Introduction

In support of Health Canada's mandate to help Canadians maintain and improve their health, the Food Directorate is the federal health authority responsible for establishing policies, setting standards, and providing advice and information on the safety and nutritional value of foods available for sale in Canada. An important part of the Food Directorate's mission is to ensure that human exposure to chemical contaminants and residues in food, whether from natural or man-made sources, is kept at a minimum so as not to be detrimental to Canadians' health. These chemicals include environmental contaminants such as trace metals, polychlorinated biphenyls (PCBs) and dioxins, process-induced chemicals such as bisphenol A, acrylamide or furan, as well as mycotoxins and phycotoxins which occur naturally. The occurrence of allergens in food is another area of interest, with the objective to ensure that information appearing on food labels pertaining to these ingredients is provided to allergic consumers in a manner that can provide them with the guidance they need to make safe food choices.

To support its food safety standard-setting activities, it is essential for Health Canada's Food Directorate to analyse the foods we eat for the presence of these chemicals and allergens, using the most sensitive and accurate analytical methods. Data collected in this fashion are key to estimate the dietary intakes of these substances and to develop science-based risk-management approaches, where warranted.

The Food Research Division of the Bureau of Chemical Safety, within Health Canada's Food Directorate, engages in a range of research activities related to the identification, determination and characterization of chemicals and allergens in food. The Division maintains an active research programme to study the distribution, sources and potential effects of food processing on these substances in food. To this end, the Division relies on a national network of Health Canada food laboratories that specialize in the development of analytical methods, and the planning and implementation of surveys that measure the occurrence of chemicals and other substances in foods consumed by Canadians.

The Canadian Total Diet Study (TDS) is perhaps one of most recurrent food surveys conducted in Canada, under the leadership of Health Canada and its Food Research Division. This survey was initiated in the 1960s and still represents the backbone of Health Canada's estimates of Canadians' exposure to food-borne chemicals and nutrients. Health Canada has in fact been one of the pioneering food-regulatory authorities to initiate and continuously conduct a TDS, monitoring the levels of nutrients and chemical contaminants of reference in foods consumed by Canadians. Analytical methods have been developed and continuously updated to enable the determination of the lowest levels possible of the targeted list of chemicals. Sensitive detection methods allows for the development of the most accurate and realistic exposure scenarios fitting the Canadian context.

In keeping with Health Canada's commitments to openness and transparency, reporting on the results of Health Canada's scientific research, including its food-research and survey activities, is being made available in a broader range of peer-reviewed scientific publications.

As part of its renewed strategic plan (2011–2015), the Food Directorate has further committed to disseminate the knowledge base upon which its food regulatory decisions are made. This is to be achieved through systematic, enhanced publication of the Directorate research and scientific deliverables, e.g. method development and validation, survey results, health risk assessment and scientific opinions, etc.

This special issue of *Food Additives and Contaminants* dedicated to 'Health Canada: Current Topics in Food Chemical Safety' is the first published document by this important journal where the focus is made on Health Canada's food-research activities. This is a showcase for the important national and international collaborations the Directorate has forged over the years through a range of co-authored papers with scientists from other national and international organizations. I would like to express my thanks to all

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