



Organic Food

Is it the "best" choice?



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Presented at *Dietetics in Action*,
Vancouver, British Columbia, Canada
May 7th, 2010.

Is an organic food system...

Healthiest?

**“Greenest”
(most environmentally sustainable)?**

Fair & Kind?

Accessible & Affordable?

Organic Food: An Information Sampler



Outline

*Concepts of Organic Agriculture **

Organizations

Regulation

*Research**

*Challenges & Opportunities for Dietitians**

References & Resources

*Question & Answer Session **





FAO Glossary on Organic Agriculture



Web link to [Glossary](http://www.fao.org/organicag/oag-glossary/en/) <http://www.fao.org/organicag/oag-glossary/en/>

Definition

Organic agriculture -

...is a production system that sustains the **health of soils, ecosystems & people,**

...relies on **ecological processes, biodiversity & cycles adapted to local conditions,** rather than the use of inputs with adverse effects,

...combines **tradition, innovation and science** to benefit the **shared environment & promote fair relationships & a good quality of life** for all involved.

[IFOAM | Definition of Organic Agriculture](http://ifoam.org/growing_organic/definitions/doa/index.html)

http://ifoam.org/growing_organic/definitions/doa/index.html



Principles

Organic agriculture is based on the principles of:

health

ecology

fairness

care

IFOAM | The Principles of Organic Agriculture
http://ifoam.org/about_ifoam/principles/index.html

Principle of Health

Organic Agriculture should sustain & enhance the health of soil, plant, animal, human and planet as one & indivisible.



Principle of Ecology

Organic Agriculture should be based on living ecological systems & cycles, work with them, emulate them & help sustain them.



Principle of Fairness

Organic Agriculture should build on relationships that ensure fairness with regard to the common environment & life opportunities.



Principle of Caring

Organic Agriculture should be managed in a precautionary & responsible manner to protect the health & well-being of current & future generations & the environment.





Criticisms & Frequent Misconceptions about Organic Agriculture: The Counter-Arguments

Compiled by IFOAM
(International Federation of Agriculture Movements), 2008

Free PDF document available to download from this [IFOAM web page](http://www.ifoam.org/growing_organic/2_policy/criticisms_misconceptions_main_page.php):
http://www.ifoam.org/growing_organic/2_policy/criticisms_misconceptions_main_page.php

Organizations



Canadian Organic Organizations

- Canadian Food Inspection Agency (CFIA)
- Canadian Organic Growers (COG)
- Organic Federation of Canada (OFC)
- Organic Trade Association (OTA) in Canada
- Certified Organic Associations of British Columbia (COABC) – an example of a Conformity Verification Body
- Organic Agriculture Centre of Canada (OACC)

Regulation

Promotion

Representation

Trade

Research

Education

Leadership

Standards



Canadian Food Inspection Agency, Organic Products

<http://www.inspection.gc.ca/english/fssa/orgbio/orgbioe.shtml>

Canadian Organic Growers

<http://www.cog.ca/>



Members: Farmers, gardeners, processors, retailers, educators, policy-makers & consumers

Vision: a sustainable, bioregionally-based organic food system.

Canadian Organic Growers



*"Organic food production is the best choice
for the health of consumers & producers,
for the protection & enhancement
of the environment, &
for the sustainability
of the food production system."*

Canadian Organic Growers



Explore COG's extensive services, activities and publications:

Website Map

<http://www.cog.ca/index.php?page=sitemap>



Organic Federation of Canada

<http://www.organicfederation.ca/>

- Organic sector's stakeholders' official forum
- Representatives in each CDN province & territory



COABC Certified Organic Associations of BC

<http://www.certifiedorganic.bc.ca>

- an umbrella association for certification bodies
- created in 1993 under the Agri-Food Choice and Quality Act of British Columbia to administer the BC Certified Organic Program.



Selected topics on web site:

[Certification](#) | [Publications](#) | [What is organic farming?](#) |
[How do I know it's organic?](#) | [Why buy organic?](#)



**Organic Agriculture
Centre of Canada**

Organic Agriculture Centre of Canada

http://www.organicagcentre.ca/index_e.asp

Vision - Sustainable & science-based organic agricultural systems supporting healthy Canadian communities.

Mission - Facilitate research and education for organic producers & consumers to build sustainable communities.



**Organic Agriculture
Centre of Canada**

Selected Web Pages

Research in Organic Agriculture

Food & Health

Ecology & Environment

Organic Agriculture in British Columbia

Information for Organic Food Consumers

Organic Gems on the Internet

Regulation





CANADA

Canada Agricultural Products Act R.S., 1985, c. 20 (4th
Supp.)

<http://laws.justice.gc.ca/en/C-0.4/index.html>

Organic Product Regulations, 2009 SOR/2009-176

<http://laws.justice.gc.ca/en/C-0.4/SOR-2009-176>



Canadian General Standards Board

Standards for Organic Agriculture

- General Principles & Management Standards
- Permitted Substances



Web link to Standards documents (PDF) http://www.tpsgc-pwgsc.gc.ca/cgsb/on_the_net/organic/index-e.html

Organic Products Regulations



Standards

Canadian Food Inspection Agency,
Canada Organic Regime

Conformity Verification Body



Certification Bodies





Research



Current Issues The Inside Story



Organic Food: What You Should Know About Nutritional Quality & Safety

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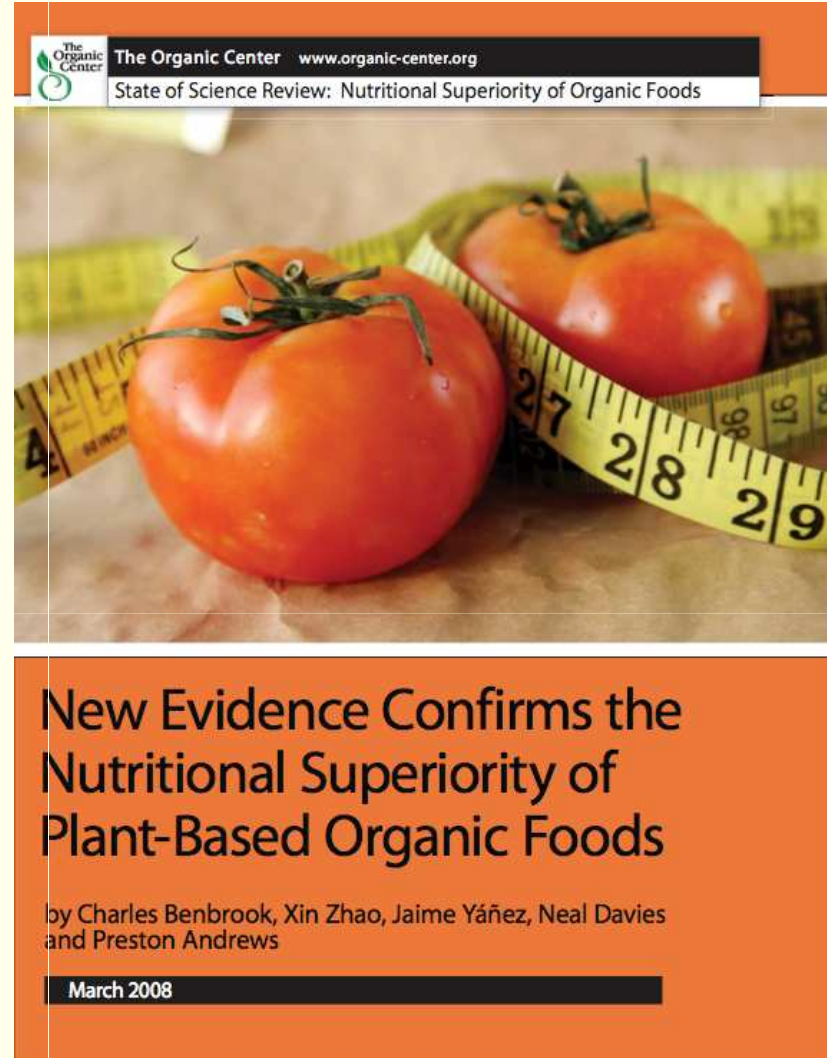
Current Issues article on Dietitians of Canada Web site:

http://www.dietitians.ca/members_only/member_services/ourvoice/frm_resource/imageserver.asp?id=1514&document_type=document&popup=true&contentid=12533

State of Science Review

Nutritional Superiority of Organic Food

The Organic Center, March
2008



[Web link to State of Science Review: Nutritional Superiority of Organic Food](http://www.organic-center.org/science.nutri.php?action=view&report_id=126)
http://www.organic-center.org/science.nutri.php?action=view&report_id=126

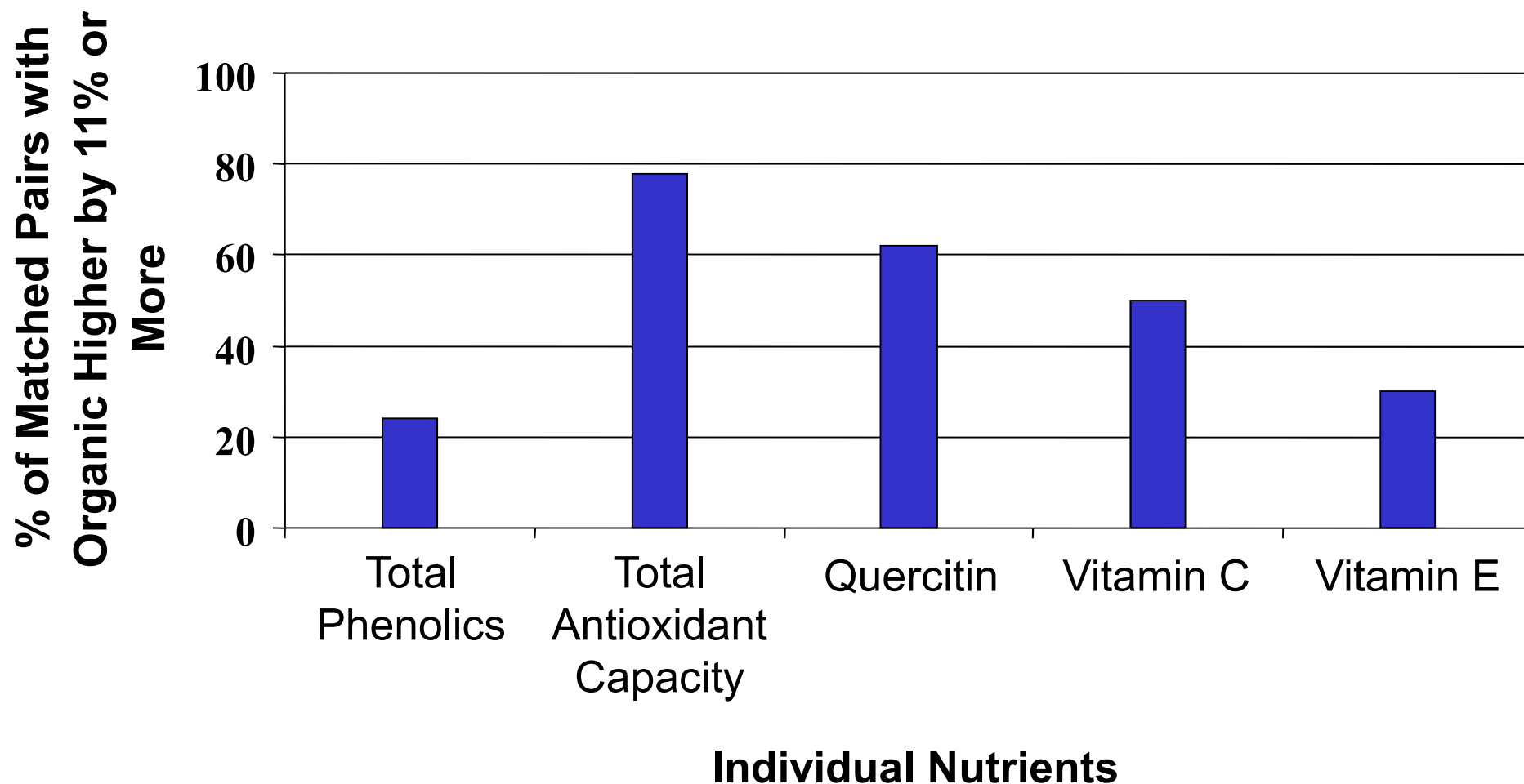
Nutritional Superiority of Organic Food

Key caveats (p. 14)

1. Multiple factors affect nutrient density
2. Three key factors need to be controlled in comparison studies:
(genetics, harvest, climate)
- 3. The laws of plant physiology render universal superiority unattainable**
- 4. Farming systems differ & are dynamic**
5. Studies based on samples collected at retail are costly to conduct.

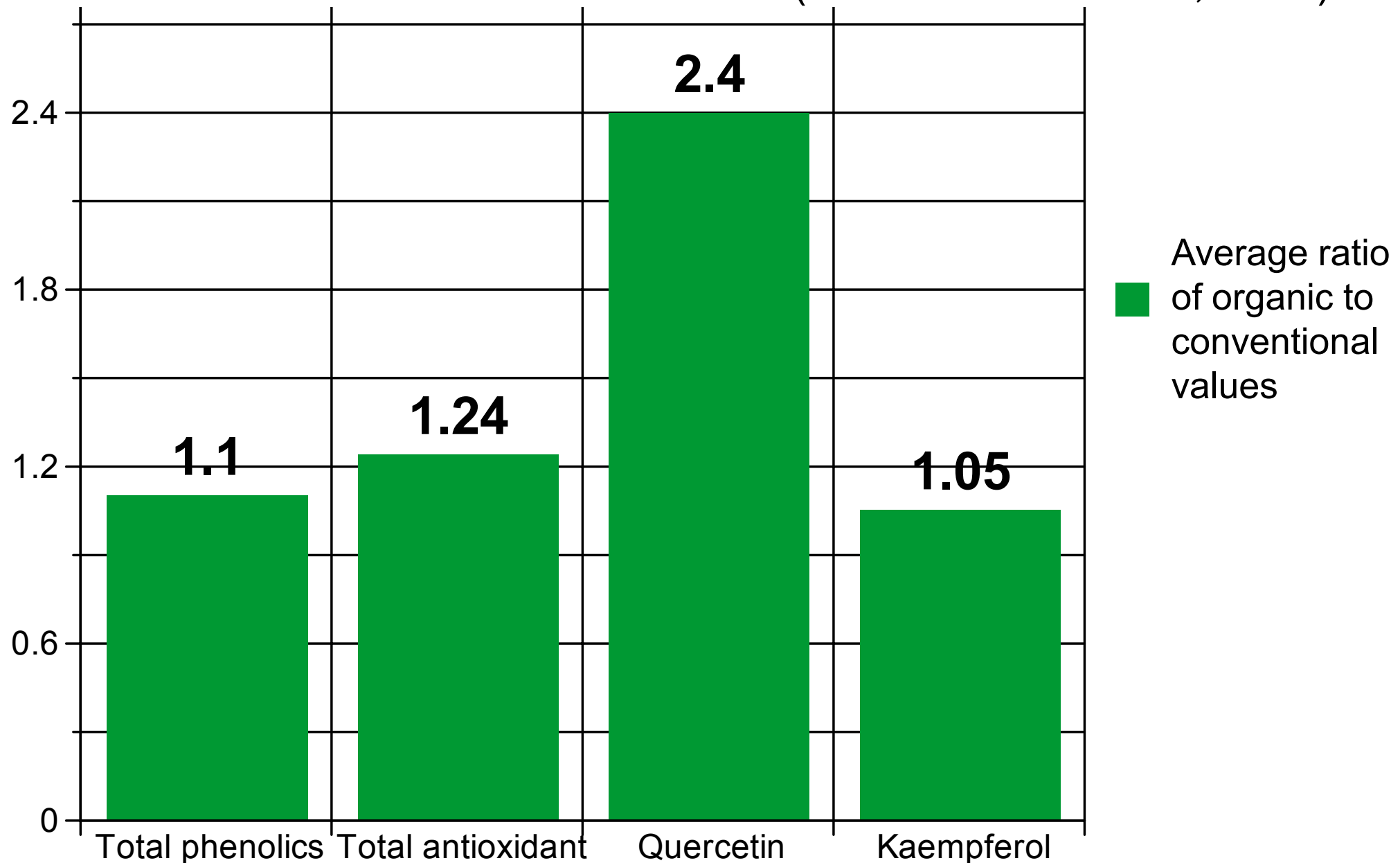
**Percent of total matched pairs for a nutrient
in which the organic sample nutrient levels exceeded the
conventional samples by more than 10%**

(from Benbrook et al, 2008)



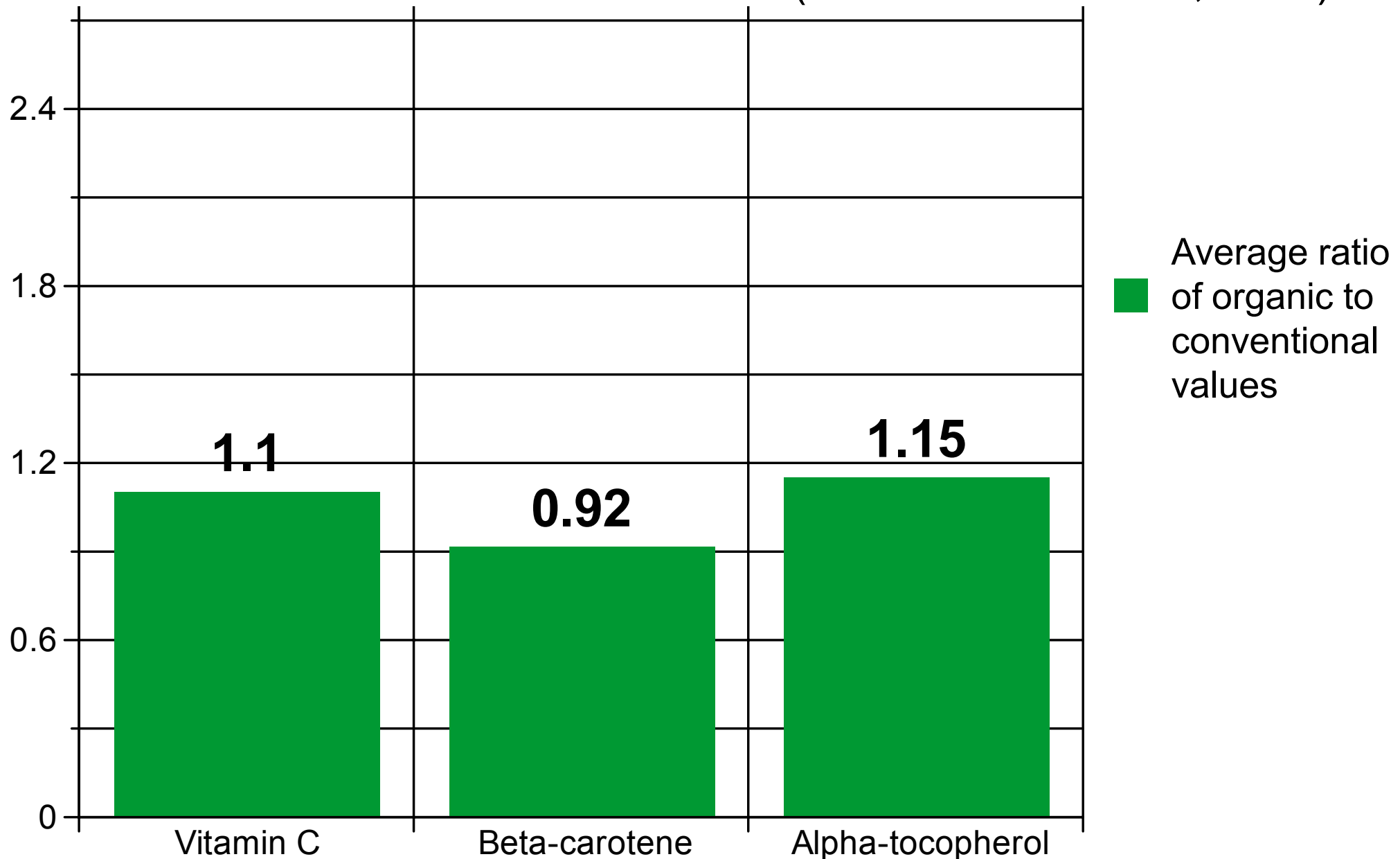
Differences in nutrient content in organic & conventional foods across 11 nutrients & 236 matched pairs

(from Benbrook et al, 2008)



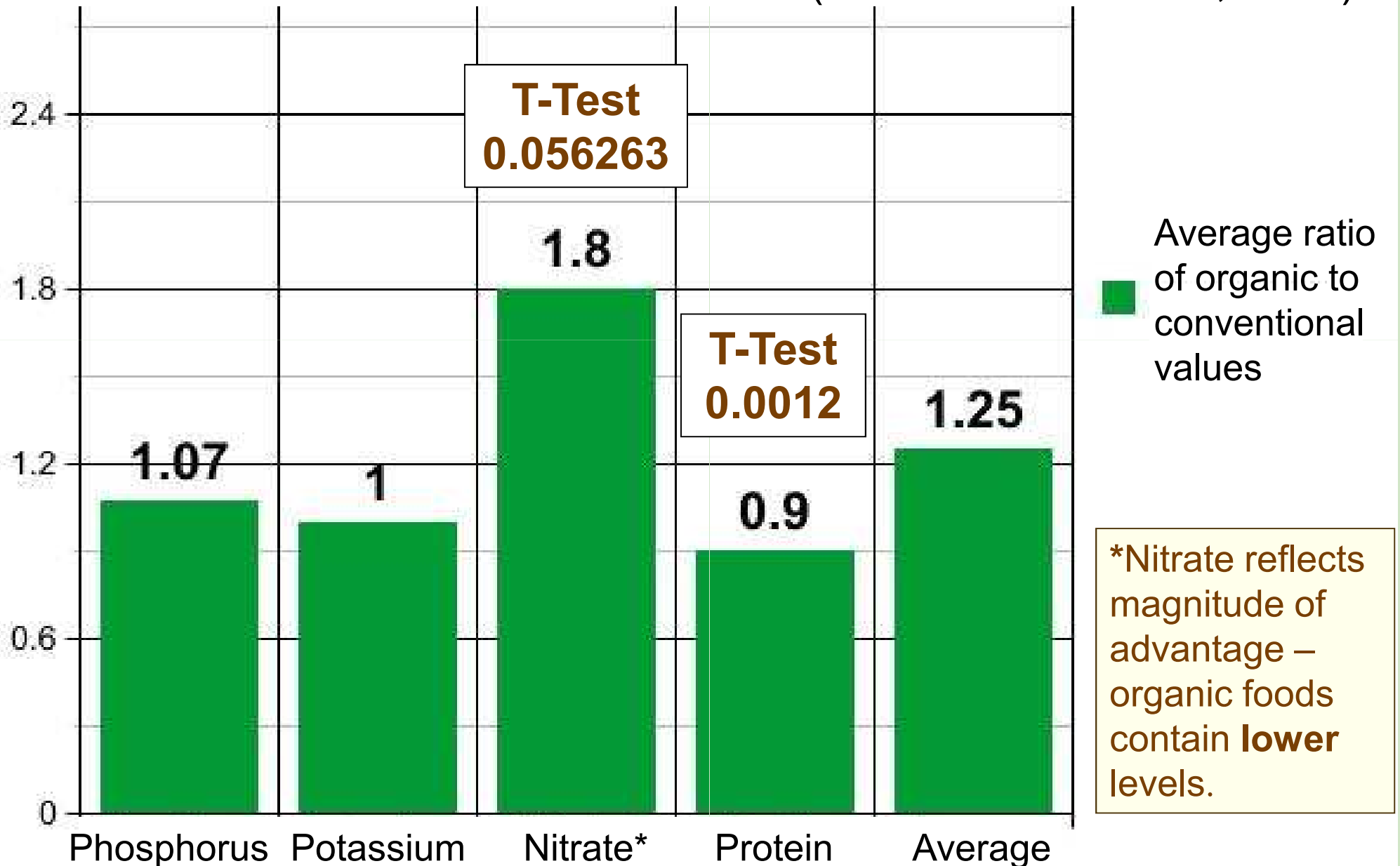
Differences in nutrient content in organic & conventional foods across 11 nutrients & 236 matched pairs

(from Benbrook et al, 2008)

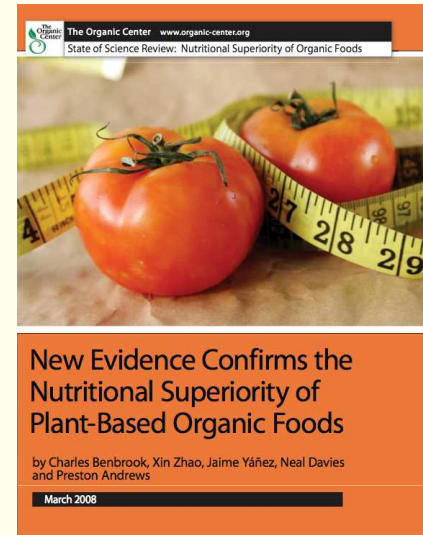


Differences in nutrient content in organic & conventional foods across 11 nutrients & 236 matched pairs

(from Benbrook et al, 2008)



“Yes, organic plant-based foods are, on average, more nutritious in terms of their nutrient density for compounds validated by this study’s rigorous methodology”
(Benbrook et al, 2008, page 42.)



+25%

Nutritional quality of organic foods: a systematic review

Alan D Dangour, Sakhi K Dodhia, Arabella Hayter, Elizabeth Allen, Karen Lock and Ricardo Uauy

***Am J Clin Nutr* 90: 680-685, 2009. First published July 29, 2009; doi:10.3945/ajcn.2009.28041**

Web link to Dangour et al (2009) article:

<http://www.ajcn.org/cgi/reprint/90/3/680?ijkey=0d5f6c6713abc3b1e942643e2a061eafe56d21a7>

Summary of nutrients and other nutritionally relevant substances in organically and conventionally produced crops (from Dangour et al, 2009)

Nutrient	Higher in organic crops	Higher in conventional crops
Nitrogen		X
Phosphorus	X	
Titrateable acidity	X	

Summary of nutrients and other nutritionally relevant substances in organically and conventionally produced crops (from Dangour et al, 2009)

Nutrient	No difference
Vitamin C	x
Phenolic compounds	x
Magnesium	x
Calcium	x

Nutrient	No difference
Potassium	x
Zinc	x
Total soluble solids	x
Copper	x

Nutrient content not a primary issue in choosing to buy organic foods.

Link to letter: [Gibbon DL, Am J Clin Nutr 2009 90:1699-1700.](http://www.ajcn.org/cgi/content/citation/90/6/1699)
[http://www.ajcn.org/cgi/content/citation/90/6/1699.](http://www.ajcn.org/cgi/content/citation/90/6/1699)

Methodologic flaws in selecting studies and comparing nutrient concentrations led Dangour et al to miss the emerging forest amid the trees.

Link to letter: [Benbrook C et al, Am J Clin Nutr 2009 90:1700-1701.](http://www.ajcn.org/cgi/content/full/90/6/1700)
[http://www.ajcn.org/cgi/content/full/90/6/1700.](http://www.ajcn.org/cgi/content/full/90/6/1700)



**Organic Agriculture
Centre of Canada**

**“Scientifically credible research in organic crop
and livestock production”**

Research in Organic Agriculture

Horticulture

Food & Health

Ecology & Environment



Organic farming protects our climate



4 reasons why:

1. Sequesters **carbon** in soil
2. Uses less **energy**
3. Lower **methane** impact
4. **Adapted** to weather extremes



Challenges & Opportunities for Dietitians



Challenges & Opportunities for Dietitians

Become informed & keep learning

Become activists, educators, partners & leaders

Consider: What is my vision of a sustainable food system and how well do I “walk the talk”?

American Dietetic Association Sustainable Food System Task Force



Healthy Land, Healthy People: Building a Better Understanding of Sustainable Food Systems for Food and Nutrition Professionals

A Primer on Sustainable Food
Systems and Emerging Roles for
Food and Nutrition Professionals

Link to PDF (free download):

www.hendpg.org/docs/Sustainable_Primer.pdf

International Federation of Organic Agriculture Movements (IFOAM) (2009)

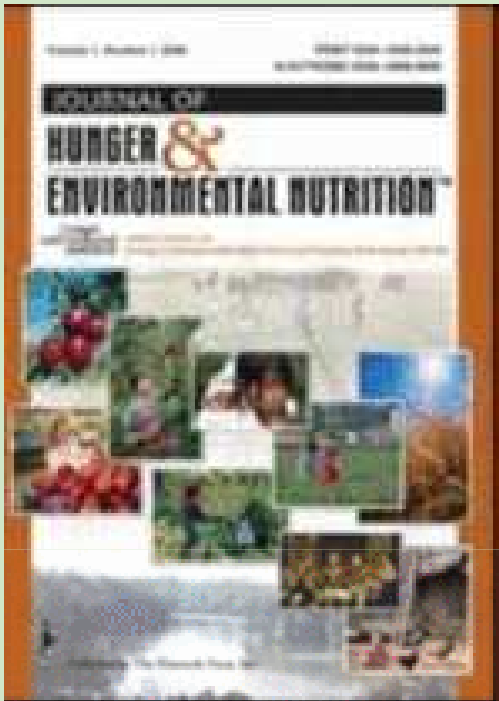


High Sequestration
Low Emission
Food Secure Farming

*Organic Agriculture –
a Guide to
Climate Change
& Food Security*

Link to [PDF](#) (free download):

http://www.ifoam.org/growing_organic/1_arguments_for_oa/environmental_benefits/pdfs/IFOAM-CC-Guide-Web-20100210.pdf



Journal of Hunger & Environmental Nutrition

Challenges & Opportunities for Dietitians

Consider the impacts of

food choices —————> planet's health

agriculture policies & practices —————>
food's biodiversity, quality & quantity

Tagtow A, Show Me the Soil to Health Science - Building Alliances with Dietitians
http://www.organic-center.org/science.nutri.php?action=view&report_id=142

Challenges & Opportunities for Dietitians

- Adopt a food system approach in reducing diet-related chronic disease.
- Embrace soil, plant and animal science and the connections to human nutrition.
- Address the shrinking genetic biodiversity of our food supply
- Take a precautionary approach to food production.

Tagtow A, Show Me the Soil to Health Science - Building Alliances with Dietitians
http://www.organic-center.org/science.nutri.php?action=view&report_id=142



References & Resources