Vegan Basics

In this video, our co-founder Bob Rapfogel presents a 30-minute overview of the basic health, ethical, environmental and human rights aspects of veganism. This presentation was originally aired live on Vegan World Radio (KPFT 90.1 FM Houston) on August 9, 2016. The accompanying video and visuals were added later.

- Sources
- Transcript
- Credits

• The Vegan Society website: Definition of Veganism. Available here (accessed Aug. 25, 2016).

> *"Veganism is a way of living which seeks to exclude, as far as is possible and practicable, all forms of exploitation of, and cruelty to, animals for food, clothing or any other purpose."*

• Harvard T.H. Chan, School of Public Health website: The Nutrition Source – Healthy Eating Pyramid – 5 Quick Tips, Following the Healthy Eating Pyramid. Available here (accessed Aug. 25, 2016).

> *"Go with plants. Eating a plant-based diet is healthiest."*

• WJ Craig, AR Mangels; American Dietetic Association (now the Academy of Nutrition and Dietetics). Position of the American Dietetic Association: Vegetarian Diets. *J Am Diet Assoc.* 2009 Jul; 109(7): 1266-85. Available here (accessed Aug. 25, 2016).

> *"It is the position of the American Dietetic Association that appropriately planned vegetarian diets, including total*

vegetarian or vegan diets, are healthful, nutritionally adequate, and may provide health benefits in the prevention and treatment of certain diseases [and] are appropriate for individuals during all stages of the life cycle, including pregnancy, lactation, infancy, childhood, and adolescence, and for athletes."

• **The Physicians Committee for Responsible Medicine website, "The Sustainable Power Plate". Available here (accessed Aug. 25, 2016).**

"The major killers of Americans – heart disease, cancer, and stroke – have a dramatically lower incidence among people consuming primarily plant-based diets."

• **United States Department of Agriculture (USDA), Agriculture Research Services, National Nutrient Database for Standard Reference Release 27: Basic Report: 23507, USDA Commodity, beef, patties (100%), frozen, raw; and Basic Report: 11090, Broccoli, raw. Available here (accessed Aug. 25, 2016).**

Beef has 14.63 grams of proteins in 204 calories, whereas broccoli has 17.15 grams of protein in 207 calories, which equates to about fifteen and one-half percent (15.5%) more protein per calorie in broccoli than in beef.

• **MJ Orlich, PN Singh, J Sabaté, K Jaceldo-Siegl, J Fan, S Knutsen, WL Beeson and GE Fraser. Vegetarian Dietary Patterns and Mortality in Adventist Health Study 2. *JAMA Intern Med.* 2013 Jul 8; 173(13):1230-8. Available here (accessed Aug. 25, 2016).**

"Vegetarian diets are associated with lower all-cause mortality and with some reductions in cause-specific mortality."

• **M. Greger. Do Vegetarians Get Enough Protein? *NutritionFacts.org*. 2014 Jun. Available here (accessed Aug. 25, 2016).**

“If you compare the nutritional quality of vegan versus vegetarian, semi-vegetarian, pesco-vegetarian and omnivorous diets, traditional healthy diet indexing systems, like compliance with the dietary guidelines, consistently indicate the most plant-based diet as the healthiest one.”

• **PJ Tuso, MH Ismail, BP Ha and C Bartolotto. Nutritional Update for Physicians: Plant-Based Diets. *Perm J. 2013 Spring*; 17(2): 61-66. Available here (accessed Aug. 25, 2016).**

“Further research is needed to find ways to make plant-based diets the new normal for our patients and employees.”

• **International Agency for Research on Cancer Monograph Working Group, et al. Carcinogenicity of Consumption of Red and Processed Meat. Lancet Oncol. 2015 Dec;16(16):1599-600. Available here (accessed Aug. 25, 2016).**

“Overall, the [IRAC Monograph] Working Group classified consumption of processed meat as ‘carcinogenic to humans'[.]”

• **Number of Animals Killed In US Increases in 2010. *Farm Animal Rights Movement (FARM).* Available here (accessed Aug. 25, 2016).**

“Globally, the number of land animals killed each year for food has exceeded 65 billion, according to conservative U.N. Food and Agriculture Organization figures.

• **A Mood and P Brooke. Estimating the Number of Fish Caught in Global Fishing Each Year. *Fishcount.org.* 2010 Jul. Available here (accessed Aug. 25, 2016).**

The “total estimated fish numbers for average annual capture in 1999-2007 [is] between 0.97 and 2.74 trillion fish” based on capture tonnage statistics published by the Food and Agriculture Organisation of the United Nations (FAO).

• **Dietitians of Canada website: Your Health – Nutrition A-Z –**

Vegetarian Diets – Eating Guidelines for Vegans. Available here (accessed Aug. 26, 2016).

> *"A healthy vegan diet can meet all your nutrient needs at any stage of life including when you are pregnant, breastfeeding or for older adults."*

• **The British National Health Services (NSH) website: The Vegan Diet. Available here (accessed Aug. 26, 2016).**

> *"With good planning and an understanding of what makes up a healthy, balanced vegan diet, you can get all the nutrients your body needs."*

• **The British Nutrition Foundation website: Home – Publications – Briefing Papers – Vegetarian Diets. Available here (accessed Aug. 26, 2016).**

> *"A well-planned, balanced vegetarian or vegan diet can be nutritionally adequate…. Studies of UK vegetarian and vegan children have revealed that their growth and development are within the normal range."*

• **Dietitians Association of Australia (DAA) website: For the Public – Smart Eating for You – Nutrition Information A-Z – Vegan Diets. Available here (accessed Aug. 26, 2016).**

> *"Vegan diets are a type of vegetarian diet, where only plant-based foods are eaten. They differ to other vegetarian diets in that no animal products are usually consumed or used. Despite these restrictions, with good planning it is still possible to obtain all the nutrients required for good health on a vegan diet."*

• **United States Department of Agriculture (USDA) ChooseMyPlate.gov website: Tips for Vegetarians. Available here (accessed Aug. 26, 2016).**

> *"Vegetarian diets can meet all the recommendations for nutrients. The key is to consume a variety of foods and the*

right amount of foods to meet your calorie needs." In context, the term "vegetarian," as used in the preceding sentence, refers to "strict vegetarian", "plant-based" or "vegan" diets, and vegetarian diets that may include eggs and dairy are referred to separately as "lacto-ovo-vegetarian".

• **National Health and Medical Research Council. Australian Dietary Guidelines (2013). Available here (accessed Aug. 26, 2016).**

"Australians following a vegetarian diet can still meet nutrient requirements if energy needs are met and the appropriate number and variety of serves from the Five Food Groups are eaten throughout the day. For those eating a vegan diet, supplementation of B12 is recommended." Regarding vitamin B12, please see separate video summary and accompanying sources.

• **Mayo Clinic website: Nutrition and Healthy Eating – Vegetarian Diets: How to Get the Best Nutrition. Available here (accessed Aug. 26, 2016).**

"A well-planned vegetarian diet [see context] can meet the needs of people of all ages, including children, teenagers, and pregnant or breast-feeding women."

• **Heart and Stroke Foundation website: Home – Health Information – Healthy Eating – Vegetarian Diets. Available here (accessed Aug. 26, 2016).**

"Vegetarian diets [see context] can provide all the nutrients you need at any age, as well as some additional health benefits."

• **B Kim, R Neff, R Santo and J Vigorito. The Importance of Reducing Animal Product Consumption and Wasted Food in Mitigating Catastrophic Climate Change. John Hopkins Center for a Livable Future. 2015 Dec. Available here (accessed Aug.**

26, 2016).

> *"If global trends in meat and dairy intake continue, global mean temperature rise will more than likely exceed 2° C, even with dramatic emissions reductions across non-agricultural sectors."*

• **H Steinfeld, P Gerber, T Wassenaar, V Castel, M Rosales and C. de Haan. Livestock's Long Shadow – Environmental Issues and Options. *United Nations, Food and Agriculture Organization.* 2006 Nov. Available here (accessed Aug. 25, 2016).**

> *Livestock "currently amounts to about 18% of the global warming effect – an even larger contribution than the transportation sector worldwide [and it] may well be the leading player in the reduction of biodiversity, since it is the major driver of deforestation, as well as one of the leading drivers of land degradation, pollution, climate change, overfishing, sedimentation of coastal areas and facilitation of invasions by alien species."*

• **R Goodland and J Anhang. Livestock and Climate Change. *WorldWatch Institute.* 2009 Nov/Dec. Available here (accessed Aug. 25, 2016).**

> *"[O]ur analysis shows that livestock and their byproducts actually account for at least 32,564 million tons of CO2e per year, or 51 percent of annual worldwide GHG emissions."*

• **B Machovina, KJ Feeley and WJ Ripple. Biodiversity Conservation: The Key is Reducing Meat Consumption. *Sci Total Environ.* 2015 Dec 1;536:419-31. Available here (accessed Aug. 25, 2016).**

> *"The consumption of animal-sourced food products by humans is one of the most powerful negative forces affecting the conservation of terrestrial ecosystems and biological diversity."*

• **ES Cassidy, PC West, JS Gerber and JA Foley. Redefining Agricultural Yields: From Tonnes to People Nourished per Hectare. *IOP Science.* 2013 Aug. Available here (accessed Aug. 25, 2016).**

> *"[G]iven the current mix of crop uses, growing food exclusively for direct human consumption could, in principle, increase available food calories by as much as 70%, which could feed an additional 4 billion people (more than the projected 2–3 billion people arriving through population growth)."*

• **D Pauly, V Christensen, J Dalsgaard, R Froese, and F Torres Jr. Fishing Down Marine Food Webs. *Science.* 1998 Feb. 6; 279(5352): 860-3. Available here (accessed Aug. 25, 2016).**

> *"Worldwide, fishing fleets are two to three times as large as needed to take present day catches of fish and other marine species and what our oceans can sustainably support. On a global scale we have enough fishing capacity to cover at least four Earth-like planets."*

• **B Worm, EB Barbier, N Beaumont, JE Duffy, C Folke, BS Halpern, JB Jackson, HK Lotze, F Micheli, SR Palumbi, E Sala, KA Selkoe, JJ Stachowicz and R Watson. Impacts of Biodiversity Loss on Ocean Ecosystem Services. *Science.* 2006 Nov 3; 314(5800): 787-90. Available here (accessed Aug. 25, 2016).**

> *"Our data highlight the societal consequences of an ongoing erosion of [ocean ecosystem] diversity that appears to be accelerating on a global scale…. This trend is of serious concern because it projects the global collapse of all taxa currently fished by the mid–21st century (based on the extrapolation of regression…in the year 2048)."*

• **A Jägerskog, T Jønch Clausen. Feeding a Thirsty World: Challenges and Opportunities for a Water and Food Secure World. *SIWI, Stockholm.* 2012; Report Nr. 31. Available here (accessed Aug. 25, 2016).**

> *"There will…be just enough water [in 2050], if the proportion of animal based foods is limited to 5 per cent of total calories and considerable regional water deficits can be met by a well organised and reliable system of food trade."*

What is veganism exactly? What are the reasons that lead people to consider going vegan?

We're not going to get into every issue or every question that people who may be new to the topic might have about veganism, generally. But if you are new to the topic and you have an open mind – and you stay with me for the next 30 minutes – I hope you'll come away with a good understanding of what veganism is and why so many people, myself included, feel that it's an important topic for public discourse. And that you'll come away maybe thinking a little differently about our relationship with non-human animals and some of the other important aspects from an environmental, human health and even human rights perspective.

So let's get started on "vegan basics." First, what do we mean by the term "vegan" or "veganism"? The term was actually coined in the 1940s by a man named Donald Watson of the Vegan Society of the UK. I think he defined the term well. He defined it as – "a way of living [that] seeks to exclude, as far as possible and practicable, all forms of exploitation of, and cruelty to, animals for food, clothing [and] any other purpose."

This means when it comes to animals – to the extent possible – you do not eat them; you don't wear them; and you don't use them for entertainment or any other purpose. It's a moral position that maintains that non-human animals are more than just things – not property or commodities simply to be used as a means to human ends.

For anyone out there who has ever had a dog or a cat that

you've connected with and who has been a part of your life or even a part of your family, you know that your dog or your cat is a "someone" with a distinct personality and with feelings. So to simplify this basic idea or to put it another way, being vegan means – if you wouldn't harm a dog or a cat, then you wouldn't want to harm a cow, a chicken, goat, pig, or any other animal, or pay someone else to do it on your behalf.

And in many ways, it really is that simple. It's putting into practice the idea that we shouldn't harm animals unnecessarily. And I'll come back to discuss kind of these philosophical underpinnings of veganism and also discuss some of the environmental and human rights dimensions as well. But for a moment, let's step back and talk a little bit about diet and some basic nutritional information.

So veganism – just to be clear – it's not a diet. It's a way of living. But this way of living certainly affects the foods that you choose to consume. For example, if I have a choice between buying a leather wallet or a wallet made from some non-animal material, I would choose the non-leather wallet over the leather wallet. And it's similar when it comes to food choice. If I have a choice between buying, for example, a beef hamburger or a veggie burger, I would choose the veggie burger.

So in this way when it comes to food, it means you choose not to consume – or participate in increasing the demand for – foods like meat, fish, poultry, dairy, eggs honey or any other animal or animal byproducts. And if you're like I was some years ago or like most people in our present society, eating animal foods is probably a regular part of your habits, your daily routine, your diet, part of what you consider to be a main staple of your way of eating and the norm.

And the idea for many people when they first think or are introduced to this idea of eliminating all animal foods from your diet, it may seem like an extreme or daunting prospect at

first. But from the other side of the process, there is some good news. It’s actually not. It’s in fact very easy to eat vegan once you form a few new habits.

And there’s actually even better news from just a basic nutritional perspective. Eating a completely vegan diet, eliminating animal foods, is actually also very, very healthy. Some exceptions to that, of course, if you’re on a 100% beer and potato chips diet that happens to be vegan, that’s not healthy. But that’s not what we’re talking about. A normal, sensible balanced vegan diet with a variety of the usual vegetables, fruits, grains, legumes nuts, seeds, etc. – that way of eating with no animal foods is very healthy.

And even though there’s a lot of confusion, I think, out there in the world of nutritional information, the one takeaway – for purposes of going through “vegan basics” and just a foundation of the nutritional information that I think is the main takeaway – is that it’s not controversial within mainstream medicine and nutrition that we humans do not have any biological need to eat animal foods. For example, the official position of the very conservative Academy of Nutrition and Dietetics – it’s the largest organization of food and nutrition professionals in the country – their official position is “that appropriately planned vegetarian diets, including total vegetarian or vegan diets, are healthful, nutritionally adequate, [and] may provide [health] benefits in the prevention and treatment of certain diseases [and] are appropriate for individuals during all stages of their life cycle including pregnancy, lactation, infancy, childhood, adolescence, and for athletes.”

And there’s not one of the academies international counterparts or other mainstream nutritional authority that has any position to the contrary. And also, as noted by the Physicians Committee for Responsible Medicine, the “major killers of Americans – heart disease, cancer, and stroke – have dramatically lower incidence among people consuming

…plant-based diets." And "[w]eight problems [as well] a contributor to a host of other health concerns, including diabetes, can also be brought under control" with a healthy vegan diet.

And it does bear mentioning, even though it's implied by the Academy of Nutrition and Dietetics, we do seem in this country to have an obsession with one nutrient in particular, protein. It's worth mentioning plants do have plenty of protein. Just as a tired – somewhat tired old example, broccoli actually has more protein per calorie than beef. Of course, broccoli also has a lot fewer calories, but that's another benefit to eating that way. If you're trying to maintain a healthy weight and BMI, it fills you up. It's full of fiber and provides important nutrients, antioxidants, and other things that aren't found in animal foods.

But the point is, eating a completely vegan, plant-based diet is nutritionally adequate. And it's very healthy. I'd like to just briefly play a quick clip from Dr. Michael Gregor. He's a physician specializing in clinical nutrition. And he has a nonprofit website that's a great resource, called NutritionFacts.org. So if we go ahead and play that clip real quick.

> DR. MICHAEL GREGOR:
>
> The largest study in history of those eating plant-based diets recently compared the nutrient profiles of about 30,000 non-vegetarians to 20,000 vegetarians, and about 5,000 vegans, flexitarians and no-meat-except-fish eaters, allowing us to finally put to rest the perennial question – do vegetarians get enough protein?
>
> The average requirement is 42 grams of protein a day. Non-vegetarians get way more than they need. And so does everyone else.
>
> On average, vegetarians and vegans get 70% more protein than

> they need every day. Plant derived diets tend to contribute significantly less fat, saturated fat, cholesterol, foodborne pathogens – while at the same time offering more fiber, folate, vitamin C, phytochemicals – all essential factors for disease prevention and optimal health and well-being.
>
> And the more plant foods, the better – whole plant foods, the better. If you compare the nutritional quality of vegan versus vegetarian, semi-vegetarian, pesco-vegetarian and omnivorous diets, traditional, healthy diet indexing systems – like compliance with the dietary guidelines – consistently indicate the most plant-based diet as the most healthy one.

So that's Dr. Michael Gregor of NutritionFacts. I think the main point, really, that I wanted to get across for purposes of providing a broad overview on this topic is that when it comes to diet and nutrition, it's not controversial that animal foods are not required for human health. We can live without them. In fact, we're healthier without them.

And certainly more and more mainstream physicians and medical authorities are warning us of the detrimental health effects that animal foods have. And certainly a mass shift away from animal foods would have a substantial positive impact on public health and the environment, which I'll touch on a little bit later.

But again, the important point before we move on, is simply that it's not necessary to eat animal foods. And with that in mind, let's turn back to the philosophy behind veganism – the idea of excluding, where we can, all forms of exploitation of, and cruelty to, animals.

To put it another way, if it's a basic principle that most people already agree with – the idea that we shouldn't harm animals unnecessarily – I think most people, at least in theory, non-vegans and vegans alike, have this basic moral

principle that if you don't have to hurt an animal, why would you? And I think most people already agree with that. And I think we agree with that, broadly, because we understand that animals again are more than mere things. Even if we choose not to think about it, we know that cows and pigs, fishes even, and chicken, other animals that we use for food and for other purposes, each one is a complex and sentient animal. And in no morally relevant way are they any different from the dogs and cats with whom we bond and consider in many cases to be parts of our families.

So intuitively and scientifically we know that these animals all have the capacity to experience pain and to suffer. And most of us agree again with that basic idea that we ought not to harm or inflict pain and suffering on animals unnecessarily. The problem is that's exactly what we are doing as a society. And we do it at a staggering scale. Just with respect to food, which comprises the vast majority of our society's use of animals, worldwide we kill approximately 65 billion land animals and up to 2.7 trillion marine animals every single year for food – that, again, we have no biological need to consume.

And here's where it comes together, I think, for the vast majority of our animal use. Once we familiarize ourselves with some of the basics of nutrition, and in that regard, once we understand or acknowledge the idea that we medically and nutritionally don't need to eat any animal foods, then we have a problem, because what justification is left for our paying for and supporting the killing of so many animals? You're left with, maybe, convenience. It's something you're used to doing. It's available. It's ubiquitous. Old habits, tradition, pleasure. You enjoy the taste.

But we know that producing animal foods, whether meat, seafood, dairy, eggs, in any of these instances, producing these foods necessarily involves suffering and killing of animals. But if we take that basic idea that most people, I

think, already agree with – that we should avoid harming animals unnecessarily – if that means anything at all, at the very least, I think it must mean that we cannot morally justify harming and killing animals for purposes of mere pleasure, convenience, or habit.

And I think this is what scholars like Rutgers law professor Gary Francione mean when they refer to veganism as the moral baseline. The way Professor Francione puts it – if we regard nonhuman animals as having any moral value at all, i.e., they're more than just things, and we agree that morally, we have some level, whatever it is, some level of obligation to take into account their interests, their desire not to be subjected to suffering – then at a minimum, we cannot justify using and killing them for mere pleasure, amusement, convenience, habit, etc. Because if those mean it's necessary, then necessary really doesn't mean anything at all, if we accept the principle, again, that we should avoid harming animals unnecessarily.

So I'd like to play one more clip. It's actually from an interview that someone did with Professor Gary Francione discussing this very point. We can hear the way that he puts it.

> GARY FRANCIONE:
>
> The predicate for veganism is already set. We all – most of us already accept all of the moral views that are the predicate for becoming a vegan. We all believe it's wrong to inflict unnecessary suffering and death on animals. All right? So?
>
> Now the next question becomes, what do we mean by "necessity"? Well, whatever it means. Whatever abstract meaning it has, if it has any meaning whatsoever, its minimal meaning has to be that it's wrong to inflict suffering and death on animals for reasons of pleasure,

> amusement, or convenience. Because if it’s alright to inflict suffering and death on animals for reasons of pleasure, amusement, or convenience, then you’ve got a loophole that’s now so large you could drive a truck through it.
>
> So if the moral notion that we all accept, if that has any meaning, then it’s got to be the case that we can’t inflict suffering and death on animals for reasons of pleasure, amusement, or convenience. Okay. Problem is, 99.99999 percent of our animal use can only be justified by reasons of pleasure, amusement, or convenience. It’s got to go.
>
> If we mean what we say – if we mean what we say – if we mean what we say, we have no choice. Veganism is the only rational, logical response to accepting that it is morally wrong to inflict unnecessary suffering and death on animals. When you explain it to people this way, people say, well, you know, gee, I understand that. I’m not sure, you know, I don’t know – I don’t know that I’m going to become a vegan. Or not yet. But you’ve got me thinking.

That’s Professor Gary Francione and his summary of the basic premise that we ought not to inflict harm on animals unnecessarily. We need a good reason. And pleasure, convenience, habit – these are not morally sufficient reasons to justify the type of harm that we inflict on animals for things like food and clothing.

But one thing that comes up in this – this has come up before, where people for ethical reasons will go vegetarian. They don’t necessarily go vegan. They go vegetarian. It relates primarily to eggs and dairy and this idea that well, you don’t – I agree we shouldn’t harm animals unnecessarily, but chickens lay eggs anyway and cows produce milk anyway. So I can have eggs and I can have milk and not hurt animals. And I think that’s really just an information gap. So just briefly wanted to note just a little bit about eggs and dairy.

So it’s worth noting that the animals that are raised for dairy and eggs – they not only endure horrific suffering. They also, every single one of them, are killed at the slaughterhouse at a fraction of their natural lifespans – for the females in particular, when their egg or dairy production falls and they’re no longer of economic value. And this is true no matter what the label. If it’s humane eggs, free range eggs, grass-fed dairy, cage free this or that. They all go to the slaughterhouse when they are no longer of economic value, which is a fraction of their natural lifespans.

And just– with regard to dairy, it’s important to also note – to produce milk, like any other mammal, dairy cows and other animals who are used for their milk, like goats, they have to be continuously impregnated year after year. This results in an excess of calves that the dairy industry can’t use. And the calves are taken from their mothers, usually within hours of being born. And that causes immense suffering and distress to both the mother and her newborn baby calf.

The male calves never produce milk. So they’re often sold by the dairy farms for veal, where they are typically sent to the slaughterhouse within just a few weeks of confinement. The female calves are either used for the next generation of milk producers or they suffer the same fate as their brothers if they’re surplus. And the dairy cows themselves are ultimately killed, too, when their milk production declines, which again, occurs at a fraction of their natural lifespan – usually after four or five years. Cows can live up to 25 years.

With regard to eggs, one half of the chicks who are bred in hatcheries for egg-laying breed of chicken are male. And they’re also a byproduct. And they will never lay eggs. And they have not been bred to grow fast enough to be considered economically viable for their meat.

So they’re considered worthless. And they’re disposed of by the millions, most commonly by either being ground up alive or

dumped into plastic bags to suffocate and die. And as with the spent dairy cows, when a female hen's egg production declines, she is also sent to slaughter at a fraction of her natural lifespan for poultry meat.

So this is just a brief footnote, just because the question comes up quite a bit. Why eliminate eggs and dairy when it comes to the dietary side of things? And it's because there's really – once you look at what's necessarily involved to produce eggs and to produce dairy, there really is no morally coherent distinction between meat and dairy and eggs. It all involves death, suffering, and just horrible treatment of the animals.

I do want to briefly touch on two other important and problematic aspects that are related to our use of animals for food – one being environmental, the other being some human rights issues. So as it relates to our planet and the global environmental challenges that we currently face, there's now broad scientific consensus that the livestock industry is an unprecedented environmental disaster of huge proportions.

Just as an example, the United Nations FAO. That's the Food and Agriculture Organization of the United Nations. They've reported that raising animals for food is responsible for more human caused greenhouse gas emissions than the entire transportation sector combined, and "may well be the leading player in the reduction of biodiversity, since it is also the major driver of deforestation, as well as one of the leading drivers of land aggregation, pollution, climate change, overfishing" among other serious global environmental issues.

The scale and scope of the environmental problems associated with animal agriculture is really a topic unto itself. And we could literally spend the entirety of numerous shows exploring the various issues that are involved. But just for this brief overview, to provide a little bit of color on the environmental issues, I want to play an excerpt of Kip

Anderson from the documentary Cowspiracy.

KIP ANDERSON:

This means that raising cattle produces more greenhouse gases than all cars, trucks, trains, boats, planes combined. This is because cows produce a substantial amount of methane from their digestive process. Methane gas from livestock is 25 to 100 times more destructive than carbon dioxide from vehicles.

I found out that one quarter pound hamburger requires over 660 gallons of water to produce. Here, I've been taking these short showers trying to save water to find out just eating one hamburger is the equivalent of showering two entire months. In 2009, two advisors from the World Bank released an analysis on human induced greenhouse gases, finding that animal agriculture was responsible – not for 18%, as the UN stated, but was actually 51% of all greenhouse gases – 51%. Yet all we hear about is burning fossil fuels.

This devastating figure is due to clear cutting rainforest for grazing, respiration, and all the waste animals produce. This makes animal agriculture the number one contributor to human caused climate change. But not only that, I found out raising animals for food consumes a third of all the planet's freshwater, occupies up to 45% of the Earth's land, is responsible for up to 91% of Amazon destruction, is a leading cause of species extinction, ocean dead zones, and habitat destruction. Three quarters of the world's fisheries are over exploited, fully exploited, or significantly depleted due to overfishing.

LISA AGABIAN:

The oceans are under siege like never before. And marine environments are in trouble. And if we don't wake up and do something about it, we're going to see fishless oceans by

the year 2048. That’s the prediction from scientists.

Okay, so that’s an excerpt from the eye opening film Cowspiracy. I’ll provide some resources and suggestions towards the end of the show, but Cowspiracy is one of the few all-encompassing, I think, summaries of the environmental implications of our raising and killing animals for food.

We don’t really think about it. I mean, if there’s the human population – I can’t remember exactly, but I think it took all of human history to get up to 1 billion people in the early 1800s. And here we are 2016, I think we’re up to 7.3 billion humans. And we’re projected to hit 9 billion and then 12 billion, maybe by the end of the century. And if each and every one of these individuals, each and every one of us, wants to eat eggs and meat and dairy and animal foods, the implications with respect to land use, water use, food security are enormous.

And all of the environmental issues that are the most dire that we currently face, whether it’s global warming, food security, fresh water security, none of them can be – according to the scientists – adequately addressed in a timely fashion without also addressing our dietary choices. So it’s another dimension that I think emphasizes the importance of vegan issues in the public realm and why it’s is an important topic for public discourse. It’s a very, very important topic from an environmental perspective.

And it’s also an important topic from a human rights perspective as well. There’s actually a number of important human rights related aspects to veganism. And I definitely cannot cover them all in the time we have on one show, but one of the most important aspects, in my opinion, is world hunger, and how that relates to our food choices.

So animals – they’re very resource intensive. It’s not just the animals. It’s all the food that has to be grown to feed

the animals. It’s all the waste that’s produced by the animals.

But in addition to all of that, animals are extremely inefficient converters of food. And what I mean by that is, the animals we raise for food themselves eat much more food than they produce. Animal foods like meat, dairy, and eggs – they’re highly resource intensive. They require like I said much more food, land, water, energy than would be the case for eating plant foods directly. And animal based foods, in this respect, they’re a form of overconsumption and redistribution that reduces the amount of available global food and increases the price of basic food staples that poorer countries desperately need.

And it’s also worth noting that fishing is no longer globally sustainable either. And that was touched on as well in the excerpt we just played from Cowspiracy. As demand for fish is increased globally with our population booming, and a shift away, in some instances, from land based animal foods to aquatic animal foods, the loss of ocean biodiversity as a result of these trends has been accelerating at an alarming rate with 29% of seafood species humans consume having already crashed.

And if the current trends continue – this is also mentioned in the clip we just played – scientists, I believe from a study out of Dalhousie University, warn there will be little to no seafood left in our oceans by as early as 2048. So this – I’d like to play one other clip from Cowspiracy that touches more on not just the environmental issues but also the world hunger and human rights aspects of our dietary choices. So we’ll see if we can play that.

DR. WILL TUTTLE:

We’re growing enough food right now, in the world, to feed between 12 and 15 billion people. We only have 7 billion

> people. We have roughly a billion people starving every single day. Worldwide, 50 percent of the grain and legumes that we're growing are feeding the animals. So they're eating huge amounts of grain and legumes. And in the United States, it's more like – closer to 70, 80, depending on which grain it is, 90 percent of the soybean.
>
> DR. RICHARD OPPENLANDER:
>
> 82 percent of the world's starving children live in countries where food is fed to animals in the livestock systems that are then killed and eaten by more well-off individuals in developed countries.

And that was Will Tuttle and then Dr. Richard Oppenlander talking about the implications of our dietary choices. Like I said, there is currently seven point something billion people on the planet. And I forget if it was Will Tuttle or Richard Oppenlander in that clip we just played. But we do currently grow enough food, plant food, to feed 10 billion or so people, which is more than enough.

Yet close to 1 billion people suffer from food shortages and suffer from hunger. And again, this relates to the misallocation of resources, where we take grain and crop lands and we use them to grow food for animals that more well-off countries eat. And it's, again, a very poor converter of calories. You get a lot less calories out of the animals than the amount of calories that are invested in the plants required to continuously breed these animals into existence, fatten them up, slaughter them, rinse, repeat, continue, over and over and over again, year after year.

So in addition to the devastating environmental impact that this has at scale, this also has serious implications with regard to food security, water security, and any hope of addressing world hunger. And all these issues surprised me as I learned more about issues that intersect with veganism. I

was vegetarian first and became vegan. And it wasn't until later that I was exposed to the environmental issues that have been reported on by the UN, by the World Bank, by Stockholm International Water Institute by all these institutions.

But just haven't – they're starting to bubble to the surface, but they really haven't yet. And then the human rights dimension. And once you put it all together, I think there's a compelling case to really rethink our relationship with non-human animals and really to consider the implications of our food choices – in our consumption choices, generally. It's not just about food.

And there's a lot of resources out there. Our nonprofit website is MeatYourFuture.com. M-E-A-T, MeatYourFuture.com. And we actually have a links section there with more resources. And I think once you start going through that, you'll find, if it's a new topic for you, you'll find that there's a lot of different resources to help fill in the pieces since I wasn't able, certainly, to cover everything from a "vegan basics" perspective. But there's websites, like I mentioned before – PCRM.org and VeganKit.com which have wonderful resources for those who have some questions, are thinking about transitioning to plant-based vegan eating or vegan lifestyle, it's a little bit of a transition if you're not used to it.

But just from the other side of it – most of us were not born vegan. We were part of the same normal culture and society as anybody else. And we've made the transition.

I can tell you from the other side, it is really easy to eat vegan. It's easy to find non-leather shoes. You gotta find some new habits, but it's easy enough.

And one of the other ways you can continue to familiarize yourself with these issues is to tune in every Tuesday night at 8:00 PM here on KPFT. But until then, good night. Thank you

so much for tuning in and take care.

This transcript is an approximation of the audio in above video. To hear the audio and see the accompanying visuals, please play the video.

This presentation was written and narrated by Bob Rapfogel, and was originally aired live on 90.1 FM KPFT (Houston) on August 9, 2016. The accompanying video was later added to the audio archive and was edited by Bob Rapfogel.

This presentation may contain copyrighted material whose use has not been specifically authorized by the copyright owner. Meat Your Future is using such material in its efforts to advance the public's understanding of the implications of animal consumption on health, the environment and ethics. We believe that this not-for-profit, non-commercial and educational use constitutes a fair use of the copyrighted material (as provided for in 17 U.S. Code §107). If you wish to use this material for purposes of your own that go beyond "fair use," you must obtain permission from the copyright owner.

Without limiting the foregoing, this presentation also includes the following:

- Photographs of (1) Donald Watson from VegNews; (2) girl hugging cow from The Gentle Barn; (3) cow being shot with captive bolt from by People for the Ethical Treatment of Animals; (4) the pig and cow awaiting slaughter by Bob Rapfogel Photography; (5) chicken hanging machine courtesy Free From Harm; (6) dairy cows being milked by Jo-Anne McArthur (creator of We Animals and featured photographer in The Ghosts in Our Machine); (7) deforestation created by Flickr user "crustmania" under Creative Commons Attribution 2.0 Generic License; (8) large fishing boat fleet credited to HAP/Quirky China News/REX; (9) the feedlot in California's Imperial

Valley created by Pete McBride of National Geographic; and (10) other images and photographs licensed from Adobe Systems.

- Drawings of (1) the "Here Lies the 'Humans Need Meat' Argument" tombstone by Ashley Capps; (2) graphic of animals with environmental impacts written on their bodies from Cowspiracy; and (3) "Vegan for Everything" drawing from Vegan Street.

- Excerpts from the following videos and films: (1) the presentation "Do Vegetarians Get Enough Protein?" by Michael Greger, MD of NutritionFacts.org; (2) the interview "I'm Vegan: Gary Francione" posted by "epski" YouTube channel; (3) the feature film "Cowspiracy: The Sustainability Secret" featuring Kip Anderson, Will Tuttle, Dr. Richard Oppenlander and Lisa Agabian; (4) the video "Cow Intelligence & ability. Smart cattle" posted by "FC Gita" YouTube channel; (5) the video "Animals We Never Knew Were Smart" from The Dodo; (6) the video What is Factory Farming – PIGS from Animals Australia; (7) the video "Our Surrogate Mother Hen & Her Baby Day Old Chicks" posted by "rdewick" YouTube channel; (9) the animation "World Population" from Population Matters; (10) farmed chickens from Compassion USA, Chicken Factory Farmer Speaks Out; (11) cattle auction from Sheri Macho, Columbus Cattle Auction Sept 2015; (12) fishing trawler from "dty2dty2", Hoki Trawlers; (13) cow and pig inside a slaughterhouse by Bob Rapfogel; (14) "What's Wrong with Eggs" by Erin Janus; (15) "How It's Made – Hatchery Chicks" from the Science and Discovery channels; (16) undercover investigations at Hy-Line Hatchery, Maple Leaf Hatchery and Chick-fil-A Suppliers from Mercy for Animals; (17) the documentary Earthlings from Nation Earth; (18) "30-second clip: Chicken Slaughter" from Compassion Over Killing/TryVeg.com; (19) "Truth Matters: DxE

Investigators Expose ‘Humane’ Fraud at Whole Foods” from Direct Action Everywhere; (20) dairy industry investigation, from SAFE (Save Animals From Exploitation) New Zealand; (21) New York dairy farm investigation from Mercy for Animals; (22) California dairy farm investigation from Compassion Over Killing; and (23) the feature film “Vegan: Everyday Stories“.

- Screenshots and text from the following websites: (1) The Vegan Society website: Definition of Veganism; available here (accessed Aug. 26, 2016); (2) Coach website: “Glovetanned Leather Men’s Wallet”; available here (accessed Aug. 26, 2016); (3) The Vegan Collection website: “non-leather bi-fold men’s wallet”; available here (accessed Aug. 26, 2016); (4) McDonald’s website: “The One and Only Big Mac®”; available here (accessed Aug. 26, 2016); (5) Ripe-Cuisine Facebook post of the 100% vegan “Bistro Burger”; available here (accessed Aug. 26, 2016); (6) VeganEasy.org website: Recipes; available here (accessed Aug. 26, 2016); (7) Recipe Kitchen website: Search Recipes; available here (accessed Aug. 26, 2016); (8) Vegan.com website: A Vegan Guide to Eating Out; available here (accessed Aug. 26, 2016); (9) Physicians Committee For Responsible Medicine, PRCM.org: Sustainable Power Plate; available here (accessed Aug. 26, 2016); (10) The New York Times, “Why Nutrition Is So Confusing” by Gary Taubes; available here (accessed Aug. 26, 2016); (11) Independent, “Vegans Live Longer Than Those Who Eat Meat or Eggs, Study Finds” by Siobhan Fenton, Aug. 2 ,2016; available here (accessed Aug. 26, 2016); (12) Live Science, “New Health Warning Explained: How Processed Meat Is Linked to Cancer” available here (accessed Aug. 26, 2016); (13) Forks Over Knives website, “Why the President of the American College of Cardiology Wants Heart Disease Patients to Eat Vegan Diets” by Naomi Imatome-Yum; available here (accessed Aug. 26, 2016);

(14) Philly Voice, “Worldwide decrease in meat-eating would save billions in healthcare costs and fight global warming, study says” by Sharon Lurye, Mar. 23, 2016; available here (accessed Aug. 26, 2016); (15) Metro, “101-year-old heart surgeon reveals vegan diet is secret to his longevity”, by Deni Kirkova, Oct. 15, 2015; available here (accessed Aug. 26, 2016); (16) Facebook post from the page “Gary L. Francione: The Abolitionist Approach to Animal Rights”; available here (accessed Aug. 26, 2016); (17) The Abolitionist Vegan Society website: The Advocacy of Veganism Society, “Why Veganism” Info Sheet; available here (accessed Aug. 26, 2016); (18) The Guardian, “Eating less meat essential to curb climate change, says report”; available here (accessed Aug. 26, 2016); (19) The Guardian, “UN urges global move to meat and dairy-free diet ”; available here (accessed Aug. 26, 2016); (20) UN FAO Newsroom, “Livestock a major threat to environment”; available here (accessed Aug. 26, 2016); (21) National Geographic, “Seafood may be Gone by 2048, Study Says”; available here (accessed Aug. 26, 2016); (22) ProVegan.info website: Vegan For Human Rights; available here (accessed Aug. 26, 2016); (23) Cornell Chronicle: “U.S. could feed 800 million people with grain that livestock eat, Cornell ecologist advises animal scientists”; available here (accessed Aug. 26, 2016); (24) Common Dreams: “We Already Grow Enough Food for 10 Billion People… and Still Can’t End Hunger”; available here (accessed Aug. 26, 2016); (25) Gentle World: Could Veganism End World Hunger?; available here (accessed Aug. 26, 2016); (26) HowDoIGoVegan.com website: Going Vegan is Easy; available here (accessed Aug. 26, 2016); (27) VeganKit: Vegan Starter Kit; available here (accessed Aug. 26, 2016); (28) Veganuary website: Recipes; available here (accessed Aug. 26, 2016); (29) Vegan Chic: Men’s Vegan Dress Shoes; available here (accessed Aug. 26, 2016); and (30) 90.1 FM KPFT website:

Vegan World Radio show information; available here (accessed Aug. 26, 2016).