

**Hamilton** Family Health Team

*Green Initiative*

# Plant-Rich Eating



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**Eating plant-rich is a quadruple win as it improves health, reduces the costs and carbon footprint of healthcare, and reduces the carbon footprint of livestock production.**

## **Section #1**

**Significant evidence-based health benefits.**

**Reduction in healthcare expenditures & environmental impact.**

## **Section #2**

## **Section #3**

**Environmental footprint of raising livestock.**

**Action Plan: Tools for Change**

## **Section #4**

## What is Plant-Rich Eating?

Plant-rich eating includes a spectrum of eating patterns that increase the intake of plants, including plant sources of protein like beans, legumes, nuts, seeds, and whole grains, while minimizing refined grains, processed foods, and animal products.<sup>1</sup> This style of eating does not require complete vegan- or vegetarian-ism; any shift from meat-based to plant-rich is beneficial! Many dietary patterns you already advise for your patients are plant-rich.



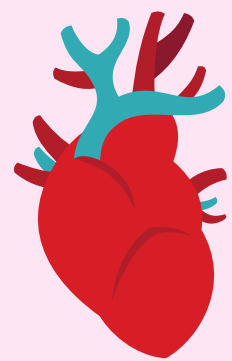
[Canada's Food Guide](#) encourages plant rich eating.

## Section #1: **Significant evidence-based health benefits.**

*Please note: These benefits are available to order for free on a laminated one-page sheet for easy reference in a clinical setting.*

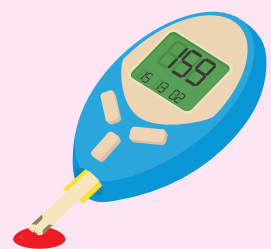
### Cardiovascular Disease:

- Decrease cardiovascular risks<sup>2,3,4</sup>
- 24% reduction in ischemic heart disease mortality rates (in vegetarians compared to nonvegetarians)<sup>5</sup>
- Lower LDL by 19-32%<sup>6,7,8</sup> (as effective as a statin)<sup>3</sup>
- Decrease and even resolve anginal symptoms<sup>3</sup>
- Lower systolic BP by 5-26mmHg<sup>6,7,9,10</sup>
- Decrease need for hypertension medications<sup>6,7</sup>
- Reduce atherosclerosis<sup>4</sup>



### Diabetes:

- People with low plant-based index scores have 12-23% increased risk of Type 2 diabetes<sup>11</sup>
- Reduce HbA1c by up to 1-2%<sup>8,12,13,14</sup>
- Reduce need for diabetes medications<sup>4,8,10</sup>
- Improve emotional wellbeing and quality of life in those with diabetes<sup>15</sup>



## **Brain & Mental Health:**

- Decrease risk of depression by 32%<sup>16</sup>
- Decrease risk of, and mortality from, dementia<sup>17,18</sup>
- Reduce symptoms of depression, anxiety, and post-traumatic stress disorder<sup>19,20</sup>



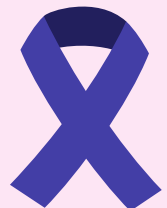
## **Cost**

- Plant-rich eating can lower food costs<sup>21,22,23</sup>



## **Cancer**

- Decrease mortality in patients with nonmetastatic colorectal cancer<sup>24</sup>
- Improve breast cancer prognosis<sup>25</sup>
- Decrease risk of colorectal<sup>26</sup> and breast cancers<sup>27</sup>
- Plant phenols reduce tumour growth & generation and have a synergistic effect with chemotherapy<sup>28</sup>



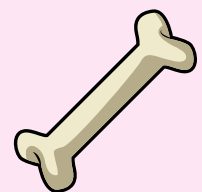
## **Neurovascular**

- Decrease risk of stroke by 32%<sup>29</sup>



## **Bone Health**

- Protect against the development of osteoporosis<sup>30</sup>



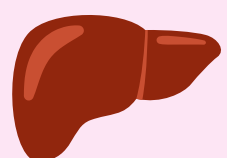
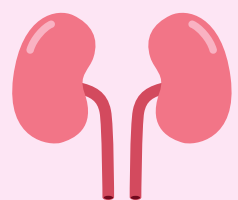
## **Gastrointestinal**

- Decrease gastrointestinal symptoms like bloating, constipation, heartburn, & diarrhea<sup>31</sup>



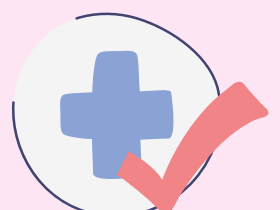
## **Kidney & Liver**

- Decreases the incidence and progression of chronic kidney disease<sup>32,33,34,35,36,37,38</sup>
- Lowers the risk of developing and improves regression of existing non-alcoholic fatty liver disease<sup>39,40,41</sup>



## **General Health:**

- Replacing 3% of caloric intake from meat protein to plant proteins confers a 10% decrease in overall mortality<sup>42</sup>
- Prevent telomeric attrition<sup>43</sup>
- Improve weight status, energy metabolism, & systemic inflammation<sup>44</sup>



**Many conversations about managing chronic diseases or risk prevention can include talking about plant-rich eating.**

### Section #2:

## Reduce healthcare expenditure and its carbon footprint.

Plant-rich eating supports healthy patients, which decreases their need to utilize the healthcare system. This subsequently decreases the estimated 4.6% contribution of the healthcare system to Canadian emissions.<sup>45</sup>

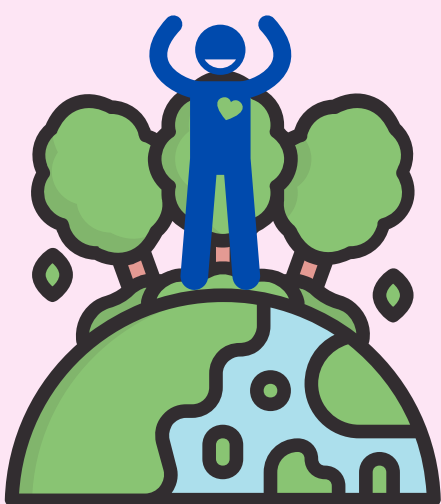
One study estimates the **savings in health care expenses** from a global plant-rich diet would be **\$21 trillion USD annually** and **environmental harm savings would amount to \$234 billion USD annually** by 2050 due to the decreased emissions of plant production and the health benefits of plant-rich eating.<sup>46</sup>

“

**Every health care activity has a footprint. Every test we order and treatment we provide consumes energy and materials and generates waste.**

~Dr. Andrea MacNeill<sup>47</sup>

”



**Healthy  
Patients,  
Healthy  
Planet**

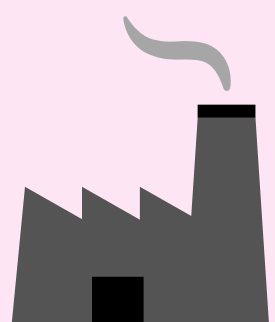
### Section #3:

## Environmental footprint of raising livestock.

**Animal agriculture is responsible for 14.5% of all human-caused climate change.**<sup>48</sup>

Livestock impacts the environment in a variety of ways:

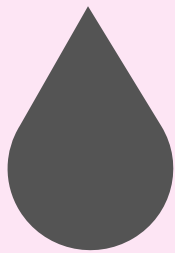
**40% of methane emissions (captures 30x more heat than CO<sub>2</sub>)**<sup>49</sup>





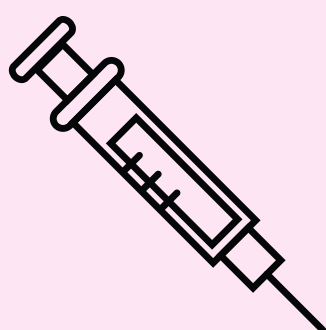
## HFHT Green Initiative

### Plant Rich Eating



**70% of the global surface water & groundwater use<sup>50</sup>**

**80% of global agriculture land use<sup>51</sup>**



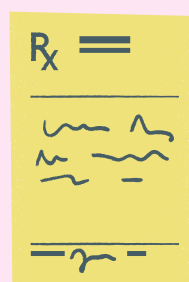
**82% of antibiotic use in Canada<sup>52</sup>**

### Section #4

## Action Plan: Tools for Change

### Communication Resources for Practitioners

Give patients [this prescription](#) for plants which reviews the evidence based health benefits and includes links to get started. Instructions to import this EMR template into Telus PS and Oscar EMR are [here](#). This document also can be found as an Ocean E-form by searching for 'Plant Rx.'



A double-sided, laminated quick reference guide for use when speaking with patients is available to order [through this form](#). It reviews health and environmental benefits as well as nutritional considerations.

This waiting room poster can help start conversations with patients about plant-rich eating. [Order it for free here.](#)



This [25-minute video](#) summarizes our popular plant-rich eating webinar. Contact [green.team@hamiltonfht.ca](mailto:green.team@hamiltonfht.ca) for references and slides.

You can use [this online tool](#) to determine what eating habits are best for parents of children (up to five years old) and people over the age of 50. This [calcium calculator](#) and [guidance for vegetarian eating](#) are also helpful resources.



## Resources for Patients

- [This virtual plant-rich eating group](#) (2 sessions, each 90-minutes, led by Registered Dietitians) can help your patients eat more plants. It is open to all and patients can self-refer - use [this flyer](#) to help patients sign up.
- This ["Ask a Dietitian" Online Form](#) can help answer patient questions.
- [What's For Dinner?](#) 3-minute informational waiting room video



It can be helpful to use the phrases 'style of eating' or 'dietary pattern' when having these conversations with patients instead of 'diet.'

## Additional Readings

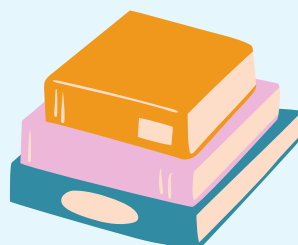
[Plant Based Research](#)

[Physicians Committee for Responsible Medicine](#)

[Food As Prevention](#)

[Canadian Family Physician Time for Change-  
Benefits of Plant Based Diets 2017](#)

[Project Drawdown](#)



**Transformation to healthy diets by 2050 will require substantial dietary shifts. Global consumption of fruits, vegetables, nuts and legumes will have to double, and consumption of foods such as red meat and sugar will have to be reduced by more than 50%. A diet rich in plant-based foods with fewer animal source foods confers both improved health and environmental benefits.**

~ Dr. Walter Willet, EAT-Lancet Commission<sup>53</sup>



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**[HFHT Green Initiative Webpage](#)**

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# Plant-Rich Eating Quick Reference<sup>12/22</sup>



## Health Benefit



### Cardiovascular Disease:

- 24% reduction in ischemic heart disease mortality rates<sup>5</sup>
- Decrease LDL by 19-32% (equivalent to a statin)<sup>6,7,8</sup>
- Decrease anginal symptoms & help resolve disease<sup>3</sup>
- Decrease systolic blood pressure by 5-26mmHg<sup>6,7,9,10</sup>
- Reduce the need for hypertension medications<sup>6,7</sup>

### Diabetes:

- Decrease HbA1c by 1-2%<sup>8,12,13,14</sup>
- Reduce the need for up to 2 diabetes medications<sup>4,8,10</sup>
- Improve emotional wellbeing & quality of life with diabetes<sup>15</sup>
- Conversely, low plant-based index scores confer a 12-23% **increase** in Type 2 diabetes risk<sup>11</sup>

### Cancer Risk & Treatment:

- Decrease symptoms related to cancer treatment while working synergistically with cancer treatments<sup>28</sup>
- Decrease risk of breast and colorectal cancers and cancer mortality<sup>24-27</sup>

### Mental Health:

- Decrease depression risk by 32%<sup>16</sup>
- Decrease risk of and mortality from dementia<sup>17,18</sup>
- Reduce symptoms of depression, anxiety, and PTSD<sup>19,20</sup>

### Osteoporosis:

- Protect against the development of osteoporosis<sup>30</sup>

### Gastrointestinal Health:

- Decrease bloating, heartburn, gas, constipation, and diarrhea<sup>31</sup>

### Liver & Kidney Health:

- Reduce risk and slow progression of Chronic Kidney Disease and Non-alcoholic Fatty Liver Disease<sup>32-41</sup>

### Overall Health:

- Reduce overall mortality by 10% by switching 3% of protein from meat to plants<sup>42</sup>
- Improve weight status, energy metabolism, & systemic inflammation<sup>44</sup>

*All references for this document can be found on our Plant-Rich Eating Guide:*

*(<https://docs.hamiltonfht.ca/dsweb/Get/Document-119928/Plant-Rich%20Prescribing%20Guide.pdf>).*

# Plant-Rich Eating Quick Reference<sup>12/22</sup>

## Planetary Benefit

### Animal agriculture is responsible for:

- 14.5% of all human-caused climate change<sup>37</sup>
- 70% of all global surface & groundwater use<sup>39</sup>
- 80% of global agricultural land use<sup>40</sup>
- 82% of antibiotic use in Canada<sup>41</sup>
- 40% of global methane emissions (traps 30x more atmospheric heat than CO<sub>2</sub>)<sup>38</sup>

## Nutritional Considerations

**General Recommendation:** Consider a multivitamin with minerals supplement to help meet nutritional needs.

### Additional supplements may be needed:

- Iron: Iron absorption can be inhibited. Additional iron supplementation may be necessary (e.g. menstruating women).
- Vitamin B12: Medications, GI issues, and degree of vegetarianism can affect B12 levels. Recommend B12 fortified foods (e.g. alternative milks, veggie burgers) 2-3x/day and use blood levels to guide supplementation.
  - Supplementation examples:
    - Adult Strict Vegan- additional 250-500mcg/day
    - Adult Correcting Deficiency- additional 1000mcg/day for 3 months & retest
- Vitamin D: Supplementation is recommended for all Canadians regardless of dietary intake: 1000 IU/day for adults, 600 IU/day for children >1 year
- Calcium: Use of a calcium calculator ([www.osteoporosis.ca](http://www.osteoporosis.ca)) is recommended. Adequate intake can be achieved with plant sources (e.g. fortified plant-based milks).

Protein: Add plant-based proteins to meals to meet daily protein requirements.

Free, online plant-rich eating groups available for patients.

Self-referral by calling 905-667-4852, emailing [nutrition.groups@hamiltonfht.ca](mailto:nutrition.groups@hamiltonfht.ca), or visiting [www.hamiltonfht.ca/en/groups-workshops/going-green-plant-rich-eating.aspx](http://www.hamiltonfht.ca/en/groups-workshops/going-green-plant-rich-eating.aspx).

*Gender, age, ethnic background, and degree of vegetarianism may affect recommendations. Each patient's specific needs can differ. Individualized advice from a Registered Dietitian is optimal. For further information for adults see: <https://www.albertahealthservices.ca/assets/info/nutrition/if-nfs-healthy-vegetarian-eating.pdf>.*

# Plant Rx:

## For a Healthy You and a Healthy Planet



Name: \_\_\_\_\_

### My Plant-Rich Eating Plan:

- ☐ **Add one meatless meal every week**
- ☐ **Add more vegetables each day** (e.g., 2 cups)
- ☐ **Add more fruit each day** (e.g., 1.5 cups)
- ☐ **Switch 2 animal proteins** (e.g., beef, pork, processed meats) **for 2 plant proteins every week** (e.g., ¼ cup nuts, 2 tbsp peanut butter, or ½ cup of peas, beans, lentils)
- ☐ **Add healthy fats each day** (e.g., 2-3 tbsp olive/canola oil, 1 small avocado, ¼ cup nuts/seeds)

Notes:

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

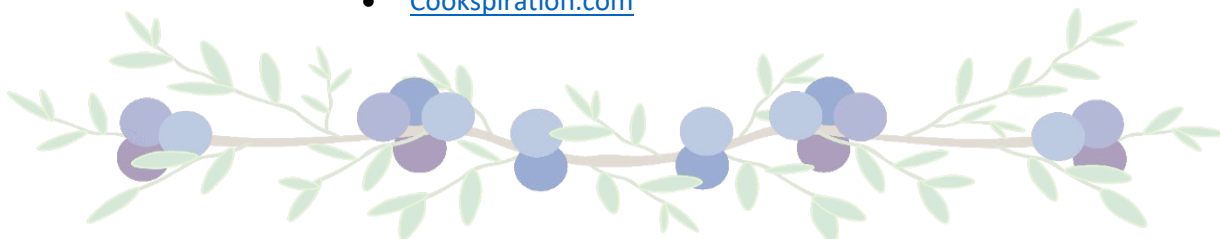
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### Looking for more tips to get started with plant-rich eating?

Sign up for a free, online **plant-rich** education group by calling 905-667-4852 or emailing [nutrition.groups@hamiltonfht.ca](mailto:nutrition.groups@hamiltonfht.ca).

For more inspiration and information, watch [our 4-minute video](#) and check out these websites:

- [halfyourplate.ca](http://halfyourplate.ca)
- [Pulses.org/nap/](http://Pulses.org/nap/)
- [food-guide.canada.ca/en/](http://food-guide.canada.ca/en/)
- [Plantbasedcookingshow.com](http://Plantbasedcookingshow.com)
- [Cookspiration.com](http://Cookspiration.com)
- [vrg.org](http://vrg.org)
- [Producemadesimple.ca](http://Producemadesimple.ca)





## Plant Rx:

### For a Healthy You and a Healthy Planet



**Plant-rich eating includes more plants (increasing vegetables, fruits, nuts, seeds, legumes) and healthy fats, and less meat.**

**Eating plant-rich** can prevent disease before it starts by lowering your risk of:

- Heart attacks and stroke
- Type II diabetes
- Depression
- Some cancers (e.g. colon and breast)
- Dementia

**Plant-rich eating** can:

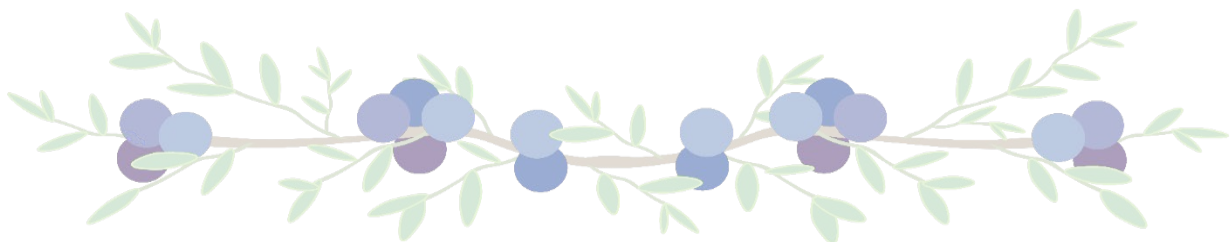
- Decrease bad cholesterol (LDL)
  - Similar to taking a cholesterol medication\*
- Reduce blood pressure
  - Similar to taking a blood pressure medication\*
- Decrease average blood sugar (A1c) for people with diabetes
  - Similar to taking two diabetes medications\*
- Reduce angina episodes
- Improve effectiveness of cancer treatment
- Reduce symptoms of depression, anxiety, and post-traumatic stress disorder
- Improve bloating, heartburn, gas, constipation, and diarrhea

\*Talk to a healthcare provider before making any change to your medications.

When **eating plant-rich**:

- Supplement vitamin D and vitamin B12
- Other nutrients may also be affected — reach out to your primary care team to receive more individualized recommendations
- Go to [Healthy Vegetarian Eating](#) to learn more

**Eating plant-rich can help benefit the environment, too.** A World Health Organization report from 2021 states that “**Plant-based diets** have the potential not only to improve human health but also to reduce the environmental impacts associated with high consumption of animal-sourced foods such as meat and dairy products.”





# PLANT-RICH EATING VIRTUAL GROUPS

**Looking for better mental & physical health?  
Adding in more plants can help!**

Join our Registered Dietitian-led virtual educational sessions  
by **calling 905-667-4852** or  
**emailing [nutrition.groups@hamiltonfht.ca](mailto:nutrition.groups@hamiltonfht.ca).**

2x 90-minute sessions answering your  
questions about:

- Meeting protein needs
- Determining need for supplements
- Saving on food costs
- Reducing food waste
- Reducing carbon emissions

**Sessions will continue Winter 2023.  
These sessions are free & open to all.**





# Canada's Food Guide:

## **Plant-Rich Eating is Good for**

# **YOUR HEALTH**

# **AND**

# **YOUR PLANET**

**Diabetes**  
**Heart Health**  
**Blood Pressure**  
**Mental Health**  
**Dementia**  
**Weight Management**  
**Osteoporosis**  
**Inflammation**  
**Heartburn**  
**Constipation**  
**Bloating**  
**Diarrhea**  
**Longevity**  
**Cancer**



**Greenhouse Gases**  
**Land Use**  
**Food Equality**  
**Biodiversity**  
**Water Use**  
**Deforestation**  
**Fossil Fuel Use**  
**Fertilizer Pollution**

## **Healthy you, healthy planet.**