Out of Eden: A Christian Ethics Study Guide to Food and the Environment

Session 2

Corn and Corn Subsidies: When Your Addiction is Someone Else's Allergy

Part 1: Corn Allergies and Corn Profitability

Corn Allergies in a Corn Based World¹

'Recently, some family friends of ours have been dealing with some difficult food allergies that their children have. Because of this, my interest was really piqued when I came across a little snippet in "The Stockman Grassfarmer" about corn allergies.

'According to the article, there are **an estimated 10 million people** in the United States with a corn gluten allergy. That alone isn't very interesting until you realize that 75% of all processed foods have some form of corn in them, and 50% of the sweeteners are made of corn. When you put all of that together, you can see that it is difficult for those 10 million Americans to find food they can eat.

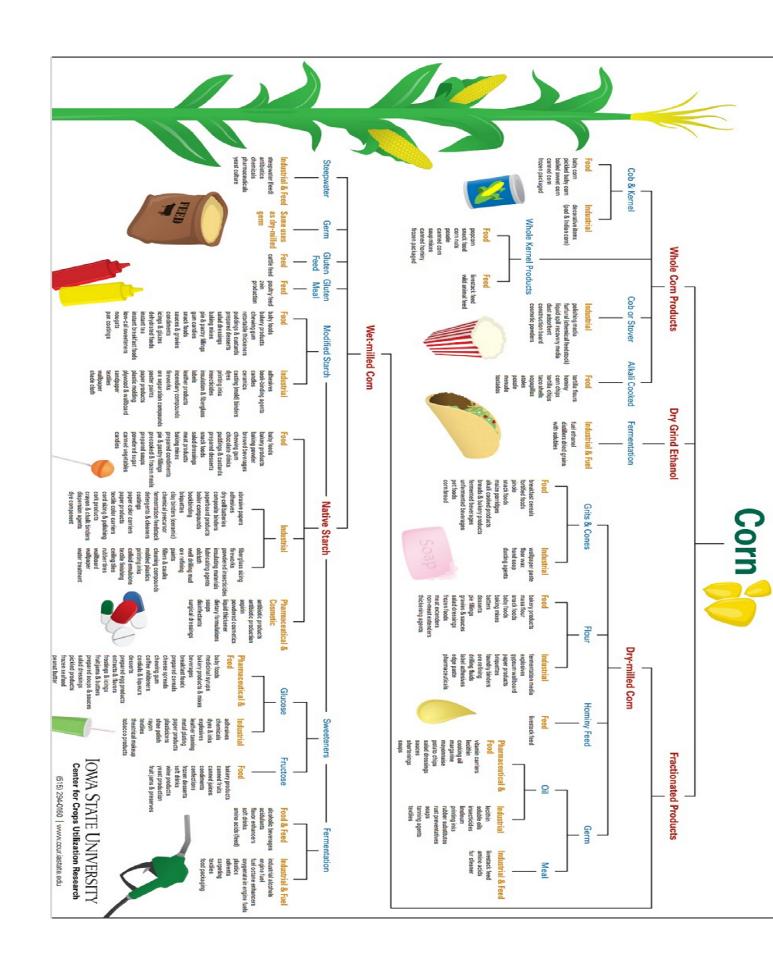
'This news also highlights another one of the benefits of grass-fed beef, although it is important for everyone involved to know that it is 100% grass-fed because sometimes even trace amounts of corn can cause a reaction. If you are interested in reading more about corn allergies, check out this site and its list of corn allergens. You will see that it is a very long list.

'Also, if you are someone who deals with a corn allergy, I would like to hear about how you deal with it.'

Comments

- 'I'm one of those people who can't have "modern" corn or its derivatives. Based on how my body reacts after I consume something with even a little bit of certain corn derivatives, I believe there is something about "modern" corn that my body rejects as being a foreign invader. This would also explain why I can eat baby corn and Indian wild corn (my boyfriend grows it in the backyard) without any issues. My digestive system has been so hurt by modern foods that I no longer can eat a lot of things. How do I manage? I don't eat out. I check all ingredients of everything I eat. I even email companies to make sure. I make my food from scratch. Since I now have a weak digestive system, I avoid things (in addition to corn) that are hard to digest or make my liver work harder, such as fructose, lactose, sorbitol, gluten, and raw vegetables. I have to be very careful with what I buy. Even a can of tuna fish might contain other ingredients (such as vegetable broth, which is probably GMO-soy).'
- When my 3 year old son began having mild anaphylactic responses and hives we had him tested for allergies. I never in my wildest nightmare expected the test to come back positive for corn allergy. After discovering my child could never eat out at a restaurant again I vowed to never touch corn to as an act of solidarity. It saved me. I was corn allergic too but my symptoms were bizarre. I had all over body and joint pain, Migraines, indigestion, and many, many other problems. I even had hives but I dismissed them as mild bumps on my chest and inside of my elbows as heat rash. Do you know you can send me and several of my kids into potentially life threatening situations just because of the hand sanitizer, starched clothing, perfume, or lotion you have on. Did you just clean your dishes and try to serve us. Yup corn there too and please do not put it on a paper plate, or give us a napkin. Even toilet paper! Need I say more? It has been 9 months and I have learned how to cook, make my own soap, and live a very green lifestyle. We have reduced the trash output, increased recyclables and compost everything. As a family of 8 we have almost no waste. But it is so expensive! I am grateful that my husband has a job but if there were ever a job issue I do not know how any family could survive for I do not believe WIC or government food stamps covers non corn items. We are trying to learn to grow our own foods to keep down the cost but that is difficult to do in the city. If you are newly diagnosed I highly recommend the Corn Free Cook Book and Survival Guide.'

¹ Ethan Book, 'Corn Allergies In A Corn Based World,' Epicurious, September 12, 2008; boldface mine; see also Wikipedia, 'Corn Allergy'



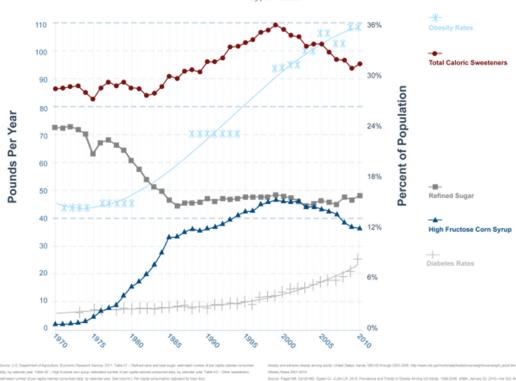
(Optional) How Corn Got Everywhere: A Conversation with "King Corn" Filmmaker

Let's watch a 20 minute interview with Curt Ellis, one of the creators of the documentary called *King Corn*. The full documentary is about him and a friend buying an acre of land in Iowa and growing corn. They did this because one went to the doctor and the doctor said, 'You are made of corn.' You can watch the full documentary if you'd like, on your own. This is a shortened version of what they learned. Please briefly discuss the question after each segment.

- Part 1: https://www.youtube.com/watch?v=9eBJQ-bajns What is corn in?
- Part 2: https://www.youtube.com/watch?v=m5bAfPsUAb8 Can you imagine avoiding corn?
- Part 3: https://www.youtube.com/watch?v=J2vARSdg7bw What is modern farming like?

Notes:

Per Capita Consumption of Caloric Sweeteners vs. Obesity & Diabetes



'The early 1800s brought boom times for U.S. farms: Pioneers moving west were snatching up new farmland and growing so much corn they hardly knew what to do with it. For one thing, they made whiskey — and lots of it — because it added value to cheap corn, and it was easy to transport and store. As a result, the average American man in the 1820s drank FIVE GALLONS of hard liquor a year (compared to less than a gallon today) with the attendant health and social problems you might expect.'²

In 1933, the federal government passed the first *U.S. Farm Bill*. It helped American family farmers during the Great Depression deal with crop and market uncertainty. Excess crop led to unsustainably low market prices. Thus, the New Deal allowed farmers to receive payments for not growing food on a portion of their land as determined by the U.S. Secretary of Agriculture. This bill is renewed every five years, roughly. It bundles together agricultural policy and supplemental nutrition assistance policy (SNAP) for poor families.

In 1996, 'Congress... pushed through several new farm programs, including the now-controversial direct payments, which are pretty much what they sound like. Regardless of market conditions, the government writes grain farmers support checks; the amount of the subsidy is based on farmers' historical yields and acreage (from the 1980s). The idea was that government would no longer link eligibility for subsidies to planting certain crops, but would still help support farmers suffering from low prices in the late 90s.'³

'Since 1995 [to 2014], 75 percent of federal subsidies have gone to 10 percent of farms, the same consolidated group of commodity crop growers who will continue to eat up a disproportionate share of the subsidy pie under the new system, too.'4



² Amelia Urry, 'Our Crazy Farm Subsidies, Explained,' Grist, April 20, 2015, emphasis hers

³ Kathleen Masterson, 'The Farm Bill: From Charitable Start To Prime Budget Target,' National Public Radio, September 26, 2011

⁴ Amelia Urry, 'Our Crazy Farm Subsidies, Explained,' Grist, April 20, 2015

Nat'l Corn Growers' Association

'Ethanol is a powerful force in realizing a reduction in our dependence on crude oil. Thanks to ethanol, plant-based biofuel is the fastest-growing renewable energy technology. The U.S. Department of Energy estimates for everyone billion gallons of ethanol produced, 10,000 to 20,000 jobs are added to our domestic economy.'5

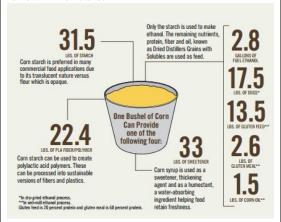
'Ethanol reduces greenhouse gas emissions by nearly 50% in comparison to gasoline. Global ethanol production and use is estimated to reduce these emissions by 110 million metric tons, according to energy experts. This is the equivalent of taking more than 20 million vehicles off the road.'6

Other Scientists, Critics

Ethanol is indeed a great alternative to oil, but only when done right. The energy it currently takes to produce a gallon of corn ethanol is greater than the energy that the gallon contains. If the U.S. wants clean, efficient ethanol as an alternative to oil, here's an idea: remove the tariffs on Brazilian ethanol so we have a cheaper way of getting the product while we transition to better ways of producing it. In fact, let's use the Brazilian model of producing ethanol; the country runs more than half of its vehicles on pure, 100% ethanol fuel, and their way of producing it is over seven times more efficient than the American way. That's because they produce ethanol from sugar cane, not corn. The sugar cane in Brazil is processed several times: the prime stuff is used to make high quality alcohol for consumption; the OK stuff is used to make lots of sugar; and the "junk" is used to make ethanol. With enough investment and research, the U.S. could eventually maintain a similar system where at least part of the ethanol we use would come from an economically feasible system.'⁷

'Pollution from corn farming is a leading cause of water quality problems in the Upper Mississippi River watershed, polluting drinking water in agricultural areas and degrading rivers and lakes, while also expanding the Gulf of Mexico's "dead zone" (a large area deprived of oxygen).'8

'America's corn farmers showed exactly how amazing the world of maize can be. Their ability to consistently deliver an abundant, sustainable crop offers an incredible array of opportunities to the world. From fueling cars to filling grocery carts, farmers improve the everyday life of their fellow Americans.'9



'Has it occurred to you that the food freedoms we so long to protect may be something quite different? What happens if we are actually NOT free to choose at all, if in fact the freedom we believe we are protecting is simply the defense of a gripping addiction? Suddenly, the argument changes. Should we protect the right to choose something that is, in fact, not freely chosen? An increasingly significant line of research confirms the fact that sugar and the things that become sugar after digestion (i.e. grains and starchy carbs) are addictive. In a recent segment on 60 Minutes, Dr. Sanjay Gupta subjected himself to an MRI while sipping Coca Cola. The MRI shows an immediate hit to the brain's pleasure centers, the very areas which are stimulated by drugs. Animal behaviorists confirm the fact that animals will choose to overconsume pleasurable substances both in the lab and in the wild... Our world has started looking a lot like a lab in which we are drenched in a bath of addictive foods and observed by those who create them. The foods are then tweaked to provide further 'irresistibility.' It is the 'right to choose' these foods that we fight for. Is it really a choice? Is free will really involved?'10 [Are subsidies and the system we've built around corn also 'addictive? 'l

⁵ National Corn Growers' Association, World of Corn (2013), p.15 and also World of Corn (2016), p.8

⁶ National Corn Growers' Association, Ethanol Facts (2016)

⁷ Pedro R. Silva, 'Corn Subsidies Make Me Sick (and Fat),' *Inquiries Journal: Social Studies, Arts, and Humanities*, 2010 Volume 2, Number 11; http://www.inquiriesjournal.com/articles/314/corn-subsidies-make-me-sick-and-fat

⁸ Union of Concerned Scientists, The Energy-Water Collision: Corn Ethanol's Threat to Water Resources, October 2011

⁹ National Corn Growers' Association, World of Corn (2013)

¹⁰ Barbara Berkeley, M.D., 'Mayor Bloomberg's War vs. The Answer To Eat Whatever,' *Refuse to Regain*, June 14, 2012; http://www.refusetoregain.com/2012/06/mayor-bloombergs-war-vs-the-freedom-to-eat-whatever.html

Part 2: Did the God of the Bible Intend a Basic Level of Health?

A Comparative Look at Medical Knowledge

'To prevent the hair from turning gray, anoint it with the blood of a black calf which has been boiled in oil, or with the fat of a rattlesnake.' (*Papyrus Ebers*, Egypt 1552 B.C.) 'Several hundred remedies for disease are advised in the *Papyrus Ebers*. The drugs include 'lizards' blood, swines' teeth, putrid meat, stinking fat, moisture from pigs' ears, milk goose grease, asses' hoofs, animal fats from various sources, excreta from animals, including human beings, donkeys, antelopes, dogs, cats, and even flies.'¹¹

'About the time this medical book was written, Moses was born in Egypt... There is little doubt that he was well acquainted with the medical knowledge of his time [including that within] the *Papyrus Ebers*... God proceeded to give Moses a number of commandments [e.g. quarantining people with leprosy for further care (Lev.13); washing hands after touching a dead body (Num.19:11 – 21); and separating all human waste from living quarters (Dt.23:13 – 15)]... Because these divinely given medical directions were altogether different from those in the *Papyrus Ebers*, God surely was not copying from the medical authorities of the day... [Moses] did not incorporate a single current medical misconception into the inspired instructions.'12

Historical and Cultural Background

Biblical Israel traces its origin as a formal nation to a moment when their God delivered them from Egypt.
 This is described in the book of Exodus.

Health from an Economic Perspective: Our Relation to Land

'After thirty years on the throne, the pharaoh [of Egypt] celebrated a jubilee intended magically to rejuvenate the divine yet vulnerable monarch...'13

'Why does the use of religion to support a social gospel... which require[s] authoritarians... go unchallenged? Forced redistribution of wealth has nothing to do with the teachings of the world's great religions.' (Ron Paul)¹⁴

¹⁰ You shall thus consecrate the fiftieth year and proclaim a release through the land to all its inhabitants. It shall be a jubilee for you, and each of you shall return to his own property, and each of you shall return to his family... ¹³On this year of jubilee each of you shall return to his own property... ²³ The land, moreover, shall not be sold permanently, for the land is Mine; for you are but aliens and sojourners with Me... [Regarding land sale:] ²⁵ If a fellow countryman of yours becomes so poor he has to sell part of his property, then his nearest kinsman is to come and buy back what his relative has sold...²⁸But if he [or his kinsman] has not found sufficient means to get it back for himself, then what he has sold shall remain in the hands of its purchaser until the year of jubilee; but at the jubilee it shall revert, that he may return to his property... [Regarding indentured service:] 39 If a countryman of yours becomes so poor with regard to you that he sells himself to you, you shall not subject him to a slave's service... ⁵⁴ Even if he is not redeemed by these means [his relatives pay his debt], he shall still go out in the year of jubilee, he and his sons with him. ⁵⁵ For the sons of Israel are My servants; they are My servants whom I brought out from the land of Egypt. I am the LORD your God. (Leviticus 25 selections)

Historical and Cultural Background

• Israel celebrated a 'jubilee' which was based on the story of Adam and Eve given the original Garden of Eden by a good God. If humanity had not fallen into corruption, all descendants of Adam and Eve would have inherited their portions of the beautiful garden land. Note that there were other forms of wealth, like livestock, clothing, equipment, pottery, jewelry, and coins.

¹¹ S.I. McMillen, M.D., None of These Diseases (Minneapolis, MN: Pyramid Publications, 1972), p.9

¹² McMillen, 1972, p.9 – 10

¹³ In ancient Egypt, the pharaoh celebrated a 'jubilee' as well. This description of an ancient limestone with hieroglyphic carving comes from the NY Metropolitan Museum of Art, *Scenes from a King's Thirty Year Jubilee*, Dynasty 4, probably the reign of Snefru (ca. 2575 – 2551 B.C.)

¹⁴ Senator Ron Paul, *C-Span* (November 14, 2012); http://www.c-spanvideo.org/program/HouseSession5365 (see 2hr:28min mark)

Discussion Questions

- What strikes you by comparing the Egyptian medical practices to Israel's? Or Egypt's pharaoh's jubilee to Israel's jubilee?
- Given that land is fundamental for nutrition, health, and sense of place, do you think the God portrayed in the Bible intended a basic level of health for the Israelites?
- Taking libertarian-leaning Senator Ron Paul as an example of someone who cares about modern 'property rights,' compare 'property rights' to Israel's jubilee. Is the jubilee 'fair'?

Health from a Legal Perspective: Is the Goal of Law Retribution or Restoration?

broken. ¹⁹⁸ If a man has broken another man's limb, his own shall be broken. ¹⁹⁸ If a man has destroyed an eye or a limb of *a poor man*, he shall pay one maneh of silver. ¹⁹⁹ If a man has destroyed an eye or a limb of *the servant* of another man, he shall pay one-half of a mina. ²⁰⁰ If a man has made the tooth of another to fall out, one of his own teeth shall be knocked out. ²⁰¹ If the tooth be that of *a poor man*, he shall pay one-third of a maneh of silver. (Code of Hammurabi)

¹⁸ If men have a quarrel and one strikes the other with a stone or with his fist, and he does not die but remains in bed, ¹⁹ if he gets up and walks around outside on his staff, then he who struck him shall go unpunished; he shall only pay for his loss of time, and shall take care of him until he is completely healed. (Exodus 21:18 – 19)

Discussion Questions

- The goal of the law from Exodus 21:18 19 is restoration of full health and restoration of relationship. How does that compare to the Code of Hammurabi? If corporations are people, should corporations have to restore the damage they inflict on people's health?
- When we place this vision of economic health and physical health alongside the modern problem of corn allergies, where some people seem to be vulnerable to other people's source of profit (and addictions), what actions do you think we should take?

Action Steps

• If possible, try not to eat corn related food products for 2 weeks. See how difficult it is for people with corn allergy.

- Use social media to get your friends and family to stop drinking soda and anything else with HFCS.
- Write your Congressperson and Senator to ban HFCS.
- Write your Congressperson and Senator to reduce the subsidies in the U.S. Farm Bill. The latest version of the U.S. Farm Bill was passed in 2014 and is called the Agricultural Act of 2014. It's encouraging:

'Within the [2014] bill is a significant shift... reflecting a decade of changing eating habits and cultural dispositions among American consumers. Organic farmers, fruit growers and hemp producers all did well in the new bill. An emphasis on locally grown, healthful foods appeals to a broad base of their constituents, members of both major parties said. While traditional commodities subsidies were cut by more than 30 percent to \$23 billion over 10 years, funding for fruits and vegetables and organic programs increased by more than 50 percent over the same period, to about \$3 billion. Fruit and vegetable farmers, who have been largely shut out of the crop insurance programs that grain and other farmers have enjoyed for decades, now have far greater access. Other programs for those crops were increased by 55 percent from the 2008 bill, which expired last year, and block grants for their marketing programs grew exponentially. In addition, money to help growers make the transition from conventional to organic farming rose to \$57.5 million from \$22 million... Programs that help food stamp recipients pay for fruits and vegetables — to get healthy food into neighborhoods that have few grocery stores and to get schools to grow their own food — all received large bumps in the bill.'15

¹⁵ Jennifer Steinhauer, 'Farm Bill Reflects Shifting American Menu and a Senator's Persistent Tilling,' *New York Times*, March 8, 2014 also notes, 'Over all, healthy food has become more politically popular because of efforts to combat childhood obesity and diabetes and a growing national interest in the farm-to-table movement promoted by the first lady, Michelle Obama, and other national figures.'

- You can read about it on Wikipedia. You would think it'd be easy to change. Republicans don't like to subsidize the market. Democrats don't like to give wealthy corporations tax breaks and benefits. But it's very difficult to change.
- Here is a sample letter: http://www.povertyusa.org/we-can-make-a-difference/policies-that-help/sample-letter-take-action-on-the-farm-bill/. Note that it is part of a Catholic initiative, informed by the Catholic social teaching about social justice. You can take that out if it's not relevant to you.
 - The key paragraph is: 'Redirect subsidies to small and medium-sized farms, especially minority-owned farms and ranches that truly need assistance. The Senate proposal to reduce direct payments is a positive step in decreasing unneeded subsidies. Savings from reductions in subsidies and direct payments should be used to fund and support domestic nutrition programs such as SNAP (formerly Food Stamps) and international food assistance programs such as Title II.'
 - If you are so bold, do more research and press for specific reductions in direct payments. Switching back from direct payments to crop insurance seems fair to me. It balances the farmers' interest in a stable income (diminishing the impact of oversupplying food to the market, or crop diseases, bad weather, etc.), and society's interest in a stable food supply.

Leader's Notes

Part 1: Corn Allergies and Corn Profitability

- 1. Discussion: Corn Allergies (pages 1-2).
 - a. Just get people's responses. Most people will be surprised.
 - b. If people jump to the question of what is fair, or what should we do to protect those with corn allergies, ask them to hold on to that question. We'll address it later.
- 2. Discussion: What is corn?
 - a. Corn is a legume. It's in the same category as beans.
 - b. Corn is not digestible by us. You can sometimes see corn pieces in the toilet after you go!
 - c. Corn is called an anti-nutrient, because it actually absorbs some things that you eat, and takes those nutrients with it, as it passes through your body.
 - d. Corn was soaked in lime water by Native Americans so they could digest it and get some nutrients. But when Europeans took corn back to Europe, they became malnourished.
 - e. Corn gets really high yields and grows in a variety of climates and soils. So it's popular.
- 3. (optional) Discussion: 'Conversation with King Corn Filmmaker'
 - a. Part 1: What is corn in?
 - i. Everything!! And we keep discovering more things to do with corn!
 - ii. We eat and drink too much of it. The American Heart Association recommends only 6 teaspoons a day for women, and 9 for men. The current average in America is 22 teaspoons a day. Much of that is HFCS in our food. For example, the movie Supersize Me, about McDonalds, shows that if you eat a lot of McDonalds, you'll start craving it more and more. If you stop, you get withdrawal symptoms. That's a sign of addiction.
 - iii. Also, making high fructose corn syrup involves mercury. So there are trace amounts of mercury in HFCS drinks. ¹⁶ That causes brain and liver damage.
 - b. Part 2: Can you imagine avoiding corn?
 - i. How easy do you think it is to avoid corn products? That might be one of the challenges this week.
 - c. Part 3: What is modern farming like?
 - i. How widespread do you think this particular farmer's attitude is? How many other farmers want to return to producing healthy food?
 - ii. The pesticides used especially in corn are hurting us through our water. 'A key indicator of today's pesticide pollution epidemic lies underground, in the hidden waters that ultimately percolate up into rivers, lakes, and wells. Groundwater is the source of 50 percent of America's drinking water, and it is intimately interconnected with surface water. Since the late 1970s, studies have found more than 139 different pesticide residues in groundwater in the US, most frequently in corn- and soybean-growing regions. One study of a Nebraska aquifer found numerous pesticides at "lifetime health advisory" levels. All of the samples contained atrazine, the most commonly-used pesticide applied to America's cornfields. In Iowa, toxic chemicals are found in roughly half of the groundwater.' 17
- 4. Discuss: A Comparison of Perspectives

⁶ Mark Hyman M D 'Why You Should

¹⁶ Mark Hyman, M.D., 'Why You Should Never Eat High Fructose Corn Syrup,' *Huffington Post*, November 12, 2013 says, 'In recent history, we've gone from 20 teaspoons of sugar per person per year to about 150 pounds of sugar per person per year. That's a half pound a day for every man, woman, and child in America. The average 20-ounce soda contains 15 teaspoons of sugar, all of it high fructose corn syrup. And when you eat sugar in those doses, it becomes a toxin. As part of the chemical process used to make high fructose corn syrup, the glucose and fructose — which are naturally bound together — become separated. This allows the fructose to mainline directly into your liver, which turns on a factory of fat production in your liver called lipogenesis... Beside the ginormous load of pure fructose and sugar found in HCFS, as an added bonus, it contains other chemical toxins. Chemical contaminants used during manufacturing end up in the HFCS and in our food. What we know, for example, is that chloralkali is used in making high fructose corn syrup. Chloralkai contains mercury. And there are trace amounts of mercury found in high fructose corn syrup-containing beverages. Now, it may not be a problem if we eat this occasionally, but the average person in the country consumes more than 20 teaspoons a day of high fructose corn syrup and the average teenager has 34 teaspoons a day. Over time, these heavy metals can accumulate in the body, causing health problems. Additionally, when we look at the chemical components of high fructose corn syrup on a spectrograph, we can see that it contains many weird chemicals that we know nothing about. That's why I say better safe than sorry.' (boldface mine)

¹⁷ Christopher D. Cook, 'The Spraying of America,' Earth Island Journal, adapted from his book Diet for a Dead Planet: How the Food Industry is Killing Us (2004)

- a. Notice that scientists are studying corn to make more uses out of corn. So it's not a situation of demand driving supply, which is what economics says happens. We oversupply corn. Then we figure out what to do with it.
- b. Back in the 1800's, that's why we had alcoholism with hard liquors made of corn.
- c. Now, that's why we've put HFCS in so many foods. Even though no one wanted it. But since it's addictive, people come back for more. Remember what Dr. Robert Lustig said about processed food companies and fast food companies stock prices did?
- 5. What is the environmental impact of growing so much corn?
 - a. Corn pesticides are the leading source of nitrogen: 'Corn is the leading source of nitrogen pollution, and corn ethanol accounts for the vast majority of the growth in corn production over the last 10 years.' 18
 - b. Corn isn't even a good source of ethanol. If we wanted a cleaner, more energy-efficient source of ethanol for cars, we'd grow cane sugar. Not only that: Ethanol, an alcohol, is not even good for car parts. It causes corrosion in car engines.
 - c. The National Corn Growers' Association is pleased that, 'In addition to fuel, more plastics are being produced with sustainable resources like corn. This will reap great dividends in the future because nearly 10 percent of the world's oil consumption is used to make plastics.' But plastic is actually horrible for us and the planet. We will look at the problem with plastic in the next session.
- 6. Is corn good for cows, chicken, and pigs?
 - a. Not really. We need to cut back on eating meat, since Americans on average eat three times the protein that we need. We'll look at meat two sessions from now, in Session Four of this curriculum.
 - FYI on chicken: 'Corn feed provides more than enough calories, which causes the inactive chickens to bulk up quickly, but it's too low in fatty acids and certain amino acids, vitamins and minerals for chickens to thrive. Consequently, extra vitamins, minerals and amino acids are added to corn feed so that chickens can develop properly, lay eggs and mount an immune response against diseases. Still, corn-fed chickens need antibiotics and hormones in order to thwart infection and grow quickly. In general, grain-fed chicken meat is lower in omega-3 fatty acids, conjugated linoleic acid, magnesium, calcium and potassium compared with free-range chicken meat. Feeding chickens primarily corn produces an imbalance of omega-3 fats to omega-6 fats in their eggs. Healthy ratios should be between 1:2 and 1:4, but corn-fed chicken eggs have a ratio of up to 1:20. Omega-3 fats are important for cardiovascular health because they reduce inflammatory reactions, but too many omega-6 fats negate their benefit. Additionally, free-range eggs are often higher in vitamin E and beta-carotene. Corn-fed chickens are also more susceptible to being contaminated with grain pesticides, which can build-up in the fatty tissues of animals. Genetically engineered corn is commonly used in chicken feed, but any long-term health effects of eating animals raised on GMO grain are unknown. Because corn-fed chickens are typically raised in CAFOs, they are given large amounts of antibiotics to reduce infection rates, which may affect their meat and eggs in ways that are currently not understood.'19
 - c. FYI on beef: 'Grass-fed beef contains about twice as much [Conjugated Linoleic Acid] as grainfed [i.e. corn-fed] beef. This fatty acid is associated with reduced body fat and some other beneficial effects.'20'A recent analysis from the Union of Concerned Scientists found that grass-fed steak has about twice as many omega-3s as a typical grain-fed steak. Another study published in March in Nutrition Journal backed up those numbers. Still, with 35 milligrams of heart-healthy fats per serving, grass-fed steak can't compete with a salmon dinner, which has about 1,100 milligrams. But it's a significant difference in omega-3s between grass-fed and corn-fed beef. (You can calculate the fat/protein or micronutrients of any food in your diet with this USDA tool.) And since grass-fed cattle are typically leaner, almost all cuts of grass-fed beef have less total fat than beef from corn-raised cattle. Of course, the breed of cattle leads to variation, too.'21

²⁰ Kris Gunnars, 'Grass-Fed vs Grain-Fed Beef – What's The Difference?', Authority Nutrition

¹⁸ Union of Concerned Scientists, *The Energy-Water Collision: Corn Ethanol's Threat to Water Resources*, October 2011

¹⁹ Sirah Dubois, 'The Disadvantages of Corn-Fed Chicken,' *Livestrong*, December 18, 2013

²¹ Allison Aubrey, 'The Truth About Grass Fed Beef,' *National Public Radio*, April 8, 2010; 'A random price check found Whole Foods selling a pound of grass-fed sirloin for \$9.99; Safeway was selling its corn-fed sirloin for \$7.99 a pound.'

d. FYI on pork: 'One of the common mistakes that some people make is to think they can just feed cheap corn to their pigs. Pigs will grow fast on corn and this deludes some people into thinking they are getting big pigs fast. The problem is that pigs fed only on corn really are just getting fat. Corn only contains 9 percent protein and 70 percent starch (that's why corn is used to make sugar and sweeteners). All of the extra starch in the pig's diet is stored as fat, especially for confined pigs that don't get adequate exercise. All that extra fat grows around the pig's internal organs leading to all kinds of health problems. Pigs need a balanced diet just like every animal. They need about 12 to 16 percent protein with the rest of their diet consisting of carbohydrates, fiber, minerals and amino acids. Most feed stores sell good pig feed that works as a feed supplement if they also have other, natural food.'22

Part 2: Did God Intend a Basic Level of Health?

- 7. Discussion: What strikes you by comparing the Egyptian medical practices to Israel's? How about Egypt's pharaoh's jubilee with Israel's jubilee?
 - a. The author of the book *None of These Diseases* was a medical doctor and Christian missionary. He originally published his book in 1963, writing from a medical anthropology standpoint. He was interested in why the Bible seemed to be way ahead of its time medically. It is an interesting book, still available on Amazon.com.
 - i. The Bible talked about quarantining people with leprosy or other infectious diseases (Leviticus 13); that's how Europeans finally beat leprosy and the plagues in the Middle Ages.
 - ii. The Bible commanded Israel to wash their hands with water after handling dead bodies or sick people (Leviticus 11:32; 14:8 9; Numbers 19:11 12), doctors washing hands between patients was only implemented in hospitals starting in Vienna in the mid-1800's by Dr. Ignaz Semmelweis, and as a public health measure by the New York State Department of Health in 1960.²³ Surprisingly, there was actually resistance to it, initially.
 - iii. Circumcision of men seems to have reduced instances of cervical cancer in women.
 - iv. Proper disposal of human feces, which the Bible commands, is really important for public health.
 - v. Avoiding certain animals in ancient times, like pigs, as in Jewish kosher laws, was probably very sound medical wisdom at the time because of animal diseases. Also, animals store toxins in their body fat, so not eating fatty animals was healthier. And so on.
 - b. Do you see the contrast between Egypt and Israel in the story of the Bible?
 - In a sense, you could say that God brought Israel out of Egypt to free them of the diseases
 of Egypt. The plagues on Egypt were representations of God being more powerful than
 Egypt's gods who were symbolized by the Nile, flies, frogs, cows, and other animals.
 The way Egyptians handled those animals and in some cases worshiped them as
 representations of the Egyptians gods led to sickness.
 - ii. Did God want Egypt to be sick, and Israel to be healthy? Well, it's not that God wanted Egypt to be sick. He actually encouraged all Egyptians and other ethnic minority groups to escape the rule of Pharaoh by leaving with Israel. That's when the text of Exodus refers to a 'mixed multitude' that left with Israel at Passover (Exodus 12:38). So Israel was a multi-ethnic faith who welcomed others. It shows that God really wanted health for all, but they had to choose in.
 - c. You can see that when you compare the Pharaoh's jubilee with Israel's jubilee. Pharaoh's jubilee serves Pharaoh alone. It kind of reminds me of Silicon Valley billionaire Peter Thiel wanting to get regular blood transfusions from young people, to keep him young. Kind of vampiric, and self-serving, but I guess he wants the technology to be more available, so maybe he's not that bad per se. But without question, the Egyptian jubilee served one person: the Pharaoh. By contrast, Israel's jubilee served all Israelite children and grandchildren. That's really important.

²² Brian Wright, Large Black Hog Association; http://largeblackhogassociation.org/can-i-raise-pigs/; last accessed August 6, 2016

²³ McMillen, 1972, p.14 – 16

- 8. Discussion: Given that land is fundamental for nutrition and physical health and even mental health (sense of place reduces anxiety), do you think the God portrayed in the Bible intended a basic level of health for the Israelites? How can you see that?
 - a. How do you explain Israel's jubilee being there? Parents typically care about their own children more than other children. Most cultures justify inequalities that children inherit. Notice how different Israel's vision of inheritance and land equality is. *I think this is one indication that there is a more than human mind at work here. There was a loving God involved here.*
 - b. Also, in modern economics, our future children have no say about how we use land and the environment because they don't exist yet. That is one reason why we have an environmental crisis. But in Israel's vision, parents stewarded the land and environment for their children. They did not own it; God did. And this was God's 'no child left behind policy.' Literally He reset the land property boundaries, because why should you be able to pass down unlimited advantage or disadvantage to your own children? What did they do to deserve it? Plus, God cared about all the children in Israel. So He reserved the right to press the jubilee button.
- 9. Discussion: Taking libertarian-leaning Senator Ron Paul as an example of someone who cares about modern 'property rights,' compare 'property rights' to Israel's jubilee? Is the jubilee 'fair'?
 - a. Well, what's your definition of 'fair'? Is it 'fair' to give massive advantages and disadvantages to children who didn't do anything to deserve it?
 - b. Property rights are important for livestock and other forms of wealth. But land is such a basic ingredient of human life, that God did not let Israel privatize it.
 - c. What about knowing that there is some work for you to do. This is a form of guaranteed employment, as long as you like farming.
 - d. What about having a meaning 'sense of place'? This quote from poet and writer Wendell Berry's gets at that: 'There are no unsacred places; there are only sacred places and desecrated places' (Wendell Berry, *Given*). 'Place' is geographic, referring to a place you have in the community. It's also historic, referring to the story of you and your family.
 - e. What about having a secure economic livelihood? It saves you lots of anxiety. Parents not having anxiety is excellent for children, in terms of mental health and emotional health.
 - f. What about green space and being connected to nature? We know that people need to be connected to green spaces. He didn't forbid towns and cities, but there seems to be a backdrop of farms. God seems to care about that.
 - g. What's in it for people who were more 'hard working' or just plain 'lucky'? They got to give pieces of the garden land back to their neighbors. In other words, they got to be like God. God gave Adam and Eve the garden land. You get to do the same. You get to see the joy on people's faces and the strength return to families.
- 10. Discussion: The goal of the law from Exodus 21:18 19 is restoration of full health and restoration of relationship. How does that compare to the Code of Hammurabi? If corporations are people, should corporations have to restore the damage they inflict on people's health?
 - a. In the Code of Hammurabi, what do you have to do if you injure someone? The Code of Hammurabi calls for a lesser payment if your victim is poor! Meaning poor people are less important than rich people when it comes to bodily harm. The Jewish law treats all people the same.
 - b. In Jewish law, what do you have to do if you injure someone? You have to help them get 100% well. You stick around. You help them do what they can't because of their injury. You're responsible until the damage is undone. Jewish law is about restoration and healing.
 - c. Did you think the Jewish law is about retribution? It's fascinating that the stereotype we have of the Jewish law ('Law of Moses') is that the central principle is 'an eye for an eye.' That principle is stated also in Exodus 21. But that example seems to be a rhetorical principle about how a victim should be compensated up to the limit of proportionality. In the two earliest places where it's appropriate for the victim to name a compensation instead of calling for physical damage being done to the offender's eye or tooth, Exodus 21:22 and 21:30, the Jewish law says that 'and eye for an eye' is the outer limit for payment. The rabbis said, 'What if the offender is already blind? It wouldn't really be a punishment!' Rabbinical opinion holds that 'an eye for an eye' is not retributive justice, but the outer limit for fair compensation.
 - d. If corporations are people, then they should have to restore the damage they inflict on people's health. If I punch you and knock out your teeth, I'm liable for all the dental work you need. If I

help make a company that makes toothpaste that causes your teeth to fall out while I make a profit, I'm liable for... what? The stocks I own. But I'm not liable for the damage I cause.

- 11. Discussion: When we place this vision of economic health and physical health alongside the modern problem of corn allergies, where some people seem to be vulnerable to other people's source of profit (and addictions), what actions do you think we should take?
 - a. It seems like the principle in the Bible is that everyone should have a baseline level of health.
 - b. We definitely need to factor in the fact that people may have different reactions. We can't make a corn-filled environment!!
 - c. See the action steps
- 12. (optional) Did Jesus continue to embrace these principles? All of them?
 - a. It's not easy to translate Leviticus 25 and Israel's land practices to the church, which is not a land-based community. But the church is based on the Lord's table. Luke structures his Gospel around ten meal scenes: Luke 5:27 35; 7:36 50; 9:10 17; 10:38 42; 11:37 54; 14:1 33; 15:1 32; 18:15 19:10; 22:14 20; 24:13 49. The number ten is significant because it represents new beginnings. Meal scenes are significant because they are a picture of eating in God's presence in the Garden of Eden. The idea is that Jesus is the host; we are the guests. When someone else asks for bread or food, who are we to say no if we have some? Who provides the food? That's why Paul talks about giving to the global church, not the local church, in 2 Corinthians 8 9.
 - b. Moreover, recall from the last session that Jesus insisted on transparency and full responsibility.
 - i. Explicitly, Jesus named the commandments for honoring parents (5) and against murder (6), adultery (7), stealing (8), and lying (9) along with the command to love your neighbor as yourself as commandments that he carried over (Mt.19:18 19). Implicitly, he seemed to be referring to the Ten Commandments as a whole, given the interaction he was having.
 - ii. Also, Jesus deepened the Jewish commandment against murder to a commandment against harbored bitterness (Mt.5:21 22). He made this warning about anger work both ways. If you harbor anger against someone because you feel they wronged you, you need to go to talk to that person and resolve it as best you can. But also, if you know or remember that someone else is angry at you, you need to go to talk to that person and resolve it as best you can (see also Mt.18:15 20). So there is absolutely no reason to think that Jesus would embrace taking only 'partial responsibility' for your actions. And no reason to think he would be for laws that permit people to do that.
 - iii. The rest of the New Testament, like the Old Testament, condemns stealing. For example, Paul condemns stealing in Ephesians 4:28 and commands that anyone stealing turn around and work and give to the needy (not just be self-sufficient). Theft via institutional injustice is condemned in Luke 3:7 14. The particular case of theft of persons, or slavery, is condemned in 1 Timothy 1:10 and Revelation 18:13, just as the Old Testament condemned forms of slavery beyond self-indenture or debt-repayment. Repaying a debt is commanded, lest neglecting it become a theft, in Romans 13:8 10.
 - iv. Note the quotes in the comparison in Session 1, Part 2. Christians in earlier times opposed limited liability, when the idea was raised, as being a pagan or non-Christian idea. So we have good historical precedent. Christians today have just gotten used to the way things are.
 - c. One can say that the law governing personal injury, requiring the offender to care for the victim until the victim is fully healed (Exodus 21:18 19) is derived from God's own commitment to care for humanity until humanity is fully healed, even though He was not the one who damaged or injured human beings in the first place. Even though Adam and Eve damaged the human nature in themselves and all their children, God committed to care for humanity until we are fully healed, by coming in the person of Jesus to heal human nature. So by calling people to care for others they injured until healing is sufficient to some degree, we are calling people to be like *God*.

²⁴ For a length explanation, see my paper, *Slavery in the Bible*, http://nagasawafamily.org/article-slavery-in-the-bible.pdf. For a short explanation, see my worksheet, *Slavery in the Bible Worksheet*, http://nagasawafamily.org/article-slavery-in-the-bible-pdf.