



Fireside Chats With

Dr. Paul..

Fake Meat

—Dr. Paul Dettloff, DVM

I'm perplexed by the interest in the “fake meat” scenario that has hit the popular press. The “Beyond Burger” is made from peas, and the “Impossible Burger” is made from soy. The advocates tout that this is better for the environment, soil, animals, and lowering methane, helping reduce global warming. These claims stimulated me to do some research. Two of my favorite publications, *Graze* and *Wise Traditions* from the Weston Price Group both hit the nail on the head. I will be quoting from both of those, plus what I have garnished.

1. There is no documentation of the claims, and they don't have to reveal the ingredients. The ingredients are considered foods, and identifications are not required by the FDA.
2. No nutrition studies. However, a prison in Illinois utilized a diet of meat and used soy meat that contained soy isolates, soy protein concentrate, and naked soy flour. The women stopped menstruation after a few months. The men had severe digestive problems, pain after eating, nausea, diarrhea, constipation, and flatulence. Later they showed thyroid problems, heart arrhythmias, and enlarged breasts (estrogen).
3. No concern about being good for you. So far no benefits have been found.
4. Better for the environment to reduce animal agriculture. The holistic big picture view of agriculture recognizes the symbiotic relationship of ruminants and soil health. Our vast prairies and oak savannahs for a long time depended on the buffalo to deposit their plethora of microbes from the rumen and intestines to microbize the soil to keep the carbon cycle going, building organic matter and mineralizing the biological active soil. The buffalo also trampled the mature and over-mature perennial grasses and forbes back into the soil. Grass is a wonderful crop that

- feeds ruminants and can and should be on our marginal and sloping hillside. In my Wisconsin hills as the small dairies get replaced with CAFOS, our hills are Roundup-Ready no-till corn and soybeans. I'm seeing the worst soil erosion I've ever witnessed in my lifetime. Soybeans in hill land—steep, highly erodible land—is the worst as they are harvested early, leaving very little debris. With our changing climate and the one- to three-inch gully-washing rains we now commonly get, soil erosion is rampant. Monoculture grain land with the salt-based fertilizers, herbicides, and pesticides plus glyphosate has changed our soil and food. The soil is dead, compacted, and we are lowering the organic matter. I predict this modern-day agriculture will implode as there are too many negatives. The wisdom of man cannot outwit Mother Nature.
5. The animal welfare will not get better when we have feedlots of 100,000 head eating lots of corn and corn silage and 2000 to 10,000 cows concentrated in a small confined area. That scenario needs to be concerned with animal welfare. My 35 years of active practice included two plain folk communities and lots of small English mixed farms. The cows were named, and the families knew their ages and dispositions. The people had empathy for the sick animal. Cows pick up intent when you live and care for them. I'm so sick of hearing that organic is cruel to their animals as they don't use antibiotics. Condemnation without prior investigation enslaves one to ignorance.
 6. The methane issue really confused me. If you look at the bovine history, one finds that in the 1800s and earlier our prairies and eastern woodlands had in excess of 20 million dairy cows. Today we have between 8.8 and 8.9 million dairy cows and 5 million beef animals. The increased methane

- is coming from melting icebergs, not from cows.
- A great unknown way down life's highway will affect our DNA and change *Homo sapiens* genetically. Epigenetics has just been discovered whereby the environment and natural changes can change our DNA. Meat with all the many amino acids (protein) and animal fat are needed in our diet to remain normal.

There are two types of plant-based burgers—peas and soybeans. We will discuss the pea burger first.

The pea burger is called the “Beyond Burger.” It was the first non-meat burger developed. The ingredients are pea protein isolate, expeller pressed canola oil, coconut oil, yeast extract, maltodextrin, natural flavors, gum arabic, sunflower oil, salt, succinic acid, acetic acid, non-GMO modified food starch, cellulose from bamboo, methylcellulose, potato starch, beet juice extract (for color), citrus fruit extract, and vegetable glycerin. They later added mung bean, cocoa butter, apple extract, and rice protein in small amounts to make the brown color when cooked and to improve the taste.

If this list doesn't blow you away, here's a shortened summary of the process. The Isoelectric Precipitation Process mills the peas, stabilizing the protein in 30-50 degree water, then adding a base to raise the pH to 8 to 11. It is then centrifuged to remove the insoluble. The pea proteins are then precipitated out at their isoelectric pH of 4.2 to 4.5 by adding a mineral acid. Then everything is recuperated by a second centrifuging, then it is suspended in water to remove the sugars and minerals. It is then reconstituted by a third centrifugation step.

Then it is neutralized with a dilute base to pH 7. This entire process involves a lot of water. The oils, especially canola oil, is GMO and loaded with glyphosate, and the bamboo with cellulose is not digestible. The only good item I see is coconut oil.

The second fake meat, the “Impossible Burger” that Burger King is pushing, does not use peas for protein but

soybeans. I won't list the ingredients in the “Impossible Burger.” It's very close to the pea burger except soybeans and soy leg hemoglobin and soy protein isolate and some vitamins are added. Soybeans are widely known to be loaded with estrogens that have an effect on cows. It appeared to grow breasts on the Illinois prisoners.

Here is a list coming from the Weston Price *World of the Negative Soybean*:

Ingredients:

- protease inhibitor
- saponins -----disrupts red blood cells
- estrogens -----hormone disruptors
- goitrogens
- phytates
- oligosaccarides -----cause diarrhea
- chanogens
- ohytates

Soybeans have very high levels of glyphosates (Roundup). Soy oil has a ratio of omega 6 to omega 3 of 7 to 1. Sunflower oil has a 70 to 1 omega 6 to omega 3 ratio. The process to combine all the ingredients is also very involved in the pea “Beyond Burger.” The underlying problem is when they can produce a pound of fake meat cheaper than real meat. The corporate world has funded this with big dollars and it will continue as venture capitalists are sitting on the sidelines with billions of dollars. Biotechnology is pictured as the future for humanity. But remember, Mother Nature always bats last. 🐱

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