

SHEEP POX OUTBREAK IN SOUTHERN SPAIN 2022-2023: AN EVALUATION OF THE COST USING THE OUTCOST-RUM

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Objectives

The objective of this study is to evaluate the total cost of the Sheep and Goat Pox (SGP) outbreak occurring from September 2022 to April 2023 in Andalusia and Castilla-La Mancha using the OutCost-Rum.

INTRODUCTION

THE DISEASE

Sheep and Goat Pox (SGP) is a disease characterized by fever, generalized papules or nodules, vesicles, internal lesions (particularly in the lungs), and sometimes death in sheep and goats. It is caused by viruses belonging to the genus Poxviridae. In endemic areas, the morbidity rate of SGP ranges from 70% to 90%, while the mortality rate is between 5% and 10%, although it can reach 100% in certain herds. SGP is recognized as a listed disease by the World Organisation for Animal Health (WOAH, 2018),

GEOGRAPHIC DISTRIBUTION

The disease was considered to have been eradicated in Spain since 1968. However, sporadic cases have been detected in the European Union, with the most recent occurrences reported in Greece and Bulgaria between 2013 and 2015 (OIE, 2018). It remains endemic in Africa, including countries in the northern region such as Morocco, Algeria, and Tunisia, as well as in the Middle East and Asia (figure 1) (Tuppurainen et al., 2017).

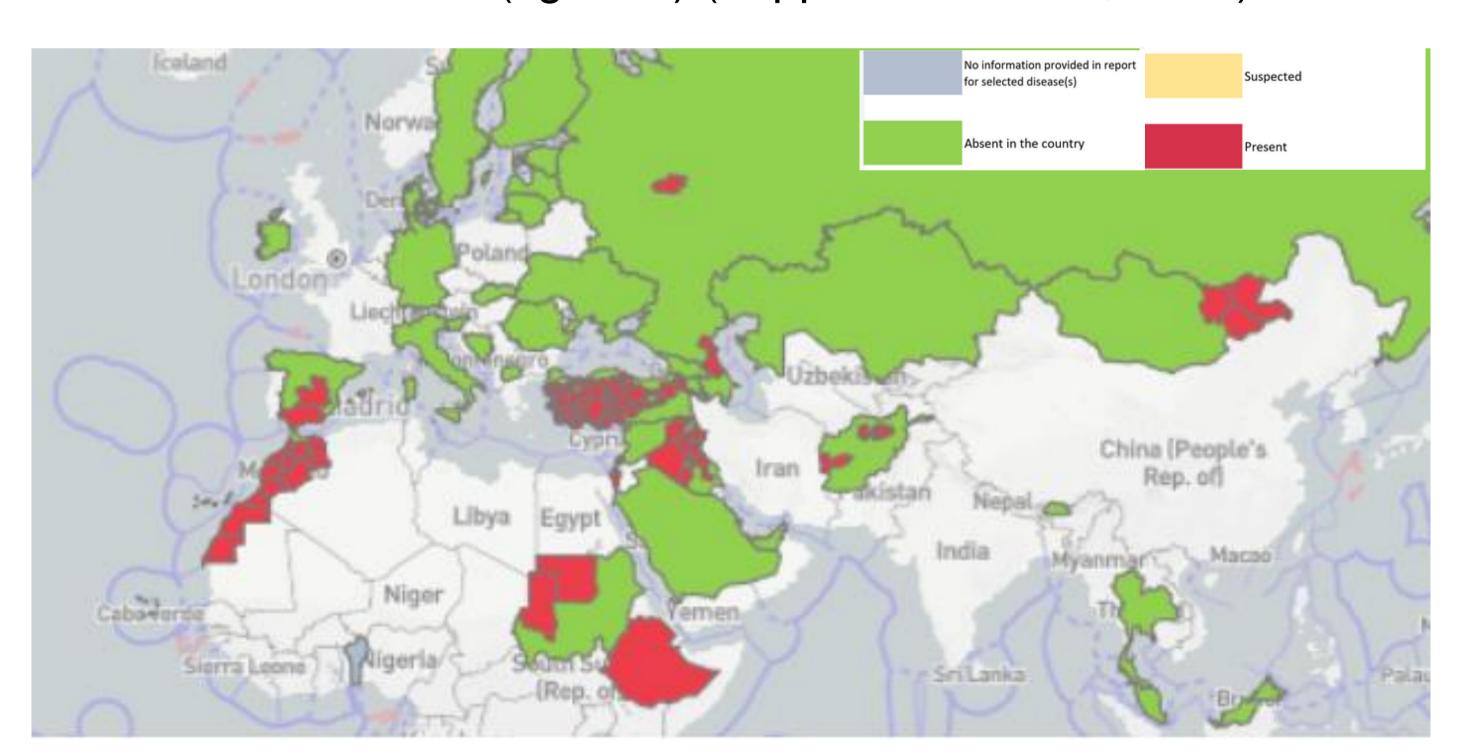


Figure 1 Distribution of SGP outbreaks during 2022 in Europe, North Africa and Asia (Source: WAHIS)

MATERIALS AND METHODS

DATA

The Sheep Pox and Goat Pox outbreaks in Southern Spain were analyzed using data from the official administrations and sources. Information on affected animals, farm types, and costs were collected and recorded in a database.

OUTCOST-RUM

The tool used for economic calculations was the Outbreak Costing Tool (OutCost-Rum) (Ciaravino et al. 2022). It collected data on ruminant population, production parameters, outbreak information, direct and indirect costs, surveillance, and control measures. The tool categorized costs by type of farm and sector.

RESULTS

DESCRIPTION AND EVOLUTION OF THE CASE

A total of 29 outbreaks were detected from September 2022 to April 2023. Of these, 12 were reported in Granada, 12 cases in Cuenca, 4 cases in Ciudad Real and 1 case in Almería (figure 2).

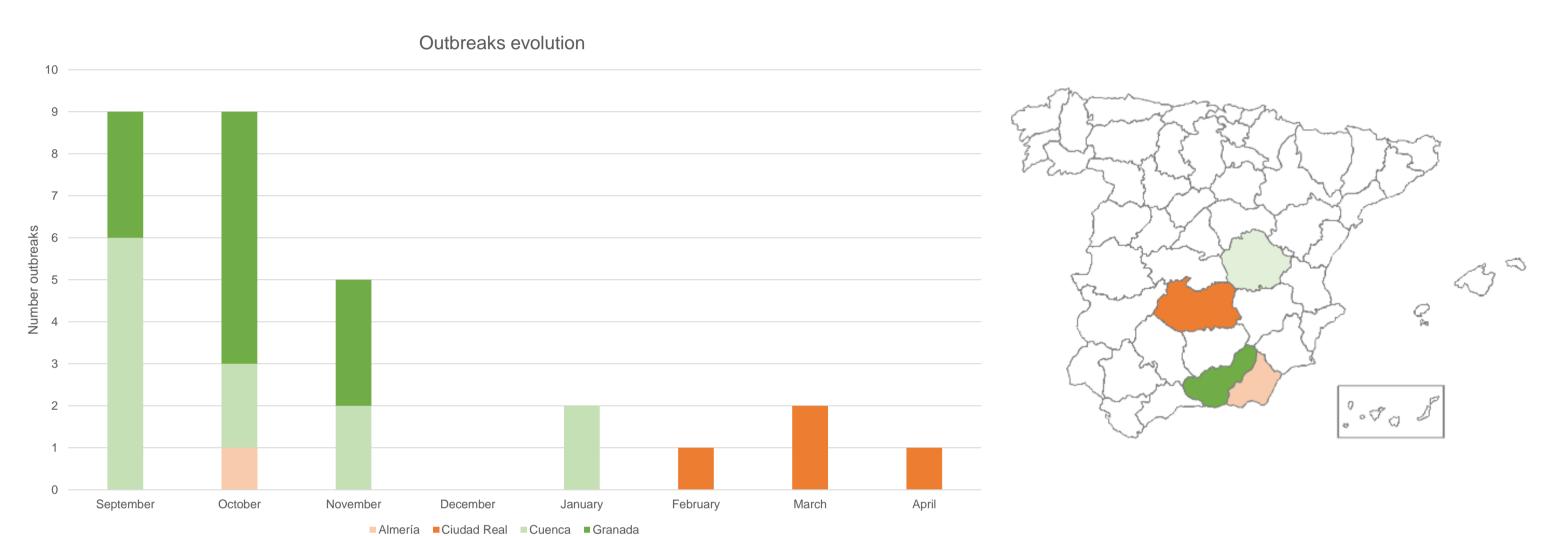


Figure 2 Outbreaks evolution from September 2022 to April 2023

COST

The total cost of the Sheep Pox and Goat Pox outbreak in Southern Spain during the 2022-2023 period was 31.855.728€ (figure 3)

Sheep Pox and Goat Pox COSTS	Total cost for the country	Percentage
Outbreaks	15.486.887	48,6%
Connected farms	15.735.347	49,4%
Measures in general population	0	0,0%
Surveillance (farms)	596.794	1,9%
Wildlife	0	0,0%
Coordination and others	32.000	0,1%
Training & Awareness	4.700	0,0%
Total	31.855.728	100,0%

Figure 3 Total cost of the Sheep pox Spanish Outbreak 2022-2023 (Source: OutCost-Rum)

Veterinary services assumed 56% of costs while farmers covered the rest (figure 4).

Costs paid by:	Veterinary Services	Farmers
Outbreaks	11.117.165	4.369.002
Connected farms	6.096.343	9.631.564
Measures in general population	0	0
Surveillance farms)	581.914	14.880
Wildlife	0	0
Coordination and others	32.000	0
Training & Awareness	4.700	0
Total	17.832.123	14.015.445
	56%	44%

Figure 4 Cost of the outbreak per sectors (Source: OutCost-Rum)

CONCLUSIONS

The Sheep Pox and Goat Pox outbreaks in Southern Spain during 2022-2023 led to 29 cases, with 51,389 sheep and 740 goats culled. The outbreak cost €31.8 million, with the direct costs representing the 48,6%. Mortality rate remained low, highlighting early detection's importance. Veterinary services covered 56% of the costs, farmers 44%. Early detection plays a crucial role in mitigating the economic and welfare impacts on the livestock industry.

REFERENCES

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