

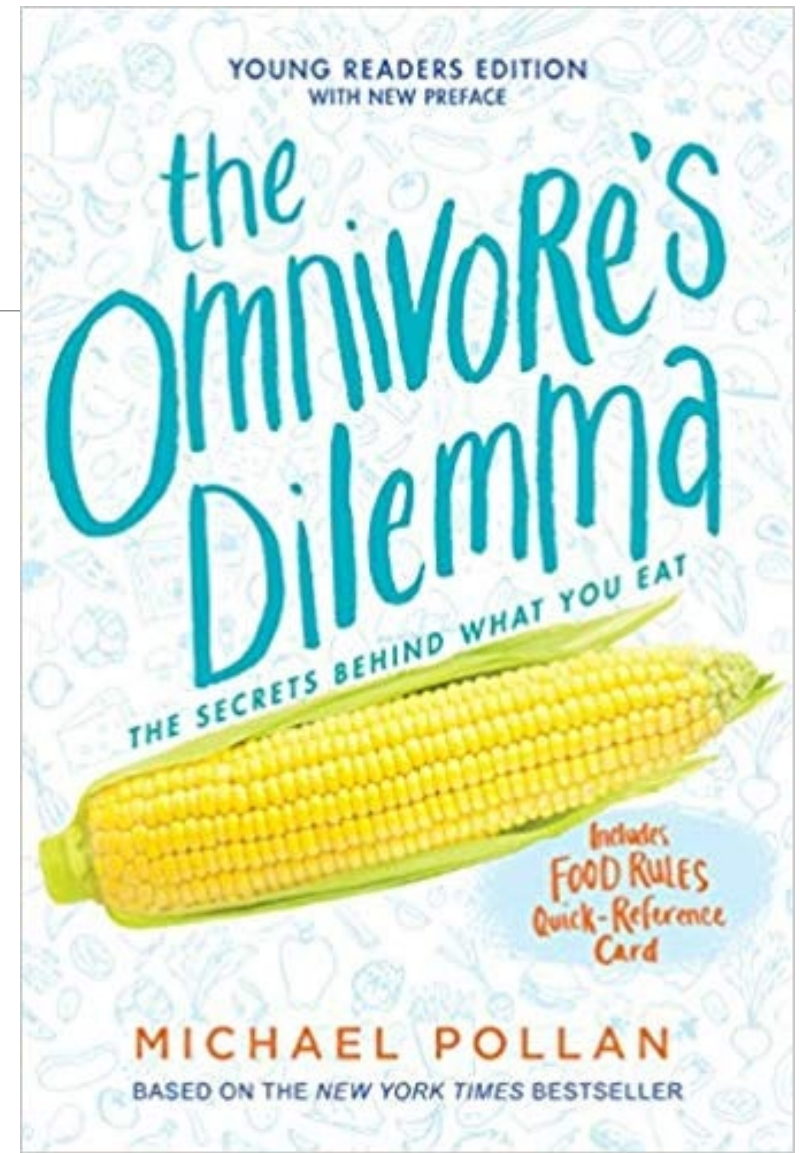
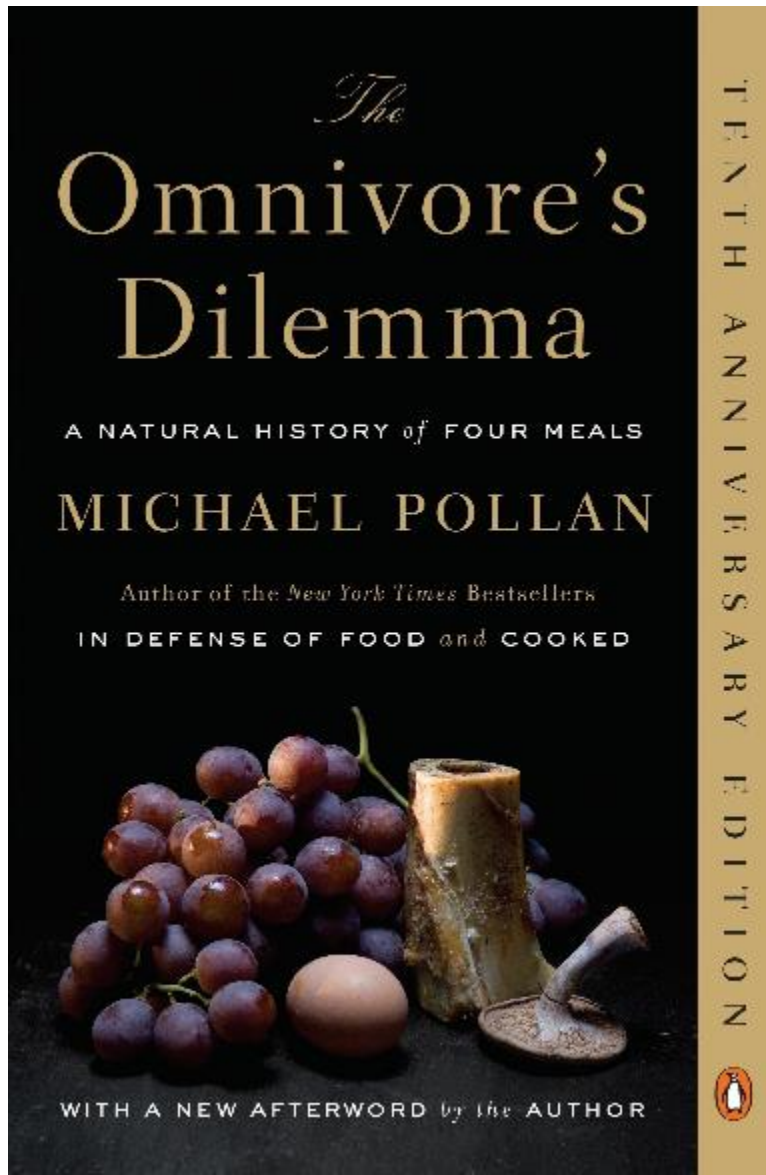
Omnivore's Dilemma

REQUIRED READING

TEACHING STRATEGIES

DEBUNKING FLIMFLAM

NATIONAL AGRICULTURE IN THE CLASSROOM CONFERENCE – JUNE 19-21, LITTLE ROCK, AR



Who has read it?

I loved it!



It was okay.



It made me mad.



Haven't read it.



Required Reading

School districts using Omnivores Dilemma as required units:

- **Idaho** Core – 8th grade: <https://www.sde.idaho.gov/academic/ela-literacy/files/exemplar/grade-08/ominvore/-Omnivores-Dilemma-Unit-Plan.pdf>
- **Connecticut** 7th grade: <https://achievethecore.org/page/896/farm-to-factory-from-the-omnivore-s-dilemma-by-michael-pollan-mini-assessment>
- **Madison, Mississippi** 8th grade: <http://www.madison-schools.com/cms/lib4/MS01001041/Centricity/Domain/2647/Module4Unit1Day5.docx>
- **Mason City, Iowa** – 6th grade, all subjects.
- **New York** – Common Core – 8th grade <https://www.engageny.org/resource/grade-8-ela-module-4>
 - 7th grade: https://www.scbores.org/cms/lib03/NY24000912/Centricity/Domain/106/7th_Grade_The_Omnivores_Dilemma.pdf
- **Nationally**
 - EL Education: <https://curriculum.eleducation.org/curriculum/ela/2012/grade-8/module-4/unit-1/lesson-1>
 - Teaching Channel: <https://www.teachingchannel.org/video/omnivore-dilemma-close-reading-of-non-fiction-text-core-challenge>
 - Penguin: <http://www.penguin.com/wp-content/uploads/2015/12/Omnivore-Teachers-Guide.pdf>
 - Achieve the Core: <https://achievethecore.org/page/896/farm-to-factory-from-the-omnivore-s-dilemma-by-michael-pollan-mini-assessment>
 - Teacher Vision: <https://www.teachervision.com/nutrition/using-omnivores-dilemma-classroom>

Required Reading

Case Study of one New York school after reading and their student responses:

“Do you ever stop and think, ‘I kill animals for a living’?”

“The way the majority of farms grow their food is damaging the earth.”

“The way we treat the animals on farms is often inhumane and should be regulated.”

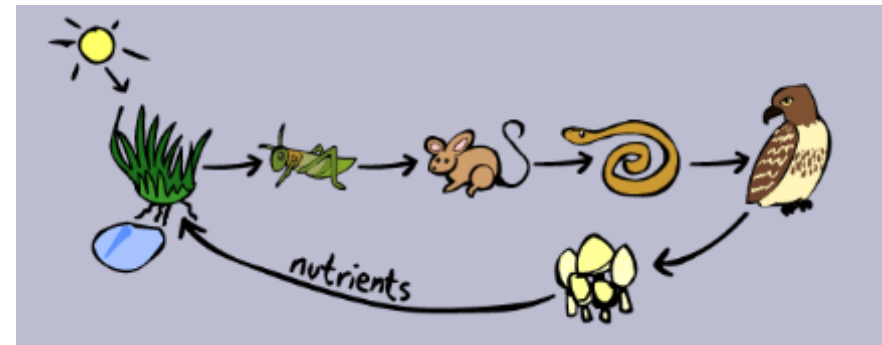
“CAFOs have been proven to create toxic pollutants, allow bacteria to make it’s way into our food, and force animals to eat food that isn’t meant for their bodies.”

“Do you farmers ever feel bad about your job?”

“Do you ever wish you had chosen a different job than farming?”

Current: Food Chain

In biology class, you may see a food chain that goes sun-grass-mouse-hawk. But most people in the United States are removed from this natural food chain. Instead, our food takes a variety of paths from the farm to our fridge.



The next time you eat a meal, think about the path it took to get to your plate. Where did all the parts come from? Write a list of the food, its components, and, if you can, trace them back to their farm, state, or country of origin.

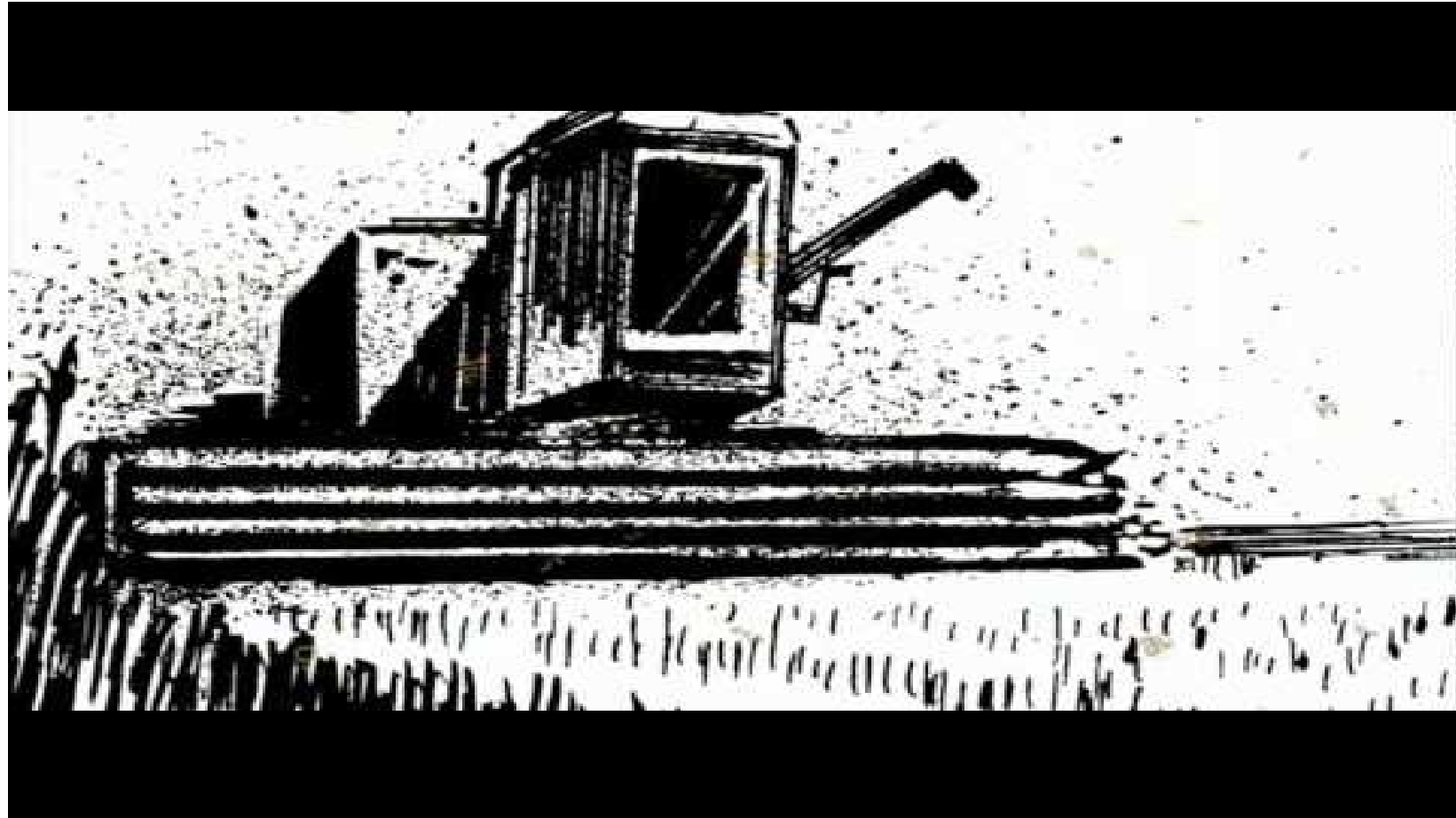
Teaching strategy – Setting context

Reframe: For the last 10,000 years of human history humans have been removed from the natural food chain. Agriculture allows us to cultivate and raise and produce our food. We produce more food which has then led to advances in society that hunter-gathers never could.

- <https://worldpopulationhistory.org/map/1/mercator/1/0/25/>
- https://growinganation.org/content/show-content/the_seeds_of_change/
- <http://www.monsantoglobal.com/global/ph/improving-agriculture/Pages/a-brief-history-of-agriculture.aspx>
- <https://www.nationalgeographic.org/encyclopedia/agriculture/>



A World Without Farmers



Teaching strategy – Alternatives?



Current: Corn—It's What's for Breakfast (and Lunch and Dinner)

According to *The Omnivore's Dilemma*, “There are some forty-five thousand items in the average American supermarket and more than a quarter of them now contain corn.” You may recognize corn on the cob, or in a can, or even as a bag of chips, but corn sneaks into all kinds of food. Manufacturers also turn corn into hydrogenated oil, corn syrup, sweeteners for your soda, cornstarch, ethanol, plastic, animal feed . . . and the list goes on.

- Study the ingredients on a cereal box. What are they? Where do they come from? Use the Internet to help you.

Reframe: Q. Why do we use corn? A. It is cheap and easy to grow. It has a lot of different uses (starch, sugar)

- What forms of the corn are we using?
- If we didn't use corn, what else would we use?
- If not, corn syrup, then sugar from sugar beets or sugar cane.
- If not corn starch, then starch from wheat or potatoes.

Teaching strategy - Investigation



Current: Corn—It's What's for Breakfast (and Lunch and Dinner)

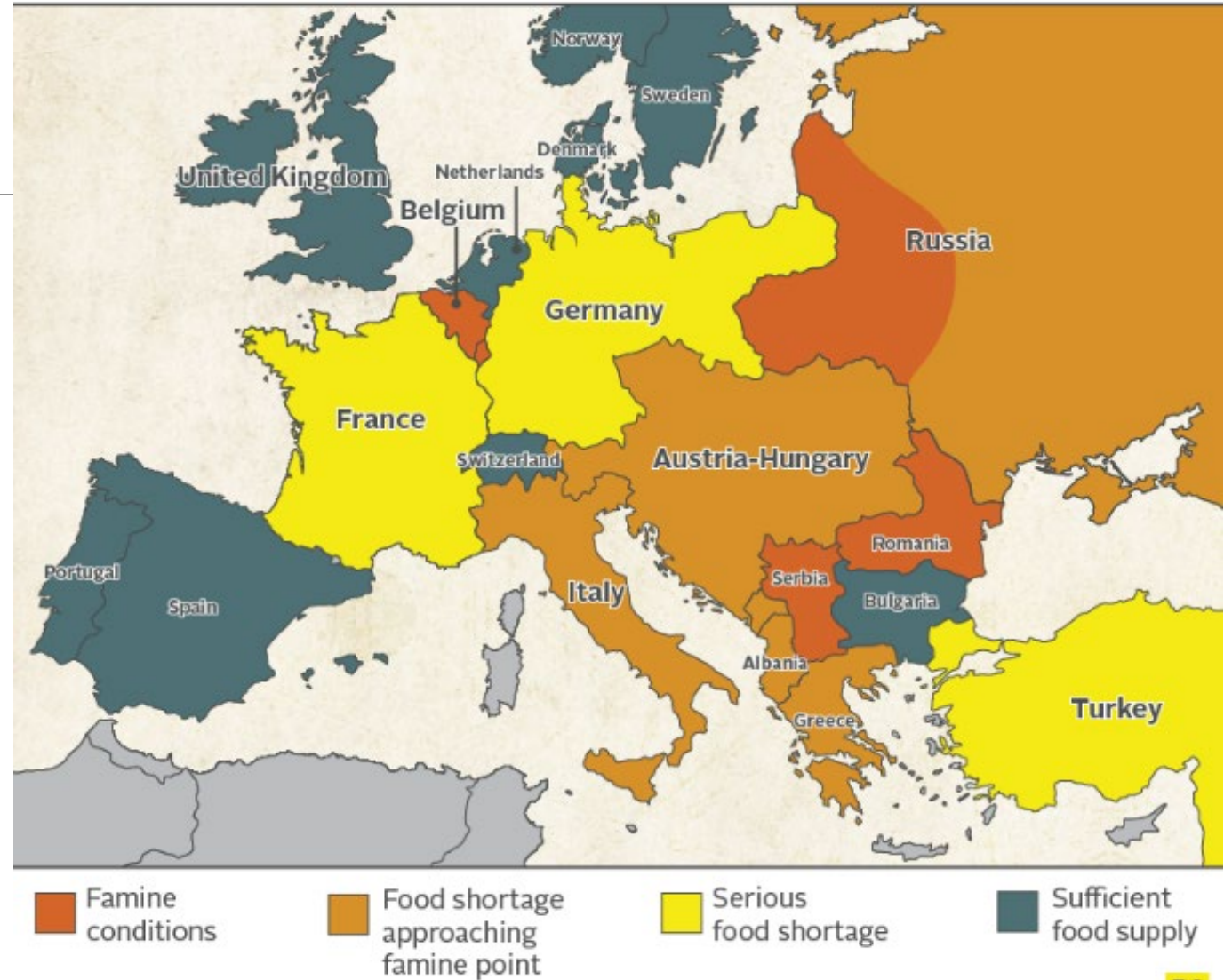
According to *The Omnivore's Dilemma*, "There are some forty-five thousand items in the average American supermarket...."

- How did all this corn get into our food? Government subsidies, shifting populations, and scientific advances have made corn our most plentiful crop and common ingredient. Create a timeline that charts the rise of corn in the U.S. Include political and technological milestones.

FOOD SHORTAGES IN EUROPE, 1918

How should U.S. farmers respond?

U.S. farmers see an opportunity to sell their products to European consumers and so ramp up production.

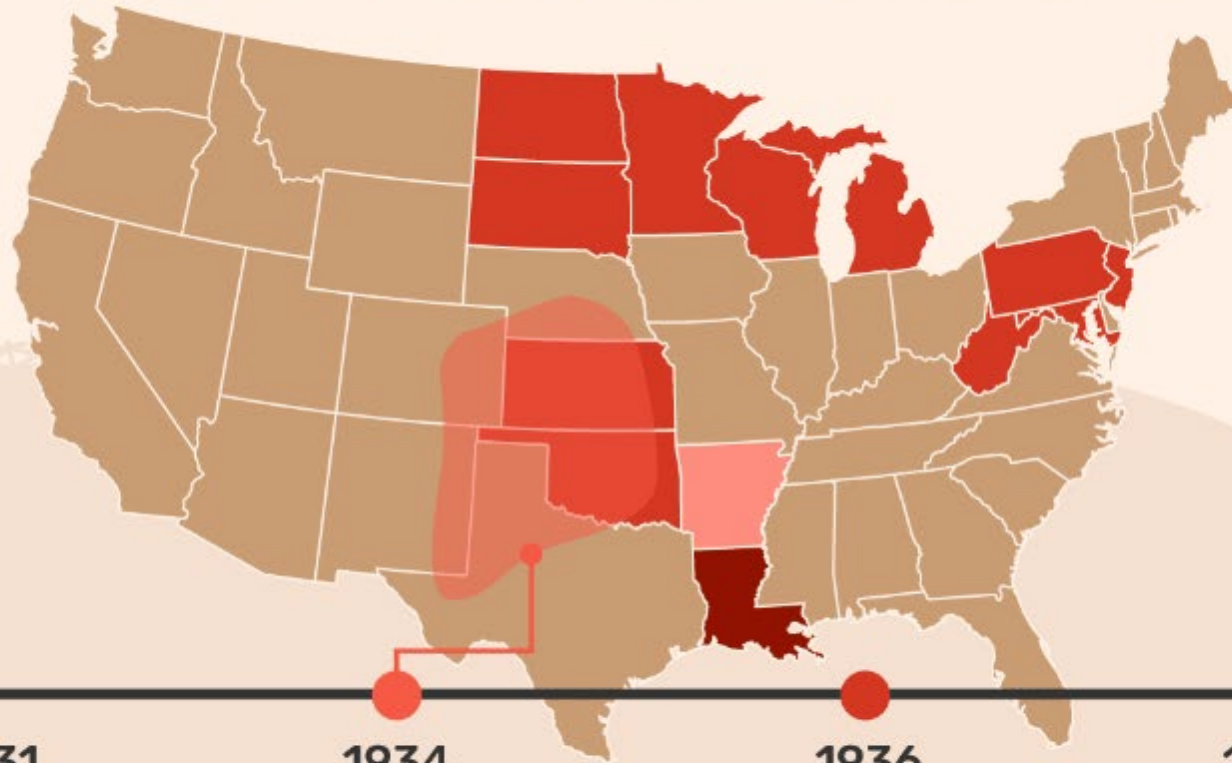


Source: Food Guide for War Service at Home



The Dust Bowl Timeline

A severe drought in North America in the 1930s



1930-1931

As much as 50% of all crops in Arkansas failed.

1934

The worst dust storm in American history, dubbed Black Sunday, hits 6 states.

1936

In July, 12 states break their temperature records.

1939-1940

Louisiana experiences 115 consecutive days of 90° temperatures.

U.S. farmers are coming off of high production years following WWI. What happens next?

Severe weather events cause failed crops for a series of 10 years causing major food shortages throughout the U.S.

Teaching strategy – Digging deeper

Reframe: Why has the government provided subsidies for farmers to plant corn? Subsidies help reduce the erratic swings in markets that can be caused by things like increased production to feed a war ravaged Europe after WWI or a dramatic decrease of production from the Great Depression and Dust Bowl.

What are examples of subsidies?

1. When too much production, government pays farmer to leave land unplanted. Reduces the supply, keeps prices stable.
2. Other subsidies were paid to farmers to mitigate boom/bust cycles associate with weather patterns to keep a stable food supply.
3. Subsidies also create minimum prices for their crops as a type of insurance. Subsidies aren't just corn. Most crops are subsidized, but corn, soybeans, wheat, cotton and rice get the bulk of subsidies.

<https://fee.org/articles/the-origin-of-american-farm-subsidies/>

<https://www.thoughtco.com/us-farm-subsidies-3325162>

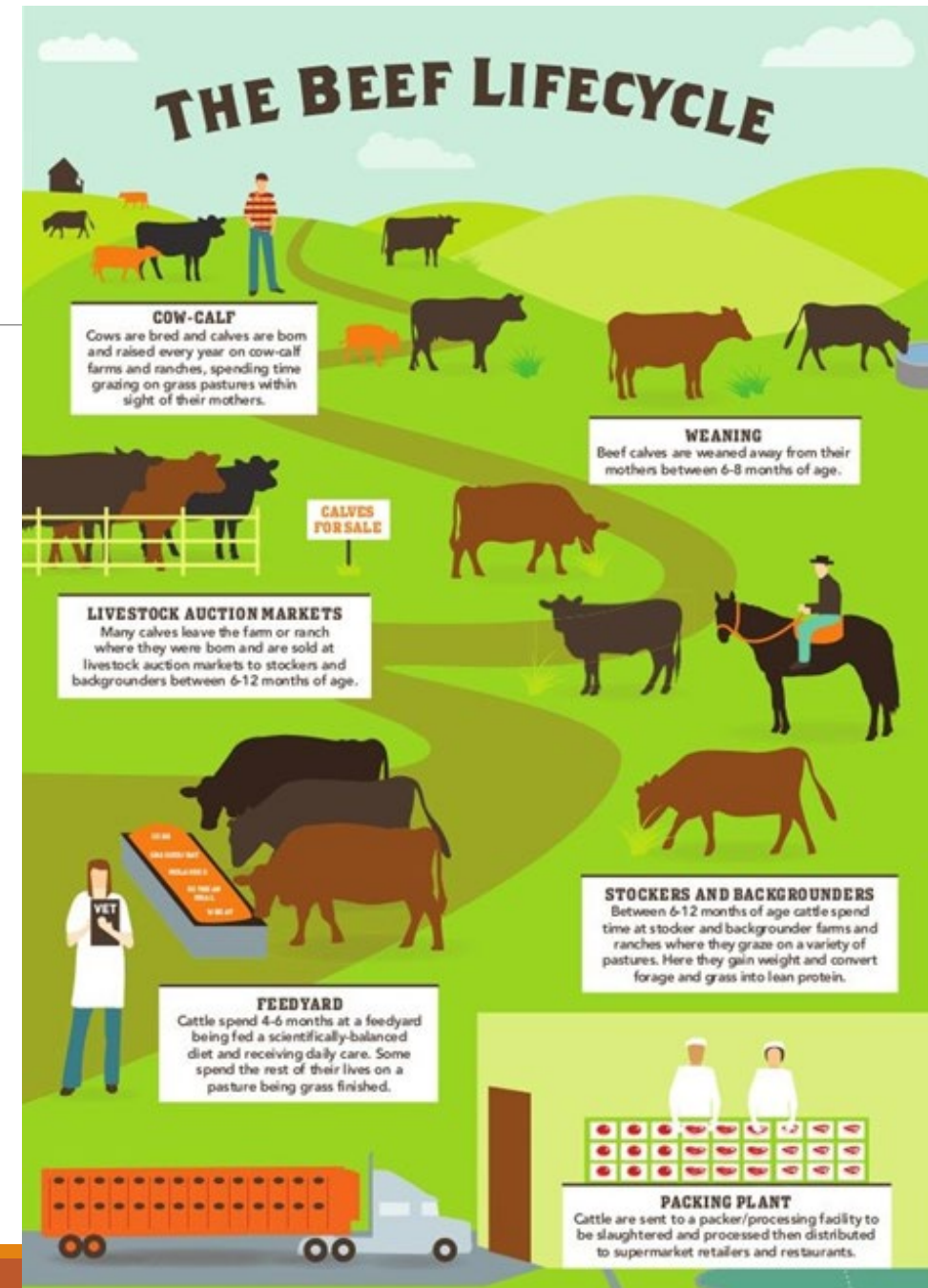
Corn—It's What's for Breakfast (and Lunch and Dinner)

Corn—It's What's for Breakfast (and Lunch and Dinner)

Current: “Chapter 3: Using information provided by Pollan, create a flowchart, showing the key events government regulators played a role in helping corn, starting from 1947.”

Reframe: Only use information from Pollan? How about critical thinking and using multiple sources.

Current: “Chapter 5: Pollan purchases Steer number 534 and follows him as travels through the meat-making branch of the industrial food chain. Follow Pollan journey and create a timeline, showcasing the events Pollan witnessed in Steer number 534’s life.”



Teaching strategy – Both sides of the story

Current: “Chapter 5: Pollan purchases Steer number 534 and follows him as travels through the meat-making branch of the industrial food chain. Follow Pollan journey and create a timeline, showcasing the events Pollan witnessed in Steer number 534’s life.”

<https://www.beef.org/beef-lifecycle/index.html>



Teaching strategy – Real talk

Reframe: Yes, look at the journey, life cycle, of the animal. But then also look at what the animal is used for after slaughter.

Pig 05049: Pictures document the array of various products that different parts of an anonymous pig called 05049 could support. This is what the pig means to mankind

Yes, understand the process. People are too desensitized. Humans are omnivores. We eat animals. To eat animals, they must be killed.

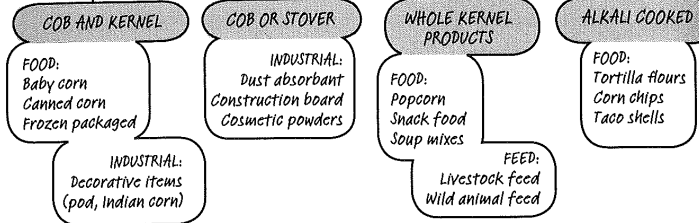
Don't personify the steer. Livestock have a purpose.



Made from CORN

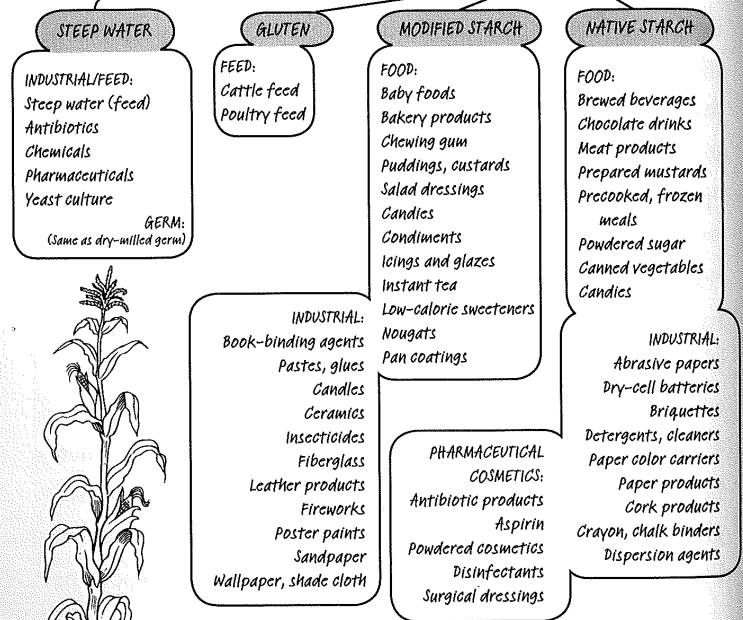
FROM THE CENTER FOR CROPS UTILIZATION RESEARCH, IOWA STATE UNIVERSITY

WHOLE CORN PRODUCTS



WET-MILLED CORN

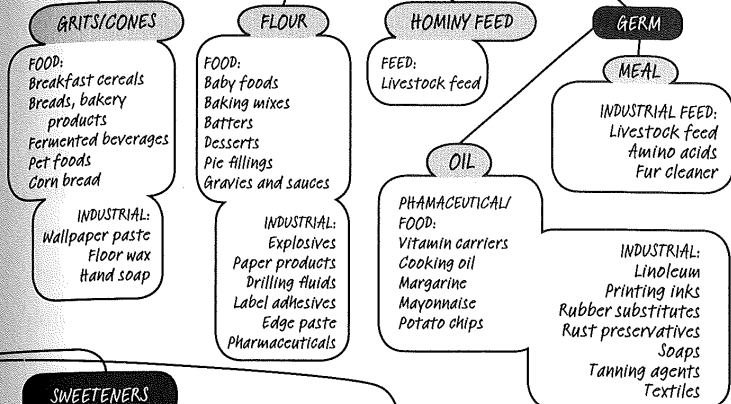
STARCH PRODUCTS



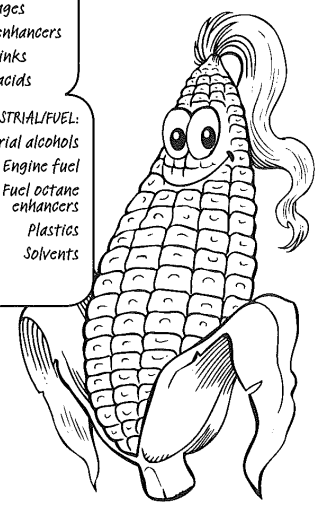
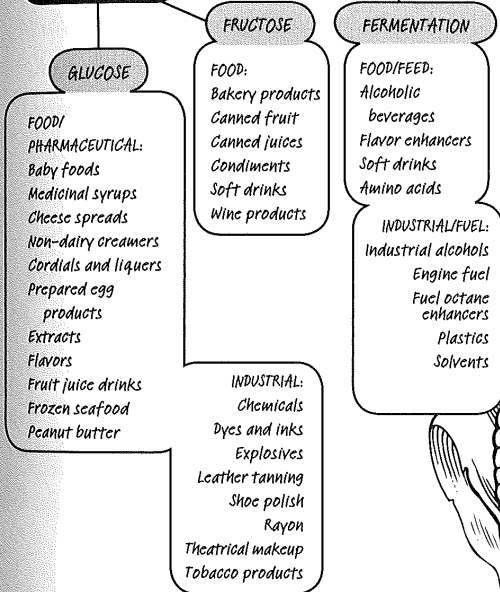
© iStockphoto.com/saricm

FRACTIONED PRODUCTS

DRY-MILLED CORN



SWEETENERS



Current: featured percenta surprised class.”

gram red. What e you est of the

Teaching strategy – Be specific

Reframe: Be specific. What type of corn ingredient (starch, syrup, other)? What is the purpose of the corn in the food? Starch as a stabilizer? Syrup as a sweetener?

How much of the final product was corn? Was it the whole product or just one ingredient?

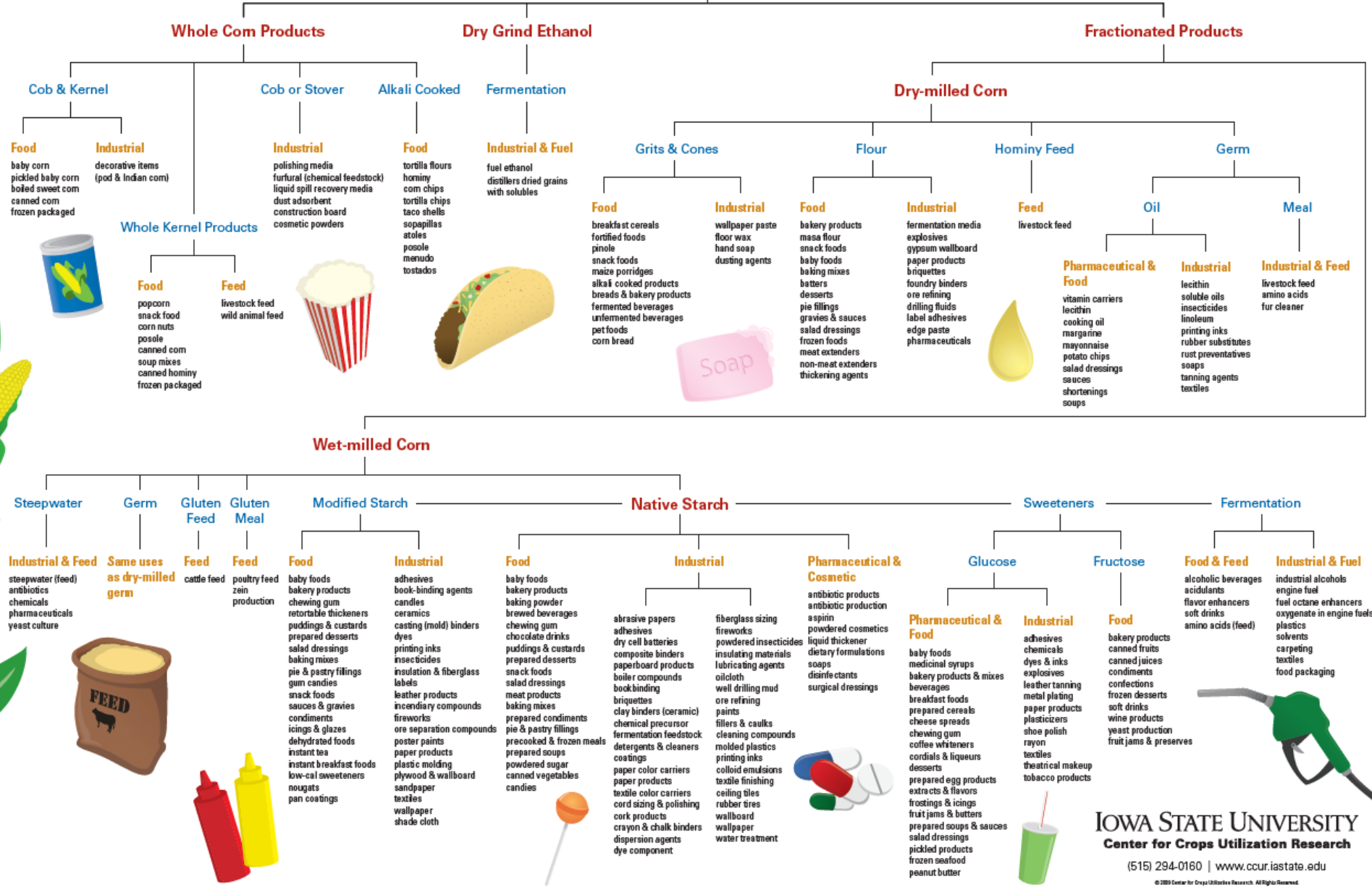
If the corn ingredient wasn't present, how would the quality, taste, texture, or health of the food change?

If the corn ingredient wasn't present, would food manufacturers replace it with something else that is similar?

What are the goals of food manufacturers? (safe, shelf stable, appealing to consumers– tasty and looks good) Food manufacturers don't always prioritize health as that is a consumer responsibility to eat minimal sweets and a balanced diet.

Discuss the role and the responsibility of the consumer to eat healthy foods versus the role of food manufacturers to provide healthy food options?

Corn



Organic? Oh Really?

Many large corporations have organic brands. Some organic produce is shipped thousands of miles before it reaches your supermarket.

- Choose an “organic” processed food from the grocery store.

Use the USDA chart to find out how organic the item really is.

Teaching strategy – Build on prior knowledge

Current: “Chapter 10: Pollan lists key dates and people who played a role in the birth of organic food. Using information from the text, create a timeline of these events. Additionally Pollan mentions cultural movements and other key events that were happening around the country during the 1960s and 1970s, which also contributed to people’s awareness of eating organic. Explore these events further and add visual images of your research, including captions, to your timeline.”

Reframe: Make sure students understand what organic means. Chemicals can be used. Not economically sound. Conflated with the GMO issues.

Teaching strategies

Current: “Chapter 12: Examine the chart on page 173, comparing Naylor farm to Polyface farm. Replicate the chart and also include a definition and visual image for each term listed under each farm.”

Reframe: Compare the two operations to a modern, large scale farm. There will likely be a lot of similarities. What are the positives and negatives of each?

<i>NAYLOR FARM</i>	<i>POLYFACE FARM</i>
<i>Industrial</i>	<i>Ecological</i>
<i>Annual species</i>	<i>Perennial species</i>
<i>Monoculture</i>	<i>Diverse crop species</i>
<i>Fossil fuels</i>	<i>Solar energy</i>
<i>Global market</i>	<i>Local market</i>
<i>Imported fertility</i>	<i>Local fertility</i>

Flimflam

Debunked

Claim 1: The modern American diet consists mainly of processed corn.

- "'When you look at the isotope ratios,' Todd Dawson, a Berkeley biologist who's done this sort of research, told me, 'we North Americans look like corn chips with legs.'" (23)
- A McDonald's meal by part (using a mass spectrometer): soda-100% corn by-products, milk shake- 78% corn, salad dressing- 65%, chicken nuggets- 56%, cheeseburger- 52%, french fries- 23% (117)
- No scientific method, qualitative data vs. quantitative data, interpretation of data



Flimflam

Debunked

Claim 2: American agriculture was revolutionized in the 1970s by Earl Butz.

- 1920 invention of synthetic nitrogen fertilizer exponentially increased crop production. Supported exponential population growth.
- During the Great Depression, the establishment of the Ever-Normal Granary, reduced surplus of corn, now a staple in American diets, as well as put in place the systems to reduce shortages through use of loans.
- In 1972, in an effort to get Nixon re-elected, Earl Butz orchestrated a deal with struggling Russia to sell them 30 million tons of American grain. The demand for corn skyrocketed and prices boomed. This was great for farmers and the economy in the short-run and Nixon got re-elected. However, inflation soared making it difficult for consumers to purchase corn products. Nixon and Butz encouraged more production of corn to increase the supply.
- The 1973 Farm Bill replaced the Ever Normal Granary and loans with subsidies and direct payments to farmers instead. This doesn't keep corn out of the market when there is a surplus. It does the opposite, it encourages more corn production during a surplus.
- Earl Butz's revolutionary changes in agriculture policy have resulted in a "...plague of cheap corn... impoverishing farmers..., degrading the land, polluting the water, and bleeding the federal treasury, which spends up to \$5 billion a year subsidizing cheap corn." (54)
- "...the smart thing to do with all that surplus grain is to process it... there are hundreds of things a processor can do with corn: They can use it to make everything from chicken nuggets to Big Macs to emulsifiers and nutraceuticals. Yet since the human desire for sweetness surpasses even our desire for intoxication, the cleverest thing to do with a bushel of corn is to refine it into thirty-three pounds of high fructose corn syrup." (103)
- Requires assuming a lot of premises are true.
- Pollan's premises are assumed ideas taken from his list of sources including books of economists, scientists and historians in the back.
- Is his sole interview really representative of the average farmer?



Flimflam

Debunked

Claim 3: Grass-feeding animals is “better.”

- Compares Polyface Farm to the feedlot he visited (open air vs. Hazmat suits)
- Costs to the environment are lower (use of fertilizer, plows, driving to market, energy efficiency of grass vs corn, etc.)
- Increased levels of beta-carotene, vitamin E, folic acid, and Omega-3 according to the International Society for the Study of Fatty Acids and Lipids.
- Again, accepting other scientific evidence as fact. Only cites sources occasionally.
- Word connotation: "independence," "astounding," and "real."
- Case-by-case observations.



Flimflam

Debunked



Claim 4: Government subsidies force farmers to grow corn.

- [Why do taxpayers subsidize rich farmers?](#)
- [Mapping the U.S. Farm Subsidy \\$1M Club](#)
- [Agricultural Subsidies](#)
- [What You Should Know about Who Receives Farm Subsidies](#)
- Supreme Court Justice Owen Roberts voted with most of the rest of the Court to strike down the AAA as unconstitutional. In doing so, he posed the following analogy: “Assume that too many shoes are being manufactured throughout the nation; that the market is saturated, the price depressed, the factories running half-time, the employees suffering. Upon the principle of the statute in question Congress might authorize the Secretary of Commerce to enter into contracts with shoe manufacturers providing that each shall reduce his output and that the United States will pay him a fixed sum proportioned to such reduction, the money to make the payments to be raised by a tax on all retail shoe dealers or their customers.”

Yes, we live in a more global market and subsidy policies could be reformed.

Farmers make decisions on what to plant based on a number of different factors— climate, soil, market sale prices, market input prices, machinery available, end market logistics, etc. Subsidies are only one factor for consideration.

Agricultural commodities are still at risk of unforeseen weather events or other world wide catastrophes. Humans still need a stable food supply.

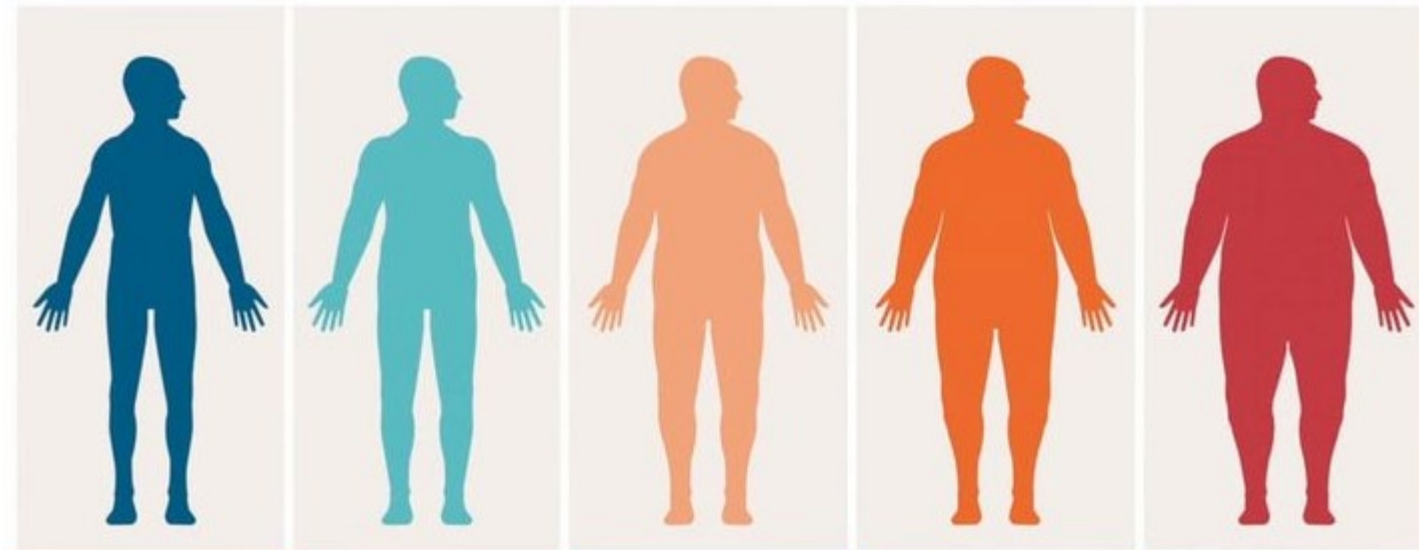
The difference between food and shoes is that we can live without shoes.

Flimflam

Debunked

Claim 5: Americans are becoming obese because corn is “hidden” in so many food products.

- The American diet is one of the most complex subjects to understand.
- Here are some of the issues that make it about more than just corn:
 - Genetics
 - Junk Food
 - Food Addition
 - Aggressive Marketing
 - Insulin
 - Food Availability
 - Misinformation
 - Sugar
 - Behavior
 - Community Environment
 - Portion size
 - Diet vs. Nutrition
 - Inactivity
- <https://www.publichealth.org/public-awareness/obesity/>
- <https://www.cdc.gov/obesity/adult/causes.html>



Flimflam


Debunked

Claim I agree with:

We have a national eating disorder: the Omnivore's Dilemma- too many food options, little knowledge to choose correctly.

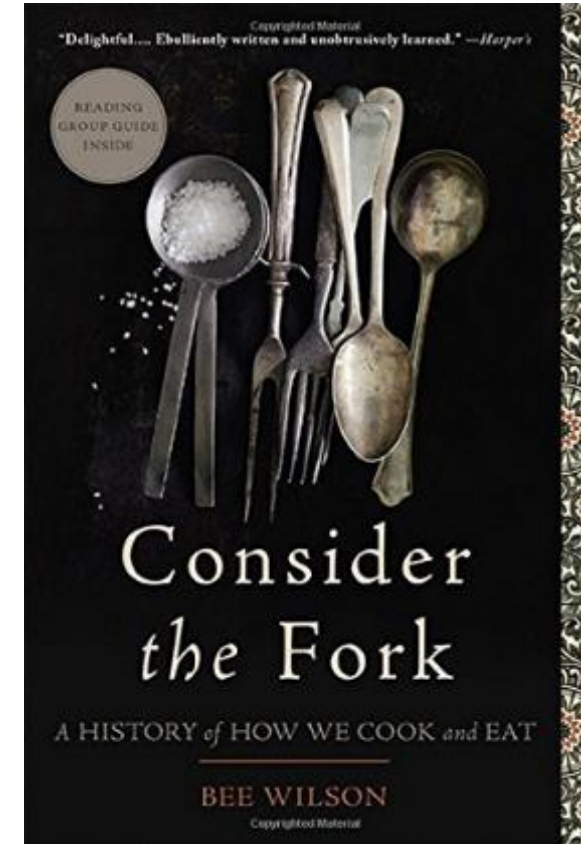
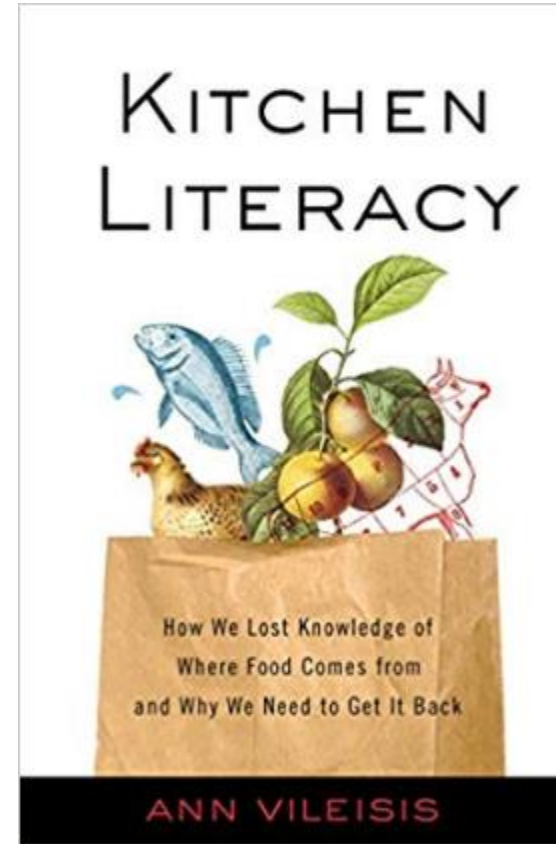
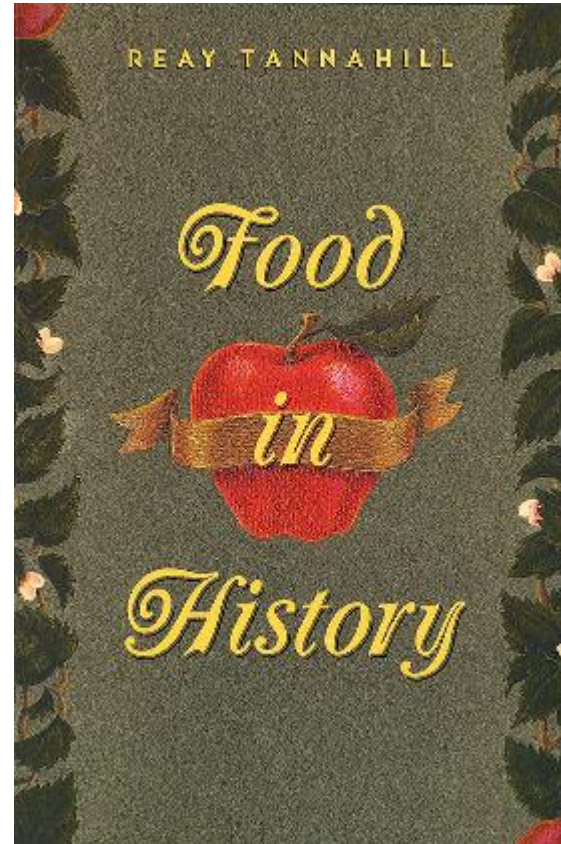
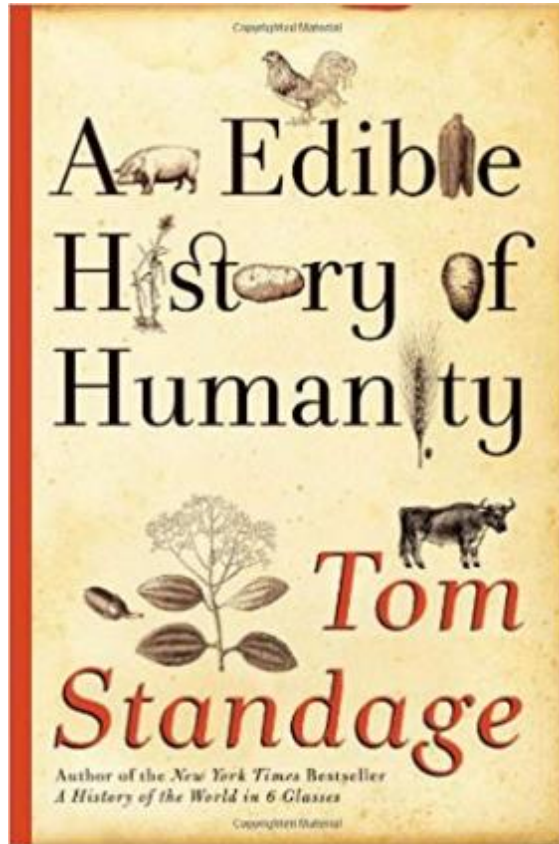
- Countries without obesity problems have had a stable cultural cuisine for thousands of years. Example: France. Eat unhealthy foods but adhere to cultural standards like small portions, no seconds, no snacks, eating as a family. Evolved to have a healthy lifestyle.
- Being that the combinations of these unhealthy and healthy habits vary by culture and each have a delicate balance, the American "melting pot" of cultures really works against us to create a cultural knowledge of healthy eating habits.

Counter claim: We are genetically predisposed to eat healthy with:

- neophilia (openness to new tastes)
 - Neophobia (a sensible fear of ingesting something new)
 - taste
 - disgust
- 

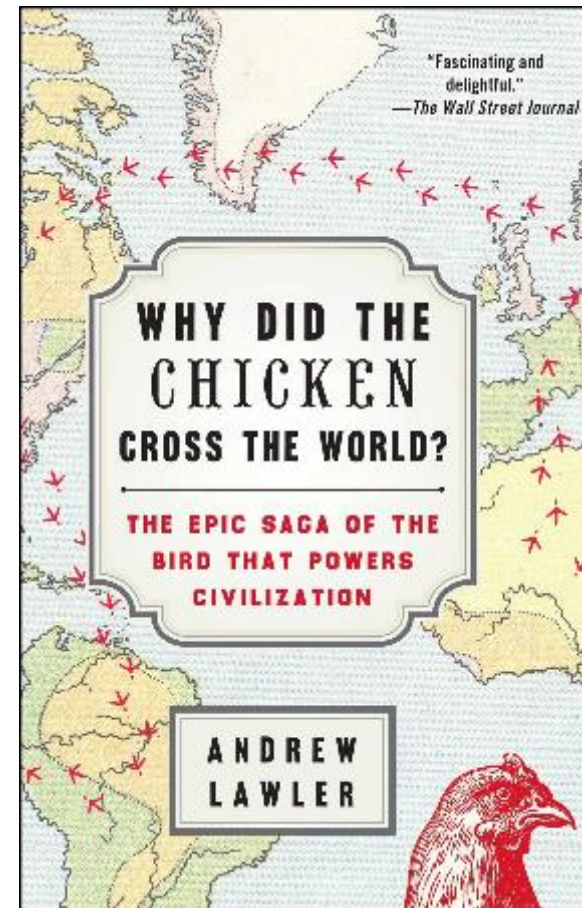
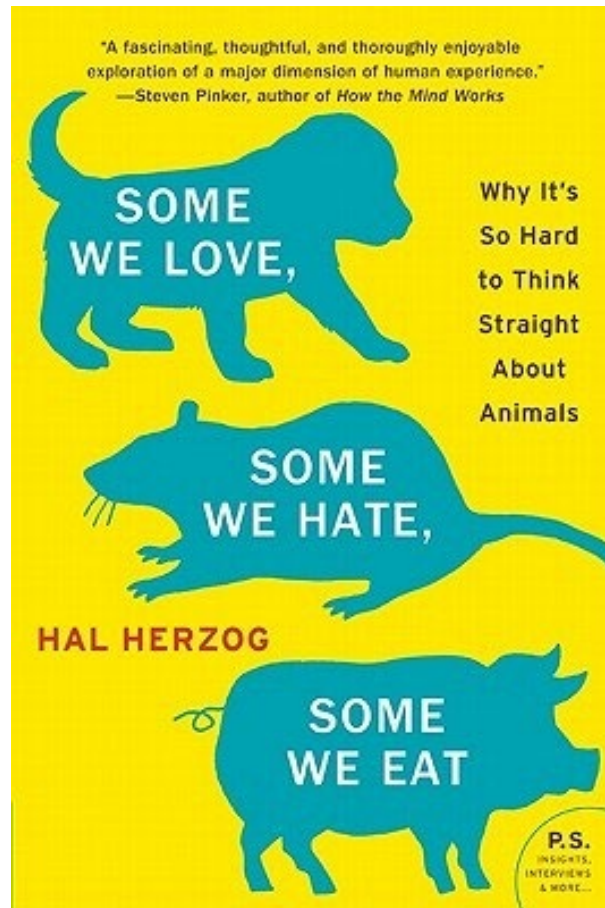
Recommended Reading

– History of Food



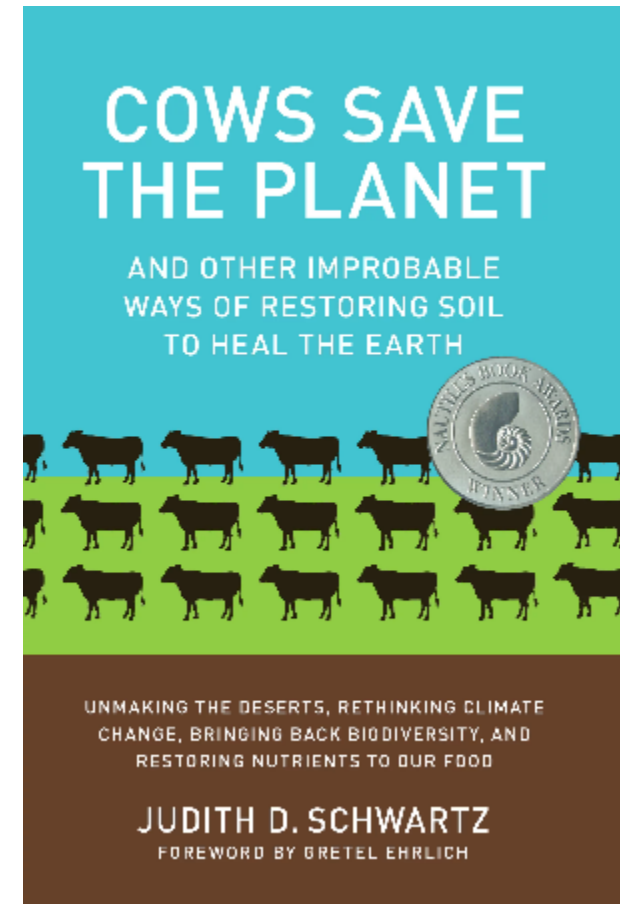
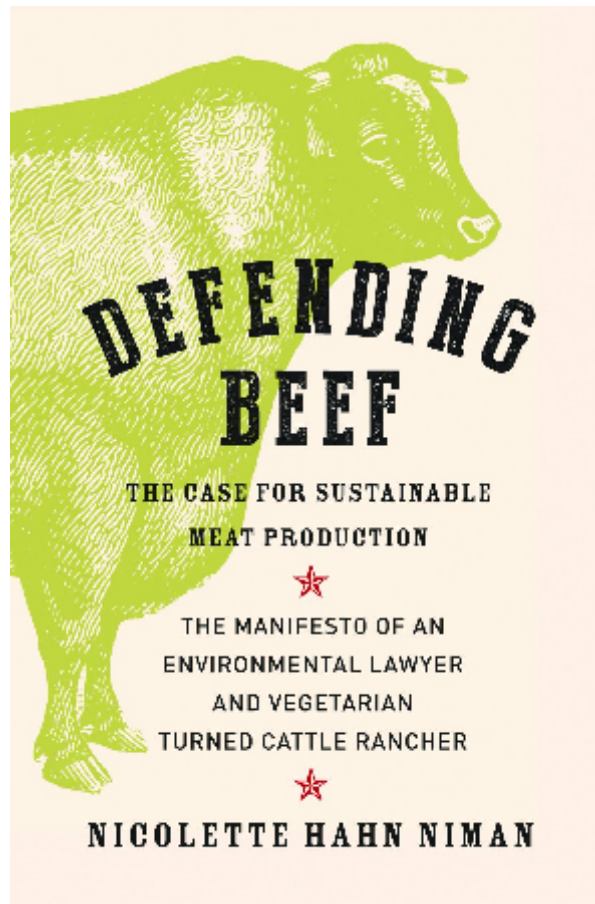
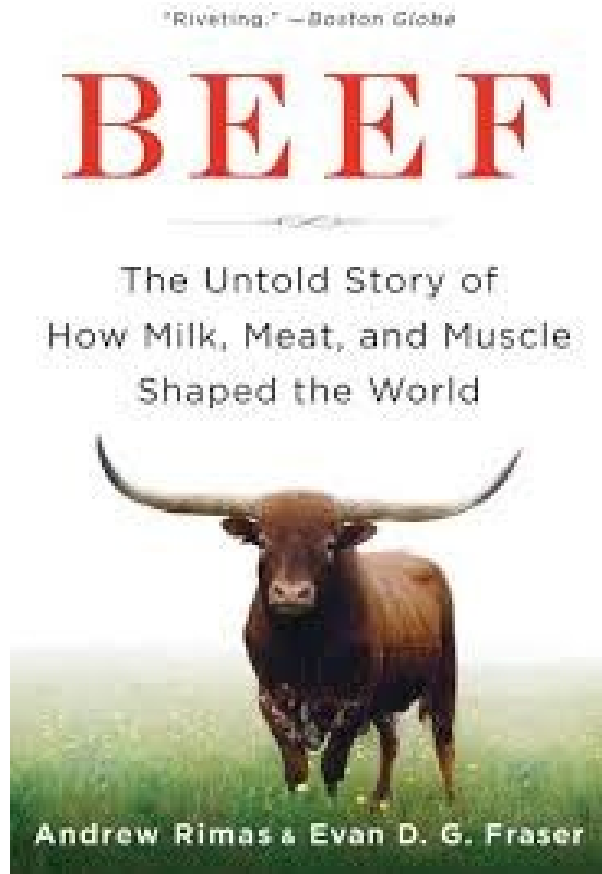
Recommended Reading

– Eating Animals



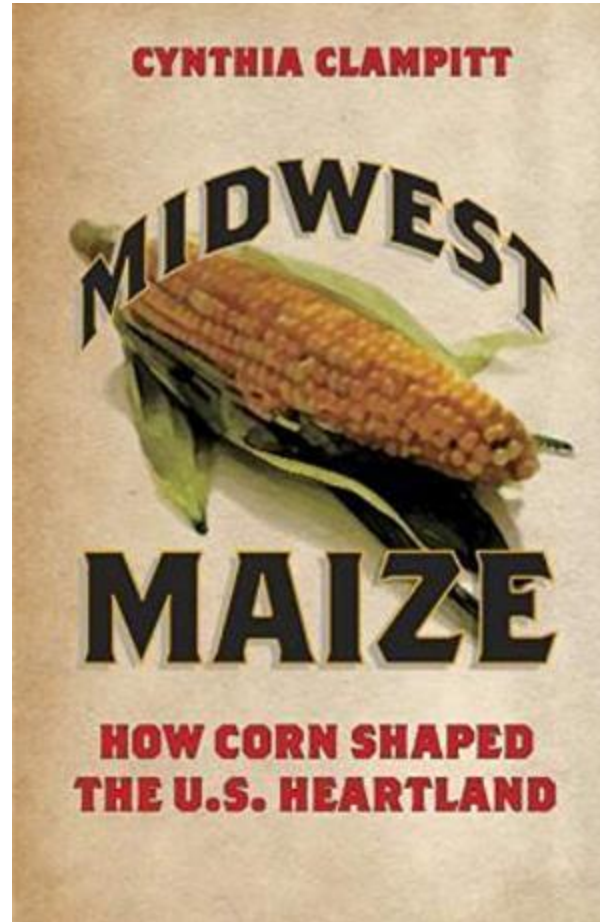
Recommended Reading

– Eating Animals, Beef



Recommended Reading

– Corn



Recommended Reading

– Biotech, Future, Perspective

