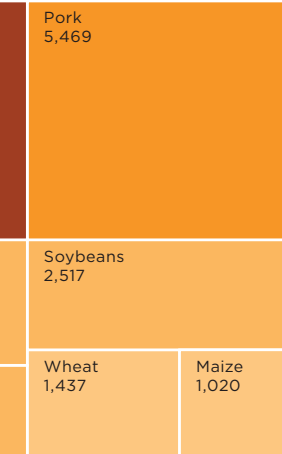


IT'S A FACT!

1 Approximately 25 gallons of water are needed to produce 1 pound of wheat. Around 2,500 gallons of water are needed to produce 1 pound of meat. Many vegetarians argue that more people eating a meat-free diet would lower the strain that meat production puts on the environment.

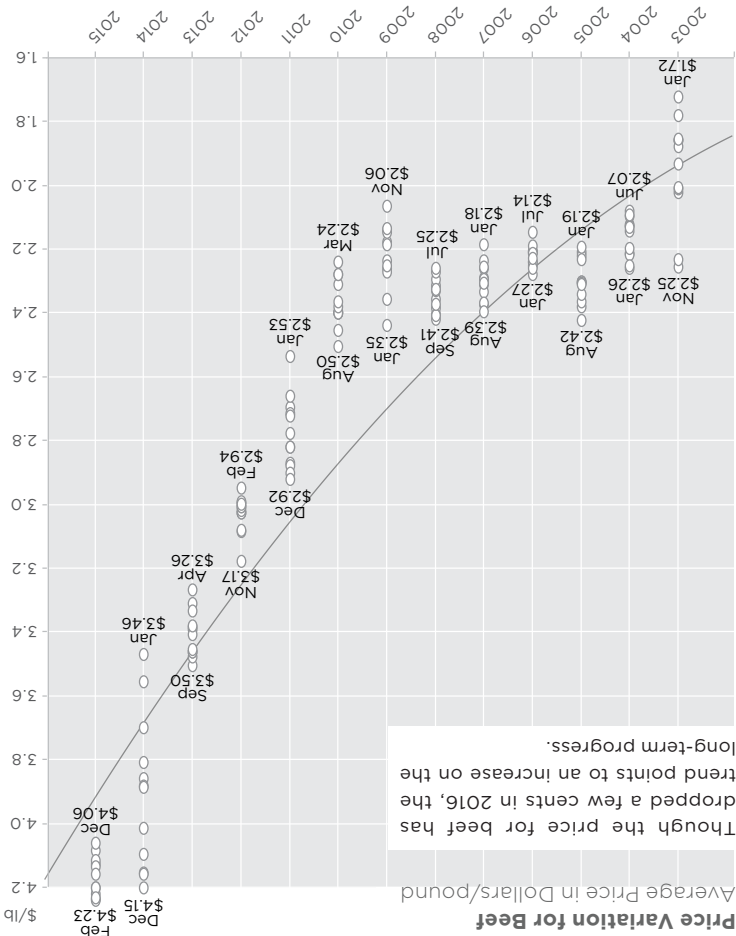
2 Livestock production — which includes meat, milk and eggs — contributes 40% of global agricultural gross domestic product, provides income for more than 1.3 billion people and uses one-third of the world's fresh water. There may be no other single human activity that has a bigger impact on the planet than the raising of livestock.



3 Several researchers argue that a vegetarian diet can feed more people than a meat-based diet. For example, approximately 20,000 pounds of potatoes can be grown on one acre of land. Comparatively, only around 165 pounds of beef can be produced on 1 acre of land.

4 Studies show that a vegetarian diet could feed more people than a meat-based diet. For example, only around 20% of the corn grown in the United States is eaten by people, with about 80% of the corn eaten by livestock. Additionally, approximately 95% of the oats grown in the U.S are eaten by livestock. Studies show that the number of people who could be fed by the grain and soybeans that are currently fed to U.S. livestock is approximate 1,300,000,000.

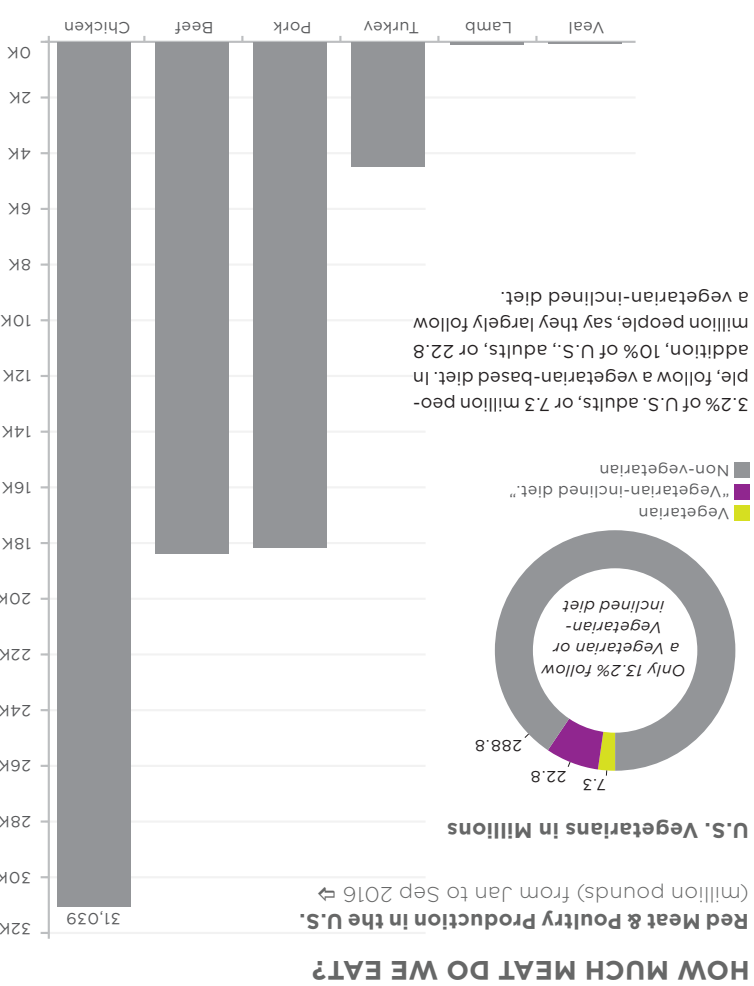
5 The total production of excrement by U.S. livestock is 250,000 pounds per second, which would be greatly reduced if humans ate a more plant-based diet and had little or no need for domesticated livestock. Less livestock would also greatly reduce Earth's trapped greenhouse gases.



DON'T PAY THE PRICE

BEING A VEGETARIAN IS EASY

- 1. **HAVE GOOD REASONS.** First think about why you want to become vegetarian, and really believe in it.
- 2. **READ UP.** Check out a couple of good books from the library and there are tons and tons of good sites on the Internet.
- 3. **FIND GOOD RECIPES.** Just look through the recipes, take note of a few that look really good, and decide to try a few of them. You have the rest of your life to test out other recipes!
- 4. **TRY ONE RECIPE A WEEK.** If you like it, add it to your collection. If the recipe isn't that great, try another next week. Soon, you'll have a good that you love to cook and eat.
- 5. **SUBSTITUTE.** If you love spaghetti or chili, substitute a ground-beef alternative and just cook it the way you normally would. You can go on eating normally, but meatless.
- 6. **START WITH RED MEAT.** There's no need to give up all meat at once. Try a few new recipes, maybe eat one vegetarian meal for the first week, two for the second, and so on.
- 7. **THEN THE OTHER MEATS.** After a couple of weeks, try cutting out pork, the chicken...You'll hardly notice the difference.
- 8. **ADEQUATE PROTEIN.** Meat eaters usually take in way more protein than they need. Eat a varied diet that includes vegetables, grains, beans, nuts, soy protein and you will be fine.
- 9. **JUNK FOOD.** Being a vegetarian is not a license to eat junk food. Try to stick with fruits and veggies, whole grains, beans, nuts, soy, and other nutritious foods for the most part.
- 10. **HAVE FUN.** If you feel like you're depriving yourself, it won't last long. But if you feel like you're doing something good, and trying out great-tasting food, it will last much longer.

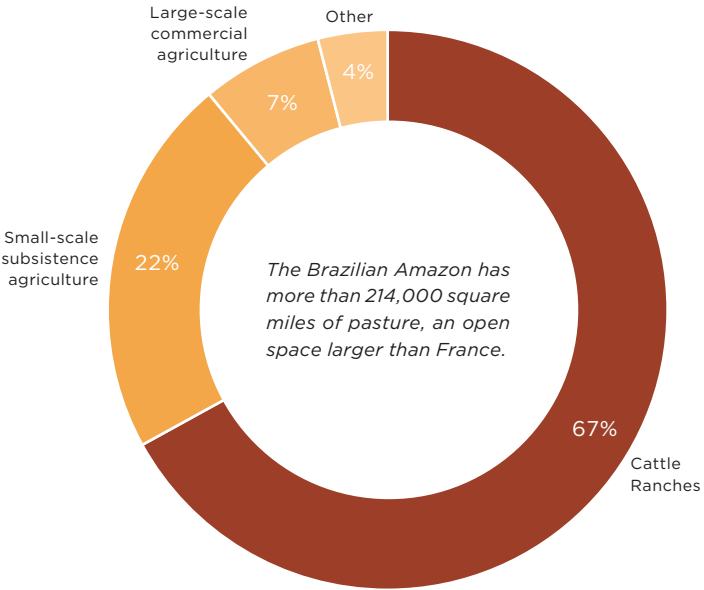


Eating meat hurts your pocket, the planet, and your health.

ENVIRONMENT PRICE

LIVESTOCK EFFECTS ON THE PLANET

Causes of Deforestation in the Brazilian Amazon



Impacts of Cattle Ranching and Deforestation

Tropical deforestation causes loss of biodiversity and other ecosystem services, soil degradation and the disruption of hydrological cycles . It is also a major source of greenhouse gas emissions , responsible for 7% - 14% of global anthropogenic carbon dioxide (CO2) emissions in 2000 - 2005.

Over 80% of total forest loss in Latin America in the 2000s occurred in Argentina, Bolivia, Brazil, and Paraguay. These countries accounted for 71% and 98%, respectively, of Latin American beef and soy production in 2011, as well as 80% and 98%, respectively, of the regions beef and soy exports.

Water requirements for various crops (m³ water/ton)

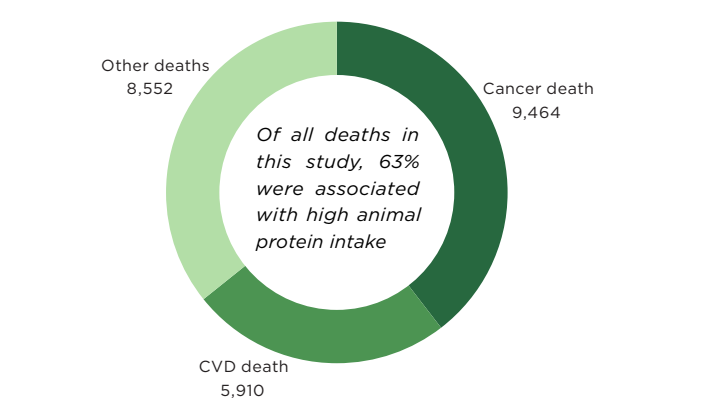
Beef 16,726	
Cheese 5,288	Eggs 3,519
Poultry 3,809	Rice 2,552

Global animal production requires about 2,422Gm³ of water per year. One third of this volume is for the beef cattle sector; another 19% for the dairy cattle sector. Most of the total volume of water (98%) refers to the water footprint of the feed for the animals. Drinking water for the animals, service water and feed mixing water account only for 1.1%, 0.8% and 0.03%, respectively.

Association of Protein Intake with Cause-Specific Mortality

Researchers found that a 10% increase in animal protein intake was linked to a 2% increase in overall mortality and 8% increase in risk of cardiovascular-related death. However, a 3% increase in plant protein intake was linked to a 10% decrease in overall mortality and a 12% decrease in cardiovascular mortality.

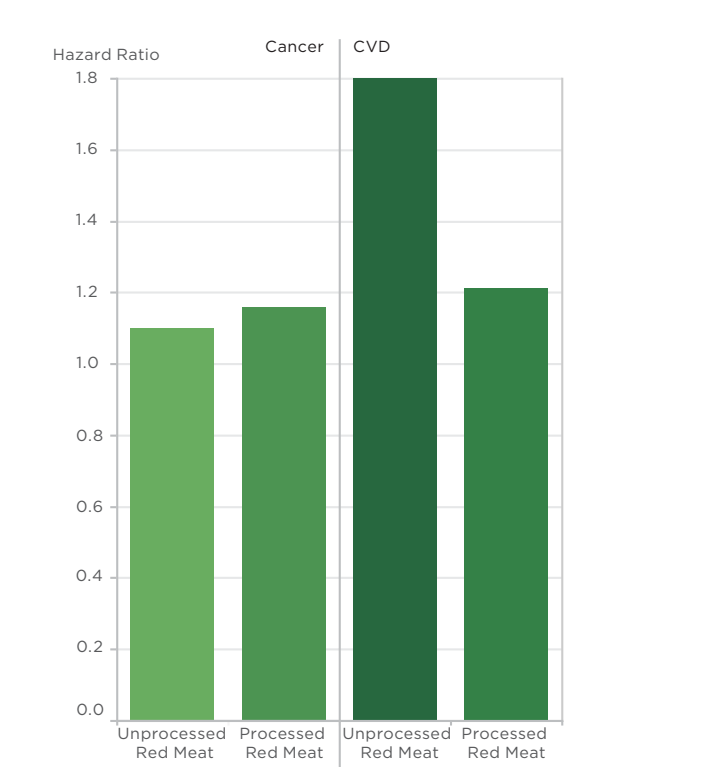
Animal Protein Intake Associated with Cancer and CVD



High animal protein intake was positively associated with cardiovascular mortality and high plant protein intake was inversely associated with all-cause and cardiovascular mortality, especially among individuals with at least 1 lifestyle risk factor. Substitution of plant protein for animal protein, especially that from processed red meat, was associated with lower mortality, suggesting the importance of protein source.

Animal protein intake was associated with higher cardiovascular mortality, while plant protein was associated with lower all-cause mortality. Replacing animal protein with plant protein was associated with lower mortality. In particular, the HRs for all-cause mortality were 0.66 when 3% of energy from plant protein was substituted for an equivalent amount of protein from processed red meat, 0.88 from unprocessed red meat, and 0.81 from egg.

Hazard Ratio Associated with Cancer and Cardiovascular Disease

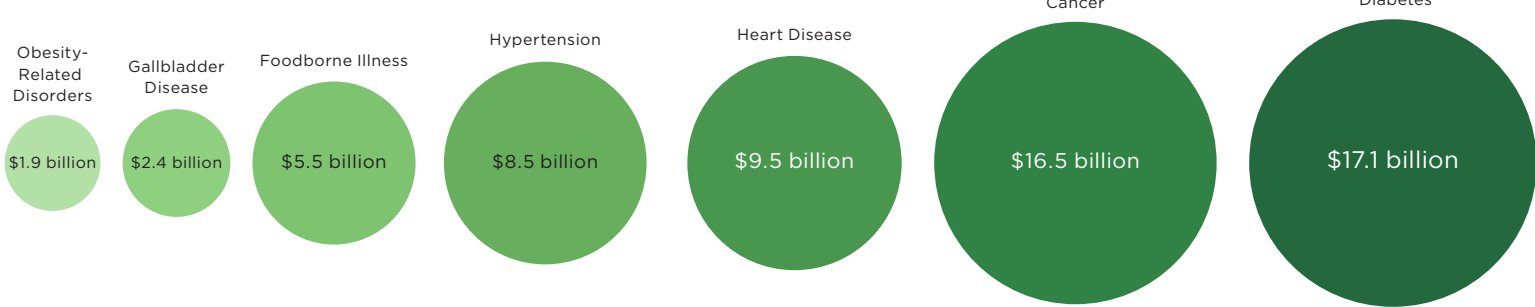


The pooled hazard ratio (HR) of total mortality was 1.13 for 1-serving per day increase of unprocessed red meat, 1.20 for processed red meat. The corresponding HRs were 1.18 and 1.21 for CVD mortality, 1.10 and 1.16 for cancer mortality.

HEALTH PRICE

HEATH IMPACTS ASSOCIATED WITH MEAT INTAKE

Direct Health Costs Attributable to Meat Consumption



Red Meat Consumption and Mortality

Meat is a major source of protein and fat in most diets. Substantial evidence from epidemiological studies shows that meat intake, particularly red meat, is associated with increased risks of diabetes, cardiovascular disease (CVD), and certain cancers. Several studies also suggest an elevated risk of mortality associated with red meat intake. A recent large cohort study with 10 years of follow-up found that a higher intake of total red meat and total processed meat was associated with an increased risk of mortality.

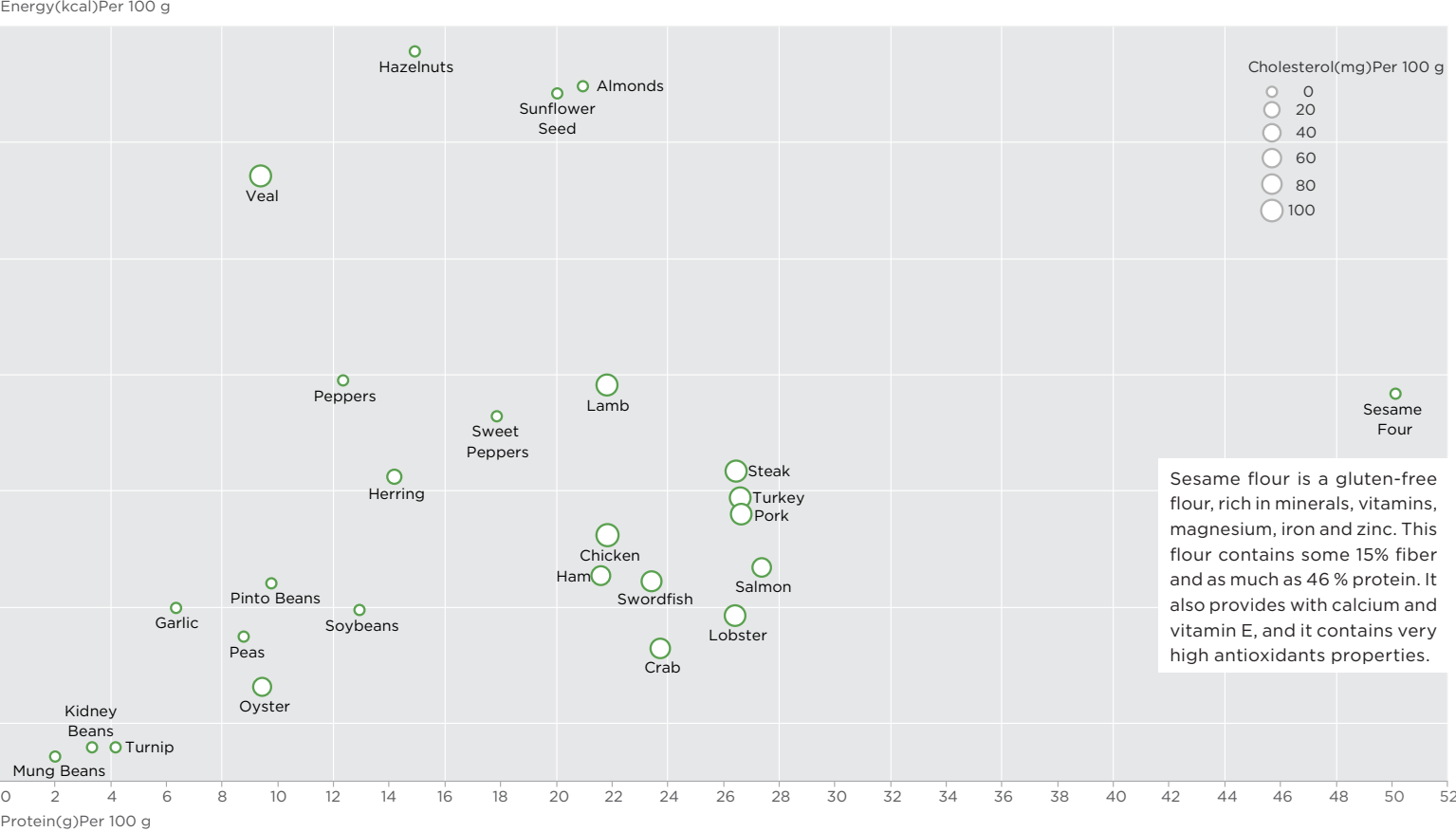
Therefore, we investigated the association between red meat intake and total and cause-specific mortality in two large cohorts with repeated measures of diet and up to 28 years of follow-up. We also estimated the associations of substituting other healthy protein sources for red meat with total and cause-specific mortality.

Vegetarians Live Longer & Healthier

More recently, medical research has found that a properly balanced vegetarian diet may, in fact, be the healthiest diet. This was demonstrated by the over 11,000 volunteers who participated in the Oxford Vegetarian Study. For a period of 15 years, researchers analyzed the effects a vegetarian diet had on longevity, heart disease, cancer and various other diseases.

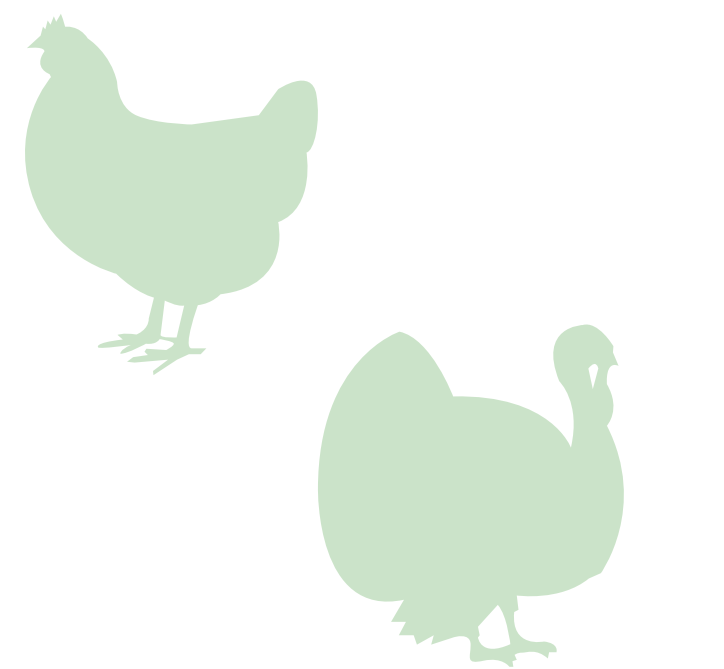
The results of the study stunned the vegetarian community as much as it did the meat-producing industry: "Meat eaters are twice as likely to die from heart disease, have a 60 percent greater risk of dying from cancer and a 30 percent higher risk of death from other causes."

Energy and Protrein content compared for meats and veggies



IT’S A FACT!

- 1 The American Dietetic Association (ADA) concludes that a vegetarian or vegan diet is healthier than one that includes meat. They note that vegetarians have lower body mass indices, lower rates of death from ischemic heart disease, lower blood cholesterol levels, lower blood pressure, lower rates of hypertension, type 2 diabetes, and less prostate and colon cancer.
- 2 Several studies show that a plant-based diet increases the body’s metabolism, causing the body to burn calories up to 16% faster than the body would on a meat-based diet for at least the first 3 hours after meals.
- 3 The China Study was a 20-year study that compared the mortality rates of meat eaters and plant eaters. They found that countries that ate more animal-based food were more likely to have higher death rates from “Western diseases,” while countries that ate more plant food were healthier.
- 4 A study concluded that meat eaters were two and half times more likely to develop gallstones than non-meat eaters. Scientists concluded that the low-fat, high-fiber diet of vegetarians decreased the risk of developing gallstones.
- 5 A recent study argues that people who eat tofu and other plant-based foods have a better sex life than meat-eaters. It claims that certain plants influence hormone levels and sexual activity.



designed by Paula Guidugli | DAI 523 - Fall 2016

Sources: Foer, Jonathan Safran. *Eating Animals*. New York, NY: Little, Brown, and Company, 2009. Saunders, Kerrie K. *The Vegan Diet as Chronic Disease Prevention*. New York, NY: Lantern Books, 2003. Cox, Peter. *You Don't Need Meat*. New York, NY: Thomas Dunne Books, 2002. Williams, Amanda. "Vegetarians Have a Better Sex Life": *Eating Tofu Can Boost You in the Bedroom, New Study Claims.* "Daily Mail. November 23, 2012. Accessed: February 17, 2013. Robbins, John. *Diet for a New America*. Tiburon, CA: Stillpoint Publishing, 1987. *A Nation Of Meat Eaters: See How It All Adds Up*, June 27, 2012, Eliza Barclay *Per Capita Consumption of Poultry and Livestock, 1965 to Estimated 2016, in Pounds, Vegetarian Statistics, Vegetarianism In America, 56 Fresh Facts about Vegetarianism, Food and Agriculture, Water footprint of crop and animal products: a comparison, Food Supply - Livestock and Fish Primary Equivalent, The Triple Whopper Environmental Impact of Global Meat Production, Global Warming-Stop Deforestation-Beef Cattle, Trading forests: land-use change and carbon emissions embodied in production and exports of forest-risk commodities Deforestation in the Amazon, Cattle Ranching in the Amazon Region, USDA Food Composition Database,*