

Healthy Planet, Healthy You

A Plant-Based Diet and Our Planet

February 4, 2024

St. Paul United Methodist Church

“There is no path to achieving the goals of the Paris Climate Agreement and keeping the 1.5°C limit within reach that does not urgently address the interactions between *food systems, agriculture and climate.*”

Countries must put food systems and agriculture at the heart of their climate ambitions, addressing both global emissions and protecting the lives and livelihoods of farmers living on the front line of climate change.”

***H.E. Mariam bint Mohammed Almheiri
UAE Minister of Climate Change and Environment
& COP 28 Food Systems Lead, December 1, 2023***

“About a third of all human-caused greenhouse gas emissions is linked to **food**.”

The largest chunk of food-related greenhouse gases comes from **Agriculture and Land Use**. This includes, for instance:

- **methane** from *cattle’s digestive process*
- **nitrous oxide** from *fertilizers used for crop production*
- **carbon dioxide** from *cutting down forests* for the expansion of farmland
- **other** agricultural emissions from *manure management*, rice cultivation, *burning of crop residues*, and the *use of fuel* on farms.

A much smaller share of the greenhouse gas emissions of food are caused by:

- refrigeration and transport of food
- industrial processes such as the production of paper and aluminum for packaging
- the management of food waste.”

Source: United Nations “Food and Climate Change: Healthy diets for a healthier planet”

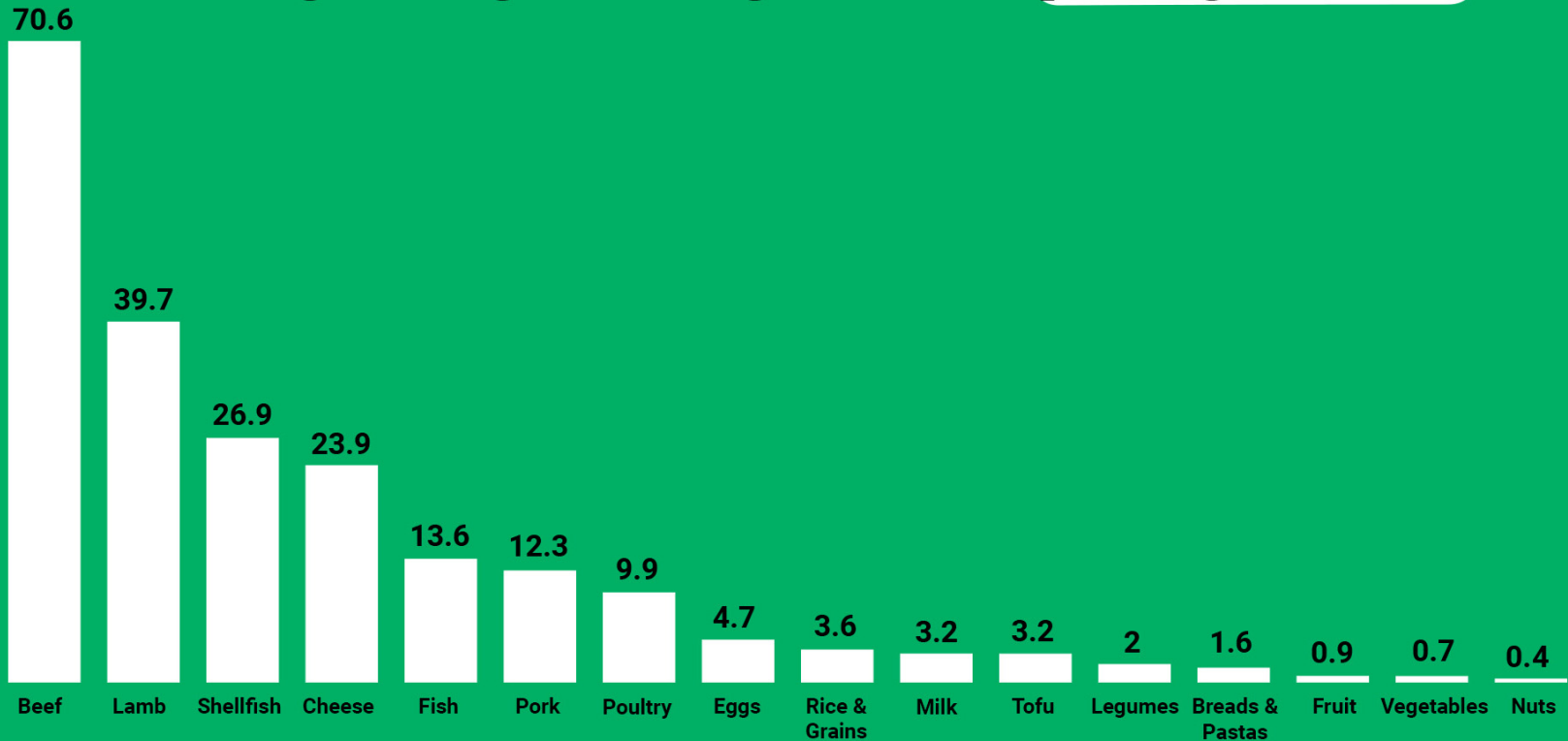


The Livestock Sector directly contributes to **26 percent** of “Agrifood System Emissions”. Notably, **beef, cows and buffalos alone account for 70 percent** of all livestock emissions.

Source: United Nations Food and Agriculture Organization

“Achieving SDG 2 without breaching the 1.5 °C threshold: A global roadmap, Part 1” (2023)

Kilograms of greenhouse gas emissions per kilogram of food

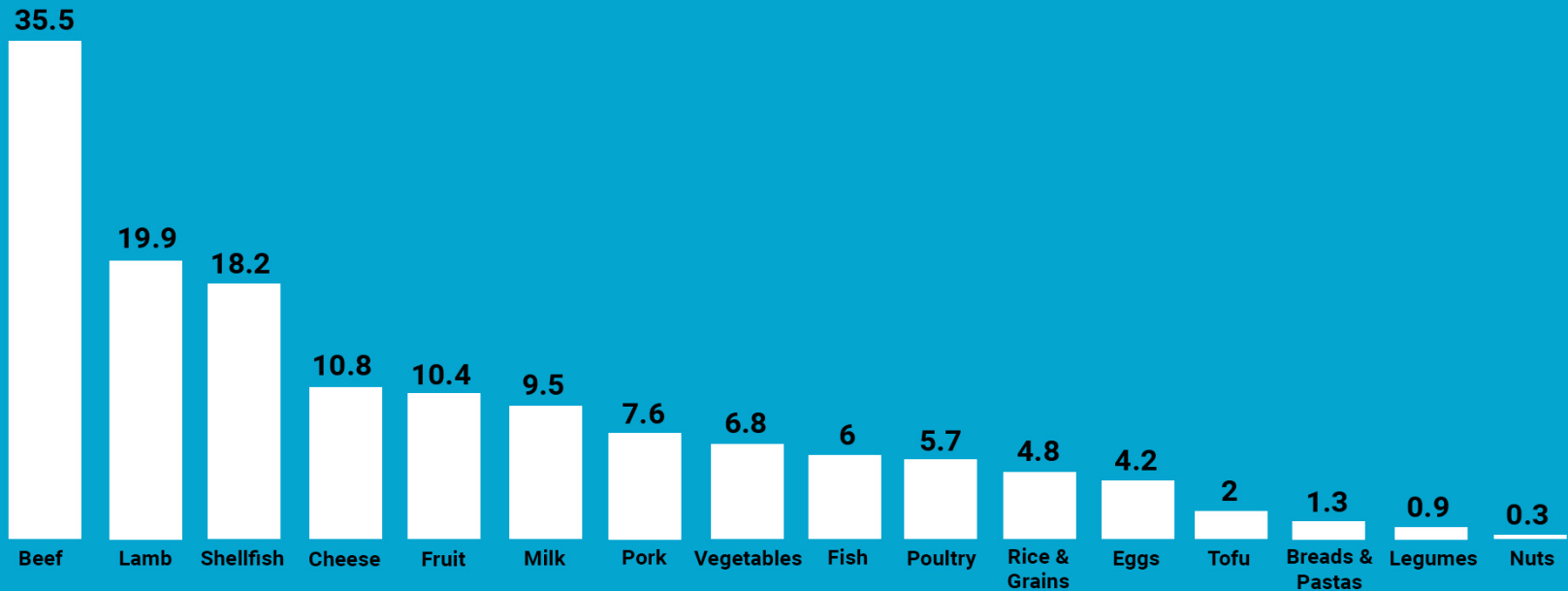


For the metrically impaired (like myself): **1 kilogram = 2.2 pounds**

... So, converted to pounds, “Beef” produces **155 pounds** of GHGs per **2.2 lbs. of meat** compared to **4.4 pounds** of GHGs per **2.2 lbs. of “Legumes”** (dried beans, split peas, lentils).

Source: UN “Food and Climate Change: Healthy diets for a healthier planet”

Kilograms of greenhouse gas emissions per 100 grams of protein

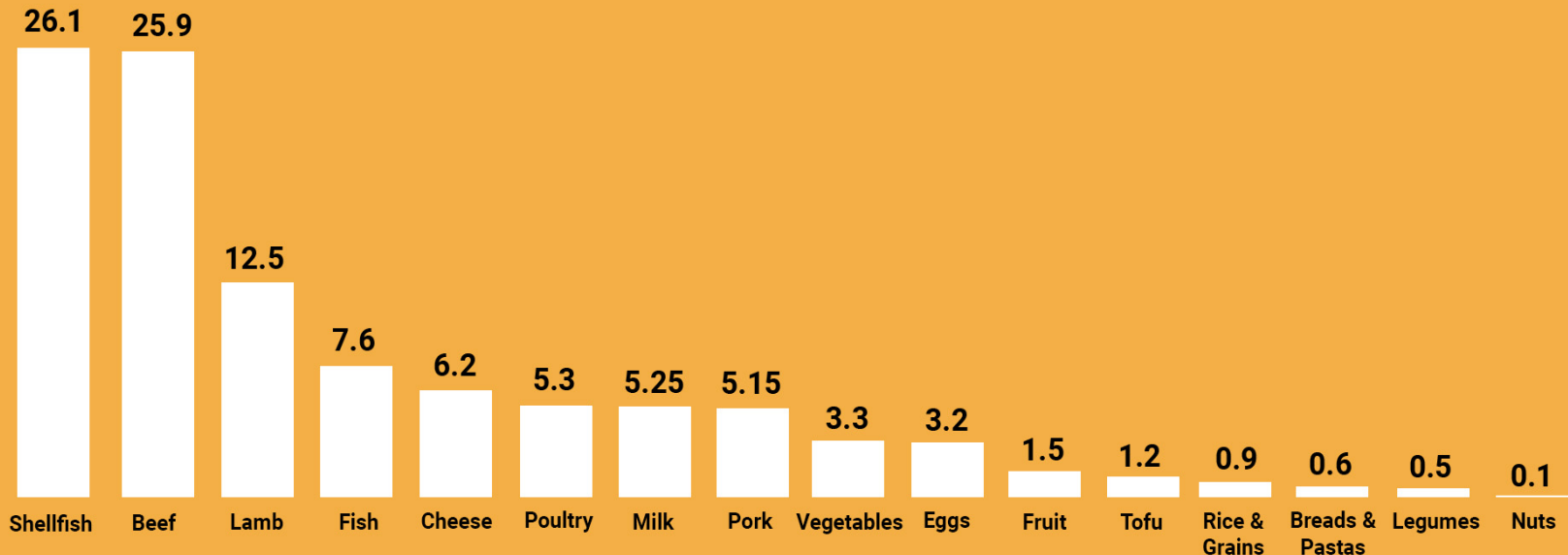


1 kilogram = 2.2 pounds; 100 grams = 3.5 ounces

... Using the same two food examples in the chart converted to ounces: **Beef** produces **78 pounds** of GHGs per **3.5 ounces of protein** compared to **LESS THAN 2 POUNDS** of GHGs per **3.5 ounces of plant-based protein from Legumes**.

Source: UN "Food and Climate Change: Healthy diets for a healthier planet"

Kilograms of greenhouse gas emissions per 1000 kilocalories



1 kilogram = 2.2 pounds; 1,000 kilocalories = 1,000,000 calories

... Using the same two food examples in the chart, **Beef** produces **56.9 pounds** of GHGs per **1,000 kilocalories** compared to **1.1 pounds** of GHGs per 1,000 kilocalories for **Legumes**.

Source: UN "Food and Climate Change: Healthy diets for a healthier planet"

But it's not just Greenhouse Gas Emissions we have to worry about...

Agriculture occupies nearly 40 percent of global land... making agro-ecosystems the largest terrestrial ecosystems on the planet.

Continuing land conversion from natural ecosystems to agriculture (*often for increased livestock production*) is the single most important driver of **biodiversity loss** and **land degradation**.

Source: UN Food and Agriculture Organization, "Sustainable Food and Agriculture" (2020)
<https://www.fao.org/sustainability/news/detail/en/c/1274219/>

Then, there's WATER...

Food systems use 70 percent of global *freshwater* supplies

And **BEEF** is the “King of Big Water Footprints”, requiring **1,850 gallons** of water to produce **1 pound** of meat

... Compared to the water usage of other meats and calorie crops (per 1 lb. of food)

- Pork = 720 gallons of water
- Chicken = 520 gallons of water
- Soybeans = 256 gallons of water
- Wheat = 220 gallons of water
- Corn = 148 gallons of water

Source:

Water Footprint Calculator
www.watercalculator.org

No country on Earth eats as much meat as the U.S.

The average American consumes about **274 pounds of meat a year** (compared with *58 lbs.* in Egypt; *54 lbs.* in Peru; *39 lbs.* in Haiti; *16 lbs.* in Nigeria; and *9 lbs.* in Bangladesh).
Source: UN Food and Agriculture Organization (2020 data)

*... And if we're not eating **meat**, Americans are socking away **Dairy Products** at an average of **653 pounds** per person annually.*
Source: www.statista.com

GO BIG RED MEAT!

It's no fluke that Nebraska's known as the "Beef State". The whole subject of '*Cattle*' strikes close to home in HUSKER NATION.

This tidbit from the Nebraska Beef Council helps explain why:

“January 2022 figures illustrate that Nebraska continues to have far more cattle than people. The **1.8 million** cows combined with the nearly 5 million head that are annually fed in Nebraska total nearly **6.8 million** cattle. **That's over 3.5 times more cattle than people in Nebraska!**”



Food and Agriculture
Organization of the
United Nations



How to Feed the World of 2050?

“The projections show that feeding a world population of 9.1 billion people in 2050 would require raising overall food production by some 70 percent between 2005/07 and 2050. Production in the developing countries would need to almost *double*.”

High-Level Expert Forum
Rome October 12-13, 2009



Doug Bereuter

Member of Congress,
Nebraska (1979-2004)

Co-Chair, Global Agricultural
Development Initiative,
Chicago Council on Global Affairs

“Climate Change will bring hotter temperatures, changing rainfall patterns, and more frequent natural disasters. These effects could *slow the growth of food production...* for the rest of the century. Farmers everywhere will be affected.

... If these challenges are not addressed, **consumers will need to be prepared for higher food prices and potential food shortages.**”

*Advancing Global Food Security
in the Face of a Changing Climate*

May 2014

Snapshot of Global Malnutrition & Hunger (2022)

- * **735 million people** were undernourished.
- * Over **3.1 billion people** could not afford a healthy diet.
- * Modeled estimates suggest that up to **4.2 billion people** may be consuming unhealthy diets that contribute to non-communicable diseases, overweight and obesity.
- * Unhealthy diets are related to **73 percent** of the ***‘hidden cost’ of our Agrifood systems*** [e.g. climate change, water pollution & depletion, biodiversity loss, human health impacts].

Source: UN FAO, “Achieving Sustainable Development Goal 2 (Zero Hunger) without breaching the 1.5° C threshold: A global roadmap, Part 1” (2023)

So what should we do?

Lead with your fork.

According to the United Nations, one of the best things citizens of ‘high-income countries’ like the U.S. can do is **“Eat healthier meals”**.

“Start eating a more plant-rich, balanced diet — one that provides energy and nutrients from several different food groups — and reduce foods that are harder on our planet...

In most high-income countries, shifting to more plant-based foods promotes better health and significantly lowers your environmental impact, compared to the average meat-based diet.”

Source: “Food and Climate Change: Healthy diets for a healthier planet”, United Nations

All right.

But when they're saying
MORE veggies in our diet,
but ***LESS*** MEAT...

HOW MUCH LESS ?

***The Lancet* is the premier medical journal in the world.**

https://en.wikipedia.org/wiki/The_Lancet

THE LANCET

January, 2019

www.thelancet.com

Food in the Anthropocene: the EAT–Lancet
Commission on healthy diets from
sustainable food systems



“Food in the Anthropocene represents one of the greatest health and environmental challenges of the 21st century.”

A Commission by *The Lancet*

In January 2019, a specially formed “EAT-Lancet Commission” unveiled a “universal healthy reference diet” that reins in the greenhouse gas emissions from the Agri-Food Sector (keeping global temperatures from exceeding the 1.5 °C. threshold) — while ensuring that everyone on the planet receives a sufficient portion of animal-based protein and nutrients:

<https://eatforum.org/lancet-commission/eatinghealthyandsustainable/>

The Menu of the Future...

“Transformation to healthy diets by 2050 will require substantial dietary shifts. **GLOBAL CONSUMPTION** of *fruits, vegetables, nuts* and *legumes* will have to **double**, and consumption of foods such as *red meat* and *sugar* will have to be **reduced by more than 50 percent.**”

Converting the EAT-Lancet metric calculations to ounces/pounds:

People in high-income countries should aim to consume no more than **3.5 ounces** of red meat (pork, beef or lamb), **7.2 ounces** of poultry and **6.9 ounces** of fish **per week** for a weekly total of **17.6 ounces (1.1 pounds)**. The **57.2 pounds annual total** equates to an **80 PERCENT REDUCTION in Americans’ meat-eating habits.**

Source: “EAT-Lancet Commission Brief for Everyone”

<https://eatforum.org/lancet-commission/eatinghealthyandsustainable/>

Knowledge about what we should
eat is essential for both our
Human and *Planetary* health.

But that only gets us '*halfway*'.

The '*Other Half*' is being able to
get our hands on the food we
need when we need it.

Seven Things

Every Nebraskan
Should Know about
Our Food Supply...

90 *percent*

of the **\$4.4 billion**

**Nebraskans annually spend
on food leaves the state...**

Source: Crossroads Resource Center, Minneapolis, Minnesota, 2010

We grow FEED not Food

“The fact is most of the corn in Nebraska does not end up in human food products. The vast majority of Nebraska’s corn crop is fed to livestock in Nebraska and outside the state — or transformed into ethanol. Distillers grains, a co-product of the ethanol process, is also a high-value livestock feed.”

Nebraska Corn Board, Fall 2015

The average bite of food on our plate travels 1,346 miles to get there.

“U.S. Agriculture: Potential Vulnerabilities.” Stanford Research Institute, Menlo Park, CA.
Prepared for: Office of Civil Defense, Office of the Secretary of the Army, **January 1969**

“The United States imports about 15 percent of its overall food supply.

... More than *half* of the fresh fruit and almost a *third* of the fresh vegetables Americans buy now come from other countries.”

www.fda.gov/food/importing-food-products-united-states/fda-strategy-safety-imported-food
www.foodsafetynews.com/2022/02/rising-food-imports-into-u-s-call-for-a-global-prospective/

The City of Lincoln needs over **1.5 million pounds** of food **daily** to meet the dietary requirements of its nearly 300,000 inhabitants — most of it (*except for milk*) shipped in from outside the region.

Source: U.S. Department of Agriculture

'Just in Time Delivery'

**The typical grocery store
and restaurant stocks
just THREE days worth of
inventory on the shelves.**

Over a Third of the U.S.'s Vegetables & nearly Three-quarters of the Country's Fruits & Nuts Are Grown in California

Source: California Department of Food and Agriculture, 2023 Report

**California
Central Valley**



Over the past three years, due in part to Climate Change, California has experienced

Record Heat

Record Drought

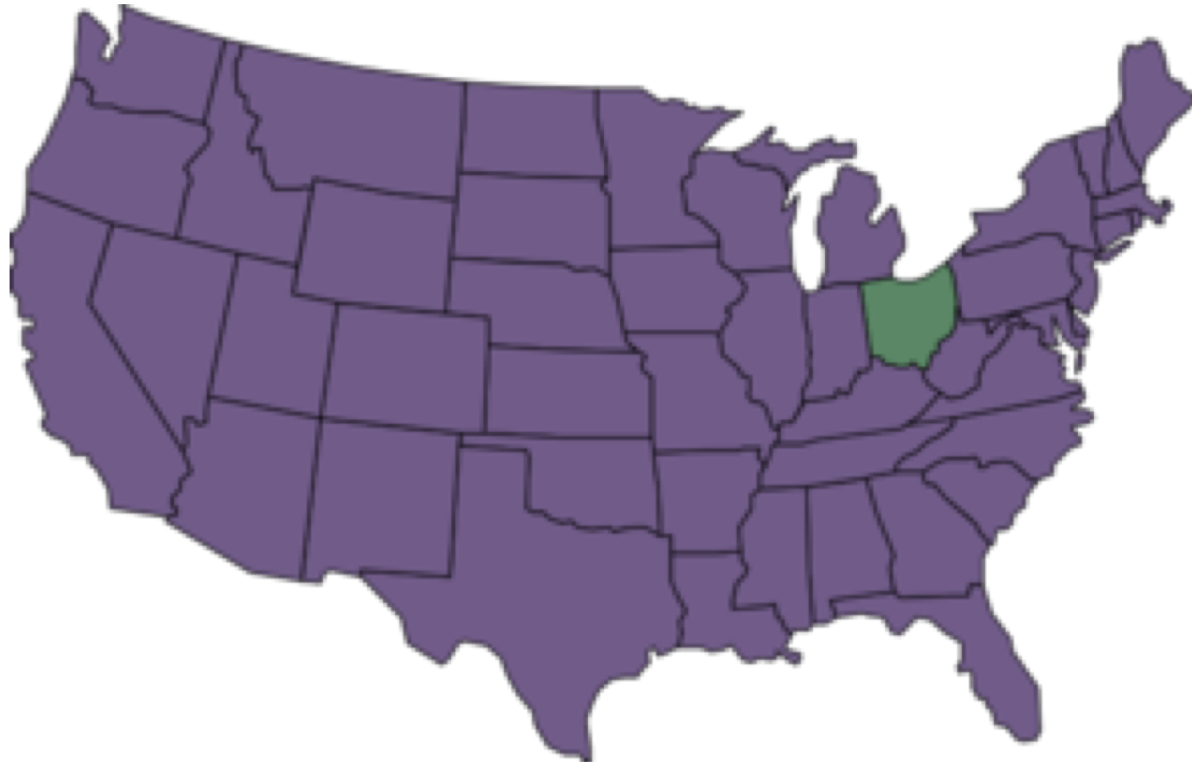
Record Water Shortages

Record Wildfires

and

Record Flooding

— increasingly impacting its Agricultural Economy and capacity to produce food



The largest irrigated crop in America is the lawn.

According to NASA, there are three times more acres of lawns in the U.S. than irrigated corn — enough to cover the entire state of Ohio (2005)

The Takeaway:

The farther away we are
from our food supply,
the more *food insecure*
we are.

The Case

for

LOCAL FOOD

Good Reasons To Support Local Food

1. **Good Taste** *(local is fresher)*
2. **Good Health** *(fresher is more nutritious)*
3. **Good Business** *(supporting local agriculture boosts our local economy)*
4. **Good Stewardship** *(local is more mindful of our environmental impact)*

5. **FOOD SECURITY**

'Food Security'

“Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.”

World Food Summit, 1996

United Nations Food and Agriculture Organization

'Food Security' Begins Right Where You Live in Your Own Home



Hawley Hamlet Neighborhood Garden in the Hawley Historic District

The Hawley Hamlet is located between 25th & 26th, 'T' & 'U' Streets in Lincoln's Hawley Historic District. We welcome visitors and encourage you to wander through and think about what can be done in your own block.

MAP KEY



-  Houses & Buildings
-  Fruit & Nut Trees
-  Garden Beds
-  Berries & Grapes
-  Pollinators & Native Plants
-  Beehives
-  Hoophouses/Greenhouses
-  Other Trees



What You Can Do

- 1) MODEL** *(How is anybody else to learn how to do this stuff unless they see real-life examples?)*
- 2) Eat a plant-based diet, limiting both meat and DAIRY**
- 3) Spend more time in the kitchen preparing home-cooked meals** *(...And involve the whole household; they ALL eat)*
- 4) Buy locally grown food to support our neighboring farmers and market gardeners**
- 5) Grow some of your own food** *(in a windowsill; a pot on your patio or balcony; your yard — START ANYWHERE)*

- 6) IF YOU HAVE ONE: Get rid of your useless, wasteful lawn and turn your whole yard into garden**
- 7) ...And where you can't grow veggies and fruits, plant native flowers and grasses for the native pollinators**
- 8) Get to know your neighbors by sharing your garden harvest (*FREE FRESH FOOD is a great ice-breaker!*)**
- 9) Prepare a plant-based meal and invite the neighbors**
- 10) IF YOU'VE GOT EXTRA GARDEN SPACE: Invite a neighbor without space to garden a plot on your property**

BONUS: Start a 'HAMLET' in YOUR BLOCK — and grow 'community' as well as 'food' (*In the days ahead, we're going to need each other as never before...*)

Up for a little more?

How about some pics of the Hamlet?

Digging Up the Lawn To Put in a Food Garden





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632







WILDLIFE FRIENDLY GARDEN
A garden that attracts and supports native wildlife, including birds, bees, butterflies, and other insects. This sign provides information on how to create a wildlife-friendly garden.


**HAWLEY
HAMLET**

**Make the
choices for
wildlife**





HAW
HAW





HAWLEY
HAMLET







631


HAWLEY
HAMLET







633





HAWLEY
HAMLEY

Foster
Family

RENNIE
SHOBE

United Nations: “Of the 100 crop species that provide 90 percent of the world’s food, over 70 are pollinated by bees.”







BEN'S SHORE





Thank You.