

USDA's Role in American Nutrition

The quality of human diet is dependent on the availability of reasonably priced nutritional food and the human decisions to select and consume nutritional food. The USDA impacts these human decisions in several ways: 1) through support of agricultural programs that produce crops to provide nutrients, 2) through its long running education program that recommends dietary selection for good nutrition, 3) through testing programs that analyze food nutrient content, and 4) by providing food and funding for food selection through its programs.

Agricultural Production

The farmer carries the responsibility to produce food that meets the nutritional needs of the population. Since the introduction of new crop production technologies and practices during the 1940s and 1950s, many large farms have reduced crop diversity and have centered on the production of commodity products such as corn, soybeans and sugar beets. In large part, these crops are used as a source of energy rich carbohydrates in processed food, more recently for biofuels, including ethanol and biodiesel, and as animal feed for domestic and foreign markets--the latter encouraging the growth production of Concentrated Animal Feeding Operations (CAFOs).

Questions have been raised about CAFOs, soil depletion, and the need to provide adequate micronutrients to consumers.¹ Researchers recognize that production impacts nutrient content of crops through 1) plant breeding for nutrient content using both traditional and biotechnical breeding methods, 2) increased diversity of crops to maintain soils, and protect from disease and 3) efficient harvest, temperature-appropriate storage and transport to get high quality crops to market. All these impacts must be evaluated. Farmers need incentives and education to develop practices that produce nutritious crops. Potential ways of encouraging these practices include subsidies for sustainable practices and financial support of independent research.²

See also the Agriculture Update papers on Plant Breeding and Biodiversity and Animal Management.

Education

The USDA has been active in nutrition education since early 1900s. Food guides for children and adults based on food groups have been provided as education tools. The Basic Four and Basic Seven Food Groups and the Food Pyramid have been taught in schools as a way to have a moderate diversified diet that provides required amounts of vitamins, minerals, fiber, protein and energy for good health.³ Most recently the program has been redesigned as "MyPlate." The Dietary Reference Intakes (DRI) (the revised and improved nutrition standards replacing Recommended Dietary Allowances first introduced in the 1930s) developed by the Food and

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Nutrition Board of the National Academies' Institute of Medicine in conjunction with the U.S and Canadian Government serves as the basis for the percent of daily intakes in food labeling. "The DRIs are a common set of reference values for Canada and the United States and are based on scientifically grounded relationships between nutrient intakes and indicators of adequacy, as well as the prevention of chronic diseases, in apparently healthy populations."⁴

Every five years the USDA produces the *Dietary Guidelines for Americans*. The guideline makes recommendations of food groups for those two years of age and older including those susceptible to chronic disease. Included in the workbook are complex appendices with information tables, guidelines and figures for most nutritional issues. The guidelines make recommendations based on current consumption to improve American diets.⁵

Food Content

The USDA Nutrient Data Base is produced by the Nutrient Data Laboratory with a mission of developing "authoritative food composition databases and state of the art methods to acquire, evaluate, compile and disseminate composition data on foods and dietary supplement".⁶ These resources are used by professionals, schools, the general public, and as a general database for numerous publications. *The Food-a-Pedia*, *Super Tracker* is an on-line tool that provides the opportunity to compare nutritional value of over 8000 foods from fresh vegetables to processed snacks. The tools provided are excellent and information is available on how to use them.⁷

Food Distribution

The Food and Nutrition Service of the USDA provides food to those in need through a variety of programs: Food Distribution Programs, Supplemental Nutrition Assistance Program, (SNAP, formerly known as Food Stamps), Child Nutrition Programs that includes the National School Lunch Program and the School Breakfast Program, and the Women Infants and Children (WIC) program that includes the Farmers Market Nutrition Program and the Senior Farmers Market Nutrition Program. All these programs are designed to provide nutritional food access to all parts of the population.⁸

Recommended Reading

Agricultural Production

Dangour. Alan D, Sakhi K Dodhia, Arabella Hayter, Elizabeth Allen, Karen Lock, and Ricardo Uauy, "Nutritional quality of organic food: A systematic review," *American Journal of Clinical Nutrition*, 2009; 90:680–5, <http://ajcn.nutrition.org/content/90/3/680.full.pdf+html>, accessed 10/20/13.

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US Department of Agriculture, US Department of Health and Human Services, *Dietary Guidelines for American, 2010*, <http://www.health.gov/dietaryguidelines/2010.asp>, accessed 10/30/13.

Green, Lisa D., *Food Pyramid History, 2002*, <http://iml.jou.ufl.edu/projects/fall02/greene/history.htm>, accessed 10/30/13.

Food Composition

USDA, National Agricultural Laboratory, Nutrient Data Laboratory, <http://fnic.nal.usda.gov/food-composition/usda-nutrient-data-laboratory>, accessed 10/30/13.

SuperTracker, Food-a-Pedia, <https://www.supertracker.usda.gov/foodapedia.aspx>, accessed 10/30/13.

Food Distribution

Congressional Budget Office, Supplemental Nutrition Assistance Program—February 2013 Baseline, <http://www.cbo.gov/publication/43896>, accessed 10/30/13.

¹ Welch, Ross M., "Micronutrients, Agriculture and Nutrition: Linkages for Improved Health and Well Being," USDA-ARS, U. S. Plant, Soil and Nutrition Laboratory, <http://www.css.cornell.edu/FoodSystems/Micros&AgriManIref.html>, accessed 10/30/13.

² Union for Concerned Scientists, *Toward Health Food and Farms: How Science Based Policies Can Transform Agriculture*, Policy Brief, http://www.ucsusa.org/assets/documents/food_and_agriculture/healthy-food-and-farms-policy-brief.pdf, accessed 10/30/13.

³ Green, Lisa D., *Food Pyramid History, 2002*, <http://iml.jou.ufl.edu/projects/fall02/greene/history.htm>, accessed 10/30/13.

⁴ Otten, Jennifer J., Jennifer Pizzi Hellwig, Linda D. Meyers, Editors, Institute of Medicine, National Academy of Sciences, "Dietary Reference Intakes: The Essential Guide to Nutrient Requirements (2006)," <http://www.nap.edu/catalog/11537.html>, accessed 10/30/13.

⁵ USDA, Center for Nutrition Policy and Promotion, "Dietary Guidelines for Americans, 2010," <http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm>, accessed 10/30/13.

⁶ U.S. Department of Agriculture, Agricultural Research Service, "Composition of Foods: Raw, Processed, Prepared, USDA National Nutrient Database for Standard Reference, Release 26, Documentation and User Guide," August 2013; this document is made available by the Human Nutrition Research Center, Nutrient Data Laboratory, Beltsville, MD, http://www.ars.usda.gov/SP2UserFiles/Place/12354500/Data/SR26/sr26_doc.pdf, accessed 10/30/13.

⁷ USDA, SuperTracker, Food-a-Pedia, <https://www.supertracker.usda.gov/foodapedia.aspx>, accessed 10/30/13.

⁸ USDA, Food and Nutrition Service, <http://www.fns.usda.gov/>, accessed 10/30/13; this site is a good source of information on food distribution programs in general.