

I stand in the middle of a grocery store aisle, blue graham cracker box in hand. I've already perused the organic section of the store and balked at the price of a box of graham crackers made with trackable, non-GMO, pesticide- and insecticide-free ingredients. As much as I would like to buy organic, most of the time the prices make my head spin.

Instead, I trek back to the familiar blue-boxed grahams and sigh as, once again, I look at the list of ingredients and see "HIGH FRUCTOSE CORN SYRUP" written in large white capitals, hidden among the unpronounceables, hoping to slip by unseen. I've checked the brand and the off brand, but no luck. I squint at the box. Maybe if I check again, HFCS will disappear?

My cheesecake I was looking forward to making may have hit a snag.

On a whim, I reach to the lowest shelf and pick up the box of low-fat grahams, expecting very little. My experience in the past has been that items claiming to be low-fat or healthy (I'm looking at you, Special K) were rife with corn syrup. But my eyes slide over the list of ingredients and don't see the dreaded ingredient. I double-check to make sure I wasn't seeing things - or not seeing in this case.

The cheesecake is back on.

I grin like a fool in the middle of the grocery store, pull out my phone, snap a picture, and upload it to Facebook. Because, you know, everyone wants to know I found graham crackers that have corn syrup in it ingredients list.

But so has become my life.

I write a very unsuccessful blog, mostly read by family and friends, that meanders all over my life. I have read and heard time and time again that blogs should be specific and reach out to a niche market, but I have never been a big fan of that; they tend to become abandoned blogs once a project is finished. Abanblogs. I don't like the thought of an abandoned blog floating around in cyberspace. I've seen my fair share of blog graveyards, and as a reader, it's annoying. So my blog jumps from topic to topic, one day waxing eloquent about the benefits of hiking through a forest mid-October,

the next day chastising a local politician for a specific stance on a subject. There are common themes throughout, however, mostly revolving around photography, food, and social issues.

My blog of ten years has become a dumping ground for my corn-syrup free lifestyle, photos, recipes, my cats' shenanigans, memes, lists, and a lot more that my mother doesn't need to know about. It's seen me through a LiveJournal start, two domain names, and three host changes, not to mention a migration that caused a loss of about a year and a half's worth of entries (entirely my fault).

Of course avoiding corn syrup has been one of the primary focuses since I started the experiment back in May 2010. Recently I asked my blog readers to do an AMA (Ask Me Anything), and my sister Liz came back with a question that just bowled me over: "Would you consider writing a book about your devil's syrup free life?" (At this point, everyone who knew me was referring to corn syrup as devil's syrup.)

Would I!

After my initial thought of, "Why hadn't I thought of that!?" my mind raced over everything I would need to do to set forth on this type of endeavor; it seemed like the next logical step. I had done a bunch of research already, I was living it, plus I liked to write. On top of that, the three-year anniversary was coming up of my DS-free lifestyle change - I was an expert (sort of). It made complete sense!

Today is May 3, 2013. Three years ago today, I started a small experiment to see how difficult it actually would be to go from a carefree, buy anything and everything in grocery stores and restaurants lifestyle to one that eliminated all types of corn syrup. I planned on only dedicating a month to avoiding corn syrup, but after the month was up, I realized this was something I could continue. In fact, I wanted to continue. It wasn't that difficult, and I felt like I was making some sort of impact, however small it might be.

And that's all one person can do – one small thing that makes one small impact – but if everyone gives it a go, it can make a difference.

BDS (Before Devil's Syrup)

We watched as the mini-donut turner flipped the little pastries along their journey through grease, as the carney scooped them up, piping hot, into a little white bags, drizzle sugar and cinnamon into the bag and shake it. Then we would each get our own bag of donuts. Under the bug-infested blinking yellow lights of the mini-donut cart, we bit into our donuts, and they melted in our mouths, a wonderful mix of hot sugar and grease.

-Me, on eating mini-donuts at the county fair when I was young

I grew up on a Christmas tree farm in southeastern Minnesota. Every spring we planted rows of evergreen trees, parting the earth with shovels and placing tiny, wispy trees into the earth before moving on to the next hole. We watered, waited, and watched as the trees grew into themselves, then again watched as families drove up our gravel driveway some chilly December day to pick out their Christmas trees. After sawing down their chosen trees, they dragged them over the snow through the rows of waiting trees for us to measure and calculate cost.

When I was a little older, I helped out with the springtime shearing, which shaped the trees into more attractive tree-esque cones. After winter finally receded and those days of light and warmth that March teased us with became commonplace, the evergreens sprouted their new growth. The buds' transparent, flaky, brown jackets started to fall off and neon green shot through the dark green of the rest of the trees. The new growth of an evergreen is soft and silky compared to the rest of the tree, and I would often walk along the paths between trees pulling the crispy flakes to reveal the bright green underneath. It was time to pull out the loppers.

Even though we started early in the morning, the May days were hot when we were pruning the trees; after my dad, uncle, and I left the tree grove, sap covered our hands and arms, and more often than not I had a nasty sunburn. After pruning, planting the little pines was a piece of cake. Once the UPS truck drove up the gravel driveway with the boxes of saplings, we hung up our loppers and picked up the shovels. It wasn't easy work, but it was satisfying to work with the dirt - to say yes, I planted that; I am partly responsible for some green thing out there in the world that's growing. We always planted more trees in May than left the property in December.

This was just one part of my parents' spiritual and moral values of being stewards of the earth, and they taught their children well. Surrounded by acres of trees, my family recycled, separated our garbage into dry and compost ready, and reused a lot of things. Some of this was due to tight money, and some of this due to just being the type of people who reused things. When my mom bought Pepsi at the Red Owl Grocery Store, back when Pepsi still came in glass bottles, we would always bring the used bottles back to the store. There was a large metal bin just inside where you could set your rack of empties, glass clinking against glass, before you bought more Pepsi.

My family lived on the farm my dad's father had purchased in 1944, where we lived from 1979 to 1993. (The farm did stay in the family - we sold it to my cousins.) The house was the original house, falling apart at the seams as well as everywhere else. The kitchen tiles were so old, that a quarter of them were broken and missing from the floor. It was easy to sit on the floor and pick at pieces of tile. The kitchen was large, a real farmhouse kitchen with space for a hutch, woodstove, big kitchen table, fridge, and after a while a gas stove. It also was the place where we did most of our living. After suppertime, my dad would quiz my siblings and me on geography, referencing the

large, laminated map of the United States that hung on the wall. While our living quarters had definitely seen better days, I took pride in the fact that we were the only family I knew who had a complete encyclopedia.

In addition to the evergreens, we had acres and acres of wooded land full of oaks and maples, as well as a few apple trees. There was a large crabapple tree right outside the kitchen window that bloomed white, frilly flowers in the springtime that I would cut slips of to take to my teacher. It smelled delicious. There were also a couple baking apple trees as well as a few eating apple trees. When I was eight or nine years old, I went out to the baking apple tree, picked them, peeled them, and made a pie using the crust recipe on the back of my mom's pumpkin pie recipe card. My dad was home, so there was no fear of me starting the house on fire, but when my mom walked in the door that evening, she was completely flabbergasted. So started a love affair with baking.

When we moved in (I was a newborn), the farm had the house, a barn, and a garage on the property. The house was yellow, but early in my life I remember a platoon of painters (all friends, family, and acquaintances, I'm sure) setting up shop on scaffolding surrounding the house, and the house went from the flaking yellow to a barn red color that would define the house for years to come. Whenever my brother, eight years my junior, references that home, he calls it the red house.

We spent many hours playing in the barn, charging up its stairs to the hayloft that didn't have any hay in it, and playing house. I remember gathering nuts, grass, old vegetables from the garden, and sometimes dirt to pretend to cook – no doubt concocting something brilliant. The big white barn was built by my dad and grandfather, and it was a shock when I woke up one morning and saw the barn was

on fire – a raging, huge fire. Firetrucks rolled in the yard and started spraying down our house so the fire wouldn't spread. The barn and everything inside was lost, and a chunk of the large oak tree that defined our playtimes many days was toasted as well. I was devastated when I saw the barn burning, not because it was burning, but because I realized it was probably my fault; we always had candles lit in the hayloft because it was dark in there. I imagined a candle I had left lit burning down to its stub, then the flame licking along the old wooden dresser we sat them on, finally catching and causing complete disaster. I held onto this for years and years, and it was only in the last couple years that my sister and I (she felt as equally guilty) learned from our parents that the fire started in a completely different area than where we had our candles, and that it was most likely the cause of faulty wiring. We didn't rebuild the barn.

We heated the house with wood until 1984 and cooked on a wood-burning cookstove until 1987. I remember chilly nights in the kitchen lit with its single bare light bulb, watching my mom open the stove door where glowing orange embers of wood blazed. We were warm in the kitchen, but winter nights were cold, and my mom remembers more than once waking up the next morning to a frozen over glass of water on her bedstand. We spent winters with sleeping bags draped over our beds, and each morning we'd race downstairs, clothing in hand, to dress next to the heat registers or open oven in the kitchen.

During the winter, cooking on the woodstove was an automatic, my parents having cooked many holiday meals with it, my mom becoming a pro at modulating the heat for her pumpkin pies. My mom was famous for her pumpkin pies.

The night before Thanksgiving that was always my favorite time of the holiday. For the four pies that would ultimately come from the

oven, my mom would start with the pies after supper, pulling out canned pumpkin and canned evaporated milk. She gathered all the ingredients in the large stainless steel pot we had, the only thing big enough to hold all the ingredients.

After that, it was time for the crust, which was the best part. My siblings and I would gather around as we watched her mix flour, salt, Crisco and water, then helped get the pie plates, which I don't remember her buying and that she still uses, and swirled Crisco on the bottom and sides with a napkin, making circular patterns until we were told to stop.

Meanwhile, my uncle Squire always came to our house the night before Thanksgiving to make his contribution to the dinner: cranberry-orange sauce. Because he was a bachelor and didn't have a need for much kitchen gadgets, he didn't have a blender, a necessary accouterment for making cranberry-orange sauce. My dad, of course, was in the kitchen as well, inputting commentary when necessary and generally making fun of my mom and uncle. So there we were in the kitchen, my mom, dad, Squire, and one, two, three, or four kids.

The piece of laminate my mom rolled out her piecrust on, which I realized later in life was a remnant of countertop cut out for a sink, was hauled out by my dad and sprinkled liberally with flour. After cursing her dough and yelling at us to watch out while she flipped the crust from the surface to the plate, my mom let us have the leftover dough to roll out and play with. After begging to cook our mini-pie creations, mom made us toss our dough in the trash, and the pies slipped into the oven after the stove had been stoked and fired up to an appropriate temperature.

In the summertime, however, we pulled out our hunter green gas camping stove and set it up on top of the regular stove. It not only

saved my dad from chopping the wood needed to heat the stove but also the rest of us from a heatstroke in the middle of August.

The day we got our gas stove was an exciting one. I must have told everyone in school we were getting a new stove, yet I doubt few of them realized exactly how momentous an occasion this actually was. After the bus dropped my sister and me off and we rushed up the driveway, we stood in front of the almond-colored, shiny new kitchen thing and marveled at the instant flame that switching a knob could bring. No more chopping and hauling wood for the Wallaces.

Because money was tight while I was growing up, we rarely ate out. What I do remember of McDonald's or Hardee's involved aunts and uncles taking my siblings and me out for a treat. In gradeschool I was a huge fan of the Book-It program, which is no surprise since I had and have a love affair with reading. In the later grades, after a student had all her dots filled in and went beyond to extended dots, she got certificates for a free meal from Hardee's. My parents weren't going to take the family to Hardee's for a meal just because one person had a free meal, so on Friday nights, I went with my uncle Squire to get my free meal. We lived close to my dad's family, and it was always a fun time to spend Friday and sometimes Saturday nights with an aunt or uncle. Most times it was just one of us who got to spend the night, and because of this, I was able to finally use my free food vouchers.

Those few times when my family did do fast food, we overdid it. There was one night when my mom was on her way home from work while my dad picked us up from our babysitter's house. We stopped at Kentucky Fried Chicken on the way home – something we rarely did. When we stepped into the kitchen with the tub of fried chicken and bag of sides, there stood my mom at the kitchen table, unloading her

duplicate bag of fried chicken and sides. Just another wild night in the Wallace household.

My very early childhood was sugar free. My parents attest that I didn't have refined sugar until I was two years old, when my dad let the bank teller give me a sucker. We ate honey on our breakfast cereals, the ever-boring Grape Nuts Flakes, Cheerios, or Rice Krispies. I always stared starry-eyed at the chocolatey, sugary cereal boxes while my dad plunked the Grape Nuts Flakes in the cart. The only time I ate cereal like that while I was growing up was on visits to our grandparents' house – ten hours away! Mornings in my grandparents' kitchen were glamorous because their cupboard held the elusive cereals, including my favorite, Cocoa Pebbles. Alas, we could not live with our grandparents, so Grape Nuts Flakes it was. While we ate the boring stuff throughout the week, oatmeal was a treat on weekends because my dad stirred in some brown sugar and chocolate chips. It was like dessert for breakfast.

My dad was the cook in the household, just beginning with breakfast. He also made most suppers and lunches and did the household's general grocery shopping. My mom doesn't like cooking and generally stays away from it except on major holidays. Her theory these days is why cook when there is a perfectly nice pizza place down the road that can do it for you. While my parents had kids at home, most of the cooking was done in house, and even though the meals leaned toward the inexpensive, we were never hungry. There was always something good on the table, and my dad was a wizard with whatever was in the fridge. This led me to acquire some unusual tastes for a youngster.

I am three years old, and money is, as will be a recurring theme in my early years, not as freeflowing as my parents would like. But something has happened that warrants celebration, so my mom opens

a can of smoked oysters (a common treat in the Wallace household) for lunch, when the phone rings. She leaves the oysters and answers the phone, having a conversation. When she hangs up, she turns to the oysters, and there I am at the counter, standing on my stool, hand in the proverbial cookie jar. Half the oysters are in my stomach. I still like smoked oysters.

What does surprise me, thinking back to what we ate when I was a kid, is the amount of dessert items in the house. For a family who lined the cereal shelf with boring grains, the amount of ice cream we plowed through was amazing. This shouldn't surprise me now that I know how much my dad likes ice cream. He turns his nose up at pizza because it's full of "fatty cheese" but scoops bowls full of ice cream.

After school was always snack time, and some days this meant scoops of ice cream in a bowl sprinkled with cocoa powder that was then whipped until it was the consistency of soft serve. My sister Liz was a whiz at this, mostly because she had the patience to keep stirring while all I wanted was to shovel ice cream in my mouth. Other days this meant taking a piece of the sourdough bread my dad picked up at the local bakery and slathering a knife's worth of Solo poppyseed filling to the very edges of the bread (another Liz specialty). Then two hours later we ate supper. The very contradictions in this still don't make sense to me, especially when looking at food in the very real low-income setting we were living.

A few years ago I was hankering for some pork cutlets, which were one of my mom's specialties in the kitchen, so on my weekly grocery-shopping trip I found a package. I marveled at the price; they were cheap! I threw a couple packages in the cart. Then I realized that the cutlets, along with a few other mainstays growing up, were very cheap for a reason. We had Bisquick-made pancakes and spaghetti for supper quite often, both of which I don't eat a lot of now (or in the

case of Bisquik – never). When we had steak, my dad seared one steak and sliced it into thin strips so we all got two or three strips of steak along with our abundance of mashed potatoes and sautéed carrots and onions. Now when I visit my parents during the summertime and steak is on the menu, every person at the table gets her own steak. My parents spread the food money thin back then but were still able to provide us with a reasonable amount of unprocessed food.

Remiscing about my childhood with my siblings is always odd because we had different experiences. When I was 14, my mom found an awesome job, and we uprooted to a different part of the state. We were thrust from poverty into middle-class. My younger siblings at the time were ten, seven, and five. I remember a lot more about this part of our childhood than any of them do. A couple years ago, my sister Liz was exclaiming how awesome ice trays were, and why didn't we use them growing up? I had to do a double-take because that's ALL we used while we were living on the farm. Once we moved, my dad decided to go all out and start buying bagged ice, and that's all Liz remembered. I relayed the story to my dad, knowing he would get a kick out of it.

“A little poverty never hurt anyone,” he said.

As is everyone's experience, as I grew up, some things stuck with me and others flew out of my head. An awareness of the environment has been a stronghold in my life, but as for spreading food thin, that didn't. I latched onto the idea of dessert for after school snacks and ran with it. You could say I was an activist for the environment in the obvious respects while actively disregarding it in food respects. And while environmental reasons weren't the reason I started going CS-free, they constitute some of the reasons I remain CS-free.

I hardly considered myself an activist. Sure, I was firm in my environmental politics and researched anything that interested me so that if it came up in conversation I could say without a doubt that I knew what I was talking about. But I was more of a slacktivist.

Slacktivism, a term loved by online users, is a relatively new term, though it's old news by internet standards. It was coined in 1995 by Dwight Ozard and Fred Clark to shorten the term "slacker activism." Originally it had a positive connotation, but today, not so much. The official, Wikipedia definition:

*The word is usually considered a pejorative term that describes "feel-good" measures, in support of an issue or social cause, that have little or no practical effect other than to make the person doing it feel some amount of satisfaction. The acts tend to require minimal personal effort from the slacktivist. The underlying assumption being promoted by the term is that these low cost efforts substitute for more substantive actions rather than supplementing them.”*¹

Chances are you know some good slacktivists in your life – they are the people who post on Facebook during breast cancer awareness month something about purses hanging from their doorknobs or change their profile picture to their favorite cartoon character to show support for bullying awareness. Yes, awareness is good, but physically going out and doing something? Giving your time or money to a cause? Even better. That is activism.

¹ <http://en.wikipedia.org/wiki/Slacktivism> on May 5, 2013. Some studies have shown that slacktivists are more likely to actually take action on some items and have the potential to make others see the light, but, and why is there always a but, “Malcolm Gladwell, in his October 2010 New Yorker article,[16] lambasted those who compare social media ‘revolutions’ with actual activism that challenges the status quo ante. He argued that today's social media campaigns can't compare with activism that takes place on the ground.” There is something to be said for actually going out and doing something rather than talking about it.

However enthusiastic I was about the environment, ultimately I felt like I was a slacktivist. Sure, I still reduced-reused-recycled, I bought cloth bags so I didn't have to use plastic (and promptly forgot them every time I went shopping), and I replaced my light bulbs with CFLs when they came out. Almost everything Al Gore listed at the end of "An Inconvenient Truth" I had done. But yet I felt like a fraud. What else could I do? And why did I feel this need to do something more?

I have always looked to the future, above and beyond my lifetime. I get anxious thinking about the time when the sun will go Red Giant and the earth's time will end. When my friend Melissa and I were walking back from supper during our college years, she was telling me how the pinkie on our hands is shorter than the others because it will eventually be evolved out due to lack of use (whether or not this is actually true is irrelevant to the story). I got really reminiscent for my lost pinkie THAT WAS STILL ON MY HAND, and would be barring a major accident. It was around this time that Melissa found out how weird I really am. So when they say (the ubiquitous "they") that no one really cares for the environment because it won't be changed that drastically during our lifetimes - we are just doing it to feel superior - I beg to differ! I do care about the environment and what the earth will be like decades after I'm dead. I care about the earth winking out of existence in 5 billion years, for crying out loud. So when I say I want to do more, I really want to do more, not because it makes me feel superior (well, it does ease the conscience a bit).

Since I was seemingly maxed out on the generic saving the earth end of things, I started to focus on food. It started innocently enough: I read the books; I watched the documentaries: "Fast Food Nation", "In Defense of Food", "Super Size Me", "Food Inc.", etc. I would get

freakishly annoyed at the system and the stupidity of the grocery-shopping populace when reading or watching, yet the next day I went back to being the stupid grocery shopping populace. My regular eating habits included a lot of processed foods and fast food dining, which ultimately included a lot of corn syrup.

I drank a lot of regular Pepsi, which was like sweet, sweet nectar of the gods. After drinking Diet Pepsi all week, I bought a 2-liter for the weekend along with a bag of Trolli Britecrawlers: a nice, corn syrupy treat at the end of the workweek. Every Friday at work we went to McDonald's for lunch, where I ordered a burger and fries without thinking about it (but had the diet pop – thanks “Super Size Me”). Sometime during the weekend I normally made pancakes or French toast for breakfast and loaded on the cheap, fake maple syrup. If my husband, Nate, and I drove anywhere of any distance and stopped at a gas station, I would grab a twenty-ounce bottle of Pepsi and maybe a Milky Way candy bar if I was feeling like it.

At this point I'd like to point out that I do enjoy cooking and baking, as I am making it seem like I did nothing but pop Oreos hourly and pour Karo Syrup directly down my gullet on a weekly basis. A lot of what I made was healthy, and I did use whole ingredients quite a bit. When I made holiday pies, I used lard and butter crusts, not only because Crisco is kind of gross, but because it TASTES better. I regularly grilled steak and chicken, made potatoes, rice, fish, asparagus, summer squash – there was nothing I wouldn't try to cook, but my eating lifestyle was one I didn't even think about. If it looked good, I bought it despite the ingredients' list. For the most part.

A question was recently posited to me: how did I learn to cook? I didn't do a lot of cooking growing up, but I did a lot of baking, as is evidenced by the pie I cobbled together when I was eight. My dad did

most of the cooking, so we didn't want to interrupt the machine he became when wielding a frying pan cutting board. When I left the house and started having to make my own food, if I thought something looked good, I tried to make it. I watched a lot of food TV, where I learned techniques and tricks of the trade. But I'll tell you this: there is a lot to be said for being able to read and follow a recipe, especially in baking. When I started cooking for myself, a lot was experimentation, and it turned out I actually enjoyed it. I must have inherited my fondness for cooking from my dad, because I certainly didn't get it from my mother. I recently read a statistic that around thirty percent of adults still call their mothers for cooking advice. I laughed at this; my mom calls ME for cooking advice.

After Nate and I bought a house in 2008, we looked into buying a quarter cow, mostly for the cost savings, but also because I wanted to start veering away from mass-produced animal operations. This was a few years after I had read "Fast Food Nation", which had rattled me enough that my future plans included buying a chest freezer and procuring a quarter cow from the butcher. In "Fast Food Nation" Eric Schlosser describes CAFOs² and the living conditions of confined animals destined for the slaughterhouse. I have no problem eating meat; I will never be a vegetarian. But the description of animals packed in tight living quarters, eating food they weren't evolved to eat, while standing knee-deep in their own waste was an eye-opener for me. Fortunately, the time had come for the quarter cow to make its appearance.

A couple months after we had moved into our new home, my uncle Jon (my mom's brother) came to town to visit my grandma. Visits like this always prompted a huge family get together, as my

² CAFO – Concentrated Animal Feeding Operations.

mom is one of eight children. As it happens, I lived about six miles from my grandma's house, so I trekked on over to join those who had traveled an hour or more. It's always good to see family.

It was a nice September day, so we went for a walk, and I ended up talking to a couple aunts and my dad about the new house and what we had done to spruce it up since we'd moved in.

"Would you have any use for a chest freezer?" my aunt who lived about an hour from me asked. She and my uncle had a large one from the early 1980s that still worked, but they didn't need one that large anymore. I nearly yelped, I was so happy about this turn of events. Of course I would love a chest freezer! I immediately made plans to borrow my parents' brown Safari van to pick it up. The next weekend, Nate and I drove east to their house through a wannabe rainstorm that did nothing but produce rainbows and picked up the freezer.

Meanwhile, I had talked to a coworker who I knew raised cows for beef, and even though they fed them some grain, they were happy cows who frolicked through the pasture and ate grass most of the time. She and her husband had recently butchered, and I was able to get a quarter cow for a pretty decent price. Between the local purchase, the happy cow, and my happy pocketbook, I was moving in a good direction. We purchased a quarter cow each year for four years after that.

This was a year before I went corn-syrup free, and I still felt like a fraud. Yeah, you're wondering, "What? You just bought a quarter cow locally, and you still felt like a fraud?" While my intentions may have appeared pure, the major reason I wanted that quarter cow was financial. The fact that it was a local purchase of a happy cow was secondary to me – a good one – but nonetheless, not the primary reason I bought the beef.

So there I was sitting on my pretentious butt with my quarter cow, cloth bags (that I still forgot when I shopped), recycling bins, and my tiny garden in my backyard, not to mention my cat in the house which I had taken in as a stray, wallowing in my existential crisis wondering what else I could do to save the world.

Which I then followed up by taking a swig of Pepsi and downing some gummy bears.

I admired those who could move into recycled homes made from old tractor trailers or hay bales and live off the grid. Financially, solar panels and geothermal heat were nowhere in my near future. I lived in a flyover state with a lack of practical mass transportation, so a car was a must. I really enjoy long, hot baths and showers, so my water heater was going nowhere. Nate was a gamer and I worked with digital photography quite a bit, so there was no getting around large computer monitors and fast internet.

I liked my creature comforts. So I did what I could while being a comfortable creature. Perhaps that's the reason I felt like a fraud: there was a lot more I could cut out but didn't want to. Did I have to feel uncomfortable to make it feel like I was making some sort of difference? Was there something real about Catholic guilt – the religion I grew up with - that made me feel like life had to be a continuous penance? Maybe my subconscious will enlighten me someday, but for this moment, it would soon have some relief.

Finally, something got to me.

Sudden Clarity Kate

“So that’s us: processed corn, walking.”

-Michael Pollan

After all the documentaries I’d watched and books I’d read, it had only taken one to finally get under my skin enough to take some sort of action in my personal life.

The night started innocently enough. It was a weekend, so I’m sure I had a glass of Pepsi on my end table as I surfed through Netflix for something to watch. Nate and I had cut our cable years ago, relying on our internet connection, Netflix, and a sketchy antenna for the basic channels. This was beneficial in more than one way: it saved me a bunch of money and I did a lot less mindless TV watching. On the other hand, I have been known to spend up to an hour browsing through Netflix trying to figure out what I want to watch. Ultimately, cutting the cable isn’t that difficult. I watched the entire series of “Lost” over the internet, pulling up each episode through my browser the day after it aired. When Netflix finally offered a streaming option over the Playstation 3, it opened up a whole new level of screen entertainment. I added to my Netflix queue on a regular basis: documentaries, PBS shows, movies I wasn’t allowed to watch when I was young, and TV shows I’d been meaning to get around to watching, clogging it up and slowly working through it.

At this point I had watched quite a chunk of documentaries screaming about the bad eating habits of Americans. Most of them wanted me to go vegetarian or vegan, waxing eloquent the health benefits of cutting meat; others told me juicing was the way to go. As much veggie literature I ingested, it just didn’t work: as I said before, that just wasn’t happening. While I curled up on my lumpy, brown,

secondhand couch and watched how my bad habits were perpetuating the system, both this country's and my digestive, Nate was a mere ten feet away playing video games. Our family room had gone through a transformation the summer before; we knocked out a bedroom to open up the oddly constructed family room. Now the office and TV were technically in the same L-shaped room, which meant that Nate ended up half listening to all I watched.

"I have one for you to watch," he said that night as I flipped through my queue. He leaned back in his chair to see me better as I lazed on the couch and took off his headphones. "I was reading a thread on Reddit, and you need to watch 'King Corn'."

"Is it like 'Food Inc.'?" I had watched that a few months before, and even that hadn't moved me.

"Supposed to be better." He turned back to his game and put his headphones back on.

"Huh." I continued to flip, then did a search for "King Corn". There it was. I settled in and pushed play. Little did I know I was about to flip a switch in my life.

"King Corn" follows two friends, Ian Cheney and Curt Ellis, both of whom have ancestors from the same county in Iowa, as they go back to their roots to grow an acre of corn. They borrow an acre of farmland from a farmer in their ancestral county in Iowa, use the same conventional growing process as most other Iowa farmers, and then try to follow their acre of corn into the food system. Sounds pretty innocent, right?

Well, they start off with a bang by telling us the carbon in corn is uniquely detectable in our bodies after it's been processed, which means researchers can check to see how much corn is in our bodies' systems. Turns out it's a lot. The Mexicans are called the People of the Corn, but they have less corn in their systems than Americans do.

While Mexicans tend to use whole corn in their diets, Americans eat mostly the byproducts of field corn. Corn is in a lot of what we eat, whether we think we're eating corn or not.

At this point I was intrigued. I hadn't given the amount of corn I ate a second thought. Unfortunately, most of the corn we eat is not what we think of as corn. We eat all these byproducts, but they all start out the same: a strain of corn called Yellow Dent, also known as field corn, grown in many fields in the US, which isn't very edible at all.

I remember wading out through the tall corn stalks on the farmland we owned and rented to farmers as the corn matured over the summertime. Once the stalks grew over our heads, my siblings and I were always warned to not go out into the field because we would get lost. (Thinking about this later in life, I'm not sure how one would get THAT lost in a field of corn. If you get out there, wouldn't you just be able to follow the straight lines until you get to one of the edges of the crop?) While we stayed out of the field, we did like to mess around on the fringes of the field, running up and down the edge and whacking our hands on the leaves, and we definitely picked more than one ear of corn. And ate it. Let me tell you: this is NOT sweet corn.

Yellow Dent is the main strain of corn that is planted in the fields throughout the Midwest. Corn was originally cultivated in Mexico but slowly made its way northward; the New England Indians were more than likely growing it by 1000 BC (more than enough time for it to be established by the time the Pilgrims sailed over). Corn itself is pretty adaptable – its genetics are hardy and able to conform to new conditions, so it's easy to grow in almost any climate in North America. With the help of farmers, corn has evolved easily to not only endure, but to provide a lot of food.

Corn is technically a grass, and not a very good one at that – it’s a mutated form of grass. Without the help of farmers, it would die out pretty quickly. Luckily for corn, it’s become such a huge commodity in this country that the likelihood of that happening anytime soon is pretty slim. Between farmers, agriculture companies, and itself, corn has adapted to the machines that plant and harvest it by having thicker stalks and root systems, increased its yield by huge amounts by evolving to grow very close to each other, and adapted to synthetic fertilizers and chemicals. Compared to its ancestors, Yellow Dent is an entirely different plant, easily manipulated to conform to current farming and food needs.

Our two boys in “King Corn” continue their journey to Iowa, buy their Round-up Ready genetically modified corn, fertilize the ground with anhydrous ammonia, and plant their acre – 31,000 kernels of corn – in eighteen minutes. From their one acre of planted corn, they plan to harvest five tons. Meanwhile, they make sure to sign up for their government subsidies, which keeps small farmers afloat.

Without subsidies, there would be even fewer small farmers than there are today. As it is, large industrial farms are snapping up small farms as the owners sell because they’re losing money or no one in the family wants to keep farming. Add in the detail that the 2008 farm bill eliminated subsidies for farms less than ten acres, and the smallest of the small farms are toast. (However, farmers planting less than ten acres of corn are probably not in it for the money.)

But let’s back up a bit here. Unless you live under a rock, you’ve probably at least heard of the farm bill. The farm subsidies we have today all started in the 1930s with the New Deal, a product of the Great Depression, a part of which was the Agricultural Adjustment Act. This paid farmers to leave parts of their fields fallow so as to raise the price of crops. Not coincidentally, this was also following the Dust

Bowl, when farmers had so over-farmed their fields that, when combined with drought, topsoil throughout the plains had turned to dust and literally blew away.

From the 30s to the 70s, this became a sort of safety net for farmers. When prices were good, farmers sold their harvest, but when they dropped below a government set price point, farmers had a choice. They could either sell the corn for the low price, further lowering the price of corn by flooding the market, or they could take out a government loan with the corn as a guarantee. Once prices were good again, the farmer could sell the corn and pay back the government or keep the loan and let the government keep the corn. The government, in turn, had a stockpile of corn called the “Ever-Normal Granary”.

The ENG kept prices relatively in check, but in 1972 the US sold 30 million tons of grain to Russia after the country endured several years of awful harvests. At the same time, weak harvests took over the US due to bad weather, and this created a huge demand for corn. Prices were at historic prices, and after a year, grocery shoppers were starting to feel it. In 1973, grocery prices had increased so much that there were protesters at local supermarkets. By this time, grain was also being used to feed beef cattle, so the price of beef went through the roof as well.

Enter one Earl Butz, Mr. “Get Big or Get Out.”

Butz encouraged farmers to plant from fencerow to fencerow and leave no part of their fields fallow. Not only that, he also was a fan of big farms and consolidation. Instead of a loan and the ENG, which kept grain out of poor markets, farmers were paid directly, and grain saturated the market. This “farm bill” has been pretty much held to the same standard for the past 40 years, and almost every farm bill has lowered the base price point of corn.

What does this mean? It means that farmers are selling all the corn they have and taxpayers are paying for the difference. From there, it's basic economics. The more corn farmers grow per acre, the more money they make, so agribusiness companies are constantly trying to increase yield. This means that more and more corn (supply) is out there with people who can only eat so much (demand). The more you have on the supply side (corn), the lower prices are going to be. The prices in your grocery store keep going up? Well, the real winners of this deal are the middle-men – your processors. They reap the benefits of cheap corn AND rising prices at the grocery store. The farmers don't make a lot of money; the real way for farmers to make more money is to plant more and more corn with better yields, which is why small farms are disappearing.

So how does the subsidy system work? It guarantees a price floor on a crop, and farmers are paid a predetermined amount of money on top of that - the subsidy - per bushel. For example only, say the price floor on corn is \$3.71/bushel and the subsidy is 52¢. The current price of corn is \$3.89/bushel. Farmer Example sells his corn for \$3.89 a bushel down at the elevator and then receives 52¢ a bushel from the government. If the price falls below \$3.71, farmers get paid the difference. So, if corn is selling for \$3.65, Farmer Example gets 58¢ from the government a bushel to make up for the difference in the price he got from the elevator and the price floor plus the subsidy. Farmer Example is guaranteed to get at least 52¢ for his bushel of corn.

When prices go below the price floor, things can get a little sticky. The Loan Deficiency Payment is the difference that is paid when prices are lower, and it's getting to the point where farmers are hoping for lower prices to cash in on government (taxpayer) cash. According

to a “Washington Post” article¹, a farmer named Richardson walked into the local USDA office and proved he owned and harvested a crop. He applied for the deficiency payment based on this only. Since Richardson was able to store his grain, he got his cake and ate it too. He got the LDP when prices were below the floor, waited for prices to go up, and then sold his corn for the higher price.

Now all this wasn't in “King Corn” – a lot of this I looked up after I had watched and decided to go on a corn syrup ban, but once I learned the general gist of how these subsidies worked, I was baffled. This was obviously a broken system, especially in a country that claims to be such a huge proponent of free markets, but to start to fix it would be a death wish for any politician. But let me tell you this: this subsidy system we have for farmers, in particular for large industrial farms that gobble up smaller farms, and the agribusinesses that profit from cheap corn are the primary reasons I decided to boycott corn syrup. After doing more research into how the farming industry strives for more and more corn and how it affects the environment, it was like throwing more coal on the fire for me. But while I was watching “King Corn” learning about the huge farms the government supports through the subsidy system, I didn't know exactly how I was going to do anything about his, although I knew I had to do something. Our intrepid farmers had yet to touch on CS while they shared the subsidy system with their viewers.

With that, back to our boys.

Once they harvested their crop, Cheney and Ellis thought they would attempt to track their corn to find out exactly what it was turned into, but it's virtually impossible, since corn from every

¹ <http://www.washingtonpost.com/wp-dyn/content/article/2006/07/02/AR2006070200691.html> “Growers Reap Benefits Even in Good Years” by Dan Morgan, Sarah Cohen and Gilbert Gaul, July 3, 2006.

farmer's field is mixed in with each other. In the early days of the US transport system, each bushel was transported in its own bag (and therefore trackable), but that got to be cumbersome, and it was eliminated once there was a set of standards for corn harvests.

Tracking corn may be difficult, but what do we know? Corn is cheap. There is a lot of it. Something has to be done with it. When there was a huge corn surplus in the 1820s, the excess grains were turned into corn whiskey, and the average American ended up drinking eight ounces of it a day. As history tends to repeat itself, you can imagine in the 70s when all this corn was suddenly overwhelming the market that it had to be used for something, and more and more processed food started to use corn as ingredients. Recently we've seen a lot corn go into ethanol. By the time "King Corn" was produced, thirty-two percent of corn went to ethanol and exports, fifty percent to animal feed, and eighteen percent to be processed into edible ingredients for human consumption – corn syrup.

Watch out – here comes some science. Corn syrup has been around for a while, made from corn's glucose molecules. Cornstarch by itself isn't sweet, but if it's processed with acids (sulfuric acid, even) and enzymes, it breaks up chains of glucose molecules and produces a sweet syrup. This syrup, however, is far less sweet than table sugar – there is no fructose in it. Table sugar (sucrose) is 50 percent each of fructose and glucose. In the 1960s, scientists found that by treating CS with an enzyme called glucose isomerase, some of the glucose in CS changes to fructose. Some HFCS is forty-two percent fructose and some is 55 percent – producers just blend the HFCS how they need it. These HFCS-producing enzymes were a one-time-use thing when they first made their appearance, so it was really spendy to make HFCS. But, in 1971, two Japanese scientists found a way to reuse the

enzymes, and that was history. A few years later, the food industry started replacing sugar with HFCS.

Why the sudden move to replace sugar? HFCS dissolves more easily, doesn't spoil as easily, prevents crystallization, and some product designers say it makes food softer and chewier. But above all, it is CHEAP. Part of that is due to the corn subsidies and the flood of corn in the market, and part of that is due to sugar being artificially expensive in the US compared to the rest of the world.

Watch out – here comes some history. When we acquired the Louisiana territory, farmers decided to start growing sugar cane, which was actually not a very good thing to be growing in the not-tropical continental US. So, the government made sure tariffs were imposed on imported sugar so as to not lower the value of slaves working on sugar plantation. (God forbid slave values got lower.)

Thus starts the big sugar debacle.

In the 1930s, sugar quotas were imposed as well as the tariffs and subsidies to sugar growers. By guaranteeing sugar prices for domestic producers and restricting the amount of sugar that is imported (currently about fifteen percent), sugar prices are kept artificially high in the US. The program sugar is using is very similar to the New Deal program for corn – the government will loan money to farmers using sugar as collateral and they can either pay it back or give up the product to the government.

This has continued to this day, with justification being that Congress is “protecting” the American people from high international sugar prices. If only that were true: throughout the past fifty years, in only two (two!) years has the international sugar price been higher than US prices – 1969 and 1973². And we're not talking a couple

² http://www.ers.usda.gov/data-products/sugar-and-sweeteners-yearbook-tables.aspx#UYxH5is_9Fp World and US raw sugar prices by fiscal year.

cents' difference here. While sugar sells for 22¢/lb. here in the US, it's 4.5¢/lb. worldwide³.

The practice of import quotas was abolished briefly in the 70s, but the Reagan administration re-imposed them to artificially create a shortage, drive up prices, and support American sugar growers.

Then, in 1984, something happened that would change everything: Coke and Pepsi announced they were switching to HFCS.

Five hundred thousand tons of sugar demand a year was suddenly gone. In 1985, there was an additional 20% cut in the sugar quotas.⁴

Of course there was a way around this: sugar smuggling. Companies would import items of high sugar content that got around the tariffs/quotas/government-micromanaging and would sift out the sugar, then sell it at US prices. It garnered a hefty profit, I would think. This was soon abolished with additional restrictions and regulations.

Not surprisingly, this restriction and subsidization inhibits other American businesses, such as American candy producers. The high price of sugar has cut nine thousand jobs since 1981 because sugar is so expensive. Brach Candy relocated its Chicago factory to Mexico because of sugar prices. Ten sugar refineries have closed. In an odd twist of events, soybean exports have decreased, especially from Minnesota, because the rent on farmland is so spendy in the Red River Valley where sugar beet growers plant, that soybean farmers (which are relatively unsubsidized) can't find land to grow soybeans. Other countries have limited their overall American imports, such as Brazil (a big sugar country) limiting the grain it imports. The Dominican

³ http://weber.ucsd.edu/~jlbroz/Courses/Lund/handouts/Sugar_Politics.pdf

⁴ <http://fff.org/explore-freedom/article/great-sugar-shaft/> "The Great Sugar Shaft" by James Bovard.

Republic is producing grains instead of sugar to compete with American farmers.⁵

Meanwhile, there are thirteen thousand sugar growers in the US, seventeen of which grow and receive more than half of the benefits of the sugar subsidies. Nice, huh? And to top it off, a lot of them are growing in areas that aren't suited well to growing sugar. Which begs the question: why are we cyclically driving ourselves into the ground on this sugar thing?

The 1996 farm bill almost passed (217-208) with the sugar subsidies cut out. The sugar lobby in this country is a hard thing to pass up, demonstrated by the fact that the bill that would have cut out the subsidies was actually sponsored by 223 House reps. The six members who shifted to the other side got lured away by money from the sugar lobby. And why not lure them away if you can, when you are making more government money than any other country to grow an artificially scarce product?⁶

So, where were we? Sugar is artificially expensive. Corn has flooded the market. Americans like cheap food. In fact, we spend less of our incomes on food now than any generation. Food manufacturers have utilized corn to the best of their abilities in processed foods. In 1984, Coke and Pepsi announced they were using HFCS in their products instead of sugar, and by the late 1980s, half of the sweeteners in the US was HFCS. Cheney and Ellis said it pretty eloquently: "What we didn't know, is that essentially we were growing an acre of sugar."

The government subsidy system we have now rewards the overproduction of cheap corn – the more you grow, the more money you make. The agriculture Ellis and Cheney's grandparents had built

⁵ Once again "The Great Sugar Shaft". You should read it. Really.

⁶ See above!

has now ended up as fast food. The fields of our forefathers could sustain the family that lived on it with the different foods it grew and animals it raised – a real polyculture. When the subsidies began with the New Deal and even with Earl Butz’s fencerow to fencerow, it made sense to make the fieldwork easier and food cheaper, but now we’re running out of rows to fence in, and instead of growing food, we’re producing a commodity.

While I was watching “King Corn”, I entered my usual rage state at the system that I got while watching things like this, but what actually tipped me over the edge? When Cheney and Ellis tried to track their corn to HFCS, which only accounts for about 4.7 percent of the corn crop these days, no manufacturer would let them watch them make HFCS. That in itself spoke volumes to me. One was willing to give them instructions on how to make their own, so they did that. When they dropped in the sulfuric acid, wearing thick rubber gloves, that’s when I was ready to give up and live in a cave. I understand that’s what manufacturers have to do to extract the starch from the corn, and there are a lot more foods than just corn syrup that go through this process, but it was a revelation to me. Why would I eat something that needed to have sulfuric acid added to it? Yuck.

I finished the film and sat on my couch, staring at the Netflix screen bright red on my TV. Nate was still sitting at his computer, headphones on, playing World of Warcraft. He lifted the headphones a bit.

“How was it?”

“I should just stop watching stuff like this. I hate the system. I can’t do anything.” I scowled at the TV.

“No,” he said. “More people need to watch stuff like this. They need to realize how screwed up the government is.” This was unusually insightful coming from an apathetic, non-voting, cynical

Gen-Xer who played WoW on a daily basis. (Have no doubt, though: when covered in kitties, this man melts.)

I decided that one thing I could do was show how disgusted I was with my pocketbook, as miniscule an effect this would have. Since the corn syrup process had been eye-opening to say the least, and corn syrup would be something easily identifiable on grocery store shelves, I decided that I would boycott corn syrup - regular, HF, and in solids form. If the ingredient said “corn syrup” or “corn sweetener” anywhere in the name, the product would go back on the shelf.

“I’m going to stop eating corn syrup.”

“What? Like Karo syrup?”

“No – ALL corn syrup. If it’s in the ingredients I won’t buy it.” I glanced at his skeptical face. “Don’t worry; you don’t have to do it.”

Nate shrugged. He was used to my weird crusades. He normally supported them though. Typically my crazy causes didn’t last too long. (Famous last words.)

I wanted to see how difficult it was to avoid CS while not avoiding sugar. Corn syrup has replaced sugar in so many things, that it would be an interesting experiment to see what I’d have to stop buying, what I could find alternatives for, and what never had it to begin with. Sure, I could have gone sugar-free, but that would have cut into the essence of the experiment, even though I would later learn that sugar subsidies are no laughing matter.

This was late April, 2010. I had put in a raised garden bed made from my parents’ old decking a couple weeks before and was planning on going to the farmers’ market in my small central Minnesota town more often that summer, mostly because I could get some local chicken on the cheap. (Also the local artisan bakery sold its bread there weekly, and their almond croissants alone were enough to drag me to the market.) Most of the time, I remembered to bring my reusable

bags to the market, so it was win-win. The corn syrup boycott was something that would coincide nicely with my other attempts to “save the world”.

I compiled a short list in my head of things I thought I would have to cut out: Pepsi, gummy candies, some things with caramel in it, ice cream maybe? I had never paid close attention to the ingredients in the food I was eating and really had no idea how much of my food had corn syrup in it. Boy, was that about to change.

After a quick glance in my fridge and pantry that night to see what else might contain the dreaded syrup, I found an actual bottle of Karo syrup that I had used to make rum balls over Christmas and realized, yes, my ice cream did have HFCS in it. The next day I would inspect all my foodstuffs’ ingredients. For the time being, I formulated a plan, and then it was time to crawl into bed and hope my mind would let itself wind down to fall into sleep.

This needed to be something more than just a thing I tried once and let go by the wayside – the project du jour. I would try my best to avoid corn syrup for a month but not avoid sweet things in general. While the month went on, I would research different uses of corn – ethanol, grain, foodstuffs – as well as the farm bill, sugar, and the dreaded ag giant, Monsanto, which the “King Corn” guys hadn’t covered in depth, but I knew enough about in passing mention in books to know they were bad news.

Most of all, this felt like I was actually doing something to make a difference, even if it was only for a month. Avoiding corn syrup and putting items back on the shelf was a protest - a protest by a single person - but if people saw or heard about what I was doing, maybe they would take some interest and start doing the same. I was hopeful on this last part but not naïve. I wouldn’t count on it, but if it happened, that would be great.

This decision had me all jacked up, so it was time to make myself accountable. I popped open my laptop before I went to sleep and wrote my first blog entry for my month-long journey to inform my six readers that I was going to try a social experiment. Of the six, maybe two of them cared - and very little at that. It was what I expected, but I was still forging ahead, Pepsi ban and all.

Bring it on.

The month-long experiment

“You’re doing what?”

- everyone I told

May 3, 2010 dawned like any other day in early spring – bright, green, and hopeful. There is just something so wonderful about spring in Minnesota. After what seems like 10 months of dreary, grey, cold weather with darkness stealing sunshine, suddenly the sun is out and the landscape explodes with little bursts of green, yellowgreen, and the bright colors of annuals finally popping up through the dirt. As a person who wears gloves when it’s as warm as sixty degrees, the shift from cold to warm is such a glorious thing.

To top it off, May 3, 2010 was the day I decided to start the great corn syrup experiment. At this point I had not only informed my blog readers, but Facebook as well (my whole 56 friends). Nothing like a little online accountability to keep you in check, am I right? As I expected, however, no one really cared. I did warn them to be prepared for an inundation of tidbits of corn syrup knowledge as the month wore on. Again, no one cared.

To prepare for this day, my fridge and pantry had undergone a thorough scrutiny for anything that might contain CS. Everything that had a glimmer of CS in it had been pulled out to my counter so I could take stock:

- Pepsi
- Maple syrup (imitation variety)
- Grape jelly
- Vanilla extract (yes, the real stuff)
- Chocolate syrup
- Soy sauce
- Barbeque sauce

- Catalina salad dressing
- Worcestershire sauce (as a side note: when I started this endeavor, Lea and Perrins Worcestershire sauce did indeed contain CS. They have since replaced it with sugar.)
- Karo syrup
- Ketchup (Heinz regular)
- Ice cream

There were foodstuffs in my cupboards I was surprised DIDN'T have corn syrup, as I would have guessed by their consistency they would have:

- Frosting
- Nutella (imported! Imports saved me a lot of times.)
- Peanut butter

I also went through a mental list of places I ate out at regularly: a local pizza place, Subway, a local diner, McDonald's, Five Guys, and Taco Bell when I really felt like abusing myself. I knew of a couple I would have to give up almost entirely. In order to eat out at any restaurant, especially fast food, I would need to check online to see if they listed their ingredients, then make a decision from there. The first place I checked was the McDonald's website, and guess what had corn syrup in it? Their buns. That pretty much limited my McD's eating experience to chicken nuggets and French fries. (My regular breakfast meal, the sausage biscuit, was safe.) Subway, it turns out, had CS-free white bread, but their wheat bread was a no go, as were a lot of sauces. On the other hand, their chocolate chip cookies were safe. At eating establishments that didn't list their ingredients, I just had to use common sense: iced tea for a drink, no generic looking bread, and avoid desserts with chocolate sauce or caramel.

Nate and I had gone grocery shopping a couple nights before the big start date, one of our weekly rituals. I love grocery shopping with Nate; it's an allotted piece of time that I know we are both going to be able to set aside and do something together. I enjoy pretending I'm going to be healthy in the produce aisle, and he likes to peruse the imported foods, especially Asian foods. This trip, he knew I was going to be scrutinizing every label, so he took over the cart. Off we went.

The produce section, of course, was fine, as was meat. The dairy, however, was the first surprise of the evening. Normally I'm not a big yogurt eater, but occasionally I do pick up a container. This was one such occasion, but as I scanned over the ingredients of a well-known brand of yogurt, there it was: HIGH FRUCTOSE CORN SYRUP.

What?? And I thought yogurt was supposed to be so healthy! There were a couple brands of the Greek yogurt variety that didn't have HFCS, so I threw a couple containers in the cart.

On to the baking aisle. I needed a replacement for my bum vanilla extract. I had in the past gone to Penzey's to get my spices as well as a large bottle of expensive vanilla extract, but I had run out and Penzey's was more than an hour away. Hence the tiny bottle of store brand in my house. Since I wouldn't be getting down to the Minneapolis area anytime soon, I needed a replacement. Who knows when the urge to make cookies might strike?

I searched the backs of all the real vanilla extract on the shelf, and every single one of them contained CS. I couldn't believe it. As a last resort I picked up Valu-Time vanilla flavored extract, and what do you know, it was CS free. It was the first of many times I would be surprised by what brands had no CS.

To replace my maple syrup, however, was another endeavor. Unfortunately Nate and I had purchased a two-pack of large jugs of

maple syrup at Sam's Club a while back, and we were still working our way through the first jug of maple-flavored corn syrup. Really, that's all it is. In the past I'd gotten some maple syrup from my aunt and uncle who tap their maples in the early early spring and boil the sap to render maple syrup, but their bottles were limited, and I had used the last of the bottle I'd gotten from them a while ago.

I knew the way to avoid CS with maple syrup was to buy real maple syrup, but it was more than twice the price of the fake stuff. This, also, would become a recurring theme throughout my CS-free purchasing. More often than not, the product that contained no CS would be more expensive, especially since I ended up doing a lot of shopping in the organic section. But back to the task at hand: maple syrup. I scanned the shelves to see if there might anything that would be a cheaper alternative, when my eye caught on a bottle that boasted in huge letters: "NOW! No High Fructose Corn Syrup!" This was it! A breakthrough! Flipping over the bottle and scanning the list, however, was a huge disappointment. The first ingredient? Corn syrup. Sigh.

A couple months later, I contacted my uncle about his syrup, telling him that I'd be willing to buy some from him. In the end, I bartered some syrup for design services rendered, and have kept his syrup or syrup purchased in bulk from a food co-op on my shelf for pancakes or French toast.

Onward to the condiment department where ketchup awaited. I had heard that Hunt's had recently stopped using corn syrup in their ketchup, but I wanted to see what options were out there. When you're used to just grabbing a red bottle of Heinz and moving on, stopping to stare at all the different kinds of ketchup is a little overwhelming. There was an organic version, low-salt, reduced-sugar, and different flavors, not to mention all the different sizes. I almost grabbed the organic, but then saw the Simply Heinz version.

I was hoping its backside reflected what its front side boasted, unlike the crafty maple syrup, and it did. I put in the cart and went on my merry way.

There were a few foodstuffs that I had regularly eaten that had some variation of corn syrup in them, all processed and easy to make: a couple varieties of Tuna Helper, some spaghetti sauces, and Pasta Roni noodles, to name a few. Instead of easy processed food, I would have to go for unprocessed and make my own.

Then there was the dreaded moment surrounding my drinking habits. I knew I should kick the sugary pop habit anyway, so it wasn't a bad thing to stop drinking Pepsi, but if the urge struck, it would be nice to have a sugary backup. Jones Soda used cane sugar in its drinks, but for the life of me, I could not find a bottle in my hometown. The year before, Pepsi had introduced (or rather, re-introduced) Pepsi Throwback, which used sugar instead of HFCS. The few short months it was available, I stockpiled as much of it as I could because it was so good. That first shopping trip, I walked away with no sugary pop.

A note on the taste of sugar versus corn syrup. Despite all the surface advantages CS has, like it lasts longer, it makes things chewier, it doesn't turn grainy like sugar does, etc. etc., what they don't tell you is this: sugar is the better tasting option, by leagues and leagues. I did a taste test of regular Heinz ketchup and the Simply Heinz; the regular had a more acidic taste than the Simply version. One thing I noticed when going back to regular Pepsi after the few months Throwback was available was that HFCS-laden pop has a metallic aftertaste to it that sugared pop does not. I had never noticed the aftertaste before, but afterward it was so pronounced. (Alas, I kept drinking and soon learned to ignore the aftertaste once again.) Unfortunately, Pepsi Throwback had not yet been made a permanent fixture on beverage shelves in grocery stores yet, so my

alternative came from the organic section. There were a lot of organic soda options in all the familiar flavors – cola, root beer, orange, and even some that required a more adventurous tastebud than mine, like ginseng ginger. Every cane sugar pop I picked up was delicious.

I would come to love the organic section, it turns out. The small grocery store that was about a mile from my home had its store setup so that its organic sections were immersed in the normal layout of the store instead of in a section of its own. When perusing the shelves, if I didn't find what I was looking for without CS, I would just walk halfway down the aisle to the small section of organic products. The downside of organics is that they are on the spendy side. There are times when the organic product is less expensive than its conventional counterpart, but those moments are far and few between. All the same, after exhausting all my options for barbeque sauce, for instance, it was nice to know that if I really needed the BBQ sauce, I could just pick up the organic option (or make my own).

This is not to say I am an organic-only fiend. Sometimes buying something organic made sense, but in other situations, the proximity and treatment of something outweighs whether or not it's organic. Remember my chicken guy who I visited at my local farmers' market? His chickens were not organic, but they were free-range, well treated, and local. He could not legally call his wares organic, but because he treated his animals well and lived on a farm less than ten miles from my doorstep, I would much rather purchase from him than buy an organically raised SmartChicken in the grocery store. My quarter cow? Definitely not organic, but local and from someone I knew well. In my experience, knowing the farmer and locality trumps organic any day of the week.

Desserts and sweet stuff were always a crapshoot. Caramel in this country is almost always made with CS, as you would suspect from its consistency, so a lot of candy was out unless I could find something imported. (If it wasn't in organics, I tried the imported foods – if it wasn't there, I wasn't going to find what I was looking for.) Most candy with nougat and caramel was out. Peanut butter cups and Kit Kats were ok, as were solid or nutty chocolate bars. Ice cream was an interesting challenge. The cheap stuff, of course, was loaded. Ben and Jerry's, much to my surprise, was also loaded, which contradicted with their "all-natural" headline (side note: some B&J ice creams now do not contain CS, and have removed "all-natural" from some of its products¹). Breyer's basic flavors were ok to buy, and Haagen Dazs had come out with their "five" flavors, boasting only five ingredients. Here's the weird thing I noticed about their five ice cream when compared with a similar flavor in their normal line: using the plain Jane ingredients produced an ice cream that had five grams less fat. Not only did it taste better, but it was better for you. Well, less bad anyway.

The cereal aisle was a nightmare. You may recall that I grew up with the boringest of the boring of cereal options. You'll be happy to know that they do not contain any corn syrup. At this point in my life, however, if I did eat cereal, it was not those big three boring cereals. I tended to avoid cereal, but when I did feel the urge for something from the breakfast aisle, it was going to be chocolatey and sugary, tending toward Cocoa Pebbles (thanks, Grandma!). That, of course, was a nightmare. All the "good" cereals were loaded with the dreaded CS. But I was in for a bigger surprise.

I planned on making Special K bars as a treat for work during that month. I wasn't sure how they would taste since I would need

¹ <http://www.npr.org/blogs/health/2010/09/27/130158014/ben-jerry-s-takes-all-natural-claims-off-ice-cream-labels>

to replace one of the main ingredients, Karo syrup – corn syrup at its finest. But everyone loves Special K bars, so I had to give it a go. Plus it was my way of saying, Hey! Yes you can make regular stuff with substituted ingredients! I had lined up a CS substitute for the Karo syrup in the recipe: Lyle's Golden Syrup, which doesn't come cheap. The only thing I was missing was the namesake, so I stopped at the grocery store to grab a box of Special K before my grand taste experiment.

Not even thinking, I just grabbed the box and headed to the self checkout. On the off chance and because it had become habit, I checked the ingredients before I stepped up to the scanner. My mouth dropped. High fructose corn syrup. (Another side note: now Special K uses sugar. They must read my blog!) I couldn't believe it – Special K was purported to be a healthy substitute for your daily meals, and here was HFCS hiding out in the nutrition facts! Admitting defeat, I walked back to the cereal aisle and put the box back on the shelf. What to use instead? Once again, the organic section saved me, and because there was a sale on the organic multigrain flakes, I got a deal to boot!

That month, I learned a lot about reading ingredients labels. My skimming speeds increased tenfold; I was an ingredients list speed-reading demon. Nate would toss something in the cart after deeming it CS-free, and because I couldn't believe it, I would pick it up to read again. Yup, there it was, buried between xanthan gum and polydimethylsiloxane (yes, that is actually an ingredient). What else did I learn? Products that contained no HFCS tended to have less ingredients overall, and products that were supposedly healthy (low-fat) tended to have HFCS. There is a reason for this.

Right around the time HFCS entered the market at its reasonable price, the US government started its low-fat, low-salt campaign to reduce the amount of dietary fats and salts in foods,

which were blamed for heart disease. All the foods that had fats and salt removed from them to conform to this dietary shift tasted awful, which is no surprise. Our taste buds crave fat, salt, and sugar. To make up for this lack of taste in their low-fat foods, manufacturers added sugar instead, which, we'll find out later, just created more problems. What we do know now is that Americans are eating more sugar than at any previous time in history. I found a lot of conflicting reports as to how much sugar we actually eat per capita, and how much of that is HFCS, but all sources confirmed: it's a lot. We eat about thirty percent more sugar today than in 1970, and back then less than a half a pound of this was HFCS.² Marion Nestle in her book "Why Calories Count" says that in 1980, Americans were eating 120 pounds of added sweeteners per year, eighty-four pounds of which was sucrose (table sugar), thirty-five pounds of HFCS, and the remaining honey and maple syrup. In 2008, per capita we were eating 136 pounds – sixty-six from sucrose and sixty-six pounds of HFCS.

Holy cats.

After doing the research on the sugar subsidy system, which I wasn't too impressed with, and watching a video on how sugar in general isn't that great for you, I started doing some research to see how the processing of sugar happened. Since I knew how corn syrup was made, I wanted to find out sugar was made so I knew where my substitute was coming from. Turns out sugar isn't that much better, and the same would be true with sugar farmers' subsidies.

The sugar you get in the grocery store is made from either sugar beets or sugar cane, and the resulting sucrose is almost 100 percent identical. Beets have a slight edge in US production, with a

² *The Sugar Fix* by Richard J. Johnson, MN, Timothy Gower, and Elizabeth Gollub Ph.D., Rd. 2008, Rodale, New York, NY

fifty-four percent hold on the market.³ Since I live in Minnesota and this state is the top-producing sugar beet state, we'll start here. After we moved to west-central Minnesota when I was fourteen, I remember driver warnings going out during harvest time to make sure drivers were aware of the increase in farm equipment on the roads. It was always a little unnerving to see all the tractors and trailers piled high with beets. Who knew if a beet would suddenly fly off the back of the truck and smash into your windshield?

The beet itself is farmed in an equivalent fashion to corn. The beets are harvested and taken to a processing plant where they're cut into shoestring-potato-like wedges for maximum exposure (these are called cosettes). Then they are transferred to a diffuser to extract the sugar into a liquid called raw juice. The process of this extraction is long and convoluted, and what it comes down to is the bejesus is boiled out of them. The pulp still has quite a bit of liquid in it when it's done, ninety-five percent, so it's pressed down to a seventy-five percent moisture level. This juice is added to the raw juice and the remaining pulp is dried and sold as animal feed.

Next the sugar water is mixed with calcium hydroxide (milk of lime) and carbon dioxide bubbles to remove any impurities (this process is fittingly known as "carbonatation"). Then there are lots of settling tanks to get more impurities out. Next is sulfitation where sulfur dioxide gas is mixed into the juice to prevent the "Maillard Reaction", which is a reaction with amino acids that would turn it brown. You know how the crust of your bread turns from white to brown when it's baked? Same thing happening here.

We have more bejesus boiling for some evaporation so we get a sugar sludge called standard liquor. This is normally stored until crystallization, where the magic happens. The sludge is boiled in a

³ <http://www.smbcsc.com/> Southern Minnesota Beet Sugar Cooperative

vacuum, and some sugar crystals are introduced to the sludge so more crystals “grow”. The vacuum’s dropped, crystals and juice are centrifuged, and the result? White sugar and molasses. If you want to make brown sugar, you mix some of the molasses back in to the white sugar. The sugar is then dried in a rotating cylinder and sent off to be stored for further bagging and weighing, and it ultimately ends up on your grocery’s shelves.⁴

While beets are grown in eighteen states, sugar cane needs a tropical environment to flourish, so sugar cane is grown in the southern states of Florida, Louisiana, Texas, and Hawaii, as well as Puerto Rico.⁵ Sugar cane has a little more efficient process in that it doesn’t require as much boiling as beets do to extract the sucrose. Instead of boiling to get the sugar water (the first step), the cane is pressed to release the sugar water. Then the steps are essentially the same.

Ultimately, between the government money that goes to sugar and the processing it goes through, sugar is not that much better than corn. Corn is produced on a much larger scale, and everything seems to be magnified because of this, but the system benefits both crops as commodities. As I learned more about the sugar issues, I realized I could go further and include sugar in my boycott, but it would end up being a never-ending cycle. Why not all grain-fed meat? Ethanol?

I needed one thing to focus on for the boycott that was an easy, albeit difficult, scapegoat. HFCS was already getting a bad rap when I started, so it was something I could latch onto. By eliminating that, I was already gravitating toward better buying and eating habits, even if it didn’t encompass everything that was wrong

⁴ <http://www.smbc.com/> Southern Minnesota Beet Sugar Cooperative

⁵ <http://ipmworld.umn.edu/chapters/meagher.htm>

with the world. Besides, any food process that involves sulfuric acid has got to be bad.

I had my grocery shopping trips that took twice as long due to reading ingredients' lists, my dessert making roadblocks, and pre-visit restaurant research sessions. But how did the four weeks actually go?

There were some weird looks from my coworkers when I refused store-bought goodies they brought in (my workplace was big on treats – there were a couple of us who loved to bake). When asked why, I said I gave up corn syrup. If pushed further, I said I wanted to see how difficult it was to actually stop eating the stuff. There were only a couple who actually knew the real reasons, due to the fact that I just did not want to get into any sort of politics at work, especially farm politics.

Overall, I was pretty good. I avoided coffee shops, where I tended to buy sweet, chocolatey drinks disguised as coffee, most fast food places, and I did my research. There was one moment when I got some tea from Subway over my lunch hour only to realize that it was sweetened tea. I checked it out online on my phone while sitting in the lunchroom after returning with lunch in hand, found they used honey to sweeten it, and I let out a huge sigh before sucking the rest of the glass down. I was not going to be usurped by a cardboard cup of sweet tea!

In the end, diligence paid off. Sure, it added a little extra time to my shopping trips to check out all the ingredients in a product, but I did feel like I was sending a message, however miniscule it was, when I put that product back on the shelf. To track down some substitutes required some hiking around town to specialty stores and food co-ops, but once I found a place that carried an item, I went back frequently.

Meanwhile, the summer farmers' market opened in May, and every Friday I drove over to pick up fresh veggies (asparagus!), cheese, and especially to visit my chicken guy. This guy raises his chickens from the reject pile from the numerous poultry barns in the area. By this point, they've already been injected with antibiotics and couldn't be organic, but it made me feel all warm and fuzzy that he was raising these chicks that would otherwise have a death sentence. If I was lucky, I got there early enough to pick up a package of chicken thighs. Then a quick stop at the bread gals to pick up my almond croissant.

As if the farmers' market weren't enough, I planted my garden in mid-May – mostly tomatoes, but also some green beans, peppers, and peas. It was my first raised garden, and I knew it wouldn't give me a ton of produce. I was already planning on putting in a second bed the following summer.

The night before my final day, I posited to Facebook: “Last hfcs-free day is tomorrow - continue or suck down a bottle of corn syrup??” I got a response from all three camps: “continue!” “go straight to McDs and get a frappe!” “Bend the rules just a little. If you can get something hfcs free go for it, if not...go for it :o).”

There were foods I missed, like the ease of some processed foods that made cooking easy. I missed Trolli Britecrawlers, Ritz crackers, stopping at McDonald's on my way home from work and picking up a burger without thinking twice, Oreos, some candy bars, caramel, etc. etc. The list could go on and on, but the central theme, I realized, was not caring. I missed not caring about what I picked up when I went grocery shopping. But what wouldn't I miss? If my previous experience with Pepsi Throwback was true this time around, I knew I wouldn't miss HFCS pop, fake maple syrup, the taste of CS overall, and definitely giving money to big corn. I realized that, like what I DID miss, I would miss not caring. On the

one hand I did not like having to do the work, but I knew that what I was doing was better for me, the environment, and society. It was a catch-22, but it evened out.

I was conflicted, so the next morning I stopped at my local coffee shop and ordered a mocha cooler. So much for internal conflict. Ooh, it was good. Chocolatey, HFCS-y goodness. Except the cool whip was a little gross, and it was really sweet, sweeter than I'd had in a month. As I sucked down the last of my cooler, which was all greasy cool whip, I realized that if I were still on a CS-free diet, I wouldn't be slurping this white, oily, corn syrupy substitute for whipped cream. I wiped off my slimy lips. The cooler had been just okay, then not so great when I got to the end.

Later in the day at work, I thought I'd just go all out. I practically skipped into the break room and bought a cold can of Pepsi. I brought it back to my desk, letting the cold seep through my fingers. The outside was already slightly sweating as I popped the top and lifted it to my lips for a taste of the bubbly liquid. I had been looking forward to this for a month...and...I was disappointed. I didn't even finish the can; I poured about a third of it down the sink in the lunchroom. After a month of drinking pop made with cane sugar (vanilla cola, vanilla cream soda, root beer, etc.), Pepsi was just not holding up. Much like switching back to HFCS-infested Pepsi after drinking Throwback for a couple months, this really left me with a bad aftertaste (figuratively and literally).

I didn't notice that much of a difference in taste as far as sweetness while I was easing into the diet. Sure, I knew that sugar did taste better in some things, but I was really surprised by how different it made the mocha cooler taste. Suddenly going back to a corn syrup lifestyle made the almost artificial sweetness very noticeable. HFCS is just not a good-tasting sugar substitute, not to

mention that social implications would hardly be affected by one person's month of fasting.

Well, Nate and I went to the grocery store later that night, and guess what I did? I continued looking at labels. I bought myself a can of cane-sugar pop. I didn't buy tuna tetrazzini on sale because it contained corn syrup (I guess it was tuna sandwiches for me).

So I was back. All it took was one can of regular Pepsi and a mouthful of too sweet, chocolatey, greasy whipped-cream substitute.

Corn was going down.

A month...and beyond/the skeptics

"I enjoy my devil's syrup. It's good!"

-Megan R.

After a month of avoiding corn syrup, choosing to continue was something that made sense. A lot of people who knew I was doing this were surprised that it was something that I did want to keep doing, and I understand their skepticism, to a point. On the surface, all I told people was that I wanted to see how difficult it was to not ingest CS; going into all the reasons behind my boycott seemed a little too political and "Cliff Claven", as one of my coworkers liked to refer to me. As I opened up to more people revealing the reasons behind the boycott, most of them nodded in agreement, some were indifferent, and of course I had the skeptics. But none really joined me in my cause. At first.

When I found out that yogurt and Special K both had CS, my food-conscious coworker seemed shocked and said she tried to read food labels, but when it came down to it, all she cared about were the Weight Watchers points.

I always checked ingredients when store-bought treats were brought to work, and at first the office gals just brushed it off as I shook my head when the container of cookies or cupcakes were passed around.

Eventually, though, the workplace was the first place I saw a shift in thinking. We were all fans of chocolate and dessert, and no one wanted another person left out when bringing in something especially delicious to share. (Not coincidentally, at work I was known as the dessert and dip person during potlucks. We took our food seriously there.) Because I was passing up all these goodies, a

couple of my work friends started looking at ingredients lists before buying something to bring in.

“I checked and you can definitely have these!”

“There is no corn syrup in these, so you’d better have two!”

“No corn syrup, Kate!”

It made me feel all warm and fuzzy inside that my cohorts were looking out for my non-medical, personal-choice-only dietary restrictions. On top of that, there was always a good deal of homemade goodies, which were better anyway, both on an ingredients level and taste level. Work was really the first place I saw a sort of acceptance of what I was trying to do, even if I didn’t get into the nitty gritty of the reasons why. I suppose that’s what happens when you spend forty hours a week with a group of people.

Nate, on the other hand, was a whole different kind of acceptance. Since I do a lot of the cooking and baking, he got pushed into no corn syrup in a secondhand way. However, I did not want to force it on him, so when he threw a candy bar laced with CS in the shopping cart or picked up his drink of choice, Mountain Dew, I did not become the nagging anti-CS wife. But while grocery shopping, he read the labels, noticed when something contained HFCS, and helped me find appropriate things. Mostly the exchanges went like this:

Nate picks something gooey and delicious off the shelf, reads the ingredients.

“You can’t have this.”

Then he throws it in the cart. He can have it.

In addition to this common exchange, he tended to read the ingredients for high fructose corn syrup only, so when I scanned the list again, saw corn syrup solids, and shook my head, he got confused.

“But there’s no high fructose corn syrup?”

“No, but there are corn syrup solids.”

“That too?”

“Yes. I don’t want any kind of corn syrup.”

“Oh. Huh.”

He does this to this day. Just today we stopped in front of the barbecue sauces, and he pulled a bottle off the shelf, read the ingredients, then proclaimed: “It’s free of evil. It has regular corn syrup – that’s ok, right?”

Another exchange we had early on happened after I made myself a large bowl of popcorn, cooked on the stove and bathed in butter and salt. I happily chomped down on the whole grains and offered him some.

“But that’s corn. Why is that ok but corn syrup isn’t?”

“Because this is actually corn. I know it’s corn. It looks like corn. It isn’t replacing anything else that could be used, like sugar. Just like sweet corn is ok.” (Consequently, this is also the reason I will allow cornstarch into my diet: I know why it’s in a product and can’t be easily substituted.) He shook his head, threw his hands in the air.

“Your rules are confusing. I give up.”

I shrugged and finished my popcorn. For a guy who didn’t care about what he ingested, he sure was concerned with my eating habits.

That was a common theme: confusing rules. In reality, in the US, corn derived sweeteners only use about six percent of the corn crop (this includes HFCS, dextrose, and glucose). The biggies are ethanol at thirty-eight percent and animal feed at thirty-seven percent. Fourteen percent is exported, and an additional five percent is used for more food and beverage purposes¹ (like xantham gum!). I myself wondered why I wasn’t boycotting all grain-fed animals and driving. I was trying to eliminate the grain-fed meat, but driving is

¹ http://www.cias.wisc.edu/curriculum/modII/seca/modii_seca.htm

almost a necessity in the Midwest; there is a severe lack of appropriate mass transit out here in the wide open spaces.

The thing with using corn as a biofuel is that it's purported to be environmentally friendly. How ingrained has society been with the idea that using corn ethanol is going green? We're in pretty deep. I used to be a supporter of ethanol, but the more I learned about it, the more it just doesn't make sense. Financially, it's a wash.

Ethanol is already used pretty widely. Flex fuel cars are in full production, a lot of them larger vehicles, and there is an ethanol pump (E85) at almost every gas station in central Minnesota. Fuel runs about 30¢ cheaper than the regular stuff (but...subsidies make it this cheap).

Corn ethanol started being used in force for a gasoline additive in the mid-2000s after a court decision denied legal protection for the current oxygenation additive, methyl tertiary butyl ether. MTBE was being used in gasoline in response to the Clean Air Act of 1992 to reduce carbon monoxide emissions, but when it was discovered that MTBE was contaminating groundwater, states started banning the use. Twenty states had banned it by 2006. A substitute for MTBE is ethanol, and this opened a wide door for corn since the market was saturated and prices at the time were about two dollars a bushel. A new market opened and farmers increased production. At this time, a healthy chunk of corn production went into producing ethanol.²

As for the carbon output of ethanol, it's supposedly "carbon neutral", meaning that because it's renewable, the carbon it outputs will be sucked right back up by the corn we're growing to make more ethanol. In fact, depending on efficiency improvements and what renewable energies are used, ethanol usage could reduce emissions

² https://en.wikipedia.org/wiki/Ethanol_fuel_in_the_United_States

anywhere from twenty to fifty-two percent³. This is a fine and dandy circular method, if not for some pesky details.

In Minnesota, there were 21 ethanol plants in 2012, and 440 million bushels of corn was used for ethanol production in 2011⁴. Consequently, in 2008 Minnesota was one of three states required to blend ethanol with gas (Hawaii and Missouri being the other two). In 2005, the E-20 bill passed and has since been modified, which mandates by 2015 a mix of 20% ethanol in all gasoline sold in the state. This is set to expire at the end of 2014 if “Minnesota is not granted federal approval to use E-20 gasoline blends”⁵. This mandate in turn will pump money into the local economy and provide new jobs, increase corn farmers’ profits, and all sorts of economic promises.

But. There’s a slight environmental issue with using corn as ethanol. The carbon offset may not be as slick as it’s made out to be because not only does it have to offset what’s pushed out of our cars, but also the carbon that is output by farm machinery and the process of shipping the grains. There is also a lot of water involved in the production of ethanol, even if some of it is recycled back into the atmosphere. Of course there are the production pollutants of drilling for oil and the production, but the production of converting oil into fuel is a lot more efficient.

Also add in the fact that corn ethanol is not that great of a fuel, as it provides thirty-four percent less energy than oil-based gas. Flex-fuel cars are tuned to give better power and torque output, and so you get between twenty and thirty percent less fuel efficiency than oil-based gas. Does the price difference make up for the miles you’re

³ http://en.wikipedia.org/wiki/Corn_ethanol

⁴ <https://www.ethanol.org/pdf/contentmgmt/plantsreport.pdf>

⁵ <http://ethanolproducer.com/articles/8767/minnesota-extends-e20-mandate-to-start-in-2015>

losing? Based on a price point of \$2.60 regular gas and \$2.30 E85 in the central Minnesota locale, nope. E85 would need to be \$2.08 at most. And given that ethanol would be MORE than your regular gas without subsidies, ethanol seems to be a losing battle.

However, if we could grow sugarcane, that would be a different story. In Brazil, sugarcane ethanol is a thriving industry, but the difference is that sugarcane gets more than fifty percent more ethanol out of an acre of land than corn. Also, sugarcane is five to six times more efficient as a biofuel than corn. Sugar beet ethanol used in Europe and sugarcane ethanol both have up to an eighty percent reduction in well-to-wheel carbon dioxide (total energy consumption)⁶. Bottom line? Corn is not a good biofuel. But corn is this country's cash crop, and so the lobbyists push to use it to its fullest potential.

So now you're all thinking I'm turning into a carbon-spewing, gas-loving, SUV-driving hypocrite. NO. We need an alternative fuel, desperately. But guess what? Corn isn't it. There have to be other alternatives out there that are more efficient and wreak less havoc on the environment during production. Heck, there ARE better alternatives (sugarcane). But since corn has a stronghold on this country, we're not going to be on friendly terms with Brazil on that front anytime soon, as can be evidenced by the lack of sugar imports from that country. Yes, oil is limited, and we need renewable energy sources, but not at the cost of our environment or water supply.

When I was doing my initial research on ethanol, I was driving a 2002 Chevy Malibu. It got ok gas mileage, but it could've been better. My 1987 Chevy Celebrity got better mileage! Even though it got mediocre mileage, I drove that Malibu for seven years because I didn't have the money to get anything more efficient.

⁶ http://en.wikipedia.org/wiki/Corn_ethanol

Then in December of 2010, my aunt died. Said aunt was one of those rare, kooky individuals who make a person's day a little bit brighter, especially when you're young. I looked forward to weekends which she would spend at a small apartment on her sister and brother-in-law's farm a mile and a half up the road from our farm. Saturday mornings were brilliant. Even though it was a day my siblings and I could sleep in, we didn't because our aunt would be at the door ready to go for a morning jaunt.

First we would stop at the small bakery in town where we would stick our noses on the glass cases and choose the doughnuts for our breakfasts. Then we would head out to the large park on the edge of town, which was spread out enough that it had small parks within the park. The first one you noticed right away as you drove in – a large, red robot slide that would probably have 10,000 code violations if built today. His arms were two long metal slides - the kind that heated up to “blistering hot” Fahrenheit on a good mid-summer day - that deposited you in a pile of sand. The one we ended up at most of the time was a mess of a playground with twirly metal slides, poles to slide down firefighter fashion, bridges, monkey bars, a jungle gym – you name it, this behemoth had it.

A unique property of the park was the number of natural springs it held. After wearing ourselves out on the playground, my siblings, aunt, and I would trek down to the small creek that flowed from a spring-fed pool. We dipped our toes in the frigid water, and if it was a hot day, we would be brave souls, roll up our pants legs, and wade into the stream, squishing the sand on the bottom between our toes.

After spending so much time in the stream that our lower extremities had become numb, it was time to leave for the day with plans to return the following weekend.

This aunt of mine had never married and never had kids, but her life was devoted to family. She had slowly been deteriorating over the

years, a victim of Parkinson's disease and dementia. Because of distance, I hadn't seen her as much in the past ten years as I would've liked, but the times I did get to see her I remembered those Saturday mornings more than anything.

She succumbed to the diseases in December 2010. After an emotional weekend, it turned out that she left her sister and brother (my dad) and her nieces and nephews a substantial inheritance.

My aunt had always been proud of her cars. The first car of hers I remember was a forest green Dodge, which was replaced by a 1986 maroon Pontiac coupe. The last car she owned before she gave up driving was a VW Jetta. Her vehicles were spotless, and since she did a lot of driving, she always prayed for travelers.

I thought it was fitting to buy a new car with what she left me.

I test drove quite a few cars, including a hybrid. As much as I really wanted to like the hybrid, it just didn't work for me. I found it a little too cramped and could barely see out the rear window. It was also a little early for a viable electric car to make its appearance in my garage, so I didn't even attempt to find one to test drive. But the efficiency of those things is through the roof! Anyway, I ended up with a decent foreign sedan that got better mileage than any of my previous cars, and that's all I asked for. I would've gone for a smaller car if it hadn't been dead of winter when test driving included big puffy parkas, scarves, hats, and mittens. Ultimately, I was happy with my purchase, and I knew that this was a car my aunt would've liked. There was also less money going into the oil and corn coffers.

The purchase of a new car definitely lessened my corn consumption somewhat, and I had struck CS from my diet. Furthermore, there was locally raised beef in the freezer as well as the occasional chicken and package of bacon. I didn't eliminate all

mainstream meat products from my diet, but I was trying, if only to get rid of some more pesky corn.

So says Paul Roberts in “The End of Food”:

But rising grain prices are also being driven by other, more familiar factors, including crop failures in Australia and, most notably, the rapid increase in meat consumption in China and the rest of the developing world.

Further, while there are many reasons to be skeptical about the US ethanol program (for example, the fact that corn is among the least efficient crops to make into fuel), the spectacle of the meat industry criticizing anyone else for misappropriating corn or endangering food security is more than a little ironic. In terms of scale, ethanol is dwarfed by the livestock industry, which vacuums up more feed than all other end users combined (more than a third of the two billions tons of grain produced worldwide in 2006 was fed to animals) and will continue to be the dominant end user for decades to come.

The average meat US consumers buy in their local grocery store is from animals that are fed grain for most of their lives. Unless you find a package that actually says it’s organically raised meat or grass-fed beef, you are probably buying meat that was raised in a CAFO.

Let’s talk about CAFOs: Concentrated Animal Feeding Operations. There are pluses and minuses to a CAFO and the animals that are pushed through them into our food system. A few things to consider when contemplating whether or not meat from a CAFO is ok, all of which I’ll try to touch on: carbon footprint, animal welfare, antibiotic use, healthiness of the meat produced (specifically beef), and the natural eating habits of the animal.

When hybrid grains started to gain traction in the 1950s and 60s, there was an abundance of grain, which farmers started to feed to

beef cattle. Today, CAFO cattle are pasture raised for six to nine months until they reach the entry-level weight of about 650 pounds, at which point they're transferred to a feedlot. There, they are fed a diet made up of corn byproducts, barley, other grains, roughage, and minerals (this varies by region). About ninety-five percent of a CAFO cow's diet is grain. This, along with minimal movement, allows the cattle to gain an additional 400-650 pounds. Once it's at the finished weight (1000-1500 pounds), it's transported to the slaughterhouse. At this point, the cow's been alive anywhere from a year to a year and a half.⁷

This is pretty young compared to a couple generations ago when cattle weren't slaughtered until they were around five years old. What happened? For starters, grains fatten up cattle significantly faster than grass does. In addition to the grain diet of cattle, the use of antibiotics helps make the cattle bigger faster. When cows are given an antibiotic, their immune systems no longer have to fight off the small infections that animals in close proximity, like all farm animals are, often get. With the antibiotics, all that energy is suddenly available for growth. These days, seventy percent of all the antibiotics in the country are consumed by cattle. Seventy percent! I can't say I'm surprised with the emergence of new antibiotic-resistant superbugs. But antibiotics mean a faster growth and more available meat, which means shoppers get beef when they want and producers get increased revenues.

This is good news for the carbon footprint of a CAFO cow. Because the cow gets bigger faster and isn't around as long until it's slaughtered, there are less greenhouse gasses, such as methane, being released into the atmosphere. It's also good news for the rancher

⁷ http://en.wikipedia.org/wiki/Cattle_feeding
<http://en.wikipedia.org/wiki/Feedlot> http://www.factory-farming.com/beef_production.html

because there's faster turnaround and good news for the consumer who continues to eat a lot of meat.

In comparison, a grass-fed beef cow spends its entire life in the pasture eating grass, and it might be switched to alfalfa or rye for the last ninety days. Organic beef cattle get no antibiotic injections or supplements, but may receive them if in fact sick. While CAFO cows are slaughtered between twelve and eighteen months old, grass-fed are typically slaughtered between eighteen and twenty-four months old.⁸

Grass-fed beef is around longer to emit more gasses into the atmosphere plus they take up more land – CAFO contain the cows for minimal movement while pastured cows are allowed to roam free. Some farmers who raise pastured cattle also feed them grain, or allow them into harvested cornfields to eat what they can where they will definitely start slurping up corn kernels – generally these aren't organic cows, but they are happy cows.

While on the surface, the carbon footprint of the CAFO looks good, but I tend to be a bit skeptical. There are other things to consider, especially if you are buying your grass-fed or mostly grass-fed, pastured beef locally. You have to take into account the amount of grain that is being produce for feed – close to forty percent of the country's crop! Imagine all the land, pesticides, fertilizers, equipment costs, and transportation costs of the grain being raised. On top of that, most CAFO beef is raised in the Midwest, and when they're ready they have to be transported to the appropriate slaughterhouses, then to the appropriate distribution centers, and then to your local grocery store.

Your local grass-fed or mostly grass-fed cow, on the other hand, consumes grass produced right on the land in which it resides. When it's time to butcher, the distance is pretty minimal. When Nate and I

⁸ <http://www.wisconsinlocalfood.com/Home%20page/New%20Brochure.pdf>

bought our quarter cow, my coworker lived about ten miles from the butcher. We traveled fifty miles total to pick up the meat when it was ready. That's a lot less miles from farm to freezer than the average CAFO cow.

And while I would love to figure out the real carbon footprint of a CAFO cow versus a pasture-raised cow, I fear I have neither the time nor the resources. Luckily, the US Department of Agriculture has awarded a \$550,000 grant to study the carbon offset on grazing land in the upper Northwest so I don't have to. Unluckily, it was just awarded in 2012, so chances of it being ready by the time I'm done writing are nil.⁹ The gases cows emit is a huge thing, and it will be interesting to see the results of this study. As such, the jury's still out on whether or not a CAFO has a smaller "real" carbon footprint.

If you're looking at reducing your carbon footprint immensely, it's pretty safe to say that beef should not be your food of choice. Even other meats have a smaller carbon footprint than beef. Cattle need almost seven pounds of feed to produce one pound of body mass, whereas pigs only need close to three, chickens about one-and-a-half, and fish generally are one to one (this all depends on breeds, of course).¹⁰ Unfortunately for people like me, I love me a good steak, but moderation, of course, is key. As Brian Palmer, Washington Post blogger, wrote:

"No matter how you slice it, eating beef will never be the greenest thing you do in a day."¹¹

Vegetarians will tell you that only eating vegetables only will curb a lot of the carbon footprint. While it's true that eating veggies

⁹ <http://www.opb.org/news/blog/ecotrope/which-is-greener-grass-fed-or-grain-fed-beef/>

¹⁰ "How to Farm a Better Fish" by Joel K bourne, Jr., National Geographic June 2014, pg 92-111

¹¹ <http://www.washingtonpost.com/wp-dyn/content/article/2010/12/20/AR2010122004693.html>

will eliminate that resource hog and methane spewing cow, there's always the common argument of not getting enough protein; whether a valid argument or not, meat is such an easy and huge source of protein. There may be an up and coming way to get around the protein problem: now the United Nations has an even better way to get your protein by eating bugs.

While not a foreign concept to a lot of the world, eating bugs is kind of a freaky thing to an American (even though reportedly there are many bugs ground up in the processed foods we eat). Insects are high in protein, fat, and minerals, and they're pretty efficient at converting feed into edible "meat". "Crickets, for example, need 12 times less feed than cattle to produce the same amount of protein."¹² Feed those crickets that corn feed!

I ate a cricket once, and not accidentally or because one decided to commit suicide by leaping to its death into my mouth while I was biking and talking to my neighboring biker (although many a mosquito have gone that grisly way, only to be hacked and coughed out).

The small college I attended required a certain set of classes be completed to give students a well-rounded education. There was a requirement for fine arts, humanities, math, natural science, social sciences, and theology. For either the social sciences or natural science requirement, I took a nutrition class. Looking back, it was a pretty spectacular class. We researched different food cultures, looked at the nutritional values of different foods, and learned lots of science I don't really recall. One day we had a guest speaker on how insect consumption was going to be the thing of the future; she was ahead of her time, that's for sure. At the end of the lecture, students were invited to eat a piece of chocolate with a farmed, clean cricket inside.

¹² <http://www.bbc.co.uk/news/world-22508439>

Some declined, others unwrapped the chococricket right there and placed it in their mouths, and most pocketed the candy to either eat at a later date or toss in the garbage after too much analyzing. I pocketed mine, but after my walk back to my dorm and some insect contemplation, I figured, what's the big deal? It's just a bug. Before unlocking my dorm door, the wrapper came off my chocolate, and I popped the little chocolate crusted critter in my mouth. It was crunchy, with no discernible taste to indicate it was a bug. It was like eating a Crunch bar. Five stars – would eat again.

Looking past the carbon footprint and at the cow's corn diet specifically, a cow just isn't evolved to eat that much grain. Cows are ruminants, which means its four stomachs are designed to digest grass (in contrast, humans are not; neither, I have found, are cats, as is evidenced by the hacking up of grass that ensues after letting my cats out in the yard).

How does this work? In the first two stomachs, the grass mixes with saliva and the solid parts remaining form a cud, which is regurgitated so the cow can chew it some more. Hence the term, chewing their cud. This continues until the grass is liquid enough to go on to the third stomach, where water and minerals are absorbed. Then on to the final stomach, where it's sent along its merry way to the small intestine to be digested and other stuff we're familiar with, ultimately ending in a cowpie.¹³

When cows eat mostly corn to fatten up faster, they are eating food they weren't evolved to digest. Corn is more acidic than grass, so a lot of cows will get acidosis. Which is treated with antibiotics. Then they are fed more corn. How cyclical. No wonder seventy percent of the antibiotics in the country are consumed by cattle.

¹³ http://www.factory-farming.com/beef_production.html

One has to observe as well that pastured cattle are probably happier cattle. Instead of being confined in a small space with a bunch of other cows and slogging through their own waste, they are allowed to roam all over the pasture and frolic if they wish (and step in poo if they so choose).

The farm I grew up on was not a real working farm, even though we had the outbuildings, tillable field, and pasture space. Anything that would be considered your typical farm accoutrements, my parents actually rented out to other people. Someone planted corn or soybeans in our fields, and we had sheep and horses in our pastures at different times. My aunt and uncle up the road, however, had a real working farm.

My cousin had a horse named Sunny who spent his time in the pasture, and there were many cows as well. I remember hot summer days when it was time to make hay, which I occasionally observed from the viewpoint of not being required to help but interested in the process. My uncle and two of his sons, or some combination thereof, drove the trifecta of tractor, baler, and hay wagon to the fields. There they would miraculously turn the dried grass cut a few days earlier into neat, square bales held together with twine. My eight-year-old mind boggled at the rectangles of dried grass the baler spit out, arcing across the expanse between baler and wagon. The cousin manning the wagon would lift and toss those heavy bales into neat stacks until the wagon was full or the field was empty. Then the tractor turned its way onto the gravel exit and then onto the county road toward the homestead.

Back at the pole barn, whoever was driving the tractor carefully backed the wagon into the barn, past the tank of gasoline destined for farm machinery, past the mangers holding remnants of last year's hay, and finally to the edge of the hay bales stacked against the west end of the barn. Tossing the bales up, up, up to the top of the barn, my

cousins would empty many hay wagons during the summer to keep the cows happy during the lean winter months when green grass turned brown and usually got buried beneath feet of snow.

My siblings and I spent many days in the pole barn, climbing the bales and jumping from unbelievable heights into huge piles of soft hay we had raked and prodded into piles on the floor below. Barn cats slithered in and out of the sneaky hay bale holes, meowing for attention or luring us away from their litters. More than once one of us found a litter of kittens in the stacks of hay.

I witnessed newly minted calves running around the pasture, some of which had to be bottle fed with giant opaque bottles topped with burnt orange, four inch long nipples. There were the days their ears were tagged so they were easily identifiable, the cows taking their turn in the head gate one by one. My uncle and cousins worked well into the evening, until the fireflies blinked into existence and flickered throughout the long grasses around the pole barn and silo, all the way to edge of the field.

And the cows were constants. Even today, when my cousin who purchased the adjacent land rotates his Angus cattle between pastures to get their fill of grass, that farm is one of the rotations stops. The cows remain on the land. More than one morning spent visiting on the farm when I was young was spent huddled around the window, watching as my aunt, uncle, and any number of adult cousins ran around the property gathering the cows that had gotten past the electric fence.

“Come boooosss! Come boooossss!!” shouted any one of them. Slowly, the cows always came home.

I like to think these were happy cows. They had green pastures in summer, hay during the wintertime, and after the corn or soybeans had been harvested, they were allowed into the fields to slurp up what remnants they could, a starchy treat in their diet.

I'm not privy to the cow therapy hotline, so any sort of happiness related to open space is all observation, and it does seem a little odd since both CAFO and pastured cows end up in the same place: your plate. But there is something to be said for not stressing out your meal. Plus, common slaughterhouse practices are really sketchy, and not one hundred percent of the cows are actually dead by the time the butchering process begins.

“According to industry wide audits conducted by Temple Grandin, Doctor of Animal Science and Professor at Colorado State University, numerous slaughterhouses stated that they could not reliably knock the cow out with one shot and due to the speed of the line; there is usually no second chance.”¹⁴

I am not going to go into the specifics of the industry standard slaughterhouses because that's a whole other book. If you'd really like to know more about it (and really give you another reason to find a local farmer who raises beef cattle), read “Fast Food Nation”. See? A whole other book.

Just one more thing to bend your ear on about feeding cows mostly grass versus mostly corn or any other grain: how it affects the meat you eat. While everyone needs some fat and cholesterol in her diet, sometimes that nice, medium-rare piece of steak just has too much fat. It makes the meat taste awfully nice, but you did pay for it, and afterward, fat remnants just sit on the side of the plate like a pile of discarded playthings. This is the fat that helps bulk up the cows by them eating grain. But all the extra fat doesn't mean we necessarily need to stop eating red meat. Red meat is a good source of amino acids; vitamins A, B6 and B12, D, E; and iron, zinc and selenium, to name a few minerals. Plus, you get a good source of a reasonable

¹⁴ http://www.factory-farming.com/beef_production.html

amount of fat, which everyone needs for energy and the absorption of certain vitamins.

In 2010, the California State University College of Agriculture and the University of California Cooperative Extension Service did a study over the course of three decades called “A review of fatty acid profiles and antioxidant content in grass-fed and grain-fed beef.”¹⁵ The gist of the study is that grass-fed beef is better for a person than grain-fed beef, and I’ll point out a few key items to further any positive thoughts about eating mostly grass-fed beef.

Everyone knows the buzzwords cholesterol and saturated fat and how too much can be a bad thing (well, at this point even that is in the process of being debunked!). Grass-fed beef has a better saturated fatty acid lipid profile as well as a better omega 3 versus omega 6 fatty acid ratios. It is also higher in precursors for vitamins A and E as well as cancer fighting antioxidants. Overall, there is a lower fat content, which means you have to change your cooking methods a bit to compensate. This study recommends eating beef that is 100 percent finished on grass to get the full benefits, but even if the cow is mostly fed grass, it’s still a better option than a cow eating massive amounts of grain for the last few months of its life.

The study also mentions that there have been a number of clinical studies that have shown that lean beef can be eaten alongside fish and chicken to reduce cholesterol levels in patients with hypercholesterolemia. Perhaps all those warnings about fat and cholesterol and how they’re bad for a person’s health should actually be amended to mostly grain-fed beef is bad for your health. Or just a lot of processed corn is bad for your health.

When Nate and I made the shift to a local, mostly grass-fed cow, I didn’t notice that much of a difference in how I cooked the beef.

¹⁵ <http://www.nutritionj.com/content/9/1/10>

This may have to do with the fact that I am firmly in the “medium, medium-rare” camp and the juices of steaks and such weren’t cooked out, but there are many things a person can do to offset any sort of dryness or toughness that may come with a less fatty piece of meat. You can marinate the beef, let the beef sit for a bit post cooking before cutting into it, or you can adjust your tastes to a pinker center (and in the case of local, small-time butchering practices, there is less risk involved with illnesses such as e.coli, so cooking medium or medium-rare doesn’t hold as much of a risk of the disease). It still tastes delicious, is better for you, was a happier cow, and might have close to the same carbon footprint as a cow that came through the industrialized system.

Ultimately, however, the abundance of corn and its huge use for two of Americans’ greatest loves, eating a nice, thick steak and driving miles upon miles, is a result of some pretty hefty subsidies. The subsidies for crops like corn and soybeans are a part of the Farm Bill that cruises through Congress about every five years or so, and it really shouldn’t be called a Farm Bill – the most appropriate term could be a Food Bill, since the majority of the budget goes toward food programs.

The Farm Bill first came to light as the Agricultural Adjustment Act in the 1930s as part of the New Deal (remember Franklin D. Roosevelt and trying to get America out of the Great Depression? That New Deal). Although I touched on this before, to recap, the AAA paid farmers to leave parts of their fields fallow so as to raise the price of crops. The biggest structural change to the Farm Bill that’s happened in the past eighty years happened in 1996 when Congress decided to leave farm incomes up to the free market, which meant farmland would no longer be subsidized and the government would no longer purchase grain. The crop insurance program was adopted

instead for farmers to receive payments. Weirdly enough, this led to more subsidy payments for farmers.¹⁶

The most recent bill was passed in January 2014, with the previous bill passed in 2008. The bill generally has a tough time passing, mostly because there are a crapload of bi-partisan inclusions that both political parties can never agree upon. The Agricultural Act of 2014, which was renamed from the Federal Agriculture Reform and Risk Management Act of 2013 because no one in Congress could agree on that bill, was finally signed into law in February of 2014 (two years late, I might add – the previous bill expired in 2012).

The contents of the 2014 bill were shortened a bit from the 2008 bill, and contain the follow:

1. Commodities
2. Conservation
3. Trade
4. Nutrition
5. Credit
6. Rural development
7. Research, extension, and related matters
8. Forestry
9. Energy
10. Horticulture
11. Crop insurance
12. Miscellaneous

There were some interesting things I pulled out of the 2008 bill, which was the one I researched before the 2014 bill was passed: the commodity programs eliminate benefits to farmers with less than 10 acres (bigger is better); there is a mandated 85% market share for US sugar producers (not corn related, but I thought it was very relevant);

¹⁶ https://en.wikipedia.org/wiki/United_States_farm_bill

the farm bill is where the food stamp program is placed in our country's budget (under nutrition); and ethanol production is promoted through the energy section of the 2008 bill.

Some items of note on the recently passed 2014 bill: cuts to SNAP benefits (food stamps); there are now income caps on farm subsidies (\$500,000 for non-farm income and \$750,000 for farm income); an end to direct payment subsidies, which farmers received whether or not they grew crops (this saves \$5 billion a year – good grief); and end to restrictions on growing industrial hemp (not really corn related, but interesting). Food stamps take up the majority of the cost of the bill at \$756 billion (this includes an \$8.6 billion cut over the next decade), crop insurance costs almost \$90 billion, conservation \$56 billion, commodity programs \$44 billion, and \$8 billion for everything else.¹⁷

Given that the two top budget numbers go to SNAP benefits and crop insurance for farmers growing food, you can see how this could appropriately be named a food bill. However, the additional programs are a part of it as well, so farm bill it is.

There is quite a discussion over whether or not food stamps should be a part of the farm bill – it does seem to be out of place. But the history of it makes sense. When the farm bill was first enacted, people bought actual stamps, which were orange, equal to normal food costs, and they received blue stamps for fifty cents on the dollar that they could use to buy food that the Department of Agriculture labeled as surplus.¹⁸ That explains the “stamp” part of it as well as why it's in the Farm Bill. A lot of people want to separate SNAP from the rest of the bill, but it does make sense to keep the people who receive benefits for growing food and eating food in the same bill.

¹⁷ https://en.wikipedia.org/wiki/Agricultural_Act_of_2014

¹⁸ <http://billmoyers.com/2013/06/28/why-is-snap-part-of-the-farm-bill/>

Back to farming, there are actually seven types of subsidies available, but the big one is crop insurance. So where does that \$90 billion for crop insurance go? From 1995 to 2012, the top crop receiving subsidies was corn.

Corn: 29%

Wheat: 12%

Cotton: 11%

Soybean: 9%

Rice: 5%

Sorghum: 2%

Peanut: 1%

Barley: 1%

Tobacco: .5%

Sunflower: .3%¹⁹

There are also some additional crops that are unsubstantial, as well as some large programs included in the subsidy list, such as conservation programs.

The perplexing thing, however, is that sixty-two percent of farms in the US did NOT collect subsidies at all. In fact, ten percent of farms collected seventy-five percent of all subsidies. Think about that for a moment.

When you take a look at the number of recipients of the subsidies versus the dollar amounts paid out, you can tell that something about the system is not working the way it should. While corn subsidies from the 1995-2012 time period came to a total of \$84.4 billion, there were 1.6 million recipients. Compare that to cotton, which paid out \$32.8 billion for 264,952 recipients. Corn farmers receiving payments got an average of \$51,429 each (over seventeen years) while the cotton farmers got an average of \$124,067.

¹⁹ <http://farm.ewg.org/region.php?fips=00000&progcode=total>

How do cotton farmers deserve almost double the amount of subsidies that corn farmers do?²⁰ Not only that, but consider soybean farmers: over seventeen years, they received an average of \$26,632, about half of what corn farmers got and almost one-sixth of what cotton farmers got!

The top ten percent of farmers receiving subsidies got an average of \$32,043 while the bottom eighty percent got \$604 average per year. Is the government helping big agriculture get even bigger? By the new bill's income limits, a farmer could make up to a combined farm and non-farm income of \$1.25 million and still receive subsidies from tax dollars – and that's Adjusted Gross Income, meaning after tax deductions and exemptions. Subsidies seem to be all over the place depending on the crops that farmers grow. Why do cotton farms get subsidized so much more than soybean farms? (My guess: lobbyists, but that's a whole other barrel of monkeys.)

If we truly opened up farming to the free market, we would see a change in the true price of food, there would be no real overproduction, land prices wouldn't be so inflated, and we would probably see some real innovation among farmers that could increase field improvements (diversification maybe?) and cost-cutting techniques that would help competition in a further-reaching economy.

I realize by criticizing two of the big endpoints of the corn crop along with the very American Farm Bill that I'm really rubbing some people the wrong way. I do, after all, live in Minnesota, one of the major crop growing states. I have lived among cornfields my entire life, growing up in a home adjacent to a field, where we watched the corn grow through the summer and peeked through the stalks when

²⁰ <http://farm.ewg.org/region.php?fips=00000&progcode=total>

they were over our heads. My adolescence and adulthood summers more often than not consisted of at least some time driving down a state or county highway where both sides of the road are lined with leafy green stalks. When spring and fall in Minnesota roll around, a driver dreads seeing the large, bulky, slow moving tractors on the road with a 10-car lineup behind it waiting for the opportune moment to pass on the busy two-lane highway.

Spring means winding over black asphalt and suddenly seeing the black, black dirt of a recently plowed field that was grey and drab just the day before. Summertime is marked by the height of the corn plants – knee high by Fourth of July! – and discussion on the rain, sun, and temperature that affects the final crop and, ultimately, the local farmers. Fall evenings after the sun has started to set a little earlier bring about nighttime harvesting, and seeing the eerie lights of the combine trundling across the black expanse of night is like witnessing an alien ship landing.

Whether I like it or not, I can't deny corn is a way of life here. But until something happens to the food industry and the way of thinking about food is reinvented, I will stay the course on my thoughts of yellow dent. Corn syrup has been mostly out of my diet for three years now, and my consumption of grain-fed beef has gone down considerably. One might think that I'm doing my local corn farmers a disservice - that I'm not being a good, normal resident of the Midwest breadbasket. Quite the contrary. By choosing alternatives, I'm giving rise to those who would provide better food, not to mention that many local farmers keep all their business local instead of sending corn off to all corners of the country to be processed into something else. Corn syrup was just the beginning.

A little more whole, A little more local

“Seed catalogs are responsible for more unfulfilled fantasies than Enron and Playboy combined.”

-Michael Perry

“You have just dined, and however scrupulously the slaughterhouse is concealed in the graceful distance of miles, there is complicity.”

- Ralph Waldo Emerson

My quest for a corn-syrup-free lifestyle became second nature after a while. Soon I knew what kinds of foods to avoid and what substitutes I could find to replace it. More often than not, the answer to a lot of my food dilemma was answered with “Cook it yourself, dummy.” In short, the best way to avoid corn syrup of any kind was to just avoid processed foods altogether. Through my research and massive amounts of ingredients I sifted through on a daily basis, I came to realize that a lot of food ills could be solved by avoiding the center aisles of the grocery store and hugging the perimeter. While that was a feasible possibility in a lot of instances, in others it was not, and so my corn-syrup-free lifestyle became a game of hopscotch.

I figured the best way to make sure I knew where my food came from was to expand my own garden. Year after year potted tomatoes had adorned my doorsteps and apartment balconies. My thumb, while not the greenest, was certainly a hopeful one, and I tried my hand at growing things even though indoor plants liked to wither even when I glanced at them. I tended to have more luck with plants that made food, hence the potted tomatoes.

The best tomato, I have found, is one right off the vine on a hot August day – one of those days where the wind is still and it’s hot, but not too hot. After weeks and weeks of watering, weeding, and waiting, the tomatoes are finally ripe red. The first tomato is always the best, and my uncle Squire was the connoisseur of tomatoes when I was growing up.

Some years he planted a few tomato plants on our farm, coming out each day to monitor the progress. Other years he planted tomato plants on my aunt and uncle’s farm, of cattle and hay fame,

in the plot of land that used to be an in-ground pool. Whenever I smell the tangy, obvious scent of a tomato plant, I think of my uncle. He loved his tomato plants, and he loved fresh tomatoes even more.

When that first tomato appeared on his plants, he dragged me, my siblings, or any combination thereof, to witness the plucking of the first fruit of his labor. Harvest in hand, we then sat where we were or walked back to his car where we sat or leaned on the hood. He pulled his pocket knife out and cut the tomato into wedges to pass around. Somewhere a salt shaker appeared (perhaps he kept one in his car at all times – thus the walk to his car), and we sprinkled a little bit on the warm, juicy wedges before popping them our mouths or biting into them, causing tomato juice to spurt down our chins.

There is something to be said for making your own food – or tending to the plants that would make your food. The sense of ownership and pride that comes with growing your own food, and even cooking your own food as opposed to grabbing a box off a shelf to give profit to a faceless person behind a desk – it's palpable. When those little green plants or seeds you stuck in the dirt in the middle of May finally absorb enough sun and nutrients to actually produce something edible, it's a tiny moment of joy.

The first spring after Nate and I bought our house, I put some heirloom tomatoes and rosemary plants in pots along the walk to the front door. Between renovations and painting and still unpacking, I hadn't had the time to put up any kind of in-ground garden. I was disappointed because I was looking forward to a garden in my backyard. That was one of the things I was looking for when we were house hunting – a yard with enough sun for a garden. Alas, it was not meant to be that summer, but my tomatoes put out a surplus, and I was giving them away, making tomato sauce, and eating them by the handful.

The next spring I was ready. My parents had recently replaced their deck and had a lot of old cedar deck planks. I was able to get enough decking to make a raised garden bed of four feet by ten feet. It took a lot of dirt to fill, but when my tomatoes, peppers, peas, carrots, radishes, beans, and herbs were poking through the soil, I knew it was worth it. I was drowning in green beans, and I loved it. I blanched them, put them in plastic quart bags, and placed them in

the freezer next to my quarter cow. What better way to revisit summer than to pull out a bag of homegrown green beans in the middle of the dark winter for supper?

And then there were the donations of fresh vegetables other people grew. My grandma had a huge rhubarb patch, so every spring I stopped by her place and picked a huge handful for some coffee cake or strawberry-rhubarb pie. Every August, someone at work left bags and bags of zucchini they had grown in the break room, so I grabbed a couple to make into zucchini bread. When I visited my aunt and uncle in September, they gave me a couple squash their neighbor had given to them. When people around here grow food, they grow food. We Minnesotans don't take our summertime opportunities lightly.

After harvesting the rest of my tomatoes before the first frost, I realized I wanted more of a garden, and I didn't want to grow vegetables only because it was something my uncle or parents had always grown. I was not enamored by carrots or radishes enough to grow them again. I liked the idea of growing peppers, but I never ate them. I made a plan for next spring, and the plan included a second raised bed.

By the time spring rolled around again, my corn syrup free lifestyle was in full swing. I was trying to eat more whole foods, more vegetables, a little less carbs (note: just a little less). A garden would help with that, because there is nothing that compares to fresh vegetables.

You can buy your veggies in the grocery store, but chances are they were green when they were picked and then artificially ripened. That just means a mealy, red thing that somewhat resembles a tomato when you bite into it. It means veggies that go bad a little quicker than if they'd been picked out of the back yard. It means having fresh herbs that cost an arm and a leg and don't taste as fresh as they could.

I was ready to scale up, so I got some more old decking from my parents and hauled in more dirt to set up a second raised bed, as well as a small potato box. This was the year I was going to plant useful things. I put in eight tomato plants, cucumbers, three rows of green beans, swiss chard, basil, cilantro, dill and a couple mounds of

potatoes. At the same time, I thought it would be wise to put in a couple rain barrels to capture the rain from my roof. (I had just had gutters put on my house, ultimately to help with the construction of the deck that was happening that spring.) Menard's becomes my second home during the summer months.

I was a canning maniac the summer and fall of 2011. After picking a bunch of rhubarb from my grandma's patch again, I went to one of the "pick-your-own" strawberry farms in the region and picked a gallon of strawberries. My first attempt at canning was strawberry-rhubarb jam, and I was impressed with my ability to read directions – canning is not that difficult if you have the right tools and can open a cookbook or look up a website. The ultimate compliment came from my dad, after he spread some on toast:

"That'll do."

I gave him two jars.

As the summer progressed (and the deck slowly came to fruition), I pulled out my canning supplies more often. I had acquired a huge box of mason jars from my grandma, and I was putting them to good use. The tomatoes ripened, and I made pints and pints of pizza sauce that I then poured into plastic containers to freeze. After the pizza sauce blitz and using all my plastic jars, I made plain old tomato sauce and canned it with the regular boiling method.

When the chard, tomatoes, and cucumbers were all ready to pick at the same time, I had salads every night, tomatoes still warm from the sun. I picked cucumbers and stored them in my crisper until it was full, then I pulled out my 1970s era "Joy of Cooking" to figure out how to make pickles. The afternoon stunk of vinegar and garlic, but I was pretty proud of my glass jars of long pickle spears. After a week, I popped open a jar to check edibility – they were a little soggy and potent, but mm mm good.

Soon there were so many jars, I had to put up some shelving in my laundry room, as my pantry was overflowing.

And the potatoes! If ever a chance arises to eat a potato taken out of the earth just hours before, pounce on it. Just harvesting a potato is fun. Instead of seeing your progress on a daily basis, potato growing requires some work and faith in the small piece of shriveled

looking potato you put in the ground that spring. When the time is hopefully right, you work your fingers into the dirt under the plant, only to find some gorgeous, firm potatoes that are ready to be cooked. I sliced them American fries style and cooked them in some sunflower oil. It was a completely different potato experience.

At this point I would like to iterate that my production was a small one. I had one 40 square foot bed, a thirty-two square foot bed, and a 4 square foot potato box. I was by no means gardening for a lot of volume, but still I had more canned goods than I had ever imagined I would have. I was just glad I didn't plant zucchini, because I would've had that coming out my ears.

That fall we had an early hard frost. It wasn't even technically fall yet when the frost showed up, which shouldn't be surprising since I do live in Minnesota. Still, I was dismayed because my tomato plants still had a lot of green tomatoes hanging on the vine.

"Why don't you make some green tomato salsa?" Nate asked after I had whined once too much about the impending frost. Hmm, why not?

Like most of the recipes I find these days, I went online and found an easy recipe for salsa, then the evening before the frost, I went to my small garden and plucked every last green tomato from the plants. I threw them, peeled and chopped, into a pot with a couple poblano peppers, garlic, jalapeños, onions, and some red pepper flakes. After letting it cook for a bit, I put them into half-pint jars and had some decent, mild salsa.

To top the season off, my coworker brought me a paper grocery bag full of apples from the tree in her backyard. I love an apple pie, but I find making them extremely tedious. Plus, to use up all the apples, I would have had to make five pies. Instead, I quartered the apples, threw them in a pot to boil, and made apple butter. I canned that as well to save for later when I would eat it atop Greek yogurt.

Two shelves in my laundry room were full, and my freezer had containers and containers of pizza sauce as well as a massive amount of blanched green beans. All that from seventy-two square feet of dirt I had decided to dedicate to growing and some generous friends. And not a drop of corn syrup in sight.

Anything I wanted fresh that I didn't grow in my garden, I got from the farmers' market in my small town. Every Friday, I took off from work for lunch and headed over to the market. There were just some things that I wanted to eat fresh that I just didn't have the time or space to cultivate. One of those was the asparagus of early spring. Buying asparagus in the grocery store pales in comparison to that which is harvested the day before. On top of that, the asparagus season is so short that a person has to pounce while she can.

A few other vegetables I picked up from the market included sweet corn, kohlrabi, squash, and more potatoes (my potato box was small). I also got more strawberries, raspberries, and apples from different vendors. Occasionally there were mushroom people at the market, and when that happened, I stocked up. In the fall, I got my Halloween pumpkins from the market, including some fun looking heirloom varieties.

In addition to the usual vegetable suspects, farmers' markets in general are a bastion of local goods. There has been a huge increase of the markets over the last couple decades. In the US, the markets have grown from 1,755 in 1994 to 7,864 in 2012¹. In my home state alone there were 163 markets in 2013.²

My introduction to the farmers' market was an early one. What little I do remember of it is fuzzy, but it involved my uncle Squire, of home grown tomato fame. After eating the perfect tomato, he got a hankering for kohlrabi. We would drive over to the K-mart parking lot where a handful of farmers had brought some goods, usually selling out of the back of a pickup truck. Compared to today's markets, this was a casual affair. After purchasing his kohlrabi, he immediately brought out his trusty pocketknife again, peeled the

1

<http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateS&navID=WholesaleandFarmersMarkets&leftNav=WholesaleandFarmersMarkets&page=WFMFarmersMarketGrowth&description=Farmers%20Market%20Growth&acct=fmrdirnkt>

2

<http://www3.mda.state.mn.us/mngrown/?gclid=CLe5te6pzrcCFaYWMgod43gAng>

tough skin from the vegetable, and sliced off pieces for all who were with him.

The summer of 2010 when I started going to the farmers' market on a regular basis, the Friday market I went to in my hometown was small compared to some out there, but it offered so much more than my early experience back in the mid 80s. From May to October, the market was outside, with each vendor setting up a tent in a wide, spacious circle with a musician or artist normally in the center. Besides my regular vegetable purchases, the market had meat vendors, organic beef, pork, and lamb. I've mentioned my chicken man before – not organic, but humanely raised and excellent chicken. He also sold soap and wool, and I always bought a dozen eggs from him. Sometimes there would be a vendor selling yak meat or some other non-traditional protein. Occasionally I would be able to buy a bouquet of flowers or single sunflower stems. And the sunflower people also had cold-pressed sunflower oil, which I used to fry potatoes. Honey, maple syrup, pies, cheese, cookies, breads, jams – the farmers' market was just not for vegetables and fruits. I looked forward to Friday afternoons when I would get to chat with the people who were raising the meat, eggs, and cheese I was buying. When I left, I normally had a dozen eggs, a pound of bacon, some chicken, and a to-die-for almond croissant in my bag, along with an assortment of vegetables or fruit.

Let me wax eloquent about local bacon for a moment. The first time I had a strip of bacon that I bought from the farmer, I had an epiphanal moment. How on earth could this succulent, tasty piece of bacon even be related to the stuff you buy in the store? Not to knock the store brands, because even bad bacon is good bacon, but it was a night and day difference. The local bacon was less fatty and almost sweet. My brother recently moved to Portland and gets a CSA (community supported agriculture) box every week that has bacon and fresh vegetables in it. He called to let me know now he knew why I always made a big deal out of my garden and the farmers' market.

“About two weeks after I moved here I realized that the produce box and cooking our own food was going to be the norm and it made me happy because the food is so delicious,” he emailed me.

“I’ve learned more about food and cooking in the past few months than I ever cared about in my life. For the first time in years I’m excited about food again. I was eating fast food every day for the last few months in Indy [Indianapolis where he lived previously] and I realize now that it was gross.”

There are definite pros to getting your food locally and there are some cons that have to be discussed as well. The biggest advantage of getting food from your local farmers’ markets is that you know the people who are growing your food. You can look them in the eyes, shake their hands, ask them about the processes they use. If you are so inclined, you could probably even visit their farms and witness the processes.

When they come to sell you food, that money stays local and boosts the local economy. Instead of going to a fat cat in a nice suit somewhere on a coast, your money goes to the person standing in front of you. Gary Holthaus in “From Farm to Table” speaks to this:

The economy, then, becomes a description of relationships, not just of money circulating or accumulating. At our farmers’ markets, the relationships, unlike those at the supermarket, are local. The money changing hands here stays here, traveling in a small universe. It goes into the pockets of local people who grow what we eat and make what they sell or trade. It helps support bakers, local musicians, visual artists, and craftspeople, as well as farm families. And, yes, the local gas station attendant too, for even though the distance is short, it still takes a truck to haul that produce to market. And the farmers, musicians, artists, and craftpeople put the money in their local bank pay their local property taxes, support their local schools, and buy items from their local shops and neighbors.

However, there are some things to consider when buying local. The first thing is that what you do buy is in-season – the vegetables and fruits on the tables are what normally grows right now. To go truly local is to make sure everything you eat is from a local source, meaning no more bananas, oranges, or mangos for those of us in the Midwest. It also means eating and saving what you can while

it's in season, which is why canning is a huge saving grace to those who do go local. Barbara Kingsolver in her book "Animal Vegetable Miracle" embarks on a year-long quest to get almost all of her family's food from within a hundred mile radius of her home with very few exceptions (like olive oil). This included planting ninety tomato plants and spending days canning them. Reading the book, you realize what a large task this actually is.

Another thing to consider is the energy used to get the food to your table. There is a lot of concern about food miles and how far a vegetable has to travel to get to your plate, but there is a lot more to consider than just the miles – one needs to take into account all the steps along the growing process. Life-cycle assessments do just this.

James McWilliams in his book "Just Food" discusses the LCA and how buying local is not necessarily always greener. For instance, he gives the examples of winter tomatoes that are imported from Spain to England that cover a lot more miles than the local tomatoes that are grown in England. But those tomatoes that are grown locally are done so in hothouses, which use a lot more energy than that consumed by the miles traveled by the Spanish tomatoes. It's also important to take into account that a single tomato may have traveled 1500 miles, but it's also traveling with how many other tomatoes? Its per-tomato fuel usage may be so minimal that it would make more sense to buy that tomato when taking other energy processes into account. This is also an important thing to keep in mind when deciding to buy something that isn't in season in your area. Californians have the luxury of fresh tomatoes year round, but for most of us in the US, is that mealy, artificially ripened tomato really worth it in the middle of January?

And what if you live in an area that isn't hospitable to any kind of natural growing? The earth's population keeps growing, and these people need food, no matter where they live. If you're like me and live in an area that allows for seasonal growing (and storage), that's all well and good, but my aunt who lives in Arizona doesn't have that luxury without expending a lot of water usage and unnatural means. In her case, local is not necessarily the answer. What we do need is a smart, environmentally healthy way to produce

and transport food to areas that need to import. Yes, you can eat local, but think in a global way as well.

Surprisingly, McWilliams writes that a lot of energy usage goes toward home preparation, second only to the actual growth of the food.

“...how much energy could be saved if we threw out less food, cooked smaller amounts, ate less in general, used energy-efficient ovens and refrigerators, composted all organic matter not eaten, and developed more energy-efficient menus (say, by eating more meals that did not require extensive and prolonged applications of heat).”

Is this a point for the raw food movement? I can see how it would be more environmentally friendly, but I'm not heading down that path anytime soon. I'm not even giving up meat anytime soon, as I said before. McWilliams does mention that in doing the research for his book, he did decide to become a vegetarian (much to his wife's chagrin). On the meat production issue, he says that if you aren't going to stop eating meat, at least make it grass-fed and for special occasions; in short, eat less meat.

Maybe some day.

Another option I began to take advantage of when trying to find some CS free products was doing some of my grocery shopping at my local food cooperative. Generally speaking, food co-ops are going to be organic, and I've found that organic does not contain the evil CS (although my husband keeps telling me that they are trying to make an organic HFCS – how is that even possible?!). As I've mentioned before, it was never my intent to buy all organic foods, but when a lot of the options have what I'm looking for, why not? I love being able to step into a store and not have to worry about looking at the ingredients lists.

The co-op in the small town where I lived opened the summer of 2011, taking over the building where the locally owned grocery store had just recently closed. The building was so old, the hardwood floors sloped up and down throughout the place, and there was a heavy, unmovable safe in the back room that used to house the money for the business. When the co-op set up shop, they made the

space open and clean, and even took the old store's sign and hung it in the back.

Besides the not having to look at ingredients thing, the best thing about food co-ops I've found is the bulk items. I brought my own containers to fill up on maple syrup or honey, or used a plastic bag to buy four pounds of bulk oatmeal instead of grabbing the cardboard cylinder from the shelf. You can end up saving a chunk of change this way (not to mention some waste).

Plus, there tends to be some local food vendors that contract with food co-ops. My co-op had a lot of meat, egg, vegetable, milk, and cheese producers that were local, many of which were regulars at the farmers' market. Every Thanksgiving they took orders for turkeys that would be dropped off by a turkey farmer down the road. And if you suggested an item, more often than not, you saw that item on the shelf the next time you stopped into the store. There is more of a customer relationship, which could be said of most locally owned businesses.

Thanksgiving 2011, it was just Nate and me. My siblings were all over the country; my parents went out to my aunt and uncle's place, which would require using precious vacation time that I didn't have; and Nate had to work Black Friday in retail (his favorite). At first I was a little sad and wallowed in some self-pity for maybe five minutes before jumping up and saying, "This is great!" I was able to make the Thanksgiving meal entirely myself, using ingredients I bought, and since I was a camera nut, I would take pictures of the entire process without worrying about anyone getting in the way or whining about the food getting cold (ahem, that would be my father). Then I would blog it all.

I started off by driving out to my chicken man, who became a turkey man in November, and picking up my turkey I'd reserved back in August. I had green beans in my freezer, turkey and chicken stock that I'd made throughout the year, and I made a trip to the winter farmers' market where I picked up potatoes and squash (my potato crop had been pretty minimal). I finished by heading over to the food co-op's produce section, scooping up some local mushrooms, shallots, and some rye bread to dry out for stuffing. Of course I still shopped for some items at the grocery store or Wal-Mart

– butter, frozen bread dough for easy dinner rolls, canned pumpkin for pies (I was not THAT ambitious to make pumpkin pies from actual pumpkins), and spices, to name a few. But I had done a lot of shopping from my turkey/chicken guy, farmers’ market, and co-op, which is more than I could say for myself the year or two before.

Because I had heard about free-range turkeys being a little on the tough side, I brined the bird the day and night before it went into the oven, and I will never go back. Brining a turkey (or any fowl) brings so much more flavor to the meat. But I digress. My CS-free awesome Thanksgiving started the night before when I made a pecan pie without CS. Here’s the thing: pecan pie was created to use corn syrup – I believe it was promoted by Karo Syrup as one of the things you could make when Karo was first introduced. Nate likes pecan pie, and I like it ok (not as much as pumpkin), so I searched for a recipe for pecan pie without the dreaded CS. Thanks to the marvelous internet, I was able to find one pretty quick. I few tweaks, and using a butter/lard crust, I had a delicious pecan pie without its main ingredient. Living a CS-free life does not have to be difficult, especially when the world’ information is literally at your fingertips.

The rest of my Thanksgiving went well and turned into more of a photo op than anything else. I stopped at each step to take a picture without worrying about guests hollering from the next room about how long it takes to actually cook a turkey. When it came down to it, my meal was about half local ingredients, some of which I’d actually grown in my backyard. To date, it remains my most successful Thanksgiving meal, even though it was just Nate and me sitting down that evening before he headed off to retail hell.

Buying more local foods does not have to be a next step for avoiding corn syrup, but it tends to be a logical one. If you’re not necessarily an environmentalist but want to avoid CS, then shopping at your local supermarket and avoiding processed foods is certainly an option. I’m not a saint by any means and still grocery shop at Walmart some of the time. Like I said, we are creatures of comfort, and sacrificing convenience is just too much of a mental hassle sometimes, even if you are trying your best. There’s the allure of the instant gratification that is readily available these days.

At this point, I probably come off as a pretentious foodie. HARDLY. I eat hot dogs and bad desserts and, as said above, still shop at Walmart for some of my groceries. I still buy processed foods. The ultimate summertime food is an ice cream cone from Dairy Queen dripping down your chin while sitting on those red, plasticated picnic tables, even though I refrain these days due to the CS dilemma. In my mind, this is not real foodie behavior. I strive to better my eating habits, but sometimes that's just not possible without a major food system (and public perception) overhaul.

Ultimately, it comes down to eating smart. This applies to corn syrup as well; you are not going to be able to avoid all corn syrup if you have any sort of social life. There will always be some sort of event or party or family gathering that you are going to attend where you need to just throw your convictions out the window for a moment and let your personal relationships trump your personal eating habits.

I can easily decline ice cream at my grandma's house when we are having cake, because I will eat her homemade chocolate date cake with no reservations. The ice cream, however, I know has HFCS in it. I can go to my parents' house for a birthday party and offer to make a cake from scratch instead of the boxed version that has a bunch of crap in it. I can go to my sister's baby shower and avoid the barbecued meatballs when there is a buffet table laden with other CS-free goodies. And certainly I can manage my own household's food supply, buying anything and all I can without CS and shaking my head when Nate offers me a spoonful of something I know is iffy.

But when I'm at work and there is a birthday cake from the grocery store that I know for a fact has CS in it? When I go to Easter dinner at my aunt and uncle's place and I can tell all the desserts have some form of CS floating around in it somewhere? How do you decline without hurting someone's feelings or having to launch into a diatribe no one wants to hear on the evils that are corn syrup derivatives? (Although, this could be a perfect time to sound off to a captive audience.) Sometimes you have to bite the bullet and put this diet aside, especially when it's a personal food choice that is not dietarily necessary.

It almost comes down to the school of thought that you live to eat or eat to live. Living to eat is too uncontrollable, while eating to live is so sterile. There's a fine line one has to walk. Eat smart, but eat socially at the same time.

So...what about the health factor?

“If you’re concerned about your health, you should probably avoid products that make health claims. Why? Because a health claim on a food product is a strong indication it’s not really food, and food is what you want to eat”

— Michael Pollan, *In Defense of Food: An Eater’s Manifesto*

Yes, I was eating smart most of the time, or at the very least, trying to. I cut out corn syrup products and was eating more whole foods. By avoiding corn syrup, I had essentially eliminated a whole section of the grocery store – mostly the middle, where processed foods like to hang out. By getting rid of CS in my diet, I had almost by default cut out a large chunk of normal sugar as well. I wasn’t intentionally cutting back on sugar, but I found that the less corn syrup I ate, the less I craved processed, sugary products.

My workplace at the time had a wall of vending machines in its lunchroom, and occasionally I would put in my dollar to get a snack. I went from almost exclusively choosing candy bars to choosing saltier snacks like potato chips or salted peanuts. Even though there are some candies that were okay in my boycott book, I would overlook them because I wasn’t craving sugar. If I did choose a sugary product, it was most likely a chocolate and peanut combination so I could get the salt fix as well. Turns out that eating sugar releases dopamine into the bloodstream, and as you eat more and more, the highs get less and less, so the more sugar you eat to satisfy your craving. In one word? Sugar is addictive.

As much as I was against corn syrup and the corn industry this country had built, I never went into this experiment with eliminating sugar as my goal – I was just concerned with eliminating one kind of sugar. (And to be honest, sugar beets are no better than corn as far as subsidies and industrial agriculture go, but one hurdle at a time.) I love sugar just as much as the next person, and I wasn’t going to give up chocolate chip cookies or CS-free ice cream or

homemade brownies just because I was saying sayonara to corn syrup. But the less CS I ate, the less sugar I ate overall because the less sugar I craved.

It really was eye opening though to see how my cravings decreased. I have never had a lot of willpower or desire to follow through when it came to eating fewer sweets until my willpower was fortified by the CS boycott. Now my diet had a higher purpose! My food lifestyle change was supplanted by something more important than my own preferences!

That's not to say I don't still have cravings for sugar, but the cravings I do have are for foodstuffs that aren't that sweet. I will eat a fruit smoothie or a chocolate chip cookie when I am craving a sweet thing, but I will rarely crave a CS-laden candy bar or gooey cookies. When I do eat something made with HFCS, I tend to think, "Whoa! That's way too sweet!"

Which makes a case for the obesity epidemic that started gaining ground right around the time HFCS started to grab hold of the US market. To refresh your memory, in 1980, US citizens were eating about 120 pounds of added sweeteners per capita per year. Eighty-four pounds of this was from sucrose (table sugar) and thirty-five from HFCS, with the remainder from (real) maple syrup and honey. In 2008, the total was 136 pounds, and the amount from sucrose was sixty-six pounds with sixty-nine pounds from HFCS. (It should be pointed out that fructose is the sugar found in fruits, but fruits are full of fiber and vitamins, antioxidants and minerals, all of which are good for you and offset the sugar intake.) Why the huge increase in sugar intake? Time again for a short history lesson.

After World War II, there was a seemingly large epidemic of heart disease, and, since after the war the amount of meat consumption had increased, the blame was placed on fat. George McGovern, a senator from South Dakota, had created a Select Committee on Nutrition and Human needs in 1968 with a mandate to reduce malnutrition in the US. In the mid 1970s, that work started to phase out, and the committee took on a new cause –

overnutrition. (How ironic.) Between McGovern's diet guru's low-fat and exercise program as well as the committee writer's almost sole reliance on a Harvard School of Public Health nutritionist who had self-professed his extreme views on dietary fat, Americans were now recommended to limit their fat intake to thirty percent of their total calories consumed.

Controversy sprouted for the next few years, with testimonies from the scientific community that no one knew if eating less fat would prevent heart attacks. As you can imagine, there was also a lot of squawking from the cattle, dairy, and egg industries as well. Ultimately it was the USDA that pushed the policy forward, and with not a lot of science to back it up, the US government pushed its low-fat agenda.¹

The funny thing is that heart disease is no less prevalent today than it was back then – in fact, it's increased. Between 1979 and 1996, medical procedures for heart disease in the US went from 1.2 million to 5.4 million.² The population itself only increased from 225 million to 265 million.³ Sure, there are less deaths these days from heart disease, but the medical procedures to treat heart disease are that much better.

Multiple studies today show that fat isn't really a problem in our diet; the lack of produce is. Heart disease trends in Europe show a difference in the countries' rates based on how available fresh produce is, not on fat intake. Southern European nations have had

¹ "The Soft Science of Dietary Fat by Gary Taubes. *Science*, New Series, Vol. 291, No. 5513 (Mar 30, 2001), pp. 2536-2541, 2543-2545. Published by American Association for the Advancement of Science. www.jstor.org/stable/3082809

² "The Soft Science of Dietary Fat by Gary Taubes. *Science*, New Series, Vol. 291, No. 5513 (Mar 30, 2001), pp. 2536-2541, 2543-2545. Published by American Association for the Advancement of Science. www.jstor.org/stable/3082809

³

their death rates decrease while animal fat consumption has increased (this is reflected also in Japan). Compare their rates to countries that have less access (or desire to eat) fresh fruits and vegetables throughout the year. In the US, incorporate a food industry that has no financial stake in foodstuffs that aren't proprietary, as fruits and vegetables aren't, and we Americans are bombarded by advertising that wants nothing to do with healthy, whole foods. Michael Pollan's got it right:

“Eat food. Not too much. Mostly plants.”

But what about that sudden epidemic of heart disease after WWII? That has to be the result of something, right? Oh yes, it's the result of something – but it might not have anything to do with your diet. First, in the 1950s, people were living longer, and infectious diseases and deficiencies were at an all-time low. More Americans were living long enough to actually die of chronic diseases like heart disease as opposed to an infected wound. The number of people dying from a heart attacks had something to do with the fact that there were more people around to die of a heart attack.

Secondly, in 1949 the International Classification of Diseases added a category under the generic “diseases of the heart” category – “arteriosclerotic heart disease” (coronary heart disease). Over the next year, heart attacks increased by twenty percent in white males and thirty-five percent in white females. Then in 1965, there was another category added for coronary heart disease, which “increased” deaths once again.⁴ Turns out an epidemic may be all in a name.

All this low-fat brouhaha aside, people still had to eat. While the USDA and McGovern committee might have hoped that people would have started eating more vegetables and whole grains, turns out we instead turned to more carbohydrates and sugars. Take the fat

⁴ “The Soft Science of Dietary Fat by Gary Taubes. *Science*, New Series, Vol. 291, No. 5513 (Mar 30, 2001), pp. 2536-2541, 2543-2545. Published by American Association for the Advancement of Science. www.jstor.org/stable/3082809

out of our diet, and we're going to replace it with something else that tastes just as good. No cucumbers for us.

Suddenly there's all this product on the shelf that claims "low-fat!" "no fat!" but yet is the harbinger of the fat epidemic. Does causation equal correlation in this case?

Just because a box of food has the claim of no fat or low fat doesn't mean it doesn't have things in it that will turn into fat. The body needs fat and cholesterol to survive, so no fat isn't necessarily a better food goal. Carbohydrates, which are what all sugars are, aren't fats when they go into the food, but once in your body, they go through a transformation.

Fructose, of HFCS fame, is routed straight to your liver when it's ingested, completely avoiding the gastrointestinal tract. The liver works pretty hard to process heavy loads of fructose, and it can sometimes result in scarring. The liver converts the fructose into glycerol, resulting in raising triglyceride levels, one of the things your bloodwork at the doctor shows. Fruit, of course, has fructose, as well as natural sweeteners like honey, and if all we did was eat fruit and sometimes honey, our bodies could handle it ok. Unfortunately, the processed foods we eat are loaded with fructose, high or otherwise, and not a lot of other nutritional benefits.

Glucose, which you may recall makes up a little less than half of HFCS and about half of CS and table sugar, is what your body derives from the starches you eat. Those starchy foods you eat – potatoes, bread, pasta – they all have glucose in them as well, but with nutritional benefits, especially in the case of whole grain. Once you eat glucose, the body metabolizes it in the intestinal tract, which raises your blood sugar. At this point, insulin is released via the pancreas and it binds to the glucose to carry it to the cells in your body that need extra energy – good for those who are running a marathon the next day. Any leftover glucose, the insulin stores for later - in where else? Your fat cells.

If you eat a reasonable amount of carbs and exercise regularly, it's a good idea to eat enough carbs to keep your energy up.

Unfortunately, a lot of us eat too much glucose and it's stored and stored and stored in fat cells. On top of that, the pancreas can only handle so much, and eventually it can't work as well as it did. Then: type 2 diabetes or metabolic syndrome. At this point, because insulin release doesn't work as well, the glucose isn't being delivered to the cells that need it. What a mess.

On the plus side, it seems like more and more people and researchers are taking a look at the results of the low-fat push. In October 2013, Aseem Malhotra of Croydon University Hospital in London published an article on busting "the myth of [saturated fat's] role in heart disease."⁵ If anything, he opened a dialog about fat's place in our diets. A lot of diet trends lean toward low-carb, whether it's sticking to Atkins, trying paleo, in which you eat the same types of foods our hunter/gatherer ancestors ate, or doing the ketogenic diet, where you strive to keep your carb count below 50 grams a day.

Now I do like my carbs, and I'm not sure the government will ever promote a low-carb diet (no matter how much the dairy and meat industries would thank them), but if there is a trend that more and more people follow, it's only a matter of time before food manufacturers take it and run. Plus, who knows: next week it could be announced that carrots are horrible and we should really be eating sand.

Like I said, when I undertook this experiment, it was never my intent to cut out sugar completely, and I still haven't. On top of that, it was never my intent to cut out CS for health reasons. While I wasn't eating very healthy in my pre-boycott food life, eating healthy was not my goal. The more research I did, however, the more I learned about how unhealthy processed sugar in general is. It was a good thing that my sugar cravings were few and far between.

⁵ <http://www.bmj.com/content/347/bmj.f6340>

There is always a moment of truth when I meet new people. My family and friends know of my boycott, of course, as do my fifty Facebook friends and very few blog readers. I have to be careful with new people though – how much do I tell them? What exactly are their political views and can I start spewing off about lobbyists and subsidies and free-range chickens without seeming like a raving lunatic? Once I get a feel for the people, I gauge how much to tell them, and when the time is right, let it out. When I tell people I cut CS out of my diet, after the initial exclamation of how that stuff is in everything, invariably I get this question:

“So, do you feel different? Do you feel healthier?”

“No.” I always answer no. Because I don’t feel different from just cutting out CS. I do have an indicator of how bad this stuff is for my body, though, when I intentionally or accidentally eat it in copious amounts where I normally abstain. More than once I’ve waded through that sticky business where you have to find the personal line and choose when to cross it.

At an Easter gathering with family, I was faced with the decision of eating socially smart. I knew there were items on the table that were loaded with CS, but as I watched everyone pile their plates with everything, I knew that to turn down a chunk of the food would be a social nightmare. So, you choose your battles. I plopped the salads on my plate, placed a wheat roll on top of my ham. Wheat breads, for reasons unfathomable to me, more often than not have CS in them, while white breads lean toward the no CS end of the spectrum. When dessert rolled around, I said yes to the half portions of two different kinds of dessert, gooey and syrupy and CS-laden I knew them to be. I smiled, ate, nodded, chatted, and traded any CS-full candy bars I’d found in my Easter basket with my cousins’ kids.

I said my goodbyes and went home, where I knew it was only a matter of hours before my digestive system rebelled.

Sure enough, the next morning I called in sick to work because I was running to the bathroom every half hour. My body had

placed corn syrup in the same category that spicy food or bad fast food is in for some people.

Corn syrup made me sick, but cutting it out didn't make me feel any less lethargic or better overall. I was drinking less pop, eating more whole foods, craving less sugar, and making informed choices, but I didn't feel any different. And I didn't lose any weight.

I should have prefaced this chapter by saying that when I decided to boycott CS, I was not a small person. I had gradually gained weight since high school, putting on pounds slowly enough that it didn't seem like that big of a deal when they did show up on the scale. After my month-long trial in 2010, I thought maybe a side effect of cutting out CS would be losing some weight, although losing weight was never an intended goal. It never came off, though. Like I said, I never cut out sugar, and I didn't really eat any less – just differently.

A year after I went mostly CS-free, after seeing no downward movement in the scale (actually, it went up a little bit), I thought that if I was already making one step toward a healthy body, even done for non-health reasons, I could do another. In November of 2011, I started the couch to 5k program, where you gradually increase your running distance and stamina by alternating running with walking to ease your body into activity.

On the surface, this had nothing to do with corn, or subsidies, or the environment, or monocultures, or commodity crops. But dig a little deeper and take a look at my diet before I watched “King Corn”, and that's what helped to contribute to my weight. And it was a lot of processed corn. When I had blood work done at the doctor in 2009, my triglycerides were high – 187 – which meant my liver was processing a lot of fructose. (My doctor actually told me when she saw that number that it meant I ate too much bread.) My cholesterol was at 188, with HDL (good) at 52 and LDL (bad) at 99. I also had a lot of “stored glucose” waiting to be used up – my sedentary lifestyle wasn't helping on top of my eating habits.

Eating habits changed, it was time to change the sedentary bit. My triglycerides were already getting a kick in the butt from my reduced fructose intake, but I could do some more.

After some research, I found I could pay twenty dollars a month to the local college (which also happened to be my alma mater) for use of their field house and weight room. While in my junior year at college, I had become familiar with the facilities, so I plunked down the deposit for the weight room key and my twenty dollars for the month. I started C25K that night.

The program is pretty straight forward – walk, run, walk, run, walk until you work yourself up to three miles over the course of nine weeks. I started on week three because it was the first week with a set distance versus time, and this was something I wanted to track by distance since I would be a slow runner. Plus, it was easy to track distance in the field house – one lap around the track was one eighth of a mile. It was just a matter of running and counting.

Let me tell you, this program is no piece of cake. I'd had a talk with my doctor about my knees, and she said to strengthen up my thigh muscles, so I was doing leg presses after every run as well as wrapping both my knees in ace bandages. My hip muscle pulled at one point, and I bought new shoes to offset my overpronation (flat feet) to help my ankles, knees, and hips align a little better. I kept plugging away. Thankfully my progress was gradual enough that I never got shin splints. Breathing was a task unto itself. It took me a couple months, but I reached a point where my lungs were comfortable enough so I wasn't gasping for breath after each run lap around the track.

I wish I could say I did it in nine weeks, but it took about three months for me to finally run three miles nonstop. After only two weeks I was ready to quit, but I kept on. I ended up doing weeks five and six twice, and then added about two steps each between six and seven. I finally ran a full mile nonstop three days before Christmas - a nice little present for myself. After week seven, I totally veered off course and just ran a mile, walked an eighth of a mile, ran

a mile, walked and eighth, and ran a mile for a couple weeks. I thought I would be doing that forever.

Then one day, I just did it – ran the whole three miles and hadn't even planned on it before I was actually out running on the track. I didn't die. I didn't vomit or pass out. But I didn't enjoy it, and I was still running a very slow mile. I could probably have speed-walked a mile faster than I was running it. I had reached my goal though, and while my body wanted to be done, my ever competitive brain was saying, "Psst, hey you, you can do this faster. This is pathetic time. Do better!" Ugh. Stupid brain.

But I liked my slimmer thighs, my calf muscles, and OMG my waist actually had some sort of definition! Okay, brain, you win. I tried to do it faster. That didn't mean I liked it. In fact, I hated running. I dreaded going every other night after my second shift job to the track in the field house, but I went anyway. I STILL hate running.

When the weather started to get a little warmer, I started running outside, and finally, on a perfect night in the middle of May, I realized how some people could actually enjoy this self flagellation they called running. I wasn't going to be participating in any marathons or sprints anytime soon, but I could see the appeal, especially for a competitive person.

After a year of running, I lost 50 pounds. The only other food aspect I tried to incorporate, besides the whole CS thing, was to not eat anything after suppertime. I didn't count calories or reduce my portion sizes a lot. I didn't say no to a cookie. I didn't put half my restaurant dinner in a box at the beginning of the meal. I still ate, albeit without corn syrup. This was the exercise alone.

In January 2013, my workplace was sponsoring a Move It! campaign where a person kept track of weekly activities to get a t-shirt at the end of the program. They also did blood work, so I dropped \$25 to get some blood work done, the first since my 2009 high-triglyceride disaster.

My triglycerides were less than 50. I was shocked. My cholesterol was at 140, with HDL at 46 and LDL too low to even measure. This was a difference of -137 in triglycerides and -48 in cholesterol. What! I couldn't believe it – I was (and am) still technically obese according to BMI charts, but my blood work showed otherwise. Red meat (though mostly grass fed), eggs, dairy, fatty stuff, non-CS sugar – a combination of one or many was on my menu every single day. I cut out some sugar and added some movement, and my blood was positively glowing from the effort.

If I had been smart, I would have gotten some blood work done before starting my running program to see if it had changed from being CS-free alone. Alas, one cannot turn back the clock and hindsight is always twenty-twenty, but it does show that the two together can do quite a bit to turn some fat in your blood around, if that's what you'd like to do.

But this is not a weight-loss push. This is not a health push. This is the last you'll hear of any sort of health benefits from cutting corn syrup from your diet, because this is not a diet-driven cause. I didn't one day decide that corn was the cause of my weight gain and holy cats, I've got to do something about it. Ultimately that's on me, although the current state of the food industry in this country doesn't help. While the health benefits are a definite plus, the cause, above and beyond, is corn as a commodity.

Devil's Syrup

"...so, how's your no devil's syrup working out for ya?"

-Megan R.

I had my skeptics on my boycott, and none seemed more skeptical than my friend Megan. Megan and I met in college, where we lived across the hall from each other, her studying constantly for organic bio-chemistry and me lollygagging my way through my essay writing classes. In our off time, we utilized our lucky timing of college-network-fast internet (this was when modems were still screeching away in most households) alongside the internet golden age and devoted a large chunk of time to finding free stuff on the internet.

Oh, the internet golden age, when so many companies were offering coupons for twenty dollars' worth of product all for the hassle of signing up for an account. We knew we hit the mother lode when we'd find a retailer that offered free shipping as well. One of our greatest accomplishments was using internet acronyms in everyday conversation before it became a thing (this was around the year 2000). Now that the internet bubble has burst and everyone and their dog says OMG mid conversation, we have settled into a shared love of cheese fries and the Mall of America. In fact, we were calling the MoA the MoA before the MoA was calling itself the MoA. The nerdiest kind of trendsetters, we were.

I try my best not to be an evangelizing eater of food. I do not like being preached to about the food I eat, especially about meat from vegetarians, so I do my best to keep my nose out of other people's eating habits. However, if a person asks me about my corn syrup-free life, I am more than willing to extol the virtues of leading a CS-free life. The one person who asked me more often than others was Megan. I think she was more amused than anything about the boycott, but she also could have been interested in actually boycotting herself, since the general approval rating of CS these days is pretty low. You just never know.

So I waxed eloquent about what I didn't eat, what I found to eat in its place, what I generally gave up altogether. In the end, she

played devil's advocate quite a bit. When we went out for our requisite cheese fries, she always asked if I was sure that cheese fries were CS-free. Although I couldn't be one hundred percent sure about the ranch dressing we dipped the gooey, bacony fries in, I was pretty certain that you couldn't impregnate potatoes, cheese, and bacon with CS and get away with it.

"I think I'm fine. I'll take my chances." (That whole social eating thing. And eating cheese fries is in my list of top ten extracurricular activities entitled "Awesome".)

During one of our many trips to the MoA, we were wandering around separately but together, as always. Unfortunately for us, our tastes in stores are pretty different; where I like the shoe stores, she likes the bath supply store. I don't mind shopping for underwear, but Megan will head over to the expensive clothing section just to see what trends she's missing. When we both step into a clothing store meant for women fifteen years younger than we are, we end up laughing at the clothes, however, so we do have some things in common on the shopping front.

This particular time, while people watching and taking in the atmosphere, Megan got a sudden hankering for some Cold Stone ice cream. We made our way up escalators to the third floor and walked almost the entire lap around the mall before finally stumbling upon the promised land. (Maps? We don't need maps!) I had, of course, done my research early on about ice cream. Where could I eat ice cream? Which flavors could I eat? Does anyone offer CS-free chocolate syrup? Is CS-free chocolate syrup even possible? Would I ever be able to eat ice cream while out on the town ever again? Such is the life of a CS-free person.

Turns out Cold Stone is one of few chain ice cream shops where I can actually eat ice cream, but the only flavor in their case that doesn't contain CS is chocolate. This is fine by me; chocolate and I get along swimmingly. We stood in the winding line to order our ice cream, and Megan talked about what she was going to order, then asked what I was getting.

"The only flavor that doesn't have corn syrup is chocolate, so I'm going to get that," I sighed. Curse you, commodity crop stranglehold.

“Oh yeah!” she replied, in a mocking tone. “You’ve got to watch out for that devil’s syrup!”

And a new term was born.

Another day, maybe a year later, Megan and I were again at the MoA, this time with her husband and their toddler in his stroller. We were strolling along and the topic of devil’s syrup comes up.

“I’m not really that concerned about devil’s syrup,” Megan started her soliloquy. “I know we should cut out more sugar, and it has a lot of calories, but I don’t want to give up my Mellow Yellow. I don’t want to have to read labels all the time. I like not caring. Yeah, it’s in everything, but is it really that bad for you?”

“Yeah, it’s not like it’s arsenic or something,” her husband input.

This is a common comment I get from a lot of people. And while CS is not that great for a person, it’s not going to kill you outright like a stabbing would (or arsenic). Besides, the health factor was never my main concern. I kept strolling along, and pulled out my big guns like I always do.

“Well, I don’t really do it for the health benefits. Although I do get sick if I eat it. I mostly do it to protest the government subsidies and big agriculture: you know, companies like Monsanto.” I shrugged. I try to be casual and stay off a soapbox for the most part.

Her husband piped up.

“Okay, that I get. Monsanto IS the devil.”

“Yeah they are!” Megan started. “Suing all those farmers.” We commiserated on our shared disgust with one of the largest companies in the US benefiting from industrial agriculture, and then moved on to more important things, like where exactly was the bath store Lush in relation to where we were?

During my initial month, I did a lot of research for my less than ten blog readers, and for myself, mostly. After figuring out how CS is made, how subsidies work, and looking up farm bill information, I looked up Monsanto, “A Sustainable Agriculture Company”. What I found was not exactly pretty, because when it came down to it, Monsanto really kind of is the devil.

You may have heard of Monsanto. They are one of three companies that produced Agent Orange chemical used in chemical warfare in Vietnam. Agent Orange is a herbicide and defoliant, so the US military sprayed the stuff over the forests of Vietnam and parts of Laos and Cambodia to deprive guerillas of cover. As a result, 400,000 people were killed or maimed and birth defects were even higher at 500,000¹. But that's not the Monsanto of today – oh no. Today they are a company improving sustainable agriculture, fighting hunger, and raising awareness of food challenges. Some of this is factual; the world does need a lot of food, which Monsanto does very well. However, the way that Monsanto goes about promoting its agenda is a little sketchy and deserves a more critical eye.

To start, a brief history of Monsanto, according to Monsanto – specifically their website. In 1901, the original Monsanto was founded by John Queeny – his wife's maiden name is Monsanto, so he named the company after her. The company produces agricultural products, and in fact, the first product is saccharine. In 1964, Ramrod herbicide is introduced, which starts a trend of “Western” themed herbicides. It's followed by Lasso herbicide in 1968 and Roundup in 1976. In addition to producing herbicides, research programs are established. A cell biology research program makes its appearance in 1975 and a molecular biology group in 1981. This sets precedence for Monsanto research.

In 1982, the first genetically modified plant cell (or rather, transgenic plant cell) is produced. The same year, they bought the Jacob Hartz Seed Company – a soybean seed producer. Following their first GM produced seed, field trials begin in 1987. Alongside the GM plants, Monsanto had been working on Posilac, the bovine somatotropin (commonly known as Bst), which when injected into cows stimulates milk production. In 1994, this received regulatory approval and goes on sale in the US (and is still a minor controversial subject).

In 1996, Roundup Ready soybeans go on sale. This is a huge breakthrough because farmers can plant their seed with a tolerance to Roundup and not worry about the herbicide killing their crops. It

¹ http://en.wikipedia.org/wiki/Agent_Orange

saves time, but there are some drawbacks as we'll learn. Also in 1996, Monsanto buys the biotech assets of Agracetus and buys interest in Calgene, also a biotech company.

A lot happens in 1997 – Roundup Ready cotton and canola are introduced, and Monsanto buys a few more seed companies. In 1998, Roundup Ready corn is finally introduced, and DeKalb Genetics Corp is purchased. Notice a trend?

In the year 2000, Monsanto changes its name to Pharmacia Corporation, but the agricultural division of Pharmacia is incorporated as Monsanto. Pfizer actually takes on Pharmacia as a subsidiary in 2003.

Up to this point on their website, Monsanto refers to itself as the “Original Monsanto”, as if to distance itself from what happened under the Monsanto name earlier in the century. After 2000, there is a lot of GM innovation as well as a lot of seed companies acquired. They pledge for sustainable agriculture as well as increasing yield in crops. Paul Roberts in “The End of Food” writes:

“...companies themselves are eager to move into a marketplace that is not only growing but boasts products that can be touted as helping to save the environment while fighting poverty. This is seen as particularly helpful for companies like Monsanto, the St. Louis based chemical giant formerly known for such public-relations nightmares as PCBs and Agent Orange. As The Economist puts it, “Rather than having to discuss toxic spills, Monsanto now talks about feeding the world.”

Unless you've lived under a rock for the past few years, no doubt you've heard some controversy surrounding genetically modified (GM) foods. Many European countries have banned GM foods from being sold, and as of mid-2014, there have been sixty bills introduced in more than 20 US states to require labeling. In Maine, law LD.718 was signed in January 2014 that requires disclosure of genetically engineered food or seed, and Connecticut signed into law HB.6418 and HB.6519 in December of 2013 that requires labeling

of GM foods. Minnesota has some current legislation requiring labeling, but nothing has been signed into law.²

According to the Center for Food Safety, more than ninety percent of Americans support labeling genetically modified foods. The FDA approved voluntary labeling in 2001, but do you think any of the companies have taken them up on the offer? It's pretty telling that if no producers of GM food are putting that information out there that a disclosure may just be a death knell for GM foods.

But what is the deal with GM foods, anyway? How much does the average person really know about GM foods, besides that they're supposedly bad for you? I ended up learning a lot more about GM seeds (or rather, transgenic seeds) than I wanted to know in the first place, but it did let me sit in a place where I am able to at least make an informed decision about eating or not eating GM foods instead of listening to soundbites from one side or the other.

Humans have been modifying the foods we eat for centuries. By selecting plant foods we like over other plant foods, and by crossbreeding different strains of these plants, our ancestors had been unwittingly genetically modifying our foods, albeit indirectly rather than directly. The term transgenic can also be used to describe what GM connotes today. Transgenes are those that have had their DNA altered by introducing the DNA from another organism. True, this was happening with the indirect GMing our ancestors were doing, but the plants had to be closely related for anything to actually happen. In the late 70s and early 80s, procedures were invented that could combine DNA from two species that were very different.

Monsanto developed the recombinant cow hormone in the 1980s, bovine somatotropin (rBST), a growth hormone that boosted milk output by up to twenty-five percent. This was just the start, because soon after, Monsanto was able to take a gene from *Bacillus thuringiensis*, a bacterium that produces natural insecticide. They put this gene in corn, and Bt corn was born, which repels pests. But the real coup was when Monsanto was able to create a plant that was

² <http://www.centerforfoodsafety.org/issues/976/ge-food-labeling/state-labeling-initiatives#>

made to tolerate glyphosate, otherwise known as Roundup, an herbicide created by Monsanto.

Glyphosate is an herbicide used most often in commercial crop fields to kill weeds and grasses and was discovered in 1970. After bringing it on the market under the name Roundup, farmers were quick to adopt, but Monsanto knew their time of market monopoly would be over in due time – the patent on glyphosate expired in 2000 so any company could reproduce it under their own name. To help keep profits flowing, scientists moved on to the next thing and discovered a way to make seed resistant to Roundup – Roundup Ready seeds.

Of course Monsanto wasn't the only company with these thoughts – all the big chemical companies were rushing toward the same target because this would be a huge money maker for whoever figured out how to transgenetically alter seed to be resistant to herbicides. Unfortunately, if it hadn't been Monsanto who came up with a Roundup Ready seed, it would've been another company under another name. Whoever had that patent would hold patents on major crops the world over.

It came to fruition in 1987, after two years of research on how to make Roundup Ready seeds, when engineers decided to take a look through a Monsanto plant that produced glyphosate. Although there were decontamination pools, some of the residue ended up in nearby land and ponds. The engineers took samples from these contaminated areas and sifted through thousands of microorganisms to select the ones that had survived the onslaught of Roundup. After another two years, computer analysis finally spotted the bacterial molecules that had resisted the glyphosate. They combined the resistant gene with a promoter from the cauliflower mosaic virus and parts of DNA from the petunia, and created a completely man-made gene cassette that never existed in nature nor would ever evolve in nature. Then, they had to use a gene gun to insert the gene into a soybean (corn would come later) thousands of times to get a few viable looking plants. After field tests of these plants, one strain stood out among the rest in its resistance to heavy doses of glyphosate. In 1994, Monsanto filed for authorization, and in 1996, Roundup Ready soybeans went on the market.

I think what a lot of people think of when they hear GM foods is the gene that's in the seed that makes the seed resistant to herbicides. That gene, as mentioned before, is completely artificial. There is no place in nature it could be found, and there's no way it would evolve to be that way. Another negative factor for the GM label to the public could be that there is little additional regulation as we know it for GM foods.

In 1992, after prodding by Monsanto, the FDA published its policy on "foods derived from new plant varieties", being very careful to avoid reference to biotechnology in any way. "Foods derived from plant varieties developed by the new methods of genetic modifications are regulated within the existing framework utilizing an approach identical to that applied to foods developed by traditional plant breeding."³ It was a way of having an appearance of regulation, but not really because there is no real testing on GM seed/food that's different than normal seed/food. It also allowed Monsanto to have a scapegoat in case things went wrong.

(Speaking of scapegoats, here is your etymological break. The modern meaning of a scapegoat is someone else you can blame for your mistakes, but its roots are biblical – Leviticus to be exact. The scapegoat was actually an unlucky goat on Yom Kippur. After a high priest placed all the sins of the people on the goat's head, the goat got turned loose into the wilderness. The term scapegoat was coined in the 1500s when William Tyndale mistranslated the Bible. He used scape as a form of escape and goat, meaning the goat that escapes (or departs). The term started being widely used in the nineteenth century. Etymological break over.)

Weirdly enough, there is more testing that goes into a food additive than there is on GM food. Food additives, such as coloring agents and preservatives, have to undergo a toxicology test before they are approved. The FDA, in deciding that GM food wasn't a food additive, let GMs out in the market without toxicology testing. At the same time that the FDA was figuring out how to handle GMs, one company was performing toxicology tests on a GM tomato because they assumed it would be viewed as a food additive. The

³ The world According to Monsanto p. 145

FDA approved the GM regulation before the results of the study, but it may have been wise to wait. Seven of the forty test rats died after two weeks and many had stomach lesions. But the tomatoes were given a pass and could be sold on the market.

That's not to say that all GM foods could be bad – it may have been just that tomato that had problems. It could be there is something bad this GM tomato does to rats specifically and is fine for humans. It does show, however, that toxicology tests on GM foods would be useful and point out problems in food. One would hope that the chemical companies producing these GM foods are doing these toxicology tests out of their own volition, even if it's not required by the government. Unfortunately, the FDA decided the government didn't have to test GM foods, even with evidence that there could be things that could harm the people who buy them.

Ultimately, I'm not saying the transgenic technology is bad. There is a lot of potential with transgenics and what companies could do to increase yield and help seeds resist pests. Transgenic seed and the process of creating them is not inherently bad. The lack of "regulation" on them, however, is disturbing and baffling. If the government were as concerned about GM seeds as they were about people consuming milk straight from the cow or what temperature I should cook my steak to, there might be a different attitude toward GM foods.

As it is, as of 2005, eighty percent of soybeans grown in the US were GM, as well as eighty-four percent of canola, seventy-six percent of cotton, and forty-five percent of corn.⁴ Whether or not you like it, if you live in the US, you are most likely eating GM foods. I don't think labeling GM foods would hurt at all, but with the current state of processed foods in this country, you would be hard pressed to find a box of mainstream corn flakes without the GM label.

If you do want to avoid GM foods, there is a label in your grocery store you can be looking for right now that will pretty much guarantee GM free food: the organic section. They are spendy, though, and organic foods don't get produced without their own set

⁴ The World According to Monsanto p 207

of issues, but if you want to steer clear of GM foods, that's the way to go for now. There are things I will buy organically, mostly for lack of a viable CS-free option. A lot of times, though, the cost will push me to buy conventional versions of some foods.

A GM label might shift the market if the average consumer is wary, and if labeling GMs becomes as commonplace a requirement as stating the nutrition facts on a box of food, then a true shift has happened. It would mean the US government acknowledges that GMs are, in fact, different than regular seed and should be regulated as such. I don't think it's going to happen on a federal level any time soon, but on a state level GM labeling is happening, as stated before; Maine and Connecticut have already taken the legal leap to require GM foods be labeled, and there are a chunk of states that have current legislation on labeling. But the lack of federal government regulation, or rather, deregulation, is part of the issue I have with how Monsanto does business before that devil's syrup hits the grocery store shelves, or even makes its appearance on an ear of corn.

If you think back to gradeschool history classes when you learned about the Rockefellers and anti-trust regulations in the United States, this is the time to re-think it back into your brain. The anti-trust law helps maintain a free market competition by allowing free trade and competition; banning market domination; and supervising mergers of big corporations – going so far as to prohibit some transactions that threaten competition.⁵ Unfortunately for us consumers, there was a trend away from enforcing antitrust business during the Reagan administration due to the thinking that larger companies are more efficient and therefore better for consumers. They may be more efficient, but does the consumer miss out on the quality and innovation that competition brings?

One of the things I noticed right away while perusing Monsanto's history on their website was how many companies were coming into their hands. Turns out that Monsanto controls about a fifth of the global market when it comes to proprietary seed. On top of that, ninety percent of the transgenic seed sold globally is owned by Monsanto when considering its licensing agreements. Does that

⁵ <http://en.wikipedia.org/wiki/Anti-trust>

raise eyebrows? It certainly raises mine, especially when it comes to something so fundamental and necessary as food. We are literally putting all our eggs in one basket.

We do hear from time to time news stories about antitrust laws coming into action, most notably Microsoft. However, the food industry is a powerful one, and with all the lobbyists and government employees who have worked for Monsanto in the past, an antitrust suit coming up against Monsanto in the near future would surprise me.

In Washington DC, many people will move back and forth from industry to government. “Former Monsanto executives have served as the US deputy to the World Trade Organization, deputy director of the US Environmental Protection Agency, and head of the FDA’s New Animal Drug Evaluation Office...Michael Taylor, who ran the USDA’s Food and Safety Inspection Service under President Clinton then worked as an attorney for Monsanto, then took a job at the FDA, then rejoined Monsanto as a lobbyist.”⁶ Clarence Thomas? Lawyer for Monsanto before he was appointed to the Supreme Court. Between 1998 and 2001, Monsanto spent \$21 million on lobbying, with a record of \$7.8 in 2000.⁷ Seriously? How does the government properly and objectively inspect ANYTHING?

Another way the government has essentially given a free pass to Monsanto is by allowing the patenting of genes. The 1951 patent law applied to machines and industrial processes only, not to living organisms. In 1980, however, the US Supreme Court issued a decision on *Diamond v. Chakrabarty* that a live, man-made organism is patentable.⁸ Up until very recently, people were patenting any gene that was discovered – as long as the company had isolated and described what the gene could do, including human genes, it could get a patent.

⁶ The End of Food, p 293

⁷ The World According to Monsanto

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Myriad Genetics had held a patent on the gene BRCA, which is linked to breast and ovarian cancer risk, and was the only company that tested for the gene (hence the patent). In June 2013, SCOTUS decided against the patent and score one for humankind. Clarence Thomas, Mr. ex-Monsanto himself, wrote the final decision: “We hold that a naturally occurring DNA segment is a product of nature and not patent eligible merely because it has been isolated.”⁹ This is a definite step in the right direction, but it still allows for patents on adjusted genes, such as those that Monsanto sells worldwide.

So what does holding a patent on a seed actually allow a company to do? Here’s what happens when a farmer buys RoundUp Ready seed. After signing a contract that says they won’t save the seed, farmers plant, grow, and harvest the seed, then sell it. Instead of saving some of the seed to plant the next year, like people had done for centuries, they have to sell all of it because that property is technically Monsanto’s per the contract. Then come the next spring, they buy RoundUp Ready seed from the seed store and Monsanto again. It turns a nice tidy profit for the big M, I would imagine.

Here’s where it gets sticky and why I consider Monsanto the slimiest of the slime. Plants will always do what they do best: pollinate. GM, conventional, organic, whatever. These plants want to propagate and propagate they will; ask anyone who’s detassled corn and they’ll tell you. Plants don’t care if the next field over has organic corn while its own genes are patented. Barring a giant wall between fields, the Monsanto-owned genes are thrown to the wind and mixed with non-GM plants, resulting in some organic seed mixed with GM seed. The farmer who’s been saving his seed for fifty years now unknowingly has patented seed in his silo waiting for next spring. Next thing you know, Monsanto’s on his doorstep with a plan to sue because his seed has the patented gene in it, even though the farmer hasn’t given a dime to Monsanto.

As an aside, one has to wonder when the ownership of the gene ends. We ingest food made from Monsanto-patented seeds – does this mean the food that goes in our mouths technically still has a

⁹ http://www.cbsnews.com/8301-250_162-57589140/supreme-court-says-human-genes-cannot-be-patented/

little part of it that belongs to Monsanto? Does our waste include little pieces of it that Monsanto could still claim? (That seems a little fitting, I think.)

This happens more often than you'd like to think it does. A lot of the cases are settled before a court decision is made because farmers only have limited amounts of money while Monsanto has it to burn. There was one case in Canada that went all the way to its Supreme Court. The justices narrowly favored Monsanto in the decision but awarded them no money.

There are farmers who will sign the contract and then intentionally save their seed for the next year, but that's understandably going against their contract. These small-time farmers who are suddenly faced with patent violation charges have no chance to win any court case, and Monsanto puts them out of business, only to have their farms bought up by a larger farm down the road that does use Roundup Ready.

I'd read a lot about how Monsanto was the devil and what business practices they were keeping, when the time finally arose when I was able to practice my cause beyond the grocery store shelves. I visit weather.com pretty much on a daily basis. Like my mother, I want to keep track of the weather even though I can do nothing about it. I like to be prepared – when can I go for a run? Should I bring an umbrella? Is it possible to go to the lake this weekend? At my age, the weather channel is hot entertainment (oh ho ho; that was an intended pun).

One day I was perusing the weather website when, on the right-hand side I noticed an ad for...Monsanto. What! Say it ain't so, weather.com. I clicked on that bad boy, and sure enough, it went to the Monsanto homepage. Luckily right then and there I was able to voice my opinion; the weather website has a feedback option where you can complain about an advertisement. Complain I did! I told them I didn't like ads by Monsanto, and sent it on its way. Sure enough, I never saw another Monsanto ad, but whether it was because they severed advertising ties with them or they recorded my cookies and just didn't show them to me anymore, I'll never know.

Despite being the devil's product, Roundup Ready seed does have its benefits. First, it reduces farmers' time, and second, it reduces

tilling. Previous to Roundup Ready, farmers plowed to prepare for the seed. Then several herbicides were sprayed on the fields to eliminate weeds throughout the season. Before actually harvesting the seed, farmers would have to inspect fields and pull up any weeds by hand. With Roundup, no plowing beforehand is needed; Roundup is sprayed before planting, then again about halfway through the season. I can see how when Roundup Ready seed came on the market it was like a miracle seed to farmers.

But is it a moneymaker compared to conventional seed? An economist at the University of Iowa decided to take a look in cooperation with the USDA. He sifted through accounts of Iowa's farmers and compared costs and revenue for Roundup Ready versus conventional soybeans in the year 2000. Taking all factors of production into account, the transgenic soybeans lost \$8.87 an acre and the conventional soybeans lost 2¢. (Yes, both at a loss – soybeans are heavily subsidized as well, so the farmers received something for their work.) Was it a fluke? Did the fact that the amount of transgenic fields they surveyed was almost twice the number of conventional fields have anything to do with it? Or is the yield a farmer gets what is most important – not the amount of money the field actually produces, since it will be subsidized? See how this is all cyclical? The system is broken.

Transgenic seed has a lot of potential and could be the wave of the future if done correctly and safely. But when so much of the world's food is in the hands of one company that has a stake in ninety percent of the world's seed business, how that is healthy competition that fosters growth is beyond me. The little guys don't even have a chance, much like the small farmers who get sued by Monsanto because of something that happens naturally.

The big farmers – efficient, industrial farmers – who plant acres and acres of seed every year and keep buying up small farmers who don't make enough money to keep afloat or have no one to take over certainly make some money from Roundup Ready seed. Thanks go to Earl Butz's admonition to plant fencerow to fencerow, but look where it's gotten us. I drive out of town and Southeastern Minnesota is corn and soybean fields for as far as the eye can see. The fields are occasionally blipped by the farm itself, surrounded by trees

as a windbreak – more in Southeastern Minnesota than in West Central. Fields rotate year to year, swapping out soybeans for corn and vice versa when the time is right, but the two crops have dominated the US breadbasket for decades.

Ultimately, transgenic seeds promote the monoculture, the cultivation of a single crop. Food production companies have adapted by creating everything imaginable out of the overwhelming amount of corn this country produces. Consumers, of course, have fallen right in line and bought the processed foods that used to wave in the sun with green leaves and yellow seeds.

Not only is this not very good for us people who eat the corn-derived products, but it's not that great for the environment. (As you may have ascertained by now, I most identify with being a hippie more than anything else. I'm not particularly happy with this self-label, as a lot of people hold a negative connotation toward it. However, if that's what I need to be called in order to hold all my values to my heart, that what I'll be.) We need food, yes, but it's beginning to be at the expense of our environment. And, to paraphrase Hank Green^{*}, what good is worrying about anything else on this planet, if we don't have a planet on which to worry?

^{*} Who the eff is Hank? www.youtube.com/vlogbrothers

Quit Devil's Syrup, Save the Planet? (Almost)

As for you, my flock, ... Is it not enough for you to feed on good pasture? Must you also trample the rest of your pasture with your feet? Is it not enough for you to drink clear water? Must you also muddy the rest with your feet? – Ezekiel 34:17-18

There is a story from my childhood told by my dad's sister that illustrates my dad's view of environmentalism to a tee. Said aunt and my dad were driving along a busy highway, whether on a joyride or on a mission is irrelevant, and my aunt was unwrapping something. Instead of just dropping the piece of plastic on the floor or chucking it in the backseat to deal with later, she let it slip through her fingers and out the cracked passenger window.

My dad slammed on the brakes and veered to the side of the road. He told her to get out and pick that piece of plastic up. Now, if this was due to him not want to get a littering fine or if he was truly annoyed at the thought of that plastic sitting in a ditch, I'm not sure. But either makes for a pretty powerful view of my dad's conservation opinions.

From very early on, I remember recycling being a large part of my family's life. Since my family lived in the almost-country, we had to haul our recyclables into town, but that didn't deter my parents. Every time we opened a tin can of food for supper, someone was appointed to rinse out the can, remove the label, open the bottom end, and flatten the can with her foot, neatly tucking the two ends of the can in the now flat can. An aluminum can crusher was permanently installed in our back room, where the trashcan slowly filled to overflowing, at which point it would be taken out to the barn, awaiting its trip to the recycling center. On the way to the recycling center, we would take bets to guess how much money we would get in return for the smashed aluminum cans.

The aluminum stash was greatly increased every spring, when my dad would take my siblings and me out to the country roads in the area. Each one of us would be armed with a garbage bag and a goal to scour the ditches for cans. Thinking back, I wonder why we weren't given gloves to protect our fingers; we ran into a lot of funky

stuff in those ditches. Perhaps it was dumb luck or hopeful optimism. My dad parked the white, former USWest telephone van at the next crossroads or farm driveway, and with two of us on the left and two on the right, we scanned the ditches for cans. It wasn't abnormal for us to drive away with the old van filled with sticky, yeasty smelling cans. Some summers those cans funded our vacations.

Recently I was talking to my sister Liz about the can pickup jaunts, and she wondered how we managed to gather so many cans. It took a moment of consideration, but I realized that in the 80s, plastic bottles were relatively non-existent. We had just made the jump from glass bottles to aluminum cans at the grocery store; plastic 20-ounce bottles had yet to make their debut. When you think about it, it's really unfortunate that we migrated from two very recyclable materials for drinks to one that doesn't recycle well at all (most plastic bottles are recycled into carpet) and takes years and years to biodegrade.

I have a philosophy: every day should be earth day. One day a year is not going to convince the world that we need to be doing something to help out the planet. One thing I'm happy my parents deeply ingrained in me was the decency to clean up after my footprint on the planet. My parents are polarized when it comes to most politics, but the one thing they both agree on is conservation and stewardship of the planet. I have no recollection of a time in my life when I didn't recycle, and it has been that way because I have parents who understand that part of being on this planet is a recognition that we need to keep it in good condition, if not better condition, than when we arrived. Unfortunately, as a whole, humans are not doing a great job at this philosophy, but as individuals, my parents passed along their awareness early on and more than well enough.

I remember celebrating earth day in the Catholic grade school I went to; it was a big deal. We decorated t-shirts, had poster contests more than once, recited the three Rs (Reduce! Reuse! Recycle!), planted trees, and pledged to turn the lights off when we weren't using them. Maybe it was the culture of that particular school or it was the time period (the mid-to-late-80s), but I don't remember as

much of a focus on earth day once we moved away and my siblings and I picked up our studies at public school. This isn't to say my family wasn't still maintaining stewardship of the earth; it just wasn't a huge focus in school, where an impressionable young person spends seven hours of the day.

Once I got to college, the tables turned again, and a focus on being green was once again in my educational life. I went to an all-girls' Catholic college where a focus on easy recycling, reduction of paper usage, and even a major in environmental studies was offered. The Catholic Church, it turns out, has it straight when it comes to the environment. The United States Conference of Catholic Bishops has actually published a number of statements concerning social justice and climate change. In 1993, an Environmental Justice Program was created to "educate and motivate Catholics to a deeper reverence and respect for God's creation, and to encourage Catholics to address environmental problems, particularly as they affect poor and vulnerable people."¹ Social justice and concern for the environment go hand in hand.

(If you are Catholic, or former Catholic with hints of guilt, or even if you aren't anywhere near being Catholic and want to see what Catholics are doing about climate change, you can visit the Catholic Climate Covenant website at <http://catholicclimatecovenant.org/>. Once there, you can sign up for a newsletter that will keep you up to date on all Catholic statements on climate change and take the St. Francis pledge. As a person of the second variety, I found the site hopeful and enlightening.)

After I graduated from college, it only seemed appropriate that I continue recycling no matter what my conditions were. Given the convenience of the time I live in, at most I would have to drop my recyclables at a recycling center (and maybe get a few bucks for the aluminum, to boot). I knew that by myself I couldn't save the planet that I'm genuinely concerned about, but if others see me lead by example, that's a small step.

I have a friend who chooses not to recycle; she never has and she never will. When we lived together, it drove me bonkers that she

¹ <http://www.usccb.org/issues-and-action/human-life-and-dignity/environment/>

didn't recycle. Ultimately, she agreed that she would put the recyclables in a different trash container, but that was the most she would do. Since I was going to be hauling the recyclables out to the curb anyway, I took this as a huge step forward for her. Today when I visit her house, I bring a bag so I can take my aluminum pop cans home for recycling instead of them going into the landfill (which I've driven past and stinks to high heaven).

When people tell me it's too hard to recycle, I have to wonder what their city or county is doing wrong. If a person lives in town, separating your trash has never been easier. I used to have 4 containers for aluminum, tin/steel, glass and plastic, and paper, which I then had to haul out to the curb every other week or so, entailing more than one trip normally. These days, cities make recycling SO EASY. They give you a trash can like your garbage can and allow comingling of materials. This means a person can throw all recyclables into one container instead of separating them out. It's a matter of one of two choices – not difficult at all. On top of that, some towns have a rewards program for the recyclables; the more your recyclables weigh, the more points you get, and the more rewards you can redeem.

What tends to infuriate me these days is when I walk out of a room at work with a black trash can and blue trash can next to each other, a big white recycle symbol emblazoned on the blue, and both trash cans are full of trash and recyclables. Have people just become lazy or do they not care? It's hard to tell.

That aside, I'm not saying that I'm a saint when it comes to conservation - oh goodness no. I love my hot baths and showers in the wintertime; I live 20 miles from my workplace; I have a gas-powered lawn mower and the central air runs during the hot summer months. But I do what I can: all my light bulbs are CFLs or LED, the water heater is set to the lowest hot setting I can stand, and the automatic thermostat is set at 60° overnights in wintertime. On top of that, as you gather by now, my eating choices try to reflect some sort of sustainability or conservationism.

So when I started my research on devil's syrup (oh, we're moving from CS to DS at this point – it only seems appropriate), and I learned about monocultures, sustainability, conservation, and the

environmental impact that traditional single-crop agriculture does out, well, just one more tick in the column of reasons to avoid DS.

Drive through any rural area in the Midwest and the view will be a constant almost across the board: crops crops and crops, or more specifically, corn and soybeans. This part of the US is called the world's breadbasket for a reason. We do produce a lot of food for the world, or more appropriately, a lot of food for the livestock that will become the food for the world. Unfortunately, the crops we do grow all tend to be the same variety, year after year. While that may sound like an easy way to farm, it can have pretty devastating effects on the land, as well as putting all farmers' eggs in one basket.

Monoculture is producing a single plant or crop over a large area of farmland for a long amount of time. It's easy for farmers and produces results: less time spent on planting, harvesting and maintenance, less waste, and specially tailored seed for a location.

One of the threats with a monoculture is disease. Since all the plants are of the same genetic variety, they will all be destroyed if a disease hits. By mixing different crop varieties, farmers can get better yields. In China, a study was done that examined the planting of different varieties of rice – it can even be the same crop, as long as they're different varieties – that increased the yields of non-resistant strains by almost ninety percent. To top it off, since there was a huge decrease in the diseases strikes, pesticides weren't needed as much.²

The biggest threat to the food system with monocultures is that after using the land for so long to produce the one variety of plant, the soil's fertility is pretty much wiped out. By rotating and growing different varieties of crops on farmland, the soil will remain viable and full of nutrients. Each crop grown on the land leaches the soil of certain nutrients, and by not rotating crops and not introducing different root systems into the ground, the soil becomes a dead thing.

As a backseat farmer (meaning there are farmers in my family, and I pay attention sometimes), I know that rotating corn and soybeans helps keep some level of nutrients in check in the soil,

² <https://en.wikipedia.org/wiki/Monoculture>

especially nitrogen, which is essential for growing. There are actually a lot of different and better ways than the soybean/corn rotation to keep the soil alive and fertile, including planting winter crops and using grasses as cover. Fertilizers, however, are formulated to add nitrogen and other nutrients to the soil so that rotating isn't as necessary as it used to be. Instead of using natural means to return nutrients to the soil, farmers can keep planting the same variety of corn year after year, apply fertilizer as needed, and increase their bushel output as the corn strains get more sophisticated.

There was one excellent thing to happen due to GM Roundup Ready seed – reduced tillage. Weeds, of course, are the scourge of the farmer. Up until RR seed was introduced, farmers tilled the fields to help with weed reduction. When there is a seed, however, that you can spray glyphosate on directly with no effects, that eliminates some tilling.

“The plow might be a sacred symbol of agricultural productivity, but it wrecks the soil and...compromises basic agricultural health,” says James McWilliams in *Just Food*. Tilling dries out soil, causes erosion, and pretty much destroys it. No-till farming allows for the season's crop stubble to offer some semblance of cover on the field and to the soil, reducing the amount that is eroded as well as reducing greenhouse gas emissions. On top of that, it improves water retention, reduces fertilizer usage and nitrogen runoff, promotes microbes, AND lessens farm fuel demands by keeping the tractor in the pole barn.

Better organic fertilization means less artificial fertilization, and by having more microbial activity in the soil, a natural balance to the insect population is maintained, meaning more birds to control the pests (less insecticide!). Good news all around for the environment. In fact, no-till farming practices increased thirty-five percent after biotech seed was introduced, which reduced water and wind soil erosion by thirty percent from the 1980s (McWilliams 100). Farmland has an average of two feet of topsoil, but before we started farming the land, it was probably closer to four. Score one for GM seed (...and begrudgingly, Monsanto), because shouldn't a farmer's number one priority be the land on which he makes a living?

My cousin is a farmer, taking after his dad and even living with his family on the land adjacent to my aunt and uncle's farm. He raises Angus beef cattle that make a lovely marbled t-bone steak that grills to perfection on a sunny summer day, and he farms land to sustain the cattle when they aren't out cavorting in the pastures. He transports his cattle between his pasture, my uncle's, and my other cousins' place down the road. I asked him if he'd be willing to talk about his practices, as well as my uncle's. One evening I drove over and talked with him and his wife, as well as my aunt and uncle.

When he and his wife bought the land, the fields were compacted and tough after years of conventional farming. Their goal was to "make the land better than when we got it." While he does have a "day job", so to speak, that is work for him. He doesn't view the farming he does as a job; he enjoys it, and any money he and his wife make from the farm goes directly back into the farm. This is land conservatism at its most pure roots.

My cousin and uncle recently took advantage of the Conservation Reserve Program, a USDA funded program that helps to improve the health and quality of environmentally sensitive land. Between the two of them, my cousin and uncle own 320 acres of land, some of which has been in the family for more than forty years. Over the course of ten to fifteen years, a portion of farmland is contracted and let to just sit idle, unfarmed and untilled – it goes back to its roots, one would say. "The long-term goal of the program is to re-establish valuable land cover to help improve water quality, prevent soil erosion, and reduce loss of wildlife habitat."³

They started noticing a difference on their land pretty soon after the 15-year CRP contract on the pasture and tillable land began. More small animals and birds have been rooting around, and the grass and shrubs have popped up every spring, something I notice every time I drive past the farm. One of the first indications of them doing something right was when they noticed honeysuckle bushes on the land; they were naturally seeded by birds.

Of course there are some drawbacks. You can't disturb the land that's under contract – you can't even drive on it between May and August because it might disturb the natural growing process. Another drawback that's come up is recent drought conditions in the area. There have been a couple summers where it's been so dry that my cousin was dipping into his winter stores of hay to feed his cattle during the mid-summer months. If the CRP contracted pastureland had been available, he might've been able to easily feed the cattle and had enough wintertime hay. (The good news is that Minnesota is now out of drought conditions, and hopefully, after two years, this upcoming summer growing season will prove to be a profitable and easy one.)

In addition to the CRP land, they put in some terracing in tillable land with a certain grade to it to keep soil from eroding and put in a pond. They rent out some of their tillable land to growers and insist on the renters not plowing in the fall. The renters, traditional farmers, buck at the request, but my cousin insists: "If they want to use my land, they'll do it my way."

The cover on the farmland over the wintertime helps the erosion problem, but my cousin has also become a huge proponent of cover crops. After going to conferences and other farming get-togethers, he claims that this will be the new commonplace thing. Once the conventional farmers retire over the next ten years and a new generation of farming starts to take to the fields, he believes (and I hope he's right) that conservation of the land will become the priority. Over the past couple winters, he's planted winter rye, and there are no weeds on the land now. When it comes down to it, he says, "I'm a grass farmer." Cover crops will decrease the need for fertilizer, pesticides, insecticides, and weedkillers. If you can decrease the need for these by natural means, why not take advantage of it?

"Hard as a rock," my cousin said, describing his farmland right after he purchased it. After years of working with the land,

* A pretty well-known grass farmer these days is Joel Salatin, who was featured in Michael Pollan's book "The Omnivore's Dilemma." He raises livestock by rotating them among the grass areas on his farm. He describes himself as a "Christian libertarian environmentalist capitalist lunatic farmer." If you have a chance, read a couple of his books. http://en.wikipedia.org/wiki/Joel_Salatin

planting the right things alongside traditional corn and soybeans, and implementing sustainable practices, he says the land is now getting to the point of being healthy.

The thing that strikes me is the pride both my cousin and uncle take in the land they work. So many people see farming as a second-rate job, but many people who choose to take on a farming vocation truly do love it. I see that in myself as well when I turn dirt over in the springtime to plant seeds. Some people refuse to grow food, but if you love it, you take great pride in it. You tend to see a lot more people calling themselves farmers or urban farmers – people who love the land are taking back the word. If my cousin is right, and a new way of thinking will be taking over farming soon after conventional farmers start retiring, I think we'll see more of this come to the forefront. Conventional farming may be just a way to make a living, but when you really care about the land you work, it becomes a lifestyle.

In the late 2000s, the county presented my uncle and cousin, adjoining property owners, with its Outstanding Conservationists award, and they, along with their families, were honored at the Minnesota Association of Soil and Water Conservation District's annual convention. When making the decision, the county cited their work done in wildlife habitat, terracing, buffering, rotational grazing, nutrient work, and forestry improvement. If there were any doubt that they were doing the right thing for the land, and I really don't think there was, this was a good indicator that they were.

When I stayed at my aunt and uncle's place during a summertime, I saw some of the work it took to maintain this lifestyle. Some mornings and evenings tractors were rolling up the gravel driveway with hay wagons in tow to deliver large bales of hay. There were mornings when I glanced out the window and saw one of the calves just hanging out in the yard (they were small enough to squeeze through some fencework, and when I looked up 10 minutes later, he was always back in the pasture – it was almost ghostlike!). When I left for work, there would be no cattle in the pasture, and when I came back, the pasture would be full of bawling cows due to rotation time. After my drive home from work and eating supper, I'd sit out on the small piece of concrete in my camp chair and take in

the mooing cattle, the scent of manure in the air, and the hope of rain in the air. It seems like a lot of work. But.

But then you take in August sunsets over a freshly cut hayfield. You see the difference that a few years can make on soil, feeling it finally crumble soft between your fingers. You smell the melting snow and and fresh rain and manure in March and know that the time to start planting is near. You watch a crop literally grow in front of your eyes from a soaking rainstorm after a dry spell. And you know you can always start a conversation by noting how the corn is doing.

I know this is a lifestyle in my state – I grew up witnessing it. Driving across the southern and western parts of the state, a person can identify an upcoming small town by the watertower and grain elevator sticking up out of the horizon. Corn dust is a common sight during harvest season as you roll your car across the railroad tracks that are inevitably right next to the grain elevator where farmers hauling their seed behind their trucks wait in line.

It will take some time, but I think it's going to be a great thing when conservationism becomes the norm. Yet, when I told my cousin what exactly I was writing about and the Monsanto connections, he said to watch it – big agribusiness is not all bad. They make a lot of food to feed a lot of people.

After the conversation with my cousin and uncle, I phoned my dad and talked to him about conservation and what he thought about subsidies and Monsanto and the like. “Where do you draw the line?” he asked. “At what point do you say this is a large, corporate farm that receives no subsidies and this farm is a small enough farm to receive subsidies? Besides, we need food.”

We need food – this seems to be a recurring statement that excuses corporate farming and monopoly-like activity among seed companies.

But first some other issues.

You may have heard about superweeds. I know when I first heard of them, all I could think of was a ten-foot tall green Godzilla plant that refused to be plucked from the earth. (Well, pigweed could be likened to a Godzilla plant, actually.) In reality, it's a normal plant, and it kind of goes hand in hand with the natural way plants

are fertilized. Monsanto, of course, tends to sue the pants off people whose organic strains have the GM gene in it.

A superweed can be a couple things, actually. On the one hand, it can be an actual crop strain that has planted itself in a field full of another crop. Of course, the crops are GM and so are resistant to weedkillers. When the farmer sprays on the weedkiller, the planted crops AND the rogue crop are all going to resist. The only way to get rid of the errant stalk of crop is to walk out there and pull it up, which is why the plants were GM to begin with. (There is also the option of killing it with extremely toxic herbicides, which doesn't seem very smart in a field full of viable crops.) This seems like a reasonable and acceptable type of superweed to me, if I were a farmer and planted GM crops.

However, what is NOT acceptable to me as a theoretical GM farmer is the second type of superweed. GM plants are actually cross breeding with weeds that have close genetic material. Canola is especially susceptible to this, as it is a natural hybrid of turnip and cabbage, and its genes are related to wild species like radish, arugula, and mustard, considered weeds by farmers. Another issue that's been recently developing, and quite frankly someone should have seen this coming, is that weeds are just growing resistant to Roundup. Each year they're sprayed by the stuff, and after so many years the weeds have got to start evolving to accept it.

Wind pollination just seems to be the scourge of those who want to keep their crops clean and weeds out of the farmland. Seed Savers is an heirloom seed conservation organization in northern Iowa. They recently tested how wind pollination affects their heirloom corn crops. Because they are concerned about preserving historic strains of corn, they have to be particularly careful in GM-corn-happy Iowa.

Most of the corn grown at Seed Savers is hand pollinated to prevent cross GM pollination as well as cross pollination with other heirloom varieties. Bags are put over the ears of corn before silks emerge, and pollen is gathered by bagging tassels. The silks are then hand pollinated. In summer 2013, however, they wanted to grow a pretty huge amount of a certain variety of blue corn. Instead of hand pollinating, they planted the corn in an area that would be solitary

enough to prevent any sort of cross-pollination (wishful thinking). After harvesting 200 plants, six ears of corn were contaminated by GM corn. This might not seem like much, but if those kernels were saved and planted, this would introduce a much larger level of GM contamination.⁴

Promiscuous as it is, you can see how wind pollination and cross-breeding with weeds is turning out to make Roundup-ready seed not quite so Roundup-ready. Agricompanies, of course, are already stepping up to fill the weed void once farmers get fed up with resistant weeds. One of them has already developed a gene that is resistant to the herbicide 2,4-D, and Monsanto has been working with dicamba, both of which are older, grandfathered-in chemicals that are considerably more toxic and persistent than glyphosate. Dicamba seems to be especially dangerous since it tends to drift into neighboring fields and damage crops. “And there is the question, still unanswered, of how many added traits you can load onto a seed before you begin to impair the plant’s vigor and productivity. Every additional thing you ask of an organism takes energy away from what it is supposed to be doing in the first place—in this case, growing food.”⁵

With this realization and the next generation of farmers ready to bring new techniques to the field (figuratively and literally), it’s possible we might see a step away from Roundup and other herbicides and perhaps GM seeds in general to focus more on practices and technique.

With a step away from chemicals on crops, farmers would most likely be doing the helpful insects a huge favor. While a firm cause is still up in the air, I’m sure the honeybees of the US wouldn’t say nay to the end of pesticides. Colony collapse disorder has been a recent epidemic that has a lot of people worried. Bees pollinate a large portion of our food, and without pollinators, our food supply would decrease.

⁴ <http://blog.seedsavers.org/preventing-gmo-contamination-in-your-open-pollinated-corn/>

⁵ “The Growing Menace from Superweeds” by Jerry Adler, Scientific American. May 2011.

Nate has been on a honeybee mission for quite some time. His goal is to own chickens and honeybees someday, and I hope that when the time comes, there will be honeybees to be had. My uncle had honeybees while I was growing up, and while I remember the white hives, the admonition to stay away, and trying on the beekeeper's hat more than once, I don't remember any honey from their farm. (That is not to say it wasn't there – I just do not recall any gathering or centrifuging of combs.) The last time I saw the hives, they were out far in the pasture, slowly making their way to the ground under a large oak tree. I hope the original bees' descendants have thrived.

I thoroughly encourage Nate's bee ambitions; as a fan of honey, I'm pretty certain that I would find a use for any excess honey Nate's future bees would produce. As it is, I go to the food co-op and buy my honey in bulk, for the price as well as the knowledge that it's not laced with any DS. Quite a bit of the honey we buy from grocery store shelves is mixed with corn syrup and labeled as honey. A lot of honey sold in the US is imported, and honey from Brazil and Mexico has been detained in recent decades that contained corn or cane syrup. The American Beekeeping Federation has sought out the FDA's help to set a standard for honey, which would require a label for any adulterated honey to be called a blend.⁶

I'm willing to pay a little more for honey that's really honey, like I pay more for maple syrup that's really maple syrup. It's pretty fun to place my jar under the spout and watch the golden syrup ooze into the jar, slowly dissipating to a smooth surface. Every morning I pull out the jar and dip my spoon in to drizzle a little on my oatmeal.

Bees have only been managed for pollination for about three hundred years. (That is to say, they were still pollinating, just not managed). Colony collapse disorder has been around for more than a hundred years (under different names) with large losses before, but it's only been in the last few years that bees have really started disappearing. During the same time, people have been slowly altering bees' habits. In 1895, bees were first exposed to pesticides; antibiotics

⁶ <http://www.nydailynews.com/life-style/health/honey-honey-blend-article-1.1750975>

were introduced in 1955 to stave off disease; DS was and is used in the hive to replace honey as bees' food; and pesticides themselves are used in the hives to get rid of a mite that is destructive to bees. There are a lot of things going against bees.

In the 1990s, honeybee losses were stable at around seventeen to twenty percent each year, but by 2007, reports were coming in of anywhere from thirty to ninety percent losses in bee colonies.⁷ The losses were coming in from all over the world, though moreso in some areas, and in 2010, the USDA reported an estimated loss at thirty-four percent. While it's not known exactly what is causing the death of bees, the theories lie in a few causes: pesticides, fungicides, immunodeficiencies, miticides, loss of genetic diversity, and poor nutrition. It seems the confluence of these would be the likely culprit.

I went to an hour-long lecture by the supreme bee researcher in the country, May Berenbaum. One of the theories she expanded on made a lot of sense to me. She explained that when beekeepers remove the honey from the hive to make the almighty dollar (my words), they replace it with DS, which is the right sweetness. However, DS lacks the nutrients and antibodies that honey does, so bees' immune systems are being compromised. Bees themselves don't have a great immune system to begin with – they have far fewer genomes that protect against disease than other insects.

Now there are bees buzzing around with immune systems that are not quite up to snuff, jumping from flower to flower on crops that have been dusted with pesticides that are used because, while toxic, they are not quite as toxic to bees as other insects. This is also the case of the pesticide being used to eradicate the mite that is infiltrating hives: the pesticide is toxic to the mite and gets rid of it, but is not quite as toxic to bees - the bees whose immune systems are now slightly compromised due to eating DS instead of their own food they make for themselves.

We've created a maelstrom for the bees, and it's not just the bees that would be affected. This is a huge economic and gastronomic impact for people. If crops aren't pollinated, the US could lose \$15

⁷ http://en.wikipedia.org/wiki/Colony_collapse_disorder

billion in crops, as well as some favorite foods.⁸ Almonds are huge on the list of foods that would be devastated by a complete bee disaster. Apples, avocados, peaches, olives, grapes, cucumbers, watermelon, asparagus, peanuts, sunflowers, sugar beets, and a lot more foods are on that list.

The USDA is currently studying colony collapse disorder with researchers looking into many possible causes. Their website says the best recommendation for the public is to not use pesticides willy-nilly and to plant bee-friendly plants.⁹

Entomologists are working on a plan B (har har) if the honeybee deaths don't stop. Honeybees themselves aren't native to the US, so it would only make sense that importing a different strain of bee would also be beneficial for pollinating. One such variety is blue orchard bees, which actually is more productive than the honeybee: 2,000 blue orchards can do the same amount of work as 100,000 honeybees. A drawback to the blue orchard is that they can't increase their population as much as a honeybee: 3-8x a year versus 100x in a few months.¹⁰ Another variety is the mason bee, which is native to the US.

Another thing we can do for the bees is advocate for more open, native land for native plants. Because farmland is eating up more and more open space in the US, bees, as well as monarch butterflies, are finding it harder and harder to find the native plants and food they need. A fellow pollinator, monarchs' population numbers have been dropping pretty sharply. In 2012, sixty million arrived at their overwinter home in Mexico, an already low number, and that number has been declining since the mid-90s. A couple reasons the butterflies have been disappearing is because of their winter home in Mexico: severe storms and illegal deforestation. But the biggest threat is the amount of land that has been planted with crops. Monarchs are milkweed butterflies, flowering plants that used to be found pretty prolifically on the edges of fields and throughout

⁸ <http://www.nrdc.org/wildlife/animals/bees.asp>

⁹ <http://www.ars.usda.gov/News/docs.htm?docid=15572>

¹⁰ <http://www.scientificamerican.com/article/replacing-the-honeybee/>

grasslands. A study by the University of Iowa and Minnesota has estimated that sixty percent of milkweed has been eliminated, mostly due to the use of glyphosate. Add in that there are fewer wildflowers for them to get nectar from after hatching, and no wonder monarchs, as well as bees, are disappearing.¹¹

I have just moved into a new house. The house itself is new, and the yard is sparse, so this affords me a huge opportunity to help out the insects where I can. This spring I'm planning on putting in four vegetable beds and a huge flower box in the front of my house. Where I can, I'm going to plant bee- and butterfly-friendly plants and flowers. Maybe a milkweed section next to the vegetables in the back, or a corner (until it spreads) of my flower box dedicated to clover. I'm hoping to put in at least one fruit tree, as well as some raspberries and strawberries. It won't be a lot of options for the bugs, but it will be something.

“How are you going to feed the world.”

This is a question I ran across more than once while doing my research on corn. By the year 2050, the demand for food worldwide will be double what it is now, according to more than one study.¹² It seems that traditionalists believe the answer lies in the field corn that lines the roads I drive every day. Funnily enough, that corn isn't edible off the stalk.

Our fields have been planted fencerow to fencerow; land is becoming so scarce now that, ironically, our pollinators are having a hard time finding their own food and living spaces. One billion people go hungry on this planet while about 30 percent of food produced goes to waste. Prosperity is spreading across the world,

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<http://www.washingtonpost.com/blogs/wonkblog/wp/2014/01/29/the-monarch-butterfly-population-just-hit-a-record-low-heres-why/>

¹² “Can we feed the world and sustain the planet? A 5-step global plan could double food production by 2050 while greatly reducing environmental damage” Jonathan Foley, *Scientific American*, Nov. 2011. 60-65

which drives up demand for meat, eggs, and dairy products. Meanwhile, chemists are finding ways to make corn grow closer together to increase yields so that seventy-five percent – seventy five! – of the corn crop can go to animal feed and ethanol production.

Dan Barber in his TED talk, “How I Fell in Love with a Fish” tells of the traditional agribusiness model and its simple statement “if we’re feeding more people more cheaply, how terrible can that be?” What about the costs that come with that cheaper food – people’s health, local economies, the environment? Especially the environment, because without the earth, what’s the point of everything else?

I remember reading a passage about a farmer who planted corn. When the interviewer asked him about the corn he grew and if he would consider growing something else, he responded, “What would I grow? Broccoli?”

To which I say, why not? Sure, in the Midwest we have a short growing season compared to California, but if we grow crops that are sustainable, in-season, and native to the growing zone, it could be done. I think it’s time to turn the agribusiness model on its head. Food as it is has “...been the business plan of American agriculture...a business in liquidation...a business that’s quickly eroding ecological capital to make that very production possible.”

There are some basic tenets I see quite a bit when reading how to fix the problem of food on the planet. A recent article in “National Geographic” by Jonathan Foley included five steps on how we can feed people while maintaining some environmental integrity. Step one: Freeze agriculture’s footprint; step two: grow more on farms we’ve got; step three: use resources more efficiently; step four: shift diets; and step five: reduce waste. The subsidies and system the US currently embraces is not going to produce the innovation needed to embrace these steps. Any sort of traditional farming as we know it is not going to fix the planet’s food problem.

There also many simple things we can do to help. Let animals eat what they’ve evolved to eat instead of something that requires antibiotics. Enable communities worldwide to grow their native foods sustainably, helping the local economy as well as the local ecological system. Instead of gobbling up land to till and leach nutrients year

after year, farm conservatively and in a way to help the land; you serve the land, the land doesn't serve you.

“Instead, let's look to the ecological model. That's the one that relies on two billion years of on-the-job experience.¹³”

Consider growing the broccoli.

¹³ Dan Barber in “How I Fell in Love with a Fish” TED talk.

Diligence, Diligence, Diligence

"I used to buy those, but then I realized I'm not saving the world." - girl in Wal-Mart pointing at cage-free eggs

"Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it is the only thing that ever has." – Margaret Mead

It's spring again. Nothing beats spring in the northern Midwest, when the leaves go green against the drab browns and greys that have been the landscape norm for six months. The temperature shoots up, and sixty degrees feels like a sauna after months of sub-freezing temperatures that drive everyone inside a lot of the time. Seasonal affect disorder is definitely a thing in Minnesota, and when the clouds clear and the sun shines, all bets are off. Once again we've survived winter, and Mother Nature does love us after all, which she's shown by throwing violent green perfection in our backyards.

When I started my DS-free lifestyle, I lived in Central Minnesota, where I had been living for about fifteen years. After a job search landed me a position offer I just couldn't turn down, Nate and I relocated to Southeastern Minnesota, where I returned to the place I'd spent my first fourteen years.

I was sad to leave Central Minnesota behind; to leave my house behind; to leave in general. Nate and I had lived in our house for four years, and we'd put a lot into it: we expanded the basement, put on a deck, added garden beds in the back. It was just starting to feel like we were really settling into the house, and I had always felt happy in the little town we lived in. The colleges meant it was a bit more progressive than other little towns, but it still held onto some charm. Thanks to the college students, there was a good coffee shop open late, an awesome sandwich shop, and of course four bars and three liquor stores.

I would miss my farmers' market, the food co-op, and the surrounding areas full of trees and rolling hills. Garrison Keillor's Lake Wobegone is not a myth: I was living in it.

But the lure of a job that really utilized my college degree and offered more pay was just too much. Plus, the nostalgia I held for the Southeastern Minnesota of my youth was a helpful (although entirely misleading) factor.

So we packed up the house and the memories and moved about two hundred miles southeast. I had to sell my chest freezer, along with a lot of other big items we owned, because we just didn't have the space. No quarter cow that year. Nate and I rented an apartment for the first year we lived down here. Unfortunately, renting meant no real gardening for me, so for one summer I had a tomato plant in a pot and a few flowers surrounding my entrance. It just wasn't the same. I did subscribe to a CSA box (community supported agriculture) that I picked up once a week full of different kinds of vegetables. While it was a good feeling to support a farm like that and to see what vegetables would be in the wax-coated box that week (it was always a little exciting), it just wasn't the same as putting seeds in dirt and watching them push through to grow into something edible.

I also went to the farmers' market in town quite a few times. The market is huge, and there are always a lot of people browsing, which is great for the vendors but made me feel a little claustrophobic. There were a few people selling chickens at the market, but none could beat my chicken guy. There is also a large food co-op where I'm able to get my bulk oatmeal and honey housed in a new, shiny building that has apartments for rent above. It's not as rustic and slipshod as the one where I used to live, and I kind of missed rustic and slipshod.

After a year of renting in town, Nate and I started house hunting for a house out of town, or at least in a smaller town. I would have liked to have bought at least a couple acres, something big enough to have chickens, but after seeing what was available, we decided to buy a house that we could finish off and sell a few years down the road before buying some land for Nate's chickens and bees, along with my neverending garden.

But not all is bad: garden beds are in and planted. I see green things sprouting through the soil that I hauled by the wheelbarrowful

from my driveway after a man with a dumptruck spilled five cubic yards of dirt on a tarp for me. Instead of two beds, I have four, and I'm growing things I haven't tried growing before: squash, melons, Brussels sprouts. I'm always surprised when things actually grow for me. I bought a used chest freezer from someone on Craigslist and promptly filled it with not only a quarter cow but half a hog. The bacon is delicious.

This part of the state is a contrast in land studies. On the one hand, there are flat expanses that open the sky up to a driver with few trees dotting the horizon. Sunsets are vast and pastel. Fields are large, but there are more owners than west central; farmhouses crop up often and are easy to spot with the small cluster of trees close to the roadside. There are far fewer trees in this part of the state, and once you've gotten used to trees, it's hard to go back.

When a person heads in a more southeasterly fashion toward the Wisconsin/Iowa/Minnesota intersection, the river valley rears its head, and valleys dip in and out of existence. One minute you're driving across a flat expanse of corn-riddled farms and the next you've pushed on the brakes as you head into a rolling valley filled with trees with a river at the bottom. Nate and I took a drive to a valley town during July, and as we drove along the ridge of the valley, we could see the rolling hills and trees – over the tops of corn fields.

“This would be a whole lot prettier if there weren't so much effing corn,” he observed. Truer words and all that.

What about devil's syrup? One thing I've noticed is that more and more food producers are leaving it out and using sugar.

Each time I go to the grocery store is an almost-adventure. What will be changed now? A couple years ago I noticed that M&Ms had HFCS listed on their ingredients' list. I did some research, and the only thing I can figure is there had to have been a governmental policy that had let manufacturers choose not to list ingredients that comprised less than two percent of the food. Someone threw out the rule, and now every ingredient must be listed. Now I know the ugly, syrupy truth behind M&Ms. (Unfortunately, when I found that truth I had already purchased a huge bag for monster cookies. Chalk that up to not paying attention.)

Last summer was pivotal when I went to buy some low-fat graham crackers and saw a note on the regular, full-fat box that said “Now HFCS-free!” Of course my cynical mind said, yep, and instead they’re using regular corn syrup. I was more than pleasantly surprised when I scanned the ingredients and saw sugar in white caps instead of high fructose corn syrup. I still had to make my own marshmallows for the smores I was going to be roasting over a campfire, but chalk one more item up in the DS-free column.

Subway recently changed their bread recipes, so all the bread they use is now DS free. If I’d like to have a wheat-bread sandwich, I can now eat it with ease of mind. They also got rid of an ingredient in their bread that’s used to make yoga mats, but that’s another story.

The biggest takeaway I’ve learned while trying my best to avoid devil’s syrup is diligence, diligence, diligence, as can be seen by the M&M episode. Just because something seems like it shouldn’t have corn syrup in its ingredients doesn’t mean it doesn’t, as is the case with a lot of processed sausages, hot dogs, and bratwurst. Another thing I’ve learned is there is almost always a reasonable substitute for the food you want to buy that doesn’t contain any DS.

My favorite candy over Eastertime is Cadbury minieggs – awesome Cadbury chocolate in a pastel shell. I LOVE minieggs and would eat a whole bag in a sitting if not for a modicum of self control (I only eat half). I always assumed that there would be no corn syrup because there is nothing obvious about the candy that would have it – no caramel, no nougat, nothing gooey. I got a text message from my sister: “Did you know minieggs have corn syrup?” WHAT??? That darn candy shell has corn syrup in it. Now if I want minieggs over easter, I have to order them from another country, which costs an arm and a leg in shipping.

The first thing I did when I learned of the miniegg infraction was write to Cadbury. I told them very nicely that it would be a great service to people if they would remove DS from their candy and replace it with sugar and that I wouldn’t be purchasing the product until they did so. I got a nice form letter in return and haven’t seen any results.

But you can see that results do happen in some cases, as has happened with so many foods already: some yogurts, Special K cereal, graham crackers, and some ice creams. That is the biggest thing you can do to get results from food manufacturers: write to them, tweet them, post to their Facebook walls. I wrote to Pepsi after they discontinued Throwback for the second year: Please make Throwback available all year long; I would buy it. Now, I'm not saying that MY letter pushed them to make Throwback a year-round availability, but I can't say that it didn't. I can now buy Throwback any time of the year. (And it's so delicious.)

The second biggest takeaway from my foray into food politics is that cooking fresh, whole, in-season foods that you buy locally or grow yourself is probably the best way to go. It helps the local economy, the local ecological system, and it's really better for a person's health. Plus, I've learned to appreciate food more when I can see where it came from and know who was involved in the process it took to get to my plate. It's especially rewarding to walk to my backyard, pick a bunch of vegetables, and put them in my stomach a half an hour later.

You can vote with your pocketbook – it's a highly effective way to show food producers that people don't want what they're selling. We've seen results! The unfortunate part of this is you do have to sacrifice some things. I love love love gummy worms and gummy bears, especially the sour ones you can buy in rainbow colors. I haven't had one in years. Sure, the food co-op sells a decent substitute made with cane sugar or something, but it's not quite the same and everyone knows it.

On the flip side, there are a lot processed foods that I used to buy that I now get an alternative or make myself that tastes above and beyond what I used to buy. I will never again buy sodapop made with corn syrup; cane sugared pop is the way to go if I'm going to drink some calories. When I make Special K bars, I use a cane syrup instead of corn syrup to mix with cereal and peanut butter before spreading a chocolate-peanut butter frosting on top. There is no comparison – even if I were to give up my DS-free lifestyle tomorrow, I would still make the bars with the cane syrup.

Then I start to think if I want to go above and beyond corn syrup. My sister Liz doesn't eat partially hydrogenated oils (trans fats) because of what our nutritionist cousin told her when she was nine years old – that it causes cancer. The FDA has taken steps to ban trans fats, so eliminating them from my diet in the future shouldn't be too difficult¹. Do I try to eat more whole foods? Eliminate all processed foods? But then you run into the whole socially smart eating aspect of a voluntary diet, and eating no processed foods can be more of a sticky issue than one might like. Besides, sometimes a person just wants to eat some greasy potato chips from a crinkly bag.

I'm a lot more aware of my food these days. While I may not be able to eliminate corn syrup completely from my diet, I sure am doing my best. Minnesota has a great state fair – the Great Minnesota Get together. It's one of the largest state fairs in the country, as well as one of the most attended. Nate and I both went to the state fair for the first time a mere five years ago, and I can't imagine why I waited so long to try on this basic rite of Minnesotan passage. There are poultry barns where Nate checks out what kinds of chickens he wants to raise; there are sheep, goat, and llama barns, full of cute fuzzies. The horse barns are fabulous, lined with old wooden stalls, but I only get to see them when I go without Nate; I do not need to bring my husband to the ER for anaphylactic shock after an allergic reaction. The agriculture building is fun, and a stroll through the 4-H and eco buildings are a must.

But the best part of the state fair is the food. And this is always where I throw caution to the wind and embrace any kind of sickness I'm sure will follow, because there is no way I am turning down a deep-fried Milky Way candy bar. I don't worry about what may or may not have DS in it, because once I'm inside those fair gates, it doesn't matter to me. The mini-donuts, the deep-fried lobster, chocolate-dipped bacon, corn dogs, deep-fried whatever on a stick – I don't worry my head over it because it's a part of the experience.

¹ <http://www.cnn.com/2013/11/07/health/fda-trans-fats/>

Ultimately, I figure, that's all a person can do until everything goes DS free. But will that day come? Will enough people care that much to force the food industry into changing its habits? I doubt it will happen any time soon, if at all. I'm not going to live in a cave to protect myself from all the food evils of the world, but I do think it's necessary to encourage others to open their eyes to how food is made and what the processes are that gets the food to the plate in front of them.

Food is vital; food is necessary; food is the stuff we are made of. We need food.

So let's grow some food.