



Patterns Consistent With The 2019 Canada's Food Guide

Recommendations On Healthy Food Choices Have Lower Greenhouse Gas Emissions: Results From The NutriQuébec Project

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Introduction: The deleterious impacts of food production and consumption on the planet's ecosystems highlight the need for governments to promote environmental sustainability as part of healthy dietary guidelines. The objective of this study was to assess the carbon footprint associated with a greater adherence to the 2019 Canada's Food Guide (2019-CFG).

Methods: Dietary intakes of 4694 adults from the prospective web-based NutriQuébec cohort were assessed on one to three occasions within a 30-day period using a validated web-based 24-hour recall. The database of Food Impacts on the Environment for Linking to Diets was used to derive estimates of greenhouse gas emissions (GHGE) from foods and beverages reported in NutriQuébec. The boundaries for GHGE estimates were primarily from cradle-to-farm gate, and for some processed foods, from cradle-to-processing gate. The Healthy Eating Food Index-2019 (HEFI-2019) was used to calculate the adherence to the 2019-CFG. Associations between GHGE and HEFI-2019 scores were evaluated using linear regression models with restricted cubic splines.

Results: Mean HEFI-2019 score and dietary GHGE in the sample were 50.6/80 pts (95% CI, 50.2 to 51.0) and 3.6 kg carbon dioxide-equivalents (CO₂eq) per person per day (95% CI, 3.5 to 3.7). A higher HEFI-2019 score (75th vs. 25th percentiles of score distribution) was associated with lower GHGE of 0.5 kg CO₂eq (95% CI, -0.7 to -0.3) when adjusted for energy intake. Higher scores for the following components of the HEFI-2019 were associated with lower GHGE: Vegetables and fruits (-0.3 kg CO₂eq, 95%CI, -0.5 to -0.2), Whole-grain foods (-0.6 kg CO₂eq, 95%CI, -0.7 to -0.4), Grain foods ratio (-0.5 kg CO₂eq, 95%CI, -0.6 to -0.3), Plant-based protein foods (-0.9 kg CO₂eq, 95%CI, -1.1 to -0.8), Fatty acids ratio (-0.5 kg CO₂eq, 95%CI, -0.7 to -0.3) and Saturated fats (-0.7 kg CO₂eq, 95%CI, -0.9 to -0.6).

Conclusion: Results suggest that a greater adherence to recommendations on healthy food choices in the 2019-CFG, independent of energy intake, is associated with a lower individual carbon footprint. This highlights the compatibility of Canada's dietary guidelines with environmental sustainability.

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