

THE WORLD ACCORDING TO MONSANTO

A documentary by Marie-Monique Robin

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CHAPTER 1

Paris region

-So it is roundup herbicide that's especially formulated for big jobs.

-That is the new one.

-This one it says biodegradable

-That is the old one. It does not say it is biodegradable anymore so it must no longer be biodegradable. But, it is the same product. I imagine they don't have the right to say it anymore. It must not really be biodegradable

-Hey, be careful, not to spread it my face.

-No! I'm not a murderer.

I am sure these Roundup ready soybeans are ready to harvest today. They have probably about, I am gonna say, about eleven and a half percent moisture. So, they are perfect for harvest.

I first heard about roundup ready soybeans in a farm magazine about eight years ago and it seemed like a neat innovation. The soybean has a protein, genetically inserted into the plant, then its resistance of roundup. Roundup is spread on the plants. There are some definite advantages. If you look at my field here, you do not see weeds.

-“When label directions are carefully followed, roundup is not harmful to humans, animals or their environment.” “Copyright Monsanto, made in Belgium.”

-If you see any snails, don't spray them because they will be inedible.

-Watch the strawberries!

-I would encourage European farmers to take a look at the roundup ready technology. Frankly it is very good for the environment, it is a sustainable system. So, give it a try!

THE WORLD ACCORDING TO MONSANTO

“Monsanto”. For twenty years I've traveled the globe and everywhere I have heard about this American multinational but what I've heard has not always been positive. Wanting to know more, I surfed the web for months to put the pieces of the puzzle together. On its web site,

Monsanto positions itself as an agricultural company that aims to help farmers produce healthier food while reducing agriculture's impact on our environment. Its leading product is roundup. The world's best selling herbicide for the last thirty years.

(Commercial): One shot. All it takes for weeds. Roundup.

Monsanto is also the world leader in biotechnology. Ninety percent of the GMOs grown on the planet belong to them. Most of them have been genetically modified to resist the application of roundup, like roundup ready soybeans.

Monsanto's GMOs have invaded the planet but no ag-industry product in history has ever incited as much controversy and passion. Why? What is at stake with GMOs? And could the company's past shed some light on what the company is, or claims to be, today? Founded in St. Louis, Missouri in 1901, it was not always an agricultural company. It was one of the largest chemical companies of the 20th century.

(Commercial): Chemistry is working for you. And very likely, Monsanto is working for you. Monsanto. Very creative chemistry works wonders for you.

The wonders boasted about in this commercial made Monsanto one of the most controversial companies in the industrial era. Agent Orange, aspartame, bovine growth hormone, PCBs. These chemically created oils used worldwide as coolants and lubricants in electrical equipment, were the jewels in Monsanto's crown for over fifty years. They were called 'aroclor' in United States, 'pyralene' in France and 'clophen' in Germany, until they were banned in the early 1980s.

CHAPTER 2:

"Monsanto PCB". A *Washington Post* article from 2002. 'Monsanto Hid Decades of Pollution'. It happened in Anniston, Alabama.

David Baker, President of Community Against Pollution.

-Terry was my baby brother. He died in 1971 from a cancer of the brains...uh...a tumor of the brains, cancer of the lungs and **hurries** of the heart. He was 16. In the last three years I have lost more friends, and they died from illnesses, cancer, sugar diabetes, hepatitis....all these different illness that comes with PCBs and have been related to PCBs.

-This is Monsanto road. This is all just a black area...uh, minorities, they live in this area. But every one of these homes was, like, contaminated, they just cleaned that yard up over there to the right about six months ago. These was all homes. These people lived here and they now...they had to move, they.... I mean these houses was torn down.

-My brother fell dead right around the house. This is the house I were raised in.

-See this grass right here? they buried PCBs over here. Monsanto's got permission to bury PCBs in Anniston. And uh, this is Snow Creek, right here, where they put this **semen** in here. It comes from the plant, discharging PCBs all the way through here...and it was poisoning the.... They never told anybody but they told the state. The state did not tell us.

“PCB Monsanto knew”. But what exactly did they know? An environmental organization in Washington DC headed by Ken Cook has put internal Monsanto files on line. Most of them are classified confidential. “F.Y.I and Destroy”. 1937, exposure to PCBs provoked systemic toxic effects and acne-form skin eruption. In 1961, two workers developed Hepatitis symptoms after a pipe broke in a factory using PCBs. In 1966, Monsanto scientists placed fish in Snow Creek’s water all were dead in three and a half minutes. Pollution. A letter addressed to sales executives in 1970.

Ken Cook, President of the Environmental Working Group.

-This is the one that really tells you the story. They are saying we can’t afford to lose one dollar of business. Their neighbors in Anniston were not told about the poisoning that they were inflicting upon them because they did not want to lose one dollar. It was only when lawyers went to court on behalf of people in Anniston and forced the company, through the legal system, to disclose these internal secret documents that we knew what they knew. They knew the truth from the very beginning. They lied about it, they hid the truth from their neighbors, they hid the truth, in many cases, from the government authorities and when they did share information with government authorities that should have been acted upon, the government authorities, instead of siding with the people, who were being poisoned, they sided with the company. They sided with Monsanto. It was outrageous. Absolutely unforgivable.

-These all your medicines here?

-Yeah. No it ain’t all of it I got some more here.

-How much you have in you?

-63.8! in the blood.

-In the blood.

-If they took a fatty biopsy of him now, he probably would top the scales at about 3 or 4 thousand part for billion, or more.

-Which is the level acceptable?

-Acceptable is 2 ppb. That’s the standard all around the world. But, these people, we have more in our blood and in our body than, actually, anywhere else in the world.

-Is it usual here to speak about his PCB level?

-We all talks about it, because it became a household word now. Kids used to run up to me, “Mister Baker, I...I got tested, I got 3 point part per billion in my blood. How long you think I got?”

Oh that is a horrible story. But, what do the scientists think about it? On the web you can find numerous articles concerning the effects of PCBs on human health. David Carpenter is one of the most qualified specialists in the field. He carried out the testing for the Anniston residents.

Dr. David Carpenter, The University of Albany.

We all have PCBs in our bodies, the polar bears and penguins have PCBs. And what has happened is, in the past there were a few sites where PCBs were released, but over time they've gone into the air and they've gone into the water, they've transported, so the whole world is now contaminated with PCBs. The issue is that many diseases are caused by PCB exposure. The one everyone knows about is cancer. 11.55

Meeting of Anniston residents exposed to PCBs

- My test results stated...allocate 202... 202 ppb in my system.

-Women that get pregnant and have PCBs in their body will have a child with a reduced IQ.

-29.6

-PCBs cause reduced thyroid function.

-1800

-PCBs interfere with sex hormones.

- I swear you should just let me pass away...pass away in peace....he should ought to **pay his sins** and he gonna pay for the way that he have done to us

In 2001, twenty thousand Anniston residents filed two law suits against Monsanto. Monsanto and its subsidiary, Solutia, settled by paying 700 million dollars to compensate the victims, to clean up the site and to build a specialized Hospital. But no Monsanto executive was ever sued.

Ken Cook, President of the environmental working group.

-Under American law, in most instances, it is very rare for executives or officials in these companies to be held criminally responsible. So we have the civil system, the civil courts. We make them pay. And the truth of the matter is, in most instances, the price these companies pay, decades later, is a fraction of their profits. And this is why it pays to keep these problems secret. And it makes you wonder what they might be keeping secret now. I have to say we would never trust a company like Monsanto to tell the truth about a pollution problem or about a product. We would never trust them.

CHAPTER 3

Ken Cook says we would never trust a company like Monsanto. So what about Roundup, the world's favorite herbicide used by gardeners and farmers alike. What is it exactly? It is the brand name Monsanto gave to glyphosat, a so called non-selective or total herbicide because it destroys all plants. First sold in 1974, it owes its great success to Monsanto's unwavering claims that it is biodegradable and good for the environment.

(Commercial, text): This is Roundup, the first biodegradable herbicide. It destroys weeds from the inside, down to the roots, while leaving both the soil and Rex's bone pollution free. Roundup, The weed killer that makes you want to kill weeds.

"Roundup biodegradable". Ken Cook was right. The company was found guilty of false advertising. Twice! The first time was in New York in 1996. And the second was in France just last year. The judges found that the wording "biodegradable, leaves the soil clean and respects the environment" were false advertising. Especially since according to test performed by Monsanto itself, only two percent of the product had broken down after 28 days. That's why Monsanto recently removed the word biodegradable from its containers. But that is not all. Many scientific studies have shown that roundup is highly toxic. For example: "Roundup Provokes Cell Division Dysfunction", a study by Prof. Robert Bellé.

Oceanological Observatory, Roscoff, France.

Prof. Bellé works for the National Center for Scientific Research and the Pierre and Marie Curie Institute in France. He has studied the effects of roundup on fertilized sea urchin eggs.

Dr. Robert Bellé, The French National Center for Scientific Research (CNRS).

-The Big surprise was that roundup has an effect on cell division. We saw very quickly that roundup affected a key process in cell division. Not the cell division mechanisms themselves but those which control cell division. You have to understand how cells become cancerous. In the beginning, all cells are benign and then, at a certain point, modifications take place in the cells that makes them unstable from a genetic point of view. This is the first malfunction that we have observed with roundup. It is for that reason that we consider that roundup provokes the first stages that lead to cancer. We are careful not to say it provokes cancer because we won't say the cancer has developed for thirty or forty years. It was immediately clear how important these findings were for product users. Especially since the tested doses were well below those which people normally use and we said to ourselves, "gosh we really have to let the public know about the dangers as quickly as we can". And I thought the best way to do that was to talk to my administration. But there I was shocked, very very shocked. Because I was told -ordered rather- not to communicate our findings due to the GMO question lurking in the background.

CHAPTER 4

What an incredible account. Roundup's toxicity was hidden to protect the development of GMOs. So let's go back to the creation of GMOs. According to Monsanto's site, roundup ready soybeans introduced in 1996 were the first bioengineered crop to be approved in the United States. Farmers using these seeds belong to the American Soybean Association, whose address is on Monsanto's site. John Hoffman is its vice President and an ardent biotechnology advocate.

John Hoffman, Vice President of the American Soybean Association.

-In this spring, I will go out and spray one pass of roundup to burn down the weeds that are growing in their early spring. And about six or seven weeks later, I'll spray a second pass roundup and that controls the weeds for the year. Before we had roundup technology, this field would have had weeds. We would have to walk through and pull the excess weeds by

hand. It was labor intensive. So the roundup ready system saves me time and it saves me money.

It seems Monsanto's new wonder has what it takes to entice farmers. But how does it work? How can the soybean plants survive being spread by roundup? This is the soybean cell. The core of the cell contains its DNA in which the bean's genetic structure is encoded. In order to create its GMOs, Monsanto breaks the species barrier using a roundup-resistant gene harvested from a bacterium. This gene is placed on microscopic particles of gold which are fired into the soybean cells with a gene gun. The gene penetrates the DNA and creates a protein, making the plant resistant to roundup. When the herbicide is spread on the crop, it kills all the weeds leaving the soybean plants intact. One must admit that the process is an incredible technological feat. But these soybeans engineered to withstand such a powerful herbicide are destined for our dinner plates. They must have been truly tested before being put on the market.

Who was the Secretary of the Agriculture at that time? Dan Glickman. Bill Clinton's ag-secretary from 1995 to 2000.

Washington, D.C.

Dan Glickman, United States Secretary of Agriculture, 1995-2000.

-What I found in the early years I was involved in the regulation of bio-technology that there was a general feeling in agribusiness and inside our government in the US, that if you want marching lockstep forward in favor of rapid approvals of bio-tech products, rapid approvals of GMO crops, then somehow you are anti-science and anti-progress. Well I think that frankly, there were a lot of folks in industrial agriculture who didn't want as much analysis as probably we should have had, because they had made a huge amount of investments in the product. I mean I think that.....and certainly when I became secretary given the fact that I was in charge of the department regulating agriculture I had a lot of pressure on me not to push the issue too far, so to speak. I would say even when I opened my mouth in the Clinton administration, I got slapped around a little bit by not only the industry but also some of the people even in the administration. In fact I made a speech once where...uh... saying that we needed to do think..... to think more thoughtfully on regulatory issues on GMOs. And I had some people within the Clinton administration particularly in the US trade area...they were very upset with me. They said "how could you in agriculture be questioning our regulatory regime".

In a nutshell, in the United States the secretary of agriculture doesn't stand a chance against the multinationals. But just how are the GMOs being regulated in the United States?

The most crucial policy on this subject on this subject was published by the FDA. The Food and Drug Administration, which is legally responsible for regulating the safety of food and medicine.

Title: "Foods Derived From New Plant Varieties." Date: May 29th, 1992.

Principle one: "Foods derived from genetic modification are regulated within the existing framework that applied to foods developed by traditional plant breeding." Obviously the the

FDA decided not to create a special category for GMOs. For further information contact James Maryanski, who headed the biotechnology department at that time.

22.35

New York City, New York.

Dr. James Maryanski, Biotechnology Coordinator at the FDA, 1985-2006.

-Basically the government had taken the decision that it would not create new laws that they felt that there were already sufficient laws in place that had enough authority for the agencies to deal with new technologies.

-That means the White House asks the agency to write a policy where GMOs should not be submitted to a specific regulatory regime? But it is not based on scientific data, is it a political decision?

-Yes it was a political decision. It was a very broad decision. It didn't apply to just foods, it applied to all products of biotechnology.

Unbelievable. James Maryanski admits the GMO regulation was based on politics rather than science. How exactly did they justify their decision?

Principle 2: "The components of food as a result of genetic modification of a plant will be the same as, or substantially similar to substances commonly found in food." In other words, the FDA considers that a genetically modified plant is equivalent to its conventional counterpart. What they call the "principle of substantial equivalence" has been adopted around the world and it is at the heart of the debate between bio-tech supporters and GMO foes.

Dr. James Maryanski, Biotechnology Coordinator at the FDA, 1985-2006.

-How could the FDA decide that a GMO crop is as same as a conventional plant?

-What we do know is that the genes that are being introduced currently today using biotechnology produce proteins that are very similar to proteins that we have consumed for many centuries.

That is the FDA's official position on the matter which was toppled by Jeffrey Smith, author of several books on GMOs. Michael Hansen, scientific expert for the consumers union at the United States. And writer Jeremy Rifkin, who was the first to denounce the "principle of substantial equivalence."

Jeffrey Smith, Author

-The reason why GM crops are here is based on a deception that occurred in the FDA. They said that these foods are not different. They used the word "substantially equivalent", they used the word "not meaningfully or uniformly different" and what that turned into was a terminology called "generally recognized as safe" or G.R.A.S.S.. Typically if something is to be considered "generally recognized as safe" it needs lots of peer reviewed, published studies

and overwhelming consensus among the scientific community. With GM crops they had neither.

James Maryanski.

-What FDA was saying was: if you introduce a gene into a plant, that gene is DNA and we've consumed DNA, we have a long history of consuming DNA, and we can establish that that is G.R.A.S.S..

Dr. Michael Hansen, Senior Staff Scientist of the Consumer Union.

-We were trying to say that these things should be considered food additives. When you want to put a new coloring agent in a food, the tiniest bit of a coloring agent or a preservative, or some other tiny chemical.... that's considered a food additive and you have to go through all these procedures to show it's -that it meets the criterion of "reasonable certainty of no harm". But when you genetically engineer a food, which can cause untold differences in that plant, they don't require anything!

Jeremy Rifkin, President of the Foundation for Economic Trends.

-Here in Washington, if you are to have an evening and go out to get a drink in one of the local haunts where all the lobbyists hang out, everybody would laugh about this- they all know this was a joke. This substantial equivalency, this was simply a way to paper over the need for these companies, especially Monsanto, to move their products into the environment quickly with the least amount of government interference. And I should say that they were very, very good at getting their interest expressed.

James Maryanski

-I remember meetings that we had where the Monsanto scientists met with the FDA scientists and they went through the kinds of modifications that they were making and how those were being done and basically, what they were also saying to FDA is how will these products be regulated.

Jeremy Rifkin, President of the Foundation for Economic Trends.

-I have never seen a situation where one company could have so much overwhelming influence at the highest levels of regulatory decision making as the example of Monsanto with its GM food policy in the government.

Exceptional news footage actually shows George Bush senior visiting Monsanto's research facility nine years before roundup ready soybeans were first sold.

(Altyazılar:

-What I'd like to do today is show you some of the steps we go through when we're moving genes from one organism to another. And you'll actually be doing the very little manipulations we do in the laboratory, where we take DNA, cut it apart, mix different pieces together and then rejoin them (splicing, we splice them)... This tube contains DNA that was made from a bacterium. DNA would look the same whether it was from a plant or an animal.

-Oh I see. This will lead you to do what? To have a stronger plant? Or a plant that resists...

-In this case it resists the herbicide.

-I see.

-We have a fabulous herbicide.

This was a chemical.....)

When George Bush Senior toured the company's headquarters, he was Ronald Reagan's vice president. And deregulation was this republican administration's watchword. The intention was to boost industry by eliminating what White House hardliners called "bureaucratic hurdles" like health and environmental safety testing which were Monsanto's key problems.

(Text:

-And we have before USDA right now a request to test this for the first time on a farm in Illinois this year.

-We keep hallucinating about it! The expense goes up and nothing happens...

-And I would say quite frankly we have no complaint about the way USDA is handling it, they are going through an orderly process; they are making sure as they deal with these new things that they do them properly, and uh, now if we're waitin' until September and if we don't have our authorization we may say something different!

-Call me, we are in the "dereg" business. Maybe we can help.

)

In 1988, when George Bush senior was elected president of the United States Dan Quayle became the new vice president. Four years later he announced the American policy concerning the GMOs, drafted just as Monsanto had wanted.

26 May 1992

-We are taking this step as part of the president's regulatory relief initiative, now in the second phase. The United States is already the world leader in bio-technology and we wanna keep it that way. In 1991 alone, it was a 4 billion dollar industry, it should reach at least 50 billion dollars by the year 2000. As long as we resist the spread of unnecessary regulation.

-Do you think it was really a conspiracy?

-Conspiracy is a strong word. From a corporate standpoint, it was a brilliantly executed takeover.

-Early on, a gentleman by the name of Michael Taylor became the deputy administrator of the FDA. Right at the time that they were about to set out their policy.

Who is Michael Taylor? On the internet only a single image remains of the man who once wielded his power so discretely. Today he has a foundation called Resources for the Future.

-Hello Marie-Monique speaking.

-Hello it's Mike Taylor.

-My question is about your role, I mean, when you were working at the FDA. Before being hired by the FDA you worked as an attorney for Monsanto during seven years. Didn't you?

-I was a partner in a law firm which Monsanto was a client. I worked on some Monsanto matters, yes.

-And apparently, if I understood well what I read, the FDA created a new position for you: Deputy Commissioner for policy?

-Well...

-Because it was special need at the FDA Because of the new GMOs.

-It had nothing to do with GMOs. Nothing at all to do with GMOs. I wasn't the author of these policies. But that's...uh, well that's just false....

Michael Taylor, Deputy Commissioner for Policy at the FDA, 1991-1994.

Michael Hansen:

-He moved over to the FDA in July 1991. Up until that time he was at a law firm called King & Spalding. His personal clients included not only Monsanto but the International Food Biotechnology Council. And he had drafted for them a proposal for how they would like to see genetically engineer foods regulated. And if you look at the proposal that was written for IFBC, that was Michael Taylor's with the final one that was published, it looks very very similar. So if he didn't write it then it looks like somebody took what he wrote and changed it slightly for the policy.

James Maryanski:

-Mr. Taylor was the deputy commissioner at the time and he provided the leadership for the project and served as the chief, as the lead policy person in terms of making sure that the project got done.

Michael Hansen:

-So Monsanto played that game very well, both the political game and the regulatory game. They played the key role in bovine growth hormone, in getting that thing approved, and also in how genetic engineering was dealt with.

CHAPTER 5

Michael Taylor has just mentioned bovine growth hormone. What is that?

It's a transgenic hormone that is injected into cows, increasing dairy production by 20 percent. It would be an understatement to say that it had critics. The hormone threatens our health. "Deadly poison". "Manipulation". Call rBGH for recombinant bovine growth hormone. Monsanto began selling it to dairy farmers in 1994 under the brand name Posilac.

Promotional film for dairy farmer: Posilac, bovine somatotropin by Monsanto.

Posilac is the single most tested new product in history. You'll soon see the dramatic results Posilac can offer you.

In 1985 Monsanto submitted Posilac to the FDA for market approval. The experts of the FDA Centre for Veterinary Medicine reviewed the studies that the company had carried out on experimental herds. At the FDA the veterinarian in charge of reviewing the data was Richard Burroughs. In an interview he stated that agency officials had "suppressed and manipulated data." 34.45

New York State

Richard Burroughs, FDA Veterinarian, 1979-1989.

-The data they came in with lacked a lot of insight into the dairy industry. They didn't ask crucial questions about these diseases and that is: mastitis, which is infection of the mammary glands, and reproductive problems. So when the first data came in and that was missing I said "hey guys you need to go back and get information". So that set it back probably two or three years.

-Did you warn the FDA about your concerns?

-They pretty much just sidetracked me, they pulled in....my boss pulled in other people closer to him and I saw less and less of the data. Even the things I had asked for to be done, I didn't like the... I never got to see the mastitis studies, I never really got to see a lot of that because they figured well, if you're in the way we'll get you out of the way you know.... They sidetracked me. I was just fired. One day I was escorted to the door and told that was it, I was done.

-Have you been threatened?

-Yes! Mainly by the lawyer for Monsanto because when I was going for my appeal they told my lawyer that if I went in and revealed any company secrets in my defense, they would sue me.

In the end, the FDA was forced to reinstate this conscientious veterinarian. He eventually resigned, disheartened. On the internet there is also a talk about the files stolen from the FDA and sent to Dr. Samuel Epstein who heads the cancer prevention coalition.

Chicago, Illinois

In 1990, Samuel Epstein published an article in the Milkweed, the standard for dairy reporting edited by Pete Hardin. The scoop was based on the secret documents that the two men scrutinized.

Dr. Samuel Epstein, President of the Cancer Prevention Coalition.

-One morning I came -I think in October that year- I came into my office and found a great big box of documents. And it came from Washington, but no indication as to who sent it. This was a box of files of all Monsanto records which had been submitted to the FDA on the veterinary tests in the preceding six years or so. Well this was great fun.

Pete Hardin, Editor and publisher of the Milkweed.

-Many of these documents are original documents and as it says here “Company Confidential”. “It contains confidential information which may not be reproduced, revealed to unauthorized persons or sent outside the company without proper authorization.” As an investigative journalist, this is the kind of stuff I like to report.

-Revealing this information made Monsanto and FDA very, very angry because what we are able to establish is that there were dramatic, physiological changes in the animals that received the shot, the hormone shots compared to their control group peers. For example; we see the ovaries of the cows receiving the synthetic hormone in the different treatment groups. For the right ovaries: 34 percent larger, 42 percent larger and 44 percent larger. Elsewhere in the stolen files, it shows how there were severe problems with the reproduction of these treated animals.

Ray Mowling, Vice President of Monsanto, Canada.

-The data is conclusive. We provided the data, the raw data and summary data. Peer review data, not done by us, to support the submission.

Lisa Watson, Health and Affairs, Monsanto.

-Every health authority who has looked at bovine semantotrophin has founded that it is completely safe for consumers.

For Monsanto, the hormone is not only safe it is actually beneficial for consumers. “Because the chemical composition of the milk is not altered as a result of Posilac, the manufacturing and taste properties do not change.”

Samuel Epstein

-It is untrue, a lie, whatever adjective you want to use. It is a very different product. It is a very very different product in many many ways. First of all as is a high incidence of mastitis in the cows, there would be pus in the milk. And then you would find antibiotics given to the cows to treat the mastitis. So a wide range of antibiotics would be in the milk. Apart from that and very very importantly, very substantial increases in levels of IGF1 of Instant Light Growth Factor One. There have been a series of studies somewhere in the region of sixty relating increased levels of IGF1 and breast, colon and prostate cancers.

CHAPTER 6:

Absolutely incredible! Are there other countries that have approved rBGH? Apparently the hormone was banned in Europe and Canada. Canada! That’s strange because Health Canada

usually models its decisions on the FDA's. "rBGH Scandal in Health Canada." "Monsanto Accused of Attempt to Bribe Health Canada for rBGH."

In October 1998, three scientists from Health Canada testified before senate commission in order to stop the approval of the transgenic hormone. The scandal was made public by whistle blower Dr. Shiv Chopra.

Dr. Shiv Chopra, Health Canada, 1968-2004.

-My question to myself was, what truth am I going to tell. The one I know or what the ministries are telling me to tell. And that was my conflict.

-I would ask to each one of you, have anyone of you ever been lobbied by Monsanto? Anyone of you?

Margaret Haydon, Veterinarian, Health Canada, 1983-2004.

-I did attend the meeting approximately about I believe 1989-90 and Monsanto representatives had met with myself and with my supervisor Dr. Dranan and my director Dr. Messier. And at that meeting an offer 1 to 2 million dollars was made by the company and I don't know any more about about what became of that but my director indicated after the meeting that he was going to report it to his superiors.

-How did Monsanto react?

-Well, Monsanto did not deny that they made the offer of 1 to 2 million dollars at this meeting. They later on tried to say this was an offer of research. In Canada, to do some more studies on cows in Canada or whatever. Anyway that's what happened in Canada, the drug was not approved. So the European Parliament, based on revelations in Canada, banned it forever. And then all of a sudden we three, Margaret Haydon, Gerard Lonberg and I were dismissed for disobedience.

-You were fired!

-All three of us were fired and those fights are now in courts.

The United States congress also opened an investigation at the request of rBGH opponents who oppose the ban on labeling milk as rBGH free. Interestingly enough, the investigation was never completed.

-Bovine growth hormone. BGH is a test of consumer acceptance of genetic engineering.

-In the garbage, in the garbage!!!

Pete Hardin:

-The cow hormone drug was simply the first major application of bio-technology to food production and Monsanto was a very powerful corporation with many many linkages to top level persons in government. I think the prevailing ethic at the federal government was

biotechnology is so important that we can't let a few little questions about cow safety or human safety get in the way.

Michael Hansen:

-The reason that FDA approved as it appeared to be that there was a lot of people that used to work at key positions, that have worked for Monsanto, came over to the FDA and managed to get the FDA to approve it.

-It is revolving doors that move up, it is kind of like a double helix, a spiral.

-Revolving door.

-Yes, revolving door!

Dan Glickman

-The revolving door is not just in agriculture. It tends to be in many many areas.

Jeffrey Smith:

-Donald Rumsfeld was the CEO of Cyrol which was a Monsanto subsidiary. The former US trade ambassador MickeyCantor ended up in Monsanto's board. Supreme Court judge Clarence Thomas used to work for Monsanto.

"Monsanto revolving doors". The state of affairs in 1999 includes Linda Fisher moves from the Environmental Protection Agency to Monsanto. Michael Friedman from the FDA to Monsanto. Marcia Hale and Josh King from the White House to Monsanto. Margaret Miller from the Monsanto to the FDA. William Ruckelshaus from the EPA to Monsanto. And let's not forget Michael Taylor, who had back and forth for several times.

Michael Taylor, FDA Deputy Commissioner for Policy, 1991-1994. Former Vice President of Monsanto.

-Once your mission carried out by the FDA you became Monsanto's vice president for public policy?

-Right.

-So it is no conflict of interest for you?

-No, again the rules are the rules, I played within the rules. I think in terms of public acceptance, it has been one blunder after another. If you are trying to have a strategy for having a vote to understand and accept the new technology, having the first application of it be....have... be related to milk, of which we already have more than we need..... it created....it helped create a climate of...

-Suspicion...

-Suspicion, I think the idea that the companies are not required in every case of a GMO to submit the product to FDA such as is required in Europe, I think that from a public confidence vote of acceptance standpoint, that is not a sufficient system. I personally said that congress should change the law, congress should create a mandatory notification system that insures that every product is looked at by FDA and that FDA makes a safety judgment for every product.

That is some very compelling testimony. It seems that Michael Taylor has qualms about the policy he signed in 1992. What about the FDA's own scientists? Was there a consensus on GMO regulations? "FDA Documents Show They Ignored GMO Safety Warnings from Their Own Scientists" written by Steven Drucker.

46.45

Iowa, USA

Lawyer Steven Drucker represents a coalition of non-profit associations. He sued the FDA, forcing it to declassify its internal files on GMOs.

Steven Drucker, Lawyer

-We received over 44 thousand pages from the FDA's own files and they revealed that the FDA has been lying to the world since 1992 if not before but they continue to lie they are still lying. They claim that there is an overwhelming consensus in the scientific community that genetically engineered foods are as safe as their conventionally produced counterparts and they claim that there has been sufficient data to back up this consensus. Both of those claims are blatant lies.

There are several examples. For instance; Dr. Louis Pribyl of the FDA's microbiology group wrote: "there is a profound difference between the types of unexpected effects from traditional breeding and genetic engineering." Then Dr. Pribyl added in his memo that somebody expects that genetic engineering may be more hazardous. The concern expressed by the FDA's various scientific experts was so clear and unmistakable that the FDA official whose job it was to track and summarize the scientists' input, Dr Linda Call, wrote a memo to the FDA biotechnology coordinator, Dr. James Maryanski.

-According to the internal FDA's files which have been declassified, there were many in-house critics, I mean among the scientists of the FDA, about the proposed policy. For instance memorandum sent to you by Linda Call.

-Right.

-She stated the processes of genetic engineering and traditional breeding are different.

-Traditional breeding are different and according to the technical experts in the agency...

-They lead to different risks.

-Different risks.

-The point was that we had many people with many different views. Linda Carl, of course, wrote that in her memo, but in fact when we finished the policy all the scientists agreed with the policy. FDA has of course looked at the use of genetic engineering and has no information that simply the use of the techniques creates products that differ in safety and quality.

-Even before the consistent warnings in the memos from the FDA's own scientist, the FDA had very clear warning because the very first genetically engineered food supplement that came to market in the United States caused the major epidemic.

-Do you remember what happened in the 89 with the L-tryptophane. Do you remember?

-Yes!

-It was a bioengineered aminoacid we know very well what is aminoacid.

-Right!

-That killed dozens of people and made hundreds and hundreds sick.

-It caused an epidemic of an unusual disease called EMS.

-Right.

-How many people died?

-Right, we have many...

-37 and more than thousand people disabled. Do you remember?

-I do remember.

-And you said according to FDA administrative record "We do not yet know the cause of EMS nor can we rule out the engineering of the organism." Did you say that what I've read?

-Yes!

Amazing! James Maryanski can't rule out the possibility that it is the genetic manipulation itself that triggers the unexpected side effects. But he did nothing. Have any independent scientists investigated this question which is crucial for consumers? Arpad Pusztai, world renown scientist lost his job when he warned about GE foods. 1998. 51.00

Aberdeen, Scotland

Arpad Pusztai worked for the Rowett Institute in Scotland. At the Ministry of Agriculture's request he led a study on the genetically modified potatoes with a budget of over 2 million Euros and the staff of 30 researches to prepare the arrival of GMOs in Great Britain.

Dr. Arpad Pusztai, Rowett Research Institute, 1968-1998.

-We were all enthusiastic about it, I was enthusiastic about it. The ministry thought that if we did the study looking at all aspects, then it would be an endorsement of GM and when they introduced it they would say that the foremost laboratory in Europe.... nutritional laboratory had looked at them and they found them all right.

Arpad Pusztai specializes in lectins. These proteins function as an insecticide protecting plants against aphids. Rowett scientists had created potatoes that were resistant to aphids and into which they introduced the snowdrop gene which produces the lectin in question. Beforehand they verified that, in their naturally occurring state, lectins themselves do not pose a health risk. The genetically modified potatoes were tested on rats.

-It had a twofold effect. First it started to increase a proliferative response in the gut and that you don't like because this is possibly -I am not saying that it is cancerous- but what it does, it does, it can have an agument effect on any chemical, chemically induced tumor. The other thing is the immune system was certainly got into high gear. And that was we don't know whether it is good or bad but it certainly did recognize the GM potatoes as alien. And we were convinced that this insertion is causing the problem and not the trans-gene. As it is said, the trans-gene, when we did it in isolation, even at 800 fold concentration did not do any harm. It was a very important point because the American FDA is going on...by about a neutral technology and what we did say and what we did publish was actually corroborated, confirmed that it was not the trans-gene which was the problem but it was the technology.

Well, the first shipments of genetically modified soybeans were arriving in Great Britain. Arpad Pusztai's superiors authorized him to be interviewed by the BBC.

10 August 1998

-As a scientist actively working in the field, I find that it is very very unfair to use our fellow citizens as guinea-pigs.

-They will never forgive me for that. Monsanto did see the importance of our findings. Don't worry about it. Even before the broadcast went out, they already knew because the Scottish Crop Research Institute did get a lot of money from Monsanto. And they were not slow to understand the implications.

The day after the interview's broadcast, Arpad Pusztai was fired and his research team dismantled. Dr. Stanley Ewen was in charge of evaluating the impacts of GM potatoes on rats' internal organs. He no longer has any illusions about scientific independence.

Dr. Stanley Ewen, University of Aberdeen.

-I was extremely angry and very very concerned. It is like a whole world is disappearing under your feet, what is going on?

-They started to discredit Stanley as well, it is not just Arpad. Stanley was meant to retire, he was discredited at the university.

-As well.

-Yes.

-Very hard indeed!

-Monday, it was wonderful work, Tuesday it was rubbish. I had one or two ideas about what was happening but very imprecise idea until eight years ago almost exactly I was at a dinner-dance and next to me at the tall table was someone from the Rowett called Dr. Roy, who happened to say I said isn't it awful what is happening to Arpad? Yes he said, did you not know that they were not one but two phone calls from Downing Street to the rector. And then of course I saw clearly what was happening that this was something sort of supra-national if you like, some pressure being put on Tony Blair's office to stop this work because it was perceived by the Americans to be harming their industrial base, bio-tech industry in other words.

The Arpad Pusztai scandal triggered a massive rejection of GMOs in Great Britain led by GreenPeace. A year later, Robert Shapiro, Monsanto's CEO at the time agreed to participate in a tele-conference organized by the environmental organization. This is the only existing video footage of the former CEO. He was responsible for moving the company into the biotechnology era, with its new slogan: "Food, health and hope!"

Peter Melchett, Executive Director of Greenpeace, UK.

-Monsanto made huge efforts to push its products in every direction with the full support of multinational food manufacturers, retailers, communications firms, regulators, even governments. You behave not as a company offering life and hope but as bullies trying to force your products on us.

Robert Shapiro, PDG, Monsanto, 1993-2000.

-If I am bully, I don't feel that I am a successful bully. I wanna start by emphasizing that biotechnology is a tool. Biotechnology in itself is neither good nor bad. It can be used well or it can be used badly. The products that are on the market have been reviewed through the regulatory processes that society has established in order to ensure not only safety, but environmental safety of the products themselves.

After ten years on the market, roundup ready soybeans account for 90 percent of all the soybeans grown in the US. In fact, 70 percent of the food in American stores contains bioengineered elements. Unlike Europe, consumers cannot make an informed decision because GM labeling is forbidden. A direct consequence of the principle of substantial equivalence.

John Hoffman:

-I've got a soybean in my hand here and I can eat the soybean, it is very safe, very safe. 58.00

James Maryanski:

-I think FDA is confident that the soybean in terms of food safety is as safe as other varieties of soybean.

-How is the FDA confident about that?

-It is based on all the data that the company provided to FDA and that was reviewed by FDA scientists. And so it is not in the company's interest to try to design a study in some way that would mask results.

CHAPTER 7

How can James Maryanski be so sure? If I type in "Monsanto falsified scientific studies," I get 174 thousand hits. Among them a report from the EPA of the USA. "Monsanto accused of falsifying studies concerning the carcinogenicity of dioxin."

Nitro, West Virginia.

The story began in Nitro, in a Monsanto factory that produced a powerful herbicide called 2, 4, 5-T. In 1949, an explosion in the factory provoked unexpected side effects. 228 workers developed an extremely disfiguring illness called chlor-acne. It is caused by dioxin, which is a highly toxic by product of 2, 4, 5-T.

2, 4, 5-T was the main ingredient in agent orange, the defoliant used by the US army during the Vietnam war. During the war, 40 million liters of agent orange containing 400 kg of pure dioxin were sprayed on trees in Southern Vietnam. 3 million people were contaminated including thousands of American soldiers. Even some 40 years after the end of the war, dioxin continues to claim more victims. We know today that this poison provokes cancer and serious genetic malfunctions. 01.01.02.

In 1978, American Vietnam veterans were suing the makers of agent orange. Monsanto sponsored studies on the long term effects of dioxin. The company paid scientists to compare the health of workers who had been exposed during the Nitro plant accident 30 years prior, to the health of non-exposed workers. There are two experts on this subject. William Sanjour, who lead the toxic waste division of the Environmental Protection Agency. And Gerson Smoger, a lawyer who represents Vietnam veterans.

William Sanjour, Branch Chief, Hazardous Waste Division, EPA, 1970-2001.

In 1990, Dr. Kate Jenkins, colleague of mine in EPA wrote a memorandum pointing out that allegations had been made that those studies, some of those studies that Monsanto had conducted were fraud and if they were done correctly, we would have reached just the opposite result that Monsanto have. Monsanto studies showed that dioxin was not a human carcinogen.

Gerson Smoger, Lawyer Representing Vietnam Veterans.

That means they had the data first and then they manipulated how they are gonna look at that data to come up with the conclusion they want. It is absolutely, you never do a study that way, never. And they did it absolutely wrong and they achieved what they wanted. It came out later that there were people that had cancer that, in one of these two studies, were listed as being exposed to dioxin and the same five people in another study were listed as not being exposed. When you put all these cancers into the unexposed then they look like the unexposed people were getting as much cancer as the exposed. And they said "No difference, see they're the same!"

-Then thousands of thousands veterans were disallowed benefits because of exposure to agent orange.

-So, all policies were affected by those studies for seven to nine years in this country.

-Being a good scientist and a good EPA employee and someone by the way who was quite fearless, Kate Jenkins wrote a memorandum to the EPA science advisory board asking them to review these two studies to see if they were correctly done. The fact is that there was no investigation of Monsanto, it didn't exist. Nobody investigated those studies, nobody. Period. What they investigated was Kate Jenkins. The whistle-blower, they made her life a hell, they harassed, they changed her jobs, they persecuted the poor woman.

-If you think of Monsanto today telling that GMOs for instance are sound and safe. Do you trust the company?

-I wouldn't believe in a word that company is saying. I might trust some independent source who investigated their claims depending on who that independent source was and how good they are and how independent they are.

Precisely. In order to prove the safety of roundup ready soybeans, Monsanto carried out a study which was published in 1996 in a well-respected scientific journal. The study was supposed to assess the effects of GM soybeans on animal health, specifically on rats. This study was thoroughly reviewed by both a Danish scientist, now deceased and a Norwegian specialist Ian Pryme.

Dr. Ian Pryme, University of Bergen.

-I am afraid to say, we value this study very poorly indeed. It is very disappointing, very disappointing. Especially because this paper sort of served as the basis for the whole principle of substantial equivalence. They can just cite, which is again a bit surprising, although the animal feeding studies provide some reassurance that no major changes occurred. Now some reassurance is not good enough -I want 100 percent reassurance, not just some reassurance. They talk for example about....on page 723, "except for the darker brown color livers appeared normal at necropsy." I mean that you can't do that without looking inside. You have to look at content inside the liver taking sections, showing on the microscope there is no difference. They have used for example, older, older rats. Obviously, again if you want to avoid any problems, you can't use an adult. If you want to see if any changes are evident then you should use younger individuals of course. In some ways you can say it is bad science because lots of the data that they should have shown isn't shown.

-Did you try for instance to get access to the raw data?

-I didn't, a colleague of mine did, and spent quite a frustrating length of time going through different offices and so on and finally the answer was no. If there was nothing to hide then there should be no problem. You should be willing distribute your material for anybody to work on. When you keep it, keep it tight then you suspect why is this the case?

One thing is sure. Thanks to this limited study, Monsanto's GMOs have inundated the world. Principally in North and South America, Asia and Australia. After only ten years, transgenic

crops now cover 250 million acres. 70 percent are roundup resistant and 30 percent have been genetically modified to produce an insecticide called BT.

CHAPTER 8

Since 2001, the company has published a yearly document titled the “Pledge Report.” A kind of ethic statement in which Monsanto tries to justify its business practices. At the heart of the opposition to GMOs is the subject of patents. This is what Monsanto calls their intellectual property which are supposed to protect their investment. In North America, every farmer who buys bioengineered seeds must sign a technology agreement in which the farmer promises to respect the company’s patent on the modified gene.

John Hoffman, Vice President of the American Soybean Association.

-Bio-tech crops are protected by US patent law and so I may not in any way save seed to replant the following year. It is something that is a protection for Monsanto, for bio-tech companies because they literally invest millions and millions of dollars to produce this new technology.

-How can Monsanto know that someone for instance replant other seeds?

-I am not sure how to answer that. No. How they would know if someone replanted seed. That is a good question for Monsanto.

The question is so touchy that Monsanto prefers to circumvent it by making glorious promises. “In cases of unintended appearance of our proprietary varieties on a farmer’s field, we will surely work to resolve the matter to the satisfaction of both the farmer and Monsanto.”

The reality seems much less idyllic. The centre for food safety in Washington D.C. published a study on farmers sued by Monsanto for having not respected its seed patents. It found at least a hundred lawsuits and many bankruptcies. Among the victims, Troy Roush, an Indiana farmer.

Indiana, USA.

Troy Roush, farmer.

-Our story starts back in 1999 a gentleman –and I use that term loosely- showed up at my mother and father’s farm. He claimed to be a private investigator hired by Monsanto and he was out investigating farmers saving their own seed and asked us if we saved their seed and we told him no we had not and offered up our herbicide purchases and seed purchases, all the receipts and everything –told him where everything was purchased so he could go and check it out for himself. He declined that offer. And what occurred is then they sued us, Monsanto filed a lawsuit against myself, my father, my two brothers. And Monsanto presented us with documents that they claimed were samples taken from our farms. To obtain those samples Monsanto had to have trespassed on our land without our permission and stole those samples. That year I recall we had 492 acres of roundup ready soybeans and they were grown under contract for a company for seed. And the contract was very specific -it spelled out the specific fields- so it wasn’t a problem isolating those fields, everybody knew.

-Why did you settle out of court with Monsanto?

-Well after two and half years on this, the family was just destroyed, the stress involved in this...I mean, they're in essence threatening five generations of work and if they would to prevail on something like this, it is all done, they take it all away, they take it all away.

-Good Morning.

-Good Morning sir!

-How are you doing Troy?

-How are you David?

-Still surviving?

-Good!

Troy Roush and David Runyon grow conventional soybeans. They have been victims of the so-called gene police created by Monsanto to enforce its law in the fields, the gene police sow fear in rural America, where farmers denounce the totalitarian methods used in a GMO dominated world.

- I have some pictures here for you Troy.. I'd like you to look at. Here's what I've done to help... help prevent reentry on my farm. Anyone coming on my farm.

David Runyon, farmer.

-That was around July 2003, they came to my house...it was the later part of July, it was like 7:00 pm.

-Who came?

-Monsanto employees. And they presented me their business card. And they asked me a few questions about the kind of soybeans I plant, about the corn I plant, where I market my crops so I said "ok, that is the end of the conversation".

-Patterns have changed, they changed everything.

-It revolves....with the relation with the trust of neighbors. That is gone. I myself I probably only have two farmers that I talk to that are close to me.

-Are they afraid, the farmers?

-Of course they're afraid! You can't defend yourself against these people. They have created a little industry that serves no other purpose than to wreck farmers' lives. Of course we are afraid.

-Are you afraid that perhaps a neighbor can snitch on you?

-Yes!

-Yes?

-Yes, all you need to do is dial 1-800 Monsanto...wait, I'm sorry- 1-800 ROUNDUP, I remember it encouraging farmers to call this toll free number and turn their neighbor in.

-Why does Monsanto do that?

-Well, the reason that they do it is control.

-Seeds?

-Yeah. They wanna control seeds, they wanna own life. I mean this is the building blocks of food we are talking about. They are in the process of owning food. All food.

CHAPTER 9

Between 1995 and 2005, Monsanto acquired over fifty seed companies throughout the world. These companies produce corn, cotton wheat and soybean and also seeds for tomatoes, potatoes and sorghum. Everywhere people worry about Monsanto's monopoly, which in the long term threatens to wipe out all non trans-genic varieties. Monsanto doesn't agree and speaks only about the benefits of bio-technology, especially in developing countries like India.

Our products provide significant economic benefits to both large and small growers. In many cases, farmers are able to grow higher-quality and better yielding crops.

Andhra Pradesh, India.

India is the world's third largest cotton producer. In 1999, Monsanto acquired MAHYCO, the country's leading seed company. Two years later, the Indian government authorized the sale of BT cotton under the brand name Bollgard. It is genetically modified to produce an insecticide which repels bollworms, a cotton parasite.

(Text:

Day and night, all day, everyday, Bollgard protects you.

That is the power of Bollgard. Less herbicide, higher profits.

Bollgard Cotton seeds: the power to beat the insects.

)

Since 2001, Kiran Sakhari and Abdul Gayum have been closely following the trans-genic cotton grown by small farmers in the Warrangul district. Every year the two agronomists publish a report comparing bioengineered cotton with conventional cotton in terms of yields and production cost. In 2006, the harvest was ravaged by a disease that affects trans-genic cotton.

Kiran Sakhari, agronomist.

This is a Bullgard field. We can see some ... plants. You see, if you remove the bark of a healthy plant, it won't be like this, like ... It is a classic example of ...infestation.

Abdul Gayum, agronomist.

-When farmers used it they have never seen that. When we were doing the study from 2001 ... and very few samples in the BT cotton only and as the time passed, the spread was seen more and more in the BT fields as well as some non-BT fields also. But, I personally feel that that there may be some interaction, undesirable interaction between the host plant where the gene was introduced and the gene which is carrying the BT. That has introduced the weakness in the plant to not to resist this ...

-I have seen the advertisement of Monsanto. "Bt cotton that uses 78 percent of ... production, ... consumption. And gives 30 percent better yields." But it is an utter flaw. After 70-90 days, you have to spray for ballworm, even for the BT cotton.

-How do you explain so many farmers buying BT seeds?

-Presently the option is getting narrower and narrower to the farmer. During the current season, even farmer wanted to go for non-BT, there is no non-BT seed available in the market.

Maharashtra, India.

Today in India, Monsanto controls nearly all of the cotton seed market. Forcing the locals to buy its seeds at prices four times higher than conventional varieties, small farmers must turn to money lenders who charge high interest rates. If the harvest is poor, it means bankruptcy. A vicious circle which is decimating Indian villages.

(Text:

-Why did he commit suicide?

-The harvest was lousy.

-Bt Cotton?

-Yes, Bt Cotton.

-Was there another reason?

-Debts.

-How old was he?

-25

-He drank a litre of pesticide.

-Was it the first suicide?

-No, the second.

) 01.19.

Tragedies like the one we have just witnessed occur 3 times a day in the Widaharbha region where BT cotton was introduced in 2005. Of course, cotton farmers committing suicide is not new in India, but the GM crops are causing it to skyrocket. However, in this battle that Pits David against Goliath, few dare to publicly denounce this international scandal.

Kishor Tiwari, local farm activist.

-This is Widaharbha rice growing paddies. You can see minimum suicides are there. This is the cotton growing area. The result of the BT cotton is, the first year 600 suicides, from June 2005 to June 2006. Second year, still today, within six months, 680 suicides. So it is a disaster.

Tarak Kate, agronomist.

It is a complete disaster, yes. All these technologies, either it is GM or bio-technology, they are actually making the farmers completely dependent on the market. Because not only that you have to pay more for seed procurement but you have the fertilizer. And this very claim that no spraying is required, no fertilizer is required, also false!

-Monsanto claims in advertising that GM crops are adapted for small farmers. What do you think?

-Our experience shows that it is completely false. It is completely false. It is a lie.

On this day in December of 2006, a revolt was brewing in largest cotton market in the state of Maharashtra. Three days later, riots broke out and dozens of small farmers including Kishor Tiwari were arrested.

(Text:

-The price they are paying is a lot lower.

-32.000 rupies a day

-60.000 rupies a day

-50.000 rupies a day

-And all the farmers are troubled and worried.

-20.000 rupies a day

-How much money have you borrowed?

-50.000 rupies a day

-15.000 rupies a day

-Who will stop growing Bt Cotton next year?

-They don't want to go with the Bt.

)

CHAPTER 10

“Seeds of Suicide” is the title of a book by Physicist Vandana Shiva. She won the alternative nobel prize and heads the Navdanya organization which aims to conserve traditional seeds.

New Delhi, India.

In the beginning, Vandana Shivas's battle was against the first green revolution which brought industrial agriculture to India in the 1960s. Today she denounces what she calls the second green revolution, that of GMOs protected by patents.

Vandana Shiva, President of the Navdanya Foundation.

-The difference is that the first green revolution was public sector driven. It was driven by government agencies, the government agencies controlled the research. In the case of the second green revolution, it is driven by Monsanto, it is a Monsanto-driven revolution. The second big difference is the first green revolution did have a hidden objective of selling more chemicals but it's first objective was providing food, it was food security and yes, they grew less pulses, they grew less oil seeds but they did grew more rice and wheat- it fed people. The second green revolution has nothing to do with food security. It is not about food security. It is about returns to Monsanto's profits. That is all it is about. This always said genetic engineering is the way to get to patenting, but patenting is the real aim. If you look at Monsanto's research agenda, they are testing at this point something like twenty crops with BT genes in them. There is nothing they are leaving untouched, the mustard, the okra, the brinjal, the rice, the cauliflower. Once they establish the norm, that seed can be owned as their property, royalties can be collected. We will depend on them for every seed we grow of every crop we grow. If they control seed they control food, they know it, it is strategic. It is more powerful than bombs, it is more powerful than guns. This is the best way to control the populations of the world.

Monsanto responds to Miss. Shivas persuasive argument by brandishing its pledge “integrity, dialogue, transparency and sharing.”

Robert Shapiro, PDG of Monsanto, 1993-2000.

We wanna participate constructively in the process by which societies around the world try to develop good answers to those questions. Are the products gonna be safe for the environment? How are they gonna affect biodiversity? How are they gonna affect other plants and insects and birds? What about out crossing of genes? What happens if genes do

outcross into wild species? To me, that means among other things, listening carefully and respectfully to all points of view.

CHAPTER 11

Despite Robert Shapiro's placid demeanour he has just touched on a subject that greatly troubles GMO opponents. Transgenic contamination, which Monsanto prefers to call an "adventitious presence that is part of the natural order." According to a study led by Berkeley Professor Dr. Ignacio Chapela, GMOs have already contaminated Mexican corn. But when the scientific journal Nature published the study's findings, it triggered a violent controversy.

San Francisco, California.

Dr. Ignacio Chapela, University of California, Berkeley.

-I had been working for fifteen years with indigenous communities in Oaxaca in Mexico and they had been developing the capacity to analyze their environment themselves. One of my students went to try and train people to detect transgenics. We brought with ourselves a positive control. That was a can of corn from the US that we knew was transgenic. And we were looking for a negative control. And we thought the best negative control is going to be corn from the local places because we all believed that was the cleanest, the most well preserved source of corn in the world. So the surprise came when we looked at these samples and we discovered that the samples that we all believed would be non-transgenic had already transgenic DNA within them. It was a very big surprise for us to discover that these land races of corn that were kept by people locally and supposedly maintained over ten thousand years had already been reached by transgenic contamination mostly from the US.

Oaxaca, Mexico.

Mexico is the centre of origin for corn. More than a hundred and fifty local corn varieties can be found in just the Southern region of Oaxaca. This extensive biodiversity is a treasure. The world's genetic reservoir of corn. Millions of Mexican farmers had maintained it for thousands of years.

-Is this maize produced for the family?

-Yes. Only for the family. We use it to make tortillas. This year is a good size so we will save it as seed for next years planting.

-You don't buy your seeds?

-No.

-You exchange them?

-Yes. It is our ancient barter system.

To preserve its corn's diversity, Mexico has banned genetically modified crops. However, due to the NAFTA Free Trade Agreement it signed with the USA and Canada, Mexico can not stop the massive importation of American corn, forty percent of which is genetically

modified. This industrial corn, as it is called in Mexico, is highly subsidized by the US government. So on local markets, it costs half as much as traditional Mexican corn.

Segundino, Farmer.

-Do you always make your tortillas with local corn?

-Yes.

-It is natural and has a better yield. Also it is more nourishing because it comes from pure soil. That is blue corn. In the past, my ancestors only planted this kind of corn. Today we maintain it as well.

-It existed before the Spanish conquest?

-Yes. There is another kind of conquest.

-What is the new conquest?

-It is the transgenic conquest that ones to destroy everything by making local corn disappear so that their industrial corn can dominate. If they succeed, we will be dependent on multinationals. We will be forced to buy the fertilizer and insecticides they sell. Because without them, their corn won't grow, whereas the local corn grows very well without fertilizer or herbicide. Look at it, it is very beautiful.

Mexico City.

Ignacio Chapela's article provoked a violent reaction in Mexico. Since then, the National Ecology Institute has confirmed the contamination of Mexican corn. Roundup ready and BT genes have been found in corn from five regions of the country. What would happen if bioengineered corn crossed with traditional land races? Doctor Alvarez Buylla led a study using a local flower. She inserted the same gene in several specimens and then observed their growth.

Dr. Elena Alvarez Buylla, The National Ecology Institute of Mexico.

-We observed that two plants, strictly identical from a genetic point of view, in other words they both have the same genome, the same chromosomes and the same trans-gene, the only difference is that the trans-gene is located in different places. And well, once they grew these plants presented a phenotype. That is to say, flower shapes that were very different. Some have flowers that are identical to their natural counterparts like here, four petals with four sapples. But others have abnormal flowers with abnormal flowers with abnormal hair or strange petals. In addition, some are completely monstrous. The only difference in all of these plants is the location of the trans-gene which was inserted randomly.

-Why is that worrisome?

-In Mexico once the transgenic corn seeds have been released into the environment it is very likely that the trans-genes will insert themselves into the genomes of the local Mexican varieties. It is an unavoidable phenomenon because corn plants cross naturally by wind blown

pollen. Given that, we fear that the genetic resources of traditional corn will be uncontrollably affected. 01.32.08

Sierra Juarez, Oaxaca, Mexico.

-Good morning. We invite you to attend a meeting about the new diseases which are infecting our corn because of transgenic contamination.

Aldo heads an organization of Indigenous people. For two years, he has been leading an information campaign in Oaxaca communities where Elena Alvarez's fears have already been confirmed in the fields.

-I am going to show you some photos of some corn plants that we took in our region of Sierra Juarez. We would like to know if you have already seen this type of plant in your community. You can see that some very strange things are going on. This plant for example has a branch here and another one there. Normally a corn plant is not like that. There's always only one ear per leaf. But look here. There are three ears coming out of the same leaf. They are really monsters. We sent a plant sample to a bio-tech lab to see if maybe it contained genetically modified genes. Unfortunately the test came out positive. Usually we see these types of plants along the road side or in people's yards. It is possible that people buy corn in the shop and they drop some kernels while walking. Some kernels germinate. This is how traditional corn became contaminated.

-From what you said, if we don't manage to stop their spread in our fields, soon we will be forced to buy our corn seed because our own won't work any more. That is very troubling what should we do?

-First of all, if you find a strange plant you should immediately remove its stamen because that is where its pollen comes from. In any case, you must be very vigilant in monitoring your plants.

Aldo Gonzales, President of an organization for the indigenous population.

-Don't you think it is Monsanto's strategy- what they could not achieve legally they are trying to force through contamination.

-Yes. We end up wondering if the contamination wasn't intentional. If the centre of origin of corn becomes contaminated, the rest of the planet could follow. Contamination only benefits multinationals, like Monsanto.

How did Monsanto react to Ignacio Chapela's study on Mexican corn contamination? "Monsanto's Dirty Tricks Campaign Against Fired Berkeley Professor Ignacio Chapela." An article by Jonathan Matthews who heads GM watch, a GMO information service based in Southern England.

Norwich, England.

According to Jonathan Mathews, Ignacio Chapela was a victim of a campaign launched on AgBioWorld, a pro-GMO Internet site. On the eve of the article's publication in *Nature*, a certain Marie Murphy posted an e-mail that AgBioWorld distributed to thousands of

scientists around the world. She wrote “activists will certainly run wild with news that Mexican corn has been ‘contaminated’ by genes from GM corn.” The very next day a certain Andura Smetacek posted a Second e-mail: “Activists first, scientist second.”

Jonathan Matthews, President of GM Watch.

-It is totally a smear campaign and this is what happens over the first couple of days. You get Murphy and Smetacek coming in then others come in and they “say we have to campaign on this, we have to inundate *Nature*, we have to go to the editor of the journal and we have to say this research isn’t valid. Smetacek and Murphy, we have been tracking them for some time and trying to work out who they were. In the case of Smetacek we can look at the technical headers on the e-mail. It says “received from” and then we got an internet protocol address. If we go off to a website registration site, now all we have to is just to copy that IP address. Organization name Monsanto Company and based in St. Louis. Then Mary Murphy left behind details that enabled us to track who she was. So if we look here the information that appeared posted by Mary Murphy and then we get the IP address bw6.bivwood.com. When we found that that was the original name of a PR agency called “the bivings group” we quickly found out that on their client list was Monsanto. This was an internet PR firm for Monsanto.

-That means fake scientists? What a dirty trick!

-No, no, we are talking very dirty tricks here. There is no ethics at all in what is going on here. It shows an organization that is determined to push its products into countries around the world and it is determined to destroy the reputation of anybody who stands in their way.

Jonathan Mathews’s accusations were covered in the British press. But Monsanto chose to ignore them. As it continues its unrelenting rise, the company defends its vision of a transgenic world that will resolve the problems of famine and the environment in perfect harmony. “Practical experience clearly demonstrates that the coexistence of biotech, conventional, and organic systems is not only possible, but is peacefully occurring around the world.”

(Text:

Imagine a world, which preserves nature: the air, the water.

Where we could produce more with fewer chemicals, without deforestation,

That’s a transgenic world.

A Monsanto initiative funded with the help of the Brazilian Dietetic Association.

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CHAPTER 12

Paraguay

A trans-genic world already exists in South America where a hundred million acres of roundup ready soybeans were planted in 2007. Their conquest started ten years ago in Argentina, the only country to have officially authorized trans-genic crops. Since then GMOs have mysteriously spread to neighboring countries like Brazil and Paraguay. In 2005 Paraguay finally legalized his smuggled crops to save their soybean exports to Europe where labeling GMOs is obligatory. In reality, for the ministry of agriculture, that deed had already been done.

Roberto Franco, Deputy Secretary of Agriculture, Paraguay.

-We had to authorize GMO seeds because they had already entered our country in a, let's say, unorthodox way.

-Do you know how transgenic seeds entered country, through the black market or smuggling?

-We don't speak about the black market but about the blank sack, because these are the seed sacks that have no official markings.

-Did Monsanto play a role in this seed contraband?

-It is possible that the company let's say, promoted its varieties and its seeds and, as I told you, the government had to react after the fact to authorize what was already a reality.

Whatever the origin, contraband has been profitable for Monsanto. As soon as the crops were legalized, the company obtained the right to collect royalties on each ton of soybeans the country produced. Just like in Brazil. Since then there has been no let up in Paraguay's deforestation and the expulsion of many small farmers who refused to relinquish their small plots of land. Jorge Galeano leads a small farmers organization which is fighting against the progression of what he calls the green desert.

Jorge Galeano, Local farm activist

-What we have here as an example of a GM extension of soybeans. In fact it is a monocrop that destroys everything in its path. Before here, there were fields containing everything that a family needed to live. Plants, trees, manioc, corn.

-Do you think that GM crop can coexist with crops of small farmers?

-No! We are sure it can't. There are two incompatible models that can't coexist. It is a silent war that eliminates communities and families of small farmers. In addition, it destroys the biodiversity of the countryside. It brings death, poverty and illness, as well as the destruction of the natural resources that help us live.

Today roundup is sprayed all over Paraguay by plain or mechanical spreaders driven by unprotected farm workers. The herbicide is spread right up to people's front doors or near the subsistence crops of small farmers. Every year crops are destroyed and thousands of people contaminated. Like this family which is surrounded by Monsanto's GMOs. The parents are worried about their son Pedro, because everyday he has to cross the soybean fields to sell his mothers homemade corn tortillas.

-How long has he had that?

-It started 15 days ago.

-It started on his foot and then it spread. That is how it starts.

-Does he have a headache?

-Is he eating?

-Very little. Today he didn't wanna eat what I prepared for him. He only drank a little fruit juice.

-And his brother?

-He eats better. But it is difficult.

-That is the way we live. Recently we lost sixty ducks and geese. They took a few steps and then they fell down. Dead as door-nails. They spread deadly herbicide over there. When it rains the water streams down here and, since ducks live in water, that is the result!

In Paraguay, 70 percent of the farm land is owned by only 2 percent of the population. With GMOs the concentration is increasing. Three quarters of the soybean producers are foreigners taking claims for this new green gold. The ban on animal based feed after the mad cow epidemic and the recent bio-fuel craze has caused soybean prices to sour triggering the rush to roundup ready crops. According to last census in Paraguay, each year one hundred thousand people leave rural areas to live in urban slums. An estimated seventy percent flee Monsanto's genetically modified soybeans which are destined to feed Europe's chickens, cows and pigs.

Jorge Galeano, Local farm activist:

-We are gonna talk about the production model of GM soybeans promoted by Monsanto. It is a true multinational company, it is everywhere in the world. Its objective is to control all of the world's food production through farmerless farming. The result is that Monsanto is depriving us of our food sovereignty, of our ability to feed ourselves without depending on anyone else. That is why we say that we must fight for our independence, for our land. We must defend our communities, our families and our country.

-In my case, my family lives in the city but I don't wanna go there. In the city you have to buy everything, even food. Here whatever we grow is ours. We can eat whatever we want, but in the city you can't. If you don't have money, you have to search for food in garbage cans.

I would like to add that these families' struggle to survive touches all of us. In 2007, Monsanto employed 18 thousand workers in 50 countries. In 2007 its stock prices continue to rise and its profits have reached a billion dollars. Its shareholders include not only pension funds and banks but also hundreds of thousands of small investors.

-Chris Horner

-Hello Christopher Horner. I'm Marie-Monique Robin from France.

-Yeah, we appreciate your persistence in asking but you know we had several conversations internally about this and have not changed our position. So there is no reason for us to participate. Our suspicion is that it would not be positive, so you know...

(Text:

We regret that Monsanto refused to grant us an interview

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