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The Healthy Grains Institute (HGI) is pleased to be participating in this consultation on Canada's Food Guide. The HGI is a science-based not-for profit organization, committed to promoting and educating Canadians on the science-based health benefits of wheat and other grain-based foods. The response below has been prepared by our independent Scientific Advisory Council. We have limited our comments to Guiding Principle 1

### **Guiding Principle 1**

Based on the available evidence, Health Canada is proposing the following Guiding Principle and recommendations to focus on the regular intake of nutritious foods as the foundation for healthy eating.

**Guiding Principle 1: A variety of nutritious foods and beverages are the foundation for healthy eating. Health Canada recommends:**

- Regular intake of vegetables, fruit, whole grains and protein-rich foods\*-especially plant-based sources of protein
- Inclusion of foods that contain mostly unsaturated fat, instead of foods that contain mostly saturated fat
- Regular intake of water

\*Protein-rich foods include: legumes (such as beans), nuts and seeds, soy products (including fortified soy beverage), eggs, fish and other seafood, poultry, lean red meats (including game meats such as moose, deer and caribou), lower fat milk and yogurt, cheeses lower in sodium and fat. Nutritious foods that contain fat such as homogenized (3.25% M.F.) milk should not be restricted for young children

The HGI understands from the various presentations by Health Canada at the recent Dietitians of Canada meeting and the Canadian Nutrition Society meeting that Health Canada implies that the regular intake of whole grains means a reduction in the intake of *refined grains*. We remain very cautious regarding the recommendation for all Canadians to decrease the consumption of "refined grains" until there is a systematic evaluation of the scientific evidence regarding the nutritional and health benefits of consuming these foods. Also, we would encourage Health Canada to refrain from using the term "refined grains" and would encourage you to use your own term "enriched non-wholegrain foods" as the proper descriptor of these foods. The following is a more detailed discussion of the cautions we wish to raise with Health Canada regarding the simplified message of "consuming more whole grains and less refined grains"

#### 1. Fortification

Enriched wheat flour is fortified with folic acid, in addition to thiamine, riboflavin, niacin and iron. Since mandatory folic acid fortification in 1998, the Public Health Agency of Canada attributes a 46% reduction of neural tube defects in 7 provinces.<sup>1</sup> Promoting the decrease in the consumption of foods made from “enriched non-whole grains” like white bread, bagels, cereal, hamburger and hot dog buns, pasta, etc., could result in the unintentional consequence of decreasing not only the folate intake from Canadians, particularly for women of childbearing age and pregnant women, and those in lower socially economic segments of society, but also key nutrients including iron, niacin, thiamine and riboflavin.

## 2. Research on the Nutritional and Health Contribution of Enriched Non-Whole Grain Foods

While the “Evidence Review for Dietary Guidance” did not report evidence on enriched non-whole grain foods; there are studies in the scientific literature that suggest the nutritional and health benefits of consuming enriched non-whole grains in the proper amounts. For example, recent research published in the peer-reviewed journal *Food and Nutrition Sciences* outlines the positive health benefits associated with the consumption of many grain-based foods. Publicly-available data from the National Health and Nutrition Examination Survey (NHANES) 2005–2010, which consisted of over 14,000 U.S. adults, showed that adults who practiced whole and enriched grain-based eating patterns that include pasta, cooked cereals and rice grains had better overall diet quality, greater intake of vital nutrients, lower total sugar intake and lower average body weight than those who did not predominantly eat grains<sup>2</sup>. While these findings are derived from U.S. data, the similarities between Canadian and U.S. diets mean that the implications for Canadian consumers remain clear. Other reviews assessing intake of refined grains and health outcomes showed that a great majority found no associations between the intake of refined-grain foods and cardiovascular disease, diabetes, weight gain, or overall mortality.<sup>3,4,5</sup> A few studies found that very high intakes might be associated with some risk, but at moderate or recommended levels of consumption the risks were not significant. The totality of evidence shows that consumption of up to 50% of all grain foods as refined (enriched) grain foods (without high levels of added fat, sugar, or sodium) is not associated with any increased disease risk.

Another evidence-based review on intakes of breakfast cereals<sup>6</sup> looked at outcomes related to nutrient intake, weight, diabetes, cardiovascular disease, hypertension, digestive health, dental and mental health, and cognition and found ingestion of cereals to be beneficial. Consumption of breakfast cereals of all

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<sup>1</sup> <http://www.phac-aspc.gc.ca/fa-af/fa-af08-eng.php>

<sup>2</sup> <http://www.scirp.org/Journal/PaperInformation.aspx?PaperID=68936>

<sup>3</sup> Williams PG. Evaluation of the evidence between consumption of refined grains and health outcomes. *Nutria Rev.* 2012 Feb;70(2):80-99. doi: 10.1111/j.1753-4887.2011.00452.x

<sup>4</sup> Julie M. Jones, Roberto J. Peña, Renee Korczak, and Hans J. Braun CIMMYT Series on Carbohydrates, Wheat, Grains, and Health: Carbohydrates, Grains, and Whole Grains and Disease Prevention. Part I. Body Weight and Obesity *Cereal Foods World* 2016, 61( 3) : 96-105

<sup>5</sup> Julie M. Jones, Roberto J. Peña, Renee Korczak, and Hans J. Braun CIMMYT Series on Carbohydrates, Wheat, Grains, and Health: Carbohydrates, Grains, and Whole Grains and Disease Prevention. Part II. Blood Pressure, Metabolic Syndrome, and Diabetes *Cereal Foods World*. 2016, 61 (3): 105-122.

<sup>6</sup> Williams PG The benefits of breakfast cereal consumption: a systematic review of the evidence base. *Adv Nutr.* 2014 Sep 15;5(5):636S-673S. doi: 10.3945/an.114.006247

types (whole grains and enriched refined grains) is associated with diets higher in vitamins and minerals and lower in fat but is not associated with increased intakes of total energy or sodium. Further regular breakfast cereal consumption is associated with a lower body mass index and less risk of being overweight or obese.

Currently, a research team led by Dr. Hassan Vatanparast of the University of Saskatchewan is in the process of applying for research funding to determine “Grain consumption patterns, their respective nutrient contribution and related health outcomes in Canadians” based on the 2015 CCHS data. This research is slated to begin in September 2017. We believe that the results from this research would serve to inform Health Canada on the health and nutritional benefits of consuming enriched non-whole grain foods from Tier One and Tier Two selections in Canada’s Food Guide.

### 3. Making Half Your Grains Whole

Currently Canada’s Food Guide recommends “making half your grains whole”. We would support keeping this recommendation, as is the case with the newly released “Dietary Guidelines for Americans, 2015-2020”<sup>7</sup>. This report recommends “healthy eating patterns include whole grains and limit the intake of refined grains especially those high in saturated fats, added sugars, and/or sodium, such as cookies, cakes, and some snack foods.” It is important to realize that it is not the whole grain or enriched non-whole grain content of a food product which determines its’ nutritional quality nor the amount of sugar, sodium and fat added to the food. By focusing on single nutrients or single ingredients we risk missing the overall nutritional quality of the food. Our concern is that in trying to be too simple in your proposed principle (increase whole grains and decrease refined grains) that you end up with the unintended consequence of consumers thinking that foods made from enriched non-whole grains, like those foods found in Tier 1 and Tier 2 (cereal, bread, pasta etc.,) are associated with negative health outcomes when this is not what the science shows.

Further, data show that for many consumers, products prepared with part whole grain and part refined grain may be more likely to be selected than those made with all whole grains, therefore having half of the grain as whole grains facilitates consumers getting the wonderful benefits that whole grains have to offer.<sup>8,9</sup>

### Conclusion

While we acknowledge and promote scientific research regarding the health benefits of consuming the correct number of servings of total grains and whole grains as part of a balanced diet, we believe the existing science does not support a general recommendation to reduce the consumption of enriched non-whole grains foods (bread, cereal, pasta) found in Tier 1 and Tier 2 of Canada’s Food Guide’s classification of foods. In fact, recent research has shown that the consumption of foods made from enriched non-whole grain foods in the Tier1 and Tier 2 classification have been associated with positive

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<sup>7</sup> [https://health.gov/dietaryguidelines/2015/resources/2015-2020\\_Dietary\\_Guidelines.pdf](https://health.gov/dietaryguidelines/2015/resources/2015-2020_Dietary_Guidelines.pdf)

<sup>8</sup> J Am Diet Assoc. 2011 Sep;111(9):1380-4. doi: 10.1016/j.jada.2011.06.003.

<sup>9</sup> Public Health Nutr. 2015 Jun;18(8):1407-11. doi: 10.1017/S1368980014001724. Epub 2014 Aug 26.

health outcomes in the U.S. population. Although this research has not been done in Canada, the current proposal to analyze the 2015 CCHS data by Dr. Hassan Vatanparast of the University of Saskatchewan, will help to fill this void in the data, and better inform Health Canada in making recommendations to Canadians about the health benefits of whole grain and enriched non-whole grain foods.

The HGI hopes that this submission will be useful to Health Canada. We look forward to further engagement in this process, and would welcome any questions you may have on our submission, directed to our Executive Director, Christine Lowry.

Sincerely,

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