Crowd:

People versus poison! People versus poison! People versus poison! People versus poison!

Protest Speaker:

We are all here today because we believe no corporation should be able to poison people and then run for protection of the Supreme Court and Congress.

The pesticide industry is playing their very last card. They are begging the justices, Congress and the administration to airlift them out of responsibility so they can keep making us sick and make every dime they can off of our illness.

Crowd:

Boo!

Protest Speaker:

That's the pesticide liability shield. Let's call it what it is. It's a bailout from accountability and a request to be placed above the law.

The American people are done being ignored, we are done being sick and we are done being told this is the very best that we can do.

Crowd:

Woo!

Speaker 2:

We are awake, we are organized and we are not going anywhere.

Protester:

Fight for freedom!

Crowd:

Woo!

Protest Speaker:

We still have to kick Monsanto's butt today. So let's go.

Crowd:

Sell the stock Sell the stock Sell the stock Sell the stock! Sell the stock!

Protest Speaker:

All right, let's go with Max Sano. He is next and he is the Senior Policy and Coalitions Associate at Beyond Pesticides. Yes!

Crowd:

Yeah!

Protest Speaker :

Give it up!

Crowd:

Woo!

Max Sano:

How's everybody feeling?

Crowd:

Woo!

All right!

Max Sano:

I speak to you today on the ancestral lands of the Piscataway and Acosta and Pamunkey peoples as the nation faces a plethora of crises from biodiversity loss, public health collapse, and the existential threat of the climate crisis.

Crowd member:

[inaudible

Max Sano:

The Supreme Court today will hear a case brought by a corporation, Bayer Monsanto, and supported by the Trump administration that prioritizes profits over public health and the environment.

Jerusha Klemperer:

Who is harmed by pesticides? A child eating a big red conventionally grown Driscoll's strawberry or a bowl of Cheerios? Or does the chain of harm go back further? To a farm worker spraying pesticides up and down a row of crops; or a farming family living on the land where the crops are grown; or a community breathing the air and drinking the water downstream from the farm.

Are these foods bad for us to eat? Are they bad for us collectively to grow? And if so, who should pay the price?

Crowd:

People versus poison! People versus poison! People versus poison!

Jerusha Klemperer:

I'm Jerusha Klemperer and this is What You're Eating, a project of FoodPrint.org.

We aim to help you understand how your food gets to your plate and to see the full impact of the food system on animals, planet, and people. We uncover the problems with the industrial food system and offer examples of more sustainable practices, as well as practical advice for how you can help support a better system through the food that you buy and the system changes you push for.

Max Sano (at rally):

This is a case about people who have been harmed but not warned. Is the court going to allow the chemical industry to hide behind deceptive product labeling on hazards that should have been known and disclosed?

On a daily basis, my organization, Beyond Pesticides, hears from people whose health has been harmed that they have not been warned. That's because our weak federal law does not disclose of potential threats like cancer.

The industry likes to talk about sound science, but a retracted scientific article that they repeatedly reference is clearly unsound science supporting unsafe products. And these products poison farmers, farm workers, gardeners, kids on our playing fields, pets in our parks and everyone who eats foods grown with toxic chemicals, contributing to long-term hazards for our loved ones, such as cancer, neurological and immunological diseases, respiratory illnesses, Parkinson's, Alzheimer's, and more.

President Trump in a February executive order says these chemicals are needed to produce an adequate food supply, that they are needed for national security.

Crowd:

Boo!

Max Sano:

We say these toxic chemicals are the national security threat.

Crowd:

Yeah!

Woo!

Jerusha Klemperer:

John Durnell is a Missouri Roundup user who developed non-Hodgkin lymphoma, sued Bayer/Monsanto for liability for his illness and won.

His case centers on the claim that the company had failed to warn him and other users that its pesticide Roundup, which uses glyphosate as its active ingredient, could cause cancer. Monsanto fought back, arguing that since the EPA at the federal level had not found its product to be carcinogenic, that would preempt the state of Missouri's assertion that they should have had a warning label on their product.

Durnell's state level case wasn't the first to win against the giant agrochemical corporation. The first was landscaper Dwayne Lee Johnson's in California. But it is the first to make its way all the way to the Supreme Court.

Max Sano:

My name's Max Sano. I am the Senior Policy and Coalition Associate at Beyond Pesticides. Our organization was founded in 1981 after our founders witnessed firsthand the impacts of pesticide harms on agricultural communities and their families in Florida, California, Texas.

The Supreme Court case that kind of opened the door for a lot of these cases against Monsanto was filed on behalf of a landscaper in a public school in California that was using glyphosate in his capacity as a landscaper. That's another kind of subdivision, if you will, of disproportionately impacted communities.

Obviously farmers that spray or agricultural communities that live fence line near sprayed sites would be the most disproportionately impacted by glyphosate or any pesticide exposure.

The considerations around glyphosate and the affected communities, I think is a really important conversation because a lot of the time the public is focused ... I know that the state of Florida did testing on glyphosate residues in bread recently, and there have been efforts by other consumer organizations around residues in common consumer products.

When it comes to glyphosate, obviously the top line health effect that's been in the public and in media is around non-Hodgkin's lymphoma. It's also been associated with endocrine disruption, reproductive effects, neurotoxicity, kidney and liver damage, as well as other concerns that stem from the environmental aspects too for being toxic to birds, to aquatic organisms, to bees. And so when we try to communicate this, we focus on the environmental, public health and climate impacts of pesticides. And this is a public health and consumer issue, but it is also a climate and ecosystem stability issue.

Carrie Gillam:

I'm Carrie Gillam. I'm a journalist and an author. I've been covering the agricultural industry since 1998. I spent the first 17 years working for Reuters International News Agency and I now write for The Guardian and manage an environmental news outlet called The New Lede.

I was in Washington DC for the U.S. Supreme Court hearing in the case of Monsanto versus Durnell. It really could be a landmark case. The justices were hearing Monsanto's arguments that the Federal Insecticide Fungicide and Rodenticide Act, which we call FIFRA, which is a primary governing law for pesticide regulation in the U.S., that FIFRA essentially preempts state actions that can hold the company accountable for failing to warn of risks associated with its products.

So Monsanto effectively is telling the court that because the EPA, which administers FIFRA, has not found need for a cancer warning, does not classify glyphosate, Monsanto's key active ingredient in its weed-killing products, because the EPA does not find a warning is necessary, that state juries, state actions cannot hold the company accountable for failing to warn about a cancer risk.

Which is a lot of words to say that Monsanto is effectively asking the Supreme Court to provide a get out of jail free card in this sweeping nationwide litigation.

So I was there to watch the oral arguments. I was fortunate enough to be able to go in with a press pass and listen in on those. And also see all of the hullabaloo around the hearing. You know, there were protests, Make America Healthy Again; grassroots movement members were there. It didn't draw the thousands and thousands of people that I think they were hoping to draw, but certainly you had some very high level plugged in people. You saw lawmakers, Republican as well as Democrat, there speaking out. You had lawyers, you had scientists, you had moms, you know, people that had come from around the country to hold signs and to march and to shout and to talk and to tell their stories; and really try to get across this point that these people, we the people want protection from pesticides and from corrupt companies that hide science and manipulate science, and from the EPA that doesn't appear to do its job. This was the message that they were putting out and they got a lot of attention, and I think they were pretty effective.

So the oral arguments, you had Justice Jackson and Sotomayor and John Roberts all seemingly taking the side perhaps — I mean, it's hard to read the tea leaves — but seeming to side with or be sympathetic to the argument by the lawyer for Durnell. You had Gorsuch as well who looked like perhaps he was not seeing the government and Monsanto's arguments as really holding much water. Alito seemed more on Bayer's side. I mean, Kagan, Kavanaugh seemed definitely on the Bayer Monsanto side. You know, I think it's hard to tell. Hard to tell with Barrett and hard to tell with Thomas.

Jerusha Klemperer:

This represents many, many years. I mean, you mentioned 2005. This back and forth has been going on since Bayer was Monsanto, right?

Carrey Gillam:

So when I was assigned by Reuters in 1998 to start covering this company called Monsanto, I knew very little about agriculture, didn't know much about Monsanto, didn't know or care about pesticides other than the fact that I had a big jug of Roundup in my garage that I would use to kill weeds around my yard or sidewalks, et cetera, because it worked really, really great.

So I was assigned this job, I dug in, I moved to Kansas City, and started doing what reporters do. You learn everything you can about this beat. And so meeting with farmers and scientists and academics, and traveling to DC and talking to people in the EPA; and really spending quite a lot of time with Monsanto in its headquarters in St. Louis, as well as other companies in the industry, Syngenta and DuPont and Dow and BASF.

And Monsanto at that time welcomed me into their offices, taking me on tours of their greenhouses and labs, and sitting down with their executives and their scientists. Because I worked for Reuters and had a global audience, they really thought it was important to woo me and teach me how I should cover the industry.

You know, and I went in without any preconceived notions at all. At the time in the late 1990s, they were introducing a line of genetically engineered crops, crops that essentially had their DNA tweaked by Monsanto in ways that made them tolerate glyphosate herbicide, which Monsanto had introduced in the 1970s. So the patent was coming off of glyphosate. Monsanto was looking for a way to lock in the glyphosate market as the patent exploration was approaching and also for a new revenue stream. And so these Roundup ready crops, corn and soy and alfalfa and sugar beet and cotton, essentially really gave this company a boost. And farmers loved the Roundup ready crops. They adopted them very quickly. This translated to a spike in glyphosate sales as well, which Monsanto had hoped for and predicted.

So glyphosate use shot through the roof because you could spray it directly on these crops. They would continue to flourish, but the weeds would die. It made it a much easier task for farmers. And so Monsanto was making a ton of money. Glyphosate sales were going through the roof. It became the most widely used herbicide in the world. U.S. farmers were particularly fast to adopt it. Glyphosate remains today one of the most widely used.

And with that came more scientific scrutiny, more studies, more information. What is this doing? Scientists started asking, "What is this doing to our environment? What is it doing to our health? Is this really a good thing to be putting so much of a pesticide that is designed to kill living things," which that's the point of a pesticide, "Is it really a good thing to be putting so much of this on our land?" And you know, I followed that and wrote quite a bit about that research and learned more and more.

And as with anything, too much of a good thing might not be a good thing, right? So we started seeing indications that this could have harmful impacts on the soil, that this was running off into the water, that glyphosate use was becoming so pervasive that it was even found in air samples. Government scientists were finding it everywhere, in your drinking water, and it became known that it was found pretty commonly in food products. And then scientists started testing body serums, you know, urine and blood, and finding it pervasive there.

So all of this is what I wrote about, and as my career evolved, it just turned into a first book and then a second book. And I guess it was no surprise that I was uninvited to Monsanto's headquarters. There came a time when I was not a welcomed guest anymore.

So as this all progressed over time and the evidence of cancer continued to build in the scientific literature, in 2015, the International Agency for Research on Cancer, part of the World Health Organization, looked at this body of research and classified glyphosate as a probable human carcinogen. And that then triggered a flood of lawsuits from people who had used these glyphosate products and developed non-Hodgkin lymphoma. There was a particular association in the research linking glyphosate products to non-Hodgkin lymphoma.

Litigation progresses, discovery progresses, all of these plaintiff's attorneys get all of these internal documents from Monsanto, and we learned a whole lot. That became my second book, The Monsanto Papers. They generated worldwide attention because of course they showed decades and decades of deception, lies to see efforts to manipulate regulators and consumers about the safety of the products, you know, plots that took place inside Monsanto headquarters and rippled throughout the world really.

And yes, and within the documents were things that were not surprising to me, but that's how hard Monsanto had decided that they needed to take me down and invalidate my work and try to discredit me and try to basically shut me up. There was a lot of that and it made my life quite difficult for a while.

There have been so many times over these years where really the way for them to put an end to this litigation was to simply put a cancer warning on the product. And that issue had been raised over and over again in court and by lawyers, that that would really cut the legs out of the plaintiffs if they would just warn like you see on a cigarette package or something like that. But the company has been steadfast that it will not do that, will never do that.

Yeah, they have been fighting this tooth and nail, although they have paid out billions of dollars, they've paid out well over 11 billion to settle a majority of the cases. They've had a number of jury verdicts go against them, including multi-billion dollar verdicts. And now Bayer is proposing a $7.25 billion class action settlement to try to put an end, finally, to not only the existing litigation but future cases from people who might want to come to them later and claim that they developed NHL.

And they're hoping the Supreme Court ... It's quite crafty, I suppose brilliant, but the deadline for people to opt in or opt out is June 4, and that is well before a ruling is expected by the Supreme Court. So people, lawyers and plaintiffs, are really having to kind of roll the dice and make a decision if they want to go ahead and try to grab this money and this class action before they know if the Supreme Court is going to support Monsanto and effectively block future litigation or not.

Jerusha Klemperer:

Why is the EPA so reluctant to call glyphosate a probable carcinogen or a carcinogen when other bodies like the IARC have done so?

Carey Gillam:

I don't know that there's one answer to that. This has been through different administrations, Republican and Democrat run administrations; Obama, Biden, Trump. You know, you can trace documents back to the 1980s, as I did. I put those in my first book, Whitewash.

But you can see even in the '80s where Monsanto is turning in research to the EPA scientists and the EPA scientists are saying, "This looks like this could cause cancer" or "this could be oncogenic. We should classify it as possibly carcinogenic," and you see this internal battle at the EPA where political appointees and upper level managers are fighting their own scientists and Monsanto is cozying up to top people and really telling them what to do and how to classify their chemical.

And documents that we've obtained through freedom of information as well as through the litigation show over and over and over again through the years, through the decades that Monsanto has, and much like other companies, holds great sway within the EPA; sending the agency talking points on how it should talk about glyphosate, what its position should be, talking about a key official who oversaw the cancer review for glyphosate and how he was a good friend and could be very useful to them in their defense of glyphosate, asking EPA officials to help quash a review of glyphosate by a different federal agency and getting their assistance in that.

So is that because the EPA really doesn't think it causes cancer? Is that because the EPA officials are appointed by political appointees who have loyalty and get a lot of money and funding from industry groups? I mean, the agricultural industry is one of the highest spending lobbying groups in Washington DC.

You know, there's a lot of reasons. Why is Washington corrupt?

Max Sano:

My role specifically involves monitoring and developing analysis on the latest developments in science, policy and regulatory updates relating to agrichemicals and then applying that to coordinating grassroots efforts in different state and federal campaigns, including on the farm bill and appropriations processes, as well as these Bayer bills, pesticide liability shield bills, cancer gag acts. They've been called different names from different coalition perspectives, but we've been maintaining a resource hub so that researchers, journalists, other advocates and members of the public, decision makers can track the industry efforts to shield themselves from failure to warn claims.

Jerusha Klemperer:

These Bayer bills that Max refers to are state level bills that have been introduced around the country that try to limit the ability of people like Dwayne Lee Johnson and John Durnell to sue Bayer Monsanto for liability in their cancers; to gag them from speaking out, hence the name given by opponents of these bills of “cancer gag laws.”

Max Sano:

We've seen these bills show up in around 15 states at this point over the last three years. They began in Missouri, which is the U.S. headquarters of Bayer, Iowa and Idaho, and they've grown out to 12 states last year and then around 10 states this year. But across all of these states, they've been centered around this claim that the label is the law; that if a pesticide is consistent with the EPA, it is safe. And then you've also had this language that's been added almost across the board from 2024 to 2025 trying to affirm when failure to warn claims could be used.

Jerusha Klemperer:

And I mean, you've insinuated this, but I just sort of want to state what I think is probably the obvious; that all of these state level bills didn't appear out of nowhere. And I'm guessing that they have similar language in them.

Max Sano:

Yes. And Modern Ag Alliance is the group that your audience should know when it comes to an industry front group. They have been kind of a coalition of commodity crop associations, farm bureaus and Bayer, as well as I think a few other pesticide manufacturers. I'm pretty sure Bayer is the most prominent. And

when you look at the different state level battles, you'll see a representative from Modern Ag Alliance giving testimony alongside some of these commodity crop associations, those that are embedded within the chemical intensive agricultural system that we live in.

And it creates a really convincing argument for lawmakers. You know, hearing from folks that represent big swaths of the agricultural sector obviously gets folks' attention, especially around inflammatory remarks around, "Oh, glyphosate is a national security concern. We would view it as a national security threat."

Jerusha Klemperer:

One of the places where a Bayer bill was introduced was Iowa. Iowa has the second-highest cancer rates in the country. It's also a top user of chemical pesticides.

Investigate Midwest, which has done extensive reporting on the links between cancer and agriculture in the Midwest reports that Hardin County, where there are 800 farms, has a pesticide use rate more than four times the national average and a cancer rate among the highest in the state.

Carey Gillam:

It really is striking when you look at the data in terms of the cancer rates and you correlate that or lay that down next to sort of the agricultural industry impact on the environment. These are issues that have been lurking and been of concern for people, not only in Iowa, but of course in numerous farm states all across the country for many, many years, but it's really taken hold in Iowa and galvanized grassroots revolt. People are demanding action now because the data is so startling.

And Iowa's number one in hog production, which generates vast amounts of manure, and manure is spread on farm fields and contains a lot of nitrates, which then can run off into the drinking water and be very harmful and cancer causing. And the nitrate levels in the drinking water in Iowa have just been off the charts. The pesticides that are used, a lot of corn is grown, a lot of atrazine is used; a lot of other pesticides and chemicals that are applied on the fields, and again, can run off into the water.

It's just staggering when you talk to farmers, you drive around Iowa and little communities and talk to people, and virtually everyone has cancer or has had cancer, or their sister or their brother or their neighbor has had cancer or died from cancer. Childhood cancers are pervasive in parts of the state.

Aaron Lehman:

We are very proud of our state here in Iowa for a lot of different reasons. Many people might not know that Iowa has the second-highest amount of sales from agriculture products in the United States, second only to California. We are a very abundant and bountiful state.

We also are a state that has vulnerable natural resources. And part of that is because about 95% of all the ground in Iowa is used for agriculture or industrial purposes. That's the highest percentage of any state in the country.

My name is Aaron Lehman and I'm a fifth generation farmer here in Central Iowa. We grow corn, soybeans, oats, and hay. And I serve as president of the Iowa Farmers Union, which is an organization made up of family farmers and rural residents around the state of Iowa. We're a grassroots nonprofit organization that works to advocate for family farming, for sustainable agriculture, for thriving rural communities and for healthy landscapes here in Iowa. And we are a 501(c)(5) organization, which allows us to work on policy issues.

I'm the fifth generation on our family farm. My ancestors came from Norway and from Switzerland, and they started farming pretty quickly once arriving in this country. And our farm was really similar to most farms in Iowa. We grew a lot of things, a lot of different crops, a lot of different species of livestock, and we were pretty well-connected to the community. Our dairy farm had a little creamery attached to it that would deliver butter and milk directly to consumers in Des Moines. This was about a century ago. So very well-connected to the community, very diverse.

Over the years, our farm, like a lot of farms in Iowa, most farms in Iowa have started to become less and less diverse, to the point now where at one point we were just growing corn and soybeans. We stopped growing livestock. So more and more farms in Iowa became more and more specialized over that time. Our own particular farm has kind of moved back to diversifying a little bit. We're doing some organic acres and we've added some crops to our rotation.

So we've done a few things differently, but as our farm over the years became less and less diverse over that period, that happened in Iowa agriculture too and farms became more and more specialized. And all that was happening because the markets kind of became more and more controlled and there was less opportunity for growing a diverse set of things on farms. And that led to more and more corporate controls so that now we're in a situation where for the things we have to buy in order to grow what we grow, seed, fertilizer, pesticides, there's just a handful of three or four companies that control the vast majority of the market.

And ultimately it's not good for our consumers either. We as farmers, we love to grow things for our community, for our state, for our nation and the world as well. And that passion to grow things is why we do what we do. And unfortunately, the more separation you get between farmers and the consumers who are actually eating the food we grow, I think causes a lot of problems.

Jerusha Klemperer:

Iowa has for decades now had major water quality issues affecting recreational water time and rivers as well as drinking water throughout the state. These issues have been tied directly to the runoff from factory farming of pigs as well as from overapplication of nitrogen fertilizers.

Aaron Lehman:

In addition to pesticide usage, we know that our clean water issues are a significant health risk. Farmers have to be part of the solution to clean up our waters if we want to get to where we want to go as a state, and we simply haven't provided the supports for those partnerships that can make a real difference.

These are extremely serious issues in Iowa. In Des Moines, our capital city last summer installed the largest denitrification plant in their water works system in the entire world. The city of Des Moines had to start rationing water usage because they simply could not remove enough fast enough to keep up.

And partly in response to all of these issues, Polk County, which happens to be the county I live in; I live north of Des Moines, but I'm in the same county as Des Moines; our county inducted a huge study to look at all the linkages between clean water and health issues and what we should be doing about it, compiling all this data that already exists. And it was very clear that in order to make a real difference, we have to have farmers as a central part of that solution.

So what happens when there's too much nitrogen in the water? Well, lots of health impacts that we're learning about. And some of them are clearly associated with higher rates of cancer in addition to many other impacts of not having clean water.

Jerusha Klemperer:

There's the pesticide issue and then there's the nitrate issue. And while we might say, well, the water problems are not from pesticides, these things are connected to this problem of agrochemical overuse and they represent a philosophy of overapplication, not only of herbicides and pesticides, but of fertilizers and manure.

Aaron Lehman:

One thing that we find out through all these court cases is that companies that have chosen to produce chemicals here in the United States produce some of those similar chemicals in other countries around the world. And the formulation of those chemicals are significantly different. They might be just as effective, but by reformulating them, they can be made safer so that they drift less, they are less of a risk to people's health. And chemical companies have chosen to make those changes in other countries where they have been forced to make those changes.

When chemical companies were making those changes in other countries, why were we not making them here? The answer came down to simple economics. So the proposed law would have stopped a lot of people from getting economic justice for the harm that they face because of that. It would put up a liability shield for these pesticide companies.

If we're trying to reduce the risk to cancer for our farmers and for all of our citizens in Iowa, why would we want to put up a shield for those causing the damage?

Jerusha Klemperer:

Bayer bills were introduced in Iowa in both 2024 and 2025 and were defeated both times. Ahead of the bill's reintroduction in 2025, Iowa State Representative Megan L Srinivas, who's also a physician, collaborated with the Iowa Farmers Union and others to hold listening sessions across four agricultural counties with particularly high rates of cancer.

Aaron Lehman:

We did a number of listening sessions around the state to explore these issues in rural Iowa. And of course we know that cancer is caused by a lot of things, smoking and drinking and many other things, but we wanted to open a dialogue so that people could talk about the impact that these high cancer rates are having in their community to their family, to their loved ones. And what we found is that there is a growing concern about, yes, about those lifestyle things, but also about the practices we're doing here in Iowa that might be contributing to those rates being so high.

We set out to have these conversations face-to-face with people and learn from them what they're experiencing, and how that impacts their lives and what common sense solutions could be made to make chemicals safer, make people safer rather than this disinformation campaign and this political ploy to create a shield for some of the largest multinational companies in the world.

And the conversations were so honest. They were so heartfelt. And in many cases, of course, they were heartbreaking. But they were so productive. People wanted to find ways that this can work, where we can find safer application of chemicals, where we can find ways to hold folks accountable who need to be held accountable. We were very proud of that effort and it built onto additional listening sessions for the rest of the summer that we were able to get some additional partners working together on as well.

Jerusha Klemperer:

I was wondering if you could tell us what impact they had on the introduction of the Pesticide Immunity Bill and sort of where that bill stands now.

Aaron Lehman:

Well, in 2024, there was a huge push then and it wasn't finally defeated until the closing hours of the legislative session at 3:00 AM on a Saturday morning on the last day of the session, just a couple hours before they gaveled out. It came that close to passing.

Jerusha Klemperer:

Wow.

Aaron Lehman:

So we knew that our work was ahead of us for the next session. There would be a intense blitz with media, social media, very dubious information being released. So we knew that it was going to be important for us to get our side of the conversation going, which included real dialogue.

Once that started to happen and legislators were exposed to real conversations with real people, we realized that this was going to be something that we could actually have a thoughtful dialogue with legislators rather than just rhetoric and a repeat of what's being told on the radio and on the TV. And I think that was the power of those interactions that legislators were able to have with their constituents really made the difference.

So the bill was defeated last session in 2025, and so far this year in 2026, it has not even advanced through committee again.

It's too early to say we've won because until legislators go home for the year, you never know.

Jerusha Klemperer:

Yeah. Mm-hmm.

Aaron Lehman:

You never know. But it really did have an impact here.

Some of the attention on this issue has focused to the next farm bill and of course to the agencies and the Supreme Court as well. But we're able to tell our elected officials who are in Washington for us here in Iowa that, "Listen, the state of Iowa could not come to a consensus about giving an additional liability shield."

And to be frank, the people in control in the Iowa legislature, they're of the same party that our members of Congress are from. And if there wasn't consensus within the party in the Iowa legislature, why should our delegates to Washington DC, to Congress say, "We know better than what you folks in Iowa discussed?"

Jerusha Klemperer:

Of course, glyphosate is not the only problematic pesticide. Other ones like chlorpyrifos and Paraquat have been banned in various states because of their links to cancer and Parkinson's disease, birth defects, and more. Most of these health problems affect those people who work with these chemicals or live on the land where they've been applied.

Carey Gillam:

The environmental contamination from pesticides is just so pervasive, so ubiquitous. It's so difficult, perhaps impossible to escape this contamination in the world that we have created with pervasive pesticide use in growing our food. The U.S. Geological Survey, part of the Department of the Interior, has documented for years finding pesticides, again, glyphosate, in rainfall. You know, how do you escape rainfall?

Glyphosate is in our food, as is the whole array of insecticides and fungicides and other herbicides routinely found by FDA and USDA in annual pesticide residue testing programs that they run; which if you're a nerd like me and you want to go look at their reports every year, which I do, you'll see these pesticides commonly found in the foods that we think are the most healthy for us, right? You know, apples and peaches and blueberries and spinach and kale. You know, the fresh fruits and vegetables are carrying these residues to our breakfast tables and into our kids' bodies through oats in particular. And it's because of the practices, it's because of the pervasive use of pesticides.

It's been very hard and there's not a lot of science around how does consumption of pesticide residues impact our health? That science is evolving, but it's by no means as robust as traditional toxicology and epidemiology and traditional routes of exposure through absorbing it through your skin or inhaling, which is typically the way that we have looked at pesticide exposures and impacts.

So consuming it in drinking water and food, we don't know a lot about those impacts yet, but certainly it makes sense. I think a lot of people say that it can't be good for you to be consuming chlorpyrifos in your food, which is shown to be a neurotoxin and harm children's brains and development.

It isn't just the farm workers. It's people who live nearby who can be exposed when it's being sprayed and it drifts on the wind. It's people who eat the food, it's people who drink the water. It's very, very hard to escape.

Urvashi Rangan:

We tend to go around this world these days like, "What's going to harm me and maybe what's going to harm my child? And those are the only two things I'm going to think about. So I care about residues maybe at the end."

And that is not wrong, necessarily. However, it is just a subset of really what the big picture is. And perhaps if we could kind of turn that upside down on itself, and instead of coming from this all from a point of fear, come at it from a point of fairness actually. Because we have a right to eat food that is not contaminated with toxic material. It should be a right, like it's a right to clean air, a right to clean water.

I'm Urvashi Rangan. I am the Chief Science Advisor at the Grace Communications Foundation and for FoodPrint.

So getting a slightly wider aperture on the problem of food systems and understanding that if we approach food in a way that is not fear-based, like how not to produce from a fear risk point of view, if we actually looked at the outcomes that we wanted in soil health, in plant health, in animal health, in our health, we'd actually come out with a totally different algorithm.

We would not use toxic materials that compromise the biology from soil to person. We would not use toxic materials that are linked to carcinogenicity. And we know that cancers are environmentally linked, and when we think about constant exposures every day as a toxicologist, hmm, pesticides come pretty close into things you want to watch out for because you do have multiple exposures to them every day.

Jerusha Klemperer:

There is an alternative. We do have a food production system that produces food with little to no chemical fertilizers and pesticides. It's called organic agriculture and it's one of the few alternative production systems that has a third party verified seal run by the U.S. government. I asked Urvashi to explain what the USDA certified organic seal tells us.

Urvashi Rangan:

When consumers go to the store and they do see the USDA label, what it means is that it meets a set of standards that the USDA holds and enforces, and is certified by an operation to say that that producer meets those standards and then that product can carry that label.

There's three different labels, but in general it means it's 95% organic. That's what the USDA seal means at a minimum; can go up to 100%. There's also a "made with" organic category. Especially on processed foods or cereals, you might want to look at that. That means that the content is at least 70% organic in the final product. There are some restricted materials in there, but that's essentially what those three categories denote.

There are also some prohibited practices in organic. You may not use genetically modified organisms. You may not use sewage sludge as fertilizer. That is prohibited. And that is allowed in industrial production.

I think sometimes when we hear what organic is, we have to understand what conventional is too. So sometimes people are like, "That's great they don't allow sewage sludge. I hope we're not putting sewage sludge onto other things." No, it turns out that we do use sewage sludge, and it's very contaminated and it's very problematic because it's industrial waste, and that's not really a very good product for our agriculture system.

It also prohibits irradiation, for example, to be used as a sterilizer of food at the end of the line. That's a type of bandaid approach that really is about cleaning up at the end of the line instead of the front of the lines. Organic does not allow for that.

And then there are a number of materials in organic that are prohibited. You may not use synthetic materials in general in the 95% portion of organic. And when it comes to crops and crop growing, you may not use most of the toxic pesticides that are out there.

Now there are a couple of small exceptions, but in general, organic on the whole, and the data really proves this out, are just lower in pesticide residues all around.

We also use pesticides to, or herbicides, I should say, to burn down certain crops. Things like wheat, we would spray it on wheat just to sort of be able to harvest it quickly. It's called a burn down. It doesn't mean you're setting it on fire. But what's crazy is that it actually adds pesticide residue at the end of the period, which then gets harvested into the processing. And in fact, when you look at final products, whether it's an alt protein burger or a piece of bread, you will find residues of glyphosate, which is also used as a burn down ingredient, and other pesticides that are being used as burn down ingredients for herbicides.

So that is problematic as well in another way that this enters our food system in a big way.

Remember, all these pesticides on the market were designed as nerve agents in World War II to actually be harmful to people. We diluted them down after World War II and said, "Oh, they can kill pests and weeds. That's great too." And now we're actually disputing whether they're even harmful. And that's what's at the Supreme Court right now; are they really harmful? Should companies really be responsible for that?

What in the world? They were designed to be harmful in the first place. That was the sole purpose of them, and it continues to be.

And it turns out as time goes on, we have a more fundamental understanding of the eteology of a lot of these diseases. And I will say that understanding our biome and now what that is doing and how it is so fundamental to hormones, to our immune system and all of these systems are what go a little bit haywire when cancers occur and in different places. And if the biome is disrupted, that's not good for the rest of the systems too.

And so as we understand that disease manifestation starts earlier and earlier and we understand those systems, and we understand that these products like pesticides, even at very low levels, can disrupt that, it should give us pause: "Wait a minute, is this risk really necessary? Do we have to take these risks? Is there a better way? And if we do it a better way, are there actually other benefits too that we will reap?"

Jerusha Klemperer:

Now something that people still ask me, and this happened, I was out to dinner with friends the other night; why does organic food cost more?

Urvashi Rangan:

Great question. Organic food as it's grown in some cases does not cost more; especially when we're in season and full summer and you go to the farmer's market. It's not necessarily a huge amount more.

But that said, organic food requires so much more physical labor to address some of the problems that a conventional farm would use chemically and maybe automate. And so that's the first line is that organic requires more people. So when people want to know why organic costs more, well, they can't do these shortcut chemical methods. They have to actually steward the biology. They have to see what's going on on their farm, what amendments they might need to make.

It isn't a recipe. It's actually a science and it's an art. That's what a true land steward farmer is doing out there if they are farming in an organic way or in a way in which they want to regenerate soil, raise pasture, feed animals what they were supposed to be fed that also makes them healthier.

So there's a variety of ways in which organic adds more value, but as a result, it costs more to produce it as well.

Jerusha Klemperer:

I spend a bunch of time on social media and I've noticed that there's kind of a new wave of skepticism and doubt out there about the value of organic. And I wanted to just first say like, am I crazy to imagine, can I just assume that Monsanto and Syngenta and whomever, you know, Bayer and Syngenta and all of them, that they have like entire line items designed to paying social media influencers to sow mistrust in organic, right?

Urvashi Rangan:

Yeah. It's got to be someone.

Ultimately, when you look at the independent science around pesticides ... And by the way, these studies are enormously expensive. They're just so expensive to do to test for pesticide residues. So who in the world is out there that doesn't have a vested interest in chemicals that is going to shell out a quarter of a million, half a million dollars to do these kind of tests on pesticides? This is what independent science is up against.

And so what ends up happening is that we get some pretty skewed science out there that is done by people who are vested in the use of these chemicals, who are paying for safety studies to be done. They

get skewed in the modeling of them, they get skewed in the interpretation of them, or they certainly can, and they definitely have bias and conflict in it. And then those studies aren't even enough to really know what the full harm is, and the full harm is only really fully realized once people get really sick and once we have epidemiology studies to document it.

And I'll say as a toxicologist, I find that pretty reprehensible, that it requires a statistically significant number of your population to get sick in order to make a determination about toxicity. What in the world? We know what the harms are. We don't need more evidence. This is silly that we're waiting for more people to get sick to document this. This isn't a way in which we should be protecting society.

This fight though has been going on a long time. And even though sometimes strange bedfellows get together to fight it, it doesn't take away from the very problematic nature of it.

I think what we have to get better at though is not exaggerating the problem in spaces where we don't have that evidence, where we just don't know, because when we start to mush that with what we do know, then the case being made is suspect and you don't know what is really right or wrong. And I'm afraid right now a lot of information on health is exaggerated on the edges.

And so again, it really behooves people to ask some questions and make sure that you're understanding where the evidence, the core of the evidence is, and how you can overlay that on what you're hearing out there. There is a need for that and for people to be discriminating about that.

Jerusha Klemperer:

Yeah, it's such a good point. That was definitely on display for me during the comments at that People Over Poison rally where you had a real mix of people with a sound grasp of the science speaking and then people saying things that are absolutely not substantiated by science.

Urvashi Rangan:

Yeah. And I think that is unfortunately ... It's very much out there and hard to cut through the noise.

But I also would say that a lot of those folks are not necessarily fully credentialed to be talking about what they're talking about either. So I think you also have to ask, you know, "What is your training? How do you come to understand this?"

Jerusha Klemperer:

It's like you haven't heard the news that nobody trusts scientists anymore, Urvashi.

Urvashi Rangan:

I know. I try not to accept it.

But I guess I would just say science didn't become less valid in all of this. I get maybe people don't like the messengers and maybe messengers have changed a bit, but if you know someone in your family who's had cancer and you don't know why, these are the questions we have to be asking about our system, about exposures in general.

Will we be able to pinpoint exactly which thing is causing which problem and which person? No. And so we have to be smart about how we layer the science together to make some really educated decisions about what we could be doing in order to really truly improve health.

I think sometimes people want things for the evidence-based reasons and sometimes they want them for belief-based reasons, and sometimes they mush those things. And again, I think that makes it really

hard for this to be a united movement. And so I would just strongly encourage those of us who've been in it for a long time and those who are in it, I guess for both belief and for the knowledge base that it has, to distinguish between those two things for the change makers to be able to hear a more united voice, even though we may not agree on everything. And we don't.

Jerusha Klemperer:

That was really well put and I think really speaks to sort of how that rally in particular came to be, it was in that spirit, I think.

Okay. The really important one I want to get to is that something I see every time I see someone post about organic always, second comment from somebody, "Organic is a scam. They allow pesticides also."

Urvashi Rangan:

I think you have to ask a wider question, which is how does organic approach pest control? Because pest control is something you have to do whether you're organic or not. And the question is, how do you go about it?

Same thing with fertility, by the way. And the data nets that out. When you look at pesticide residues on organic, they are 10 to 100 to a thousand times lower than conventional.

Pest control in organic is biologically based primarily. There are a few chemicals that are allowed, it is true, but not very many. And those had to have been approved and put on the list of allowable materials, they have to be reviewed every five years, and there's a National Organic Standards Board that is actually legally responsible for reviewing those materials. Whether they do it perfectly every time, we can argue about that, but that is all in place and it's the only label out there that really has that level of accountability built into it that the public can see.

You know, I think organic often has the magnifying glass on it, and it does because we have a magnifying glass on it so that we can hold it accountable. I think what we have to do though is still look at all of the standards that are required against what is not required or what is allowed in conventional ag, and then you can make that decision for yourself as to how valuable you think that is.

Same thing with fertility though. They have to use natural fertility in organic and that means no synthetic fertilizers. Synthetic fertilizers are responsible for a huge amount of greenhouse gases around nitrogen and nitrogen is far more potent than carbon in the atmosphere. Organic just doesn't allow that. You cannot use synthetic fertilizers.

That alone, again, you can't argue with the value add of that there. It is significant. Could it be better? It could. Do biodynamic standards require higher? They do.

So this is where I say organic is a good floor right now for what we're looking for in regenerative production. It doesn't have to be organic to get to regenerative, but once you're regenerative, you're probably practicing a lot of organic standards.

Aaron Lehman:

It really comes down to the tools that farmers have in order to grow things to feed our communities. Farmers have few choices, and unfortunately that means that we have to be all the more vigilant so that the fact that there are few choices doesn't mean that we have to accept food that is being grown in ways that we don't want it to be grown. We still have to make sure that we're encouraging farmers to innovate to grow safe, healthy food, and that our entire food system can support safe, healthy food, and that we

don't have to settle for something that hurts our farmers, hurts our communities, and hurts our consumers.

Jerusha Klemperer:

Do you have a hope for what comes next?

Carey Gillam:

Yeah. I mean, I think as a journalist, the hope, the goal, the work is always intended to just bring truth to light, bring the facts to the forefront so that people can use that information to make policy decisions and personal choices that are good, that elevate health, that elevate wellness, that elevate things that are good for the planet as we move forward, right? Good for our future generations.

Certainly that's my personal hope. I have kids. I want them to have kids. I want them to not have cancer or fertility issues or children that are born with neurological harms that may be related to environmental toxins. If there are things that we can avoid doing to make ourselves sick and make our world sick, we should be doing them.

I guess I wouldn't say that I'm anti-pesticide. I'm not pro-pesticide. I guess I'm not anti-pesticide. I'm more pro-truth. Like let's know what we're dealing with and let's deal with it in a proper way that is honest and have effective regulations, and have our agencies that are designed to protect public health and the environment like the Environmental Protection Agency actually do the job they're supposed to do. We don't get what we're supposed to be getting right now from our elected officials and from our public regulatory agencies.

So I think that's my job and that's my position. And I guess my hope is that as I report and others report and you report, that truth and facts eventually do good, right? Bring us to a better place.

Jerusha Klemperer:

The legal fight around glyphosate and other pesticides is ongoing.

Syngenta, the maker of Paraquat, is in the midst of a nearly $200 million legal settlement with thousands of Paraquat users with Parkinson's disease, and Vermont recently passed a statewide ban on the chemical.

Scientists continue to expand our body of knowledge on the harms of pesticides and the large companies who produce them continue to reject the findings and fight for the right to sell the products without warnings. For consumers, our job remains to think of the chain of pesticides' harms as extending beyond our own kitchen tables, beyond our bowl of strawberries or spinach, to the people who grow and harvest those crops, and to the families and plants and animals that live downstream.

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