

1-CEU WEBINAR PRESENTATION

# The Sustainability and Nutrition Connection



Learning Library

TODAY'S DIETITIAN

Presented by Danielle Nierenberg, founder of FoodTank, and Chris Vogliano, MS, RD





# Danielle Nierenberg

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Danielle@FoodTank.com  
@DaniNierenberg, #FoodTank  
www.foodtank.com

**foodtank** 



# Food Tank: The Food Think Tank

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- ❖ Fastest Growing Nonprofit in the Food Movement
- ❖ Highlight what's working on the ground both domestically and internationally
- ❖ Providing platform for individuals and organizations to learn more about:
  - Sustainable agriculture
  - Climate change
  - Food loss and waste
  - Role of youth and women in the food system
  - Nutrient dense agriculture
  - True cost accounting

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# Learning Objectives

After completing this continuing education course, nutrition professionals should be able to:

1. Identify and understand basic principles of sustainable food.
2. Understand sustainable food initiatives and related legislation and policy in the US.
3. Recognize the positive relationship between nutrition and sustainability.
4. Incorporate the sustainability and nutrition connection into nutrition counseling and practice.
5. Provide patients and clients with tools and resources to help them integrate more sustainable food and nutrition practices into their daily lives.









# Growing the Movement

- ❖ Gardens at schools
- ❖ School Nutrition
- ❖ Urban homesteading
- ❖ Rooftop farms
- ❖ Consumer pressure for healthy options
- ❖ Community Supported Agriculture (CSA)





# Food Waste

- ❖ Up to 40 percent of food is wasted
- ❖ Two-thirds of residential food waste is edible
- ❖ Top Reasons for tossing:
  - Food was considered spoiled
  - People did not want to eat leftovers
  - 79 percent think they produce less waste than av
- ❖ Average family could save US \$2,200 annually
- ❖ FAO estimates that wasted food could feed every hungry person in the world —four times over

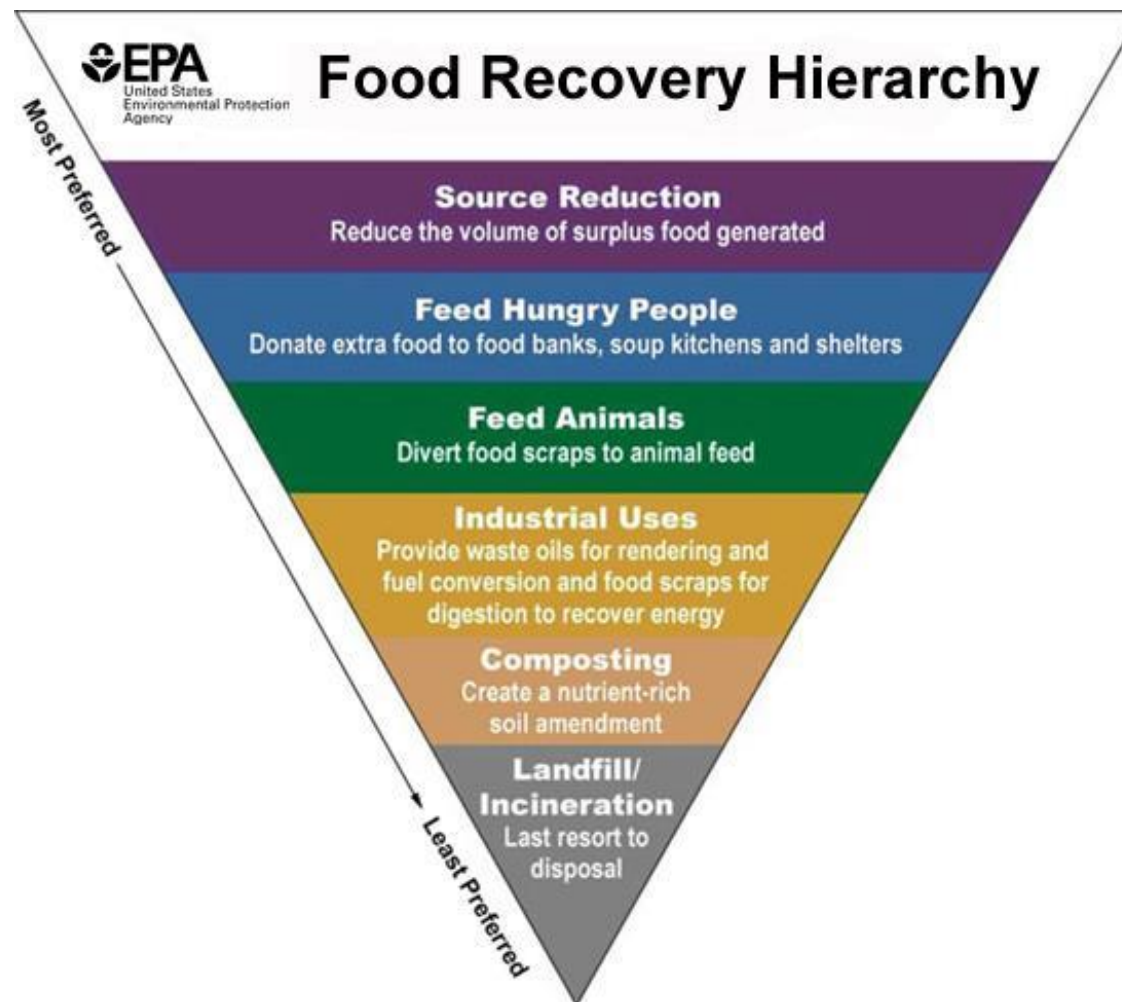




# Food Waste Reduction Efforts

- ❖ “Save The Food” Campaign
- ❖ Better meal planning
- ❖ Standardized date labeling
- ❖ Food recovery/donation
- ❖ Upcycling for insect/animal feed
- ❖ Compost and urban gardening

**Food to Fork to Soil**







# Farm Bill

- ❖ Covers federal farm, food, fiber, forestry, and rural policies/programs
- ❖ SNAP might face cuts
- ❖ Conservation programs might face cuts
- ❖ USDA and EPA set goal of reducing food waste by half by 2030





# Other U.S. Legislation

*“Everyone who cares about the quality of the air we breathe, the water we drink, and the food we eat has an interest in reforming federal farm policy.”* -Earl Blumenauer

- ❖ The Food Date Labeling Act (waiting reintroduction)
- ❖ The Food Recovery Act (H.R. 3444, S. 1680)
- ❖ Urban Agriculture Act of 2016 (S. 3420)
- ❖ Organic Farmer and Consumer Protection Act (H.R. 3871)
- ❖ Organic Agriculture Research Act (H.R. 2436)
- ❖ The Food and Farm Act (waiting introduction)
- ❖ Zero Waste Development and Expansion Act (H.R. 1034)





# Other U.S. Activities

- ❖ Sonny Perdue appointed Sec. of USDA
- ❖ Organic Livestock and Poultry Practices Rule in National Organic Program threatened
- ❖ Agricultural water requirements delayed while Des Moines suffers
- ❖ Nationwide growing interest in CSAs, urban agriculture







# In The News

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- ❖ Grabbing the bull by the horns: it's time to cut industrial meat and dairy to save the climate  
**GRAIN**, January 30, 2017
- ❖ 115<sup>th</sup> Congress Starts Farm Bill Discussions by Focusing on the Farm Economy  
**Illinois Farm Policy News**, February 16, 2017
- ❖ More Than 10 Percent of World's Population Is Obese, Study Finds  
**The New York Times**, June 12, 2017



# In The News

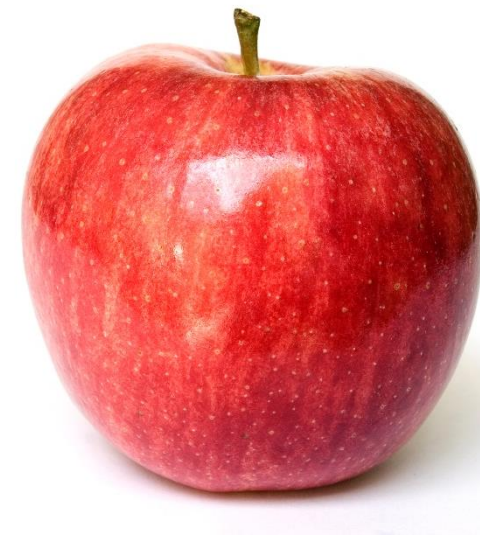
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- ❖ World hunger again on the rise, driven by conflict and climate change, new UN report says  
**Food and Agriculture Organization of the United Nations**, September 15, 2017
- ❖ The evidence is clear: insecticides kill bees. The industry denials look absurd  
**The Guardian**, July 3, 2017
- ❖ Statement from FDA Commissioner Scott Gottlieb, M.D., on the FDA's role in ensuring Americans have access to clear and consistent calorie and nutrition information; forthcoming guidance will provide greater clarity and certainty  
**U.S. Food & Drug Administration**, August 25, 2017
- ❖ Glyphosate Listed Effective July 7, 2017, as Known to the State of California to Cause Cancer  
**OEHHA**, June 26, 2017



# Current Dietary Guidelines

- ❖ New Dietary Guidelines released in 2016
- ❖ Dietary Guidelines Advisory Committee 2015 scientific report
  - “**Consistent evidence** indicates that, in general, a dietary pattern that is **higher in plant-based foods**, such as vegetables, fruits, whole grains, legumes, nuts, and seeds, and lower in animal-based foods **is more health promoting** and is associated with **lesser environmental impact** (GHG emissions and energy, land, and water use) than is the current average U.S. diet.”



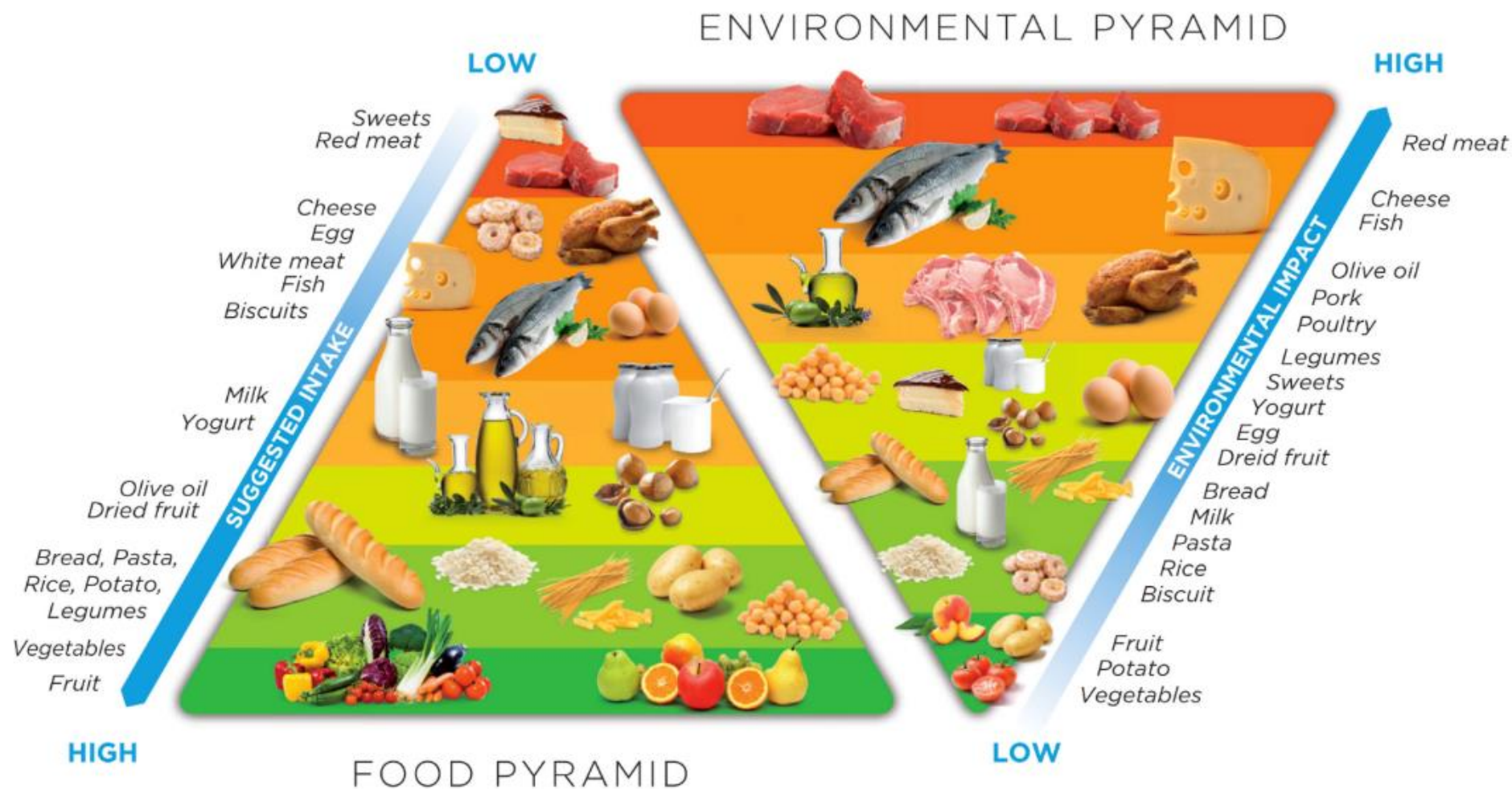
*The guidelines are “a betrayal of the diligent work of nutrition scientists, and a willful sacrifice of public health on the altar of profit for well-organized special interests.”*

*-David Katz, founder of the True Health Initiative*





# The BCFN Double Pyramid

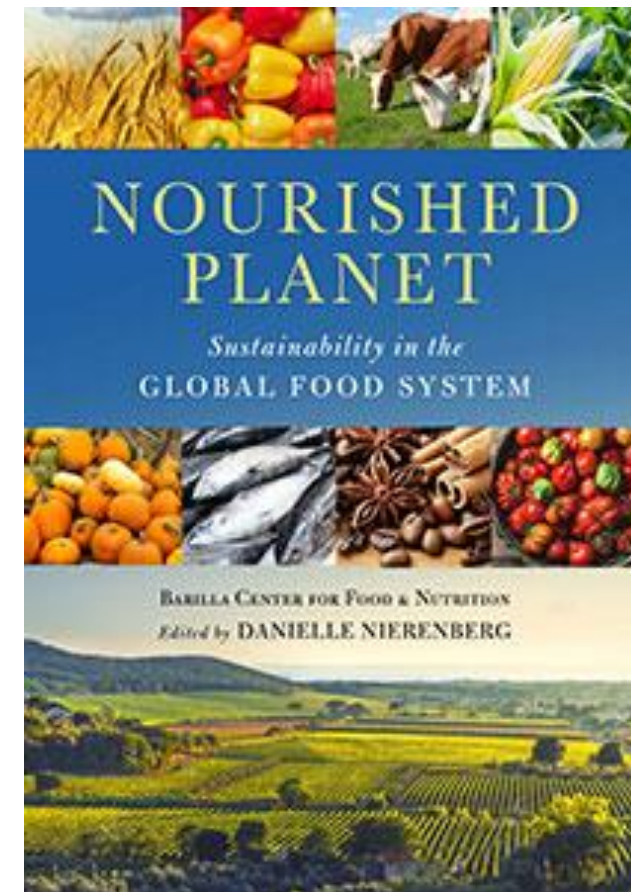


The double pyramid for growing children and adolescents  
BDFN, 2015.



# Nourished Planet

- ❖ Collaboration with Barilla Center for Food & Nutrition (BCFN)
- ❖ Current global food system undermines human and environmental health
  - Obesity paired with malnutrition
  - Crops for animal feed and biofuels
  - 30 percent of food wasted while 795 million are malnourished
- ❖ Draws on renowned international experts to develop global plan for sustainably feeding ourselves





# Nourished Planet: Food for All

We need government and NGOs to:

- ❖ Invest in research and technical support
- ❖ Introduce nutritious diets
- ❖ Foster the use of environmentally friendly practices and appropriate technologies
- ❖ Provide training in management skills



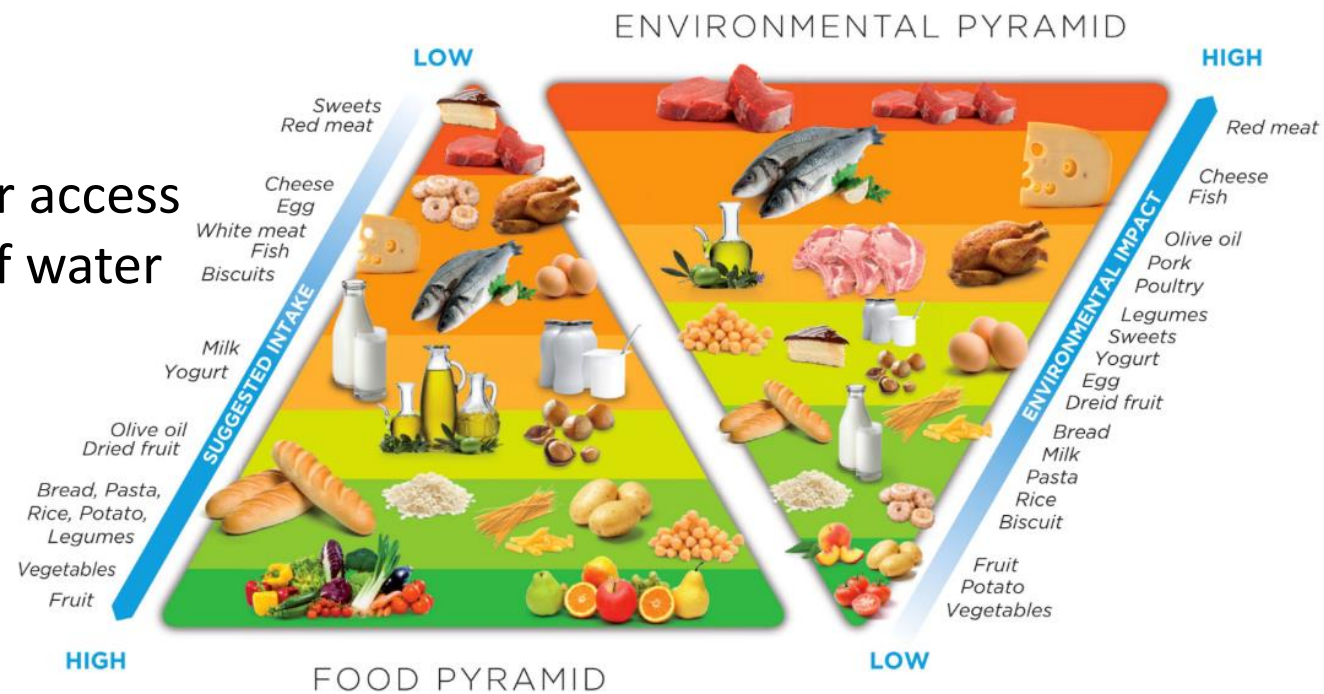


# Nourished Planet: Food for Sustainable Growth



## Action Plan:

- ❖ Use the Double Pyramid
- ❖ Address water scarcity
  - Develop more democratic policies on water access
  - Increase the productive and efficient use of water
- ❖ Combat climate change
  - Switch to sustainable sources of energy
  - Small changes to diets
- ❖ Reengineer agricultural system
  - Soil regeneration
  - Reduce synthetic fertilizers
  - Train and educate farmers in more sustainable practices





# Nourished Planet: Food for Health

Eaters can take control of their health and their future by:

- ❖ Encouraging good behaviors and lifestyles early in a child's life
- ❖ Monitoring a child's exposure to food and beverage advertising
- ❖ Maintaining a healthy diet and an active lifestyle throughout the child's life
- ❖ Recognizing the “true costs” of foods and trying to make the best food choices possible for their own health, the health of the foods' producers, and the health of the planet





# Nourished Planet: Food for Culture

## Action Plan:

- ❖ Research indigenous and traditional foods
- ❖ Rethink meat and other animal products
  - Focus on breeds that are hardy and resistant to drought and disease
  - Consumer focus on quality, health, sustainability, and humane treatment
- ❖ End land grabbing
- ❖ Value the work of women
- ❖ Value the Mediterranean Diet
- ❖ Value the roles of farmers







# Thank You!

Danielle@FoodTank.com

@DaniNierenberg

#FoodTank

www.foodtank.com

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# Chris Vogliano, MS, RDN

TWITTER: [@chrisvogliano](https://twitter.com/chrisvogliano)

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## ❖ PhD Student

- Sustainable Food Systems
- Massey University, New Zealand

## ❖ Leadership Positions

- Nutrition Policy Council – Northwest Harvest Food Bank Council on Future Practice – Academy of Nutrition and Dietetics

## ❖ Speaker's Bureau

- Vegetarian Nutrition DPG
- Hunger and Environmental DPG

# Can a Sustainable Diet Also be Nutritious?

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# What's Good for Us is Good for the Planet, Too <sup>1,2</sup>

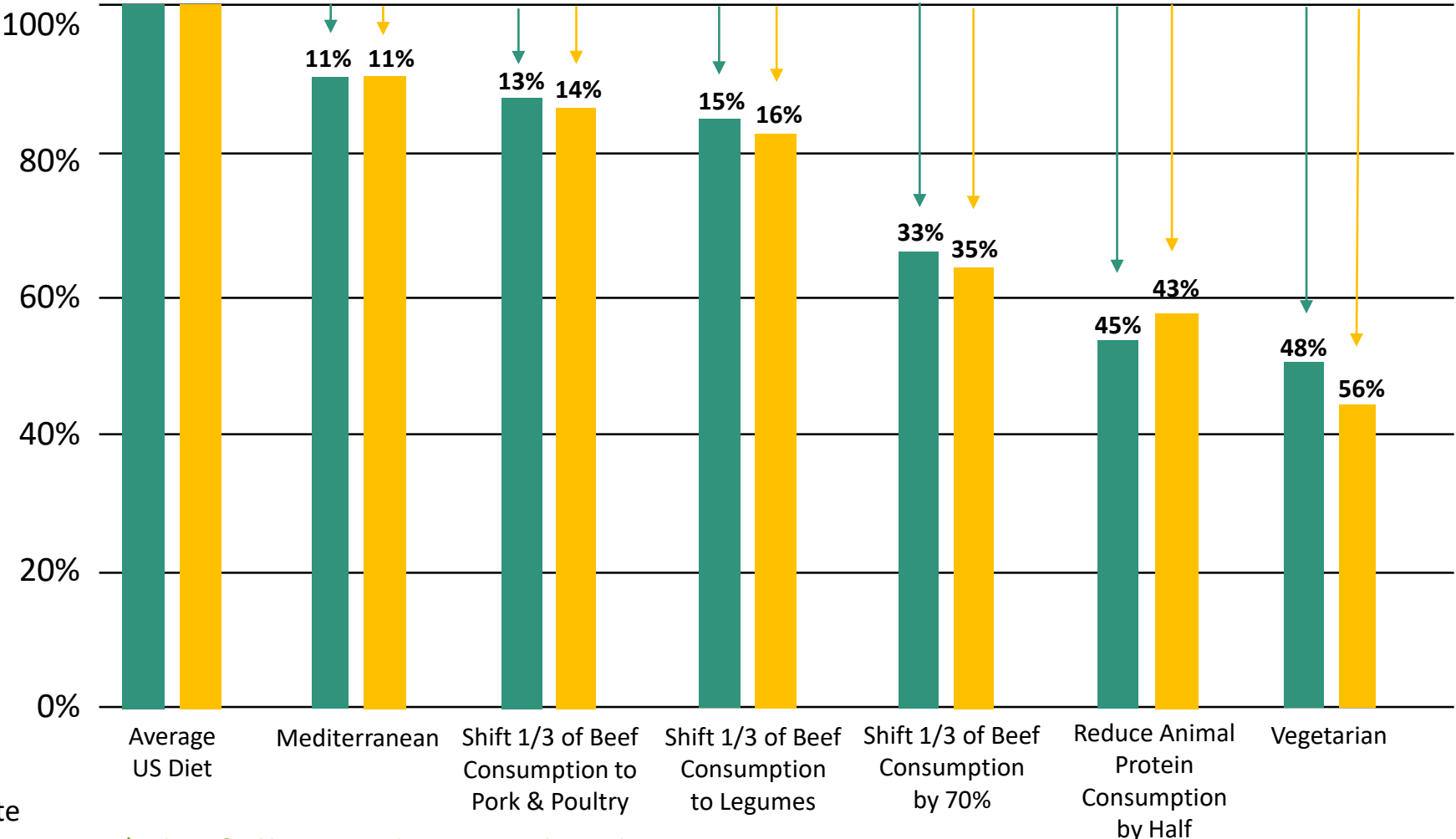
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- ❖ Diets can be healthy for people while reducing our greenhouse gas emissions
- ❖ Dietary greenhouse gas reductions  $\leq 30\%$  were compatible with
  - Nutritional adequacy
  - Affordability
  - No major food group shifts

1. Springmann M, Godfray HCJ, Rayner M, Scarborough P (2016b). Analysis and valuation of the health and climate change cobenefits of dietary change, *Proceedings of the National Academy of Sciences of the United States (PNAS)*, 113 (15), 4146–4151.
2. Perignon, Marlène, et al. "How low can dietary greenhouse gas emissions be reduced without impairing nutritional adequacy, affordability and acceptability of the diet? A modelling study to guide sustainable food choices." *Public health nutrition* (2016): 1-13.

# Shifting High Consumers' Diets Can Greatly Reduce Per Person Land Use and GHG Emissions

■ Agricultural land use (cropland and pasture) (average US diet=0.96 hectares/capita/year)  
■ GHG emissions from agricultural production (average US diet=1.4 tons of CO<sub>2</sub>/capita/year)



World Resources Institute

<https://www.charitynavigator.org/index.cfm?bay=search.summary&orgid=4766>

# Co-Benefits of a Plant-Based Diet <sup>1,2</sup>

PubMed.gov

## ❖ Reduced risk of:

- Heart Disease
- Obesity
- Type II Diabetes
- Cancer

## ❖ Economic Savings

## ❖ Reduce agricultural inputs

### **Position of the Academy of Nutrition and Dietetics: Vegetarian Diets.**

It is the position of the Academy of Nutrition and Dietetics that appropriately planned vegetarian, including vegan, diets are healthful, nutritionally adequate, and may provide health benefits for the prevention and treatment of certain diseases. These diets are appropriate for all stages of the life cycle, including pregnancy, lactation, infancy, childhood, adolescence, older adulthood, and for athletes. Plant-based diets are more environmentally sustainable than diets rich in animal products because they use fewer natural resources and are associated with much less environmental damage. Vegetarians and vegans are at reduced risk of certain health conditions, including ischemic heart disease, type 2 diabetes, hypertension, certain types of cancer, and obesity. Low intake of saturated fat and high intakes of vegetables, fruits, whole grains, legumes, soy products, nuts, and seeds (all rich in fiber and phytochemicals) are characteristics of vegetarian and vegan diets that produce lower total and low-density lipoprotein cholesterol levels and better serum glucose control. These factors contribute to reduction of chronic disease. Vegans need reliable sources of vitamin B-12, such as fortified foods or supplements.

1. Melina, Vesanto, Winston Craig, and Susan Levin. "Position of the Academy of Nutrition and Dietetics: Vegetarian Diets." *Journal of the Academy of Nutrition and Dietetics* 116.12 (2016): 1970-1980.
2. <http://www.fao.org/3/a-i5640e.pdf>



# BLUE ZONES

LONGEVITY HOTSPOTS

LOMA LINDA  
CALIFORNIA

NICOYA  
COSTA RICA

SARDINIA  
ITALY

ICARIA  
GREECE

OKINAWA  
JAPAN

## BLUE ZONE LIFE LESSONS



MOVE NATURALLY



RIGHT TRIBE



RIGHT OUTLOOK



EAT WISELY

# Top 3 Ways to Make Our Diets More Sustainable

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# #1 Option for Sustainable Protein

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TOP 3 WAYS TO MAKE OUR DIETS MORE SUSTAINABLE



# GHG Emissions of Protein

❖ The scientific literature is clear. Eating more sustainable sources of protein can improve our health and ease our impact on the planet.

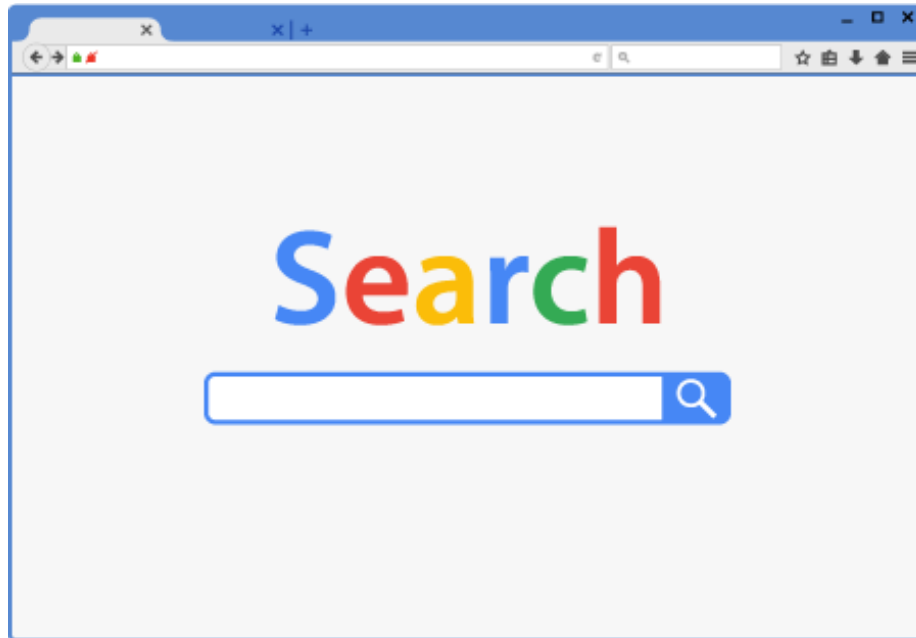
	FOOD	IMPACT (GHG emissions per gram of protein)	COST (Retail price per gram of protein)
LOW	Wheat		\$
	Corn		\$
	Beans, chickpeas, lentils		\$
	Rice		\$
	Fish		\$\$\$
	Soy		\$
	Nuts		\$\$\$
	Eggs		\$\$
MEDIUM	Poultry		\$\$
	Pork		\$\$
	Dairy (milk, cheese)		\$\$
HIGH	Beef		\$\$\$
	Lamb & goat		\$\$\$

Lighter shade shows emissions from agricultural production, darker shade shows emissions from land-use change.

# Aim to Eat Sustainable Seafood

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Seafood Search at <http://www.seafoodwatch.org>





Give Your Meals a Plant Slant





Steak Dinner



Salmon Dinner





Beef/Pork Tacos



Fish Tacos



Black Bean Tacos



Hamburger



Blender Burger



# The Blended Burger Project™

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The **Blended Burger Project™** is a movement in partnership with the James Beard Foundation to make burgers better by blending mushrooms with meat – creating a more delicious, nutritious and sustainable burger.

[www.Blenditarian.com](http://www.Blenditarian.com)



# Health Care Without Harm

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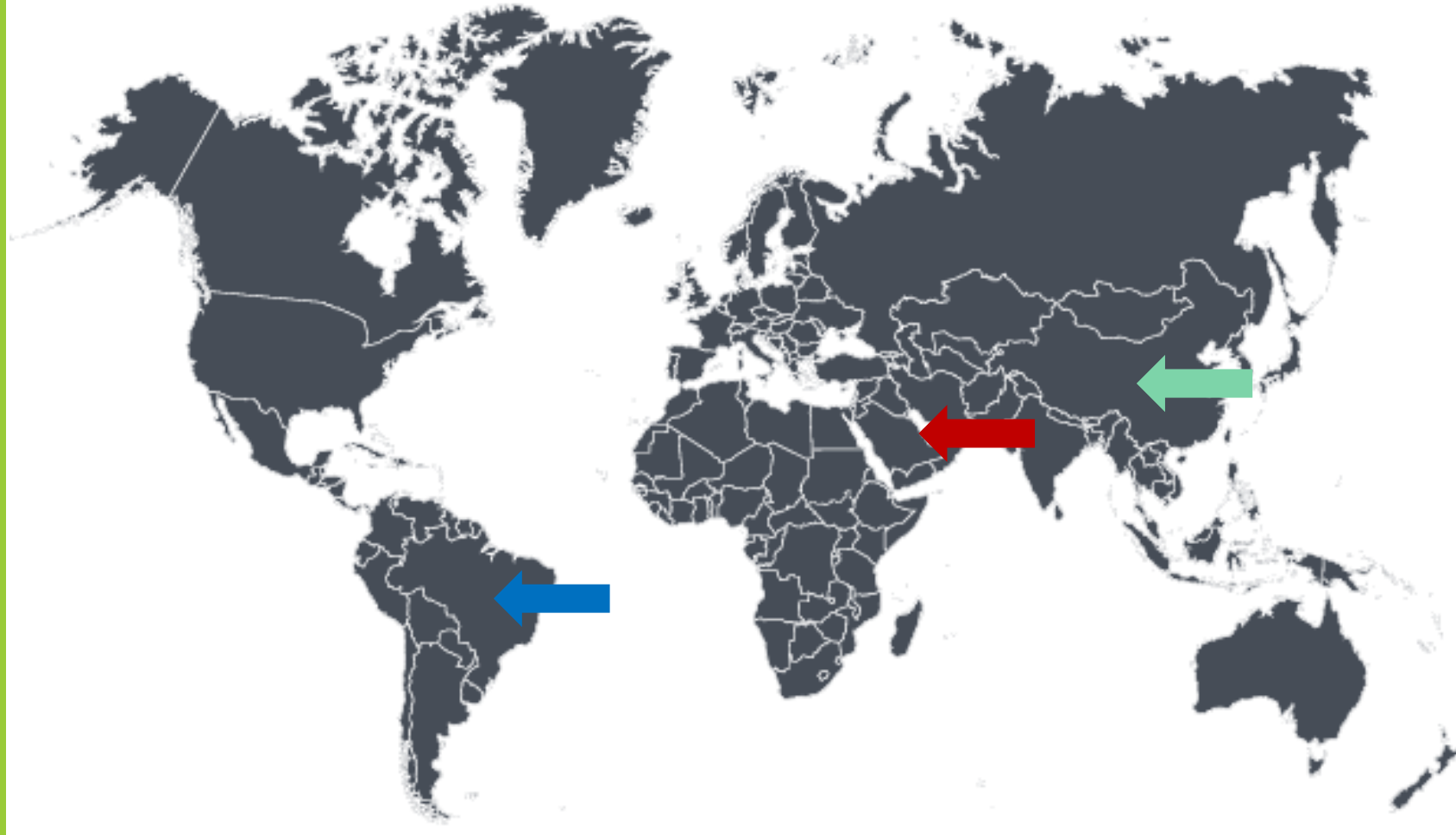
- ❖ Working with hospitals to procure higher quality meat, and less of it.
  - Buying meat free from non-therapeutic usage of antibiotics
  - More plant-based protein options
    - ✓ Use meat as a condiment

## Redefining Protein

ADJUSTING DIETS TO PROTECT PUBLIC HEALTH AND CONSERVE RESOURCES



# Global Dietary Guidelines: Promoting Sustainable Protein



● Brazil

● Qatar

● China

# BDA (The Association of UK Dietitians) Policy Statement – Sustainable Diets

*British Dietetic Association*

- ❖ “Sustainability should form part of dietetic training for all dietitians, be they in a clinical or public health role.”
- ❖ “Meat and dairy products are leading contributors to Green House Gas (GHG) emissions and other environmental impacts and emphasis should be on reduction of meat (red and processed meat in particular) and processed meat products (PMP)... and replaced with appropriate plant based proteins such as beans and pulses, and plant based dairy alternatives.”

# Council on Future Practice

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- ❖ Future visioning report 2017
- ❖ “Meat and dairy make the greatest dietary contribution to greenhouse gas emissions, with a substantial loss of caloric efficiency since they require the growth of crops to feed livestock.”
- ❖ “Mediterranean, pescatarian, and vegetarian diets have the potential to reduce chronic disease rates, global greenhouse gas emissions, and land clearing.”

Kicklighter, Jana R., et al. "Visioning report 2017: A preferred path forward for the nutrition and dietetics profession." *Journal of the Academy of Nutrition and Dietetics* 117.1 (2017): 110-127.

# #2 Promote Dietary Biodiversity

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TOP 3 WAYS TO MAKE OUR DIETS MORE SUSTAINABLE



# Food Biodiversity <sup>1,2</sup>

- ❖ Is the diversity of plants, animals and other organisms used for food, both cultivated and from the wild.
- ❖ Is a critical element in response to global nutrition security and towards sustainable food systems.



1. Frison, Emile A., Jeremy Cherfas, and Toby Hodgkin. "Agricultural biodiversity is essential for a sustainable improvement in food and nutrition security." *Sustainability* 3.1 (2011): 238-253.
2. Kennedy, G., et al. "Agricultural biodiversity for healthy, diverse diets." Bioversity International, 2016.

# Global Dietary Diversity

- ❖ From 391,000 known plant species, 5,538 are known to be used for human food.
- ❖ Only 3 crops – rice, wheat and corn – provide more than 50% of the world's plant-derived calories.<sup>1</sup>



<https://www.biodiversityinternational.org/research-portfolio/diet-diversity/>

# Standard American Diet

## U.S. FOOD CONSUMPTION AS A % OF CALORIES

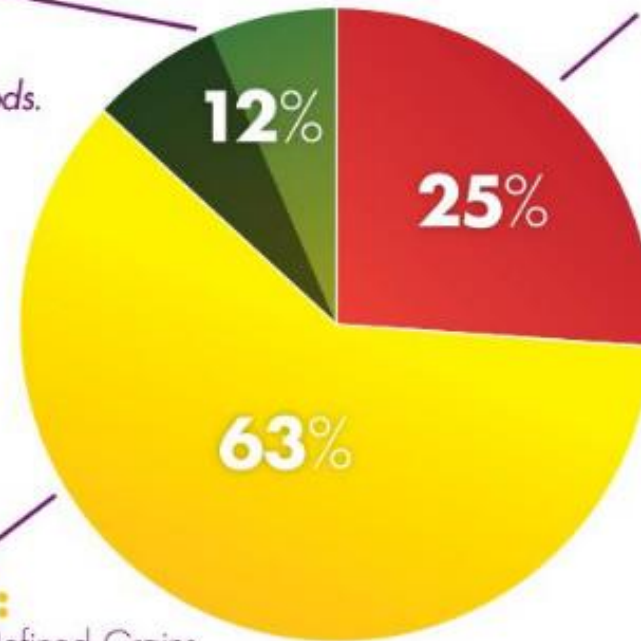
### PLANT FOOD:

Vegetables, Fruits, Legumes, Nuts & Seeds, Whole Grains  
**Fiber** is only found in plant foods.

**NOTE:** Up to half of this category may be processed, for example almonds in candy bars, apples in apple pies or spinach in frozen spinach soufflé, and of course these would not be healthy choices. The focus should be on whole unprocessed vegetables, fruits, legumes, nuts and seeds and whole grains.

### PROCESSED FOOD:

Added Fats & Oils, Sugars, Refined Grains



### ANIMAL FOOD:

Meat, Dairy, Eggs, Fish, Seafood  
**Cholesterol** is only found in animal foods. Animal foods are the **PRIMARY** source of saturated fat.

### GUIDE TO HEALTHY EATING:

Much easier to understand than the USDA Food Pyramid, with no food industry influence.

Eat **LESS** from the animal and processed food groups and **MORE** whole foods from the plant food group.

In general, food from the animal and processed food group contribute to disease, while **WHOLE** foods from the plant group contribute to good health.

Source: USDA Economic Research Service, 2009; [www.ers.usda.gov/publications/EIB33](http://www.ers.usda.gov/publications/EIB33); [www.ers.usda.gov/Data/FoodConsumption/FoodGuideIndex.htm#calories](http://www.ers.usda.gov/Data/FoodConsumption/FoodGuideIndex.htm#calories)  
New York Coalition for Healthy School Food \* [www.healthyschoolfood.org](http://www.healthyschoolfood.org)  
Special thanks to Joel Fuhrman, MD, author of *Disease Proof Your Child: Feeding Kids Right* \* Graphics by Michelle Banda.com  
© 2009, New York Coalition for Healthy School Food



# Dietary Diversity Promotes Nutritional Adequacy

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- ❖ Consuming a wide variety of fruits, vegetables, grains, and legumes
- ❖ = increased agricultural diversity
- ❖ = improved personal and planetary resilience



Photo by Chris Vogliano



# #3 Reduce Food Waste

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TOP 3 WAYS TO MAKE OUR DIETS MORE SUSTAINABLE

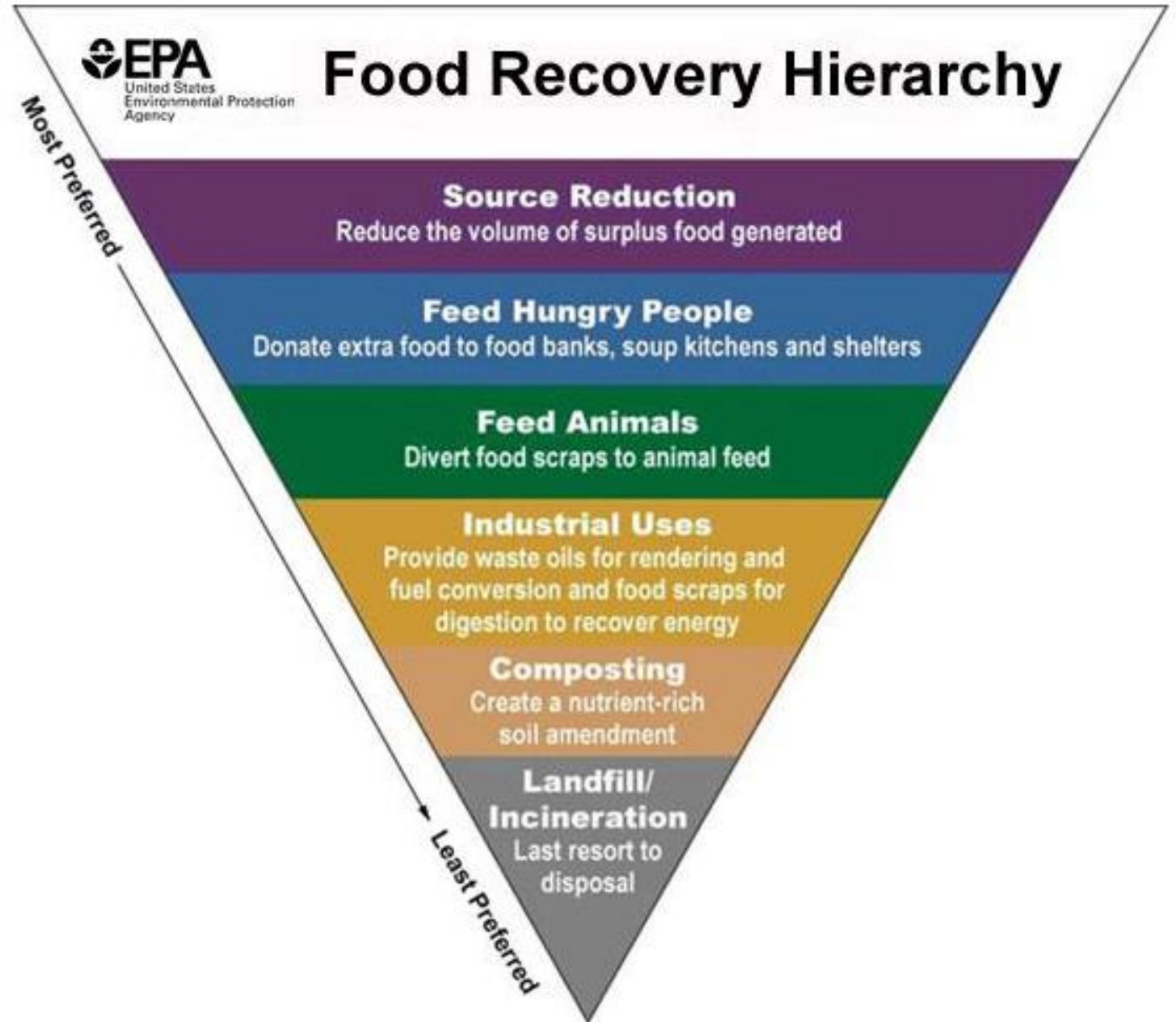
# Food Waste Facts

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- ❖ One third of the global food supply ends up being lost or wasted. <sup>1</sup>
  - Number is even higher for developed countries like America <sup>2</sup>
- ❖ 1,250 calories per person per day is being wasted
- ❖ Food waste accounts for 2.6% of all U.S. Greenhouse gas emissions annually <sup>3</sup>
  - That's ~37 million passenger vehicles worth

1. Gustavsson, J., Cederberg, C., Sonesson, U., Van Otterdijk, R., & Meybeck, A. (2011). Global food losses and food waste. *Food and Agriculture Organization of the United Nations, Rom.*
2. <https://www.usda.gov/oce/foodwaste/faqs.htm>
3. <https://www.nrdc.org/sites/default/files/wasted-2017-report.pdf>

# EPA Food Recovery Hierarchy



# Consumer At-Home Strategies

- ❖ Shop the fridge first, and make a list
- ❖ Eat leftovers
- ❖ Study your trash
- ❖ Use smaller dishes (portion control)
- ❖ Buy frozen fruits and vegetables
- ❖ Fridge 101 – organize, properly cool, and utilize FIFO
  - Download the A-Z Food Storage Guide from [makedirtnotwaste.org](https://makedirtnotwaste.org)
  - Check out [the Produce for Better Health Fruit and Veggie Storing Guide](#)





# Help Decode the Label

## ❖ Standardizing food date labels

- Over 90% of consumers throw out food too early, leading to massive food waste<sup>1</sup>

## ❖ Solutions

- Consumer education on what sell by, use by, best by actually mean
- <http://www.stilltasty.com/>
- Some manufacturers have experimented with adding “freeze by”, or “best if used by” language onto packaging to encourage customers to take active steps to preserve food in the freezer instead of throwing it in the trash



# Summary

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Top 3 ways to make our diets more sustainable:

1. Choose Sustainable Protein Options
2. Promote Dietary Biodiversity
3. Reduce Wasted Food



# Food Waste Resources

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## **Natural Resource Defence Council**

*Wasted: 2<sup>nd</sup> Edition (2017)*

<https://www.nrdc.org/sites/default/files/wasted-2017-report.pdf>

## **Environmental Protection Agency (EPA)**

*Food - Too good to Waste: Implementation Guide and Toolkit*

<https://www.epa.gov/sustainable-management-food>



# Food Waste Resources, Cont.

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## **Academy of Nutrition and Dietetics Foundation**

*The State of America's Wasted Food and Opportunities to make a difference*

[www.eatrightpro.org](http://www.eatrightpro.org)

## **ReFED**

*Is a multi-stakeholder non-profit organization that uses data to drive change by promoting top solutions to reducing food waste*

[www.refed.com](http://www.refed.com)



# Organizations Focused on Sustainable Diets

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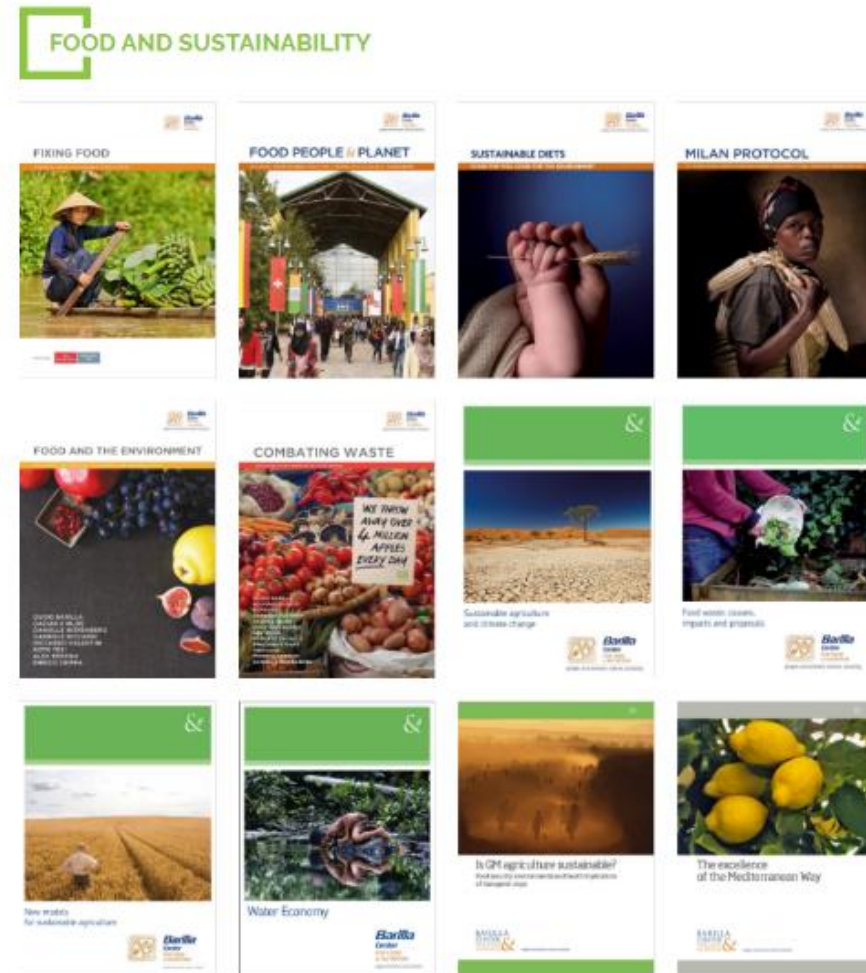
- ❖ CGIAR Research Program on Agriculture for Nutrition and Health
- ❖ Food and Agriculture Organization of the United Nations
- ❖ Health Care Without Harm
- ❖ World Resources Institute



# BCFN: Sustainable Diet Publications



**Barilla**  
**Center**  
FOR FOOD  
& NUTRITION



<https://www.barillacfn.com/en/publications/>

# Thank You!

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Chris' Contact Info:

**Website:** [www.chrisvogliano.com](http://www.chrisvogliano.com)

**Facebook:** <https://www.facebook.com/chrisvoglianoMSRDN/>

**Twitter:** <https://twitter.com/chrisvogliano>

**LinkedIn:** <https://www.linkedin.com/in/vogliano>

# Credit Claiming

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**You must complete a brief evaluation of the program in order to obtain your certificate. The evaluation will be available for one year; you do not need to complete it on January 24, 2018.**

## **Credit Claiming Instructions:**

1. Go to [CE.TodaysDietitian.com/NutritionConnection](https://CE.TodaysDietitian.com/NutritionConnection) OR log on to [CE.TodaysDietitian.com](https://CE.TodaysDietitian.com), go to “My Courses” and click on the webinar title.
2. Click “Take Course” on the webinar description page.
3. Select “Start/Resume Course” to complete and submit the evaluation.
4. Download and print your certificate.

**Please Note:** If you access the Evaluation between 3-4 pm ET on January 24, you may experience a slow connection due to a high volume of users.