



BY LINDSAY WILSON

A revolution is happening. Not a revolution of violence and force, but a revolution of dirt, shovels, seeds, and grass – a food revolution, lead by farmers, ranchers, and consumers. There is a growing resistance to industrial agriculture; Americans are beginning to realize that CAFOs (Concentrated Animal Feeding Operations) and subsidized monoculture are unsustainable. A growing number of consumers want to know where their food comes from and how it was grown. Organic farming has exploded, with the organic food industry growing by 7.7 percent in 2010 (compared to less than 1 percent for the conventional sector); the number of CSAs (community supported agriculture), farmers markets, and home gardeners are growing exponentially; and consumers are actively seeking out naturally-raised and pastured meat. A food revolution is indeed taking place and Colorado rancher Doug Matthews is on the front line.

Matthews is a cattle rancher and the owner of River Ranches Beef in Steamboat Springs, where his Scottish Highland cattle ramble around the high altitude pastures grazing on grass and brush. These are happy cattle that never experience the unnatural confines of a feedlot. "I'm trying to do it as mindfully as possible, with as much respect for the animals as possible," Matthews explains. "The animals will be happy while they're alive and have as gentle a life as possible, with minimal disruption. I let them live as a natural cow would want to live, exhibiting their natural behaviors

out on a nice pasture. I give them as much respect as I possibly can."

Matthews is not new to sustainable living – he grew up on a farm in Ohio where his family grew much of their own food, had a milk cow, pigs, and chickens, churned their own butter, and even made their own soap. Matthews began raising cattle when he was six or seven years old and continued his family's farming legacy when he got a degree in animal science and horticulture at Ohio State University. His sustainable path encountered a blip when he worked in a couple of industrial agricultural operations – "a total confinement hog operation and implanting steer with hormones and feeding them grain in feedlot situations" – but he soon realized he didn't want to be a part of this unsustainable system.

Eventually, Matthews found himself in Steamboat Springs where he started raising his own cattle to supply his family with quality beef. "I didn't like the quality of the natural beef that was available," he recalls, "I figured I could do a lot better raising my own beef." And so he did.

A Breed Apart

Scottish Highland was Matthews' breed of choice: "They were the best quality and well adapted to Steamboat's weather." Originally bred in the Highlands and western islands of Scotland, an area known for severe winters and rugged terrain, Matthews says that these shaggy, long-haired cows are perfectly suited

for the Rocky Mountain climate. "The Scottish Highland cattle have this long hair – if you have an Angus and a Scottish Highland cow side by side in the winter, the Angus will put on back fat for insulation. Because of the Highland's insulating hair, it stores its fat in the muscle fibers – creating marbling. That's why if you look at a grass-fed Angus steak and a grass-fed Highland steak, the Highland steak will actually have marbling in it, whereas the Angus won't."

The Highland cattle's grazing style is also well matched to open range grazing. "They have a more primitive grazing habit," Matthews explains. "They evolved browsing on anything within reach, because they had to. They ate a rugged diet in the Highlands, their summer grazing grounds, and then moved down to the coast during the winters, where they would eat seaweed because everything else was covered in snow." Modern Highland cattle have that same grazing habit. "If I have an Angus and a Highland grazing in the same pasture, the Angus will eat the grass and only the grass; the Highland will eat the grass, and then it will come to a weed and it will eat that, and then it will come to a bush and it will nibble on the bush, then it will go back and eat some more grass, then it will eat a wildflower, then it will eat more grass, and then it will eat a bush." This grazing style means that Matthews doesn't see the problem of overgrazing that is common among other breeds of cattle that prefer to only eat grass.

According to Matthews, many of the cattle breeds that are raised for beef these days were originally bred as draft animals – "they were bred to pull a plow, not to eat." Not the Scottish Highland, which is the oldest recognized breed of cattle bred specifically for meat. In fact, the Queen of England keeps a herd of Highlands for her private stock and it is rumored that it is the only type of beef she allows at her table.

So Highland cattle it was. And what began as a herd of 12 has grown into 1,000. "I figured other people would like to eat tasty naturally-raised beef too, so I started collecting these oddball cattle."

You Are What They Eat

Last April, researchers from Arizona found high levels of staph bacteria in meat from 26 grocery stores from across the country, with more than half of the bacteria resistant to multiple types of antibiotics. "The bacteria are always going to be there. But the reason why they're resistant is directly related to antibiotic use in food animal production," lead researcher Dr. Lance Price said.

The problem of antibiotic-resistant bacteria in meat originates from CAFOs. In these industrial feedlots, because animals are packed in very crowded, dirty conditions and fed an unnatural diet of corn, they must be regularly fed antibiotics to keep them alive; this is called prophylactic use and it is leading to the development of drug-resistant bacteria in animals and people. Pasture-raised, grass-fed cattle rarely need antibiotics.

"There's a claim that feeding antibiotics to these feedlot animals doesn't affect humans at all," Matthews declares, "but they are still going into the food chain, still going into the environment – the biggest consumers of antibiotics in the U.S. are industrial feedlots – they wouldn't need antibiotics if they were raised in a natural way."

In addition to creating antibiotic-resistant bacteria, feedlot cattle also carry more *E. coli* bacteria than grass-fed cattle – lots more. Matthews says that there are typically about 6.3 million *E. coli* cells in one gram of feedlot manure. In the same amount of manure from a grass-fed cow? About 20,000 cells.

So why the abundance of antibiotics and *E. coli*? It's partly because of the industrial feedlot conditions. It also has to do with what the feedlot cows are fed. "Cows evolved over thousands of years eating grass, not corn," explains Matthews. "Cattle are ruminants, they have a four-compartment stomach. The first compartment is called the rumen and it's full of beneficial flora, which breaks down the grass, like a big fermentation vat. The rumen has a neutral pH; if you feed that animal complex carbohydrates, then the acid level in their rumen goes sky high. That kills all of the beneficial flora

and you run into acidosis. They will get sick, so you have to feed them antibiotics.”

In addition to making the cow sick, a steady diet of corn also makes that cow's meat less healthy. “Corn is high in omega-6 fatty acids while grass is high in omega-3s and very low in omega-6s,” Matthews explains. “When you have a grass-fed steak, the omega-6 to omega-3 fatty acid ratio is about 1.5:1, similar to what you would find in wild game. In feedlot beef, the ratio is more like 23:1 to 25:1.” By now, we all know that omega-6s promote inflammation, while the omega-3s decrease inflammation. Grass-fed beef also contains the fatty acid conjugated linoleic acid (CLA). In animal studies, CLA has been shown to have anti-carcinogenic properties; and in humans, it's been found to decrease fat accumulation while maintaining muscle mass and to support cardiovascular health. CLA only comes from grass-fed animals.

A joint study between the USDA and Clemson University in 2009 found a number of ways in which grass-fed beef is better than grain-fed beef for human health, including: higher in beta-carotene, vitamin E, and the B vitamins thiamin and riboflavin; higher in the minerals calcium, magnesium, and potassium; and higher in total omega-3s and CLA.

Whether it's for environmental reasons, animal welfare reasons, or health reasons (or all of the above!), join the food revolution and make your beef grass-fed. ★



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