

**Show Transcript  
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**Title: BACON AND MARSHMALLOWS - THE STORY BEHIND PORK**

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**JON STEINMAN:** And welcome to Deconstructing Dinner, produced in the studios of Kootenay Co-op Radio in Nelson, British Columbia. I'm Jon Steinman.

Here on Deconstructing Dinner, we step back for a moment and take a closer look at our food choices, and discuss the impacts that these daily choices have on ourselves, our communities, and our planet.

For those of us who incorporate some form of meat into our diet, we rarely if ever, get the chance to take a closer look at the farms raising this meat. On the other hand, for those who choose to uphold a vegetarian diet, the common form in which meat arrives into our kitchens; such as chops, sausages or bacon, is not the only food product in which meat sneaks its way into our kitchens.

As is the topic of today's broadcast, we will take a closer look into the methods by which pigs are raised in this country. It's not enough to just focus on production here in British Columbia, because as is the case, only 35% of pork consumed in this province is raised here, with the majority of pork in Canada being produced everywhere between Alberta and Quebec.

So we will hear from four different individuals on today's program – all from four different provinces. We will hear from:

- Vicki Burns, the Executive Director of the Winnipeg Humane Society
- Shiv Chopra, the renowned Health Canada scientist and whistleblower fired in 2004 for alleged insubordination
- Elaine Hughes of the Saskatchewan-based Stop the Hogs Coalition, and
- Barbara Schellenberg of Pasture-to-Plate Meats located in both Vancouver and Alexis Creek, British Columbia.

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What is most interesting about the topic being covered on today's program is that although there has been a tremendous shift from traditional family farming to factory-farming, many of the methods that will be mentioned on today's broadcast have been around for close to 50 years. And it's for this reason that taking a closer look at how pork products make their way into our breakfast, lunch or dinner presents such an interesting story, because as is the case, many of the common practices in the industry and even alternatives, are in many cases unknown when we walk into a grocery store.

The ways in which the vast majority of hogs for example are raised in this country is literally going on behind closed doors. Images of pigs perhaps running around in farmer's fields or lying beside a red barn has become in many parts of the country an endangered sight. In fact, the vast majority of hogs rarely if ever, see the light of day. In what have been called either Hog Factories or Intensive Livestock Operations, hogs are born, weaned, bred, raised, and slaughtered almost entirely indoors.

With the incredible risk of disease spreading in such confined spaces, the public is rarely allowed in to these facilities as is commonly termed a biosafety measure. To quickly give you an idea as to the size of some of these operations, in business terms, the size of pork-producing corporations are ranked in terms of the number of sows the company maintains. Sows being adult female hogs. Here in Canada, by far the largest producer is Maple Leaf Foods based in Manitoba who in 2005, were reported to maintain 118,000 sows. Now to compare this size to producers in the United States, Maple Leaf would only sit 7<sup>th</sup> in size. Now these numbers may seem small, but when over the course of 18 months a sow can give birth to over 75 piglets, you can imagine the size of some of these operations where many house thousands if not tens of thousands of animals on one property.

We will shortly hear from Vicki Burns, the Executive Director of the Winnipeg Humane Society. In Manitoba, the factory production of pigs or hogs has in the past decade, become the largest agricultural-based industry in the province. The industry there has grown more than anywhere else in the country. In 2001 for example, the province produced 6.4 million hogs worth \$860 million dollars.

I spoke with Vicki over the phone from her office in Winnipeg, and she will take us in to one of these factories and share with us the conditions in which these animals live, in particular, how sows live. Sows again are adult female hogs which are raised solely to produce more hogs.

As Executive Director of the Winnipeg Humane Society, Vicki Burns has been instrumental in coordinating their Quit Stalling campaign, which aims to see the use of sow stalls eliminated by 2013. So what are sow stalls? Vicki Burns explains.

**VICKI BURNS:** Sow stalls, first of all I'll describe the size. They're approximately 2' x 7'. There are two types of sow stalls. One is called a gestation stall and the other is called a farrowing stall. And our campaign Quit Stalling is primarily addressed to the gestation stall because that's the stall that the sow has to live in throughout her pregnancy. About a week or so before she gives birth she's moved into the farrowing stall which is very similar in size. It's only 2' by 7' but it has space along both sides for the piglets - that's the difference.

**JON:** Now as I mentioned earlier, the methods by which the vast majority of hogs are raised here in Canada has fundamentally not changed for quite some time. And Vicki explains the history behind sow stalls.

**VICKI:** Now these stalls started to be used, I think around 1950 is when they first started to come into being. And around the post Second World War industrialization of agriculture, using these types of intensive confinement systems became common. It sort of went along with the whole kind of view of stopping looking at animals as living beings and starting to look at them as production units and how could we get them to produce quicker, and cheaper and so on. So that's when the move to use these stalls happened really in Europe and then came across the ocean to North America. So it's been really for the last 40 to 50 years that they've really become very common.

**JON:** As is certainly not mentioned on a package of pepperoni or a package of gummi bears, which yes does contain the pig products, Vicki provides some more detailed information on these stalls in which female pigs spend their lives.

**VICKI:** Well the stall, I actually am looking at one right now because as part of our Quit Stalling campaign we had a life-size model of a cage made and we have had a real gestation stall that's she's placed in and it's sitting right here in my office. The stall is so small that the sow cannot turn around. She can basically only take a step or two forward and a step or two backwards. So she's very severely confined. She can lie down but it's not very comfortable because when she lies down it means that her legs are going to be sticking through into the next sow's stall. So the thing that's very restricted is the sow basically has to perform all of her life's function in this one tiny space. In other words, eating, sleeping, urinating, defecating, giving birth, nursing her piglets – all of that happens in this tiny space. She doesn't have any room to move around. She doesn't have straw to root in which is something that pigs instinctually want to do. She doesn't have any way of making a nest before the piglets are born which is another thing that pigs instinctually want to do - they want to create kind of a private space, a safe nesting space. She can't do that. One of the other things is that pigs in general are social animals. They do tend to want to hang out together in groups and of course being restricted in a stall like this she can't really be socializing with the other pigs. One of the biggest problems aside from not being able to move around is that pigs really do have a very strong need to be rooting – to be rooting to look for something to eat; to be rooting and creating a soft place to lie down. And because there's no straw or any other sort of natural substrate in the stall they can't do what they instinctually want to do.

**JON:** Now for any of us who own a dog or cat know the level of stress that they can exhibit when they are placed in a cage. And I asked Vicki if pigs in cages react any differently.

**VICKI:** The way I look at it, I don't know any animal in any species that would be content to be so confined for most of its life to a spot that it can't even turn around. I think it's pretty simplistic to look at it in that way, that really what animal can you think of that would possibly find that a satisfying life. One of the things that I've come to recognize is that when we talk about animal welfare and animal care and so on, some people say - you know the animals are well-fed and they're protected from each other, there's no fighting when they're in these stalls. But one thing that we've come to recognize is that giving an animal enough food and water and a safe place to be on its own – it's not enough to make it a decent quality of life. Because every animal including pigs need to do something during the day that kind of contributes to the quality of their life. But, I mean I hate to say it but in a way that's sort of meaningful. Now for pigs what's meaningful is if a pig was in the barnyard or out in the fields or even way back when they were naturally living in forests, they would spend a large part of their day foraging for food which is like rooting around on the ground and so on. They'd probably spend between 30 and 40% of their day doing that. Now in this stall they're fed twice a day – they probably can gobble up the food in a few minutes time. What do they do with the rest of their day? So, it's the same as if you can find a cat or dog and fed them and they ate that food in five minutes. And if they didn't have any spot to move around or do the things that they want to do they would get pretty bored and pretty frustrated and I think that's what's happening to these sows and these stall systems.

**JON:** As Vicki mentioned earlier, hogs are forced to defecate and urinate directly in their cages. As we will hear later on today's program, pigs *instinctively* do this as far away from their living quarters as possible. So I asked Vicki where all this manure goes.

**VICKI:** The stalls have slats in them, slatted wood and the urine and feces falls through the slats into a pit underneath the barn. And that pit is flushed out once or twice a week into a big holding lagoon outside the barn. So, part of the problem is as well the terrible smell in the barns because the ammonia and hydrogen sulfide that comes back up from the manure pit is pretty strong and you know these barns have to have really good ventilation systems. But even with those powerful ventilation systems, it's a pretty horrible smell.

**JON:** As Vicki Burns explained these confined conditions to me over the phone, I couldn't help but imagine the feeling one gets when sitting on an airplane for far too long. With all these restrictions placed on pigs, I asked Vicki if these conditions lead to illness or disease.

**VICKI:** I think that the sows have a fairly high rate of leg problems from not being able to really use their muscles. I think they have a fairly high rate of skin ulcers and so on if they're so heavy that they actually rub against the bars of the stall that can cause problems. I've heard that they've also had a fairly high rate of respiratory disease. But the sows are culled usually after about two years so they're living in these stalls for maybe 18 months time. They have maybe three litters and after that they start to have so many problems that they are pulled and slaughtered.

**JON:** And you're tuned in to Deconstructing Dinner, a quick reminder that should you miss any of today's program or want to find out more info on the topic, you can visit the Deconstructing Dinner website at [www.cjly.net/deconstructingdinner](http://www.cjly.net/deconstructingdinner). I will also remind you that we will shortly be hearing from the renowned former Health Canada scientist – Shiv Chopra, who after spending 28 years with the department, was fired in 2004. Shiv Chopra is known as one of the country's most outspoken whistleblowers on the topic of industrial livestock production. He has some interesting things to say, so stay tuned.

As common a practice as these factory methods of raising pigs are here in Canada and the United States, there are a few countries in Europe that have banned sow stalls for quite some time. In fact in 1997, the European Union called for a ban on sow stalls by the year 2013. And Vicki Burns explains.

**VICKI:** I think it was something in the making for quite some time in the European Union. I think that if you look at a lot of animal welfare issues, they seem to be more advanced over in Europe and Great Britain than we are here. So, we're probably 10 years behind them. I think they started working on educating the general public about the problems associated with these intensive confinement systems. They probably were working on those back in the '80s whereas we only got working on them in the '90s. So I think that we're about a decade behind them. And I think it was just over in the European Union there was groups of animal welfare organizations that put a lot of effort into educating the public about what was going on. And that's what we're trying to do here in Canada because many people still don't have any idea how pigs are raised or what goes on behind those closed barn doors. Because now most of them are raised inside closed barns and there certainly aren't many people going to see them. Because of biosecurity and so on, there wouldn't be many people invited in to those barns so it's a fairly well-kept secret really.

**JON:** The Winnipeg Humane Society has been educating the public for years now on the prevalence of sow stalls being used to raise pork chops, baby back ribs and even marshmallows. They have been doing so through a campaign called Quit Stalling, and Vicki explains.

**VICKI:** Well the goal of the Quit Stalling campaign is to get the industry to stop using the gestation stalls and we had officially suggested that we should match the European Union in terms of when we get rid of the stalls. So we have officially asked government to get rid of them

by the year 2013. We've had no response really from the government about this – the provincial government. And realistically, it's a move that's going to have to happen across the country. We can't expect one province to legislate against using these stalls if other provinces are allowing it to happen. So it really does need to become a national initiative.

Now how we've gone about it here in Manitoba is we've had these displays made which as I mentioned earlier – it's a life-sized pig. Very realistic looking, often people are confused and think I have a real pig in my office (chuckles). And we have her in the real gestation stall and we take this around to various public venues, shopping malls and so on. We have volunteers who basically stay with the display for a couple of days, hand out information and ask the public to try and do something about it. The two things we're asking people to do are to contact our Minister of Agriculture. And secondly, to go to their own store manager wherever they buy their meat and to ask the manager to bring in pork from farms that don't use these intensive confinement systems. Now that's kind of challenging to do at this point because there aren't that many farms that are not using them and it's hard to identify the meat but we feel that if enough members of the public start making those kinds of demands, the retail stores are going to pay attention to it.

**JON:** Closer to the end of the program today, we will be hearing about a farm here in British Columbia that raises pigs the traditional way, so to speak. And I asked Vicki what alternatives does the Quit Stalling campaign promote, and whether these alternatives have proven to be viable anywhere else.

**VICKI:** Sweden was one of the first countries back in 1988 to ban the sow stalls and at that point Sweden had a lot of concerns about environmental issues as well as animal welfare. So they legislated that the farms had to use a deep bedded straw system where they have the sows in barns in groups but where they have a lot of straw – they keep putting more straw on top. And I think they would only clear out the straw every couple of months. And by the time they clear it out and put it in to sort of a manure pile, it's already starting to compost which is a good way to deal with some of the pathogens in the manure pile that we're concerned about getting into waterways and so on. Anyway, I think that the hog industry in Sweden has actually been quite successful. I understand in Great Britain that there are a lot of farmers who are really struggling with making the transition.

**JON:** On this program Deconstructing Dinner, there is certainly a common mention of how the industrialization of farming and food processing has been going on for long enough now that the wealth of knowledge required to understand the land, how to grow vegetables, fruit or crops, how to raise animals, is quickly disappearing and being replaced by technology. And Vicki explains.

**VICKI:** One of the challenges really is that using these stall systems, the farmers or the workers in the barns, they've kind of lost the animal husbandry skills that probably use to be associated with pig farms. And by that I mean the real understanding of the animal's behaviour and how to work with them and so on. In order for the systems that we're proposing to be successful, the people working in those systems really do have to understand pigs, understand pig behaviour and really know how to manage them with minimum stress and so on.

**JON:** While the Winnipeg Humane Society's campaign to phase out the use of sow stalls by 2013 has been going on for quite some time now, the provincial government in Manitoba has not budged at all. And in wrapping up my conversation with Vicki, she shared her outlook on the topic, and indicates that these practices can only continue to exist if consumers support them. And it's those of us buying pork that can ultimately determine how pigs are raised.

**VICKI:** I'm cautiously optimistic. The thing that keeps me feeling optimism about it is that usually when people find out about this they're quite horrified. And so I think that the more people that we can educate, the more we can motivate people to actually go to their store manager and say – look, I don't want to buy this pork that I know has come from these systems. I think that's going to be the key. I don't think persuading government to change it, change to legislative change is really the answer here. I think we've got to motivate consumers to demand that kind of a change. In the United States, consumers have demanded changes that have caused Burger King and McDonald's to say to their farmers – we want you to have higher animal welfare standards and we're only going to buy from places that have these certain standards. Now I don't think at this point that they've spelled out that they want to completely get rid of the stalls but it's that kind of action that needs to happen in Canada. We need to motivate the public who have power with every dollar that they spend on food. They have power to make a difference.

**JON:** And that was Vicki Burns, Executive Director of the Winnipeg Humane Society. And you can find out more about their Quit Stalling campaign at [www.quitstalling.ca](http://www.quitstalling.ca). And there will also be a wealth of information on this topic listed on the Deconstructing Dinner website at [www.cjly.net/deconstructingdinner](http://www.cjly.net/deconstructingdinner).

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Trying to fit all the issues surrounding factory production of animals and in this case pigs and pork, could take hours upon hours of time. The conditions in which pigs spend their lives is one issue that has just been covered, but another issue of incredible importance is that of antibiotic use during the raising of pigs.

And I was privileged to speak on this topic with former Health Canada scientist, Shiv Chopra. Now if you don't remember who Shiv Chopra is, and I say this because his name was plastered throughout the media back in 2004, he was the Senior Veterinary Drug Evaluator in Health Canada's Therapeutic Products and Food Division. So he was the guy responsible for the approval of drugs being introduced into the raising of livestock for food in this country.

Now his name was plastered throughout the media, because in June of 2004, Chopra along with two colleagues was fired.

Now the Canadian public was told it was due to insubordination, or failing to submit to authority. But what is more commonly understood, is that Shiv Chopra, is one of Canada's most well-known whistleblowers. He spent 28 years working in the department, with many of those years consisting of being incredibly outspoken on many issues such as the safety of bovine growth hormone proposed for use in dairy herds to boost milk production, which he was instrumental in helping ban here in Canada. He has consistently spoken out on the influence of corporations in government drug approvals and he has been a vocal proponent on the risks of keeping animal parts out of the countries feed supply, which as we all know, was the cause of Mad Cow Disease here in this country and around the world. When the Canadian government responded to the outbreak in England by placing restrictions on what cattle parts make their way into cattle feed, Chopra denounced this move and said it wasn't enough. He wrote a letter to then Prime Minister, Jean Chretien but nothing came about from Chopra's concerns. And then, Mad Cow was discovered in the country.

When it *did* occur, Chopra wrote a letter to the Assistant Deputy Minister, Diane Gorman, and this letter was ignored. He then wrote to Minister of Health Anne McLellan, that Mad Cow is a man-made disease and that it can be stopped right away. But instead of listening, Chopra and his

colleagues Margaret Haydon and Gerard Lambert were suspended for scaring the public and they were finally fired.

Among many awards, Chopra has also received the Governor General's medal for citizenship.

And I spoke with him over the phone from his home in Ottawa and he spoke to me on the topic of antibiotic use in farm animals. Shiv Chopra has been an outspoken critic on using antibiotics in the excessive quantities that they are used here in Canada for raising animals for food.

While millions of Canadians use antibiotics on a rather frequent basis, the idea of treating farm animals with the same drugs may not seem so extreme. But as is the case, farm animals being raised for food are not just receiving antibiotics to cure disease and illness, but are constantly being fed antibiotics that is incorporated into their feed.

I asked Shiv Chopra to explain.

**SHIV CHOPRA:** Well 50 to 70% or 75% of the antibiotic use is in farm animals and it is not for animals which are sick. If an individual animal just like a dog or a cat or a human gets sick there's no objection to that. The problem has been going on for many years, almost 50 years now that it's been causing very serious problems. That antibiotics are given in such abundant amounts to prevent disease and sometimes disease that doesn't even exist. Or if a disease exists, these antibiotics don't cure it. And so, indiscriminately antibiotics are given and also just to gain some weight which may or may not be true. If you ask a farmer – have they ever tried raising pigs without antibiotics they'll tell you – ah well not really but the company tells them it is a good idea because then the animals will remain healthy.

**JON:** As Shiv Chopra explains in this next clip, placing antibiotics into livestock feed started decades ago, and he was there when it all started.

**SHIV:** Now I did my PhD 45 years ago on this very subject at McGill University where antibiotics, chlortetracycline in particular, given to piglets in industrial setting. In other words, instead of getting your pigs weaned at normal 8 to 10 weeks, they wanted to bring them at two weeks. And so that produced diarrhea but only if there was bad hygiene - if the piggery was dirty and the animals would get sick with diarrhea. But if you gave them chlortetracycline it didn't help anyway. What it did do though was produce almost 100% antibiotic resistance. Now that may not even do any harm to the pig itself but that resistant organisms remain in the intestine of the animals and then they are excreted in the feces or they get onto the farmer, on their clothing, on the body and then get transported into the community or into hospitals. And then you are in a situation if you are going to a hospital or you pick up this infection and you are immunocompromised, if you have cancer, if you have anything else, if you are not well then you can get an infection which cannot be treated because everything you have now is resistant to the antibiotics that normally would have worked. There are organisms which are resistant to six, seven, eight antibiotics. In other words you have nothing to treat you with.

In addition, there are diseases that are emerging from time to time in the pigs. Sometimes viral diseases, sometimes bacterial diseases because there is now a change in the microflora ecology of the pig itself. So, all these horrendous problems are occurring purely to sell antibiotics. That's what's happening out there.

**JON:** As Shiv Chopra explained to me during our conversation, once antibiotics are produced, they cannot be destroyed, and he explains how antibiotics used in livestock production make their way into the environment.

**SHIV:** There's also the problem of toxicology. When you talk about tetracyclines, these are antibiotics that cannot be destroyed. They come out in large amounts, unchanged in the feces of animals and if you're raising 4,000/10,000 pigs in one place these antibiotics then get out, they get into the water supply. In fact, now there are reports that you are finding them in flowing rivers.

**JON:** As I continued my conversation with former Health Canada scientist, Shiv Chopra, I asked him if the antibiotics being *fed* to livestock and to pigs are the same ones being prescribed to humans.

**SHIV:** They're all the same antibiotics and often the recommendation is not to – if you do have to use an antibiotic in animals, do not use antibiotics for animals that are necessary for people. These are recommendations of the World Health Organization and in fact European countries have stopped using them. On top of it, Denmark has proven that if they take antibiotics out of circulation in animals then the antibiotic-resistance occurring in people, the pathogens for people has come down and there is no affect on the productivity in their meat production. So why are we doing this? Why are we using it? Because of the Danish study, the European Union has forbidden non-therapeutic uses of antibiotics in all European countries. And yet we in Canada and the United States are continuing. Canada does it because the U.S. does it. And then they keep on approving newest of antibiotics. It's not just tetracycline. There's erythromycin or related antibiotics which in fact are critically necessary to treat children. Then there is fluoroquinolones, things like Baytril. It's not approved for pigs but nevertheless, sometimes there is extra label use of these antibiotics.

And so these are horrendous problems. First the U.S. approved Baytril for chickens, then two years later they tried to withdraw it. They still haven't withdrawn it. They say they have but the matter remains in court. But then they turn around and approve it for beef. Canada did the same thing. These are very, very serious problems for human health because of intense corruption in this whole area of always use, always selling of antibiotics that's causing it.

**JON:** If you're just tuning in, this is Deconstructing Dinner, a weekly one hour radio broadcast that discusses our food choices, and how the choices we make impact our health, our communities, and our environment.

Today's program takes a closer look into the way pork is produced, the way pigs are raised, and we are presently hearing clips from a recent conversation I had with Shiv Chopra, the former scientist at Health Canada known throughout his career as being one of the most outspoken critics on industrial agriculture. We spoke over the phone on the abundant use of antibiotics in the raising of hogs.

As we mentioned earlier on the broadcast, the size of these hog factories are immense, and thousands of pigs are located in cramped quarters where disease and sickness are bound to thrive. And I asked Shiv Chopra if these accommodations and confined spaces in which animals spend their lives is the reason why such high levels of antibiotics are required.

**SHIV:** It is actually a major part of the problem. Forty-five years ago when I used to work with the pigs there were only a few sows in the piggyery. And when I got home, ammonia got into my



clothes, into my hair, and my wife won't let me in. Now imagine when you have 4,000, 10,000 pigs in one place. All those excrements, feces, urine – it's all coming out in one place. And then it's all going into the soil and from there it will rain into the streams, lakes and ultimately the ocean. And that's a horrible problem that's occurring now with factory farming.

**JON:** Now when healthcare related issues seem to increasingly be a concern among Canadians, and when the connection to the food we eat and how it's produced is rarely mentioned, I asked Shiv whether these increasing rates of health-related issues *can* be attributed to this abundant use of antibiotics among livestock.

**SHIV:** Not can be, it *is* attributed to it. Because you know on the one hand it causes health problems. On the other hand eliminating jobs of farmers. Farmers in small places would love to carry on the way they were. But it is now mega-farming, industrial farming in very, very large numbers is causing intense pollution of the earth, of the waters and then it's killing life and jobs.

**JON:** As I neared the end of my conversation with Shiv Chopra, it was troubling to realize how these concerns over disease and antibiotic resistant bacteria have been out in the open for decades. So I asked Shiv how the Canadian government is dealing with these risks.

**SHIV:** Well, ironically what has been done that I was fired. I'm in court fighting this. To say exactly these things that antibiotics should not be used in such amounts. Some antibiotics should not be used at all. It's for that reason, critically for that reason that I was fired two years ago. I'm in court together with two other colleagues. They keep on approving them. And so imagine – I can imagine if the companies wanting to get these things approved but Health Canada approving them and fighting their own scientists!? That's what happened. That's the kind of corruption there is.

**JON:** Now with our own federal government seeming to care very little about what their own scientists have to say regarding such serious issues, the European Union seems to be more responsive. On January 1<sup>st</sup> of this year, the EU called for a union-wide ban on the sub-therapeutic use of antibiotics. And I asked Shiv if he thinks this will be a push for Canada and the U.S. to do the same.

**SHIV:** Well I think that should have happened forty years ago. There was a report back in '69 called The Swine Report. That's what was recommended. But it's been going on and on and on. I think that it's reached a critical situation. It has to be banned not in the future, but now.

**JON:** In concluding my conversation with Shiv Chopra, he ended with these remarks.

**SHIV:** Well you know there are studies - thousands of people get sick and die as a result of antimicrobial resistance largely coming out of the farms. And if nothing else, should we not be preventing that disease in people, save on health care and have healthier food? These are antibiotics that cannot be destroyed. There are residues of these antibiotics very often if not in the meat but then whole antibiotics in the entire environment. It's producing horrendous threat all around. What I am developing I have been saying now. I have a five pillars of food safety which basically are saying that hormones, antibiotics, rendered materials, pesticides and GMOs must be taken out of the food supply of people because it's their divine right and it's their constitutional right to have these things removed immediately. I think it's gathering steam.

**JON:** And that was Shiv Chopra, the former Health Canada scientist and well-known whistleblower who along with two colleagues was fired in June of 2004 after spending 28 years with the department.

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Again, a reminder that should you miss any of today's broadcast, it will be archived on the Deconstructing Dinner website, and will also be available in podcasting format for those on the run.

As I mentioned earlier, the issues surrounding hog production are seemingly endless. But yet another issue is that of manure and urine disposal. When thousands of hogs are placed in such confined spaces, the build-up of waste is immense. Even a small farm with only 1,000 hogs can produce over six million pounds of waste each year.

Now as is commonly understood, manure is an excellent fertilizer, but when pigs are being fed the incredible amount of drugs as mentioned earlier, along with a significant amount of metals that are being added to their feed to promote growth, manure does not seem to be such an ideal choice of fertilizer anymore.

For those of us perhaps living in cities, the effects of manure being disposed of into the environment may not be so apparent. But when we walk into the grocery store and buy a stick of salami, well, this purchase becomes very connected to the rural communities living in the vicinity of these hog factories.

And my next guest on Deconstructing Dinner is Elaine Hughes, the Coordinator for the Stop the Hogs Coalition. Elaine lives in Archerwill, Saskatchewan, about halfway between Saskatoon and the Manitoba border. And Elaine sits on the Steering Committee for the Beyond Factory Farming Coalition. Elaine has first-hand knowledge of how manure and waste from hog factories affects rural communities, and helped form the Stop the Hogs Coalition few years ago in response to a proposed 5,000 unit factory within her rural municipality.

And I spoke with Elaine from her home in Archerwill, and she explains where all the manure and waste from these hog factories goes.

**ELAINE HUGHES:** It's being flushed into a creation they call a lagoon. We affectionately call them cesspools and from there it is spread onto our pastures and our fields repeatedly as long as that barn is in existence. First it's mixed with, well for this 5,000 sow unit that I was just describing, that operation would use at about 50 million gallons of water a year. And that's not for the animals to drink necessarily but most of it goes to flushing the manure out of the barn into the cesspool to make it so they can handle it. They are a big hole in the ground, the size of two or three football fields supposedly with this packed clay bottom which is suppose to prevent them from leaking which is a myth. They all leak whether they are made out of steel or cement or pounded clay or whatever.

**JON:** Now as was just mentioned, manure is commonly seen as an excellent fertilizer to apply to land being used to grow crops. But as Elaine explained, manure is only a good fertilizer if the composition of manure is in the right proportion.

**ELAINE:** Well manure in reasonable quantities is an excellent fertilizer and I'm all for using the natural products but in proper proportions. One of the problems with the hog manure is that the

nitrogen and the phosphorous are usually out of proportion to what the plants need. There's either too much or too little of one or the other and it's the excess of nitrogen and phosphorous that cause the problems of course.

**JON:** Now Elaine recently compiled a fact sheet for the Beyond Factory Farming Coalition entitled "Intensive Livestock Operations in Water." In it she expanded on the composition of manure by listing these additional ingredients that are subsequently being applied onto fields growing our food. And they include, human waste; hog carcasses; cleaning chemicals; insecticides; metals such as cadmium, zinc, nickel, lead, iron, manganese, boron and copper, which are all added to hog food to promote growth and prevent disease; vaccines; subtherapeutic levels of antibiotics; antibiotic-resistant bacteria; parasites; and other bacterial and viral pathogens such as the now familiar *cryptosporidium*, *salmonella* and *e-coli*.

Now manure certainly doesn't sound so promising after knowing that. But here is an interesting tidbit of information, and an illustration as to where our own federal government here in Canada stands on the issue of manure coming out of these intensive hog factories. On a website created by Industry Canada for use by children and students in school, they provide information on the hog industry, and there is one page titled "Hogs and the Environment." And on this page reads the following, and I quote "By definition, hog manure is neither toxic nor hazardous." But it continues, and I quote "Elements in hog manure do not present a public health risk because all compounds occur naturally." The interesting story behind this web page produced by Industry Canada for school-age children, is that almost all information comes from the United States, and amounts are even listed in gallons. Additionally the source of those two quotes I just read, comes from the National Pork Producers Council in the United States, and not even an environmentally-grounded organization or department.

*soundbite*

If you're just tuning in, this is Deconstructing Dinner, where we're hearing clips from my conversation with Elaine Hughes of the Saskatchewan based, Stop the Hogs Coalition.

Continuing on the topic of applying liquid manure from hog factories onto fields, these fields are commonly linked to sources of water whether they be ground water or surface water itself. And I asked Elaine about water contamination from such a risky practice.

**ELAINE:** Well of course everybody knows about Walkerton, Ontario and the farmer was following the rules so that was not his fault. However, the excess manure was there and they had heavy rain so the two things came together. And there's an area in Central Manitoba – Kendall area and there's quite a large area there where the rivers and the water system is irreparably damaged from excess manure.

**JON:** Ethical issues, antibiotic resistance, water contamination are just a few issues associated with factory production of hogs. Air pollution is another serious issue, as manure decomposes in lagoons, it emits over 400 volatile organic compounds, including nitrogen, hydrogen sulfide and methane.

Yet another key issue facing intensive livestock operations and hog factories is the incredible amount of water required by these facilities. And concern does not lie in how much these hogs drink on a daily basis, but lies in the amount of water used to clean the facilities, to wash away all the manure, and also that is required to add to the solid manure to make it more easily applied to fields. Now according to Dr. William J. Weida of the Colorado College and Director of the Grace

Factory Farm Project, a hog can consume up to 15 litres of water per day. But add in all the other water requirements, and that number jumps to almost 55 litres per day. When these factories are located in rural areas that commonly rely on finite sources of water, this is certainly a serious issue.

But taking a look at the Manitoba Pork Council's website, they don't seem to think so. On the site one can find a publication geared towards students that is titled "The Dirt on Pigs and the Environment." And located in this publication is a small section on water requirements, and it reads this and I quote, "Did you know the average Canadian uses 343 litres of water a day in our homes and gardens? The average pig uses approximately 7 litres of water each day." So there's quite the misleading comparison there, where here in this very paragraph the Manitoba Pork Council compares daily use of water by humans to that of the water pigs *drink*, and *does not* include the water requirements for these factories as mentioned just previously.

Now the paragraph even goes on to suggest that it's difficult to compare pigs and people since pigs don't take showers or water their lawn. So I contacted the Manitoba Pork Council to speak with them on this and other issues discussed on today's broadcast, and they refused to return my phone calls. Their concern for these issues is obviously minimal.

Now it is for all of these very issues just mentioned, that Elaine Hughes created the Stop the Hogs Coalition, and she explains how it all started.

**ELAINE:** Well it formed about three years ago next month as a direct result of us receiving a pretty little brochure in our mailbox that the Big Sky Hogs was coming to town and they were holding this information meeting so this was the first any of us had heard of it. Of course this is how it happens. Everybody hears about it - the Chamber of Commerce and the so called stakeholders, they all know about it. And then obligatory public consultation happens and internally took a petition which resulted in 60% of the eligible voters signing the petition asking for a vote on this. The Reeve looked right at us and said - we don't have to do anything with this. And I said, yeah we know that but in the meantime this is still a democracy so, please sign here. And the Reeve signed as receiving this petition. And they immediately tabled it because they're damned if they do and they're damned if they don't. If they let the hog barn in, we'll be mad at them. If they don't let the hog barn in then the supporters will be mad.

**JON:** Elaine Hughes explains where their petition stands right now.

**ELAINE:** Right now our petition is still tabled in the Council minutes. As we speak the Government of Saskatchewan is reviewing and amending the Planning and Development Act which concerns us a great deal. Because the last thing we heard about three weeks ago was that the stakeholders are trying to get the discretionary use amended so that even if our RM Council says - no you may not put a pig factory in our RM they want to remove the No Appeal Clause and be able to take their case to friends in the government and say - but we want to have our pig factory there, so please do this. And we, the local people and the local government will be able to do nothing.

**JON:** Elaine explains if this controversy happens in every community across Canada when a hog factory is proposed.

**ELAINE:** This happens in every community where these things are set up. People have spent their life savings, their university, their registration fee for their kids. They've spent that money in court trying to keep these filthy things out of their community. One RM in Manitoba not that long

ago they did vote on it and the community, I think there was 92% said no which didn't mean anything, they didn't have to honour that and the pig factory came in.

Manitoba changed their planning act last year so it's easier for operations to move in. Alberta was about a year and a half before that, they rejigged their regulations so it's easier for them to come in. It smells like money and it smells like lobbying and we don't have any money. We, you know it's just us here.

**JON:** In concluding my conversation with Elaine Hughes, she closed with these remarks.

**ELAINE:** This is not sustainable. This is not a humane way of raising animals. This is not farming. This is agri-business and it depends on who your friends are whether you get the agri-business operation in your community or not. It has nothing to do with common sense. It has obviously very little to do with what the rest of the community wants. It's very, very dangerous and nobody is listening. And it's *so* frustrating and I don't know ... with the new government – I don't know. Environment isn't very big on the Conservative's platform so that's another thing to worry about.

**JON:** And that was Elaine Hughes of the Saskatchewan-based Stop the Hogs Coalition. And you can find out more info at [www.stopthehogs.com](http://www.stopthehogs.com). Elaine is also on the Steering Committee of the Beyond Factory Farming Coalition.

*soundbite*

And you're tuned in to Deconstructing Dinner, produced and recorded in the studios of Kootenay Co-op Radio in Nelson, British Columbia.

My last guest on today's program is one that will provide a completely opposite approach to raising livestock for food, and in this case, pigs. And she is Barbara Schellenberg – who located in Vancouver is responsible for marketing Pasture-to-Plate meats which are raised in the Cariboo region of British Columbia in the community of Alexis Creek, not far from Williams Lake.

In listening to my previous guests, the tone may seem as though all is hopeless – that raising food in a sustainable and ethical way is just too far from being a reality. But as Barbara will explain, this is not the case. There are many options out there, and only a little bit of effort is required to find them.

And here's Barbara Schellenberg providing a background on her family's business.

**BARBARA SCHELLENBERG:** The farm started around 1902. It was named the Ross Ranch. It was started by an Irish man who married a native american lady. And it remained the Ross Ranch until my parents took over the farm 27 years ago and named it the Rafter 25. We're entering our third year of conversion to organic and biodynamic this year. We haven't been using any chemicals or the conventional land and animal treatment for many years. We just decided to do this, the actual certification a few years ago. The farm encompasses about 3,500 acres and we manage 150,000 acres of public land. I was raised on the farm with my three sisters and we all grew up there. Now I am living in Vancouver doing the marketing side of my family's business and lots of educational stuff. I try to really get people to think about their food and where it comes from rather than just buying it because it's organic. But actually thinking about why is it better.

**JON:** Barbara mentioned the word biodynamics, and she explains what biodynamics is all about.

**BARBARA:** Biodynamics began in Europe many years ago. The ideas were developed by Rudolph Steiner. He was a visionary, very well-known in Europe and getting to be more well-known here. His principles are based on understanding nature and how it works – not doing things because our grandfather did them that way but actually thinking about what is it that the land needs.

**JON:** As the farm is in a transition to becoming fully certified as a biodynamic farm, Barbara explains how the principles of biodynamics are applied on her farm.

**BARBARA:** Some of the practices we use, our preparations and things that enhance the soil - the principle is based on that the soil gives life to everything and everything we use. So if we take care of the soil there will be no disease. And if your soil's in proper health you don't have any problems. And we're really, really working towards that and biodiversity is a huge thing as well. We have a huge biodiversity of farm animals. We have beef, bison, sheep, lamb, goats, chickens, llama – basically everything you can have in our area. As well we have lots of space for the wildlife. We're predator-friendly so we have the guardian dogs that take care of the livestock and that makes a non-violent relationship between us and the wildlife and the predators. So that's a big part of biodynamics as well as biodiversity and fitting in with what's already around you and not trying to change it but living with it.

**JON:** As was mentioned earlier on the show, pigs raised in factories are fed a diet of drugs, metals and grains while they spend their lives indoors, jammed together in pens and in many cases spend their lives in cages. But this isn't the case on Barbara's farm.

**BARBARA:** The feed ... they get lots of fresh milk from our dairy cows. They get some organic peas which we soak and sprout for them. And then they roam around and eat grass. They have all summer and in the spring they eat more roots.

In the summer they roam around with the cows and horses and the buffalo. They've got hundreds of acres. They can just be wherever they want to and take care of themselves. So we feed them once a day. We go down with an ATV and bring them their milk and then their slop. The housing – they need shelter in the summer time from sunburn. They do quite a good job covering themselves with mud from all the puddles they find. We have hay bales that are covered with tarp that are very well insulated – keeps a nice cool shade and as long as we have them fenced out so that the cattle don't eat the hay, it works really well.

In the winter time we fill it more with hay and they actually burrow inside and keep themselves completely sheltered with about eight to ten feet of hay in every direction. So they're quite happy as far as housing is concerned.

**JON:** One of the common reasons industry uses to justify the use of sow stalls as mentioned earlier on the program, is that by caging pigs, it prevents them from fighting and injuring each other. Now while Barbara mentions that on her farm, pigs are allowed to roam free, I asked whether fighting is a problem.

**BARBARA:** Animals naturally will fight to establish the pecking order and once that's established there really isn't a problem. They all hang out together. They're all looking out for each other all the time. We don't have the violence problem because they're properly fed. They have all the nutrients they need and like with humans, we cause so many problems when we – psychological problems when we don't eat properly. It's the same that goes for animals and we don't have this problem. Animals which are into cannibalism, a lot of animals will when they're missing

nutrients in their bodies, they'll look to another body to fulfill those nutrients. Because our animals have everything they need they don't have a tendency to do that.

I remember last year one pig got shoved by the other pig and broke his leg but that was the extent of it.

**JON:** You're tuned in to Deconstructing Dinner, where we're presently hearing clips from a conversation I had with Barbara Schellenberg of Pasture-to-Plate Meats, a company located in Vancouver and raising animals on their farm in Alexis Creek not far from Williams Lake.

The disposal of manure was raised previously as being a major issue created by massive hog factories, and Barbara explains how manure is dealt with on her farm.

**BARBARA:** Well, it's deposited straight on the land. Pigs are really, by any standards, the cleanest farm animal you can possibly have. If they're given the chance, they will never mess in their sleeping area, they're just amazingly clean. They're very concerned about their appearance, I guess, aside from bathing in mud. Like all the manure from all the animals it becomes composted straight into the soil and the microorganisms digest it so there's actually no smell problem any time of the year.

**JON:** And yet another issue raised when speaking of hog factories, is the high volume of water required to operate these facilities. But that's not the case on Barbara Schellenberg's farm, and she explains.

**BARBARA:** The fields that they roam in the summer time are irrigated and so they get all their water from the puddles and things that are formed. We don't give them access to the pond and things because that's wildlife habitat. But there's no actual water needed for cleaning facilities and things. In the spring time when they're having their babies which is right now actually we have two that have already had their little ones – they're quite adorable, then they're in a barn with a heat lamp for a couple of weeks. They get to go outside during the day and of course then there's some cleaning necessary but nothing major. Definitely nothing like you would see in a factory production.

**JON:** My previous guest on the show today – Shiv Chopra, spoke of the risks associated with the abundant use of antibiotics in hog production and livestock production in general. Barbara explains whether antibiotics are required by the animals on her farm.

**BARBARA:** Because of organic standards we can't. As well as with the biodynamic practices where you nourish the soil and that in turn takes care of everything that you're growing, I can't remember the last time we had a pig that was sick. I remember when I was a little girl we had our pet pig who had pneumonia and that's about the last time I can recall. We don't use any antibiotics. We don't have any problems with the common diseases I guess they get in factory farms or foot rot where the feet get tender and swell from the concrete and manure and eye infections that are common in pigs. We don't have these problems because they have a lot of space, they get a lot of exercise and they are not standing in the manure.

**JON:** With all the environmental comparisons between factory hog production and that of a farm such as Pasture-to-Plate, we haven't spoke of the difference in nutritional quality between that final product of ham, sausage, bacon or pork chops.

**BARBARA:** The way I try to explain it to my customers is, maybe not so much of a scientific base of a nutritional value. But what I value more as being important is you can imagine a poor little pig standing in a factory farm in a little pen where he can't turn around, And I've seen this and it's very sad. It's just even the energetics behind it and the whole diet they fed every day, it can't possibly – if you're not putting in positive input you're not going to get any positive out. With the pigs running around in the sunshine and chewing on anything they find nutritional, you're putting in so much positive and so much good nutrients, they can't possibly not be healthy. There are nutritional write-ups about grass-fed pork. You do get a lot more of your nutrients, your vitamins and beta carotene and it's much leaner. I don't have an example for pork but I know a beef steak from a fat grass-fed cow has, an 8 oz. steak has 100 less calories than an 8 oz. steak from a regular grain-fed cow and that's just because they're exercising. They're actually using their muscles and the muscles not filling with fat. The meat is still very tender but it's definitely from a healthy animal and that makes all the difference to your health.

**JON:** In wrapping up my conversation with Barbara, she did her best to illustrate over the phone the differences in appearance and taste between factory-raised pork and sustainably-raised pork.

**BARBARA:** It's more prevalent in the beef where the fat is yellow or orange rather than white. In the pork it's sort of a very buttery light yellow colour, very soft in the pork fat. In commercially-raised pork the fat will be often really hard and unpalatable. And the fat from our pork – it's like butter. It's so soft and absolutely delicious. I don't know of anyone who throws it out (laughs). But it'd be hard to think of someone who eats the fat from that commercial-raised pork because it just doesn't taste good.

Then again our hens and our cured meats do look different in appearance because we don't use nitrates in curing. So they don't have that bright pink colour.

**JON:** And that was Barbara Schellenberg of Pasture-to-Plate Meats. Their animals are raised in Alexis Creek, British Columbia and their products are available there and in Vancouver at 3215 Grant Street. You can find out more contact information on the Deconstructing Dinner website.

One other resource to mention in sourcing out food that is raised and produced using sustainable and ethical methods, is a website called The Eat Well Guide. And you can visit that website at [www.eatwellguide.org](http://www.eatwellguide.org). It's a North American-wide resource with many Canadian links.

*ending theme*

That was this week's edition of Deconstructing Dinner, produced and recorded in the studios of Nelson, British Columbia's Kootenay Co-op Radio. I've been your host Jon Steinman.

I thank my technical assistant Dianne Matenko. All of those affiliated with this station are volunteers, and financial support for this station is received through membership, donations and sponsorship from local businesses and organizations.

Should you have any comments about tonight's show, want to learn more about topics covered, or want to listen to any segments of this broadcast again, you can visit the website of Deconstructing Dinner at [www.cjly.net/deconstructingdinner](http://www.cjly.net/deconstructingdinner).

Till next week...