



Ahimsa Acres Educational Center

Presents

**Personal Food Choices, Climate
Change, and The Environment**

With

Dale Lugenbehl

Humans Have Never Faced Anything As *Big As* Climate Change and Global Resource Depletion

- If you are like most people, you are *deeply concerned* about climate change and environmental destruction.
- But what can one person actually *do*?

There Is Good News!

- You and I can do a lot to make a difference by making different choices at the personal level...
- *And we can do it now.*

Our Life Style Choices All Make a Difference

- The size of our house...
- What kind of transportation we use...
- The amount of electronic gadgetry we buy...
- How we heat our water
- How we heat our homes
- How we wash our clothes and dry them...
- And many other things

But we are missing something...

- Perhaps the biggest choice of all, and it's often completely overlooked, is our personal day-to-day food choices: What I choose to eat for breakfast, lunch, and dinner every day.

Importance of Personal Food Choices

Americans spend more than a trillion dollars (\$1,000,000,000,000) a year on food.

This amount is more than double what is spent on all U.S. military expenses in a year.

Note: a million = a thousand thousands
 a billion = a thousand millions
 a trillion = a thousand billions

Source: *The Way We Eat*, by Peter Singer and Jim Mason

Components of Food Choices Impacting the Environment

- Plant based diet
- Bioregional (local) Foods
- **Whole Foods** (Minimal processing and “refinement.”
Examples: baked potato vs potato chips, whole corn vs corn oil/chips/flakes, whole grains vs white flour or white rice, apple vs fruit punch.)
- Minimal Packaging
- Organic

- **Eating locally** and the rest help to a degree...
- But moving toward a **plant diet is at least 8 times more powerful** against climate change than any of the other 4 options just mentioned.

Consider the following example:
8 ounce steak vs 8 ounce pasta with
tomato sauce as the main dish for dinner

Steak

Spaghetti

- | | |
|--|--|
| <ul style="list-style-type: none">• 6-8 pounds of wheat• 1,200 to 2,500 gallons of water• 75 units of fossil fuel energy | <ul style="list-style-type: none">• ¼ pounds of wheat• 5 gallons water• 1 unit of fossil fuel energy |
|--|--|

What is the *reason* that choosing steak creates a hugely greater amount of environmental damage compared to pasta?

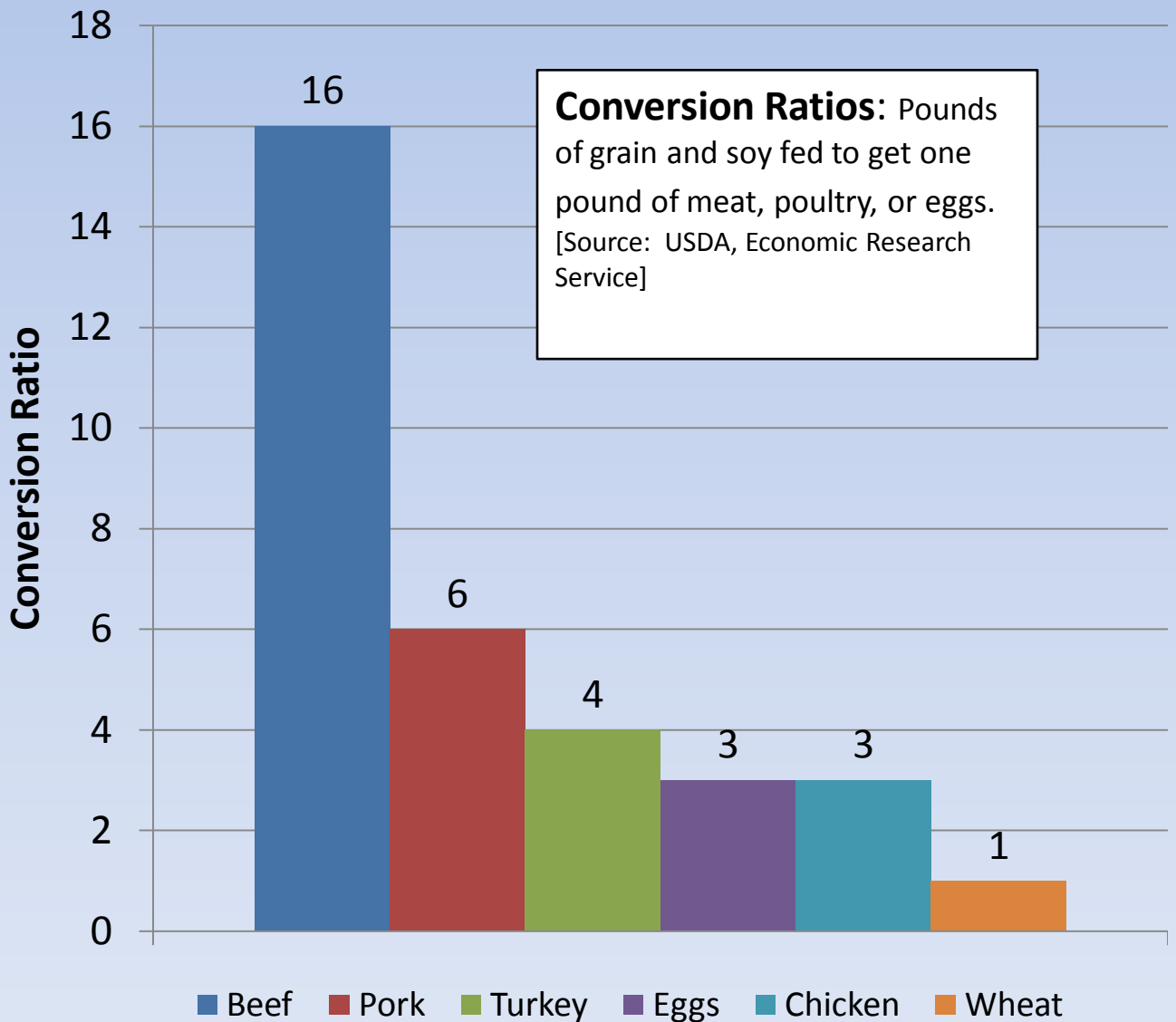
- Steak is *second hand food*, and by far the best food change we can make for the environment is to ***reduce or eliminate our habit of eating food second hand.***

- But what does “second hand food” actually mean here? It doesn’t sound good—it sounds like someone else ate my food before I ate it. And that’s exactly what it is.

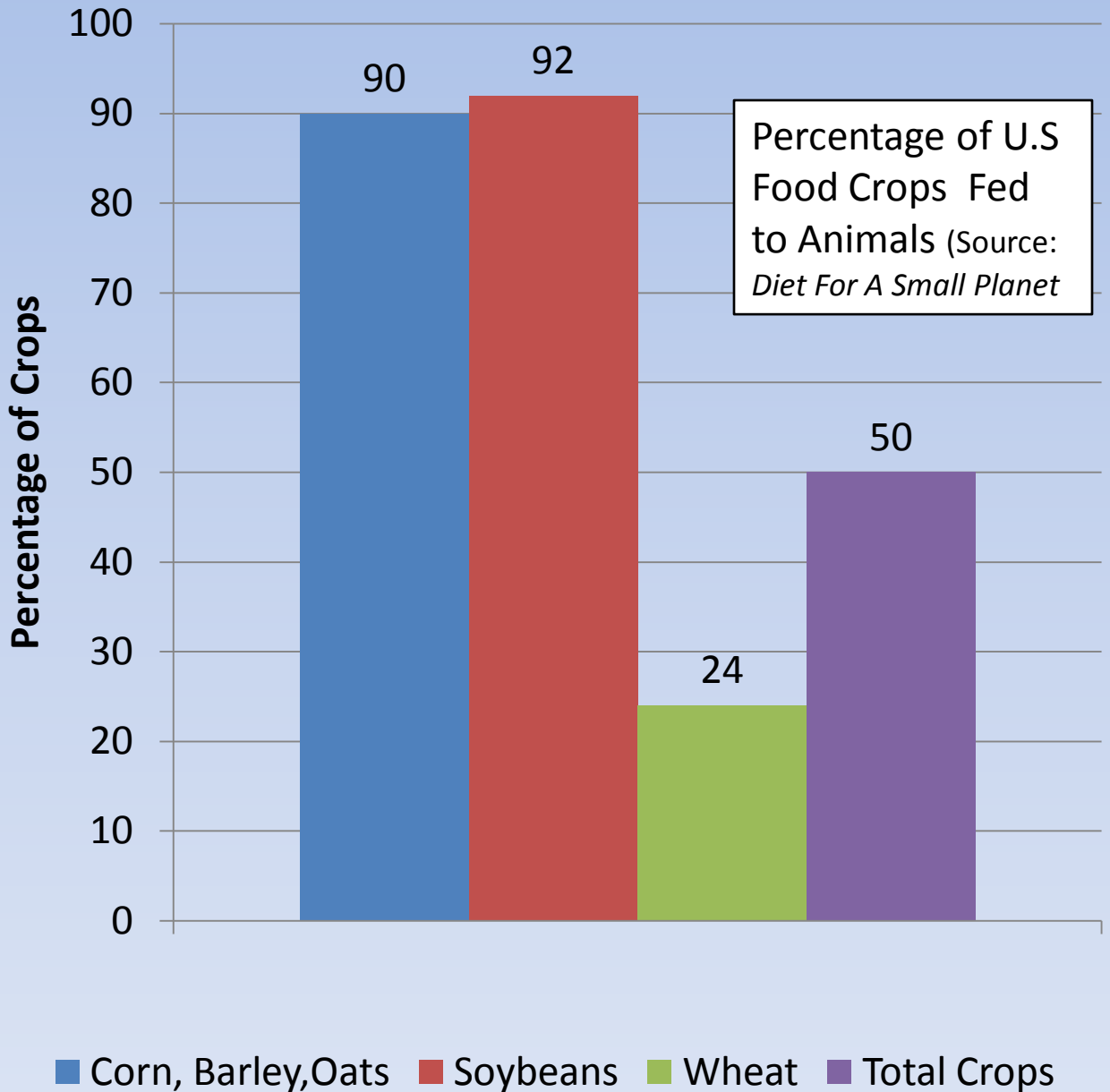
- Meat, dairy, and eggs are produced by taking food crops (corn, oats, wheat, beans) that people could eat and feeding those crops to cattle, pigs, and chickens instead—and we then eat those crops *second hand* when we eat the animal's flesh, milk or eggs.

**Let's take a look
at how this
works...**

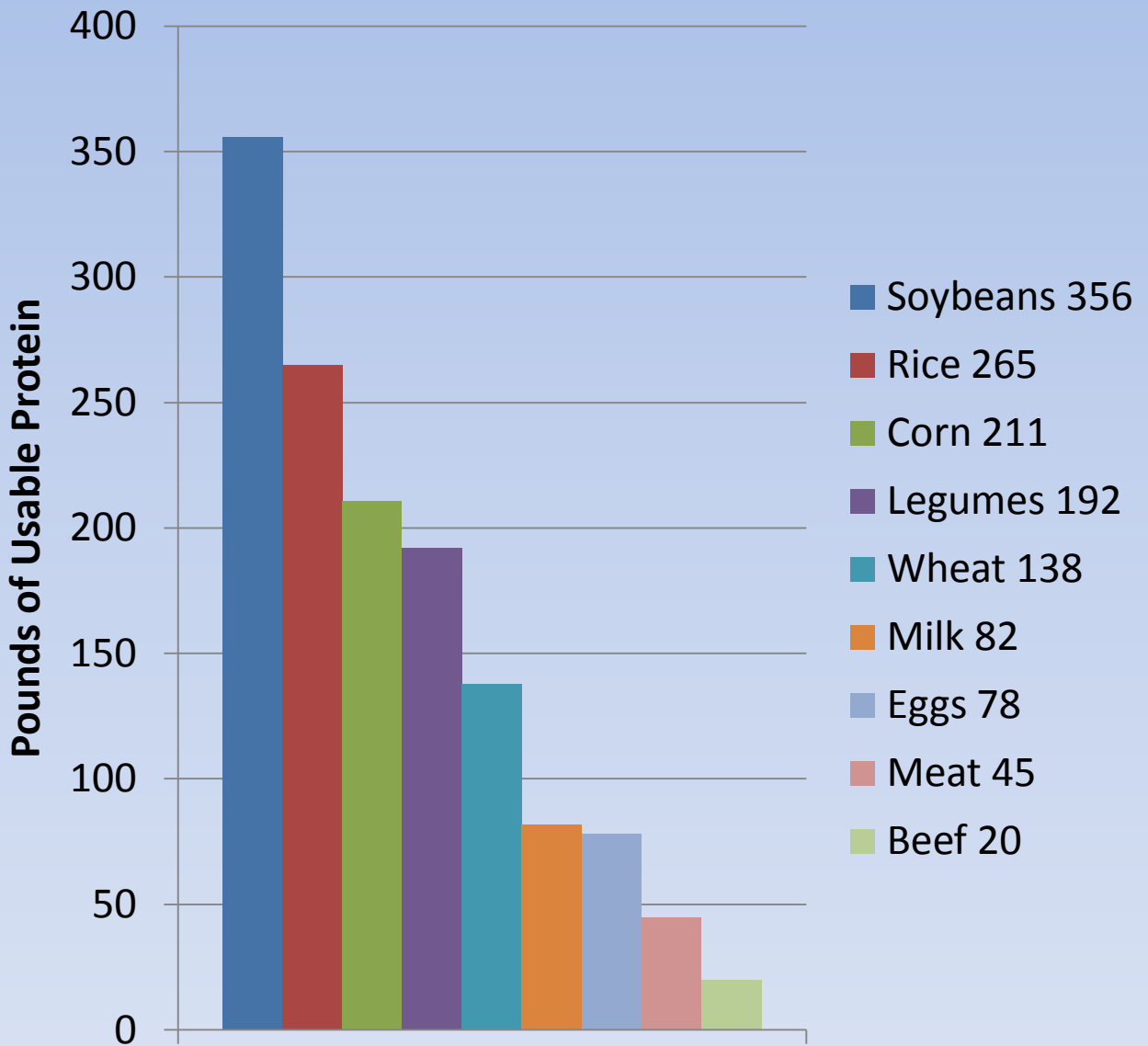
Conversion Ratios



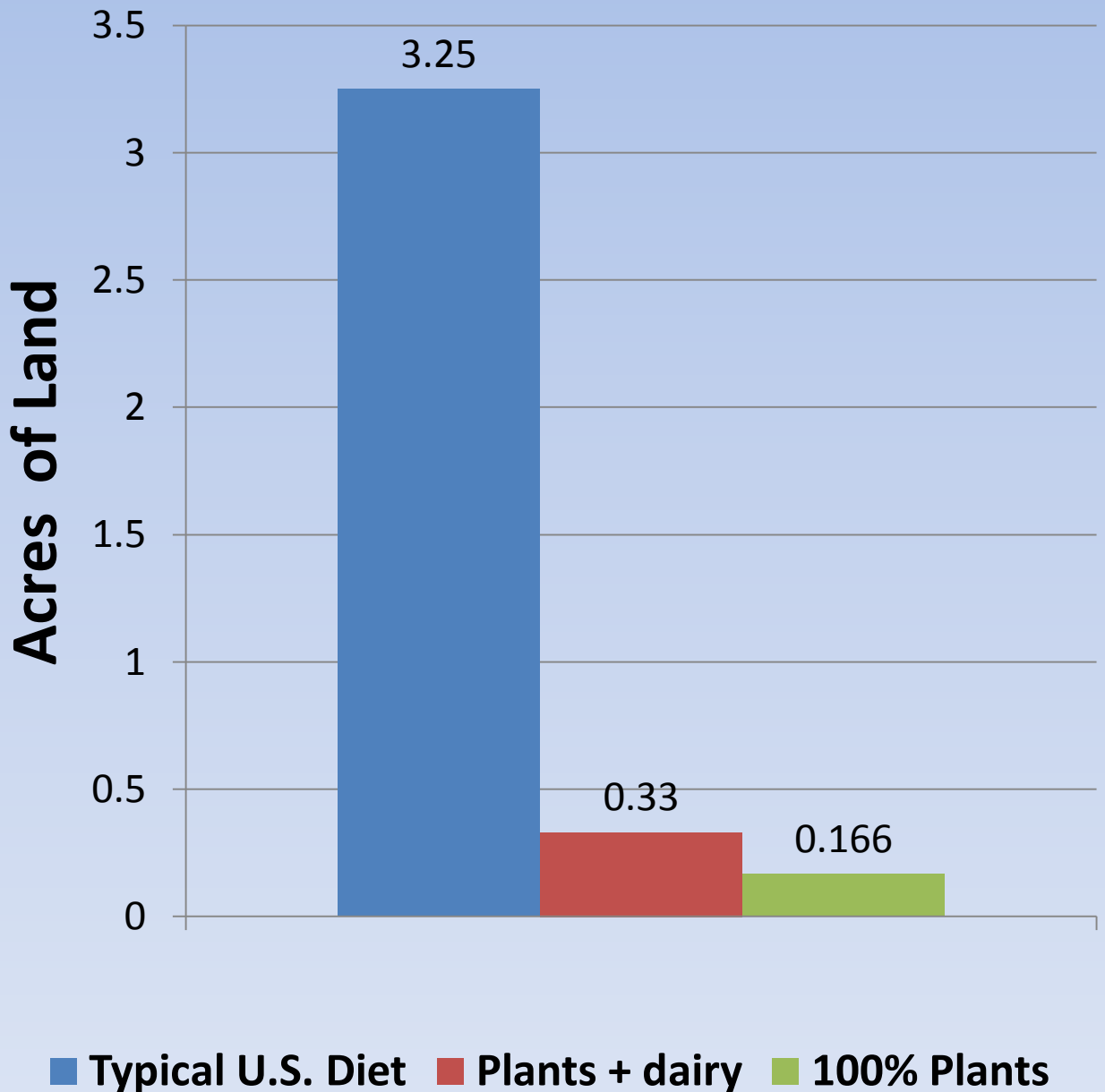
Fate of U.S Food Crops



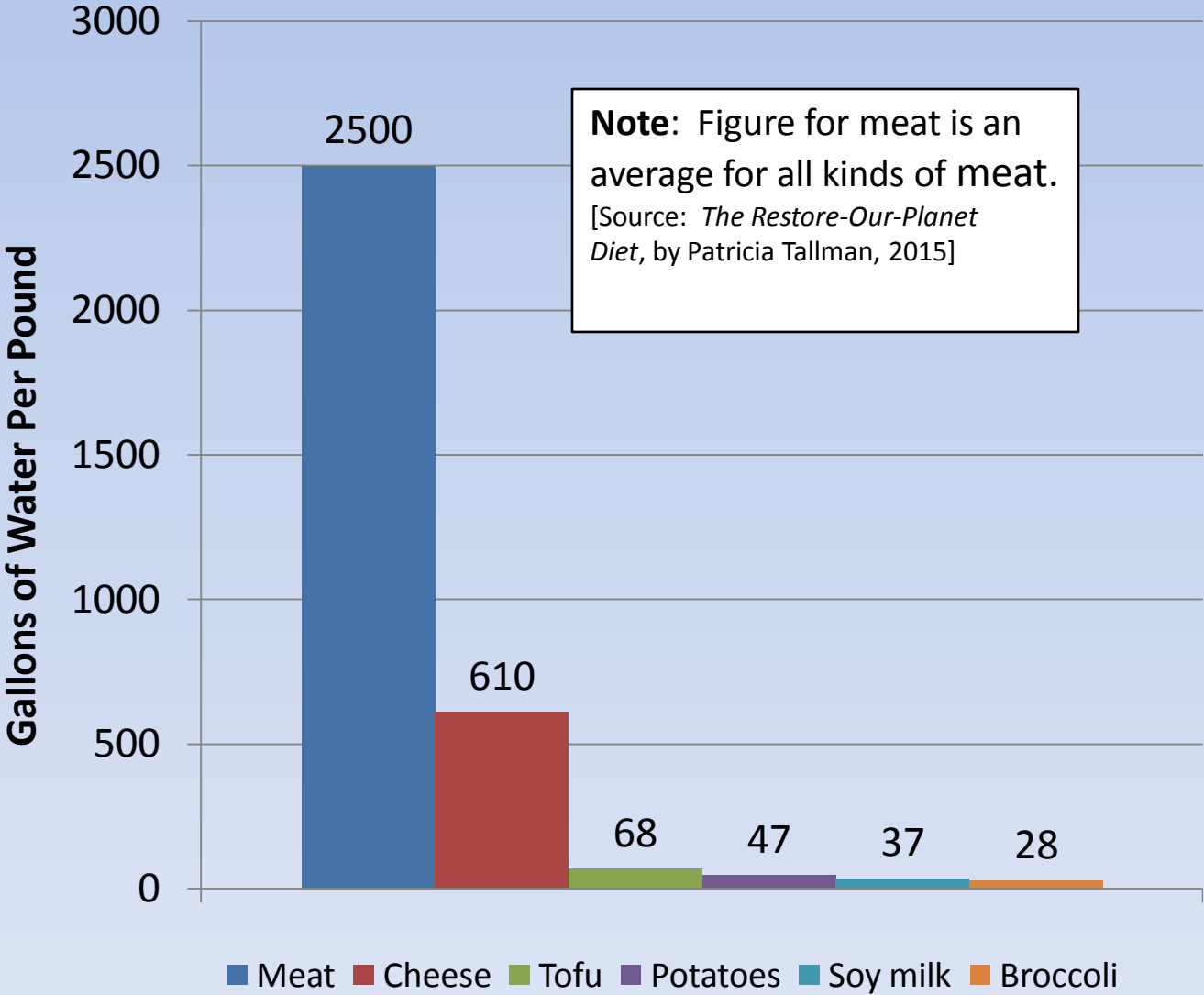
Per-Acre Yields of Usable Protein From Different Food Sources (USDA)



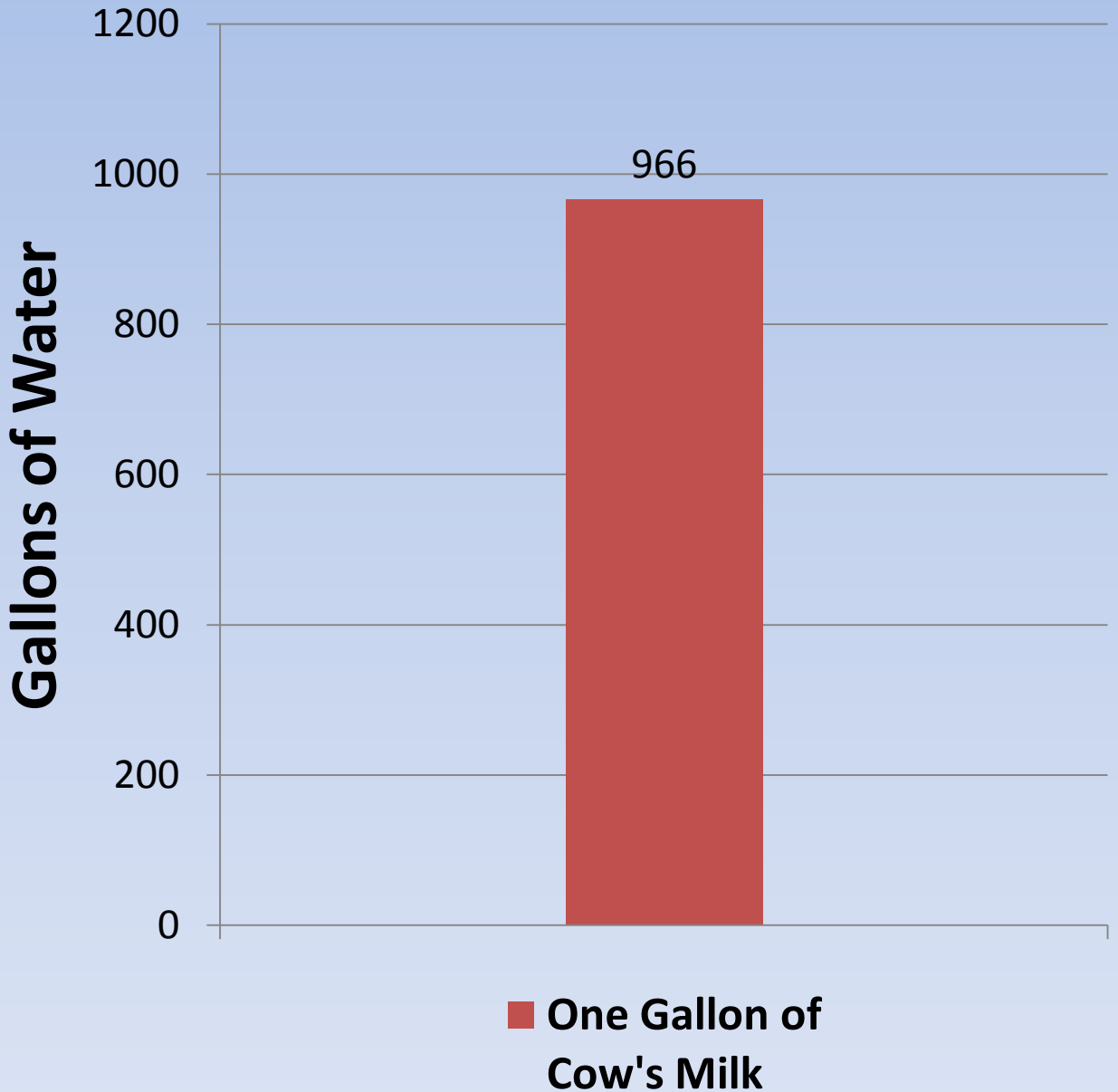
Land Needed to Produce Food for One Person on a Continuing Basis



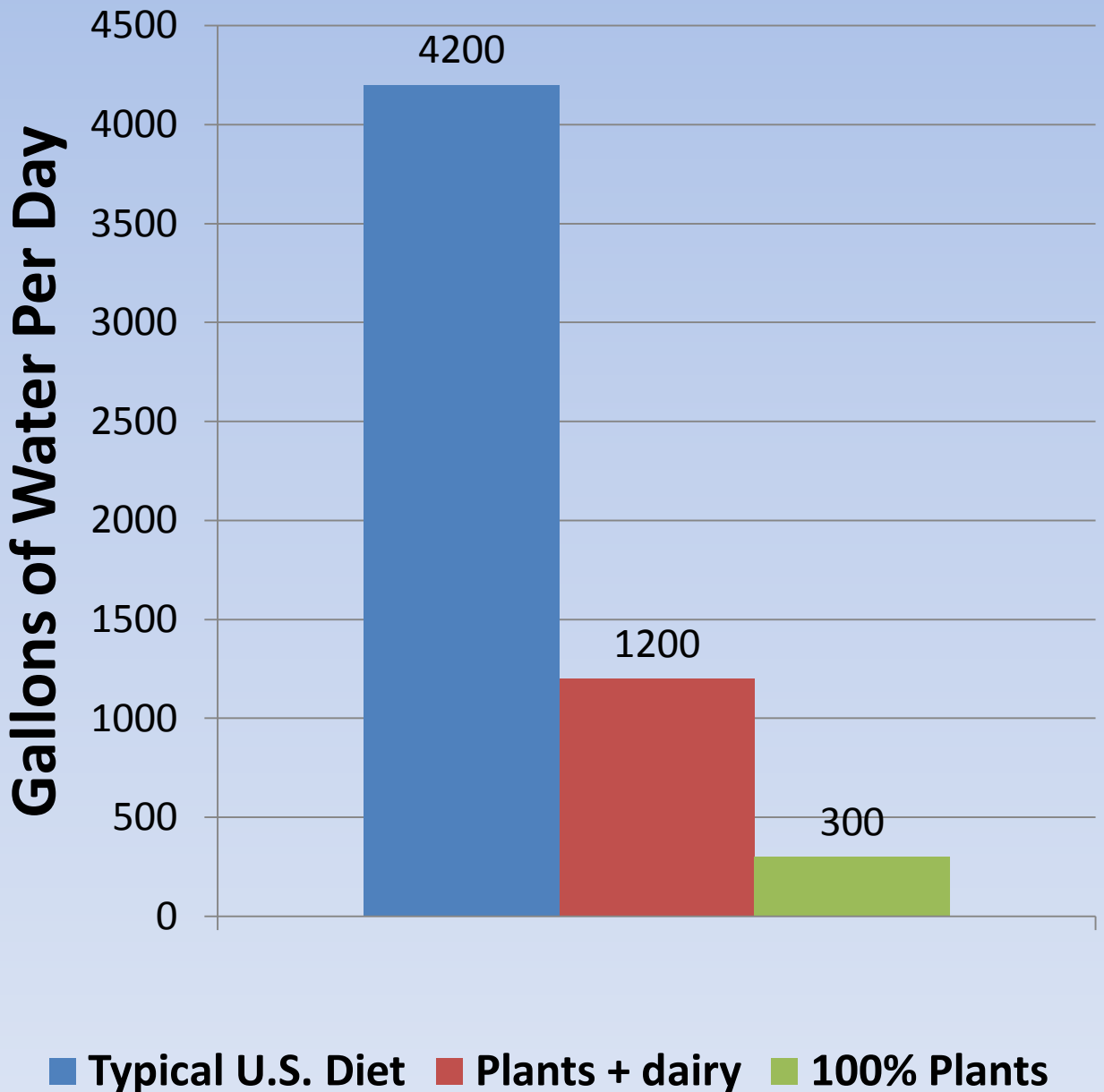
Gallons of Water Needed to Produce One Pound of Edible Food



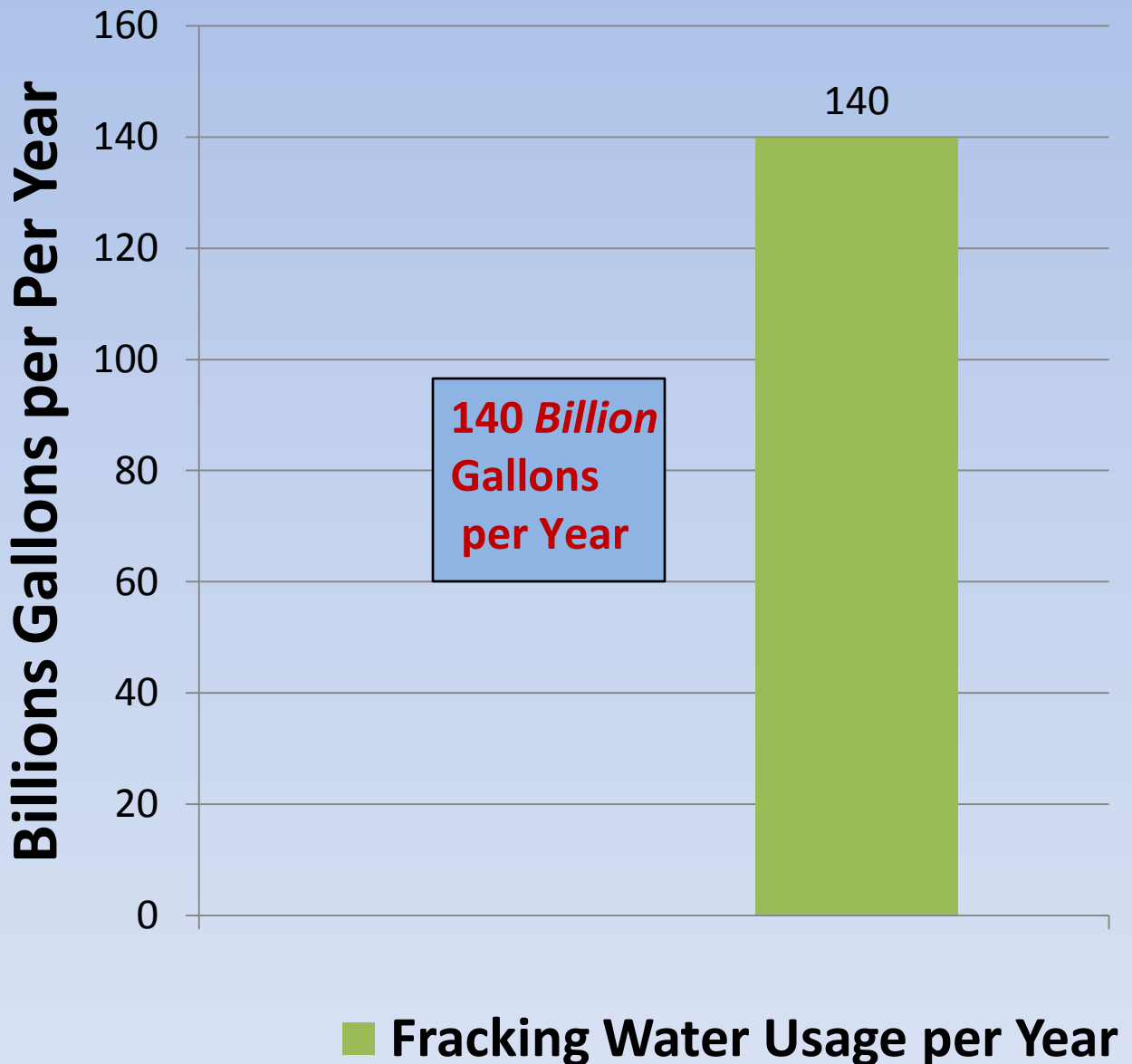
Got Cow's Milk...?



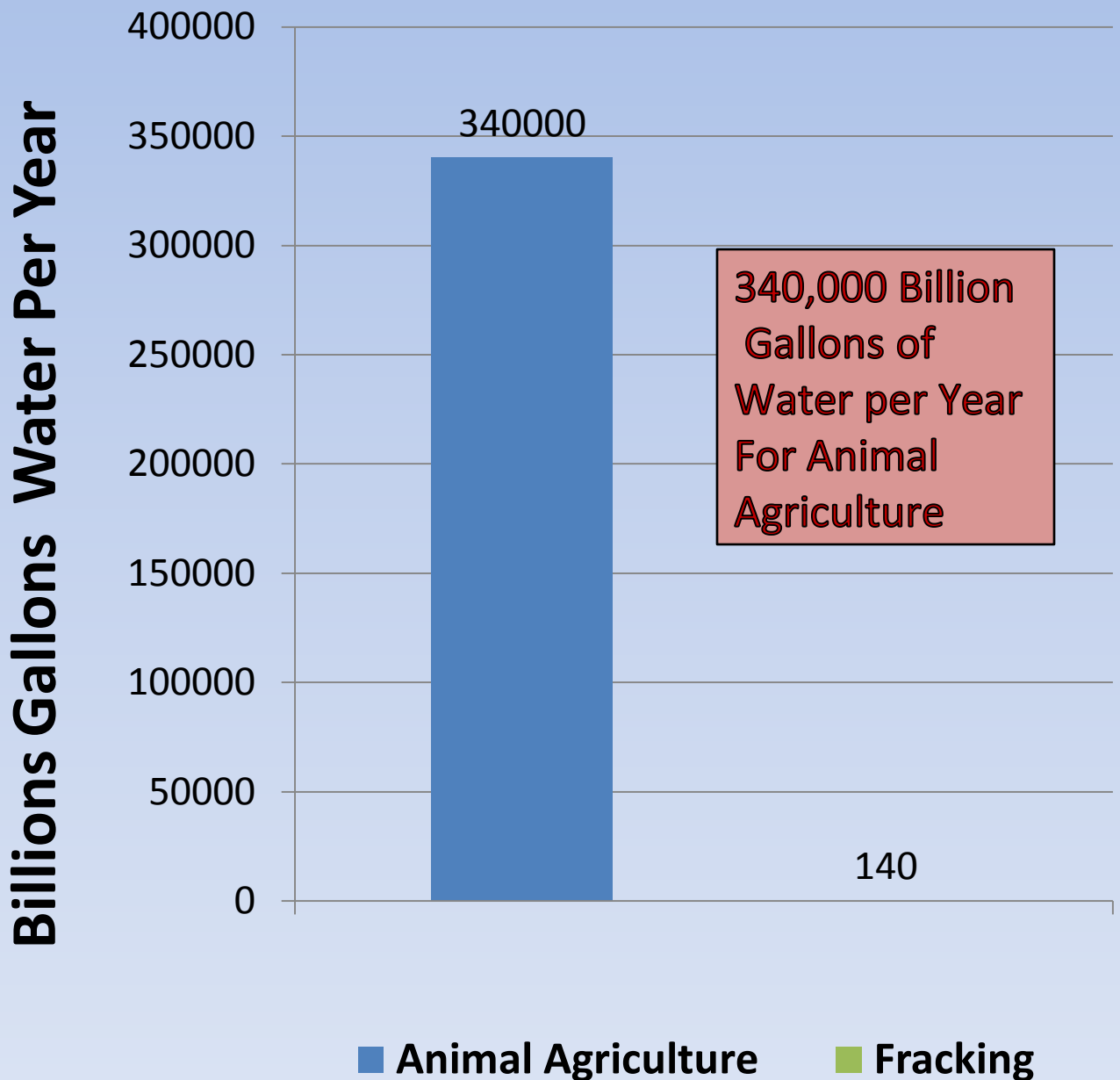
Water Needed Per Day to Produce Food for One Person



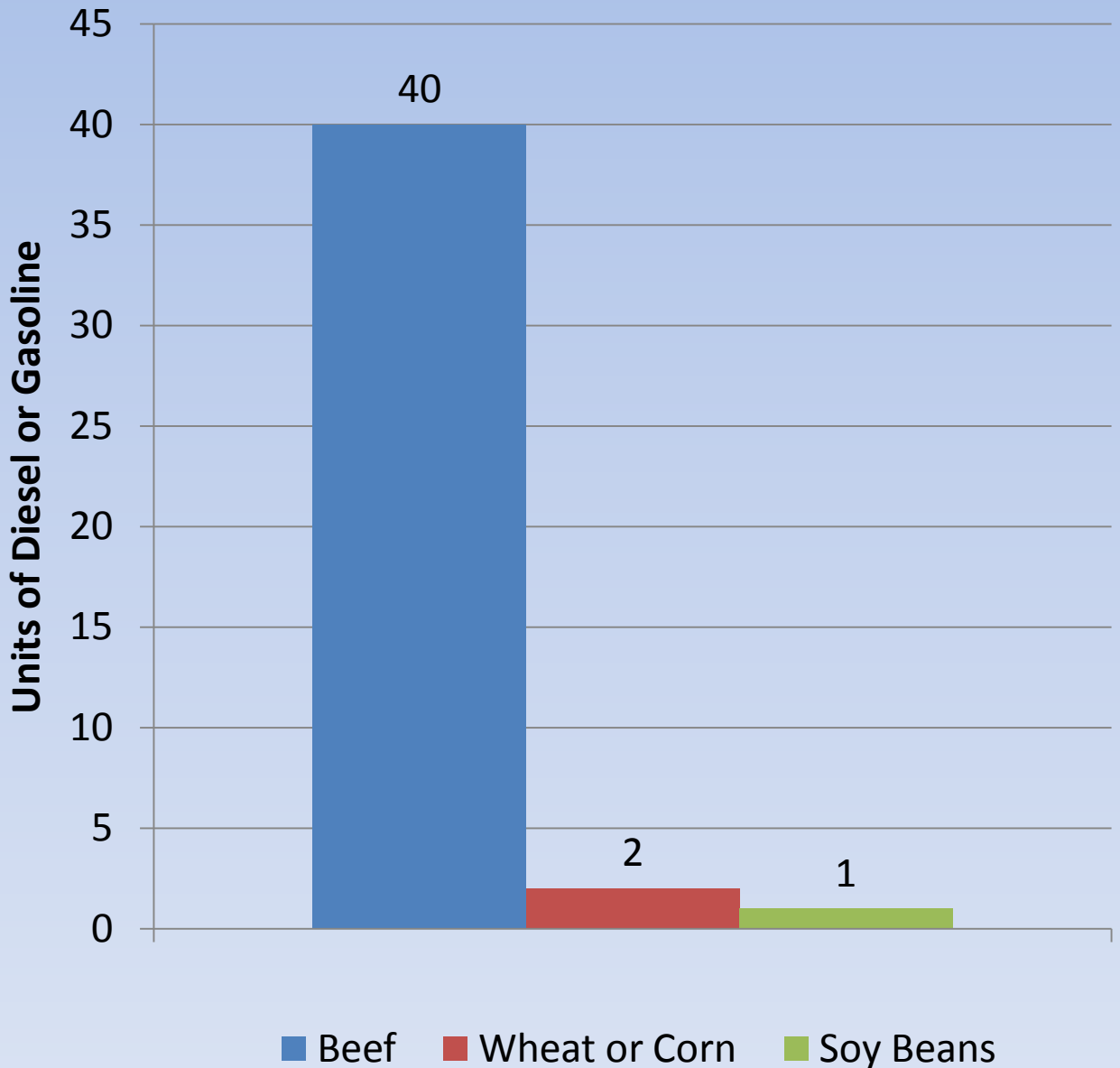
Hydraulic fracturing (fracking)
for natural gas in the U.S. uses
a *HUGE* amount of water...



So fracking is very bad but animal agriculture...



Fossil Fuel Needed to Produce Protein



If everyone substituted beans for beef...

- The U.S. would come very close to meeting its 2020 greenhouse gas emissions goals pledged at 2009 climate talks in Copenhagen...
- ...Even if people kept eating chicken, pork, eggs, and cheese in the same amounts as now.

<https://getpocket.com/explore/item/if-everyone-ate-beans-instead-of-beef>

Water Use in Perspective...

- If you take 5 showers a week and
 - Each shower is 5 minutes and
 - Your flow rate is 4 gallons/minute
 - You will use 2,500 gallons of water in 6 months
-
- So you could save 2,500 gallons of water by not showering for 6 months or...

Or you could...

- Not eat a *mere one pound* of beef and save the same 2,500 gallons of water.

Animal Manure

- **Animal waste in the U.S. amounts to over 2.0 billion tons annually, equivalent to the waste of 2 billion people (7 times the U.S. population)...**
- **And none of these animals are using toilets or sewage treatment systems; they just go on the ground.** (*Environmental Science and Technology*, Vol. 4, No 12, 1970, p. 1098. Reprinted in *Small Planet*, p. 21)
- **Concentration of 10,000 to 300,000 animals in one feed lot produces more fertilizer than surrounding farmland can use, and it's not economical to transport it.**

Manure...

- **Result:** Most of the sewage ends up in *the water systems we depend on*.
- The contribution of livestock to water pollution is more than **10 times** that of **people** and more than **three times** that of **all other industry combined**. This is not just about beef: it is chicken, pork **dairy, eggs, too**. (George Borgstrom, *The Food and People Dilemma*, Duxbury Press, p. 103. Reprinted in *Diet for a Small Planet*, p. 22.)

North Carolina has 9 million hogs...

- These hogs produce 40 million tons of raw sewage annually, stored in “lagoons” which frequently have spills or get sprayed on land near human neighborhoods.
- This is the yearly amount of raw sewage produced by *40 million people*.

Is Fish Farming Any Better?

- 40% of U.S. fish is factory farmed
- Salmon, tuna, and sea bass are carnivores
- It takes 3 to 5 lbs of wild caught fish captured by fishing boats as feed to make 1 lb of fish that humans eat
- 5 million people live in Scotland
- Scottish fish factory farms produce the manure equivalent of 9 million people
- This manure is released untreated into the ocean

[“Sea Cage Farming: An Evaluation of Environmental and Public Health Aspects,” by Don Staniford, presented to European Parliament’s Committee on Fisheries, October 1, 2002]

Climate Change

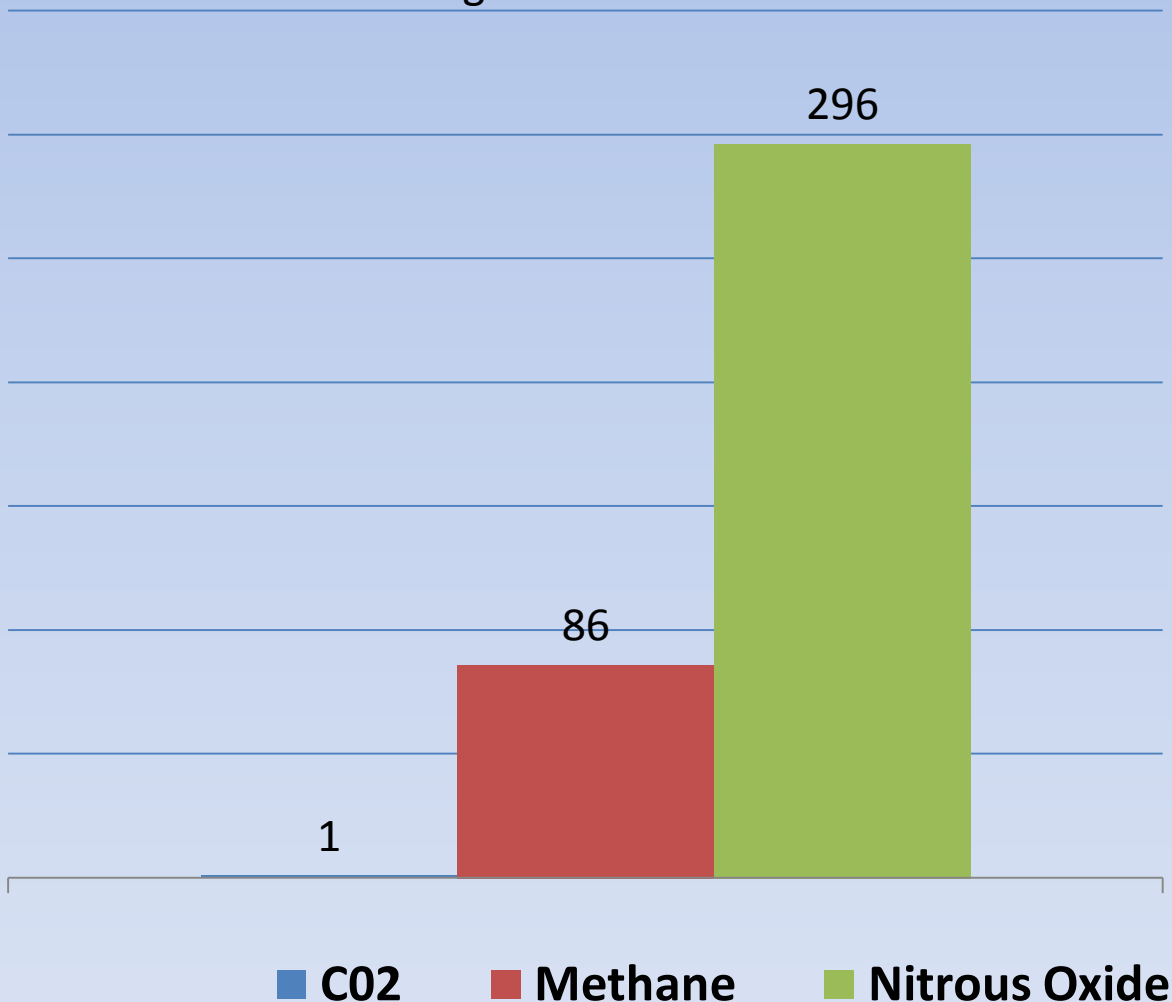
- **“Over 51% of all worldwide annual green house gas emissions are due to the raising of livestock (cattle, pigs, chickens).”**

(Robert Goodland and Jeff Anhang, “Livestock and Climate Change,” *World Watch*, November/December, 2009, pp. 10-19.)

- **“The cattle population of the Earth weighs more than the entire human population. In 1992, there were 1.28 billion cattle on the Earth, taking up nearly 24% off the land mass of the planet.”** (Jeremy Rifken, *Beyond Beef*, Dutton, 1992, p. 1)

3 Main Greenhouse Gases: Relative Power to Produce Greenhouse Effect

Sources: EPA website, US Food & Agriculture
Organization website



Cattle World-Wide Produce...

*150 billion
gallons of
methane every
day!*

Source: Thornton, Phillip, Mario Herrero, and Polly Erickson, "Livestock and Climate Change," *Livestock Xchange*, International Livestock Research Institute (ILRI) website, 2011. Accessed March, 2015
<https://cgspace.cgiar.org/bitstream/handle/10568/1060/IssueBrief3.pdf>

If cows were a *country*...

- Cattle would rank third in the world in the production of greenhouse gases...
- Only China and the U.S. produce more, with the “Republic of Cows” producing only 6% less than the U.S. (<https://vegnews.com/2018/10/bill-gates-if-cows-were-a-country-they-would-rank-3rd-in-greenhouse-gas-emissions>)

Destruction of Topsoil...

- **Two hundred years ago, most of America's croplands had at least 21 inches of topsoil. Today, most of it is down to around six inches.** (Robin Hur, "Six Inches from Starvation: How and Why America's Topsoil is Disappearing," Vegetarian Times, March 1985, pp. 45-47)
- **It takes natural processes 500 years to build an inch of topsoil.** (Curtis Harnack, "In Plymouth County, Iowa, The Rich Topsoil's Going Fast," New York Times, July 11, 1980)
- **Currently, U.S. croplands are losing an inch of topsoil every 16 years** (see Hur, and Pimental et al, "Land Degradation: Effects on Food and Energy Resources," Science, Vol 194, Oct 1976)
- **The U.S. Soil Conservation Service reports that over 4 million acres of cropland are being lost to erosion in this country every year. The annual topsoil loss amounts to 7,000,000,000 [7 billion] tons, or 60,000 pounds for each member of the country's population.** (Hur)

Topsoil...

- **Of this total topsoil loss, 85% is directly associated with livestock raising.**

(Hur, Pimental)

Destruction of Forests...

- The U.S is presently more than *97% deforested* relative to when Europeans first arrived
- Since 1967, the rate of deforestation has *continued* at the rate of one acre every 5 seconds (John Robbins, *Diet for a New America*, Stillpoint Publishing, 1987, p. 361)
- What is *responsible* for the continuing deforestation???

Deforestation...

- For each acre of American forest that is cleared to make room for parking lots, roads, houses, shopping centers, and so on...
- Seven acres of forest are converted into land for grazing livestock and/or growing livestock feed.

(Robin Hur and David Fields, "Are High-Fat Diets Killing our Forests?" Vegetarian Times, February 1984)

Is Grass-fed beef better
for the environment...??

- Let's investigate...

Grass-fed cattle live longer

- Grain-fed factory-farmed cattle reach slaughter weight at 15 months and...
- Grass-fed cattle reach slaughter weight at 23 months so...
- Grass-fed cattle live 50% longer and continue to produce nitrous oxide, methane, and CO₂ for all of that additional time.
- Source: *The Sustainability Secret: Re-thinking Our Diet to Transform the World*, by Kip Anderson and Keegan Kuhn, 2014, p. 44. These figures are for grass-fed animals without growth enhancing technology (drugs).

Because of their *diet*, grass-fed cattle produce...

- 60% to 400% *more methane* per day than grain-fed cattle raised on factory farms

- Source: Jeff Anhang, environmental specialist with World Bank's Environment and Social Development Department
<http://www.brilliantplanet.org/environmental-articles>.

Because grass-fed cattle are *leaner*...

- It would take 50.2 million *additional cattle* to provide the *same* amount of beef as is currently being provided by grain-fed cattle: 26 billion pounds per year in the U.S.

- Source: Dr. Jude Capper, adjunct professor of dairy sciences at Washington State University, “The Environmental Impact of Grain-fed vs. Grass-fed Beef,” April 27, 2012.
www.academia.edu/1720592/The_Environmental_Impact_of_Grass-fed_vs._Grain-fed_Beef. Cited on p. 43 of *The Sustainability Secret* by Kip Anderson and Keegan Kuhn. These figures are for grass-fed animals without growth enhancing technology (drugs).

Could *all* meat be produced from grass-fed cattle...???

- It takes about 11.7 acres to produce the 209 lbs of meat eaten by the average American each year. U.S. population = 314 million, so...
- It would take 3.7 billion acres to provide this amount of meat from grass-fed cattle...
- But... there are only 1.9 billion acres in the lower 48 states and...
- Source: *The Sustainability Secret: Re-thinking Our Diet to Transform the World*, by Kip Anderson and Keegan Kuhn, 2014, pp. 42-43.

Could *all* meat be produced from grass-fed cattle (continued)...???

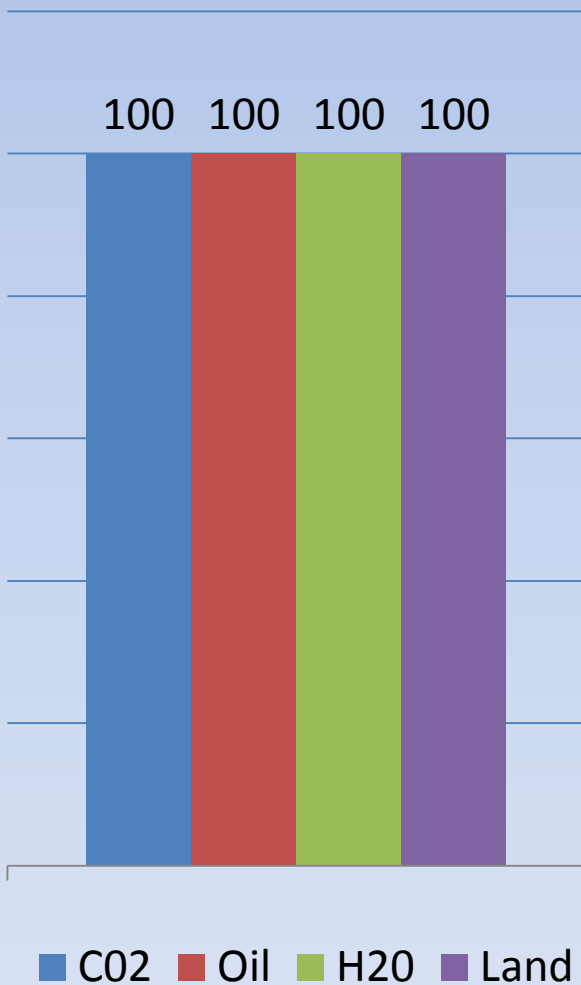
- *Half* of the land in the U.S. is *already being used* for animal agriculture and...
- Much of the remaining land is not usable for this purpose: cities, mountain tops, deserts...

- Source: *The Sustainability Secret: Re-thinking Our Diet to Transform the World*, by Kip Anderson and Keegan Kuhn, 2014, pp. 42-43.

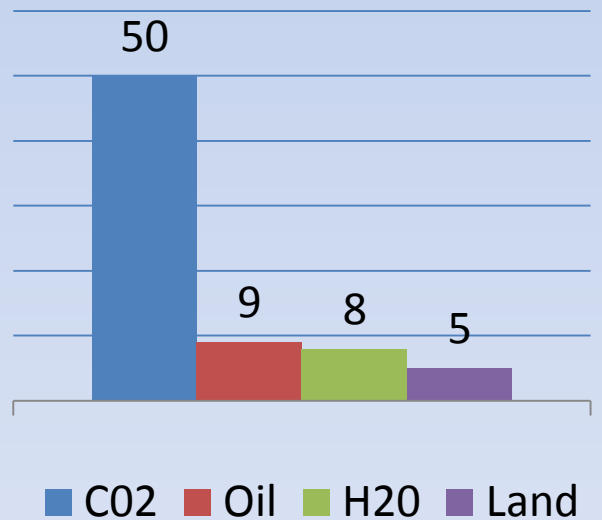
Environmental Impacts

Source: *The Sustainability Secret*, pages 161-162

Omnivore Diet



100% Plant Diet



Climate change & environmental degradation are not partisan issues.

- Nature does not care about your *political affiliation* or your...
- *Religion...*
- *Race...*
- *Nationality...*
- *Social standing...*
- *Wealth...*
- *Education or...*
- *Anything else that you think makes you special.*

It is *NOT* reasonable to ask our planet to support...

- 7.7 billion people as well as...
- 1.5 billion cattle and...
- 1 billion sheep, plus...
- 23 billion chickens and...
- 677 million pigs .

<https://time.com/5930095/china-plant-based-meat>

Why do we think that...

“We need animal foods in order to be healthy?”

The Basic 4 Food Groups 1956

(USDA)



DAIRY PRODUCTS



MEAT, POULTRY & FISH



GRAINS



FRUITS & VEGETABLES

The Basic 12 Food Groups 1930

(USDA)



DAIRY PRODUCTS



POTATOES



LEAFY GREEN & YELLOW VEGETABLES



BUTTER



OTHER VEGETABLES & FRUITS



DRY PEAS



EGGS



MEAT, POULTRY & FISH



FLOUR & CEREALS



SUGARS



TOMATOES & CITRUS FRUITS



OTHER FATS

The Basic 7 Food Groups 1940

(USDA)



FRUITS



EGGS



POTATOES



DAIRY PRODUCTS



BREAD & CEREALS



MEATS, POULTRY & FISH



VEGETABLES

Why do the USDA basic food groups keep changing in such strange ways?

The USDA has *two* jobs:

- 1) Make sure we have safe and healthy food to eat
- 2) Promote the well being of the food industry

But... These two often jobs *conflict* with each other. And what *happens* when they conflict?

The food industry *wins* because...

- The food industry spends hundreds of millions of dollars on advertising, lobbying elected officials, and campaign donations.
- As people who buy food to eat, how many millions do *we* spend to influence government officials and public opinion?
- And the answer to that question explains how dried peas got to be a USDA Basic Food Group in 1930!

1991

The New Basic 4 Food Groups 1991

(Physicians Committee for Responsible Medicine)



WHOLE GRAINS

VEGETABLES

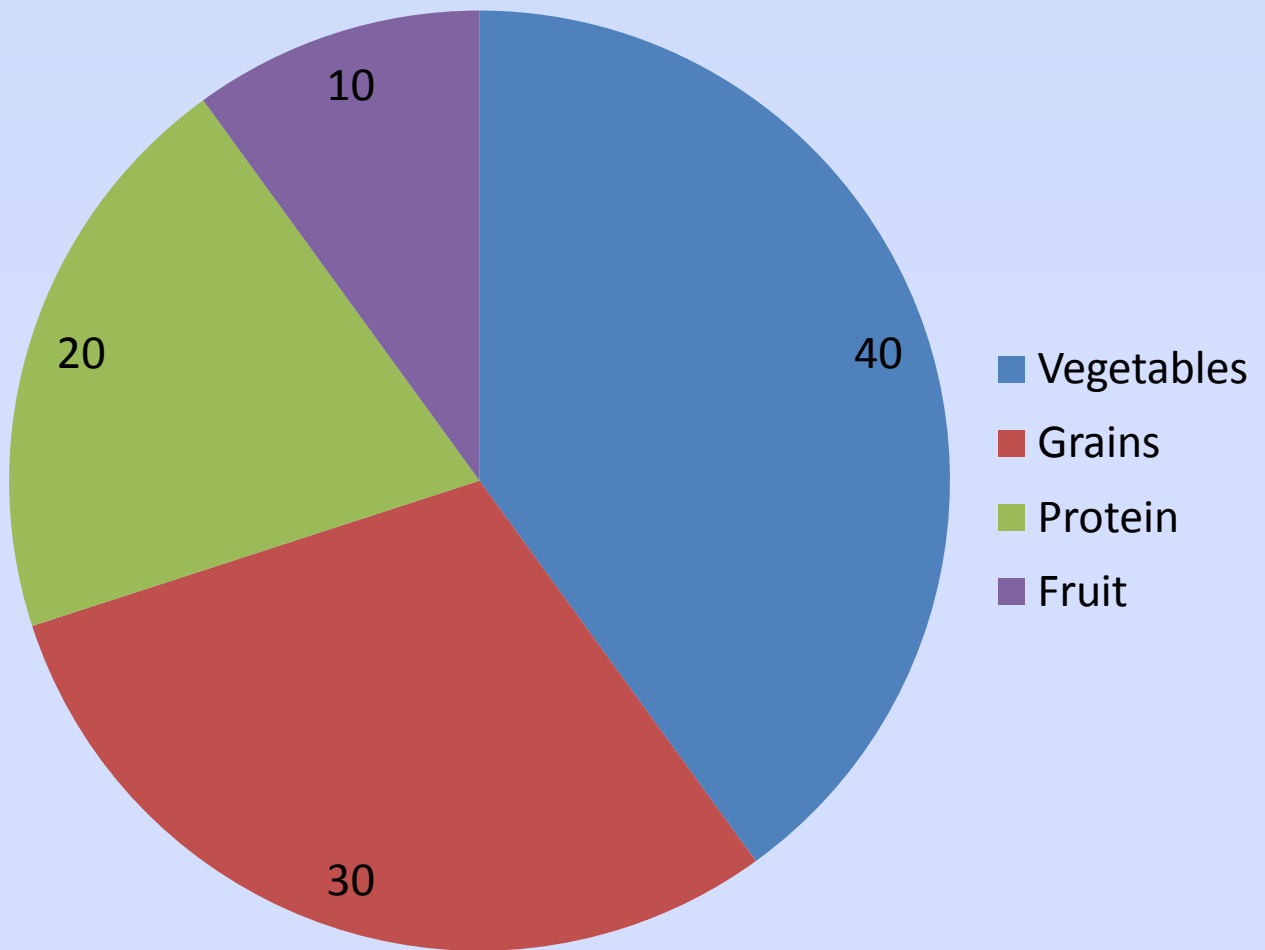
LEGUMES

FRUIT

Meat, poultry, fish and dairy products are recommended for use as condiments only.

MyPlate: Current U.S. Government Food Groups

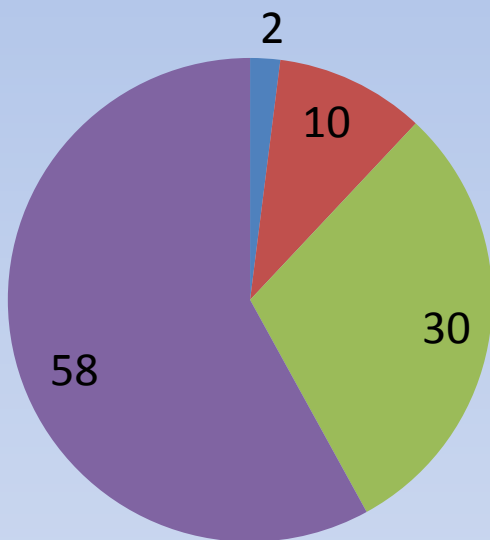
Food Percentages



Federal Dietary Guidelines vs Federal Food Subsidies

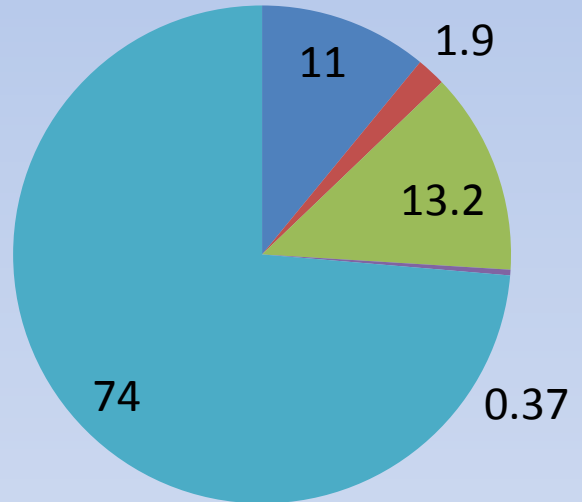
(Physicians Committee for Responsible Medicine, 2007)

What Government Tells Us to Eat



- Sugar, Oil, Salt
- Protein:
Meat, Nuts, Beans
- Grains: Corn, Wheat, Oats
- Vegetables and Fruits

Government Food Subsidies



- Sugar, Starch, Oil, Alcohol
- Nuts and Beans
- Grains: Corn, Wheat, Oats
- Vegetables and Fruits
- Meat and Dairy

No matter what I choose to eat I *will* be making a difference.

- The only real question is: “What *kind* of a difference will I be making?”
- We can become part of the solution instead of being part of the problem.
- When I change what I am doing, other people will notice and *some* of them will *change*.

When I do something different...

- It may *create a choice for someone else* that they never thought of before.
- My action makes the nonverbal statement I think *what I am doing is an ok thing to do*. My action gives *permission to do the same*.
- My changed behavior tells other people that it is *possible* to make a change.

The Story of a Student Named Josh

- After getting some exposure to the issue of food choices in a class, Josh found himself behind another student in line in the cafeteria.
- Josh was going to order the chicken stir fry, but then the student in front of him ordered a tempeh stir fry.
- Josh had been thinking about this change for days, but then thought to himself, “If this guy is doing it, I’m going to give it a try, too.”
- Josh found he liked it!

The story of Josh continued...

- Josh never saw the face and doesn't know the name of the student in line in front of him.
- The student in front of him has no idea he impacted the choice and life of another person and yet...
- Josh's life was changed deeply as he went on to adopt other changes in his behavior.
- Our actions influence others in ways we never know.

The ripple effect continues...

- And now Josh, whether he knows it or not, is helping me improve the talk I am giving today...
- And maybe he is now helping you as well by inspiring you to try something new.

“Your life is your message”

- Gandhi said this, and he meant that the way you choose to live sends a message to the world.
- And most of the time, this message is much more powerful than the things that you say.

Two ways to change...

- One small step after another over time. This works for *some* people.
- Huge and sweeping changes all at once. This sounds harder, but in many ways it is *easier* because...
 - I notice significant health benefits right away
 - I don't maintain my taste for the old foods by still indulging in them

Large & sweeping changes, continued...

----Sweeping changes disrupt our old routines and tend to break ingrained habits and patterns of behavior.

---For many people it is easier to just not do something at all than do it from time to time. The latter creates the very real possibility of back-sliding.

Words will only get you so far...

- *Try it out* for 30 days and actually *see and feel* what it is like. You will find that...
 - 1) the food can *taste great*
 - 2) it's *easier than you thought*
 - 3) you *feel better*
 - 4) it really is *possible*

Keep It Simple

- Choose foods that are *simple and easy* to make.
- Take an inventory of the foods you *already like* that are healthy for you and for the planet. This will give you a good start. “The Method of 10’s” can help here.
- Find ways to *modify* favorite but unhealthy foods that you *already like* to make them healthy. I can help you with this.

“The Method of 10’s”

- Write down all the foods that rate a “10” from you based totally on *taste*.
- After educating yourself about the health and planetary impacts of various foods...
- *Circle the foods* on your list that are *healthy* and good for the *environment*. You will be surprised how *many* there are!
- This will convince you that what is good for the planet can also taste wonderful.
- These foods can help get you started on a new path.

Healthy Person and Healthy Planet: Simple Guidelines

The following are *listed in order of importance*. (Note: Don't let the perfect be the enemy of the good!)

- 1) Plant based
- 2) Foods as close to their whole and unrefined form as possible. (Reminder: Added oils are a processed food.)
- 3) Give preference to foods not grown at long distances from home.

A Few Resources for Reading and Viewing...

- Websites:

Ahimsa Acres <https://ahimsaacres.org/Readings.html>

John McDougall <https://www.drmcDougall.com/>

Physicians Committee for Responsible Medicine <https://www.pcrm.org/>

- Video Documentaries:

Cowspiracy (A.U.M Videos)

Forks Over Knives (Virgil Films)

What the Health (A.U.M.)

- Books:

--*The Sustainability Secret* (Kip Andersen & Keegan Kuhn)

--*Food Choice and Sustainability* (Richard Oppenlander)

--*The Starch Solution* (John McDougall)
What the Health (Eunice Wong)



Ahimsa Acres Educational Center

If you have questions or comments about this presentation, or would like to request a free copy of the slides, please write to Dale Lugenbehl at ahimsaacres@gmail.com