The Importer Risk Assessment model at a glance

The Importer Risk Assessment (IRA) model is being developed by the Canadian Food Inspection Agency (CFIA) following the same scientific and transparent approach as the one used for the Establishment-based Risk Assessment models (ERA-Food, ERA-Hatchery, ERA-Feed Mill, and ERA-Renderer). The IRA model will be used to assess importers licensed under the Safe Food for Canadians Regulations that bring food products to be sold in their imported condition.

01 Identification of Canadian experts

- A Scientific Advisory Committee (SAC) composed of 10 Canadian experts from academia (Université de Montréal, University of Guelph, Dalhousie University, University of Manitoba) and government (Public Health Agency of Canada, Health Canada, CFIA) was created to provide advice for the duration of the model development, and to work with a CFIA technical working group. This committee is composed of the same members providing advice on the ERA-Food model development.

02 Identification of risk factors associated with food safety risk

- Based on the scientific literature review and subsequent selection process conducted for the ERA-Food model development in 2013 (published respectively in the Microbial Risk Analysis Journal and the Food Microbiology Journal)
- Criteria for assessing each risk factor were defined based on current import industry practices and pre-established CFIA inspection criteria
- Risk factors and assessment criteria are grouped into 3 clusters: inherent risks factors, mitigation factors and compliance factors

03 Evaluation of data availability for the IRA model

- Helped evaluate the availability of data for each food importer from the CFIA's databases and study the import trends activities (for example, the volume and type of imported product, the frequency of importation for specific commodities)
- Results confirmed the availability of the data related to the importer's inherent risk factors
- A survey has been completed to assess the willingness and capability of importers to share information regarding two specific risk factors: the intended use of the product and the use of suppliers with an international certification scheme

04 Risk factors' criteria weighting for the IRA model

- In September 2021, 38 experts participated in an expert elicitation to estimate the relative risk (RR) of the 49 assessment criteria included in the IRA model based on their impact on food safety
- The median of the RR values estimated by the experts for each criterion is being used to build this new risk assessment model

05 Source attribution at the commodity and sub-product levels

- Previous work completed for the development of the ERA-Food model was leveraged to use estimates gathered from source attribution studies at the commodity and sub-product levels
- Source attribution evaluates the contribution of different food commodities and sub-products to foodborne illnesses in the Canadian population, while considering the food availability as a measure of risk exposure
- Estimates for source attribution at the commodity level were updated on April 2021
  - A scientific paper on this research is currently being prepared for submission to a peer-reviewed journal
  - Estimates for source attribution at the sub-product level were updated on January 2022. A scientific publication will follow describing this exercise.

06 Design of the IRA model algorithm

- The IRA model algorithm is based on the allocation of risks to food importers according to their impact upon the health of Canadian consumers
- The health impact (in Disability Adjusted Life Years or DALYs) is first allocated to each importer according to the annual imported commodities and sub-product volumes brought into Canada
- Then, this health burden is adjusted considering the presence or absence of specific assessment criteria and their impact (RR)

07 Performance assessment of the IRA model

- Using CFIA import data from a 1 year period, the outputs of the IRA model will be assessed by correlating them with the results obtained from the assessment done by CFIA senior inspectors
  - The model will be refined based on the identification of major discrepancies, if needed
  - The analysis and correlation obtained will confirm the applicability of the IRA model before its implementation

Next steps

- Annual reviews are planned to refine the model as needed
- The IRA model results will be used to categorize food importers according to their level of food safety risk and to allocate resources for CFIA oversight activities accordingly
- The IRA model is flexible and adaptable to be able to evolve, as risks change and new information becomes available, for example:
  - innovative practices implemented by the food industry
  - new scientific knowledge
  - new risks such as emerging pathogens
  - trends in specific food safety issues