



Alliance for Sustainability
Ecologically sound, economically viable, socially just & humane

What are Sustainable Food Choices and Can They Allow Us to Live Longer, Healthier and Cheaper while Protecting the Planet and Our Future?

Terry Gips
Alliance for Sustainability
www.afors.org

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Alliance for Sustainability

Mission: To Co-create sustainability on a personal, organizational, and planetary level

Founded in 1983

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Declaration of Co-Creation & Interdependence

Impactful Campaigns and Public Policies

SHE Kindness Business Program

SHE Kindness School Program

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Terry Gips

- President, Alliance for Sustainability
- Agricultural Economist, University of CA, Davis
- U of M Center for Spirituality & Healing Advisor
- Global Travels Documenting Sustainable Ag
- Author: *Breaking the Pesticide Habit*
- *Humane Consumer & Producer Guide*
- Past: Aveda, Cargill, International Alliance for Sustainable Agriculture, White House, US Congress, Cooperative Extension Service
- President, Alliance for Sustainability, Former Chair, Sustainable St. Louis Park
- Member: EarthSave, Animal Rights Coalition and Compassionate Action for Animals
- Vegetarian for 50 Years and Vegan 29 years

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Goals

1. To create a safe, positive place to share and assess the health and sustainability of the Standard American Diet, American food system and an organic, plant-based diet based on sound scientific information and practical experiences
2. Support you in achieving vibrant health, avoiding or overcoming most major diseases and achieving sustainability
3. Not here to judge or push but to share helpful information as you explore a diet that's right for you and the planet

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We'd Appreciate Your Feedback!




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Agenda

1. Your Dietary Preferences
2. What is Sustainability?
3. Does Our Diet Contribute to Climate Change?
4. What is and is not Sustainable from a Health Perspective: The Standard American Diet vs. a Nutrient-Dense, Organic Plant-Based Diet
5. Some Simple Steps You Can Take to a Nutrient Dense, Plant-Based Organic Diet
6. Unhealthy and Healthy Choices at the Fair
7. Resources
8. Assessing the Sustainability of the Standard American Diet and the American Food System
9. Discussion and Q&A

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How Many of You Eat Organic or Sustainably Produced

- All the time
- Most of the time
- Sometimes
- Rarely or never

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Definition of Sustainability

A system that is:

1. Ecologically sound
2. Economically viable
3. Socially just
4. Humane -- embodying our highest values, how we treat people, animals & the Earth

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Where are You on the Dietary Continuum?

- Eat the omnivore diet where nearly everything is fair game?
- Eat a diet with poultry, meat & fish or seafood?
- Eat a diet with poultry but no red or white meat?
- Eat a non-meat diet but with fish or seafood ?
- Eat a vegetarian diet with eggs or dairy but no seafood?
- Eat an entirely plant-based diet (vegan)?

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Definition of Sustainability

Sustainable development meets the needs of the present without compromising the ability of future generations to meet their needs.

– U.N. World Commission on Environment and Development
Our Common Future, 1987

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Definitions of Sustainability



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Does Our Diet Contribute to Climate Change?

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Another Inconvenient Truth

Bad & Good News: Plant-Based Diet Can Change the World



- Bad: Global livestock production is expected to double in 50 years
- Bad: Livestock methane is 21 time more a greenhouse gas polluter than CO2
- Good: Methane only lasts 8 years in atmosphere
- Good: Reducing meat consumption can dramatically reduce global climate change

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Sustainability of Plant-Based Diet

- Plant-based diets are more sustainable than diets based on animal products
- They use less natural resources and produce fewer GHG emissions
- For the same amount of protein, tofu requires 74 times less land than beef and eight times less water, while decreasing water quality degradation potential 39 times

Source: *Nutrients*, 2021 Nov; 13(11): 4144
<https://us02web.zoom.us/j/3920767143?pwd=OFZkaXg3NmtVcWV1RnF3a3RzRG42Zz09>

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Impact of Food Choices

- Livestock cause 18% of global warming, more than all cars, trucks, SUVs, planes & transit combined
- Livestock produce 100+ other polluting gases, including more than 66% of world's emissions of ammonia, a main cause of acid rain
- Major deforestation source
- Overgrazing turning 1/5 of pastures & ranges into desert

Source: UN FAO, Livestock's Long Shadow. 2006

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Climate Benefits from Plant-Based Diet

- The adoption of lacto-ovo-vegetarian diets could reduce the dietary GHG emissions by 35%, land use by 42% and freshwater use by 28%
- Adopting a vegan diet would lead to around one-half of both GHG emissions and land use of that of current dietary patterns

Source: *Nutrients*, 2021 Nov; 13(11): 4144
<https://us02web.zoom.us/j/3920767143?pwd=OFZkaXg3NmtVcWV1RnF3a3RzRG42Zz09>

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Health Benefits from Plant-Based Diet

Plant-based diets protect against common chronic diseases, decreasing the risk of:

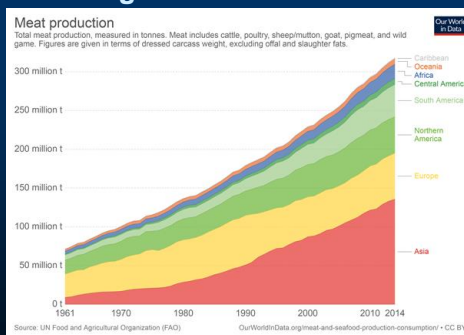
- Heart disease 40%
- Strokes 29%
- Type 2 diabetes about 50%
- Obesity and
- Certain types of cancer
- Plus benefiting the gut microbiome, which in turn influences overall health

Source: *Nutrients*, 2021 Nov; 13(11): 4144
<https://us02web.zoom.us/j/3920767143?pwd=OFZkaXg3NmVcWV1RnF3a3RzRG42Zz09>
Nutrients 2017, 9(6), 848
<https://www.mdpi.com/2072-6643/9/8/848/htm>

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Growing Global Meat Production



Source: <https://ourworldindata.org/meat-and-seafood-production-consumption>

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Appropriateness of Plant-Based Diet

Both a vegetarian and vegan diet are appropriate for all stages of the life cycle, including:

- Pregnancy and lactation
- All stages of childhood
- The elderly
- Athletes

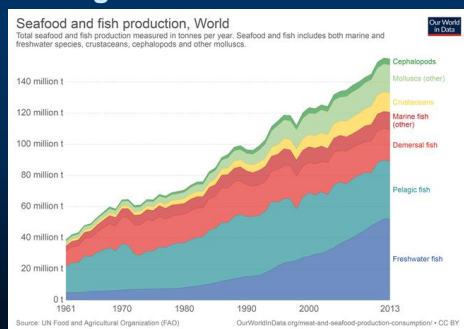
When appropriately planned, a plant-based diet (consisting substantially of minimally processed foods) can be nutritionally adequate.

Source: *Nutrients*, 2021 Nov; 13(11): 4144
<https://us02web.zoom.us/j/3920767143?pwd=OFZkaXg3NmVcWV1RnF3a3RzRG42Zz09>

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Growing Global Seafood Production



Source: <https://ourworldindata.org/meat-and-seafood-production-consumption>

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Overall Benefits of Plant-Based Diet

Plant-based diets are associated with

- Significant improvement in emotional and physical well-being
- Reduced Depression
- Better Quality of life
- General health
- Lower blood sugar [HbA1c levels, a measure of long-term blood glucose levels]
- Reduced Weight
- Lower Total and LDL cholesterol levels

Source: *Nutrients*, 2021 Nov; 13(11): 4144
<https://us02web.zoom.us/j/3920767143?pwd=OFZkaXg3NmVcWV1RnF3a3RzRG42Zz09>

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UN Intergovernmental Panel on Climate Change's Landmark Report – August 7, 2019

Climate Change and Land

An IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems

Source: UN IPCC, 2019
www.ipcc.ch/report/srcl/

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Food Supply and Climate Change

- Since 1961, food supply per capita has increased more than 430%, accompanied by greater use of nitrogen fertilisers (increase of about 800%) and water resources for irrigation (increase of more than 100%)
- An estimated 821 million people are currently undernourished, 151 million children under 5 are stunted, 613 million women and girls aged 15 to 49 suffer from iron deficiency, and 2 billion adults are overweight or obese

Source: UN IPCC, IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security and Greenhouse gas fluxes in Terrestrial Ecosystems, 2019 p. 5-6

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www.ipcc.ch/report/srcccl/

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Impact of Diet on Climate Change

Demand-side mitigation

GHG mitigation potential of different diets

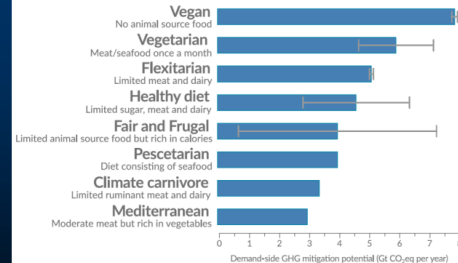


Figure 5.12 Technical mitigation potential of changing diets by 2050 according to a range of scenarios

Source: UN IPCC, IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security and Greenhouse gas fluxes in Terrestrial Ecosystems, 2019 p. 5-77

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Benefit from Sustainable Land & Diet

- Sustainable land management [resources, including soils, water, animals and plants], including sustainable forest management, can prevent and reduce land degradation, maintain land productivity, and sometimes reverse the adverse impacts of climate change on land degradation
- The total technical mitigation potential from crop and livestock activities, and agroforestry is estimated as 2.3- 9.6 GtCO₂e.yr-by 2050 and the potential of dietary changes is estimated as 0.7- 8 GtCO₂e.yr

Source: UN IPCC, IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security and Greenhouse gas fluxes in Terrestrial Ecosystems, 2019

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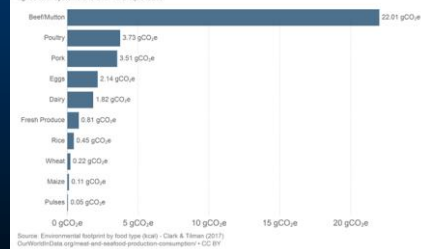
www.ipcc.ch/report/srcccl/

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Greenhouse Gas Emissions per Kilocalorie of Food

Greenhouse gas emissions per kilocalorie of food production

Average greenhouse gas emissions per kilocalorie of food production, by food type measured in grams of carbon dioxide equivalent (CO₂e) per kilocalorie. Average values are based on meta-analysis of studies across 142 agricultural systems and over 90 unique foods.



Source: <https://ourworldindata.org/meat-and-seafood-production-consumption>

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Impact of Healthy Sustainable Diets

- Consumption of healthy and sustainable diets present major opportunities for reducing GHG emissions and improving health outcomes
- Diets high in coarse grains, pulses, fruits and vegetables, and nuts and seeds; low in energy-intensive animal-sourced and discretionary foods (such as sugary beverages); and with a carbohydrate threshold
- Total mitigation potential of dietary changes is estimated as 1.8-473.4 GtCO₂e.yr by 2050 at prices ranging from 20-100 USD/tCO₂

Source: UN IPCC, IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security and Greenhouse gas fluxes in Terrestrial Ecosystems, 2019 p. 5-6

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www.ipcc.ch/report/srcccl/

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Meat-free Diet ~ Environmental Advantages



- If everybody in the UK ate no meat for **2 days** per week, it would save the equivalent of almost **73 million return flights** from London to Ibiza.
- If everybody in the UK ate no meat for **6 days** per week, it would create greater carbon savings than **removing all the cars off UK roads** (29 million cars).

Source: Pieter van Beukering, Kim van der Leeuw, Desire Immerzeel and Harry Aiking (2008) Meat the Truth. The contribution of meat consumption in the UK to climate change. Institute for Environmental Studies (IVM), VU University, Amsterdam, the Netherlands <http://tinyurl.com/5q3vwx>

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Being Vegan is better than Eating Organic Meat and Dairy

Agriculture as Climate Killer
Greenhouse effect from different kinds of eating habits, per capita and per annum, presented in car kilometers*

Diet	Emissions (km)
Veganism	281 km
Organic Farming	629 km
Vegetarianism	1978 km
Conventional Farming	2427 km
Diet includes Meat	4377 km
Organic Omnivore	4758 km

*Equivalent to the CO2 emissions of a BMW 118d with 1.90g CO2/km

Source: Spiegel Online International, 27 August 2008 <http://tinyurl.com/557yxs>

Foodwatch of Germany compared:

- Conventionally and organically raised meat, dairy and plant foods.
- Omnivorous, vegetarian and vegan diets.


(Translated to mileage driven by a BMW 118d)

Results

- Conventional Omnivore emissions = driving 4758 km
- Organic Omnivore * emissions = driving 4377 km
- Conventional Vegan emissions = driving 629 km
- Organic Vegan emissions = driving 281 km

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Standard American Diet (SAD)

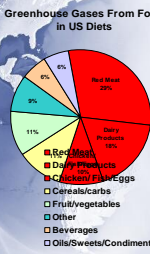


- 51% refined/processed foods, 42% dairy/animal products, 7% fruits/vegetables
- The more unhealthy foods eaten, the fewer healthy foods consumed
- Calories devoid of nutrients lead to a build-up of cellular wastes, causing disease and aging one prematurely
- High in disease-promoting substances

Source: Fuhrman, Joel. *Eat for Health* (NJ: Gift of Health Press (2008))

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Vegan or Local Food?



Greenhouse Gases From Food in US Diets

Source	Percentage
Food Miles	11%
Other	2%
Animal Products	40%
Plant Products	47%

The way food is produced during its life cycle determines the emission footprint more than **counting food miles**.


Carnegie Mellon University researchers found that **eating vegan food one day per week, saves more emissions than eating locally-grown food all year.**

Source of Food Emissions:

- Transportation (Food Miles): 11%
- Agricultural & industrial processes: 83%

Source: Food-Miles and the Relative Climate Impacts of Food Choices in the United States, Carnegie Mellon University, 2008 <http://tinyurl.com/3w377g>

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The food you eat can be either the safest and most powerful form of medicine, or the slowest form of poison -

Author, Holistic Health Practitioner, Nutritionist and Cancer Healer Ann Wigmore

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What IS and IS NOT Sustainable from a Health Perspective and Why

The Standard American Diet (SAD)

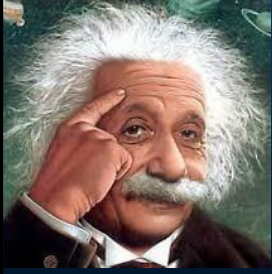


Organic, Local, Nutrient Dense, Plant-Based Diet



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Nothing will benefit human health and increase chances for survival of life on Earth as much as the evolution to a vegetarian diet.

– Albert Einstein

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***The Standard American Diet (SAD)
will take 20 years off life with a
cost of \$3 million per person in
medical costs.***

**-- Dr. Alan Greene, Pediatrician,
Stanford University School of Medicine
Author, *From First Kicks to First Steps*
www.Dr.Green.com**

Source: Closing Session of Eco-Farm Conference, Asilomar
Conference Center, Pacific Grove, CA January 27, 2007

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***Many studies have shown
that vegetarians seem to have
a lower risk of obesity, coronary
heart disease (which causes
heart attacks), high blood
pressure, diabetes mellitus
and some forms of cancer.***

—The American Heart Association

Vegetarian Diets. (20 May 2010). *American Heart
Association*. Retrieved May 6, 2011, from
www.heart.org/HEARTORG/GettingHealthy/NutritionCenter/Vegetarian-Diets_UCM_306032_Article.jsp

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Organic Diets Significantly Lower Children's Dietary Pesticide Exposure

- CDC urinary biomonitoring of 23 children
- Found median urinary concentrations of specific metabolites for malathion and chlorpyrifos decreased to nondetect levels immediately after introduction of organic diets
- Remained nondetectable until conventional diets were reintroduced
- Organic diet provides a dramatic and immediate protective effect against exposures to organophosphorus pesticides used in ag

Chensheng Lu, et al. "Organic Diets Significantly Lower Children's Dietary Exposure to Organophosphorus Pesticides", February 1, 2006 *Environmental Health Perspectives*
<http://ehp03.niehs.nih.gov/article/lookupArticle.action?articleURI=info:doi/10.1289/ehp.8418>

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Plant-Based Diet: 10-fold Decrease in Heart Disease

- Average U.S. man's risk of death from heart disease > 50%
- Pure vegetarian's risk of death from heart disease < 5%

Sources:

McDougall, John, *The McDougall Plan*, New Century Publishers, p. 117

Robbins, John, *Diet for a New America*, StillPoint Publishing, 1987, p. 247

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Do you or someone you know have:

- Heart disease
- Stroke
- Type 2 diabetes
- Rheumatoid arthritis
- Cancer of the colon
- Prostate cancer
- Osteoporosis
- Chronic headaches
- Autoimmune disease

Evidence of dietary causes. Plant-based diets can prevent and even reverse many.

– Dr. Joel Fuhrman *Eat for Health* (NJ: Gift of Health Press (2008)

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Cancer and Plant-Based Diets

- According to the results of the China Study, the largest study ever conducted on the relationship between diet and disease, animal protein significantly contributes to cancer

– Campbell, T. Colin, and Thomas M. Campbell II. *The China Study: The Most Comprehensive Study of Nutrition Ever Conducted and the Startling Implications for Diet, Weight Loss and Long-Term Health*, Dallas: BenBella Books, 2005

- Even after adjusting for smoking, socioeconomic status, and body mass index, cancer rates for vegetarians are 25-50% lower than for those of the general population

-- Chang-Claude, J., et al., "Mortality Pattern of German Vegetarians after 11 Years of Follow-Up," *Epidemiology* 3 (1992): 395-401;
Thorogood, M., et al., "Risk of Death from Cancer and Ischaemic Heart Disease in Meat and Non-Meat Eaters," *British Medical Journal* 308 (1994): 1667-70

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Obesity

- **30.5% Obesity rate for US population (>19)**
(American Obesity Association Fact Sheet, www.obesity.org)
- **6% rate among vegetarians**
("Prevalence of Obesity is Low in People Who Do Not Eat Meat," *British Medical Journal* 313, (1996): 816-7)
- **2% rate among vegans**
(Robbins, John, *The Food Revolution*, Conaria Press, 2001)

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The Protein Myth

- Protein is contained in ALL foods
- Eat adequate calories for your needs and you will **EASILY** have sufficient protein
- Green vegetables, peas and beans have more protein per calorie than meat...yet no saturated fat or cholesterol
- The true danger is the consumption of **EXCESS** protein which is converted to fat or eliminated through the kidneys, accompanied by calcium and other minerals drawn from the bones... leading to osteoporosis and kidney stones

Source: Fuhrman, Joel. *Eat for Health* (NJ: Gift of Health Press (2008)

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There's no question that largely vegetarian diets are as healthy as you can get. The evidence is so strong and overwhelming and produced over such a long period of time that it's no longer debatable.
— Marion Nestle, former chair, Nutrition Department, New York University

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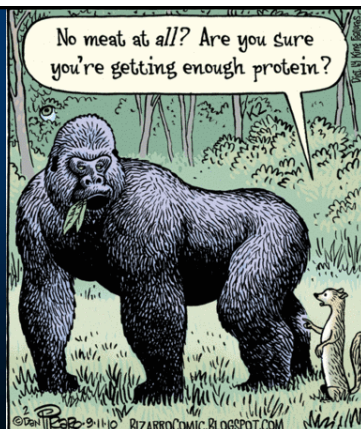
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Protein and Plant-Based Diets

- Plants can provide all essential amino acids
- Myth that you need meat to get sufficient amount of protein
- According to a USDA survey, average American vegetarian gets **150%** of their recommended daily protein

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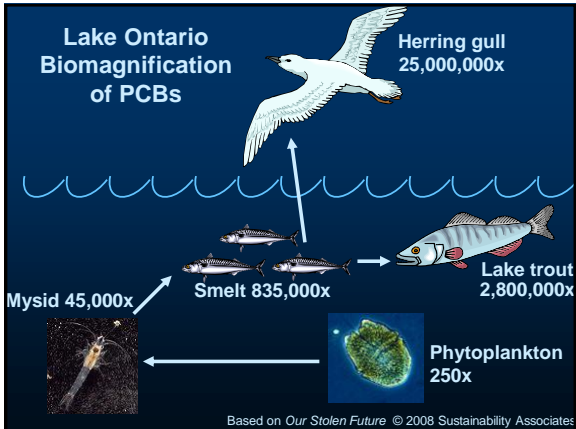
What About Fish?



- All fish and shellfish are contaminated with mercury and other pollutants
- Mercury is cardio-toxic—this offsets the potential benefit of blood-thinning omega fats
- Fish consumption (of all kinds) has a dose-dependent relationship with breast cancer... those consuming little to no fish have half the incidence of breast cancer

Source: Fuhrman, Joel. *Eat for Health* (NJ: Gift of Health Press, 2008)

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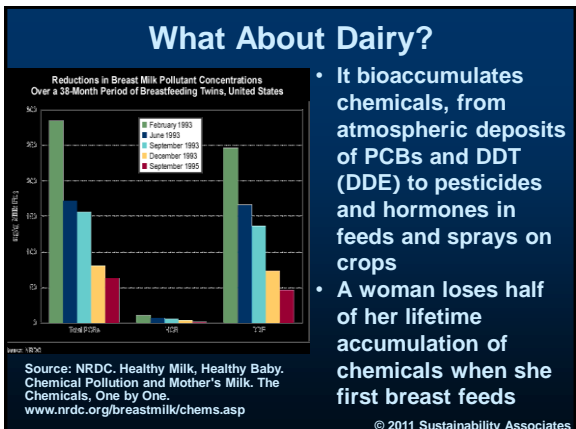
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What Animals are Fed

- About 13.5 million pounds of antibiotics are routinely added to animal feed or water annually to increase weight gain
- This nontherapeutic use of antibiotics speeds the development of antibiotic-resistant bacteria, which can infect humans as well as animals
- Feed for food animals can contain cattle manure, swine waste & poultry litter
- This waste may contain drugs such as antibiotics and hormones that have passed unchanged through the animals

Source: Union of Concerned Scientists. *They Eat What? The Reality of Feed at Animal Factories*
http://www.ucsusa.org/food_and_agriculture/science_and_impacts/impacts_industrial_agriculture/they-eat-what-the-reality-of.html © 2011 Sustainability Associates

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There is no Mad Kale Disease.
 -- Dr. Neal Barnard, Physicians Committee for Responsible Medicine

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Plant-Based Diets Avoid Food Contamination

- According to the USDA, 70% of food poisoning is caused by contaminated animal flesh
 (Nutt, Amy Ellis, "In the Soil, Water, Food, and Air", *The Newark Star Ledger*, Dec 8, 2003)
- 89% of US ground beef patties contain traces of the deadly e. coli strain of bacteria
 ("Is Meat Sustainable?", *Worldwatch Magazine*, 2004, p. 17-18)
- 70% of antibiotics used in the U.S. are given to livestock, both healthy (to promote weight gain) and sick
 (Union of Concerned Scientists, www.ucsusa.org/food_and_environment/antibiotics_and_food/)
- Animal products are responsible for about 80-90% of dietary pesticide and herbicide exposure
 (Knight Ridder, "Study Says Meat/fish Highest Source of Dietary Toxins," *The Vancouver Province*, April 22, 2001)

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Another good reason to get your nutrition from plant sources is that animals tend to concentrate pesticides and other chemicals in the meat and milk...Plant foods have much less contamination.

-- Dr. Spock

Spock, Benjamin and Steven Parker, *Dr. Spock's Baby and Childcare*, 1998 p. 113-114

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Lactose Intolerance



- About 75% of world, including 25% in US, lose lactase enzymes after weaning
- Lactose intolerance: About 70% of African Americans, 90% of Asian Americans, 53% of Mexican Americans and 74% of Native Americans
- Substantial lactase reduction is common among Jews, Arabs, Italians and Greeks
- "lactase activity was sustained only in a majority of adults whose origins were in Northern European or some Mediterranean populations" (*American Journal of Clinical Nutrition*, 1988)

Source: Physicians Committee for Responsible Medicine.
What is Lactose Intolerance?

www.pcrm.org/health/veginfo/lactose_intolerance.html © 2011 Sustainability Associates

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Milk and Osteoporosis

Countries in the world with the highest rates of dairy consumption also have the highest rates of osteoporosis. --

McDougall, John, *McDougall's Medicine*, Piscataway NJ: New Century Publishers, 1985, p. 67

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Dairy and Osteoporosis?



- Why drink milk?
- Get calcium to combat osteoporosis
- But milk depletes calcium from bones
- Like all animal protein, milk acidifies body pH, triggering biological correction
- Calcium is excellent acid neutralizer and biggest storage of calcium is in bones
- So calcium needed for strong bones is used to neutralize milk's acidifying effect
- Once calcium is pulled out of bones, it leaves the body via urine
- Surprising net result is an actual calcium deficit

Source: Goldschmidt, Vivian. Debunking the Milk Myth: Why Milk is Bad for You and Your Bones. <http://saveourbones.com/osteoporosis-milk-myth/>

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Milk and Osteoporosis

- *There is virtually no evidence that drinking two or three glasses of milk a day reduces the chances of breaking a bone --*

Walter C. Willet, M.D., Chairman of the Department of Nutrition, Harvard School of Public Health

- 12-year Nurses' Health Study (78,000 women) found no evidence higher intakes of milk reduced osteoporosis. Found relative risk of hip fracture for women who drink 2 glasses of milk/day was 1.45 times **higher than 1 glass or less** -- Feskanich, D., et al., "Milk, Dietary Calcium, and Bone Fractures in Women..." *American Journal of Public Health* 87 (1997):992-7

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Dairy: Osteoporosis, Cancer and Heart Disease

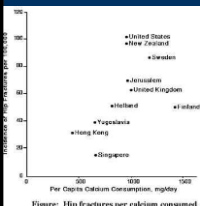


Figure: Hip fractures per calcium consumed

Hegsted DM. Calcium and osteoporosis. *J Nutr* 1986;116(11):2316-9 cited in Redwood, Daniel. "Major Opinion Shift on Calcium Needs", *Health Insights Today* May 28, 2008

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- Medical studies confirm that drinking cow's milk does not lead to stronger bones
- Populations who consume the most dairy products have the highest rates of osteoporosis
- Every natural food contains calcium & green vegetables have especially high levels
- Saturated fat in dairy increases risk of cardiovascular diseases and cancer

Source: Fuhrman, Joel. *Eat for Health* (NJ: Gift of Health Press (2008)

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Key Factors Causing Osteoporosis

- Diets too high in animal protein and too low in vegetable protein
- High consumption of salt and/or caffeine
- Smoking
- Vitamin D deficiency
- Vitamin A supplements

Source: Fuhrman, Joel. *Eat for Health* (NJ: Gift of Health Press, (2008)

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Questions or Comments?

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You can save your green and eat it too! **SAVE A LOT OF MONEY—AND LIVES**

Vegan options are cheaper at the grocery store and reduce the likelihood of leading expensive doctor visits, medications, and lower expenses in the future.

	LENTILS	POPPERHOUSE STEAK
SOUPERS SOIL	1 cup	4 oz
PROTEIN	17 g	23 g
PER CALORIE	0.82¢	2¢
FOOTPRINT	0.01	0.02
CO2	0.01	0.02
WATER	0.01	0.02
LAND	0.01	0.02
SEALED	0.01	0.02

Big Savings from Plant-Based Foods

- Vegan diet can save \$1277 per year
- Direct US health care costs attributable to meat consumption estimated at up to \$61.4 billion/year (1992), including hypertension, heart disease, cancer and diabetes
- Low-meat diets could cut climate change costs in half by 2050, saving \$20 trillion

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Plant-Based Diets Can Save You a Lot of Money

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msn “Go Vegetarian to Save Money” Half the Life Insurance Costs

- Most life insurance companies require physical exam before issuing a private policy
- They don't ask about diet, but look at cholesterol, blood sugar, body mass index, blood pressure, family history and tobacco use
- People considered healthiest (least risk of dying) are charged roughly half the annual premium of someone on other end of the scale
- For a 54-year-old man with \$1 million policy over 20 years, that's \$2,500 a year versus \$5,000

Source: “Go Vegetarian to Save Money”, By Scott McCredie, MSN Online, July 24, 2007
<http://articles.moneycentral.msn.com/SavingandDebt/SaveMoney/GoVegetarianToSaveMoney.aspx?page=all> © 2009 Sustainability

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How Plant-Based Foods Save Money



- Most staples of vegetarian diet are cheap: beans, rice and corn
- Plant proteins are cheaper than the same amount of animal protein
- Cheapest cuts of beef, such as ground round, average. \$3/lb in U.S. cities; boneless chicken breasts cost \$3.40/lb; and canned tuna is about \$2/lb
- Contrast with dried beans and lentils at less than \$1/lb, rice below \$1/lb and tofu under \$1/lb.

“Go Vegetarian to Save Money”, By Scott McCredie, MSN Online, July 24, 2007
<http://articles.moneycentral.msn.com/SavingandDebt/SaveMoney/GoVegetarianToSaveMoney.aspx?page=all>

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Questions or Comments?

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We'd Appreciate Your Feedback!



Please scan QR Code to
complete short survey!

Contact us for more
information:

Email: info@afors.org

www.afors.org



94

Micronutrients

- Vitamins
 - Minerals
 - Phytochemicals
- Calorie-Free

Source: Fuhrman, Joel. *Eat for Health* (NJ: Gift of Health Press, (2008)

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Some Simple Steps You Can Take to Eat Sustainably

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Phytochemicals

ESSENTIAL in immune-system
defenses:

- Detoxify cancer-causing compounds
- Deactivate free radicals
- Protect against radiation damage
- Enable DNA repair mechanisms

Source: Fuhrman, Joel. *Eat for Health* (NJ: Gift of Health Press, (2008)

99

Macronutrients

- Proteins
 - Carbohydrates
 - Fats
- Contain Calories

Source: Fuhrman, Joel. *Eat for Health* (NJ: Gift of Health Press, (2008)

97

Nutritarian Diet

- 90% of diet consisting of
(micro)nutrient dense vegetables
and fruits
- 3-4 ounces of nuts/seeds daily

Source: Fuhrman, Joel. *Eat for Health* (NJ: Gift of Health Press (2008)

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The Healthiest, Anti-Cancer Foods



Greens Beans Onions Mushrooms Berries Seeds

- **G – Greens:** Most nutrient-dense of all foods
- **B – Beans:** Anti-diabetes & cancer, weight-loss
- **O – Onions, Garlic & Allium family:** Anti-cancer
- **M – Mushrooms:** Anti-cancer & inflammation
- **B – Berries:** Cardio-protective & anti-cancer effects
- **S – Seeds & Nuts:** Cardiovascular, weight, diabetes

www.drhuhrman.com/learn/library/articles/29/the-healthiest-anti-cancer-foods-g-bombs

103

Centenarians

- Consumed the majority of calories from fresh produce---high nutrient foods, no excess calories, no nutrient deficiencies
- Held an optimistic outlook on life
- Maintained a social circle of friends
- Stayed physically active
- Nutrition and other lifestyle factors that you can choose are a more significant determinant of your health than genetics

Source: Fuhrman, Joel. *Eat for Health* (NJ: Gift of Health Press (2008)

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Supplements

- Try to get nutrition from the foods you eat rather than supplements
- However, these are important:
 - D3 - MRM Vegan Vitamin D3 (5000 IU)
 - B Vitamins
 - Omega 3s w/ EPA & DHA - Testa Omega 3
 - Probiotics
- Green Superfoods are also valuable like Amazing Grass Green Superfood Chocolate

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Questions or Comments?

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How to Tastefully Add Superfoods to Your Diet

- Add sunflower seeds, avocado, beans & broccoli sprouts to salad
- Smoothies - blend frozen/fresh fruits and/or veggies with water - add flaxseed, nuts, spinach
- Use vegetables in place of bread and chips: cabbage leaves, collard greens as "wraps", raw veggies for dipping bean dips and guacamole
- Keep supply of washed/pre-cut frozen veggies and canned beans [no/low-salt] on hand
- Make cereal and pudding with chia seeds

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Making the Transition to a Sustainable Diet

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Meatless Mondays www.meatlessmonday.com

 • Sodexo  • Puma  • San Francisco  • Johns Hopkins Hospital  • Oprah  • Yoko Ono  • Gwyneth Paltrow  • LA Mayor Antonio Villaraigosa	 • AARP  • Russell Simmons  • U of CA, Davis  • Sir Paul McCartney  • James Cameron  • Robin Roberts  • Philippe Cousteau  • Toyota  • Simon Cowell
--	--

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Vegan Celebrities

 • Publisher Mort Zuckerman  • Bodybuilder Robert Cheeke  • Model Petra Němcová  • Author Alice Walker  • Artist Peter Max  • Tennis Player Venus Williams  • Actor Brad Pitt	 • Singer/Songwriter Erykah Badu  • Singer/Songwriter Sinéad O'Connor  • Actress Jane Lynch  • Ford CEO William Clay Ford  • Buddhist Monk Thích Nhất Hạnh  • Whole Foods CEO John Mackey
--	--

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Vegan Celebrities

 • VP Al Gore  • Actor Ted Danson  • Boxer Mike Tyson  • Singer Carrie Underwood  • Entrepreneur Russell Simmons  • Actor Woody Harrelson	 • Singer/Song Writer Alanis Morissette  • Actor Alec Baldwin  • Actress Alicia Silverstone  • Actor Joaquin Phoenix  • Singer/Songwriter K.D. Lang  • Singer/Musician Moby
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NY Times Best-Seller TX Firefighters Plant-Based Diet



- Lose weight
- Lower cholesterol
- Significantly reduce risk of disease
- Become physically fit
- Just 4 weeks
- Whole Foods now promoting with employees

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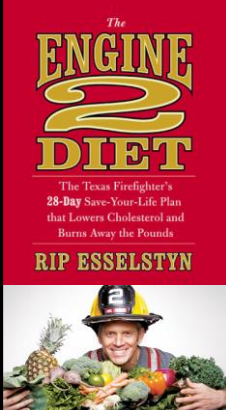
118

Vegan Celebrities

 • Actress Sandra Oh  • Spiderman Toby Maguire  • BeeGee Robin Gibb  • Olympic Gold Medalist Carl Lewis  • Rocker Chrissy Hynde  • Actor Ed Begley, Jr.	 • Director Peter Bogdanovich  • U.S. Rep. Dennis Kucinich  • Ariana Grande  • Actress Betty White  • Farmworker Leader Cesar Chavez  • Civil Rights Leader Coretta Scott King
--	---

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Firefighter Steps to Health



- Week 1: Ditch the dairy. No milk, cheese, yogurt, butter, ice cream, sour cream. Use milk substitutes (soy and rice) - Rid pantry of processed and refined foods (white)
- Week 2: Eliminate animal products. No chicken, beef, eggs, fish, pork, turkey, buffalo, venison, elk "Nothing with a face and nothing with a mother"

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Plant-Based Fast Food

- Amy's Soups, Frozen Dinners, Pizza & Burgers
- Tofurky, Sausage, Burger, Dogs, Brat, Deli Slices, Chick'n, Pizza, Chorizo, Pockets, Bacon
- Viana Organic Gyro, Steak, Frankfurter, Roast
- Sunshine Burgers, Candle Cafe Dinners, Mother India Organics, Lundberg Rice, Edward & Sons Mashed Potatoes
- Uptons, Beyond Meat, Gardein, Field Roast, Boca
- Light-life Not Dogs with Rudi's Organic Buns
- Follow Your Heart Eggs and Daiya Cheese & Pizza
- Whole Foods Organic Coconut, Almond, Soy Milks
- Tostadas, Tacos, Burritos, Quesadillas, Guacamole

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Questions or Comments?

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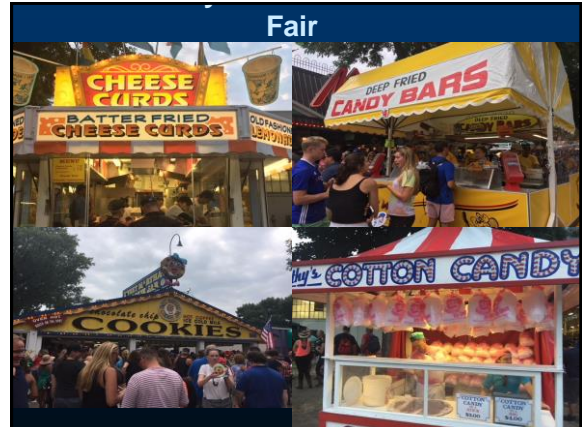
Easy Recipe Changes

- Italian: Whole Wheat (egg-free) Pasta, Pizza & Lasagna with Vegan Cheese, Polenta
- Thai: Green or Red Coconut Milk Curry with Tofu or Mock Duck
- Chinese: Spring Roll, Stir Fry with Tofu
- Indian: Samosa, Pakora, Vegetable Curry, Dahl
- Mexican: Refried Bean and Avocado Tacos, Tostadas and Enchiladas, Daiya Quesadillas
- Vietnamese: Mock Duck and Tofu
- Greek: Dolmades, Hummus
- Middle Eastern: Falafel, Dolmades
- American: Soy or Almond Milk for French Toast; Egg Substitute for Pies and Pancakes

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Fair



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How We Feed Our 4 Organic, Vegan Children

- Key: No Artificial Flavors or Colors and Minimize Sugar, Salt and Fried Food as Babies
- Breakfast: Fruit Salad, PB&J, Bagel or Toast with Hummus, Cereal w/ Almond or Soy Milk, Oatmeal, Frozen Waffles, French Toast, Pancakes
- School Lunch: Quesadilla, Brat, Burger, Pizza, Deli Slices or Hummus Sandwich with Carrots, Tomatoes & Cucumbers, Amy's ABC Soup, Fruit
- Dinner: Mac & Cheese, Taco, Burrito, Tofurky Chick'N, Stir Fry, BBQ, Tofu, Pizza, Lasagna, Salad, Garbanzos & Rice, Cauliflower, Broccoli, Brussels Sprouts, Green Beans, Edamame, Roast Potatoes
- Snacks: Fruit Smoothies, Nuts, Cukes, Peppers
- Dessert: Fruit, Cookies, Pie, Sorbet, Ice Cream
- Eating Out: Asian, Indian, Middle Eastern

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Healthy Choices at the State Fair



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Healthy Choices at the State Fair

- Earthwings - French Meadow (**Carnes Avenue**)
- Organic Produce - Produce Exchange (**West End**)
- Roasted Corn - Corn Roast (**Dan Patch & Nelson**)
- Apples, Cider & Apple Freezes (**Horticulture**)
- Island Noodles (International Bazaar or IB)
- Falafel - Falafel King (**Food Building or FB**)
- Falafel, Dolmades & Samosas - Holy Land (IB)
- Nuts: Cinnamon Roasted Nuts (IB) and Simply Nuts & More (**Warner Coliseum**)
- Burrito Boats & Guac - Tejas Express (**The Garden**)
- Fruit Kabobs/Smoothies - Caribbean Smoothies
- Tacos & Burritos - El Sol (FB), San Felipe Tacos (FB) & Mexican Hat (**Near Grandstand**)
- Black Bean Veggie Wrap - Cafe Caribe (**Carnes**)
- Roti - Harry Singh's (FB)

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"A medical breakthrough.
If you give this diet your complete commitment,
there is no question in my mind that it will
work for you." —MENHET OZ, M.D.

EAT TO LIVE

THE REVOLUTIONARY FORMULA
FOR FAST AND SUSTAINED WEIGHT LOSS
JOEL FUHRMAN, M.D.

LOSE 20 LBS.
OR MORE
IN 6 WEEKS

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Powerful Steps to Health

- Emphasize a Nutrient-Dense Diet
- Reverse diabetes and other diseases, reduce high blood pressure, lower cholesterol levels, prevent heart disease and cancer, lose unwanted weight and improve your health -- all without drugs and fad diets
- Whole Foods Aggregate Nutrient Density Index of fruits and vegetables

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Questions or Comments?

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Resources For Eating Sustainably

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French Meadow Bakery & Cafe

- Longest Continuously-Running Certified Organic Bakery in US
- Vegan Tempeh Reuben, Green Vegetable Curry, Caesar Salad, BBQ Wraps and Earthwings
- Vegan Chocolate Turtle Cake and Pancakes
- Minneapolis, St. Paul and Airport Locations

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Cauliflower Wings
BBQ Beaf
Buffalo Soy Curl Wrap
Corn Dog
Falafel Burger
Street Tacos
The Philly
Chicago(ish) Dog and Chili Dog
Spicy Chickin' Sandwich
Soups, Salads and Desserts

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Alliance for Sustainability
Mission: To Co-create sustainability on a personal, organizational, and planetary level
 Founded in 1983
 Website: www.afors.org
 Free Weekly e-Newsletter
 Social Media & Weekly Inclusive-Tea Podcast
SHE Kindness Campaign:
 Declaration of Co-Creation & Interdependence
 Impactful Campaigns and Public Policies
 SHE Kindness Business Program
 SHE Kindness School Program

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Resources

- *Vegetarian Times Magazine* www.vegetariantimes.com
- *VegNews* www.VegNews.com
- John Robbins – *Diet for a New America* and *The Food Revolution*
- Joel Fuhrman - *Eat to Live* www.drfuhrman.com
- Dr. Joseph Mercola - www.mercola.com
- Myra Kornfeld - *The Voluptuous Vegan*
- *Forks Over Knives* Video, Book & Cookbook
- *What the Health* and *Cowspiracy* Videos
- Moskowitz & Romero - *Veganomicon*
- Colleen Patrick-Goudreau – *The Vegan Table*
- Robin Asbell – *Big Vegan & Great Bowls of Food*
- EG Smith Collective – *Animal Ingredients A to Z*
- Restaurants: Herbivorous Butcher, French Meadow, J. Selbys

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**OUR FOOD
OUR FUTURE**
 Making a Difference With Every Bite:
 The Power of the Fork!

www.earthsave.org/pdf/ofof2006.pdf

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Organizations for Eating Sustainably

- Compassionate Action for Animals www.exploreveg.org
- Animal Rights Coalition www.animalrightscoalition.com
- Physicians Committee for Responsible Medicine www.pcrm.org
- Vegetarian Resource Group www.vrg.org
- Alliance for Sustainability www.afors.org
- Organic Center www.organic-center.org
- Organic Consumers Association www.organicconsumers.org

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Compassionate Action for Animals
 Creating respect and justice for animals in our world.




- Resources: Veg Starter Kit, Recipes, Restaurant Guide, Veg Traveling/Study Abroad Guide
- Educational outreach and Social Events: Potlucks & Dineouts
- Twin Cities Veg Fest **Sep 16 at Harriet Island in St. Paul** www.exploreveg.org

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Animal Rights Coalition
because animals matter

- Education and Outreach
- Campaigns: Minnesotans Exposing Petland
- Vegan Meet-up
- Vegan Drinks
- Teaching Compassion
- Vegan University

<http://animalrightscoalition.com>






144

Ecological Soundness: Health for People, Animals and All Living Systems

148

Questions or Comments?

146

Mainstream Studies Show Concerns with Animal Agriculture



- Union of Concerned Scientists
CAFOs Uncovered: The Untold Costs of Confined Animal Feeding Operations - Doug Gurian-Sherman, Union of Concerned Scientists April, 2008
- Putting Meat on the Table: Industrial Farm Animal Production in America - A Report of the Pew Commission on Industrial Farm Animal Production - A Project of The Pew Charitable Trusts and Johns Hopkins Bloomberg School of Public Health 2009

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Assessing the Overall Sustainability of the Standard American Diet and Our Food System

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The present system of producing food animals in the United States is not sustainable and presents an unacceptable level of risk to public health and damage to the environment, as well as unnecessary harm to the animals we raise for food.

- Robert P. Martin, Executive Director,
Pew Commission on Industrial
Farm Animal Production

150

livestock's long shadow
environmental issues and options

Impact of Livestock

The livestock sector emerges as one of the top two or three most significant contributors to the most serious environmental problems, at every scale from local to global.

- UN FAO, Livestock's Long Shadow, 2006

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Energy and Plant-Based Diets

- More than one-third of all fossil fuels produced in US is used to raise animals for food - Motavalli, Jim, "The Case Against Meat," *E Magazine*, Jan. /Feb. 2002
- 33% of all raw materials (base products of farming, forestry, and mining, including fossil fuels) used annually in US go into raising animals for food - Robbins, John, *Diet for a New America*, StillPoint Publishing, 1987, p.374.
- To produce 1 pound of animal protein requires 8 times more fossil fuel than plant protein - Pimentel, D. Livestock production: Energy inputs and the environment. In Proceedings, ed. S. L. Scott and X. Zhao, Proceedings of the 46th Annual Meeting of the Canadian Society of Animal Science, July 24-26, 1997. Montreal, Canada: CSAS.

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Two pounds of beef can take up to 5200 gallons of water to produce

= all the water a person uses in showering for one year

So eating 8 less hamburgers = your shower water for 1 year

THE FOOD REVOLUTION
HOW YOUR DIET CAN HELP SAVE YOUR LIFE AND THE WORLD

JOHN ROBBINS
Author of *Diet for a New America*
FOREWORD BY DEAN ORNISH, M.D.

© 2008 Sustainability Associates

Source: U of CA Extension Soil & Water

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Livestock's High Energy Costs

There are many ways to calculate the energy needed to produce meat and other foods. Here are two dishes of about 320 calories each (though not intended to be nutritionally equal). The beef requires about 16 times more fossil fuel energy to raise than the vegetables and rice.

THE DISHES	Fossil Fuel Energy Needed to Produce Each Dish
1 cup broccoli, 1 cup eggplant, 4 oz. cauliflower, 8 oz. rice	0.0096 gallons of gasoline equivalent
6 oz. of beef steak	0.1587 gallons of gasoline, 16 times as much

LIVESTOCK'S LARGER CARBON FOOTPRINT
The foods above have an even greater disparity in their estimated production of greenhouse gases: beef generates **24 times more** carbon dioxide (CO₂) equivalent gases than the vegetables and rice. In addition to emissions from fossil fuels burned in beef production, cows emit methane and their manure emits methane and nitrous oxide.

Sources: Gordon Ebel, Bard College; Pamela A. Martin, Univ. of Chicago

Bittman, Mark. Rethinking the Meat Guzzler. NY Times Jan 27, 2008

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The Huge Flow of Animal Waste

Much of U.S. livestock is raised in industrial operations that produce many times their animals' weight in manure. Immense lagoons used to store waste can degrade the surrounding air and water.

U.S. livestock produces perhaps 900 million tons of waste annually, about	A 1,100-pound beef cow can produce manure at a clip of about	Iowa's hogs produce at least 50 million tons of waste annually, about
3 tons of manure for each American.	14.6 tons annually.	16.7 tons of manure for each of the 2,988,000 residents of the state.
Weight equivalent of that manure as measured in Toyota Priuses: 2 cars.	That's the weight equivalent of 10 cars.	That's the weight equivalent of 11.4 cars.

Sources: David Pimentel, Cornell Univ.; Ohio State Univ.; Iowa State Univ.

Bittman, Mark. Rethinking the Meat Guzzler. NY Times Jan 27, 2008

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Think you can be a meat-eating environmentalist?

Think again!

If you care about the planet, go vegetarian.
GoVeg.com

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Questions or Comments?

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Questions or Comments?

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Economic Viability

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Socially Just

200

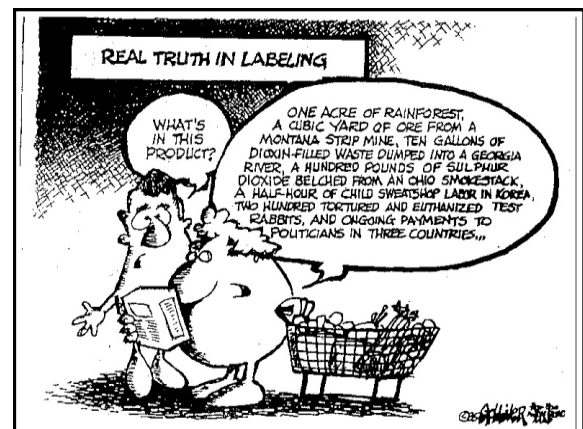
Confined Animal Feeding Operations Real Costs = \$30.2 Billion + \$6.5 Bil/yr Based on Low-End Estimates

	Cost of Pollution or Pollution Avoidance	Cost of Subsidy
Cost to Distribute and Apply Manure to Fields	\$1.16 billion/year ^a	
Reduction in Property Values	\$26 billion (total loss) ^b	
Public Health Costs from Overuse of Antibiotics in Livestock	\$1.5 billion – \$3.0 billion/year ^c	
Remediation of Leakage from Manure Storage Facilities (Swine and Dairy)	\$4.1 billion (total cost) ^d	
Grain Subsidies for Livestock Feed		\$3.86 billion/year ^e
EQIP Subsidy		\$100 million – \$125 million ^f

Gurian-Sherman, Doug. *CAFOs Uncovered: The Untold Costs of Confined Animal Feeding Operations*. Union of Concerned Scientists April, 2008

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Animals and Social Injustice

- Workers Low Wages/Benefits
- Challenges organizing
- Working conditions in slaughter houses and meat-packing plants – repetitive motion
- Hunger
- Corporate takeover of land and fisheries

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- # Animals and Social Injustice
- Workers Low Wages/Benefits
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Questions or Comments?

Questions or Comments?



Dad! Mom! Please save some for us...

Dry batteries

High Moon

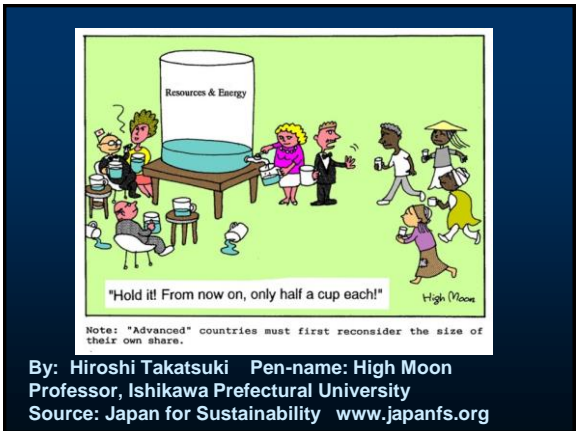
Dad! Mom! Please save some for us...

Dry batteries

High Moon

Humaneness: Embodying Our Highest Values

Humaneness: Embodying Our Highest Values



A cartoon illustration set against a light green background. At the top center is a large, white cylindrical tank labeled "Resources & Energy" in black text. A spout at the bottom of the tank pours blue liquid (representing resources) into a wooden table. On the table, a woman in a pink dress is pouring the liquid into a small blue cup. To her right, a man in a black tuxedo stands with his hands clasped. To the left of the table, a man in a blue shirt and glasses is sitting on a stool, drinking from a cup. Next to him, a woman in a yellow shirt is also sitting on a stool, drinking. In the foreground, a man in a white shirt and a woman in a yellow dress are walking away from the table, each carrying a cup. In the background, a man in a white shirt and a woman in a yellow dress are walking away from the table, each carrying a cup. The cartoon is signed "High Moon" in the bottom right corner. Below the illustration, a white rectangular box contains the text: "Hold it! From now on, only half a cup each!". Below this box, a note reads: "Note: 'Advanced' countries must first reconsider the size of their own share."

By: Hiroshi Takatsuki Pen-name: High Moon
 Professor, Ishikawa Prefectural University
 Source: Japan for Sustainability www.japanfs.org

A cartoon illustration set against a light green background. At the top center is a large, white cylindrical tank labeled "Resources & Energy" in black text. A spout at the bottom of the tank pours blue liquid (representing resources) into a wooden table. On the table, a woman in a pink dress is pouring the liquid into a small blue cup. To her right, a man in a black tuxedo stands with his hands clasped. To the left of the table, a man in a blue shirt and glasses is sitting on a stool, drinking from a cup. Next to him, a woman in a yellow shirt is also sitting on a stool, drinking. In the foreground, a man in a white shirt and a woman in a yellow dress are walking away from the table, each carrying a cup. In the background, a man in a white shirt and a woman in a yellow dress are walking away from the table, each carrying a cup. The cartoon is signed "High Moon" in the bottom right corner. Below the illustration, a white rectangular box contains the text: "Hold it! From now on, only half a cup each!". Below this box, a note reads: "Note: 'Advanced' countries must first reconsider the size of their own share."

Resources & Energy

"Hold it! From now on, only half a cup each!"

High Moon

Note: "Advanced" countries must first reconsider the size of their own share.

By: Hiroshi Takatsuki Pen-name: High Moon
 Professor, Ishikawa Prefectural University
 Source: Japan for Sustainability www.japanfs.org

Systems for Raising and Slaughtering Animals and Fish

1. Poultry
2. Dairy and Meat
3. Fish and Seafood

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- # Systems for Raising and Slaughtering Animals and Fish
1. Poultry
 2. Dairy and Meat
 3. Fish and Seafood
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Systems for Raising and Slaughtering Animals and Fish

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3. Fish and Seafood

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Systems for Raising and Slaughtering Animals and Fish

1. Poultry
2. Dairy and Meat
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Respect for All Life

For that which befalleth the sons of men befalleth the beasts. Even one thing befalleth them: as the one dieth, so dieth the other; yea, they have all one breath, so that a man hath no preeminence above a beast.

– Ecclesiastes 3:19

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Affirmation of Life is the spiritual act by which humans cease to live unreflectively and begin to devote themselves to their life with reverence in order to raise it to its true value.

– Dr. Albert Schweitzer,
Out of My Life and Thought

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Respect for All Life

The Bible not only calls for the respect of all living things, but requires humans to learn from all other life. God spoke to Job and commanded:

You need only ask the beasts & they will teach you; the birds of the sky will tell you; or speak with the earth & it will teach you; the fish of the sea will tell you stories. – Job 12:7-8

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All the misery we inflict on sentient beings slackens our human evolution and make the progress of humanity slower towards the ideal that it is seeking to realize...you cannot isolate yourself while you are trampling others down. Those that you trample on retard your own progress. The misery that you cause is as it were mire which clings around your feet when you would ascend; for we have to rise together or fall together.

-- Annie Bessant, *Vegetarianism in the Light of Theosophy* (Madras, India: The Theosophical Publishing House, 1919)

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I want to realize brotherhood or identity not merely with the beings called human, but I want to realize identity with all life, with such things as crawl upon the earth.
-- Gandhi

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Questions or Comments?

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If you are thinking one year ahead, sow seed.

If you are thinking ten years ahead, plant a tree.

If you are thinking 100 years ahead, educate the people.

– Kuan Tzu, Chinese Poet, circa 500 B.C.

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Please scan QR Code to complete short survey!

Contact us for more information:

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Presentation or Workshop on Sustainability and the Natural Step Framework



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Questions & Discussion

Terry Gips Terry@afors.org
612-940-4939
www.afors.org

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