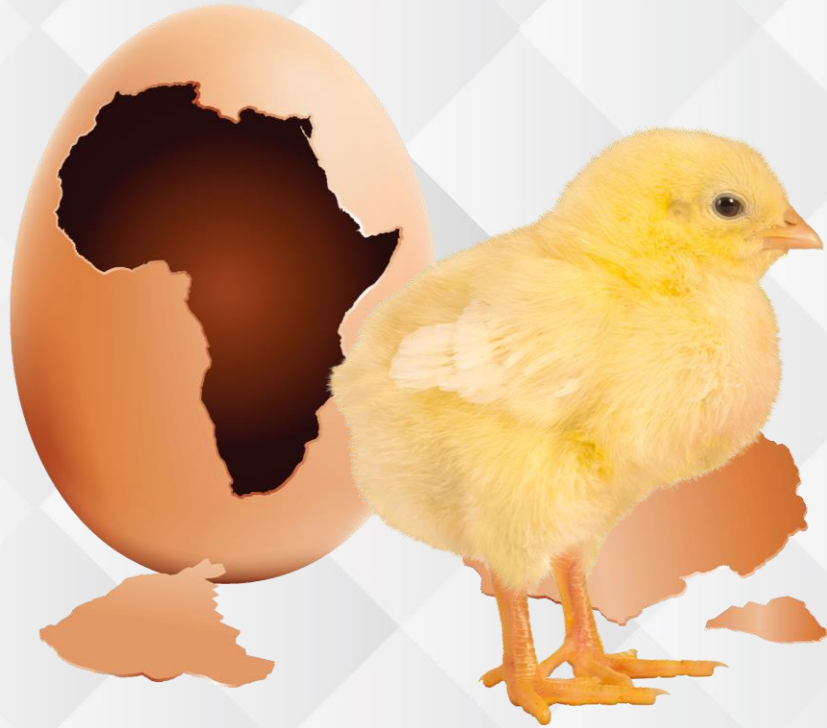


Prevent event



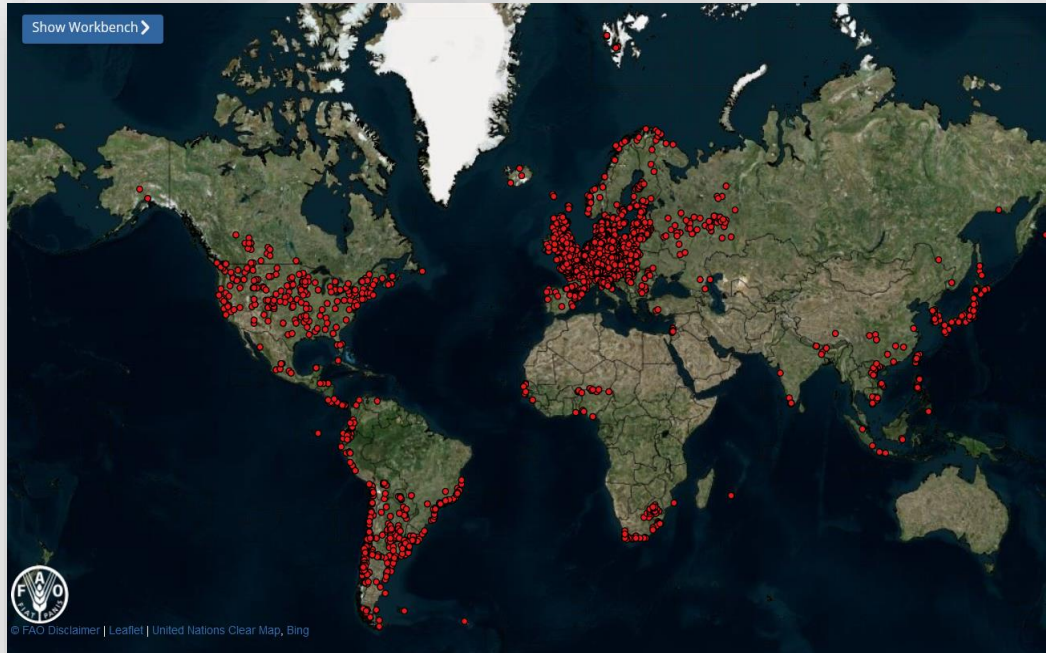
Highly Pathogenic Avian Influenza, The French feedback

M. QUENTIN PhD, Scientific Director, ITAVI

French Institute for Poultry/Rabbit Farming and Aquaculture

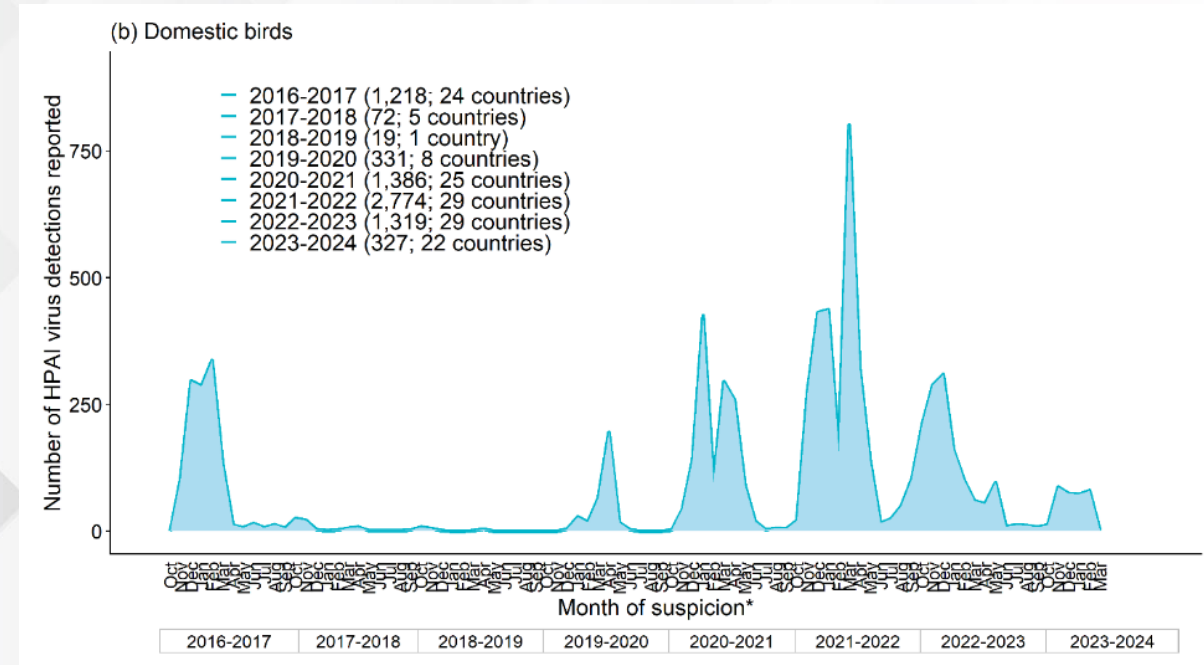
HPAI, a huge crisis

2023



Source FAO : <https://empres-i.apps.fao.org/>

In EU from 2016



HPAI in France, just few numbers...



From 2021 to 2023 seasons

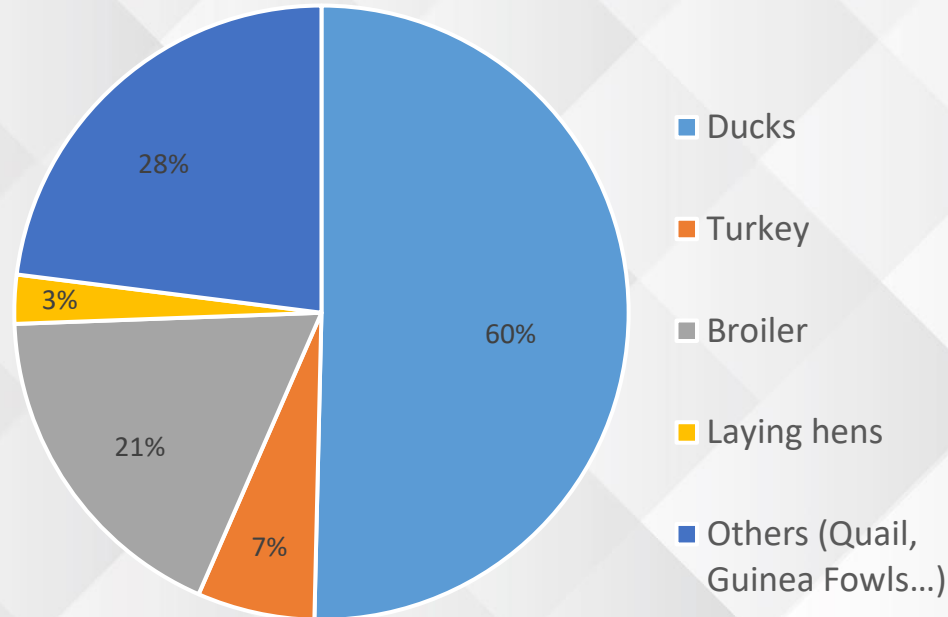
> 2000 farms concerned

20 million birds culled

A approx cost of 1,3 billion €
more than 2 billion € from 2016

All avian production concerned ?

Cases repartition by species in France (%)



>10% of all french Ducks and Turkey Farms were infected and more than 60% of the production

<1% des lots de Gallus

Genetics/Reproduction :

60% of Duck genetics/breeders

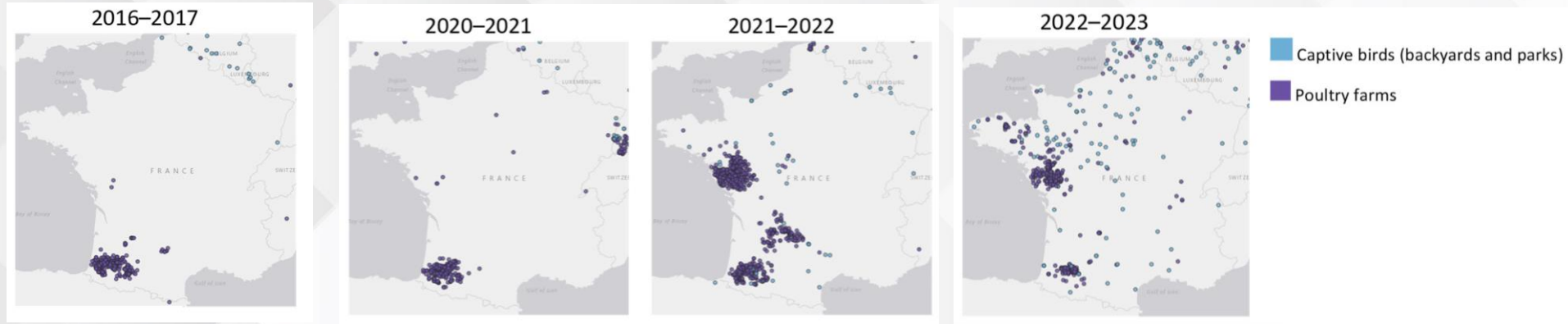
25% of broiler Breeders

80% of Quail genetics and breeding

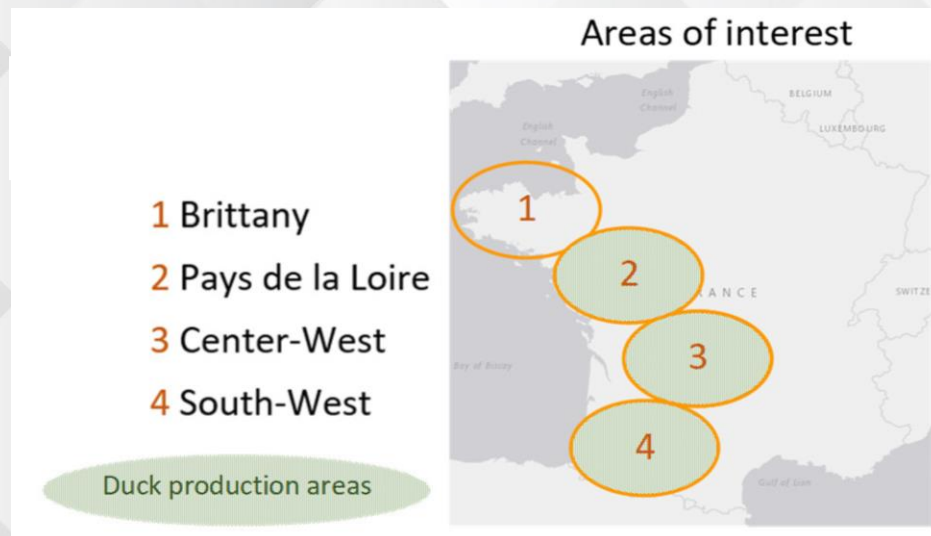
Were lose !

The origin in 2022: probably not more than 2 or 3 primary virus introductions in each area!

Why such an epidemic ?



From Scoizek et al, Viruses 2024



An Increase of captive birds cases from 2016 to 2022

High density zone of poultry farms (Farm/m²)

High density of ducks production areas

Why such an epidemic ?

Species biology :

Pre-clinical virus excretion of ducks: 7 to 10 days. High sensitivity of Turkey.

Production system :

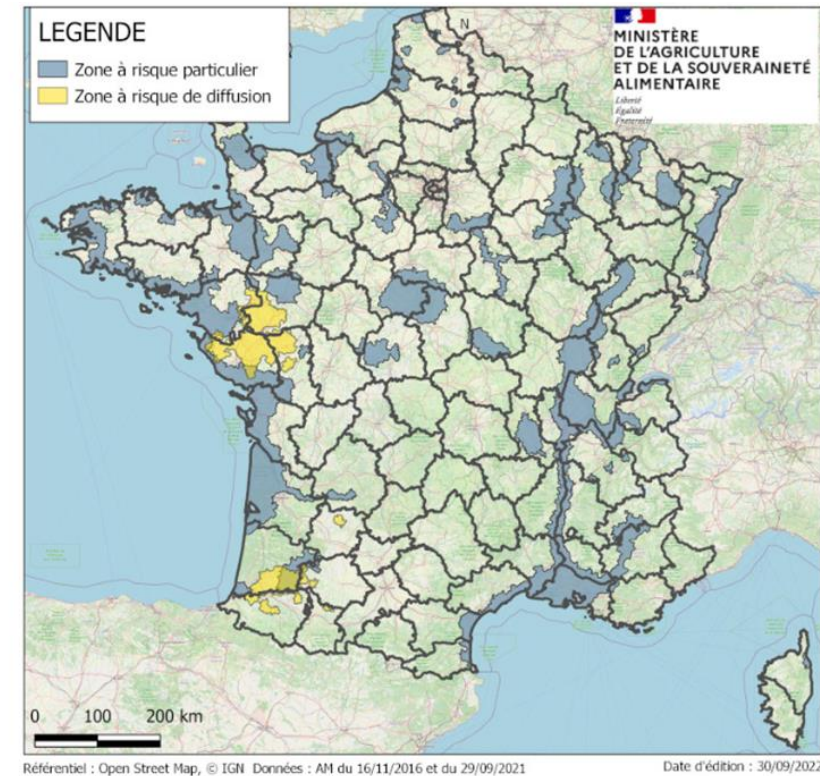
Ducks transfer (breeding to fattening farms, Multiple removal...

Territorial organization :

High concentrated zone leads to a spreading probability of more than 75% in case of one virus introduction



**Zone of introduction risk (Blue),
zone of high risk of spreading (yellow)**



Why such an epidemic ?

Imperfect Biosecurity :

leads to virus introduction spreading (especially in free range production)

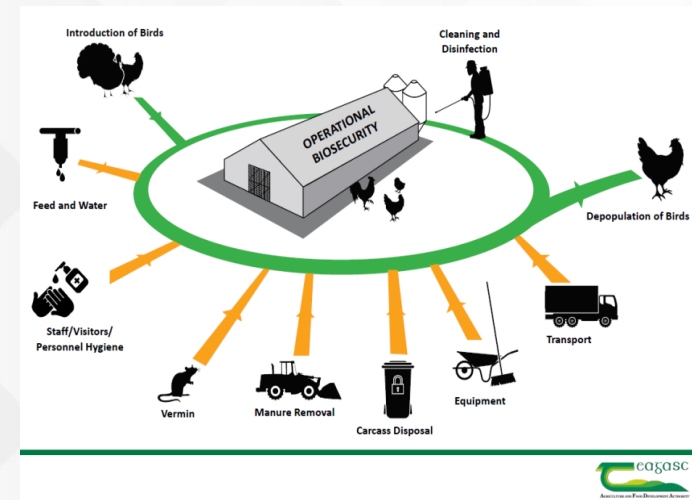
Climate conditions :

wind, rain and cold promotes contact between wild and commercial birds, and spreading virus from farm to farm

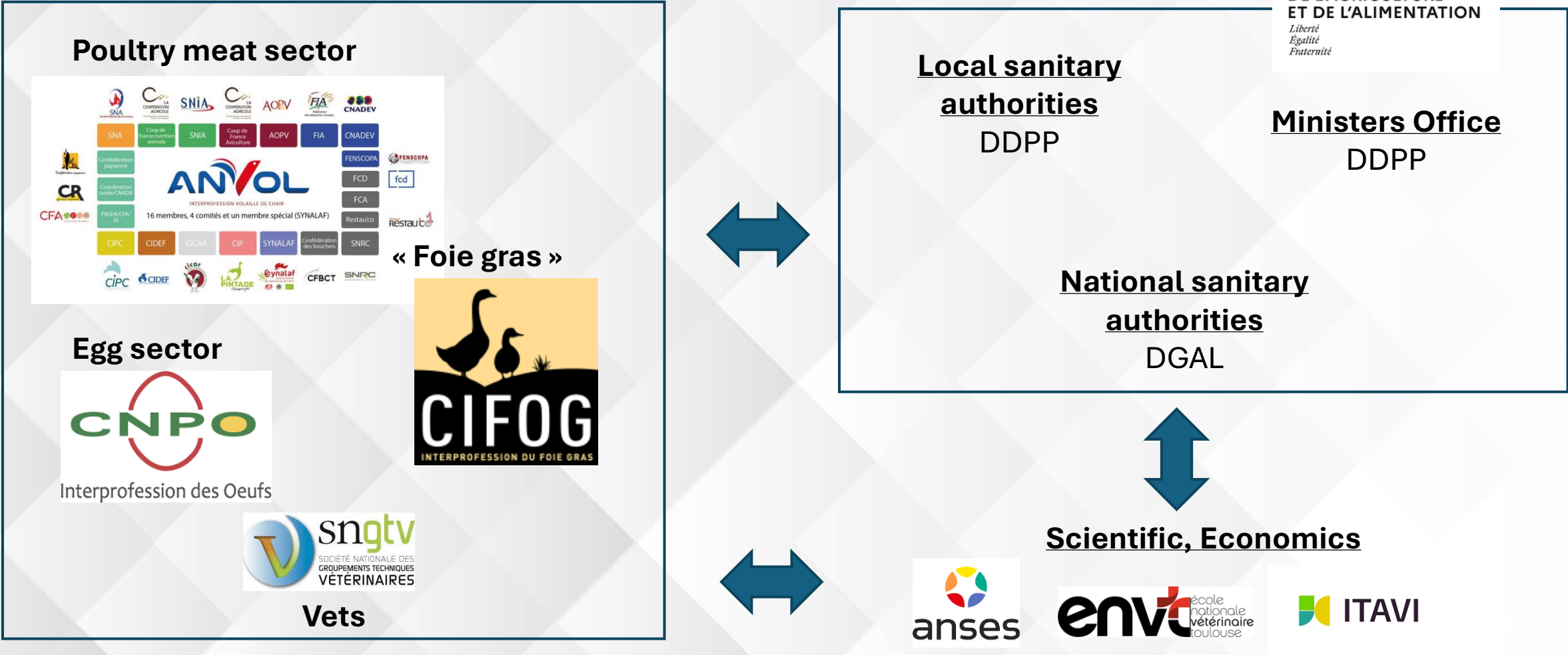
Saturation of euthanasia capacities,

Transport of dead animals leads to environmental and long-distance contamination

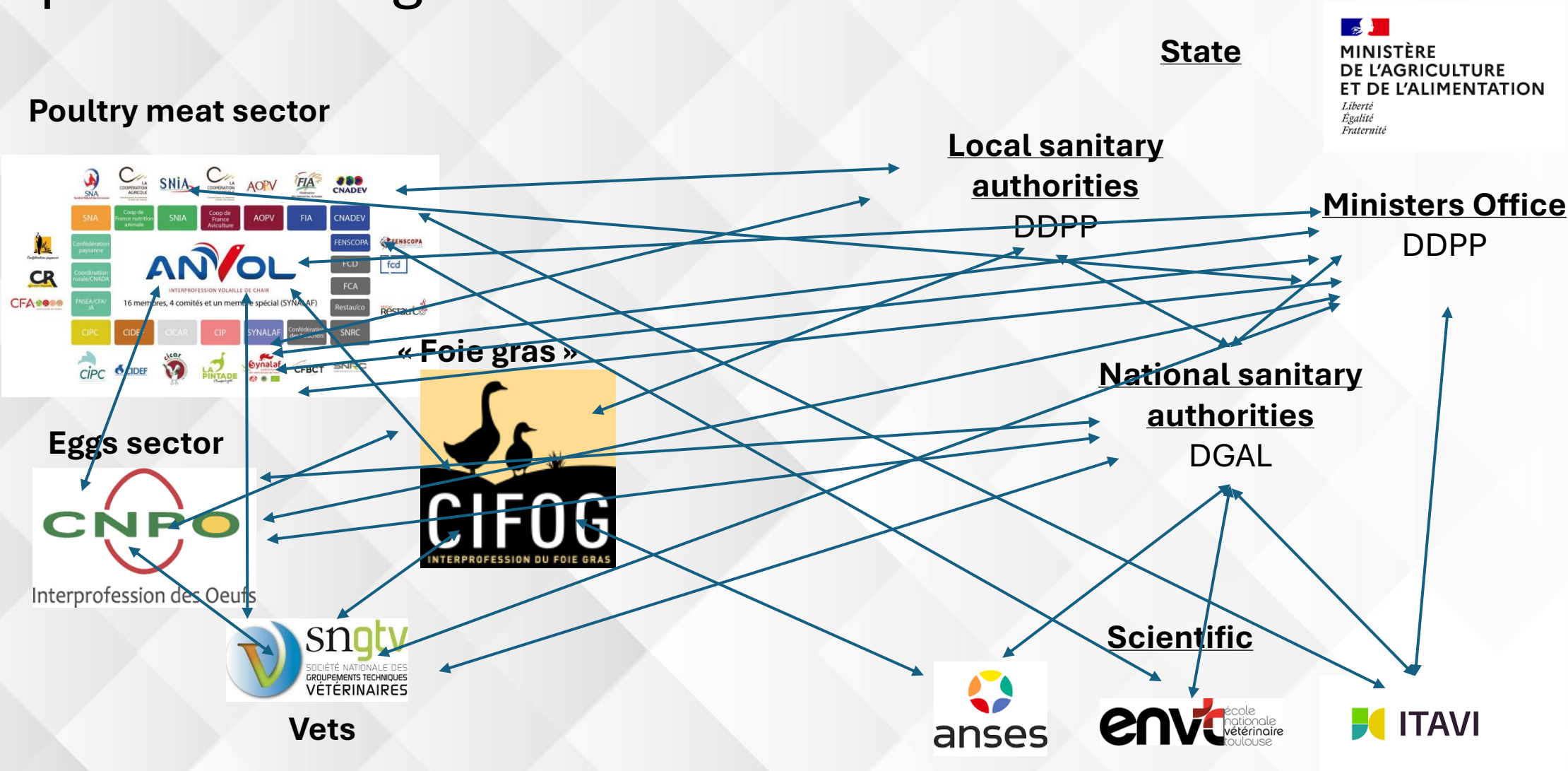
Euthanasia technics... some spread the virus by air feathers)



A question of organization ?



A question of organization ?



But a lot of questions to answer !

How to manage infected farms : strategy to limit diffusion and the difficult question of preventive slaughter,

How to preserve market needs: event in infected zone and especially for reproduction level

How to preserve export capacity : regionalization, compartmentalization and sanitary diplomacy

Financial support of farmers and companies : hatcheries, slaughter houses, the cooperatives, etc...

Understanding the reasons of the crisis and the potential for better management: science based epidemiology, the field point of view...

A question of organization ?

Partly... the crisis intensity was unpredictable

We all learned to be more pragmatic :

- The fact that a certain powerlessness against the virus exist
- less contradictions among professionals and personal interests
- insufficient human and material resources at state (and all) level

Do we have a solution ?

One approach create (at least) a sort of unanimous adhesion : **vaccination**

It start from the field...



Analyse des approches vaccinales

issue des travaux menés par le Groupe de travail
sur la mise en œuvre de la vaccination contre l'Influenza Aviaire

La pertinence de ce travail est fondée sur les derniers épisodes et sur les virus présents actuellement.
Il conviendrait de le remettre à jour après chaque épisode et/ou en fonction des évolutions virales
(recombinant, mutant ou nouvelle introduction)

Décembre 2022

Composition du groupe

Ce groupe est composé d'acteurs de terrain fortement engagés dans la filière avicole.

Ces acteurs représentent :

- les principales organisations de production avicoles,
- les principaux cabinets vétérinaires spécialisés dans le suivi sanitaire des élevages avicoles,
- les laboratoires vétérinaires disposant des candidats vaccins contre l'influenza aviaire.



A large group of Professional from the field take the lead to propose vaccinal strategy

Feasability and Cost evaluation of 4 scenarios:

1. **Ducks and turkeys** in zone of high risk of spreading during winter : **35 M€**
2. **Ducks,turkeys and laying hens** in zone of high risk of spreading : **150 M€**
3. **All birds** in zone of high risk of spreading : **250M€**
4. **Global Birds vaccination** : **330M€**

A great coordination between stakeholder and the ministry of agriculture

From decembre 2022 (Professional initiative)

→ Octobre 2023 : 1st Vaccination

Febuary – july 2023

Vaccine (available)



Efficient for HPAI
2,3,4,4,b clade

« **DIVA** » **strategy** for
monitoring of
Vaccinal vs Wild
antibodies

Scenarios & stratégies



Obligatory for Ducks
At production stage

Optional for Ducks at
reproduction stage

Not permitted for Gallus

August-October 2023

Vaccination campaign



- **Stakeholders training**
- **Planification**
- **Logistics**
- **Traceability**
- **Vaccination control**
- **Monitoring strategy**

October 23...now

International Sanitary diplomacy



To explain and justify
the **preventive
vaccination strategy
and monitoring** to
reassure export
authorities.

Communication

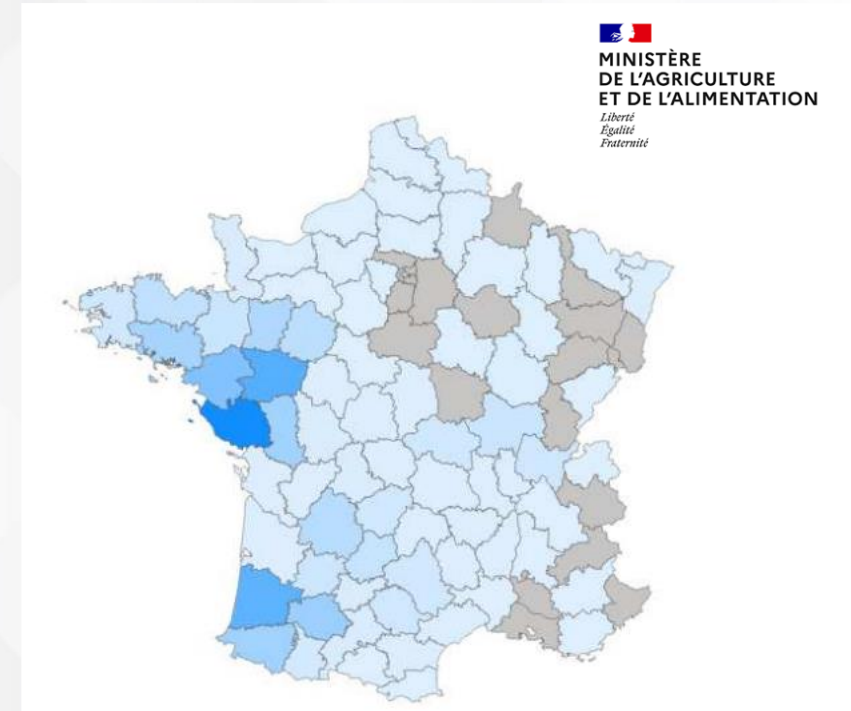


Tools for farmers,
citizens,
journalist etc. to
answer
questions.

After almost one year...

(data from oct 23 - july 24)

- **>46 million ducks** with a minimum of one dose
- **>2200 farms vaccinated**
- **> 650 000 PCR** tests made for active monitoring:
= all negative for HPAI



Geographical distribution of ducks HPAI vaccination in France
(From DGAL)

A success story ?

Don't forget the past and remember that :

« **biosecurity first** »

With

« **Vaccination** »

Lead to this success story
but we have to stay aware and very careful with HPAI

For the Chinese and Japanese, the word crisis is made up of two ideograms, Wei (danger) and Ji (opportunity).

危机

Danger Opportunity

HPAI crisis is **a great danger** but is **a great opportunity** to organize healthy communications between all stakeholders for working all together

Thank you for very much your attention

I'll be happy to (try to) answer your questions