

CONTAMINATED CORN & STARVING FARMERS

HOW INDUSTRIAL AGRICULTURE IN AMERICA AFFECTS YOU

© 2010 Elizabeth Rose Chmela
All Rights Reserved
Printed & Bound Oxford, Ohio
First Edition

Contact:
liz.chmela@gmail.com

DEFINITION //

INDUSTRIAL AGRICULTURE

The Union of Concerned Scientists (UCS) describes Industrial agriculture as a business where the farm is essentially a factory.

There are "inputs": pesticides, feed, fertilizer, water, and fuel.
There are "outputs": corn, chickens, produce, and other goods.

But the effects of this approach are devastating.

According to UCS, "it is not the only method of agriculture; a sustainable approach based on understanding agriculture as an ecosystem promises sufficient produce without sacrificing the environment."

"For sustainable agriculture to thrive, the policies that foster industrial agriculture will **need to be refocused.**"

CONTENTS

07	FOREWORD
08	HEALTH
10	We Love Calories
12	Statistics 101
14	Dirty Dozen
16	Corn-Fed
18	ENVIRONMENT
20	Soil Conditions
22	Eutrophication (Water)
24	Agriculture & Greenhouse Gas
26	Transportation of Produce
28	ECONOMICS
30	Most Subsidized Crops
32	Subsidies & Farmers
34	Average Farmer's Income
36	Cost of Produce
39	CONCLUSION
40	BIBLIOGRAPHY & ADDITIONAL RESOURCES



FOREWORD

The majority of Americans do not know their food.

The relationship Americans once intimately had with food production has dissipated as we have laid down our hoes, left our farms, moved to the big city. We

have abandoned our passion for agriculture and found a other recipients for our adoration and affection. Of the seven million farmers there were in America during the 1970's there are about two million left— despite the fact that the population has since doubled. A very large amount of food is produced by a very small amount of people. We unquestioningly purchase our produce at the supermarket with maybe a thought or two about price, calories and fat content, or loyally visit a local fast food joint.

However, we do not know our food. Knowing your food means knowing how it was made, what the ingredients are, what is a natural substance, (what is not), and where it came from. This disconnect

Americans have with their food is responsible for the condition that the American agriculture industry is in today. Admittedly, with any system there are bound to be inefficiencies, abnormalities, and room for improvement. However, this book demonstrates the facts, statistics, and processes of the American agricultural system on a whole, not a few rogue details and obscure cases. Through a pictorial view of the current condition of agriculture in our country, I seek to reintroduce the general American population to their food.

The agriculture industry impacts each and every one of us. Overall health in America is worsening, the environment is being destroyed, and we have a tremendous economic crisis. All of these relate, in part, to the forgotten agricultural sector. It affects you.

I concede that when I began this project the extent of my knowledge of our agricultural system was what I had learned in the third grade (food pyramid), what my

mother had taught me (thank God she taught me how to cook), and an Introduction to Botany class my Junior year of college (lots of Powerpoints). However, to the best of my capabilities, I have done all I can to ensure that the content on the following pages is truthful in nature. The sources are clearly listed on each page, and many are accessible online to be further examined by anyone who wishes to do so (which I heartily encourage). The content in this book is meant for any Am

Most importantly, the purpose of this book is to spark interest and educate. Think of how the conditions described in this book affect you personally, for they will remain the same unless the people of America become the instigators of change and proponents of reformation.

HEALTH CONDITIONS

It's no secret, Americans (as a whole) are getting fat. In fact, over 70% of Americans are categorized as overweight, making the United States the third most obese country in the world. This increase in weight is something to take seriously, because as waist bands are expanding, health care costs are increasing and life-spans are shortening.

Recent winner of the Technology, Engineering, and Design (TED) Talks, Chef Jamie Oliver addresses the ignorance Americans have towards food. He informs the audience that their children, nephews, and nieces will live about ten years shorter than their parents. For the first time in American history, predicted life-spans are shortening and it is because of the food Americans are ingesting. Oliver asserts that the obesity epidemic is fueled by the prevalence of pre-made food, pre-packaged food, processed food, and the lack of education about healthy eating habits.

Two curious students, Ian Cheney and Curt Ellis, support Chef Oliver's point in their documentary, King Corn. They discovered that their bodies were made up of over 50% carbon from corn. This discovery spurred them to learn how the corn got there and what the effects of this meant to their health. They interviewed Iowa corn farmer Don Clickeman about the corn they were eating, who declared, "We aren't growing quality. We're growing crap. Poorest quality crap the world's ever seen, we're growing it today."

And that "crap" is what Americans eat. Not directly, of course, because the high starch (low protein) corn big agribusiness has developed for American farmers to grow tastes terrible. (In the film, the flavor of Iowa corn is paralleled to saw dust.) The corn gets into Americans' systems through the cheap corn-fed meat and sweeteners that fuel the fast food and processed food industries. As the average American spends

roughly 90% of their food budgets on processed food, it is easy to see how quickly corn products can build up in their system. Furthermore, this starchy food is what Americans are feeding their youth, causing more youth cases of obesity than ever before.

As if that is not enough for Americans to struggle with, the fruits and vegetables grown in the agriculture industry are covered in pesticides and fertilizer in an attempt to increase yields. Unfortunately, these chemicals end up being ingested by Americans nationally, causing sickness, intolerance, and occasionally, death.

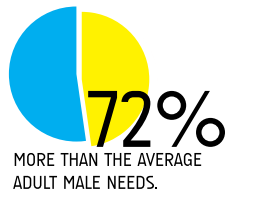
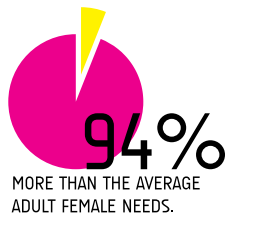
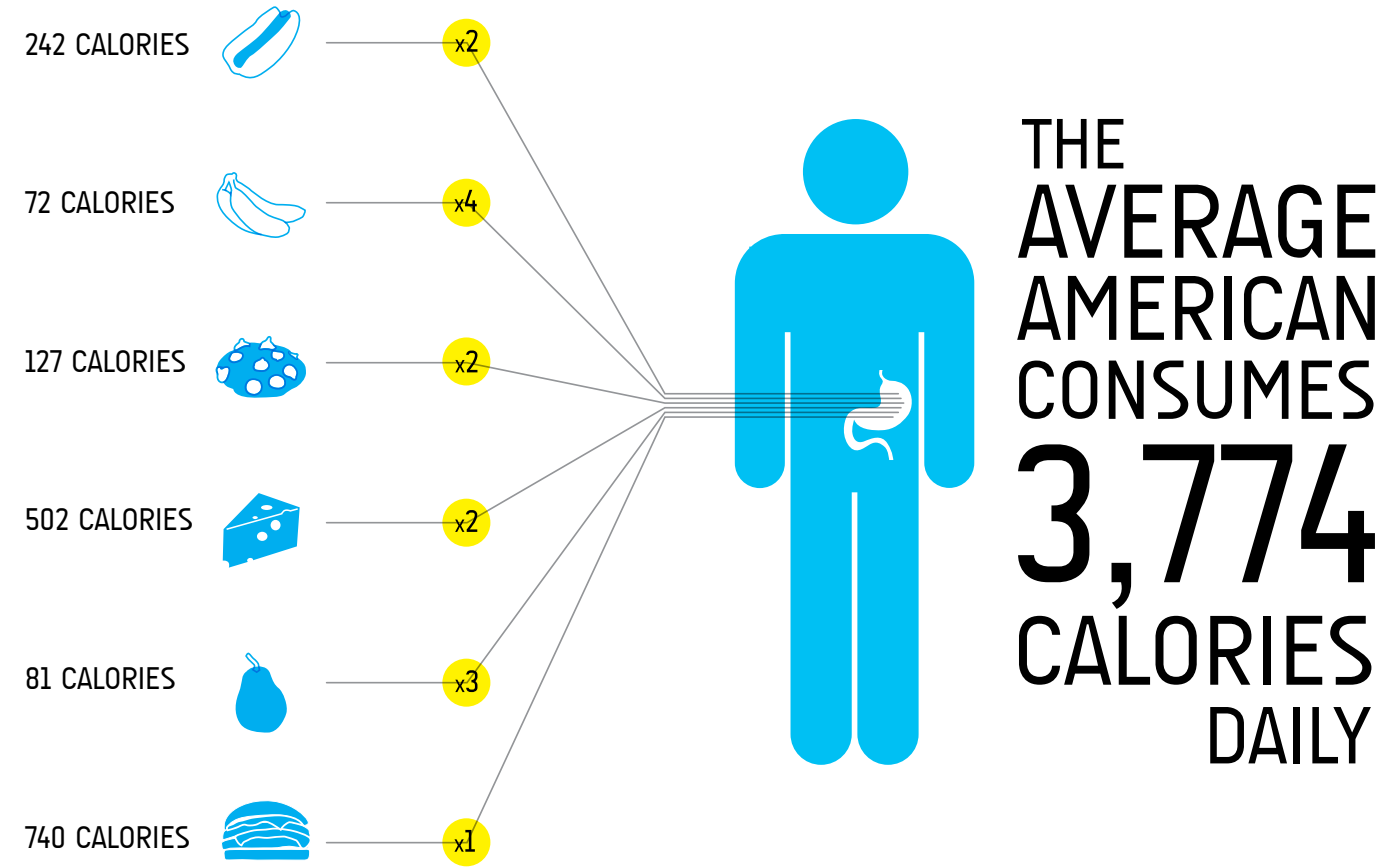
The desire to yield more profits in this "factory-like" farming causes American farms to produce more at the cost of America's health. The result of this is just as Oliver proclaimed, the first generation of Americans will have a shorter life-span than their parents. That is the payoff.

"We, the adults of the last four generations, have blessed our children with the destiny of a shorter life-span than their own parents. Your child will live a life 10 years younger than you because of the landscape of food we've built around them."

—Jamie Oliver (Chef)
on his February 2010 TED Talk

71% OF AMERICANS ARE OVERWEIGHT. 

MORE ORANGES. LESS TWINKIES.
WE ARE WHAT WE EAT.



MORE 

Garner, Lesley. "How Americans Became the Fattest People in the World." *Civilization Defined and Explained in Plain English*. Sunday Mail, 2 Mar. 2003. Web. 21 Mar. 2010. <<http://www.ourcivilization.com/diet/fastfood.htm>>.

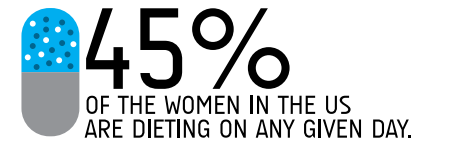
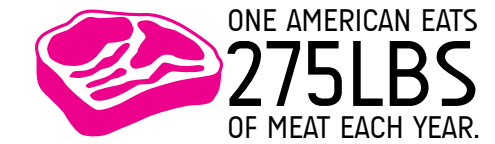
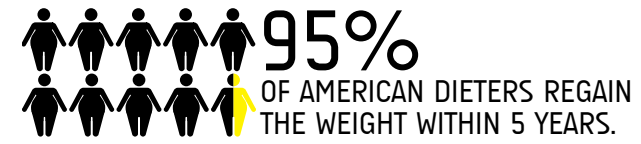
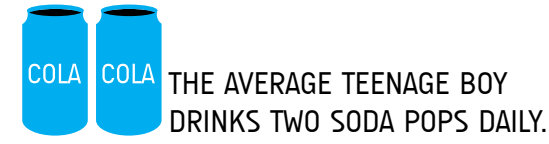
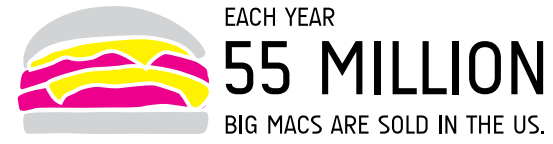
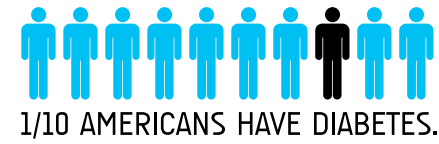
Menzel, Peter, and Faith D'Aluisio. *Hungry Planet: What the World Eats*. Napa, Calif.: Material World, 2007. Print.

Singh, Mike. "Recommended Calorie Intake - What Is The Recommended Caloric Intake?" *Ezine*. 8 Dec. 2008. Web. 14 Mar. 2010. <<http://ezinearticles.com/?Recommended-Calorie-Intake---What-Is-The-Recommended-Caloric-Intake?&id=380408>>.

The Calorie Counter. Web. 15 Mar. 2010. <<http://www.thecaloriecounter.com/>>.

// Between 1970 & 1994, the caloric intake of Americans increased by 200 calories, and fat consumption doubled (from 19% of a diet in 1977 to 38% in 1995).

STATISTICS 101
ONE HUNGRY COUNTRY



MORE

Edelman, Adam. "Big Mac (burp) Turns 40." New York Daily News. 25 Aug. 2007. Web. 15 Mar. 2010.
<http://www.nydailynews.com/lifestyle/food/2007/08/25/2007-08-25_big_mac_burp_turns_40.html>.

Menzel, Peter, and Faith D'Aluisio. *Hungry Planet: What the World Eats*. Napa, Calif.: Material World, 2007. Print.

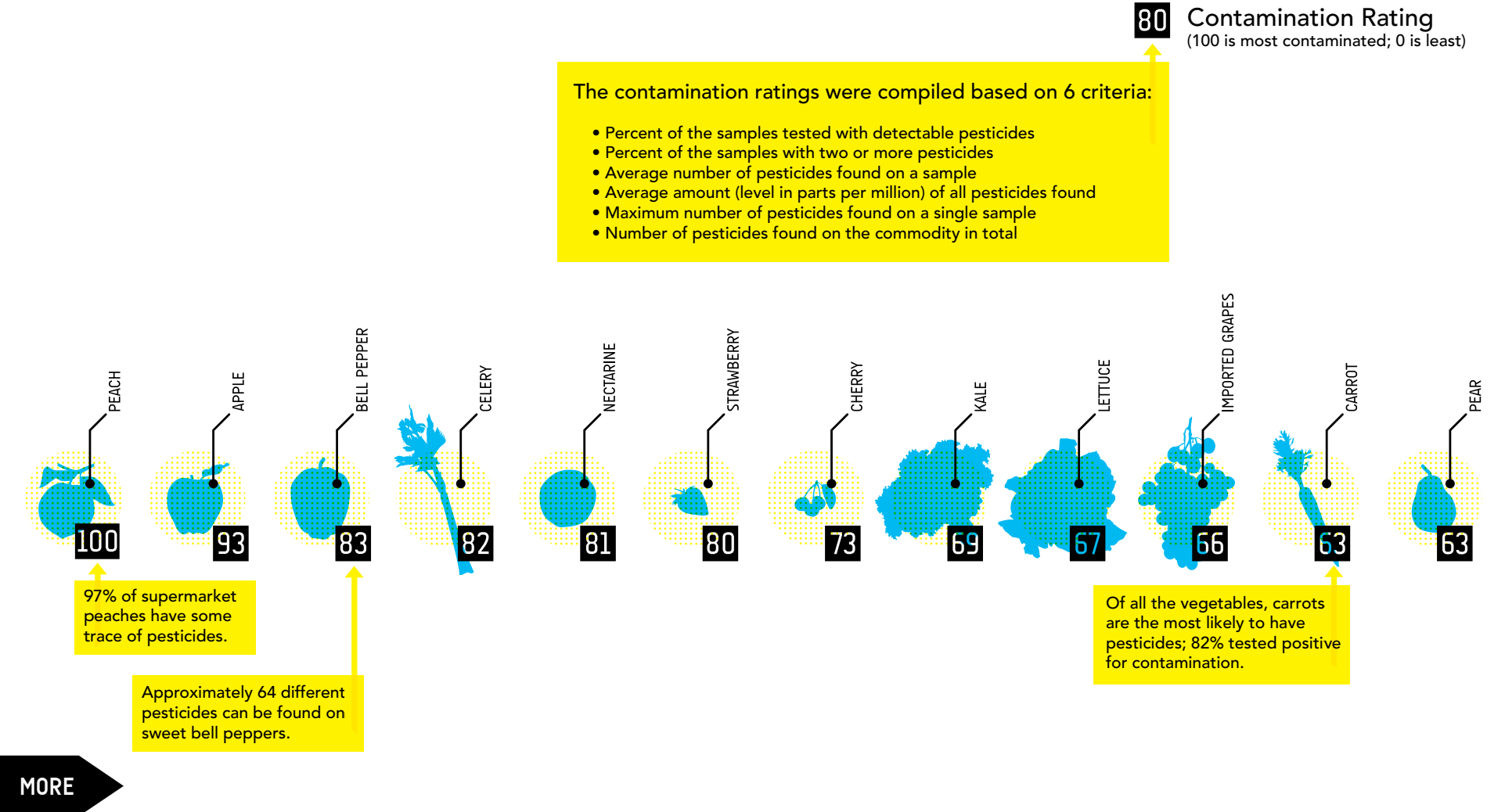
Singh, Mike. "Recommended Calorie Intake - What Is The Recommended Caloric Intake?" *Ezine*. 8 Dec. 2008. Web. 14 Mar. 2010.
<<http://ezinearticles.com/?Recommended-Calorie-Intake---What-Is-The-Recommended-Caloric-Intake?&id=380408>>.

// *The cost of healthy food (fresh produce) has increased by 40% since the 1990's, while the price of junk (processed) food and soda pops has decreased by 80% since 1985.*

MEN EXPOSED TO PESTICIDES ARE 2.4x's MORE LIKELY TO SUFFER FROM PARKINSONS.

THE DIRTY DOZEN

TWELVE MOST COMMONLY CONTAMINATED PIECES OF PRODUCE



"PANNA: Environmental Illness." *Pesticide Action Network North America*. Pesticide Action Network North America. Web. 16 Mar. 2010. <<http://www.panna.org/node/1042>>.

"Pesticide Health Effects: The Latest Science" *EWG's FoodNews: Shopper's Guide to Pesticides*. Environmental Working Group. Web. 16 Mar. 2010. <<http://www.foodnews.org/reduce.php>>.

"What's the Difference?" *EWG's FoodNews: Shopper's Guide to Pesticides*. Environmental Working Group. Web. 16 Mar. 2010. <<http://www.foodnews.org/methodology.php>>.

// The United States government acknowledges that certain pesticides can harm the nervous system, the hormone system, irritate skin, eyes, and lungs, and cause cancer.

THE AVERAGE AMERICAN IS COMPRISED OF 67% CARBON CORN (THE HIGHEST SUBSIDIZED CROP)

CITRIC ACID, CARAMEL COLOR, HFCS, CAFFEINE, XANTHUM, MODIFIED FOOD STARCH, DIGLYCERIDES, MAIZE (AND ON...) ARE ALL LABEL NAMES FOR CORN



DAIRY

Many yogurts, cheeses, and ice cream contain corn.

GRAINS

HFCS is added to bakery goods to help preserve moistness.



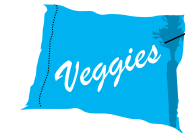
MEATS

Factory farms feed their cattle 60-90% corn.



FRUIT

Industry representatives claim HFCS enhances the flavor of fruits.



VEGETABLES

Frozen produce is often sprinkled with powdered corn to prevent sticking.



SWEETS

About 20% of Iowa corn becomes HFCS or another sweetener.



MEDICATION

Many pills, IV solutions, and capsules are commonly made from corn derivatives.

MORE

// Government subsidies have reduced the price of high fructose corn syrup (HFCS) to 29¢ a pound while taxes have inflated the cost of cane sugar to 53¢ per pound. The 24¢ savings encourages many large corporations to switch from sugar to HFCS, introducing more corn into American's diets.

"Corn-Free Diet." MotherNature.com. Web. 14 Mar. 2010. <<http://www.mothenature.com/library/ency/index.cfm/id/1062005>>.

Hopkins, Kate. "Foods and Products Containing High Fructose Corn Syrup (HFCS)." *Accidental Hedonist*. 9 June 2005. Web. 19 Mar. 2010. <http://www.accidentalthedonist.com/index.php/2005/06/09/foods_and_products_containing_high_fru>

King Corn. Dir. Ian Cheney and Curt Ellis. Mosaic Films, 2006. DVD.

Russell, Sabin. "Fight to Curtail Antibiotics in Animal Feed - SFGate." *SFGate*. 28 Jan. 2008. Web. 21 Mar. 2010. <http://articles.sfgate.com/2008-01-28/news/17149666_1_animal-health-institute-resistant-animal-feed>.

// Despite the fact that cattle cannot properly digest corn, some receive up to 90% of it in their diet. To help with the infections caused by this unnatural diet, about 70% of all antibiotics in the United States are given to livestock, not humans.

ENVIRONMENTAL CONDITIONS

As the general health of the nation is decaying, so too is the health of the environment. With the recent concerns about global warming, it is surprising more is not said about one of the highest emitters of greenhouse gas in the United States— agriculture.

Agriculture is responsible for emitting seven times more toxic gas into the Ozone layer than all the cars, SUV's, trucks, boats, and planes in America. Back on the ground, agriculture is responsible for the salinization (toxic soil) of the San Francisco Bay, the hypoxic (oxygen-free) zone in the Gulf of Mexico, poisoned wells across America, bacterial contamination, and spray drift (lethal waves of pesticides which float off farms on the wind).

Currently, American agricultural practices support monocultures, specialized growing areas for one type of crop, similar to the way cars are produced on Ford assembly lines. Corn is grown, cattle is fed the corn,

and then the cattle are processed. The problem with this technique is that the sensitive ecosystems cannot interact. The nostalgic pictures of a red barn, a few cattle, some chickens, and a field of blossoming crops is a more adequate description of farms in the 1960s, than those of today. Back then each family farm grew a variety of crops, allowing the animals to graze in the open fields during the off season, which in turn fertilized the field for the next season of crops. It was a smaller operation, but it worked.

With today's industrial focus, farmers have been encouraged to abandon the diversity of the prior system and grow one single crop, and grow as much of it as possible. This has caused the use of pesticides in the United States to skyrocket to the billions of tons used each year. In addition, the divided and separated farms means there must be transportation of crops, fertilizer, and pesticides between each stage of

production, adding more still to the already heavy carbon footprint industrial agriculture leaves behind. There is a real problem in the United States with excess waste from livestock. Their manure was once used to fertilize crops but chemical fertilizers are easier and cheaper to transport; so the manure sits, and seeps into the soil and into underground water system.

The division of ecosystems is proving to be one of the most difficult aspects of industrial farming as it is an attempt to control nature, a formidable task. The more American farmers attempt to force the land to produce more, the more toxicity, erosion, and Eutrophication we face. It is true that yields have increased, but the condition of the environment has been overlooked and ignored. The payment for cheap agriculture in America has been at the expense of our soil and water— and some of the damage is irreversible.

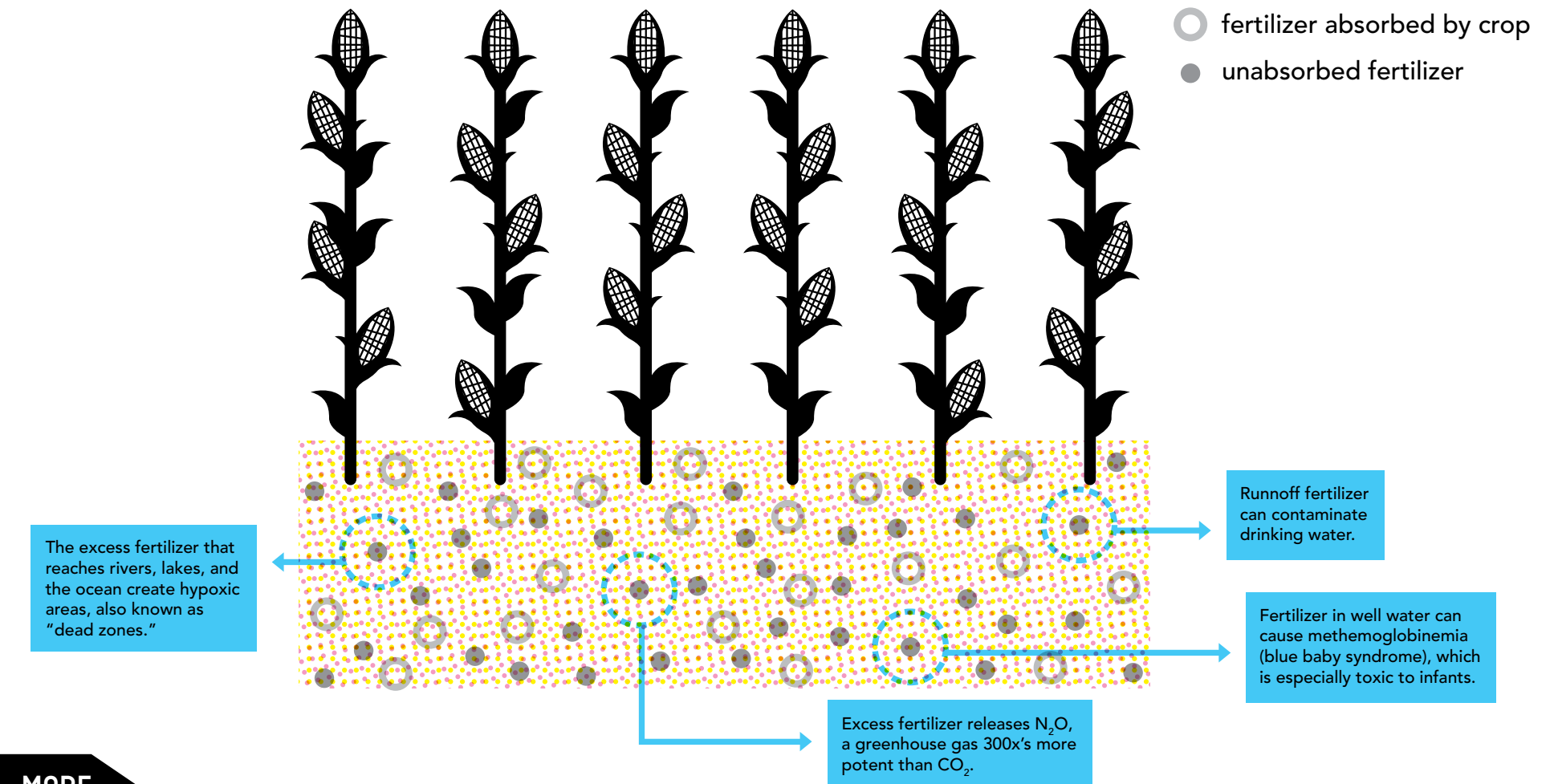
“The question is not whether systems this brittle will break down, but when and how, and whether when they do, we'll be prepared to treat the whole idea of sustainability as something more than a nice word.”

—Michael Pollan
in New York Times Magazine (Dec 2007)

AMERICAN FARMERS OVER-FERTILIZE BY 50% EACH YEAR, CAUSING IRREVERSIBLE DAMAGE TO THE ENVIRONMENT.

A BILLION DOLLAR PROBLEM

EACH YEAR, \$3 BILLION WORTH OF EXCESS FERTILIZER FLOODS OUR WATERWAYS (CAUSING AN ADDITIONAL \$100 BILLION IN DAMAGES)



MORE

"Agriculture." *Pollution Issues*. Web. 14 Mar. 2010. <<http://www.pollutionissues.com/A-Bo/Agriculture.html>>.

"No Sure Fix: Frequently Asked Questions." *Food & Agriculture*. Union of Concerned Scientists, 12 Dec. 2009. Web. 14 Mar. 2010. <www.ucsusa.org/food_and_agriculture/science_and_impacts/science/no-sure-fix-FAQs.html>.

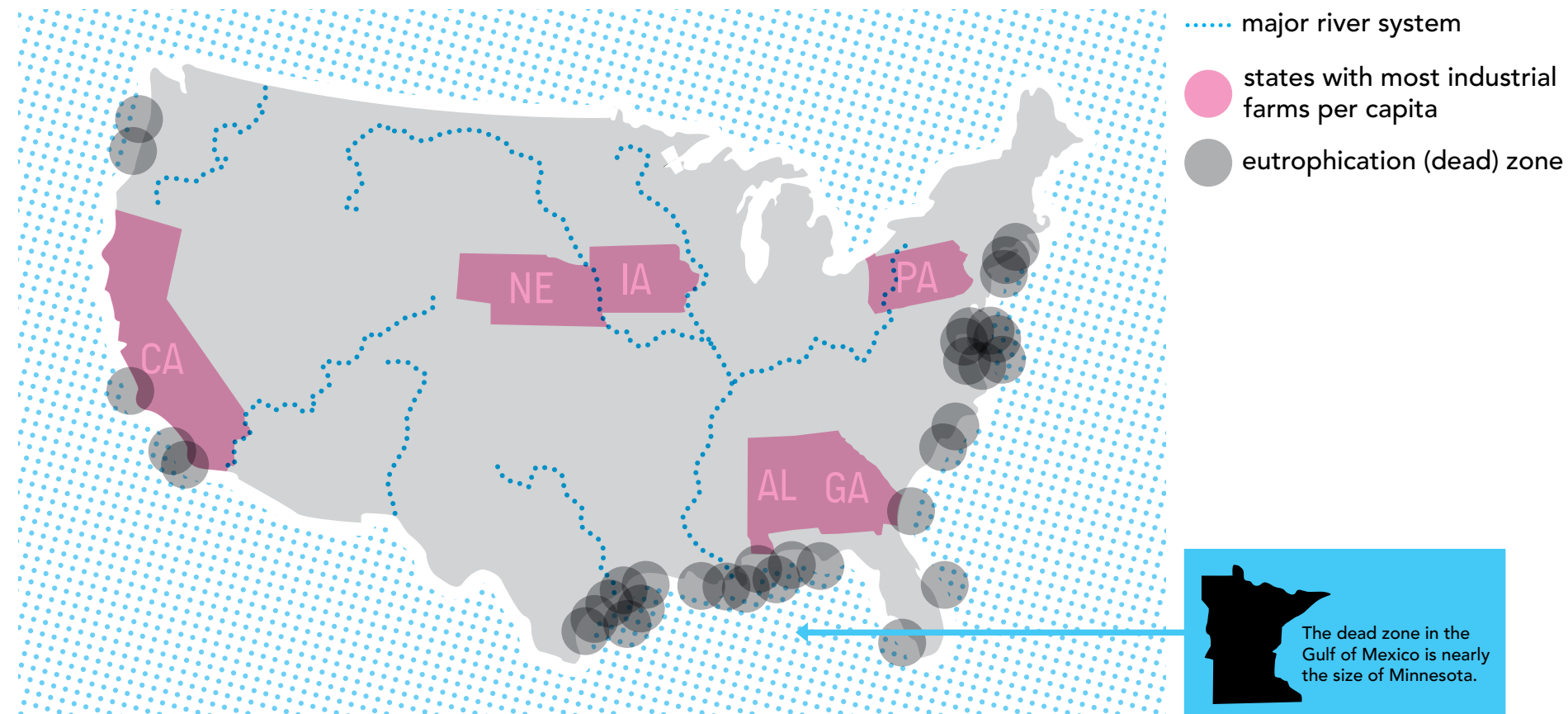
"Soil Nutrient Cycling." NSAC - Nova Scotia Agricultural College. Web. 14 Mar. 2010. <<http://nsac.ca/pas/staff/cmi/cs320nut.htm>>.

// Using cover crops to fertilize soil, as opposed to chemical fertilizer, reduces runoff by 40-70%, prevents erosion, and protects against drought.

SINCE THE ENDORSEMENT OF INDUSTRIALIZED AGRICULTURE IN THE 1960'S, US DEAD ZONES HAVE INCREASED BY 1600%.

EUTROPHICATION DESTROYS HABITATS

EXCESS FERTILIZER FROM FARMS CREATES DEAD ZONES IN OUR RIVERS & OCEANS



MORE

"Coastal Eutrophic and Hypoxic Areas of North America and the Caribbean." *World Resources Institute: Working at the Intersection of the Environment and Human Needs*. World Resources Institute. Web. 14 Mar. 2010. <<http://www.wri.org/map/coastal-eutrophic-and-hypoxic-areas-north-america-and-caribbean>>.

Selman, Mindy, Suzie Greenhalgh, Robert Diaz, and Zachary Sugg. *Eutrophication & Hypoxia in Coastal Areas: A Global Assessment of the State of Knowledge*. Publication no. 1. Washington: World Resources Institute, 2008. Mar. 2008. Web. 14 Mar. 2010. <http://pdf.wri.org/eutrophication_and_hypoxia_in_coastal_areas.pdf>.

"Smaller Than Expected, But Severe, Dead Zone in Gulf of Mexico ." NOAA - National Oceanic and Atmospheric Administration. 27 July 2009. Web. 18 Mar. 2010. <http://www.noaanews.noaa.gov/stories2009/20090727_deadzone.html>.

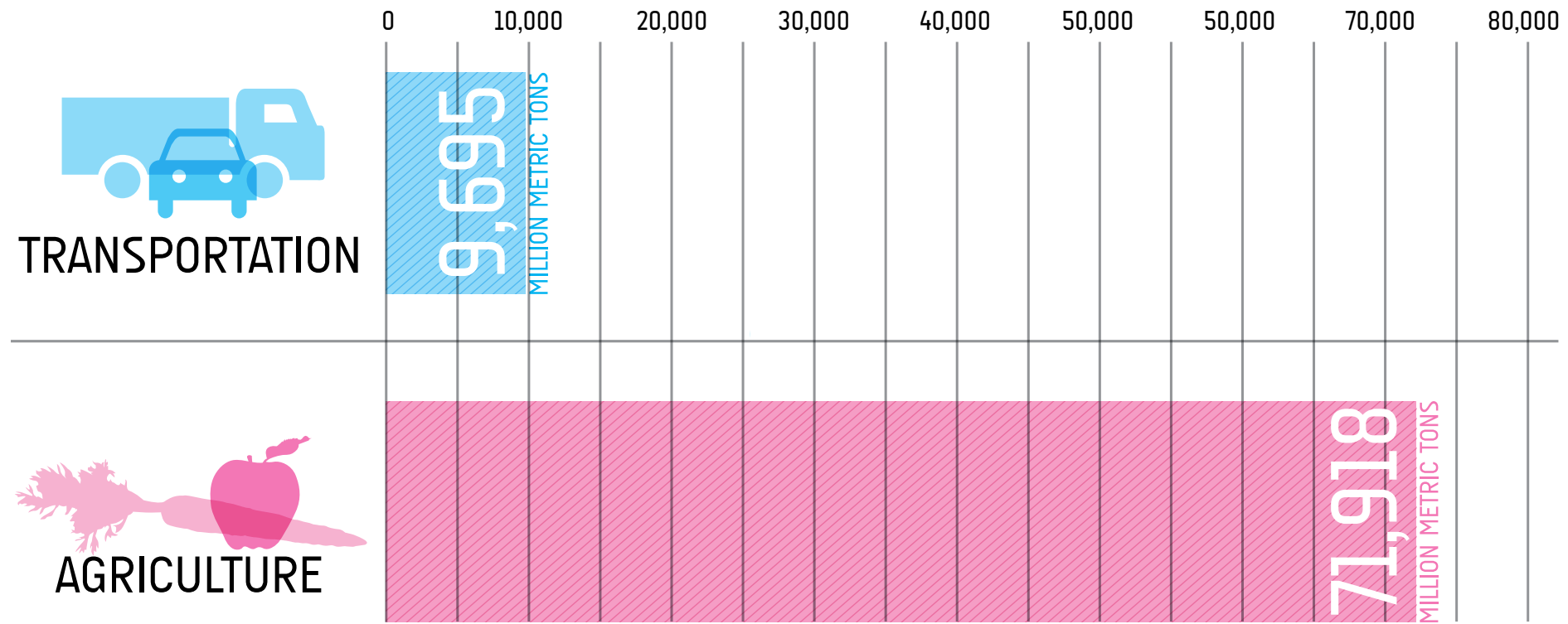
Yorio, Janine. "Sustainable Agriculture Investment Poised to Surge." *Sew Seed*. 10 Sept. 2009. Web. 14 Mar. 2010. <<http://www.newseedadvisors.com/tag/agriculture/>>.

// The World Resources Institute describes Eutrophication as a phenomenon that creates hypoxic (oxygen depletion) "zones" that are uninhabitable by marine life. There are known to be over 169 hypoxic zones on the coast of the United States already. Only 13 of these are classified as "in recovery," the rest continue to worsen each year.

THE TRANSPORTATION & AGRICULTURE INDUSTRIES ARE RESPONSIBLE FOR 30% OF US GREENHOUSE GAS EMISSIONS. 

CARS VS. CROPS

TWO OF THE LARGEST GREENHOUSE GAS EMISSION SOURCES OF 2008




MORE 

Baumert, Kevin A., Timothy Herzog, and Johnathan Pershing. *Navigating the Numbers: Greenhouse Gas Data and International Policy*. Rep. Washington: World Resources Institute, 2005. http://pdf.wri.org/navigating_numbers.pdf.


DRAFT Inventory of US Greenhouse Gas Emissions and Sinks 1990-2008. Rep. Environmental Protection Agency. Web. 14 Mar. 2010. <http://www.epa.gov/climatechange/emissions/downloads10/US-GHG-Inventory-2010-Chapter-Executive-Summary.pdf>.

// Due to the Nitrous Oxide released from fertilizer used in the agricultural industry, the amount of greenhouse gasses released by the agricultural sector is over 7 times worse for the environment than all the cars on the road in the entire United States.

SWITCHING 10% OF AMERICAN PRODUCE FROM NATIONAL TO LOCAL DISTRIBUTION WOULD CONSERVE 320 GALLONS OF FUEL EACH YEAR. 

LESS TRUCKS ON THE ROAD EQUALS LESS POLLUTION

PURCHASE FRUITS & VEGGIES FROM A LOCAL FARMERS MARKET

 = 44.6 MILES



MORE 

// The conservation of those 320 gallons of fuel also saves nearly a million dollars in transportation costs.

Pirog, Rich, Timothy Van Pelt, Kamyar Enshayan, and Ellen Cook. Food, Fuel, and Freeways: An Iowa Perspective on How Far Food Travels, Fuel Usage, and Greenhouse Gas Emissions. Rep. Leopold Center for Sustainable Agriculture, June 2001. Web. 19 Mar. 2010. <<http://www.leopold.iastate.edu/pubs/staff/ppp/>>.

ECONOMIC CONDITIONS

Money. Cold hard cash. That is what is sustaining the industrialized factory-like agriculture system we have in America today. A blind eye is given to the people who die from pesticide exposure each year, the extinction of entire species due to monocultures, and the epidemic-like increase in diabetes, as long as someone is profiting.

As it turns out, it is not America's farmers who are making a big payoff from this. In fact, for all the work farmers invest in their farms, about 80% of them live below the poverty line. The irony of the situation is that because of the introduction of monoculture driven farming, many farmers are starving despite the thousands of acres of crops they grow. Recall the saw-dust corn from Iowa, the largest crop grown in the US. The men and women who toil over it day and night cannot even eat it, nor do they receive enough payment for the sales of it to break even. Government subsidies

supporting the mass production of corn pay off the farmers for continuing to grow this crop.

In fact, American farmers depend on the subsidies so much that they will grow whatever is asked of them, and for the last thirty years, the government has asked them to grow corn. Michael Pollan, independent author and writer for the New York Times writes, "Americans have begun to ask why the farm bill is subsidizing high-fructose corn syrup and hydrogenated oils at a time when rates of diabetes and obesity among children are soaring, or why the farm bill is underwriting factory farming (with subsidized grain) when feedlot wastes are polluting the countryside and, all too often, the meat supply," in his 2007 article, *Weed it and Reap*. The answer? Money.

Though American farmers are just barely scraping a living, with many declaring bankruptcy and losing their family homes, big business is making a fortune.

Processed food manufactures have been able to lower the cost of their products, while increasing the portion size, and still make a large profit. This can most clearly be exemplified in the price of soda dropping since the 1970's, but the size of the servings constantly increasing. There is a correlation between what the government pays farmers to grow and what America ends up eating, and big business recognizes it. That is why every time the farm bill is brought to the floor, hundreds of lobbyists representing large corporations pop up in Washington as well. If the cost of corn began increasing, the cost of cheap processed foods would start increasing, and the sales for big business in America would start decreasing.

Perhaps if government subsidies encouraged a variety of crops, Americans would have access to cheap, fresh produce, instead of cheap, fatty hamburgers— and farmers could make a little money.

"There's an awful lot of farmsteads that are just plain disappearing. You go down the road here and...there's just so many of the homesteads that are gone."

—Elna Clikeman (farmer)
interview in documentary *King Corn*

88% OF SUBSIDIES SUPPORT CROPS THAT ARE COMMONLY USED IN THE PRODUCTION OF PROCESSED FOODS, NOT FRESH PRODUCE. 

GOVERNMENT SUBSIDIES DECIDE WHAT AMERICANS EAT
THE CROPS THAT ARE MOST SUBSIDIZED ARE MOST PRODUCED

**HIGHEST
SUBSIDIZED
CROPS
IN THE USA**



**HIGHEST
PRODUCED
CROPS
IN THE USA**



MORE 

"Bushels & Cents: Corn and the Farm Bill." *Independent Lens*. PBS, 14 Apr. 2008. Web. 10 Mar. 2010.
<<http://www.pbs.org/independentlens/kingcorn/bushels.html>>.

"Environmental Working Group." *EWG Farm Subsidy Database*. Environmental Working Group. Web. 14 Mar. 2010.
<<http://farm.ewg.org/farm/regionsummary.php?fips=00000>>.

// The food available for Americans to eat in supermarkets is a direct result of what has been subsidized by the government in the Farm Bill. The bill is renewed every 5-7 years, yet crops used in processed foods still receive more money from the government than healthful fresh fruit and vegetable crops.

CORN IS THE HIGHEST SUBSIDIZED CROP, RECEIVING 35% OF ALL AGRICULTURAL GOVERNMENTAL FUNDS.



GOVERNMENT SUBSIDIES ARE NOT AS HELPFUL AS INITIALLY INTENDED

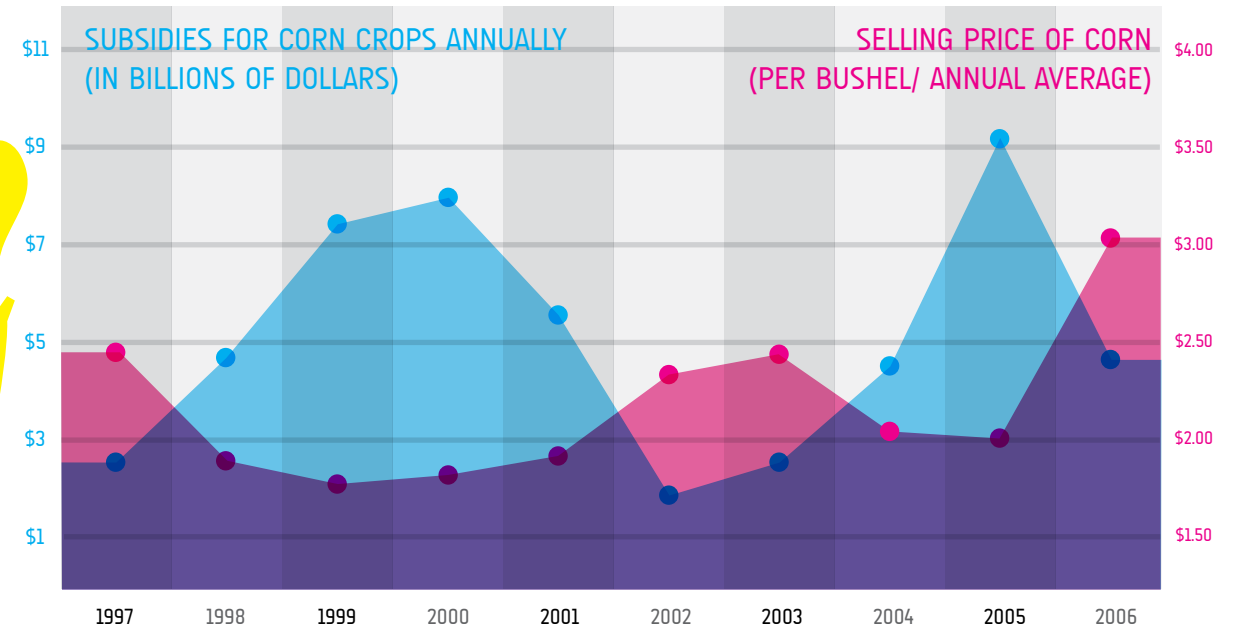
THE MORE CORN IS SUBSIDIZED BY THE GOVERNMENT THE LESS MONEY THE FARMER CAN SELL IT FOR

OVER THE PAST DECADE NEARLY EVERY TIME THE THE GOVERNMENT INCREASED SUBSIDIES ON CORN, THE PRICE THE FARMER WAS PAID DECREASED (AND EACH TIME SUBSIDIES DECREASED, THE CROP PRICE WENT UP).

MORE CORN IS GROWN AND HARVESTED IN AMERICA EACH YEAR THAN ANY OTHER CROP.

35%

35% OF ALL AGRICULTURAL SUBSIDIES ARE DESIGNED TO SUPPORT CORN PRODUCTION.



MORE

"Bushels & Cents: Corn and the Farm Bill." *Independent Lens*. PBS, 14 Apr. 2008. Web. 10 Mar. 2010. <www.pbs.org/independentlens/kingcorn/bushels.html>.

Cook, Rob. "A Look At Corn Over The Past 30 Years (Yield, Production & Price)." *The Dairy Network*. 24 Nov. 2009. Web. 14 Mar. 2010.

"Corn People." *Chadzilla*. 19 Mar. 2008. Web. 21 Mar. 2010. <<http://chadzilla.typepad.com/chadzilla/2008/03/corn-people.html>>.

"Environmental Working Group." *EWG Farm Subsidy Database*. Environmental Working Group. Web. 14 Mar. 2010. <<http://farm.ewg.org/farm/regionsummary.php?fips=00000>>.

Riedl, Brian. "How Farm Subsidies Harm Taxpayers, Consumers, and Farmers, Too." *Heritage Foundation: Leadership for America*. The Heritage Foundation, 20 June 2007. Web. 14 Mar. 2010. <<http://www.heritage.org/Research/Reports/2007/06/How-Farm-Subsidies-Harm-Taxpayers-Consumers-and-Farmers-Too>>.

// Of the \$34.75 billion dollars tax payers spent on farming subsidies between 2003- 2005, 20% of it went to the top 1% of farmers. Furthermore, the subsidies promote overproduction which drives crop prices down even more.

UP AT DAWN, DOWN AT DUSK: FOR \$12 A DAY

INCOME OF THE AVERAGE FARMER (ASSUMING THE WEATHER WAS GOOD & THE CROPS WERE HEALTHY)

EARNINGS (MINUS)

EXPENSES

OF ALL FAMILY FARMERS, 80% LIVE BELOW THE POVERTY LINE.



MORE

"2009 Federal Poverty Guidelines." US Department of Health and Human Services. 4 Mar. 2010. Web. 21 Mar. 2010. <<http://aspe.hhs.gov/poverty/09poverty.shtml>>.

Horne, James E., and Manjula V. Guru. "US Farm Crisis." Kerr Center for Sustainable Agriculture, Inc., Nov. 2009. Web. <<http://www.kerrcenter.com/publications/FarmCrisis.PDF>>.

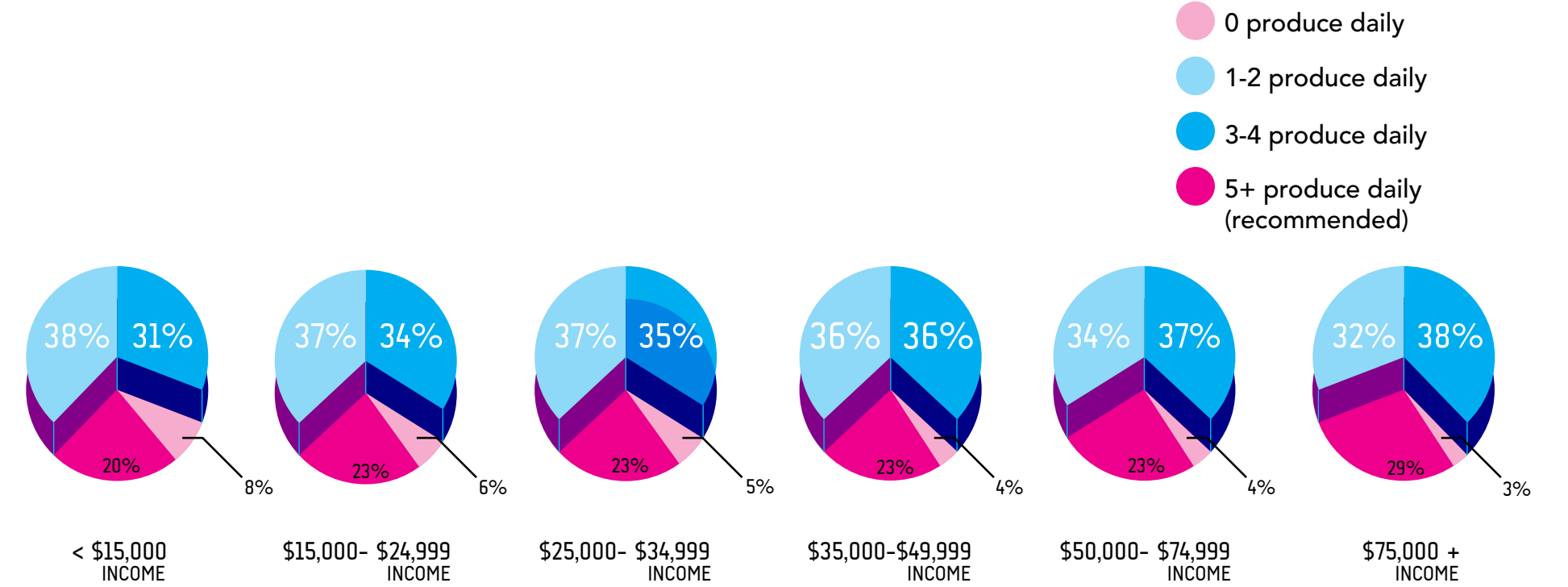
"How Much Do Farmers Really Make?" *Farmfacts*. 7 Nov. 2008. Web. 14 Mar. 2010. <<http://farmfacts.today.com/2008/11/07/how-much-do-farmers-really-make/>>.

// According to the Poverty Guidelines for the 48 Contiguous States of America, a four-person family needs to make at least \$83 a day to stay above the poverty line.

90% OF THE MONEY AMERICANS SPEND ON FOOD GOES TOWARD UNHEALTHY PROCESSED ITEMS.



THE PRICE IS NOT WHAT KEEPS AMERICANS AWAY FROM PRODUCE ...PERHAPS IT IS THE GENERAL DISLIKE OF BROCCOLI?



Regardless of economic standing, most Americans consume 1-4 produce items daily (indicated in blue). As none of the sectors (including the lowest-income group) avoided produce completely it can be inferred that the price of produce is not the primary deterrent keeping American's from eating the recommended amount of fruits and vegetables (5+). Even the majority of the highest earning sector did not get their five a day.

MORE

// The World Health Organization has issued a warning that the high consumption of unnatural foods are to blame for the increase in chronic illness and exponential growth in obesity cases.

IDEO Designers. *Design On- Food 03* (2009). IDEO. 14 Jan. 2010. Web. 18 Mar. 2010. <<http://www.ideo.com/news/ideo-introduces-designs-on-food/>>.

"What Is Your Average Frequency of Fruit and Vegetable Consumption per Day?" CDC. Web. 18 Mar. 2010. <<http://apps.nccd.cdc.gov/5ADaySurveillance/>>.



CONCLUSION

The condition of American agriculture is not good.

The systems we have in place feel archaic and benefit large corporations and CEOs over the hard working individual while exploiting the land and degrading Americans' health. Though the program we have in place was well intended, the system no longer works.

In the 1970's there was an overwhelming surplus of corn in America, driving down the price. Thus, high fructose corn syrup (HFCS) was invented to use up some of the excess and help the farmers drive the price back up. But America's intake of HFCS increased to nearly 75 lbs/ person/ year since HFCS was introduced, and the intake of sweeteners across the board has increased to almost 150 lbs/ person/ year. Furthermore, we once again have a surplus of corn on the market, and although ethanol based petroleum is beginning alleviate the strain on farmers, they still cannot make a sustainable living off of growing corn at such quantities.

Americas heavy dependence on pesticides is another antiquated technique with good intentions. Earl Butz, Secretary of Agriculture under President Nixon introduced the Green Revolution, and pesticides, to America in the 1970s. At the time, Americans had taken to the streets, protesting the high prices of agricultural products. He proposed Americans stream-line their crops: grow one crop, as efficiently as possible, as often as possible, yielding as much as possible. Michael Pollan, Agriculture writer, described Butz' philosophy as, "get bigger, or get out, plant fence row to fence row, move toward monocultures, just crank out that corn and soy, and... the structure of the subsidies... encourage(d) that." But food shortage is no longer a problem in America, and the truth of the matter is that most of the cheap crops grown in the US are turned into feed for animals (where 90% of the energy is lost through heat) or sweeteners for our sodas and snacks.

Cutting back on the production of these crops in favor of more healthful alternatives would be a step in the right direction for American agriculture.

Though the condition of our health, environment, and economy may seem dire, there is still an opportunity to make a change. Farmers markets are more and more common and even city dwellers can find fresh, local produce now. Organic foods at grocery stores are becoming more affordable, and every 5-7 years the farm bill is reexamined (giving grass-roots movements the opportunity to challenge big agribusiness). The need for change in America is not just a movement for tree huggers, vegans, and hippies; like it or not, this affects you.

ANNOTATED BIBLIOGRAPHY & ADDITIONAL RESOURCES//

"Agriculture." *Pollution Issues*. Web. 14 Mar. 2010. <<http://www.pollutionissues.com/A-Bo/Agriculture.html>>.

// This resource is extremely useful in understanding the various terminologies, systems, and processes associated with agriculture. It focuses on the effect pollution has on our planet's water and soil.

Baumert, Kevin A., Timothy Herzog, and Johnathan Pershing. *Navigating the Numbers: Greenhouse Gas Data and International Policy*. Rep. Washington: World Resources Institute, 2005. *Navigating the Numbers: Greenhouse Gas Data and International Policy*. World Resources Institute. Web. 17 Mar. 2010. <http://pdf.wri.org/navigating_numbers.pdf>.

Black, Rosemary. "How to Eat Fewer Pesticides." *EWG Home*. Epicurious, 6 Nov. 2006. Web. 14 Mar. 2010. <<http://www.ewg.org/node/18912>>.

Boyan, Steve. "How Our Food Choices Can Help Save the Environment." *EarthSave International*. Web. 14 Mar. 2010. <<http://www.earthsave.org/environment/foodchoices.htm>>.

The Calorie Counter. Web. 15 Mar. 2010. <<http://www.thecaloriecounter.com/>>.

"Clean 15/ Dirty 12." *Shopper's Guide to Pesticides*. Environmental Working Group. Web. 14 Mar. 2010. <www.foodnews.org/>.

"Coastal Eutrophic and Hypoxic Areas of North America and the Caribbean." *World Resources Institute: Working at the Intersection of the Environment and Human Needs*. Web. 14 Mar. 2010. <<http://www.wri.org/map/coastal-eutrophic-and-hypoxic-areas-north-america-and-caribbean>>.

// The WRI not only monitors eutrophication in the US, but globally. This is an excellent resource for learning more about hypoxia, water conditions globally, and the condition of the environment.

Cook, Rob. "A Look At Corn Over The Past 30 Years (Yield, Production & Price)." *The Dairy Network*. 24 Nov. 2009. Web. 14 Mar. 2010.

"Corn-Free Diet." *MotherNature.com*. Web. 14 Mar. 2010. <<http://www.mothernature.com/library/ency/index.cfm/id/1062005>>.

// For those suffering from a corn allergy, it can be a very difficult time to find edible food. This site compiles food to eat or to avoid, and is also a good resource for those simply curious about what they eat.

Defending Food Safety. Web. 14 Mar. 2010. <<http://www.defendingfoodsafety.com/>>.

DRAFT Inventory of US Greenhouse Gas Emissions and Sinks 1990-2008. Rep. nvironmental Protection Agency. Web. 14 Mar. 2010. <<http://www.epa.gov/climatechange/emissions/downloads10/US-GHG-Inventory-2010-Chapter-Executive-Summary.pdf>>.

Edelman, Adam. "Big Mac (burp) Turns 40." *New York Daily News*. 25 Aug. 2007. Web. 15 Mar. 2010. <www.nydailynews.com/lifestyle/food/2007/08/25/2007-08-25_big_mac_burp_turns_40.html>.

"Environmental Working Group." *EWG Farm Subsidy Database*. Environmental Working Group. Web. 14 Mar. 2010. <<http://farm.ewg.org/farm/regionsummary.php?fips=00000>>.

// The EWG is the epitome of resources when it comes to subsidies. This site has all the information on agricultural subsidies: who gets the most money, who gets the least, regionally, globally, everything.

"ERS/USDA Data - U.S. Fertilizer Use and Price." *Economic Research Service*. United States Department of Agriculture, 20 Nov. 2008. Web. 14 Mar. 2010. <www.ers.usda.gov/Data/FertilizerUse/>.

"Factory Farm Pollution in the United States." *Food & Water Watch*. Web. 14 Mar. 2010. <<http://www.factoryfarmmap.org/>>.

"Farm Map." *Local Harvest*. Local Harvest. Web. 14 Mar. 2010. <<http://www.localharvest.org/search.jsp?scale=&lat=&lon=&x=157&y=133&ty=0&zip=Zip%2FCityst=0>>.

// A complete listing of neatly all the farmer's markets and co-ops in the United States. Delicious, healthy, local, wonderful.

Farm Sanctuary. Web. 14 Mar. 2010. <<http://farmsanctuary.org/index.html>>.

"Find Good Food." *Eat Well Guide :: Local, Sustainable, Organic Food*. Web. 14 Mar. 2010. <www.eatwellguide.org/i.php?id=Home>.

// Even city dwellers will be able to find fresh food from this site. Reviews and commentary are also available.

Benefits." *Fruits & Vegetable Benefits*. Centers for Disease Control & Prevention. Web. 14 Mar. 2010. <<http://www.fruitsandveggiesmatter.gov/benefits/index.html#>>.

"Gulf of Mexico Dead Zone Update." *Oceanographer's Choice*. 27 July 2009. Web. 14 Mar. 2010. <<http://www.oceanographer.schoice.com/?tag=hypoxia>>.

"HONDA Civic 2.0 Litre / 4 Cyl / 2WD / Manual 6-speed / (CA) Emissions." *What Green Car*. Web. 14 Mar. 2010. <http://www.whatgreencar.com/us/view-car/8385/honda-civic-2_0_litre_4_cyl_2WD_Manual_6_speed_CA>.

Hopkins, Kate. "Foods and Products Containing High Fructose Corn Syrup (HFCS)." *Accidental Hedonist*. 9 June 2005. Web. 19 Mar. 2010. <http://www.accidentalthedonist.com/index.php/2005/06/09/foods_and_products_containing_high_fruct>.

"How Much Do Farmers Really Make?" *Farmfacts*. 7 Nov. 2008. Web. 14 Mar. 2010. <<http://farmfacts.today.com/2008/11/07how-much-do-farmers-really-make/>>.

IDEO Designers. *Design On: Food 03* (2009). IDEO. 14 Jan. 2010. Web. 18 Mar. 2010. <<http://www.ideo.com/news/ideo-introduces-designs-on-food/>>.

Kaufman, Marc. "WHO Urges End to Use of Antibiotics for Animal Growth." *Washington Post* 13 Aug. 2003: A01. Print.

King Corn. Dir. Ian Cheney and Curt Ellis. Mosaic Films, 2006. DVD.

// This documentary describes the relationship corn has with the nation's obesity epidemic and the economy.

King Corn. Web. 14 Mar. 2010. <<http://www.kingcorn.net/>>.

Kreith, Marcia. *Water Inputs in California Food Production*. Rep. Water Education Foundation. Web. 08 Jan. 2010. <http://www.sakia.org/cms/fileadmin/content/irrig/general/kreith_1991_water_inputs_in_ca_food_production-excerpt.pdf>.

Leamy, Elisabeth, and Sheila Evans. "The "Clean 15" Fruits and Vegetables." *Good Morning America*. ABC. 13 Aug. 2009. Web. 14 Mar. 2010. <abcnews.go.com/GMA/story?id=8315650&page=1>.

Leamy, Elisabeth, and Sheila Evans. "The 'Dirty Dozen' of Fruits and Vegetables." *Good Morning America*. ABC. 13 Aug. 2009. Web. 14 Mar. 2010. <<http://abcnews.go.com/GMA/story?id=8315670&page=1>>.

"Managing Nonpoint Source Pollution from Agriculture." *Polluted Runoff (Nonpoint Source Pollution)*. U.S. Environmental Protection Agency, 13 Jan. 2010. Web. 14 Mar. 2010. <<http://www.epa.gov/nps/facts/point6.htm>>.

// The EPA released this report on pollution caused by agricultural processes and the effect is has on cropland. Specifically, this report goes into detail concerning fertilizer runoff.

Marshall, Cisely. "Eutrophication and Gulf of Mexico Dead Zone." *Eutrophication and Gulf of Mexico Dead Zone*. SlideBoom, 2009. Web. 14 Mar. 2010. <<http://www.slideboom.com/presentations/32192/Eutrophication-and-Gulf-of-Mexico-Dead-Zone>>.

Martin, Robert. "Industrial Farm Animal Production Poses Risks to Consumers and Environment." *EcoWatch Ohio - Sustainability Education, Green Initiatives, Alternative Energy*. Web. 14 Mar. 2010. <www.ecowatch.org/pubs/jun08/industrialfarm.htm>.

Menzel, Peter, and Faith D'Aluisio. *Hungry Planet: What the World Eats*. Napa, Calif.: Material World, 2007. Print.

"NewScientist." It's Better to Green Your Diet than Your Car 17 Dec. 2005: 19. Print.

"No Sure Fix: Frequently Asked Questions." *Food & Agriculture*. Union of Concerned Scientists, 12 Dec. 2009. Web. 14 Mar. 2010. <http://www.ucsusa.org/food_and_agriculture/science_and_impacts/science/no-sure-fix-FAQs.html>.

"PANNA: Environmental Illness." *Pesticide Action Network North America*. Pesticide Action Network North America. Web. 16 Mar. 2010. <<http://www.panna.org/node/1042>>.

// The content of this site is always concerning; PANNA posts the most recent news and developments in pesticide use and its effects in the United States and the rest of the world.

Pirog, Rich, Timothy Van Pelt, Kamyar Enshayan, and Ellen Cook. *Food, Fuel, and Freeways: An Iowa Perspective on How Far Food Travels, Fuel Usage, and Greenhouse Gas Emissions*. Rep. Leopold Center for Sustainable Agriculture, June 2001. Web. 19 Mar. 2010. <<http://www.leopold.iastate.edu/pubs/staff/ppp/>>.

// This was a comprehensive study of transportation costs of food and how far the average piece of produce travels. Very interesting.

Riedl, Brian. "How Farm Subsidies Harm Taxpayers, Consumers, and Farmers, Too." Heritage Foundation: Leadership for America. The Heritage Foundation, 20 June 2007. Web. 14 Mar. 2010. <<http://www.heritage.org/Research/Reports/2007/06/How-Farm-Subsidies-Harm-Taxpayers-Consumers-and-Farmers-Too>>.

Selman, Mindy, Suzie Greenhalgh, Robert Diaz, and Zachary Sugg. *Eutrophication & Hypoxia in Coastal Areas: A Global Assessment of the State of Knowledge*. Publication no. 1. Washington: World Resources Institute, 2008. Mar. 2008. Web. 14 Mar. 2010. <http://pdf.wri.org/eutrophication_and_hypoxia_in_coastal_areas.pdf>.

Singh, Mike. "Recommended Calorie Intake - What Is The Recommended Caloric Intake?" *Ezine*. 8 Dec. 2008. Web. 14 Mar. 2010. <<http://ezinearticles.com/?Recommended-Calorie-Intake--What-Is-The-Recommended-Caloric-Intake?&id=380408>>.

"Smaller Than Expected, But Severe, Dead Zone in Gulf of Mexico ." NOAA - National Oceanic and Atmospheric Administration. 27 July 2009. Web. 18 Mar. 2010. <http://www.noaanews.noaa.gov/stories2009/20090727_deadzone.html>.

// The NOAA stays current on water conditions in the United States and makes it available to the public on their site.

"Soil Nutrient Cycling." NSAC - Nova Scotia Agricultural College. Web. 14 Mar. 2010. <<http://nsac.ca/pas/staff/cmi/cs320nut.htm>>.

Steinfeld, Henning. *Livestock's Long Shadow: Environmental Issues and Options*. Rome: Food and Agriculture Organization of the United Nations, 2006. Print.

// Though livestock was intentionally excluded from this book, this research study is an excellent resource on how terrible factory farming truly is in the meat industry. It catalogues the environmental costs of cheap meat and how serious a problem the cattle industry (specifically) is in the United States.

ANNOTATED BIBLIOGRAPHY & ADDITIONAL RESOURCES// (CONTINUED)

"The TRUE Cost of Planting Crops... What You Don't Know." Farm facts. 9 Nov. 2008. Web. 14 Mar. 2010. <<http://farmfacts.today.com/page/8/>>.

"US: High Pesticide Level Marks 'Dirty Dozen' Fruits, Vegetables." EWG Home. FreshPlaza.com, 18 Oct. 2006. Web. 14 Mar. 2010. <<http://www.ewg.org/node/18866>>.

// **The EWG provides data on a variety of sources. Their release on pesticides in common fruits and vegetables has made an impact nationally. Take a look at the results for yourself.**

USDA - NASS - Census of Agriculture. Web. 14 Mar. 2010. <<http://www.agcensus.usda.gov/>>.

Veg For Life; A Farm Sanctuary Campaign. Web. 14 Mar. 2010. <http://vegforlife.org/health_recipe.htm>.

Vesterby, Marlow, and Kenneth S. Krupa. "Major Uses of Land in the United States, 1997." USDA.gov. Web. 08 Jan. 2010.

"What Is Your Average Frequency of Fruit and Vegetable Consumption per Day?" CDC. Web. 18 Mar. 2010. <<http://apps.nccd.cdc.gov/5ADaySurveillance/>>.

"What's the Difference?" EWG's FoodNews: Shopper's Guide to Pesticides. Environmental Working Group. Web. 16 Mar. 2010. <<http://www.foodnews.org/methodology.php>>.

Yorio, Janine. "Sustainable Agriculture Investment Poised to Surge." Sew Seed. 10 Sept. 2009. Web. 14 Mar. 2010. <<http://www.newseedadvisors.com/tag/agriculture/>>.

JOIN THE CONVERSATION //

[HTTP://CONTAMINATEDCORN.BLOGSPOT.COM](http://contaminatedcorn.blogspot.com)

This book is just the tip of the iceberg. There is so much more to discover and share. Join the conversation online at <http://contaminatedcorn.blogspot.com> and see more graphics, uncover more information, find new resources, learn about the most recent developments, get involved, and share your own thoughts. This is a change needed for every American, we're waiting to hear from *you*.

