BioSecure

Enhanced and cost-effective biosecurity in livestock production

PRACTICE ABSTRACT # 11

Impact of external biosecurity practices on the spread of HPAI in France

Background

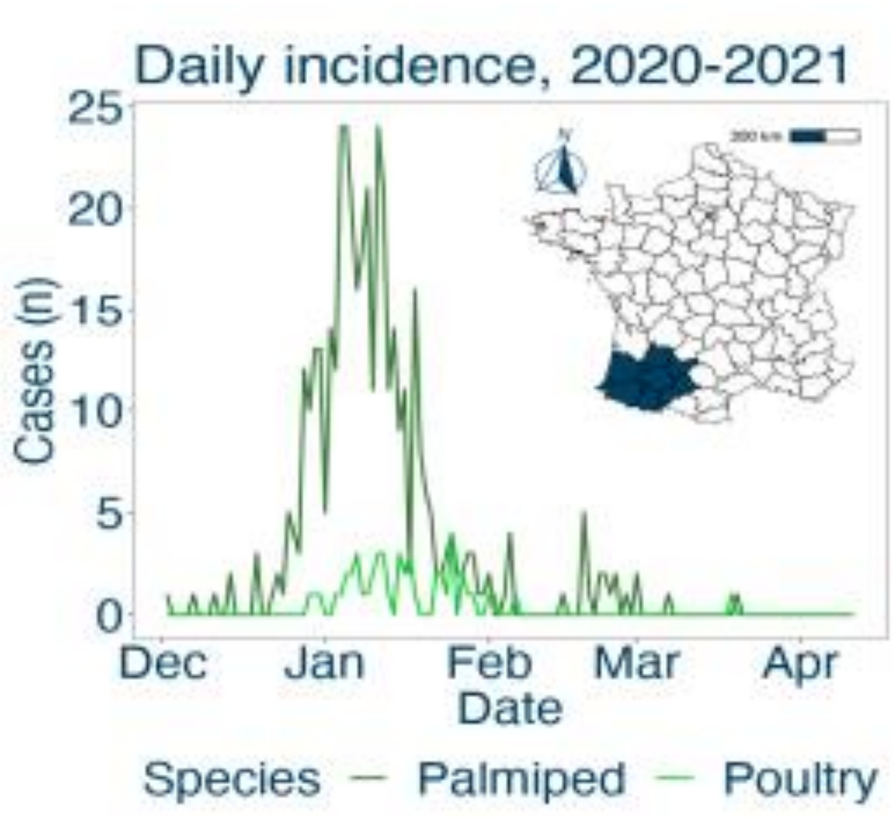
- Highly pathogenic avian influenza (HPAI) continues to be a severe on-going threat to domestic and wild birds, with duck farms seen to be both more infective and more susceptible to HPAI than poultry farms.
- Biosecurity is known to be one of the most important tools to prevent the virus from spreading. However, clear quantitative evidence of its benefits is still lacking.

Objectives

- Determine how and to what extent periods of outdoor grazing and farm size modulate biosecurity, contributing to the increased infectivity and susceptibility of duck farms.
- Determine the extent that poultry farms will be protected by improving duck farm biosecurity.

Outcomes

- Development of a HPAI transmission model able to reproduce the 2020–2021 and 2021–2022 epidemic dynamics.
- Estimation of the effect of outdoor grazing and farm size on the spread of HPAI.
- Estimation of the impact of alternative policy scenarios regarding outdoor grazing and farm size.



Anticipated findings

Relative change of the susceptibility and infectivity of farms where poultry have access to the outside compared to those where poultry do not

Relative change of the susceptibility and infectivity of farms as a function of the size of the flocks

Relative change of HPAI epidemiological impact for different scenarios of biosecurity practices at regional level

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Funded by the European Union

BIOSECURE has received funding from the European Union's Horizon Research and Innovation programme under grant agreement nr. 10108392.
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