



## The Establishment-based Risk Assessment model for Hatcheries (ERA-H) at a glance

A Scientific and transparent approach was followed in the development of the model; positioning CFIA as a global leader in food safety. Six steps were followed and are/will be described in peer-reviewed articles.

### Identification of Canadian experts

A Scientific Advisory Committee (SAC) with 15 Canadian experts from academia (Université de Montréal and University of Guelph), industry and government (CFIA, Public Health Agency of Canada and Health Canada) was created to provide advice for the duration of the model development, and to work with a CFIA technical working group.

01

### Identification and selection of factors associated with food safety risk

- Based on literature review and advice from the SAC, 29 food safety related risk factors were identified and selected to be included in this risk assessment model for hatcheries
- Criteria for assessing each risk factor were defined based on common practices used in the Canadian hatchery industry
- Risk factors and criteria are grouped into 3 clusters: inherent risks factors, mitigation factors and compliance factors
- Article available for reference: [Identification and selection of risk factors](#)

02

### Assessment criteria weighting

- In 2017, 13 Canadian experts participated in an expert elicitation to estimate the relative risk (RR) of the 96 assessment criteria based on their expected impact on human health, with a specific focus on *Salmonella* spp.
- The median RR value assigned to each criterion will be used to build this new model
- Article available for reference: [Quantification of risk factors](#)

03

### Design of the ERA-H model

- The impact of *Salmonella* spp. on human health is the unit of the model (in DALYs – Disability Adjusted Life Years)
- The hatchery-level health impact is calculated based on the production volume and type of birds, and then adjusted considering the presence or absence of specific food safety criteria and their relative risks

04

### Test the model with pilot project

- In 2017, a pilot project was performed with 29 randomly selected federally-regulated hatcheries
- Information sessions were held with selected hatcheries and CFIA inspectors
- Data collection tools and supporting documents were validated

05

### Performance assessment of the model

- Using data collected during the pilot project, the outputs of the ERA-H model were assessed by correlating them with the results obtained from the assessment of 17 senior CFIA inspectors
- Correlation obtained confirmed the applicability of the ERA-H model

06

### Next steps

Apply refinements as needed. The ERA-H model is flexible and adaptable to be able to evolve, as new risk and information becomes available, for example innovative practices within hatcheries, new scientific knowledge, emerging pathogens, trends in specific food safety issues, etc.