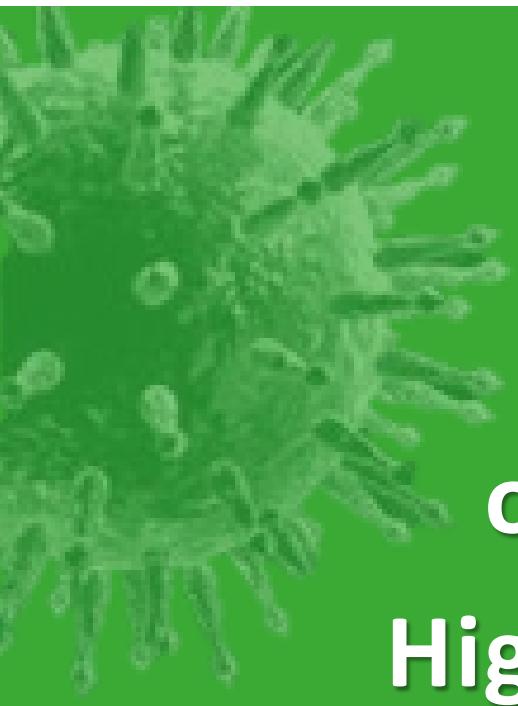
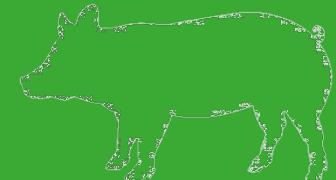


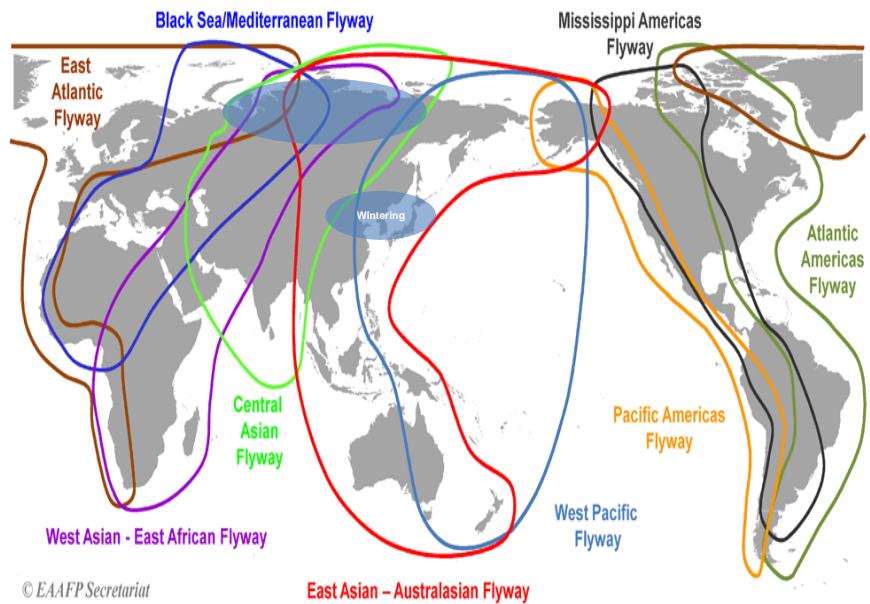
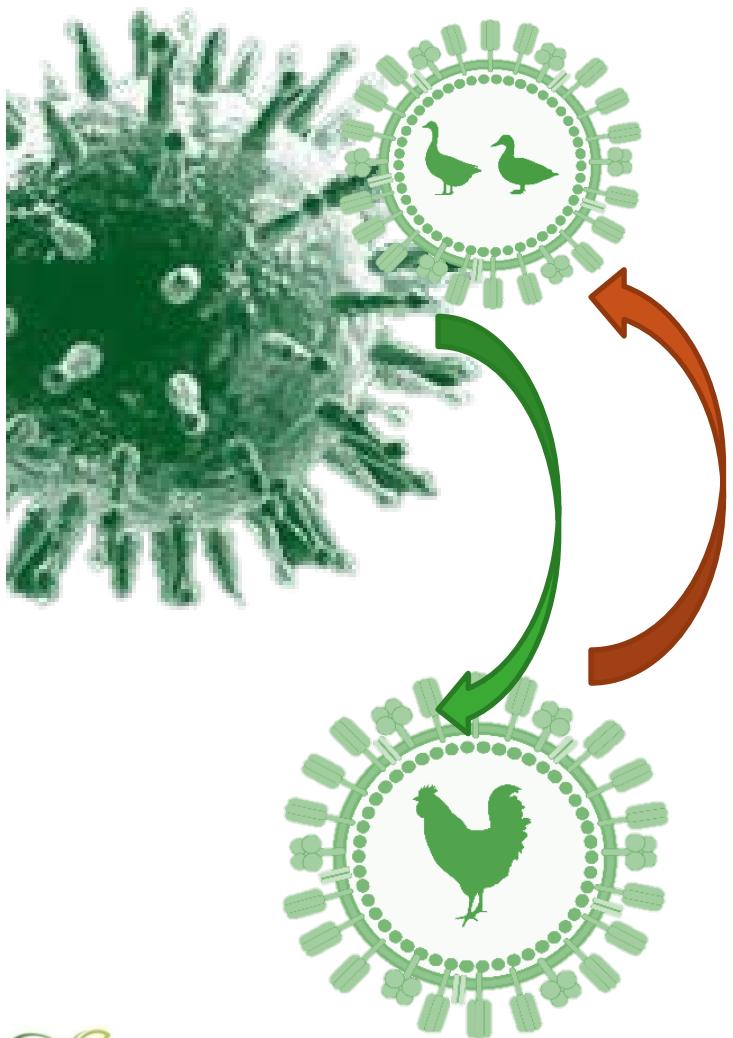
NRL AI/ND



Zoonotic risk of the circulating Highly Pathogenic H5 Avian influenza viruses

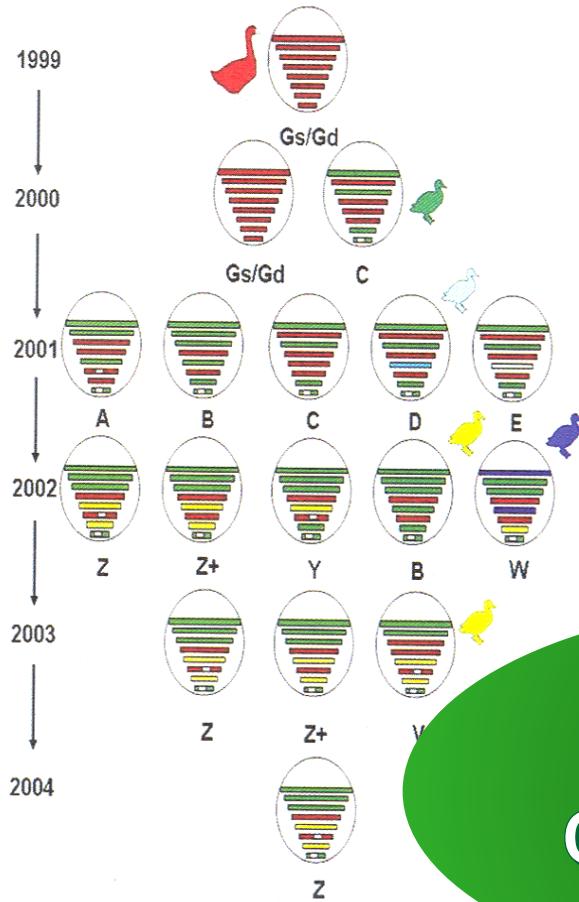


The emergence and spread

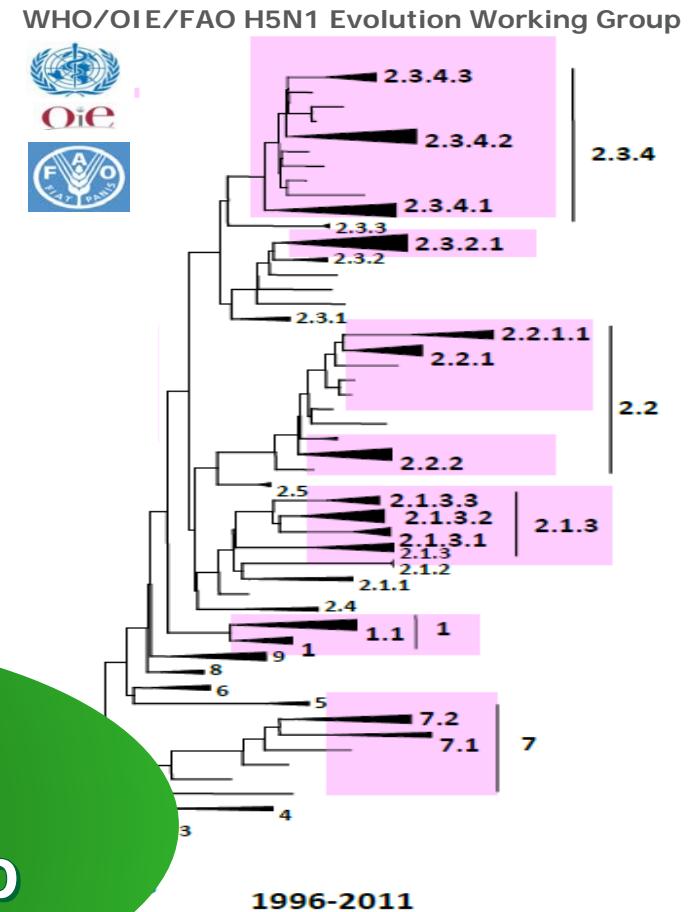


© EAAFP Secretariat

The evolution



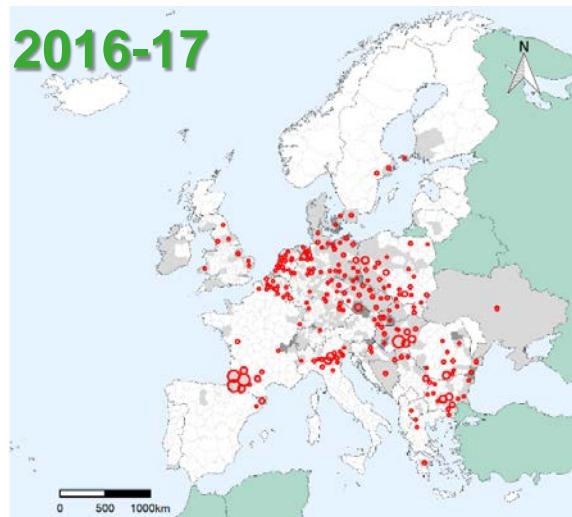
°2016
Clade 2.3.4.4b



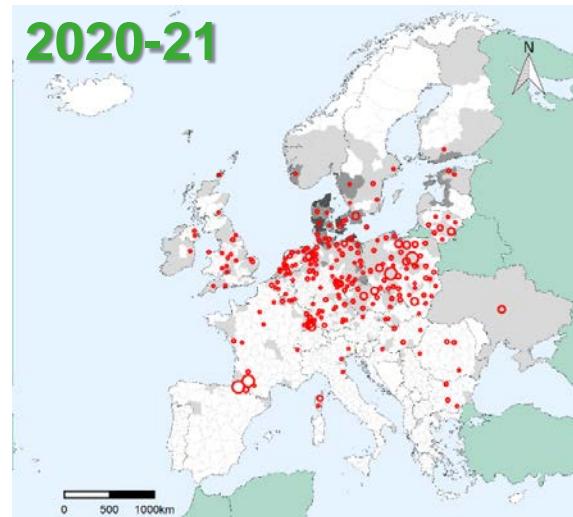
The Current Situation

Clade 2.3.4.4b HP H5Nx in Europe

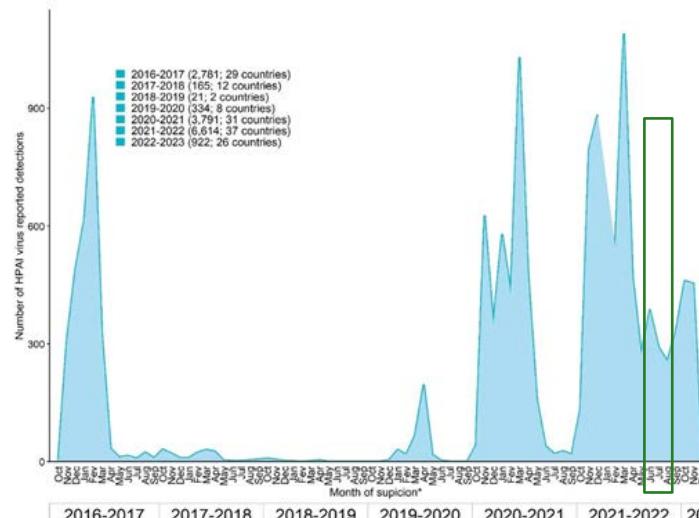
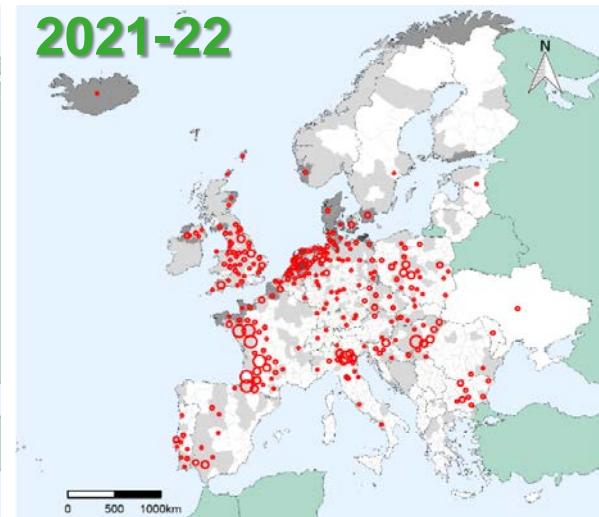
2016-17



2020-21



2021-22

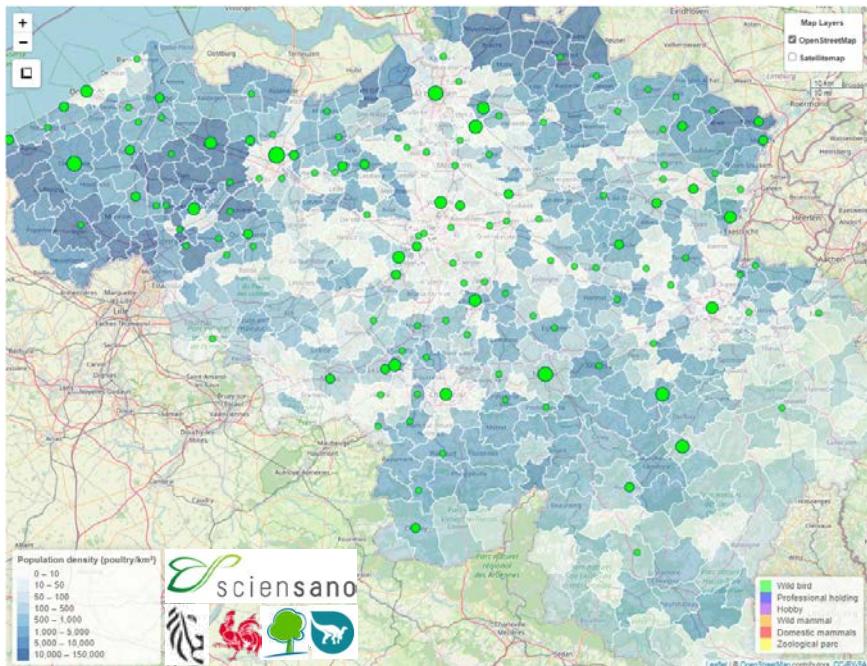


The Belgian Surveillance

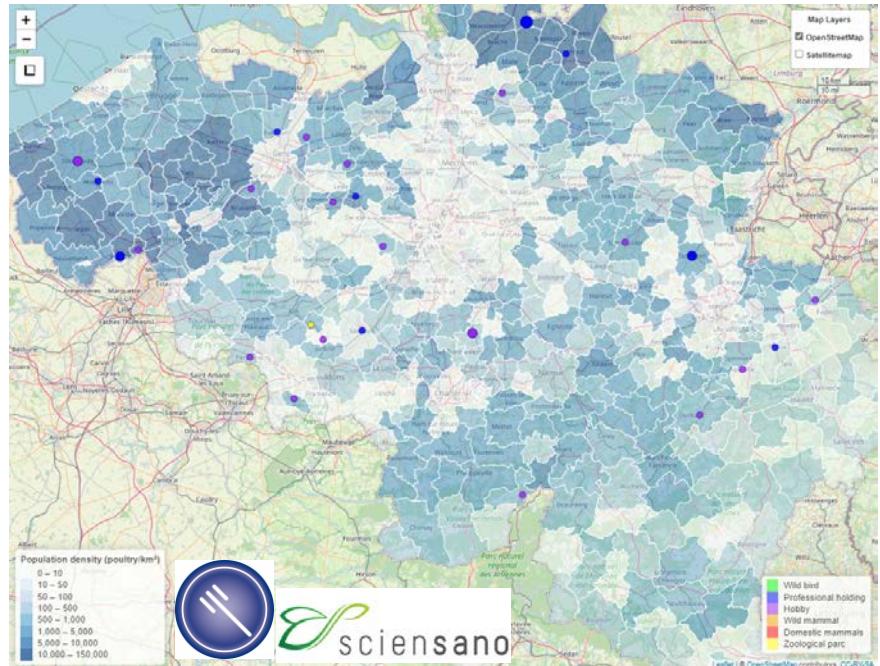


The Belgian Bird situation

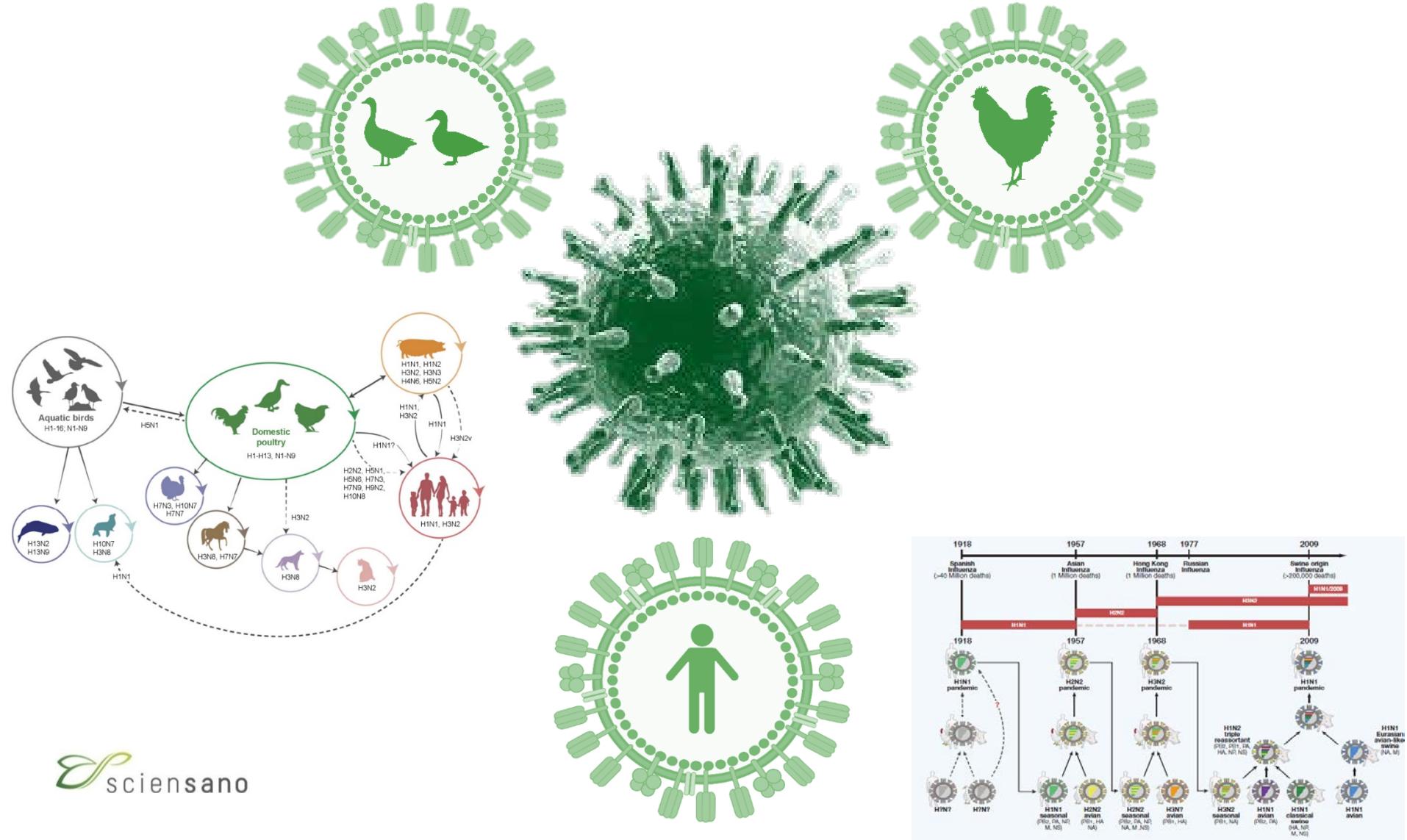
WILD BIRDS



POULTRY / CAPTIVE

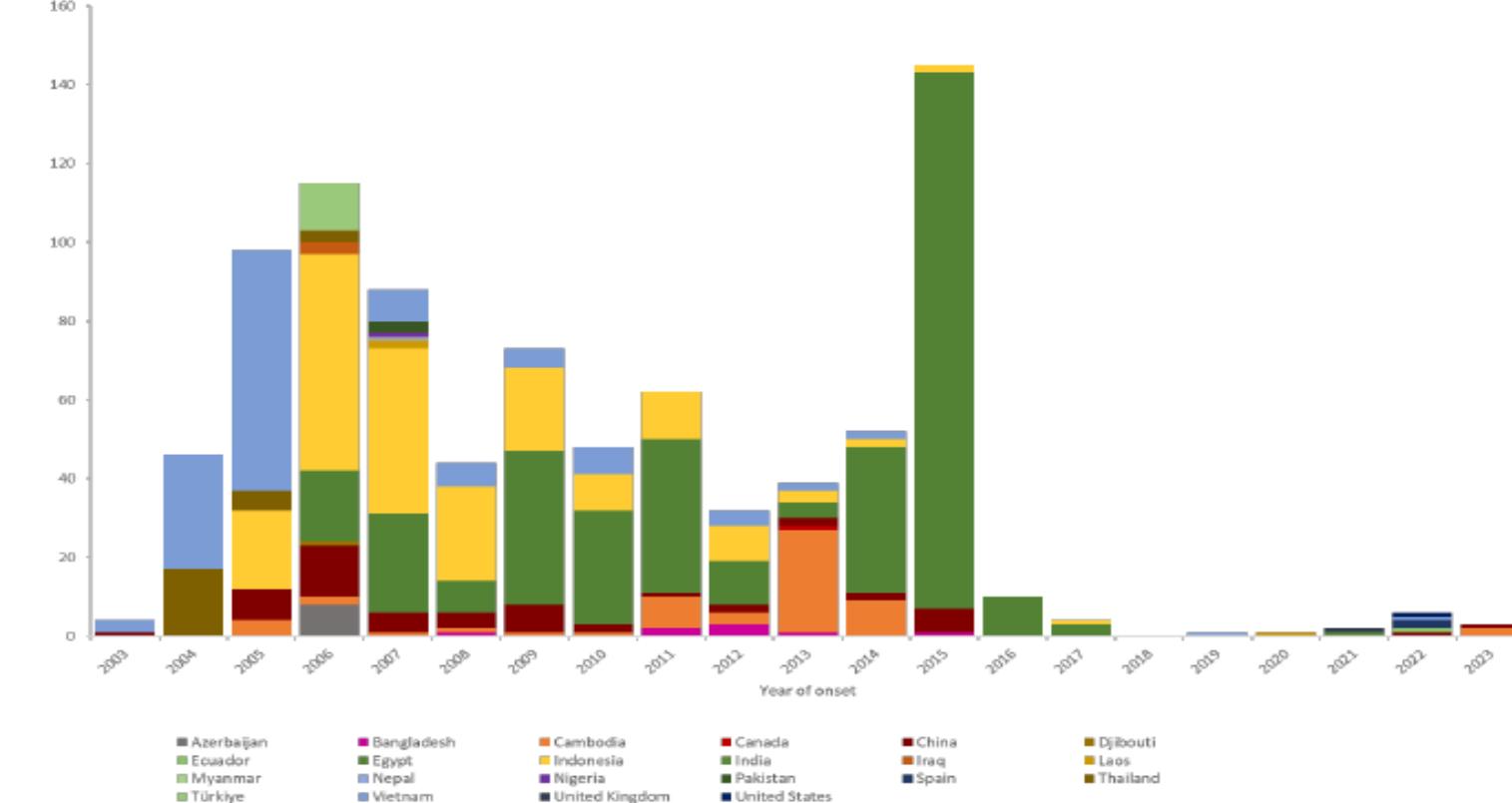


Zoonotic Risk?

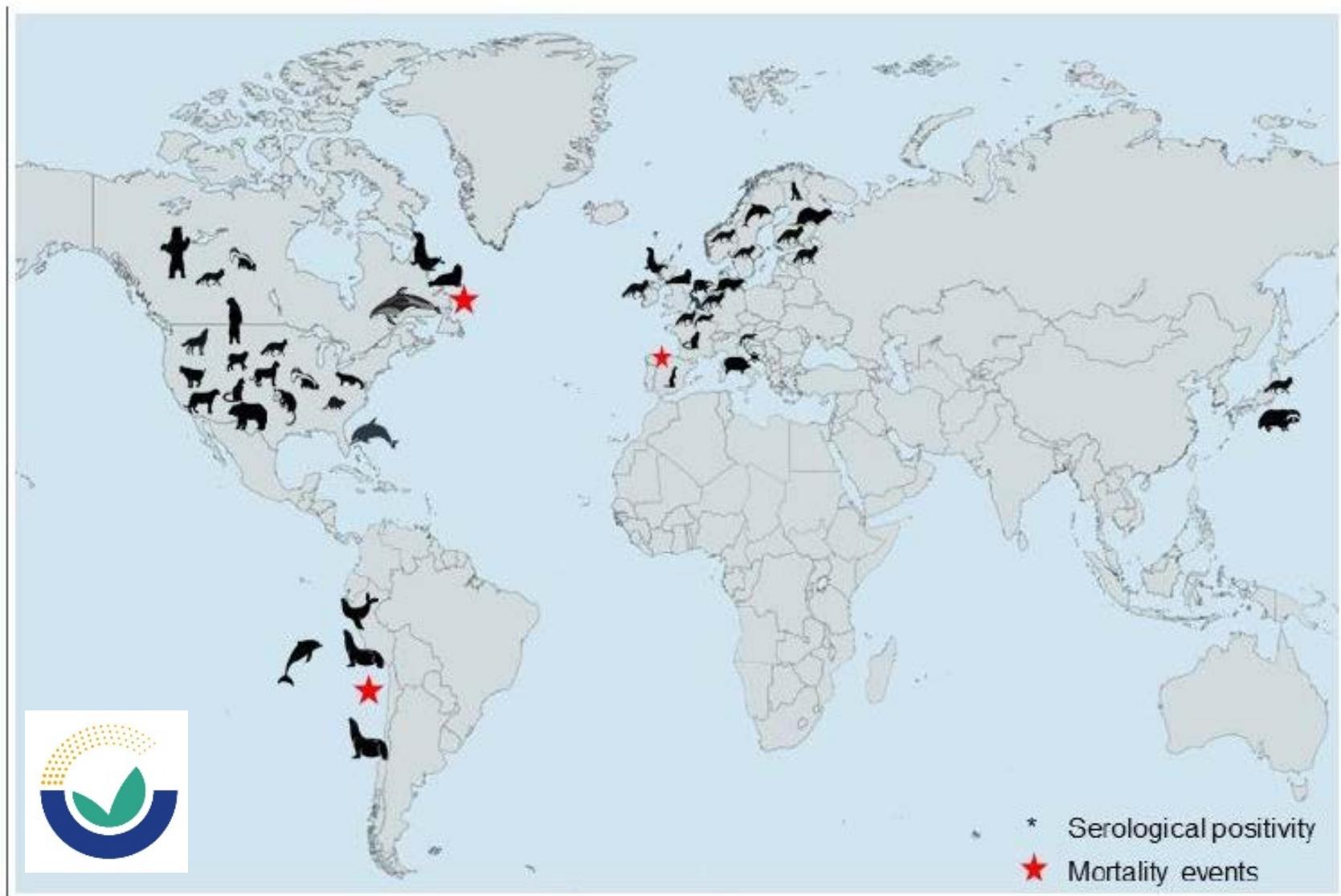


HP-H5N1 in HUMANS

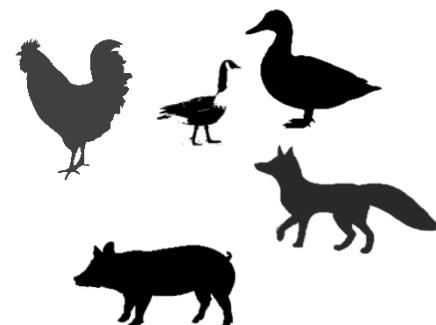
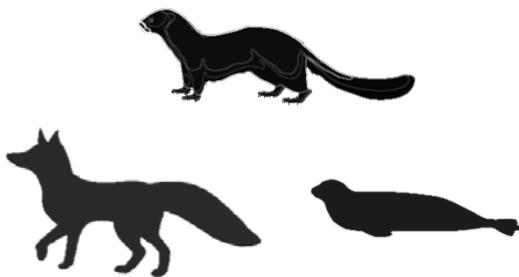
Number of cases



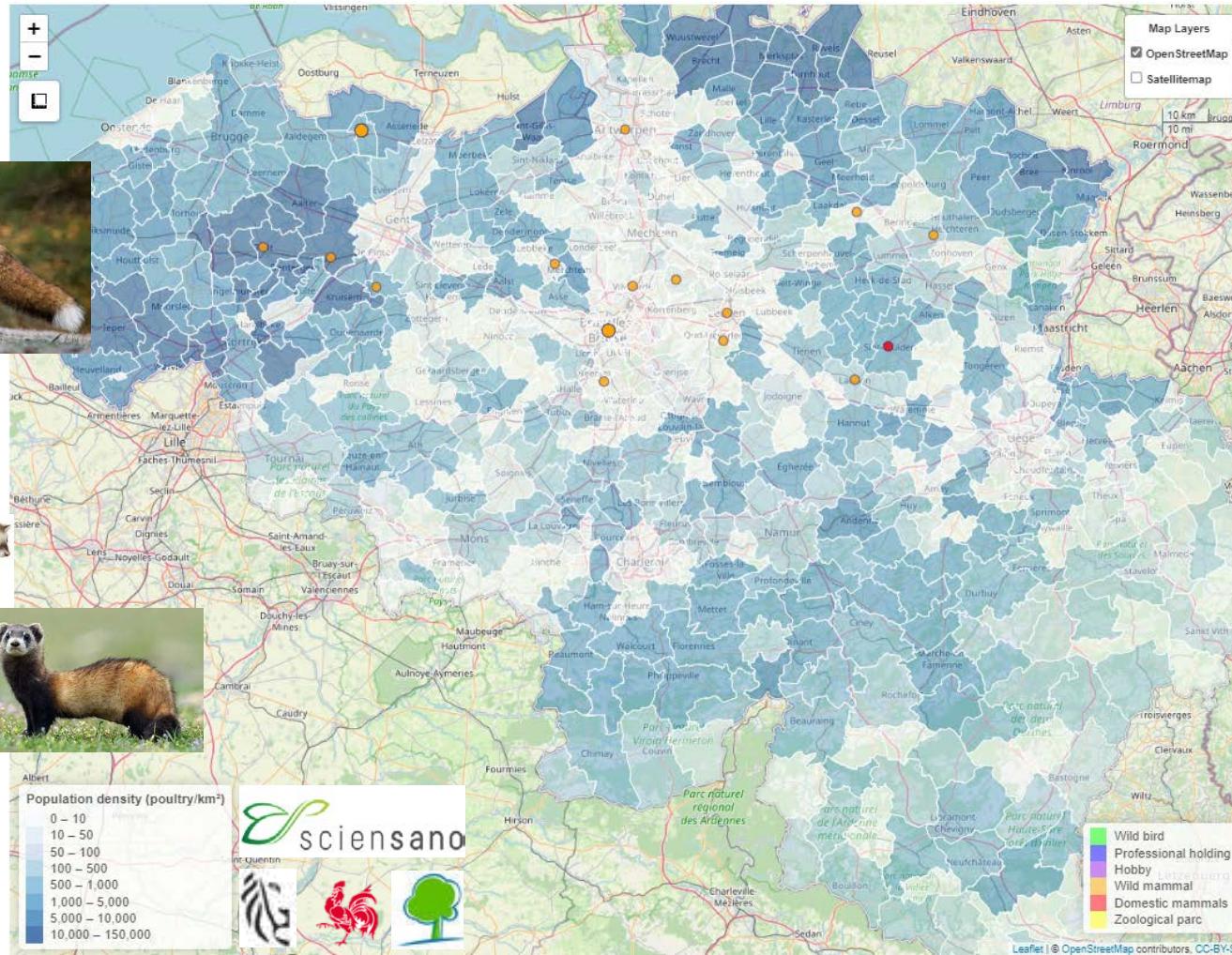
The current situation MAMMALS



The Belgian Mammalian Surveillance



The Belgian mammalian situation



The BE-zoonotic preparedness

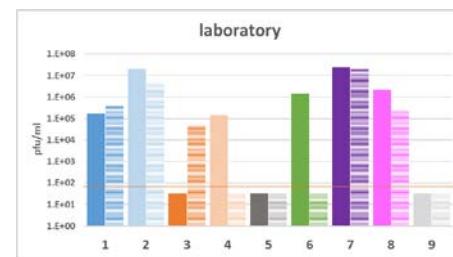
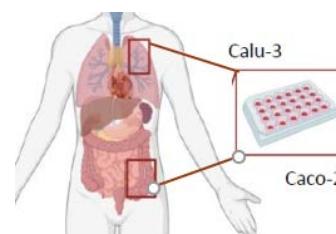
Monitoring of mammalian molecular adaptation markers

Whole genome sequencing: poultry – wild birds - mammals



A/Mustela_furo/Belgium/14312-0001/2022	PB2 E627K
A/Mustela_furo/Belgium/14312-0002/2022	PB2 E627K
A/Gallus_gallus/Belgium/14313-001/2022	PB2 E627K
A/Mustela_putorius/Belgium/01421_0001/2023	PB2 E627K
A/Vulpes_vulpes/Belgium/01784_0010/2023	NA S237Y loss glycosylation
A/Mustela_putorius/Belgium/01922_0001/2023	HA insertion R clsite & PB2 D701N
A/Gallus_gallus/Belgium/02824_0001/2023	HA S304N loss of glycosylation site

In vitro fitness evaluation



NRC

Ilham Fdillate
Reinout Van Eycken
Assia Hamouda
Saira Yaqoob

Antoine Gerodez

Cyril Barbezange
Sarah Denayer
François Dufrasne

Steven Van Gucht



NRL

Newt Braem
Salimatou Diallo
Aurelie Francart
Coralie Prod'Homme
Catherine Rasseneur
Sylvain Romijn
Sander Van Hees
Gloria Villalba
Christophe Delgrange

Pierre Hostyn
Steven Van Borm

Fiona Ingrao
Bénédicte Lambrecht
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Avian influenza | information & data

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THANK YOU



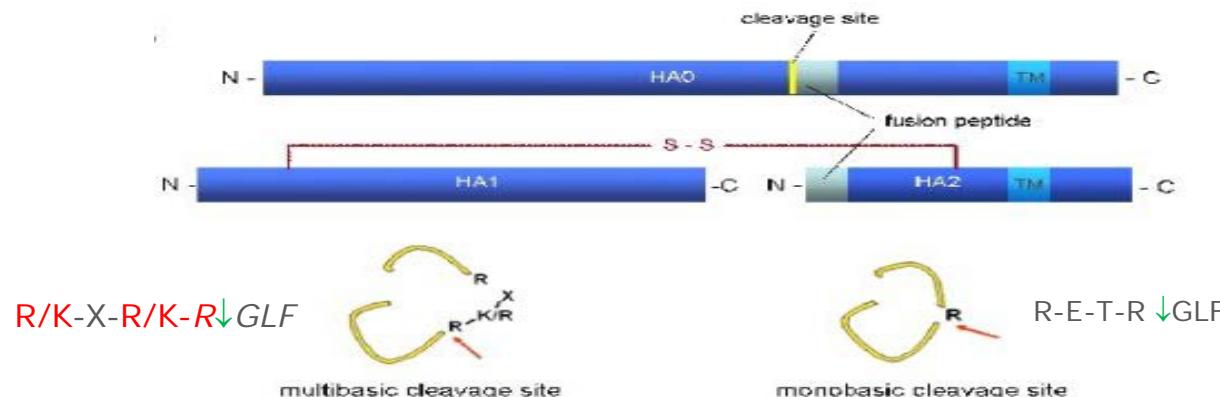
AI pathogenicity

HPAI versus LPAI

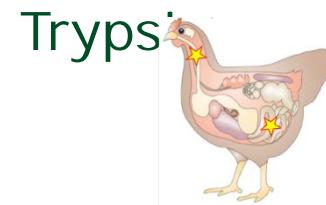
= in poultry

HPAI: IVPI $\geq 1,2$

LPAI: IVPI $< 1,2$



Furine-like protease



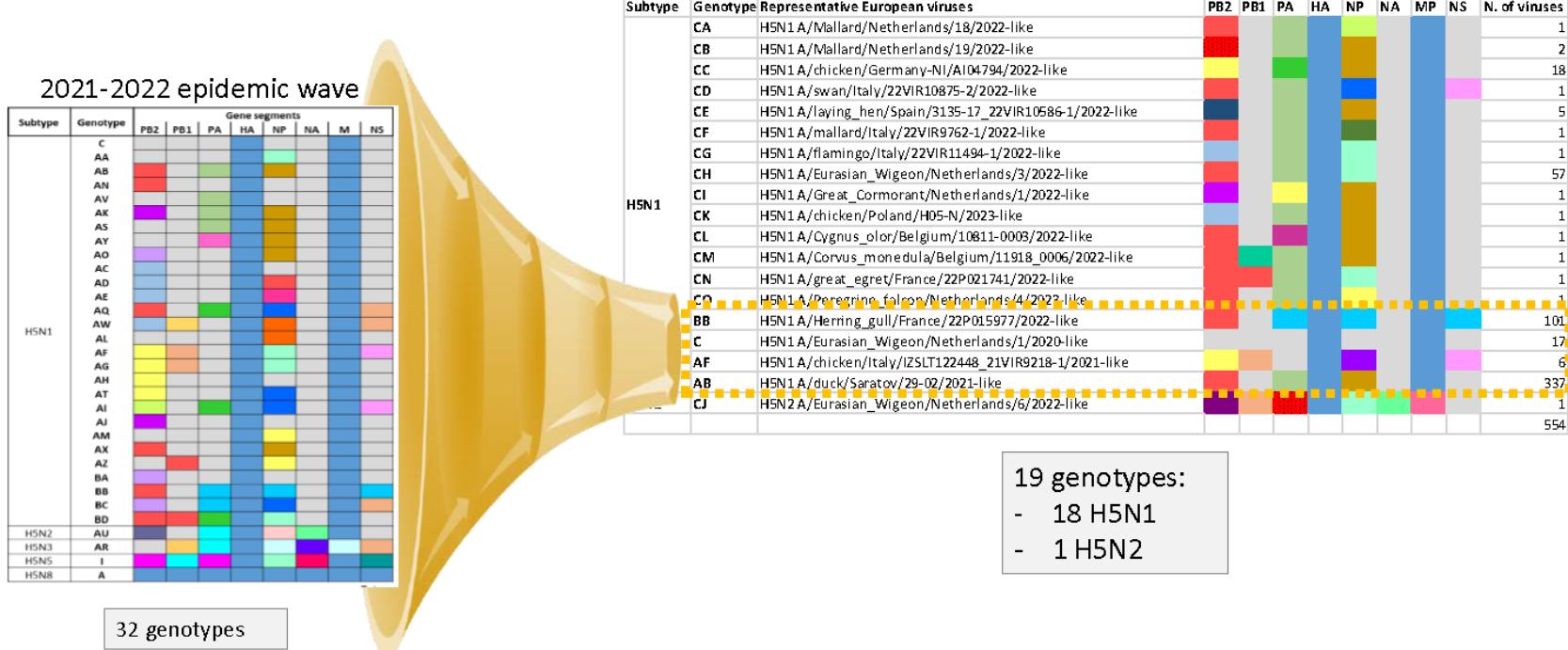
scieAsia H5N1

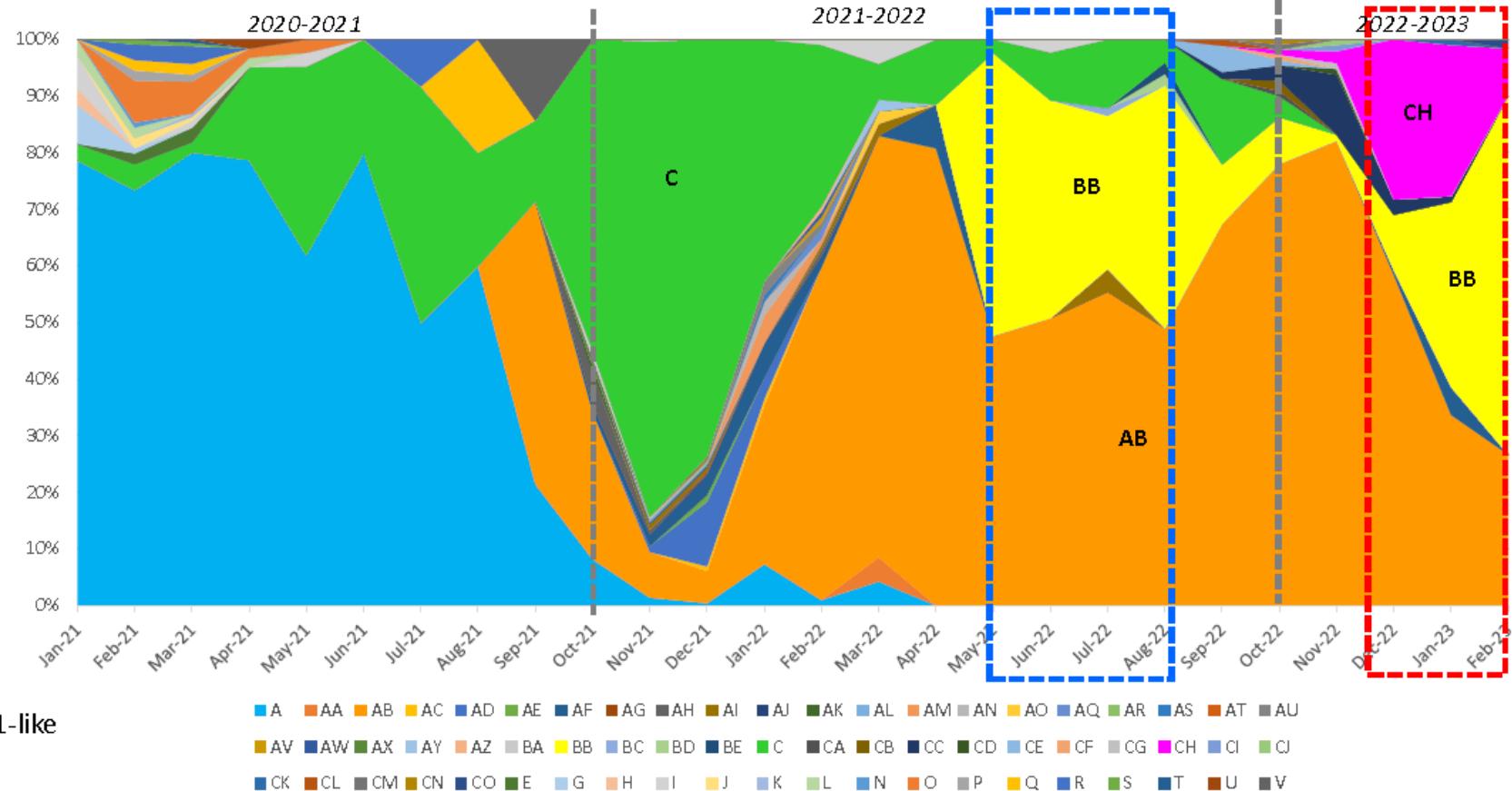
ONLY H5/H7

All 16 HA-subtypes
Pandemic H1N1

.be

Changes of virus genotypes







**Human cases due to
H5N1 and H5N6, 2021-2023
(as of 6 March 2023)**

H5N6	H5N1
● 2021	● 2021
● 2022	● 2022
● 2023	● 2023

©ECDC. Administrative boundaries: © EuroGeographics © UN-FAO

The boundaries and names shown on this map do not imply official endorsement or acceptance by the European Union. ECDC. Map produced on: 7 March 2023



ECDC risk assessment human infection circulating clade 2.3.4.4b

- **Low** for the general population
- **Low to moderate** for people occupationally or otherwise exposed