

# EPIDEMIOLOGICAL SURVEILLANCE NETWORK IN POULTRY IN FRANCE EVOLUTION OF BACTERIAL LEG DISORDERS IN BROILERS BETWEEN 2009 AND 2013

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## OBJECTIVE

Since 1987, the French epidemiological surveillance network in poultry supervises the epidemiological evolution of avian diseases in France. The aim of this synthesis is to present the evolution of bacterial leg disorders in broilers between 2009 and 2013.

## MATERIALS & METHODS

- This passive network collects the diagnoses voluntarily transmitted by 18 veterinarians and 27 laboratories, specialized in poultry.
- Members transmit every 2 months to the network managers the diseases observed in their poultry flocks, whatever the avian productions. They indicate for each disease: its location, the poultry production affected and the number of diseased flocks.
- For each production, the number of diagnoses collected is calculated; corresponding to the number of flocks followed by the network members and affected by the disease. The relative frequency of each disease corresponds to the ratio between the number of reports of the disease and the total data collected annually in the production.
- To avoid double entries, the data from the veterinarians and laboratories are processed separately. Only laboratory reports are presented here, because the evolution of the cases is similar between the two member groups and the laboratories transmitted most of the reports (71% between 2009 and 2013).

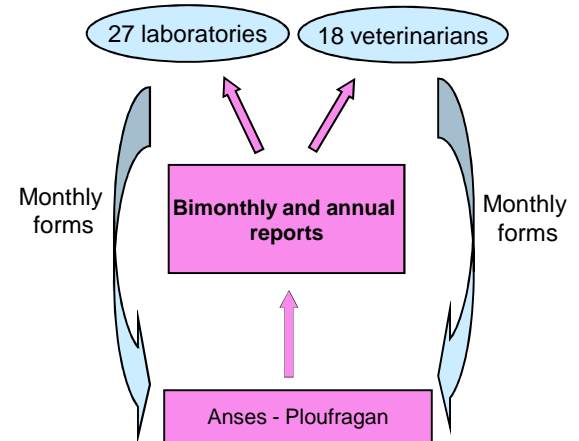


Figure 1 : Operating principle of the network

## RESULTS

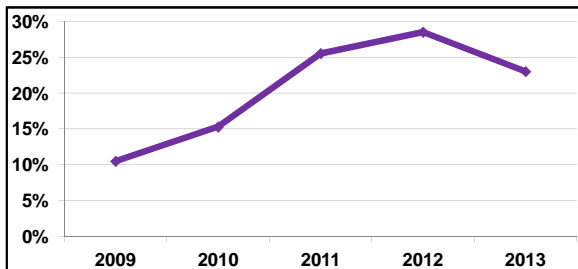


Figure 2 : Evolution of the relative frequency of leg disorders in broilers

- During the past five years, we observed an increase of leg disorders in broilers (Figure 2). The relative frequency of leg disorders, that corresponds to the ratio of these disorders among all the diseases collected in broilers increased from 10.5% in 2009 (279 leg disorders / 2659 diseases reported) to 28,5% in 2012 (1020 leg disorders / 3579 diseases reported).

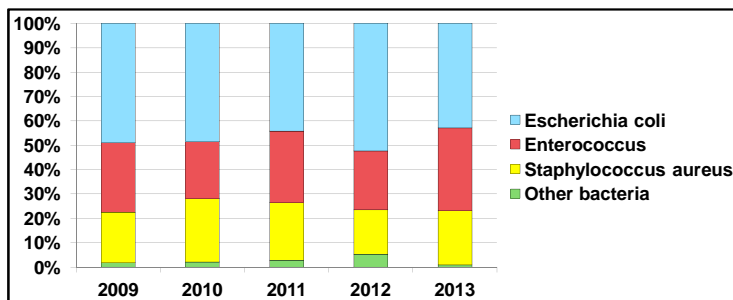


Figure 3 : Evolution of bacteria associated with leg disorders in broilers

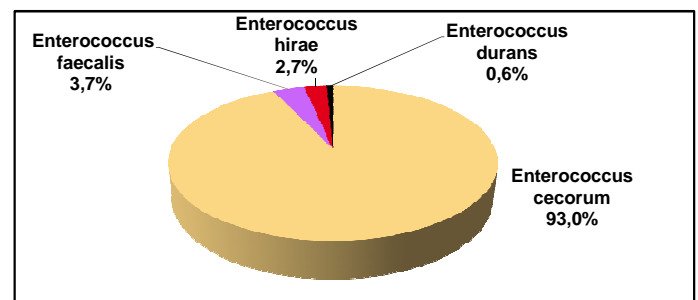


Figure 4: Enterococcus associated with leg disorders in broilers (between 2009 and 2013)

- Three bacterial agents are primarily associated with leg disorders in broilers reported to the network : *Escherichia coli*, *Enterococcus* and *Staphylococcus aureus*. The distribution remained generally the same between 2009 and 2013. *Escherichia coli* is more frequent (between 40% and 50% of germ reported). Concerning *Enterococcus*, *Enterococcus cecorum* represents the majority of isolates (93%) and *Enterococcus faecalis*, *hirae* and *durans* are much less frequent.

## CONCLUSION

In spite of the limits associated with a passive surveillance network because of the voluntary participation of its members, this network gives an epidemiological dynamic view of poultry diseases in France for the past 25 years. This synthesis allowed to highlight an increase of leg disorders in broilers associated with 3 major germs (*Escherichia coli*, *Enterococcus* and *Staphylococcus aureus*.) between 2009 and 2013. The network follows the epidemiological surveillance of poultry diseases in France thanks to the active participation of its members.