A young girl with long brown hair, wearing a light green t-shirt, is holding a large green leaf up to her face. In the foreground, there is a plate with sliced red bell peppers and green leafy vegetables. To the right of the plate are two glasses of juice: one red and one yellow, both with red straws. The background is a blurred outdoor setting with green foliage.

Dietary Guidelines and Sustainability

Presentation by Kate Clancy
to the 2015 Dietary Guidelines Advisory Committee
January 13, 2014

Q1. Does the pattern of foods
Americans currently consume
affect long-term food security?

What is food security?

1. Ability of a country/region to produce most of its staple crop
2. Ability of a country/region to maintain its natural resource base for farming and ranching



What is food security? (continued)



3. Local food/urban agriculture can contribute modest amounts of food
4. Climate change adaptation must be taken into account

What is healthy?

Pesticide use, microbial contamination, and antibiotic use are safety and environmental concerns.



Negative long-term impacts on food security and resilience

1. Farmland loss, esp. at regional level
2. Soil quantities (erosion, silting)
3. Soil qualities (lower tilth, altered soil microorganisms)

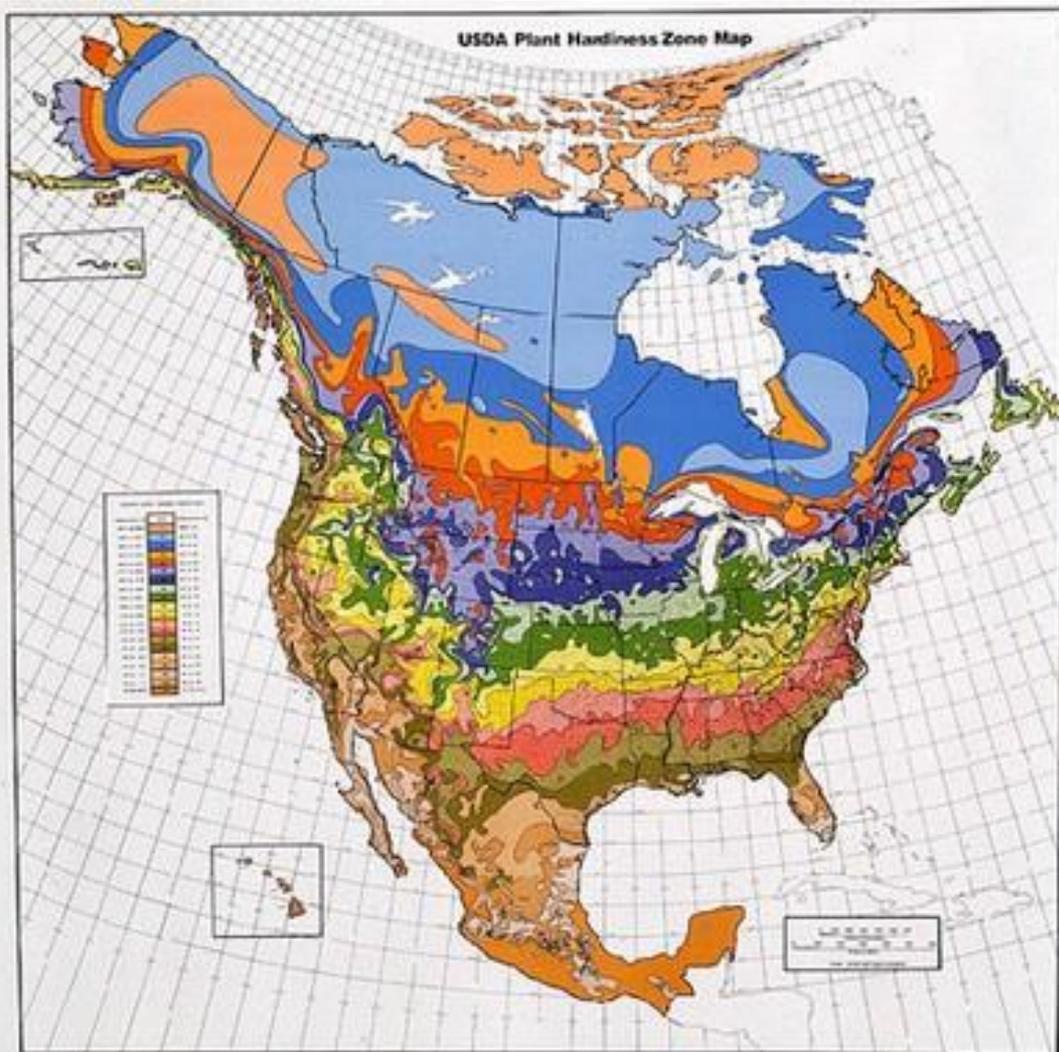


Negative long-term impacts (continued)

4. Water quantities (aquifer depletion)
5. Water and air qualities (dead zones)



Negative long-term impacts (continued)



6. Energy resources (fertilizer production, air-freight)
7. Climate change (greenhouse gases, water effects, planting zones)

Negative long-term impacts (continued)

8. Biodiversity – plant, animal, and marine



Q2. What pattern of eating best contributes to food security and sustainability of land, air, and water?

1. Plant-based diet

- Lower risk of cardiovascular disease
- Smaller ecological impact related to most of the effects mentioned

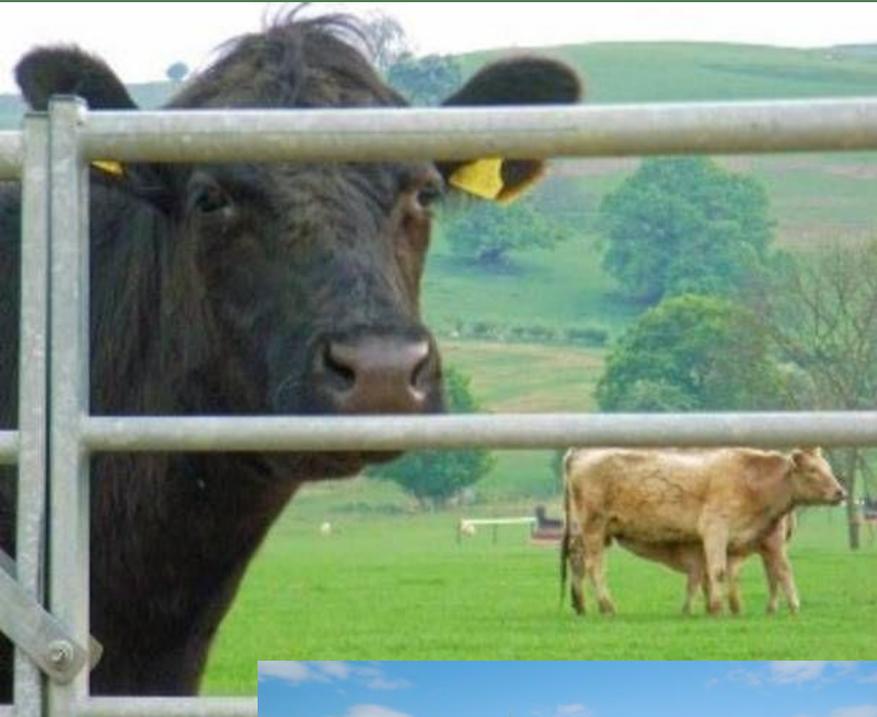


2. Reduced meat consumption

“Ecological indicators such as biodiversity, land use, greenhouse gas emissions, disturbances in the nitrogen and phosphate cycles, water use and soil quality are strongly interrelated... because the production of animal protein, in particular, has a heavy ecological impact.”

- Health Council of the Netherlands, 2011, p. 11

2. Reduced meat consumption (continued)



Beef is greatest concern
Corn production – synthetic fertilizers, herbicides, phosphorous deposition, water pollution, soil erosion and compaction, monocultures, NO_2 and methane emissions

2. Reduced meat consumption (continued)

Sustainable, healthy diets can include meat and dairy products.

e.g., Macdiarmid et al.:
Realistic diet model with smaller amounts of meat than current diet reduced greenhouse gases by 36%.



2. Reduced meat consumption (continued)

e.g., Peters, Wilkins, & Fick: NY land requirement model. Average annual per capita requirement increased with increasing quantities of meat and percent of population fed. Vegetarian diets support more people, but considerable overlap exists with low meat diets.

3. Fish consumption

- Long chain Omega-3 fatty acids, protein source, fishers' livelihoods
- Reduced stocks, reduced biodiversity, contamination, climate change



4. Diverse diets

- Trend toward dietary simplification
- Trend toward high-energy diets
- Loss of biodiversity of food sources
- Need to maintain genetic diversity

Burlingame, B., and Dernini, S.
(eds.) *Sustainable Diets and
Biodiversity: Directions and
Solutions for Policy, Research
and Action*. FAO, 2012.



Q3. Are there best practices for local, regional, and/or national food systems that are sustainable and have evidence of improving eating behaviors?

School Food FOCUS

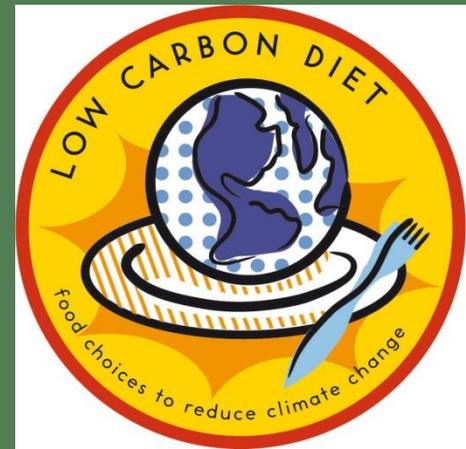
Mission: Leverage knowledge and procurement power of large school districts to make school meals more healthful, regionally sourced, and sustainably produced.

e.g., chicken raised without antibiotics in 14 districts, and other foods in process



Bon Appétit

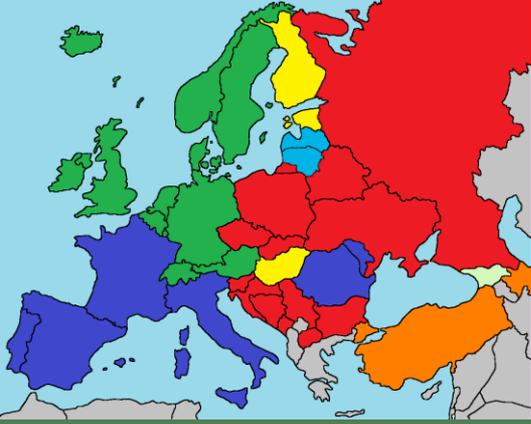
- Catering 500 locations – private, residential colleges and corporations
- Serving:
 - Low-trophic, non–air-freighted fish and no species on Red List
 - Meats raised without antibiotics or artificial hormones and often served as a garnish
 - Low carbon diet (e.g., 50% reduction in air-freighted fruit)



GSA/CDC Health and Sustainability Guidelines for Federal Concessions and Vending Operations

Standard criteria:

- Offer 25% of product line to be organically, locally, or documented sustainably grown (e.g., IPM, pesticide-free).
- Label these foods at point of choice.
- Only offer fish/seafood identified as best choices or good alternatives by accredited programs.



European precedents

- Sweden 2009. Environmentally friendly food choices.
- UK 2009. Recommendations from Sustainable Development Commission defining low-impact healthy diet.
- Netherlands 2011. Guidelines for a Healthy Diet: Ecological Perspective.

“Sustainable diets are those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources.”

- Sustainable Diets and Biodiversity. Directions and Solutions for Policy, Research and Action. 2010 FAO, Rome.

