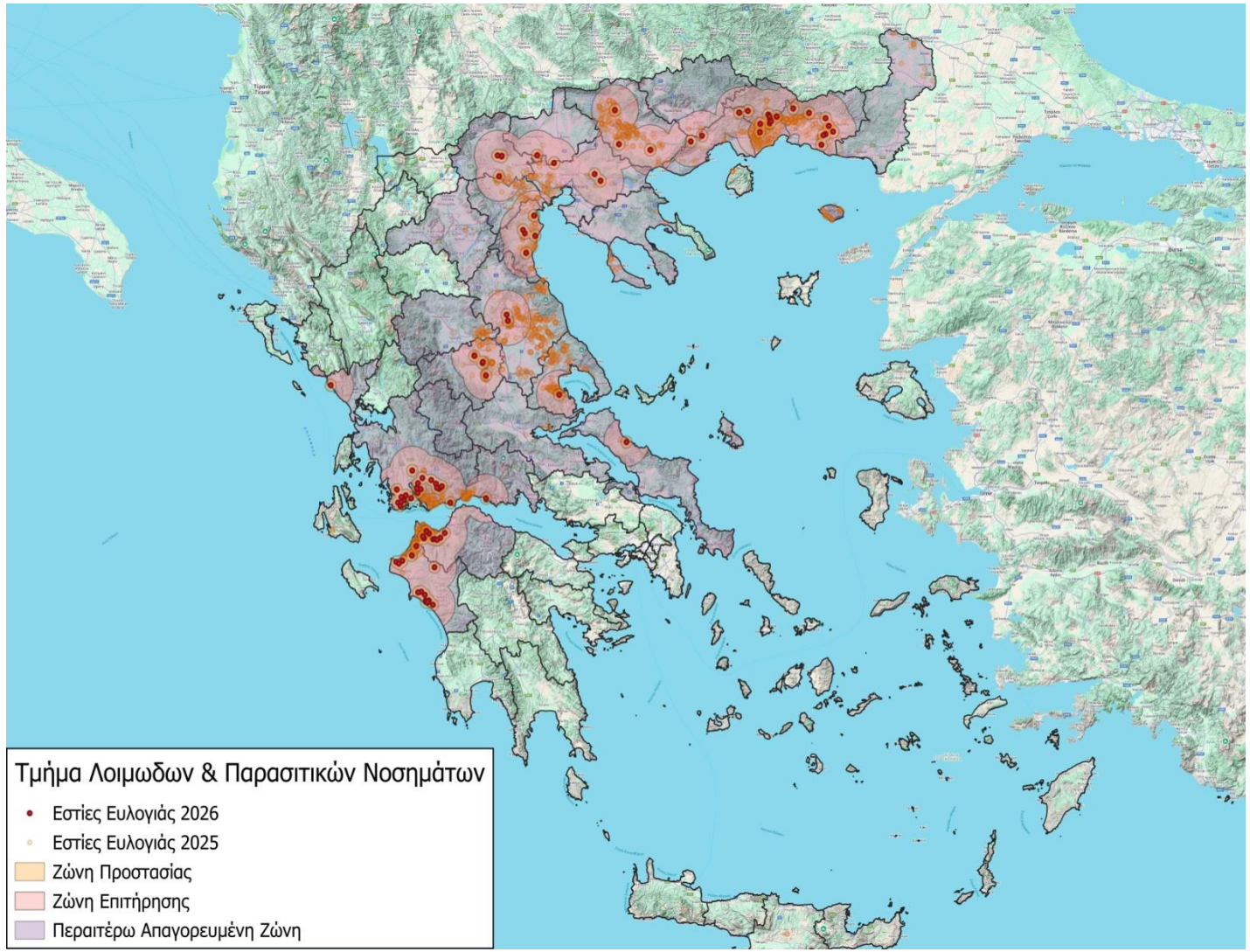
Phase 4 (November 2025 – March 2026)

From November 2025 and onwards, the epidemic curve demonstrated a consistent downward trend. By 1 March 2026, the number of cases had declined to 5–6 per week, confirming a de-escalation phase.

Sheep and Goat Pox evolution: **August 2024 – 01 March 2026**



Current Status of SGP Protection, Surveillance and Further Surveillance Zones 01/01/2025 - 01/03/2026



YEAR	Number of Outbreaks	Number of Culled Animals
2024	318	97.632
2025	1.706	370.106
2026	96	17.034
Totals	**2120**	**484.772**

Overview of sheep and goat pox outbreaks in Greece over the 2024 – 2026 period, ilustrating the scale of the epidemic through the number of affected holdings and culling interventions implemented.

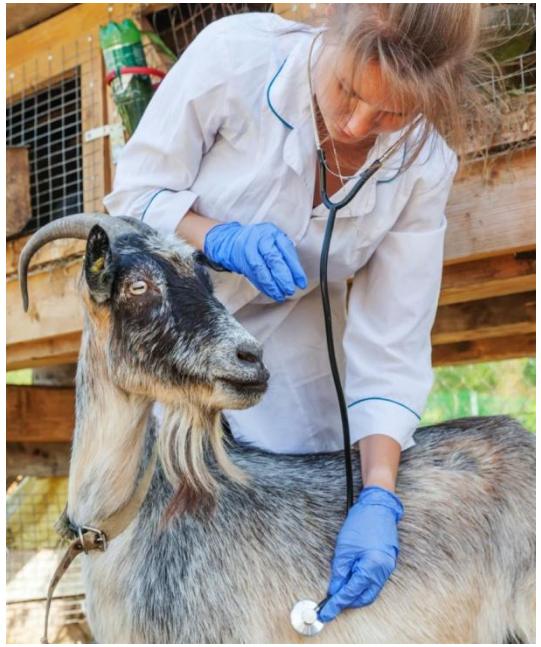
Collaboration with Police- Enforcement of measures

- Since **14 October 2025**, when nationwide inspections by the Hellenic Police were initiated, and up to **31 January 2026**, a total of **10,330 checks** have been carried out.
- From **February 2026** onwards, enforcement activities were further intensified and geographically expanded beyond the designated restriction zones to additional Regional Units across the country.
- During February, a total of **5.935 vehicle inspections** and **5020 individual checks** were conducted, reflecting the reinforced surveillance and compliance-control strategy.
- These inspections identified **53 confirmed violations** and led to **51 arrests** for breaches of Article 285 of the Penal Code concerning disease-prevention measures, in conjunction with Law 4235/2014.

Strengthening of Official Controls

Delegation of Official Activities

Following the recommendations of the National Expert Committee for the Control and Eradication of Sheep and Goat Pox, the delegation of specific official veterinary activities was incorporated into Legislative Act (P.N.P.) 5251/2025 published on 20th November 2025.



In implementation of this legal provision, the Ministry issued Ministerial Decision No. 362534/2025, enabling the assignment of official activities—in accordance with Articles 31–33 of Regulation (EU) 2017/625 and Article 14 of Regulation (EU) 2016/429—to authorized personnel for the control and eradication of sheep and goat pox under fast-track procedures.

This measure aims to enhance operational capacity, ensure timely implementation of control actions, and support the effective eradication of the disease in affected regions. The recruitment procedure regarding the administrative preparation is ongoing.

Reinforcement of Veterinary and Support Personnel

Legislative Act N. 5251/2025 provides for the recruitment of fixed-term veterinarians, laboratory personnel and administrative staff and aims at strengthening the operational capacity for the disease management.

The measure covers field activities, laboratory diagnostics, and administrative support, ensuring continuity and timely implementation of disease -control actions.

Recruitments are carried out under the fast-track procedures of Law 4765/2021, allowing for the immediate deployment of emergency personnel.

Deployment of Military Veterinarians

- A national Ministerial Decision sets out the conditions for the deployment of military veterinarians in Regional Units to address urgent and exceptional needs.
- It allows the deployment of military veterinarians for a period of up to six months, in collaboration with the Ministry of Defense.
- At the moment **97 military veterinarians** are working on the field**,** in the most affected or high risk areas of the country.

DISINFECTION STATIONS THROUGHOUT THE COUNTRY

Strengthening National Diagnostic Capacity

To ensure the effective implementation of the SGP Emergency Response Plan and the PCR testing in saliva prior to slaughter, the diagnostic capabilities have been reinforced:

- By two laboratories
- Two additional labs under process in collaboration with the EU reference lab

National Veterinary Laboratory of Larissa					
Regional Unit	samples prior to Slaughter	Samples for surveillance	Regional Unit	Samples prior to Slaughter	Samples for surveillance
Drama	1.464	-	Trikala	16.244	4.137
Evros	3.129	-	Kefallonia	1.418	-
Kavala	750	-	Imathia	610	-
Xanthi	594	-	Thessaloniki	2.568	-
Rodopi	3.385	-	Kilkis	1.774	-
Aetolia and Acarnania	11.322	4.302	Pella	1.871	-
Achaia	15.864	8.433	Pieria	2.375	-
Ilia	8.763	1.378	Serres	1.736	-
Kozani	9.435	5	Chalkidiki	1.613	175
Florina	-	285	Messinia	-	40
Karditsa	18.109	8.614	Evia	2.299	-
Larissa	38.145	29.821	Evrytania	2.708	-
Magnissia	3.182	-	Fthiotis	8.976	5
TOTAL	**114.142**	**52.838**	Phocis	1.297	10
			TOTAL	**45.489**	**4.367**

ELGO – DIMITRA LABORATORY	samples prior to Slaughter	Positive
	2.405	**15**

Surveillance Overview
01.01.2025 – 16.02.2025

- Mandatory preslaughter PCR testing in saliva applied to all animals originating from restricted zones, serving as an additional surveillance layer and as a prerequisite for authorizing movement.
- Laboratory analyses were carried out by laboratories under the competency of the Directorate General of Veterinary Services: the National Veterinary Laboratory of Larissa and the Institute of Veterinary Research (ELGO-DIMITRA).

Collaboration with EFSA

- An official request has been addressed to the EU and EFSA for an Expert Opinion in regard of the different available products in the market and their efficacy for a possible vaccination strategy.
- The EFSA report has been finalized and presented to the SCoPaff of February 2026

Illegal vaccination?

- Voices for illegal vaccination/ importation of vaccines
- No evidence
- 2 cases of arrest, both for attempt of illegal introduction at the border with Turkey (Kipoi border control post) one of which in jail.
- According to what said, the vaccines were purchased in Turkyie
- The vaccine in question is a POXDOLL, with indications for the use in both cattle for LSD and sheep and goats for SGP
- Increased controls at borders

DEPARTMENT OF MOLECULAR DIAGNOSTICS, FMD, VIROLOGICAL, RICKETSIAL AND EXOTIC DISEASES

➢ National Reference Laboratory for 15 animal viral diseases including:

- *Capripox* viruses (SPPV, GTPV, LSDV)
- Pest des Petits Ruminants (PPR)
- Foot and Mouth Disease (FMD)
- African Swine Fever (ASF)

. Bluetongue (BT)
. African Horse Sickness
. Rabies
. Rift Valley Fever κ.α.

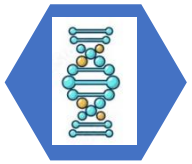
➢ Responsible for the application of national control and surveillance programs against viral diseases (Thrace Program, Programme of 4 Exotic Diseases, ASF, Bluetongue, West Nile Fever in equidae and Rabies).

➢ Designated laboratory for performing rabies antibody titration test (FAVN test).

➢ Accredited according to ISO/IEC 17025:2017.

LABORATORY DIAGNOSIS (1/2)

Sample type Molecular Techniques



- ✓ Full skin thickness biopsies (sample of choice)
- ✓ Swabs (saliva, nasal, ocular)
- ✓ EDTA blood samples
- ✓ Lesions of the internal organs (lungs or other)

Sample type Serological Techniques

✓ Sera

Total tests (19/08/24 - 04/03/26)

✓ Holdings: 2.500

✓ Samples (PCR): 5.000

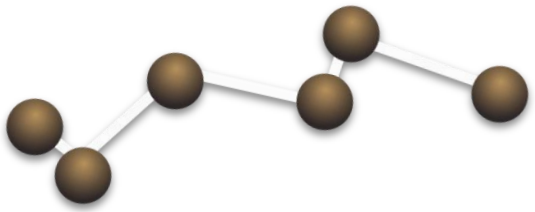
LABORATORY DIAGNOSIS (2/2)

1) Molecular and Virological Techniques

- ✓ Real-time PCR (Bowden et al. 2008, SOPs by the EURL, ID Gene™ Capripox Virus Triplex)
- ✓ Conventional PCR (Lamien *et al*. 2011, Gelaye *et al.* 2015)
- ✓ Sanger Sequencing (GPCR gene, RP030 gene)
- ✓ Virus isolation (LT cells)

2) Serological Techniques

- ✓ ELISA: ID Screen® Capripox Double Antigen Multi-species



DIFFERENTIAL DIAGNOSIS

- Contagious ecthyma
- Pest des Petits Ruminants
- Foot and Mouth Disease
- Bluetongue: *In 2 farms in Kavala RU there was co-infection with SPPV and BTV-3!*

PHYLOGENETIC ANALYSIS (1/2)

✓ The Greek NRL shared diagnostic samples from:

- Lesvos and Fthiotida (2023)
- Orestiada and Feres (2024)
- 6 RUs (Xanthi, Larissa, Serres, Achaia, Rodopi, Kefallinia) (2025)

with the EURL for *Capripox* viruses for full length sequencing of the SPPV strain present in an attempt to determine the origin as precisely as possible.

2023:

✓ The isolates from the 2023 outbreaks belong to clade A2, containing strains historically circulating in the Middle East, Turkey and Northern Africa.

✓ The very limited number of WG sequences available in public databases make it impossible to pinpoint the origin of the strains that were introduced in Greece.

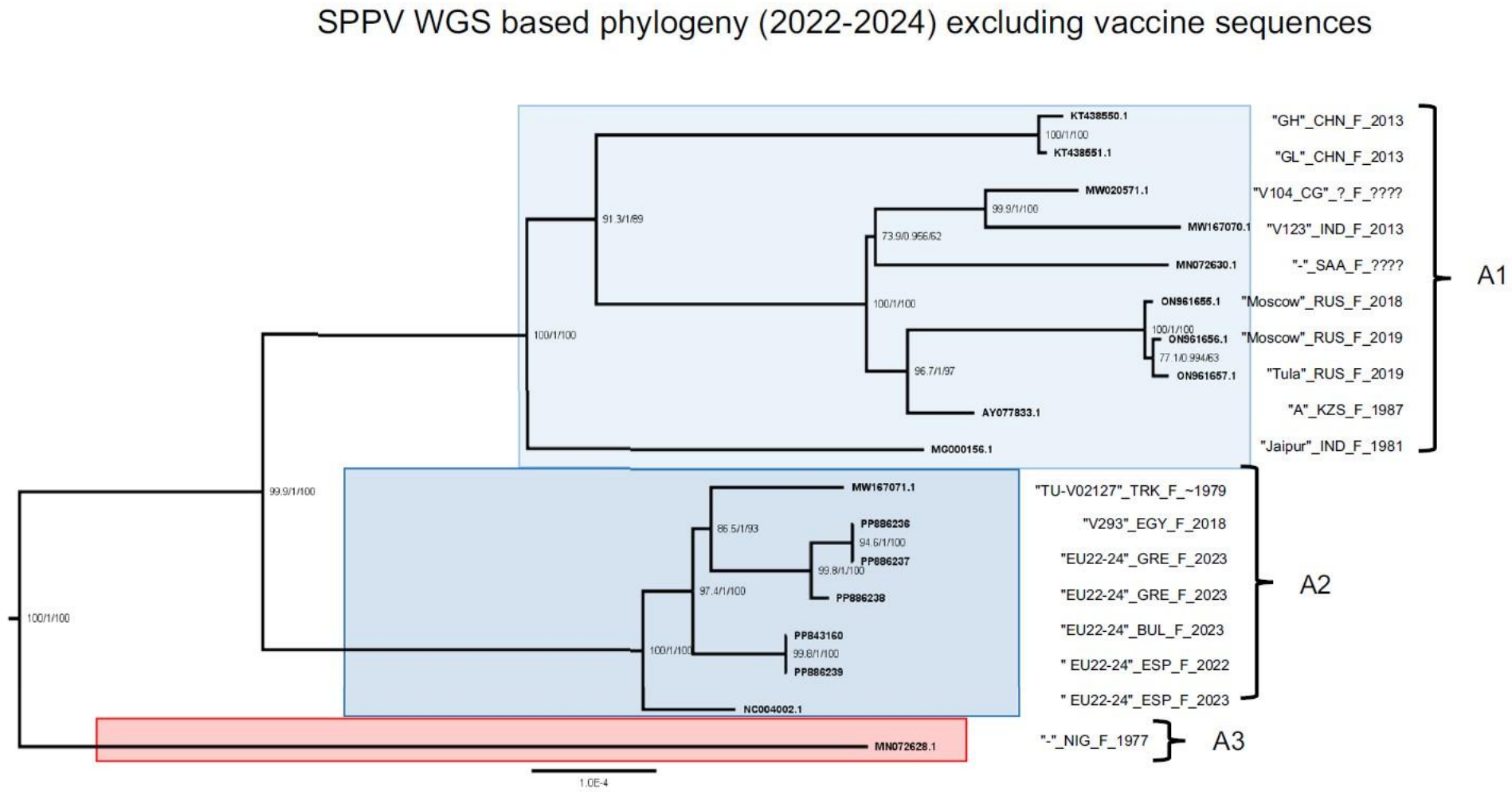
✓ The viral genome from Lesvos was exactly the same as the one from Fthiotida. This could suggest that both outbreaks are linked.

2024:

✓ Based on the WGS, strain SPPV/Feres/GR/24 was assigned to a well-supported clade within clade A1 that contains WG sequences from Turkey and Saudi Arabia.

✓ The strain identified in the samples from the outbreak in August 2024 is different from the strain found in the 2023 outbreak, indicating that the 2024 reported outbreak is due to a new SPPV introduction.

PHYLOGENETIC ANALYSIS (2/2)

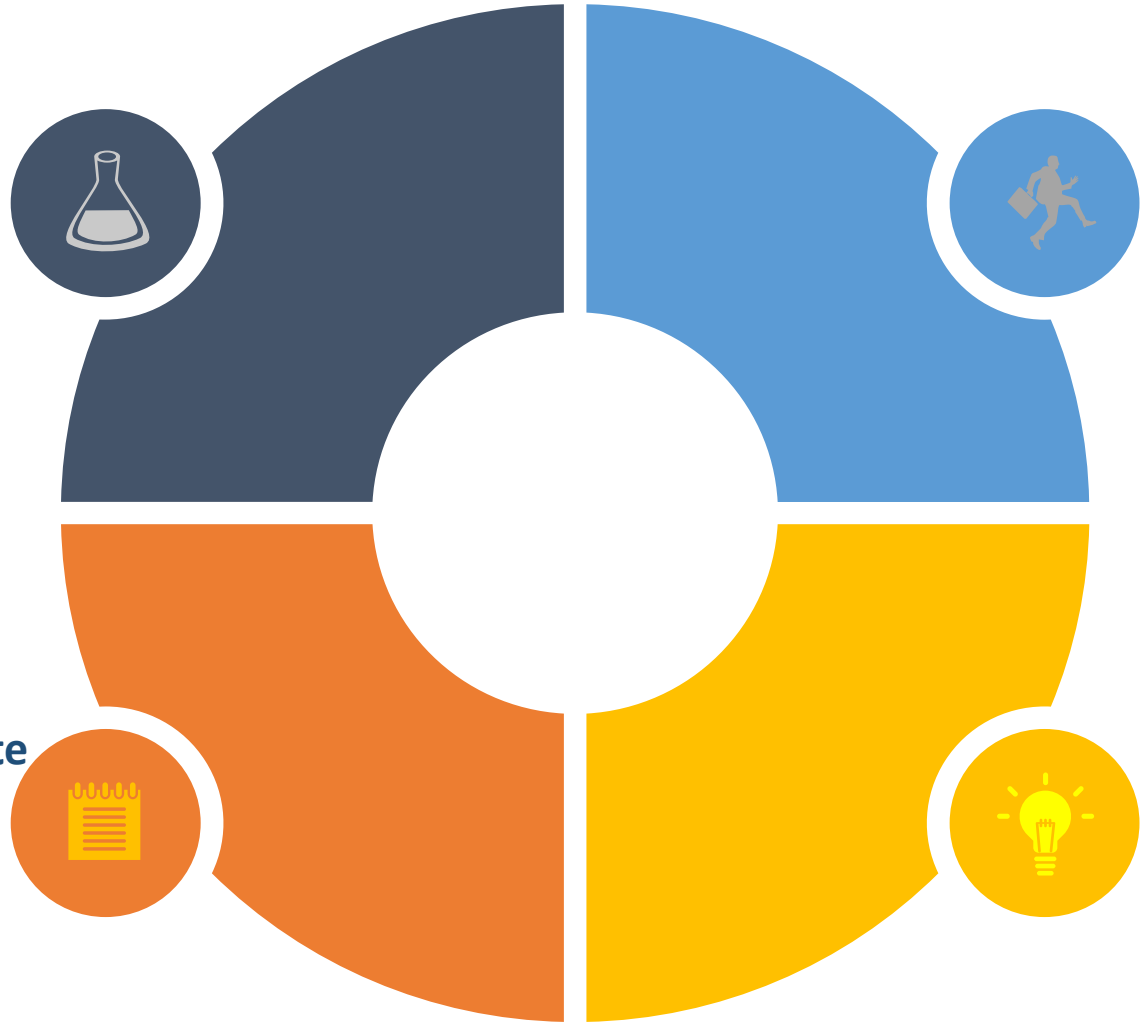


Πηγή: Floris C. Breman et al. Sheeppox virus genomes from the European outbreaks in Spain, Bulgaria, and Greece from 2022-2024, Arch Virol 169, 234 (2024).

ACKNOWLEDGEMENTS

Greek NRL staff

Colleagues from the Veterinary Services



Colleagues from the Directorate of Animal Health, MRDF

EURL *Capripoxviruses*

Thank you for your attention!