



Health Connections

LINKING NUTRITION RESEARCH TO PRACTICE

SUSTAINABILITY —

Maintaining a healthy planet, people, products and profits

Food—always a personal choice—has emerged as a discussion flashpoint on many social platforms.¹ In addition to a food's nutrient profile, consumers now consider the process of *how* food is produced and delivered an indication of its 'healthfulness.' Attributes and claims such as country of origin, carbon footprint, food-miles traveled, sustainably raised, organic, locally grown, green, antibiotic-free, hormone-free, no GMOs, wild and line-caught now are part of the purchase decision.

This issue of *Health Connections* provides some background and resources so health professionals can assist consumers—in the face of rising food costs—in maintaining a balanced nutrient intake when seeking to define who they are by what they eat.

Background

Once considered fringe or the purview of 'activists,' concern over the deterioration of the environment and the careless dissipation of natural resources has become mainstream and consumer-driven. Over the decades, professional organizations have supported ecological sustainability; government agencies have initiated environmental oversight (EPA); supported research and education programs (USDA); and industries now compete to provide 'green' products and services consistent with consumers' core values.

As consumers make changes in driving, recycling and purchasing habits in their own lives, they look to organizations and businesses to do the same. A survey of consumer purchasing habits of products marketed as sustainable or green (described as eco-friendly, organic and fair treatment of personnel) reported that about 30 percent of consumers look for these characteristics when choosing between brands.² An emerging 17 percent of consumers—'green buyers' or LOHAS (Lifestyle of Health and Sustainability)—report to be willing to shift brand loyalties to 'green' companies, with another 21 percent (Naturalites) focusing on natural/organic products.³

Sustainability—Evolving Definitions

Sustainability is generally defined as "meeting the needs of the present without compromising the ability of future generations to meet their own needs" (www.epa.gov/sustainability), and encompasses many complex, environmental, economic, social and political interactions, locally, regionally, nationally and globally. Approaches to achieve and measure sustainability in any segment-specific application will continue to evolve as needs of the environment and society are balanced with economics to make these approaches possible. Sustainability has transformed from a 'fuzzy concept' to a blueprint to support a robust 'triple bottom line'—the convergence of corporate responsibility, including profits and environmental and societal interests.⁴

A safe, nutritious, adequate and sustainable food supply is built on both human resources (the 'social' component of sustainability, including farmers, fishers, governments, educators, communities) and natural resources (soil, land, energy, water, air, crop biodiversity), which interact in a complex network to transform raw materials for distribution and consumption while prospering economically. Elements of a sustainable food system and its agricultural base—beyond the scope of this newsletter—have been defined and described in detail.⁵⁻⁹ In general, these involve the commitment to agricultural management and environmental-

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Mary Jo Feeney, MS, RD, FADA

HEALTH CONNECTIONS EDITOR

Mary Jo Feeney specializes in nutrition communications and marketing. With over 30 years experience in public health nutrition and education, she currently is a leading consultant to the food, agriculture and health care industries. A charter Fellow of the American Dietetic Association, Mary Jo served on the Board of Directors of both the American Dietetic Association (ADA) and its Foundation (ADAF) and received the association's Medallion Award in 1996.

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- 2 Information Resources Inc. survey reported in: In search of sustainability. FoodTechnology, July 2008. www.ift.org.
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- 4 Savitz AW. The Triple Bottom Line. Jossey-Bass/Wiley, 2006.
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- 6 Position of the American Dietetic Association: Food and nutrition professionals can implement practices to conserve natural resources and support ecological sustainability. J Am Diet Assoc. 2007;107:1033-1043.
- 7 American Public Health Association Policy Statement Toward a healthy, sustainable food system. www.apha.org/advocacy/policy/policysearch/default.htm?id=1361. Accessed on the web 8/7/2008.

stewardship practices that do not irreversibly damage the land; that improve or enhance the lives of farmers and members of their communities; that apply animal-welfare standards; that conserve raw materials and efficiently use non-renewable resources; and integrate these input practices throughout the production system.

Beyond agriculture production, the food industry requires energy and water for processing, storage and transport of food and beverage products. Food processors, realizing the need to reduce burdensome energy costs as well as to lower greenhouse gas emissions, are harnessing the renewable energy power of the wind and sun as well as recycling and reusing water from processing streams, installing energy-efficient equipment and designing buildings with improved ventilation systems and more natural light. Even food by-products and organic food waste become sources of energy as part of solid-waste management and recycling efforts.¹⁰

Helping Consumers Decide

Research suggests that, although about half of consumers claim some familiarity with the term sustainability, they find it difficult to define. Consumers use language themes and imagery to describe sustainability as it relates to food: local, fresh, organic, artisanal, unpackaged and seasonal.¹¹ Although some consumers may equate sustainable food choices with the organic movement, they are not synonymous, as an example below from the dairy industry indicates.

According to the Organic Trade Association, organic usage is motivated primarily by health and concern over pesticides, growth hormones, antibiotics and genetically modified products.¹² However, the production practices, not the product, differ when comparing milk from organic or conventional farming methods. Research on milk composition as affected by different farm-management practices such as conventional, rbST-free (recombinant bovine somatotropin-free, a processor certification), or organic (as defined

by USDA organic practices, identified through label claims at retail) indicates that there are few and minor differences in antibiotic levels, bacteria counts, nutritional content and hormonal composition.¹³ Although these products were found to be compositionally similar, milk labeled rbST-free or organic may be priced higher, which raises the question of consumer affordability and economic sustainability to include nutrient-dense foods in their diet.

In addition, organic farming may not necessarily be more sustainable than conventional methods. One must consider extra land needed to support production and miles traveled to deliver the product to market, particularly in areas where organic agriculture is not local to the community. There is some indication that 'buy local' is rivaling organic, as consumers turn to other indicators of a food's quality, such as freshness, seasonality and desire to support community-based agriculture, preserve local farmland and contribute to local and regional economic development.

In summary, the sourcing/production, manufacturing, distribution and consumption segments of the global food system are complex and resource interdependent, giving consumers many choices about how a food is grown, processed, packaged and delivered. Health professionals can help consumers balance a food's entire 'environmental lifecycle' with its nutrient contribution when making food choices.

PRACTICE POINTS FOR THE HEALTH PROFESSIONAL

- Help consumers take a balanced approach and consider both a food's carbon footprint *and* its nutrient contribution, among other factors, when making food choices.
- Keep informed on trends in local and regional agricultural practices, government programs and policies that influence food production and distribution systems.
- Encourage food-purchasing habits that minimize packaging, transportation and kitchen waste.
- Encourage consumers to adopt 'nutritional' serving sizes (serving sizes advocated in MyPyramid), which could help lower food cost and waste and support a healthy weight.
- Keep in mind that organic and conventionally produced products such as milk may in fact contain the same combination of essential nutrients. Consumers can choose among the different production methods based on individual preference and financial flexibility.
- Contact small farm associations and Community Supported Agriculture (CSA) networks that can link consumers with local foods. See Side Bar links at left.

SIDE BAR: RESOURCES

- **Exploring Sustainability in Agriculture**—www.sare.org/publications/exploring.htm
- **Community Supported Agriculture**—www.nal.usda.gov/afsic/pubs/csa/csa.shtml
- **National Organic Program**—www.ams.usda.gov/NOP/indexNet.htm
- **American Dietetic Association (ADA), Hunger and Environmental Nutrition Dietetic Practice Group**—www.HENdpg.org
See also ADA's Sustainable Food System Task Force "Primer on Sustainable Food Systems and Emerging Roles for Food and Nutrition Professionals."—www.eatright.org
- **Society for Nutrition Education, Division of Sustainable Food Systems**—www.sne.org
- **Institute for Agriculture and Trade Policy**—www.iatp.org
- **Project Food, Land and People**—www.foodlandpeople.org

Interview — Marianne SmithEdge, M.S., R.D., L.D., F.A.D.A., M.S.E. & Associates, LLC, Kentucky, is a member of USDA's National Agricultural Research, Extension, Education and Economics (NAREEE) Advisory Board.

Q. What's the take-home message for health professionals, considering that 'sustainability' is such a huge topic with huge implications?

- A. Health professionals may affect the consumption sector of the food system through nutrition-guidance recommendations, and may affect the access sector of the food system through decisions regarding purchasing, preparing and distributing quality (nutritious) food in a variety of settings. They are in positions to know (or become educated about), influence and communicate accurately characteristic attributes of these sectors as they sustain consumers' nutrient intake.

In relation to food choices, true sustainability is more than a low carbon footprint—sustainability includes consumption of nutrients to support health. Sustainability focuses on the triple bottom line...healthy people, planet and profits. I've observed that some health professionals think sustainability refers primarily to the 'environment/planet,' but sustainability is not a one-legged stool. Quality food—the product of a sustainable food system—provides the basis for a nutritious diet that contributes to and sustains overall well-being.

Consumer research suggests that when consumers see or read 'green,' they think of packaging or how a product was produced. This can result in a disconnect if the consumer overlooks the importance of what is in the food/product to sustain his or her quality of life. Choosing foods from a single dimension could result in a less nutritious diet, especially for consumers living in areas with limited agricultural access and for consumers with little financial flexibility. To encourage consumers to connect and balance the footprint—which represents the process—with the nutrient contribution of the food to their health is the unique role and opportunity for food and nutrition professionals.

Q. What suggestions do you have for consumers who may feel overwhelmed by the choices, claims and expectations related to lowering environmental impact?

- A. The cliché is that it isn't easy being green—it is certainly complex given patterns of consumer behavior. As a member of USDA's NAREEE

Advisory Board, we look at large-scale issues such as biofuels, organic agriculture, specialty crops and water accessibility. A recent report claimed that in the United States, as much as 30 percent of food (over \$48B) is discarded in processing, transporting, in supermarkets and in consumers' kitchens. This is equivalent to leaving the tap running, losing 40 trillion liters of water down the drain.¹⁴ Consumers sometimes have the tendency to push the expectation for action (or blame) further back along the food system, but consumers can start by looking into their own refrigerators—to see their purchase patterns and evaluate waste.

Trends in convenience, health and food safety have resulted in packaging proliferation with the offering of single/smaller servings, limited-calorie packs, meal kits and other ready-to-eat products. Encourage consumers to recognize what they need in packaging and to balance these choices by purchasing wholesome, unprocessed foods year-round and shopping seasonally at local farmers' markets.

Q. What does the future hold for 'sustainability'?

- A. Sustainability certainly is not a fad, nor is it a 'program or project,' but a way of doing business. Companies, industries and corporations are not ignoring sustainability because it contributes to their triple bottom line. Campuses and universities offer environmental majors and minors, have sustainability coordinators and committees that look at ways to reduce waste, especially plate waste through portion control. University operations are also involved with solar energy facilities and green roofs, to name just a few examples. This means that future generations are growing up with the triple bottom line representing business as usual.

For consumers, however, sustainability may not be the red dot on the radar screen since it is still a relatively small percentage of consumers who are fully engaged. Consumers may retreat from paying price premiums often associated with 'eco-friendly' products in times of rising prices. However, even in times of economic stress, consumers can support some aspects of sustainability—such as locally or at least regionally produced, high-quality, nutrient-rich foods.



Marianne SmithEdge, M.S., R.D., L.D., F.A.D.A., M.S.E.

⁸ Position of the American Dietetic Association: Agricultural and Food Biotechnology. *J Am Diet Assoc.* 2006;106:285-293.

⁹ Healthy Land, Healthy People: Building a better understanding of sustainable food systems for food and nutrition professionals. American Dietetic Association Sustainable Food System Task Force March 16, 2007. www.eatright.org.

¹⁰ Nachay K. In search of sustainability. *Food Technology.* July 2008. www.ift.org.

¹¹ Hartman Group research cited in Sloan AE. Dissecting demographics. *Food Technology.* August 2008. www.ift.org.

¹² Organic market shows signs of a slowdown. www.foodnavigator-use.com. 7/30/2008.

¹³ Vicini J et al. Survey of retail milk composition as affected by label claims regarding farm-management practices. *J Am Diet Assoc.* 2008;108:1198-1203.

¹⁴ Saving Water: From Field to Fork – Curbing losses and wastage in the food chain. Stockholm International Water Institute, FAO and International Water Management Institute policy statement Aug. 21, 2008. www.siwi.org.