



## Meatless Monday: Protect the Planet, One Day Each Week

*“Livestock are one of the most significant contributors to today’s most serious environmental problems. Urgent action is required to remedy the situation.”*

- United Nations’ Food & Agriculture Organization

While we often hear about the importance of using energy-efficient light bulbs, installing low-flow toilets and showerheads, or switching to a hybrid car, **the single most important action each of us can take to protect the planet is simply to choose vegetarian foods.** That's because meat production requires staggering amounts of land, water, and energy compared to plant foods. In fact, **you can do more for the planet by going meatless on Mondays than by switching to a totally local diet.**<sup>i</sup>

### Water Use

- The process of **raising and slaughtering farmed animals, as well as producing feed, accounts for 70% of global freshwater use,** and causes 93% of global water depletion.<sup>ii</sup>
- On average, people use 5,110 gallons of water to shower every year, twice as much as it takes to produce one pound of beef—meaning **you can save more water by not eating a pound of beef than you would by not showering for 6 months.**<sup>iii</sup>
- **You can save nearly 133 gallons of water with each meatless meal.**<sup>iv</sup>

### Energy & Fuel Use

- On average, about **40 calories of fossil fuel energy go into every calorie of beef in the U.S., compared to 2.2 calories for vegetable protein** (that’s approximately 20 times the energy).<sup>v</sup>
- Each day you leave meat off your plate, you can reduce your carbon footprint by over 8 pounds.<sup>vi</sup>—that means **you could save 416 pounds of CO<sup>2</sup> per year (8 pounds x 52 weeks in a year).**
- Factoring all levels of production—from feed crops to slaughter—a **vegetarian diet is the most energy efficient and the average American does more to reduce global warming emissions by not eating meat, eggs, and dairy than by switching to a hybrid car.**<sup>vii</sup>

### Land Use

- Thousands of acres of forest, wetlands, and other habitats are converted into grazing and crop lands to feed farmed animals—grazing occupies 26% of the Earth’s surface, while feed crop production requires 1/3 of all arable land.<sup>viii</sup> Thus, **animal farming is the leading threat to endangered species and the number one cause of species extinction in the US and around the world.**<sup>ix</sup>
- The land you save from deforestation, over-grazing, and pesticide and fertilizer pollution amounts to about **24 square feet a meal when making vegetarian choices.**<sup>x</sup>
- **Cattle pastures occupy 80% of deforested areas in the Amazon.** Pasture runoff contaminates rivers, and fire used to manage fields often spreads into the remaining forests. The deforestation also contributes to climate change, releasing 340 million tons of carbon into the atmosphere every year.<sup>xi</sup>
- More than **260 million acres of US forest have been cleared** to grow grain for livestock.<sup>xii</sup>

## Grain Use

- **More than 70% of grain produced in the US is fed to livestock;** and more than 173 million tons (157 million metric tons) of cereal, legumes, and vegetable protein are fed to farmed animals to produce only 31 million tons (28 million metric tons) of meat<sup>xiii</sup>—**eating plants directly is more efficient than growing and harvesting them in order to funnel them through farmed animals.**

## Air Pollution/Climate Change

- **Animal agriculture generates nearly 20% of man-made greenhouse gas emissions,** advancing climate change.<sup>xiv</sup> Though carbon dioxide, released by farmed animals in concentrated areas through respiration, is the most prevalent of greenhouse gases in our atmosphere, **methane and nitrous oxide, emitted by animals' through digestion and manure, are 21 and 296 times more likely to trap dangerous heat in our atmosphere,** respectively.<sup>xv</sup>

## Water Pollution

- **Animal agriculture is a top polluter of rivers, lakes, and wetlands in the US.**<sup>xvi</sup> All US farmed animals combined produce 1.4 billion metric tons of fecal waste every year.<sup>xvii</sup>
- The beef industry relies on the use of artificial growth hormones to fatten cows at an unnatural speed.<sup>xviii</sup> **The hormone laden waste produced by these animals pollutes surface and ground water, affecting the ability of wild animals to survive or reproduce.**<sup>xix</sup>

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<sup>i</sup> Weber, Christopher L. and Matthews, H. Schott, Environ. Sci. Technol. 2008. <<http://pubs.acs.org/doi/full/10.1021/es702969f>>

<sup>ii</sup> Steinfeld, Henning, Pierre Gerber, et al. Livestock's Long Shadow. Food and Agriculture Organization of the United Nations, 2007. <<ftp://ftp.fao.org/docrep/fao/010/a0701e/a0701e04.pdf>>.

<sup>iii</sup> Robbins, John. "The Food Revolution: How Your Diet Can Help Save Your Life and the World." San Francisco, CA: Canari Press, 2011.

<sup>iv</sup> "The Math Behind Meatless Mondays" Meatless Mondays. 2012. <<http://www.meatlessmonday.com/the-math-behind-meatless-monday/>>.

<sup>v</sup> Pimentel, David, and Marcia Pimentel. "Sustainability of meat-based and plant-based diets and the environment." American Journal of Clinical Nutrition. 93.3(2012): 660-663. <<http://ajcn.nutrition.org/content/78/3/660S.full.pdf.html>>.

<sup>vi</sup> "Meat Free Mondays." Bellingham Meat Free Mondays. Washington State University, 2011. <<http://bellinghammeatfreemonday.com/environmental/>>.

<sup>vii</sup> Eshel, Gidon and Martin, Pamela. "Diet Energy and Global Warming." University of Chicago. 2005. <<http://pge.uchicago.edu/workshop/documents/martin1.pdf>>

<sup>viii</sup> Agriculture and Consumer Protection Department, . "Livestock impacts on the environment." Food and Agriculture Organization of the United Nations. N.p., 2006. Web. 18 Sep 2012. <<http://www.fao.org/ag/magazine/0612sp1.htm>>.

<sup>ix</sup> "On Your Plate." Greenpeace. Aug 2006. <<http://www.greenpeace.org/usa/en/news-and-blogs/news/green-living-guide/on-your-plate/>>

<sup>x</sup> "PB&J Numbers." The PB&J Campaign. N.p., 2012. <<http://www.pbjcampaign.org/numbers>>.

<sup>xi</sup> "Threats to the Amazon." World Wildlife Federation. 2012. <<http://worldwildlife.org/threats/deforestation>>.

<sup>xii</sup> "On Your Plate." Greenpeace. Aug 2006. <<http://www.greenpeace.org/usa/en/news-and-blogs/news/green-living-guide/on-your-plate/>>

<sup>xiii</sup> Rifkin, Jeremy. "There's a Bone to Pick With Meat Eaters." Los Angeles Times. 27 May 2002. <<http://www.adappt.org/rifkin.html>>

<sup>xiv</sup> Steinfeld, Henning, Pierre Gerber, et al. Livestock's Long Shadow. Food and Agriculture Organization of the United Nations, 2007. <<ftp://ftp.fao.org/docrep/fao/010/a0701e/a0701e03.pdf>>.

<sup>xv</sup> Steinfeld, Henning, Pierre Gerber, et al. Livestock's Long Shadow. Food and Agriculture Organization of the United Nations, 5. 2007. <<ftp://ftp.fao.org/docrep/fao/010/a0701e/a0701e00.pdf>>.

<sup>xvi</sup> "Water Quality: Impacts of Agriculture." Agricultural Resources and Environmental Indicator. Marc Ribaud and Robert Johansso, Economic Research Service/USDA. 2006.

<sup>xvii</sup> Report by Minority Staff of the U.S. Senate Committee on Agriculture, 1997.

<sup>xviii</sup> "Hormones in Cattle Production: Their Use and Safety". American Meat Institute. Sep 2009. <<http://www.meatami.com/ht/a/GetDocumentAction/i/53720>>

<sup>xix</sup> Orlando, Edward F., Alan S. Kolok, Gerry A. Binzick, Jennifer L. Gates, Megan K. Horton, Christy S. Lambright, L. Earl Gray, Jr., Ana M. Soto, and Louis J. Guillet, Jr. "Endocrine-Disrupting Effects of Cattle Feedlot Effluent on an Aquatic Sentinel Species, the Fathead Minnow." *Environmental Health Perspectives*. Vol. 112(3). p. 346-52. March 2004.