

Where's Your Beef From?

Grass-fed Beef: Is It Green, Humane and Healthful?

by Gene C. Sager

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“Grass-fed” has now become a food buzz word. A variety of claims have been voiced about grass-fed beef – the beef produced from grass-fed cattle. Advocates contrast grass-fed beef to beef produced by Concentrated Animal Feeding Operations (CAFOs). In some ways, grass-fed is obviously greener, more humane and more healthful than CAFO beef. And the demand for it is growing. Some advocates even recommend grass-fed as an opportunity for vegetarians to start eating meat! One Vermont farmer named Bruce Hennessey, himself a former vegetarian, now produces grass-fed beef. He sees it as a small revolution: “Now we produce meat for recovering vegetarians,” he told *Eating Well* magazine earlier this year.

But I’m not so sure. I think we need to evaluate grass-fed beef from a variety of angles and by comparing it to several different kinds of meat production, beginning with the much maligned CAFO mode of production.

There is no universal definition of “grass-fed” at this time, but we can contrast CAFO beef production with the definition of grass-fed used by the American Grass-fed Association (AGA). Some of the differences between the two are striking:

1. CAFO cattle are fed mostly corn and soy during the last six months of their lives; grass-fed consume only “forage,” which usually means grass and hay. Production of corn and soy for beef cattle (instead of for humans) is a very inefficient use of resources. Grass-fed beef is less resource-costly.
2. CAFO cattle are confined in feedlots, whereas grass-fed cattle are free-range.
3. CAFO cattle are given antibiotics and hormones on a regular basis, but grass-fed cattle are not.
4. CAFO feedlots collect vast amounts of manure in a small area, causing air pollution when the wind blows and water pollution when it rains, leaching into the groundwater.

Grass-fed cattle are natural manure spreaders and, if not overgrazed, distribute fertilizer throughout the pasture.

5. CAFO beef has high levels of cholesterol and saturated fat but low levels of omega fats and vitamin E. Grass-fed has less cholesterol, less saturated fat, more omega fats and more vitamin E. Grass-fed also contains conjugated linoleic acid (CLA), which may be an anticarcinogen.

6. CAFO is readily available in markets and restaurants. Grass-fed is not readily available and is more expensive.

Grass-fed methods of beef production are clearly better for the environment, better for the cattle and better for the consumer’s health. Better than CAFO beef production, that is. We need to take a closer look to determine whether grass-fed beef is, in itself, a wise food choice.

How Green is Grass-fed Beef?

Consumers tend to mix and blend the terms “grass-fed” and “organic.” The perception is that grass-fed is enviro-friendly and healthful, so an assumption is made that it is also organic. Here, we enter the murky waters of certification and labeling. The sidebar at the end of this article, which deals with certification organizations and labels, may be helpful in sorting things out.

Most governmental and independent organizations that deal with these issues do not equate grass-fed and organic. For the major players in this game, grass-fed beef is not necessarily organic beef and organic beef is not necessarily grass-fed beef. The published standards of the AGA are very clear and quite thorough in many ways, but the AGA Grass-fed label does not mean the beef is organic. Nor does the Sierra Club see grass-fed as organic. Eatwild does not require farmers listed as grass-fed farmers to ensure that the beef is organic.

What about the labels “Organic Beef” or “Certified Organic Beef”? Neither the Canadian government’s nor the USDA’s organic labels mean that the beef is necessarily grass-fed. Their published standards explain that organic beef may be either grass-fed or grain-fed.

The situation is further confused because some food markets do their own labeling. When I asked for grass-fed beef at the big Sprouts market in San Marcos, California, the clerk showed me packages of meat which were labeled “organic.” I repeated that I wanted “grass-fed” and he said “organic” *means* grass-fed! The same thing happened at Jimbo’s market in Escondido, California.

How can a grass-fed product fail to be organic? Sometimes herbicides like Grazon P&D and Redeem R&P are sprayed on the hayfield or on the pasture itself. Some weeds are poisonous for cattle and must be eradicated. Herbicides are also used to control broadleaf weeds that crowd out the grasses. The herbicide toxins will eventually travel up into the flesh of the cattle as they eat and also down into the groundwater and eventually into our wells, streams, lakes, rivers and oceans.

Many grass-fed farmers in Canada and the United States have to grow hay (or buy it) to feed their cattle. The pasture grasses die back or are covered with snow during the cold months. Although not as inefficient as growing corn to produce beef, grass-fed methods are inefficient in that they often require not only a pasture but an additional field to grow hay. Contrast this to vegetables like beans, which are somewhat similar to beef in nutritional value for human consumption: No additional field is required to support the production of beans. Grass-fed requires a separate crop (hay) which has to be cut, baled and transferred to the cattle. So, in many cases, it takes two fields to produce a pound of beef for us to eat but only one field to produce a pound of beans.

The inefficiency of all beef production – that is, its resource-intensity – is nowhere more evident than when we take a look at a slaughterhouse. Whether the animal was “finished” by CAFO methods or grass-fed methods, the slaughtering and meat packing process involves vast amounts of energy and water. Anyone who has seen the cleaning crews working at a slaughterhouse knows what a messy business it is. Workers must wield high pressure hoses that shoot steaming hot water and chemicals. Automated clean-up requires even more power and water. By comparison, preparing broccoli or spinach for the market is a simple process.

There are a very few small farmers who are “do-it-yourself” grass-fed farmers, slaughtering, butchering and selling their own beef. Smaller is often better, but these farmers still go through the same complex process, but on a micro scale: heavy use of water and power for slaughter, butchering, clean-up and refrigeration. The do-it-yourself operations are illegal in most states in the U.S. In any case, consumers should inspect the facilities for themselves. Even when legal and due for government inspections, such small operations may not undergo regular monitoring.

Refrigeration is an essential part of beef production, and the amount of electricity and fossil fuels required is in stark contrast to getting a product like pinto beans on your shelf. Once the beans are dry, no refrigeration is required. Beef has to be refrig-

erated at the slaughter house and in the truck which transfers it to the market. The market has to keep it cold and you have to keep it refrigerated at home until you eat it.

The resource-intensity of slaughter houses and the refrigeration trail from slaughter house to the dinner plate are not unique grass-fed issues. Both CAFO and grass-fed beef production involve these issues and more. Another common problem is methane, a gas emitted from both ends of a cow and a major greenhouse gas. So, although grass-fed is “greener” than CAFO beef in some ways, grass-fed and CAFO are both “ungreen” in many ways.

Because grass-fed beef production requires more grazing land for longer periods of time, it exacerbates the problems that grazing has always caused. Whereas CAFO cattle are grazed before going to the feedlot, grass-fed require pasture their entire lives. Thus, grass-fed amplifies existing grazing issues: loss of rainforests and other lands, erosion, wildlife habitat problems and the use of public lands for grazing.

Conversion of forests and other land into pasture is an issue that most of us have heard about, especially as rainforests in South America have been sacrificed to create McDonald’s hamburgers. McDonald’s now claims it buys no “rainforest beef.” The realities of the global market are a great temptation to many: Where land is cheap and the demand for grass-fed cattle is on the rise, the local economy may respond by cutting down a forest to create pasture or by planting grass where millet or rice has been grown. Importing grass-fed beef to North America from Uruguay and Australia is not a green solution!

The problem of erosion and, more generally, overgrazing is always an issue where cattle are involved. No simple assurances can be offered to guarantee against overgrazing, which leads to erosion, pollution of groundwater and streams, and loss of wildlife habitat (including insects, birds and wild animals). It is not simply a matter of the amount of grass covering the ground, though that is part of the issue. Natural drainage ditches, low areas and streams are especially vulnerable, and cattle can quickly degrade and pollute these crucial lifelines. The AGA cannot possibly inspect all these matters and so it simply warns against overgrazing by advising that 80 percent of a grazing area must be “unbroken” or plant-covered. This may alert an AGA certified farmer to the complex problem, but it will not necessarily spare the land and its wildlife from the ravages of overgrazing.

In many countries, including the U.S., beef production involves the use of public lands like National Parks for grazing. Ranchers pay a small fee for this privilege but, obviously, the real issue is not money. Environmentalists have been battling against this governmental policy for decades without success. If the demand for grass-fed beef increases, we will likely see more cow pies in our public lands.

To summarize the contrast between CAFO beef and grass-fed beef on green issues: Grass-fed does not create the air and water pollution problems caused by CAFO manure in feedlots and grass-fed spares us the ominous presence of antibiotics and hormones, some of which cattle urinate into the ground and some of which they retain in their flesh.

So, is grass-fed beef green? By my reckoning, CAFO beef is not green at all, so I hesitate to say grass-fed is “greener.” Grass-fed is not organic and its production is inefficient because

of the large amounts of land, water, power and fossil fuels required. It means methane in the air, more danger of overgrazing and more loss of habitat for wildlife.

All analogies are somewhat faulty, but we need to compare the CAFO-to-grass-fed change to a parallel change. Arrowhead's pint-sized plastic drinking water bottles have a new "Eco-Shape" – they are "designed with an average of 30 percent less plastic, to be easier on the environment." Is this a real green contribution, or is it a small change to a product that is still fundamentally unfriendly to the environment? Perhaps grass-fed cattle are cows with a new "Eco-Shape" but still a serious problem for the environment.

Is Grass-fed Beef Humane?

Our current high level of awareness of and concern about food animal abuse is at least partly a reflection of media coverage. When the Humane Society released video clips showing non-ambulatory cows (not able to stand or walk) being jabbed with an electric prod at the Hallmark Slaughtering Plant in Chino California, people in the U. S. and Canada were outraged. A public outcry went up, calling for humane treatment. Court cases ensued and the government initiated a meat recall.

The full concept of humane treatment of livestock covers a wide variety of issues such as confinement, diet, drugs and stress levels. Handling questions include prodding, castration and identification (branding and tagging). Transfer (as in trucking cattle to the slaughter house) and method of slaughter are perennial issues. Surely, we would hope the beef we buy comes from cattle that are treated well throughout the production process, not just in regard to confinement and feed issues.

Grass-fed beef production is clearly more humane than CAFO production, especially because the animals are not confined in a feedlot. Cattle are ruminants; confinement in a crowded dirt plot with hundreds or thousands of other animals stifles their natural behaviors. The "C" in CAFO stands for concentrated and, indeed, the feedlots are concentration camps. In addition, some studies of CAFO cattle indicate that the grain diet causes liver damage and acidosis (acid indigestion).

Finally, windy conditions in a feedlot can cause dust pneumonia. Thus CAFO cattle are frustrated by suppression of their instincts and sickened by the conditions and by their diet. Because the animals are stressed and crowded together, antibiotics are administered on a regular basis.

Apart from the comparison to CAFO beef, is grass-fed beef a humane food choice? The first red flag I saw when researching the certification standards of grass-fed organizations was the brief mention of humane treatment in the published materials from the AGA. The AGA standards statement devotes several pages to feed issues but only two lines deal with humane treatment. AGA says grass-fed farmers should "support" humane handling, transfer and slaughter. (Standards Statement 3.3.1) These three aspects of humane treatment are complicated processes and such cursory reference to these issues means that little importance is attached to them.

An example of an issue relating to humane treatment is the problem of transferring cattle in trucks or trains. Almost all beef production involves the transfer of cattle to the slaughterhouse,

usually by truck. No matter how careful the driver, the animals are liable to suffer from extreme stress, thirst and exhaustion.

For a focus on humane treatment issues we have to look to the Humane Farm Animal Care organization (HFAC), which is virtually governed by the Humane Society. It is no surprise that the videos of downed cows in Chino, California were part of an undercover Humane Society investigation of a slaughterhouse. HFAC spells out detailed guidelines for humane handling, transfer and slaughter, and attempts to monitor those producers who receive their "Certified Humane" label. HFAC deals more effectively with a wider range of humane issues than any other organization that relates to livestock. But, to my surprise, HFAC certifies both grain-fed and grass-fed producers, and it gives only sparse attention to green issues. Here, again, we see the pattern we glimpsed earlier: Some organizations deal with some issues; others with other issues. No one covers the whole field.

Let us look at one more humane treatment topic as addressed by HFAC – the method of slaughter. HFAC inspects slaughterhouses and will not certify a farmer who uses a slaughterhouse that fails to meet HFAC standards. Cattle are usually stunned with a captured bolt pistol. If that does not render the animal unconscious by the time it reaches the bleed rail (the next stage after the kill), it has to be re-stunned. HFAC rules state that if more than two animals in 1,000 are still sensible when they reach the bleed rail, the slaughter plant receives a warning and must re-evaluate its pistol or handler. Plants often apply a head restraint before stunning and sometimes this apparatus is faulty.

In general, the moral issues relating to slaughter involve both the problem of the pain caused to the animal in this process and the issue of the right to deprive the animal of its life. For some of us, a two in 1,000 error margin is too big a risk; the animal may agonize in the throes of dying. There is also this general moral position which cannot be ignored: Taking the life of an innocent sentient being is never right. For a person holding this principle, slaughter is never humane.

Is Grass-fed Beef a Healthful Food Choice?

Nutritional descriptions of grass-fed by its advocates read like a health food ad: Grass-fed beef contains vitamins A, D, B complex and E, iron, calcium and a range of minerals. Like all meat, it offers a healthy dose of protein. It contains no antibiotics and no hormones. In addition, it contains the omegas (essential fatty acids) and it has CLA (conjugated linoleic acid) which fights cancer and supports the immune system.

Grass-fed beef does contain these nutrients, although some of them in small amounts. It is definitely lower in cholesterol and saturated fat than CAFO beef. By comparison to CAFO, grass-fed *is* like a health food, but one would think a health food would be organic; as we saw, grass-fed is not necessarily organic. Grass-fed does contain cholesterol and saturated animal fat, which most people try to avoid. Perhaps these flaws offset the advantages offered by the iron, vitamins, omegas, etc.

In fact, the advantages – the "good contents" of grass-fed – can be found in other products, even in non-meat ones. There is abundant iron in beans and lentils; for iron and many other nutrients, try quinoa. Nuts, dark leafy greens and whole grains are rich in vitamin E (a vitamin supplied by grass-fed beef).

Essential fatty acids are available in flax, avocados and many oils such as olive, safflower and sunflower. Of course, we do not need to consume all of these foods at one sitting or even in one day; our bodies use the nutrients as needed, storing some of them for future use. Research on CLA (conjugated linoleic acid) is still sparse but, in any case, there are well-known cancer fighting vegetables readily available, notably the Brassicaceae family of plants which includes broccoli, cabbage and cauliflower. Modern researchers affirm that a well balanced vegetarian diet provides adequate nutrition, including all the “health food” nutrients of grass-fed enumerated above.

The Media Spin

My students tell me that one grass-fed beef producer has an ad on YouTube, the popular website that originally featured amateur rock stars performing their songs. My computer search requests for information about grass-fed returned so many results I could not begin to exhaust them. The Eatwild website includes directories of stores, farms and companies that sell grass-fed beef, and scrolling through these gives the impression that we are looking at a “revolution in beef production.” The Chipotle fast food chain has announced that it purchases millions of pounds of grass-fed. Online and telephone ordering of grass-fed seems to be flourishing; La Cense Beef tells me they can send me Montana grass-fed by UPS-air in special dry ice containers. But, amid all this apparent proliferation, Time/CNN recently announced that grass-fed constitutes only one percent of the beef supply in North America.

The first time I read a magazine article about grass-fed beef, it seemed wonderful. The journalist had visited a small farm in Vermont where the cattle consumed only mother’s milk and grass (and, I am sure, hay in the winter, though this was not mentioned in the article). The farmer divided his pasture into paddocks and rotated the herd periodically – Management Intensive Grazing, it is called. The beef is sold at local farmers’ markets, natural food stores and restaurants. The writer stressed the ways in which this product is superior to CAFO beef. Although the rest of the article delivered some facts that tempered the beauty of this image, I was left with the impression that this is the way all grass-fed farmers operate. I imagined that all issues were somehow solved and that this is the solution to the many problems I had heard about concerning modern beef production.

The media spin can make us sometimes lulled into a stupor and sometimes dizzy. Much of the information is partial and confusing. Some articles or websites stress health, some green issues, others the economics of the alleged revolution. What we need is a level-headed approach which looks at grass-fed from many different angles. Surely what we would hope for is assurance that the beef is organic, grass-fed, green in the local and global senses and certified humane. My research sheds serious doubt on this hope. Can there be a label that covers all of this?

I am afraid the bottom line is this: Beef production is a complex, messy and inefficient business. Compared to producing vegetables and grains, beef production involves much more energy and other resources, including the power for refrigeration of the product; and if grass-fed production grows, we face a global problem of grazing space, as it replaces other land uses. Finally, we have to consider a range of issues about humane treatment, issues that arise only in relation to animal products. So we need a comprehensive approach to grass-fed beef – one that asks: “All considered, is grass-fed beef a good wise food choice?”

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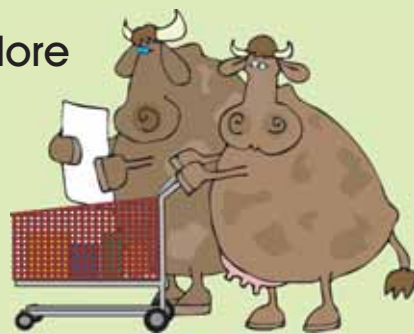
Learn More

American Grass-fed Association (AGA):

Leading independent organization that certifies farmers for a

fee. Beef bearing the AGA label comes from cattle which have not been confined and have not been given antibiotics or hormones. AGA certified beef is from cattle which have been fed only forage (basically grass and hay). AGA does not emphasize green issues or humane treatment issues.

www.americangrassfed.org



United States Department of Agriculture (USDA):

Government department that has struggled to define “grass-fed” with no clear result. AGA has strongly criticized USDA’s definitions. USDA has a recognized “Certified Organic” label which indicates the product is free of herbicides, pesticides, antibiotics and hormones. All feed is to be vegetarian and may include grains. The detailed USDA standards statement for “organic” mentions biodiversity, confinement and soil issues but the impact is softened by loopholes such as “insofar as is practicable.” Biodiversity is to be “supported.” “Severe confinement” is to be avoided.

www.ams.usda.gov

Humane Farm Animal Care (HFAC):

Respected NGO backed by the Humane Society and other organizations. Under guidance of revered scholars like Temple Grandin, HFAC focuses mainly on humane treatment issues, not green issues. It has a rigorous system of inspection, certification, and labeling. HFAC’s “Certified Humane” label covers both grass-fed and grain-fed beef products.

www.certifiedhumane.com

Eatwild:

NGO which aggressively promotes grass-fed beef production. Eatwild’s electronic and hardcopy publications detail the problems with CAFO beef production and argue for grass-fed in copious detail. The Eatwild website includes directories of and descriptions of farms that raise grass-fed in Canada and the United States. Some farmers are very conscientious, thus producing an idealistic image of grass-fed methods.

www.eatwild.com