



*The EFSA Journal* (2006) 81, 1-71, “Preliminary Report on the Analysis of the Baseline Study on the Prevalence of Salmonella in Laying Hen Flocks of Gallus gallus”

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## **SUMMARY**

An EU-wide *Salmonella* baseline study was conducted on commercial large-scale laying hen holdings with at least 1,000 laying hens in the flock. The study was carried out in all the Member States, and the sampling of the holdings took place during the period of 1 October 2004 to 30 September 2005. Norway participated in the study on a voluntary basis.

The aim of the study was to estimate the *Salmonella* holding observed prevalence at the global EU-level as well as for each Member State specifically. In total, 5,317 laying hen holdings in the EU were included in this study. But a clean dataset comprising 4,797 holdings was mainly used to analyse the results. Samples were taken from flocks of laying hens during the last nine weeks of their production. One flock per each holding was sampled by taking five faeces samples and two dust samples.

The results show that at the global EU-level 20.3% of the large-scale laying hen holdings are bacteriologically positive for *Salmonella* Enteritidis and/or *Salmonella* Typhimurium. The Member States' -specific *Salmonella* Enteritidis – *Salmonella* Typhimurium holding observed prevalence estimates varied largely, from a minimum of 0% to a maximum of 62.5%.

The holding observed prevalence for any *Salmonella* subspecies was, in general, higher. At the global EU-level the presence of any *Salmonella* spp. was detected in 30.7% of the large-scale laying hen holdings. The range of the Member States' -specific *Salmonella* spp. holding observed prevalence was also wide, from a minimum of 0% to a maximum of 79.5%.

The number of positive samples in a holding varied between 1 and 7, and an important proportion of the holdings was found positive on the basis of only one or two positive samples.

Based on preliminary univariate analysis, holdings having *Salmonella* Enteritidis vaccinated flocks were less likely to be positive for *Salmonella* Enteritidis, in eight countries where both flocks vaccinated and unvaccinated against *Salmonella* Enteritidis were sampled. But with the subgroup of *Salmonella* Enteritidis positive holdings in these countries, there was no difference in the proportion *Salmonella* Enteritidis positive samples between vaccinated and unvaccinated flocks. Covered by the clean dataset, dust samples were found more positive for *Salmonella* Enteritidis

and/or *Salmonella* Typhimurium than faeces samples. Medication with antibiotics within two weeks prior the sampling did not seem to have an impact on the results for *Salmonella* Enteritidis and/or *Salmonella* Typhimurium.

The five most frequently isolated *Salmonella* serovars in the EU were, in descending order: *Salmonella* Enteritidis, *Salmonella* Infantis, *Salmonella* Typhimurium, *Salmonella* Mbandaka and *Salmonella* Livingstone.