Scientific Opinion on a quantitative estimation of the public health impact of setting a new target for the reduction of Salmonella in laying hens

Public health risks of Salmonella infection in laying hens (Gallus gallus) can be associated with exposure through four different pathways: internally contaminated table eggs, externally contaminated table eggs, egg products and meat from spent hens. In relation to eggs, Salmonella Enteritidis is by far the serovar most frequently associated with human illness, and exposure through eggs that are internally contaminated with this serovar has a higher public health significance than exposure to externally contaminated eggs. A mathematical model, using reported field data from two EU Member States (MSs), suggests a linear relationship between the investigated scenarios of flock prevalence for Salmonella Enteritidis and the number of contaminated eggs that would be laid. However, the absolute public health impact of the assessed flock prevalence scenarios is highly uncertain due to lack of data on the number of contaminated eggs produced by infected flocks and on the true number of egg-related human salmonellosis cases. It is suggested that public health benefits, similar to those obtained reaching lower Salmonella flock prevalences, may be achieved by implementing controls based on more sensitive sampling protocols. Diversion of eggs from flocks that are tested positive in the EU Salmonella control programme to the production of egg products subjected to heat treatment may lead to increased health risks as heat treatment of egg products should not be considered an absolute barrier to Salmonella contamination. Fresh meat from spent laying hens might carry a higher prevalence of Salmonella than meat from broiler flocks, in particular if sourced from Salmonella-positive flocks. The quantification of under-ascertainment and underreporting of human salmonellosis cases, improving knowledge on within-flock dynamics of Salmonella and harvesting data on production of Salmonella contaminated eggs under field conditions would contribute to improving the accuracy of future quantitative estimates.