



Why Grassfed is Best

by Jo Robinson

In my Grandma's day, there was no such thing as a bad fat. All fat was "good" simply because it tasted good. My Grandma fried her eggs in bacon grease, added bacon grease to her cakes and pancakes, made her pie crusts from lard, and served butter with her homemade bread. My grandmother was able to thrive on all that saturated fat—but not my grandfather. He suffered from angina and died from heart failure at a relatively young age.

My grandfather wasn't alone. Population studies from the first half of the 20th century showed that Americans in general had a much higher risk of cardiovascular disease than people from other countries, especially Japan, Italy, and Greece. Was all that saturated fat to blame? The Japanese were eating very little fat of any kind, while the Mediterraneans were swimming in olive oil, an oil that is very low in saturated fat but high in monounsaturated fats.

So, in the 1960s, word came from on high that we should cut back on the butter, cream, eggs, and red meat. But, interestingly, the experts did **not** advise us to switch to an ultra-low fat diet like the Japanese, nor to use monounsaturated oils like the Greeks or Italians. Instead, we were advised to replace saturated fat with polyunsaturated oils—primarily corn oil and safflower. Never mind the fact that no people in the history of this planet had ever eaten large amounts of this type of oil. It was deemed "the right thing to

do." Why? First of all, the United States had far more corn fields than olive groves, so it seemed reasonable to use the type of oil that we had in abundance. But just as important, according to the best medical data at the time, corn oil and safflower oil seemed to lower cholesterol levels *better* than monounsaturated oils.

Wrong Oil

Today, we know that's not true. In the 1960s, researchers did not differentiate between "good" HDL cholesterol and "bad" LDL cholesterol. Instead, they lumped both types together and focused on lowering the sum of the two. Polyunsaturated oils seemed to do this better than monounsaturated oils. We now know they achieve this feat by lowering both our bad and our good cholesterol, in effect throwing out the baby with the bathwater. Monounsaturated oils leave our HDL intact.

In hindsight, it's not surprising, then, that our death rate from cardiovascular disease remained high in the 1970s and 80s even though we were eating far less butter, eggs, bacon grease, and red meat: We had been told to replace saturated fat with the wrong kind of oil.

During this same era, our national health statistics were highlighting another problem, this one even more ominous: an increasing number of people were dying from cancer. Why were cancer deaths go-

ing up? Was it the fact that our environment was more polluted? That our food had more additives, herbicides, and pesticides? That our lives were more stressful? That we were not eating enough fruits and vegetables?

Yes. Yes. Yes. And yes.

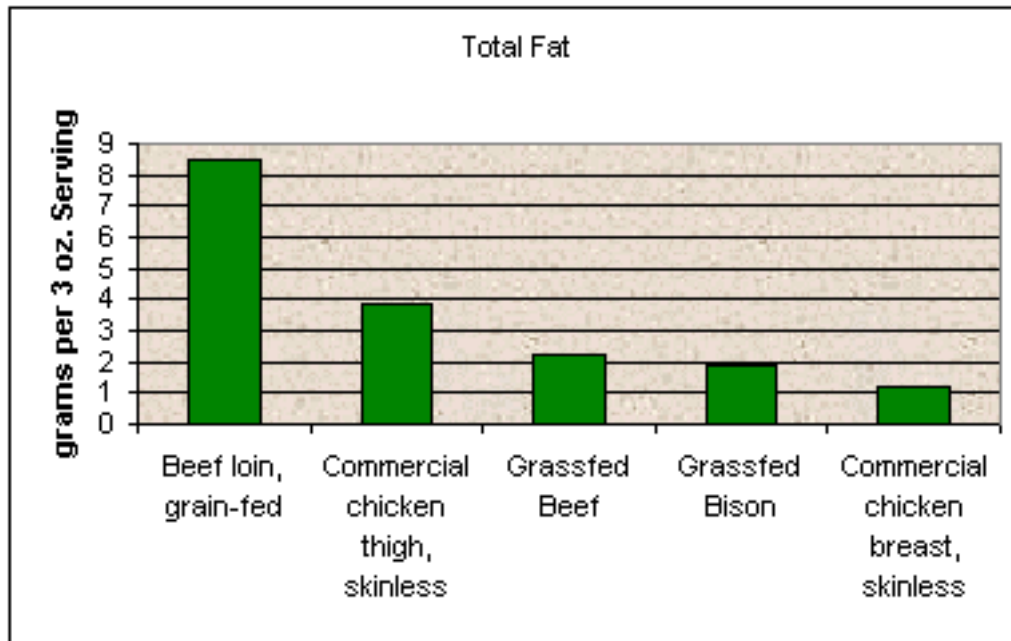
But there was another reason we were losing the war against cancer: the supposedly “heart-healthy” corn oil and safflower oil that the doctors had advised

diet was harboring yet another unhealthy fat: trans-fatty acids. Trans-fatty acids are formed during the hydrogenation process that converts vegetable oil into margarine and shortening. Carefully designed studies were showing that these manmade fats are worse for our cardiovascular system than the animal fats they replaced. Like some saturated fats, they raise our bad cholesterol. But unlike the fats found in nature, they also lower our

good cholesterol—delivering a double whammy to our coronary arteries. “Maybe butter is better after all,” conceded the health experts.

Conflicting Advice

Given all this conflicting advice about fat, consumers were ready to lob their tubs of margarine at their doctors.



us to pour on our salads and spread on our bread contained high amounts of a type of fat called “omega-6 fatty acids.”

There is now strong evidence that omega-6s can make cancer cells grow faster and more invasive. For example, if you were to inject a colony of rats with human cancer cells and then put some of the rats on a corn oil diet, some on a butterfat diet, and some on a beef fat diet, the ones given the omega-6 rich corn oil would be afflicted with larger and more aggressive tumors.

Second Helping

Meanwhile, unbeknownst to us, we were getting a second helping of omega-6s from our animal products. Starting in the 1950s, the meat industry had begun taking our animals off pasture and fattening them on grains high in omega-6s, adding to our intake of these potentially cancer-promoting fats.

In the early 1990s, we learned that our modern

For decades they had been skimping on butter, even though margarine tasted little better than salty Vaseline. Now they were being told that margarine might *increase* their risk of a heart attack!

Some people revolted by trying to abandon fat altogether. For breakfast, they made do with dry toast and fat-free cottage cheese. For lunch, they ate salad greens sprinkled with pepper and vinegar. Dinner was a skinless chicken breast poached in broth. Or better yet, a soy burger topped with lettuce. Dessert? Well, after all that self-denial, what else but a big bowl of fat-free ice cream and a box of Snackwell cookies. Thank goodness calories no longer counted! Only fat made you fat!

Or, so the diet gurus had told us. Paradoxically, while we were doing our best to ferret out all the fat grams, we were getting fatter and fatter. We were also becoming more prone to diabetes. Replacing fat with sugar and refined carbohydrates was proving to be no more beneficial than replacing saturated fat with

polyunsaturated oils.

At long last, in the mid-1990s, the first truly good news about fat began to emerge from the medical labs. The first fats to be given the green light were the monounsaturated oils, the ones that had helped protect the health of the Mediterraneans for so many generations. These oils are great for the heart, the scientists discovered, and they do not promote cancer. They are also a *deterrent* against diabetes. The news came fifty years too late, but it was welcome nonetheless. Please pass the olive oil!

Stearic acid, the most abundant fat in beef and chocolate, was also found to be beneficial. Unlike some other saturated fats, stearic acid does not raise your bad cholesterol and it may even give your good cholesterol a little boost. Hooray!

Good Fat

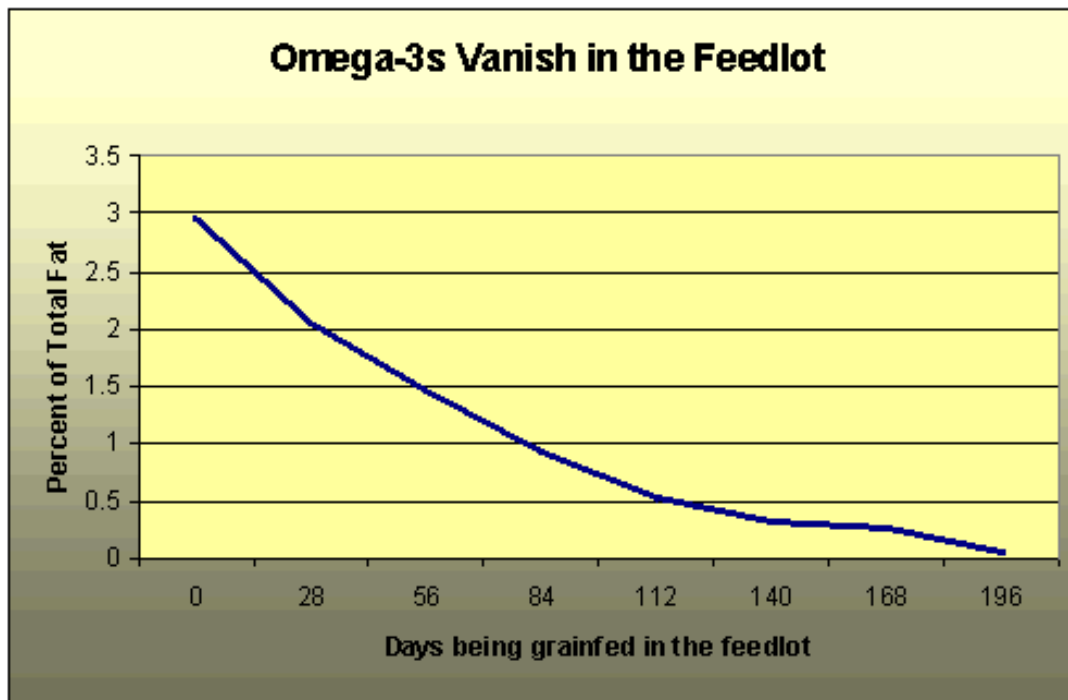
Then, at the tail end of the 20th century, two more “good” fats were added to the roster—omega-3 fatty acids and conjugated linoleic acid, or CLA, the fat found in the meat and dairy products of ruminants. Both of these fats show signs of being potent weapons against cancer. However, the omega-3s may be the best of all the good fats because they are also linked with a lower risk of virtually all the so-called “diseases of civilization,” including cardiovascular disease, depression, ADHD, diabetes, Alzheimer’s disease, obesity, asthma, and autoimmune diseases.

So, some of you may be wondering, what does this brief history of fat have to do with grassfarming? **Few people realize that all omega-3s originate in**

the green leaves of plants and algae. Fish have large amounts of this good fat because they eat small fish that eat smaller fish that dine on omega-3 rich algae and phytoplankton. Grazing animals have more omega-3s because they get the omega-3s directly from the grass. In both cases, the omega-3s are ultimately passed on to humans, the top of the food chain.

Nutritional Benefits

Products from grassfed animals offer us more than omega-3s. They contain significant amounts of two “good” fats, monounsaturated oils and stearic



acid, but no manmade trans-fatty acids. They are also the richest known natural source of CLA and contain extra amounts of vitamin E and beta-carotene. Finally, grassfed meat is lower than feedlot meat in total fat and calories, making it ideally suited for our sedentary lifestyles.

For example, a sirloin steak from a grassfed steer has about one half to one third as much fat as a similar cut from a grainfed steer. In fact, grassfed meat has about the same fat content as skinless chicken or wild deer or elk.¹ When meat is this lean, it actually lowers your LDL cholesterol levels.²

Because grassfed meat is so lean, it is also lower in calories. (Fat has 9 calories per gram, compared with only 4 calories for protein and carbohydrates.

The greater the fat content, the greater the number of calories.) A 6-ounce steak from a grass-finished steer has almost 100 fewer calories than a 6-ounce steak from a grainfed steer. If you eat a typical amount of beef (66.5 pounds a year), switching to grassfed beef will save you 17,733 calories a year—without requiring any willpower or change in eating habits. If everything else in your diet remains constant, you'll lose about six pounds a year. If all Americans switched to grassfed meat, our national epidemic of obesity might begin to diminish.

I don't believe it's a matter of luck or chance that grassfed products have so many of the good fats but so few of the bad. In fact, I'll wager that the more that is discovered about fat in the coming years, the more grassfed meat will shine. The reason for my confidence is simple: **our bodies are superbly adapted to this type of food.** In the distant past, grassfed meat was the only meat around. Our hunter-gatherer ancestors either brought home a grazing ruminant such as elk, deer, or bison, or a predator that preyed on those animals. Either way, the nutrients found in grass made their way into the animals' flesh, and ultimately, into our own.

Over the eons, our bodies began to "expect" the kinds and amounts of fat found in grassfed meat. Our hearts counted on the omega-3s to stabilize their rhythm and keep blood clots from forming. Our brain cells relied on omega-3s to build flexible, receptor-rich membranes. Our immune systems used the omega-3s and CLA to help fend off cancer. And because wild game is relatively lean, our bodies weren't burdened with unnecessary amounts of fat or calories.

When we switch from grainfed to grassfed meat, then, we are simply returning to our original diet, the diet that is most in harmony with our physiology. Every cell and system of our bodies function better when we eat products from animals raised on grass.

Extra Omega-3s

Although grassfed meat is low in total fat and "bad" fat (including saturated fat), it has two to six times more omega-3 fatty acids. Omega-3s play a vital role in every cell and system in your body. For example, of all the fats, they are the most heart friendly. People who have ample amounts of omega-3s in their diet are less likely to have high blood pressure or an irregular heartbeat. Remarkably, they are 50 percent less likely to suffer a heart attack.³

Omega-3s are essential for your brain as well. People with a diet rich in omega-3s are less likely to suffer from depression, schizophrenia, attention deficit disorder (hyperactivity), or Alzheimer's disease. [<http://www.eatwild.com/nutrition.html>]⁴

Another benefit of omega-3s is that they may reduce your risk of cancer. In animal studies, these essential fats have slowed the growth of a wide array of cancers and also kept them from spreading.⁵ Although the human research is in its infancy, researchers have shown that omega-3s can slow or even reverse the extreme weight loss that accompanies advanced cancer and also hasten recovery from surgery.^{6,7}

Omega-3s are most abundant in seafood and certain nuts and seeds such as flaxseeds and walnuts, but they are also found in animals raised on pasture. The reason is simple. Omega-3s are formed in the chloroplasts of green leaves and algae. Sixty percent of the fatty acids in grass are omega-3s. When cattle are taken off omega-3 rich grass and shipped to a feedlot to be fattened on grain, they begin losing their store of this beneficial fat. Each day that an animal spends in the feedlot, its supply of omega-3s is diminished.⁸ The graph on this page illustrates this rapid decline.

When chickens are housed indoors and deprived of greens, their meat and eggs also become artificially low in omega-3s. Eggs from pastured hens can contain as much as 20 times more omega-3s than eggs from factory hens.⁹

Switching our livestock from grass to grain is one of the reasons our modern diet is deficient in these essential fats. It has been estimated that only 40 percent of Americans consume a sufficient supply of these nutrients. Twenty percent have levels so low that they cannot be detected.¹⁰ Switching to grassfed animal products is one way to restore this vital nutrient to your diet.

The CLA Bonus

Meat and dairy products from grassfed ruminants are the richest known source of another type of good fat called *conjugated linoleic acid* or CLA. When ruminants are raised on fresh pasture alone, their products contain from three to five times more CLA than products from animals fed conventional diets.^{10, 11}

CLA may be one of our most potent defenses against cancer. In laboratory animals, a very small percentage of CLA—a mere 0.1 percent of total calories—

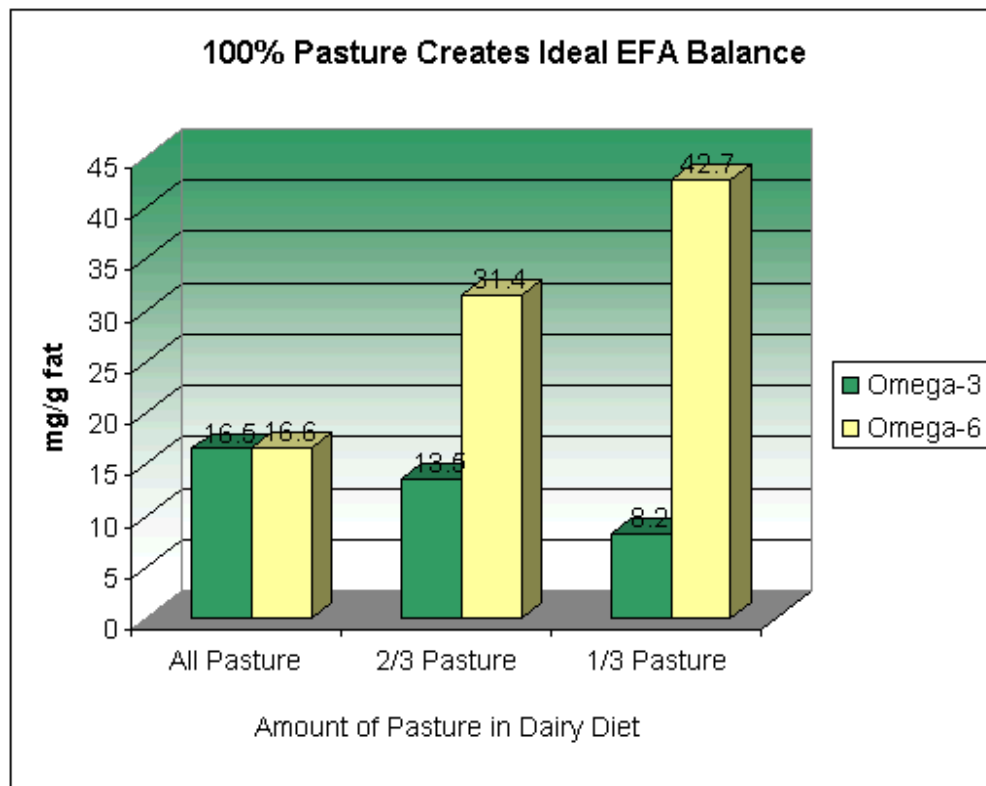
greatly reduced tumor growth.¹² There is new evidence that CLA may also reduce cancer risk in humans. In a Finnish study, women who had the highest levels of CLA in their diet had a 60 percent lower risk of breast cancer than those with the lowest levels. French researchers compared CLA levels in the breast tissues of 360 women. The women with the most CLA in their tissue (and thus the most CLA in their diets) had a 74 percent lower risk of breast cancer than the women with the least CLA. Switching from grainfed to grassfed meat and dairy products places women in this lowest risk category.¹³ Researcher Tilak Dhiman from Utah State University estimates that you may be able to lower your risk of cancer simply by eating the following grassfed products each day: one glass of whole milk, one ounce of cheese, and one serving of meat. You would have to eat five times that amount of grainfed meat and dairy products to get the same level of protection.

Super Healthy Milk

Most cartons of milk in the supermarket show a picture of cows contentedly grazing on grass. Unfortunately, 85 to 95 percent of the cows in American dairies are now being raised in confinement. The only grass they eat comes in the form of hay, and the ground they stand on is a variable blend of dirt and manure.

The reason for confining our cows in feedlots and feeding them grain rather than grass is that they produce more milk—especially when injected with bi-weekly hormones. Today's grainfed cows produce three times as much milk as the old family cow of days gone by.

But with all the emphasis on quantity, the qual-



ity of our milk has suffered. One of the biggest losses has been in its CLA content. The milk of pastured cows also contains an ideal ratio of essential fatty acids or EFAs. There are two families of EFAs—omega-6 and omega-3 fatty acids. Studies suggest that if your diet contains roughly equal amounts of these two fats, you will have a lower risk of cancer, cardiovascular disease, autoimmune disorders, allergies, obesity, diabetes, dementia, and various other mental disorders.

Take a few moments to study the chart on this page showing the EFA content of milk from cows fed varying amounts of grass and grain. The green bars represent the amount of omega-3 fatty acids in the milk, and the yellow bars represent the amount of omega-6 fatty acids. As you can see, when a cow gets all her nutrients from pasture (represented by the two bars on the far left), her milk has an ideal ratio of omega-6 to omega-3 fatty acids. Take away one third of the grass and replace it with grain or other supplements (represented by the two bars in the middle) and the omega-3 fatty acid content of the milk goes down while the omega-6 fatty acid content goes up, upsetting

Data from Duckett, S.K., D.G. Wagner, L.D. Yates, H.G. Dolezal, and S.G. May Effects of Time on Feed on Beef Nutrient Composition. J. Anim Sci 71, no. 8 (1993); 2079-88.

an essential balance. Replace two-thirds of the pasture with a grain-based diet (illustrated by the two bars on the far right) and the milk will have a very top-heavy ratio of omega-6 to omega-3 fatty acids. The healthiest milk comes from cows that graze fresh pasture without any added grain or “by-product feedstuff.”

Milk from pastured cows offers additional health benefits. (I’m beginning to sound like a TV infomercial: “But wait! There’s more!”) In addition to giving you five times more CLA and an ideal balance of EFAs, grassfed milk is higher in beta-carotene, vitamin A, and vitamin E. This vitamin bonus comes, in part, from the fact that fresh pasture has more of these nutrients than grain or hay. (When grass is dried and turned into hay, it loses a significant amount of its vitamin content.) These extra helpings of vitamins are then transferred to the cow’s milk.

There’s another factor involved as well. A grazing cow produces less milk than a cow fed a grain-based diet. This turns out to be a bane for the farmer but a blessing for the consumer. The less milk a cow produces, the more vitamins in her milk. This is because a cow has a set amount of vitamins to transfer to her milk, and if she’s bred, fed, and injected to be a Super Producer, her milk has fewer vitamins per glass. It’s a watered down version of the real thing.

Oh, I almost forgot the best part of all. Dairy products from grassfed cows taste delicious, and they have a bright yellow color that is visible proof of their bonus supply of beta carotene. Serve cheese or butter from a grass-based dairy, and everyone will notice the difference. Also, your cookies and cakes will have that rich buttery color that hasn’t been seen since Grandma’s day. (You do bake, don’t you?)

So where can you find milk from pastured cows? Unfortunately, the label won’t tell you whether the cows were raised on grass or grain. Even an organic label is no guarantee that the cows got any of their diet from fresh pasture. At the present time, however, there are two large organic dairies that make a point of raising their cows on pasture—Organic Valley and Natural by Nature, an east coast brand. Look for them in your dairy case.

In addition, a number of farmers listed on <http://eatwild.com> have pasture-based dairies. If you can find a local farmer who will sell you dairy products from all pasture-fed cows, you have found liquid gold.

You Are What Your Animals Eat

In my on-going investigation into pasture-based farming, I’ve stumbled upon an alarming void: few animal scientists care about the link between the diet of our livestock and the nutritional content of their products. “Feed animals anything you want,” the research suggests, “and it makes no difference to their meat, milk, or eggs.”

Browse through the animal science journals, for example, and you’ll see that the goal of most feeding experiments is to increase production and minimize costs. Period. As long as the feed is cheap and the animal gets fat, anything goes.

Here’s a glaring example. A 1999 study published in *The Journal of Animal Science* explored the desirability of feeding stale chewing gum *still in its wrappers* to cattle. Wonder of wonders, the article concluded that a bubble gum diet was a net benefit. I quote: “Results of both experiments suggest that [gum and packaging material] may be fed to safely replace up to 30% of corn-alfalfa hay diets for growing steers with advantages in improving dry matter intake and digestibility.” In other words, feed a steer a diet that is 30 percent bubble gum and wrappers, and it will eat more. Needless to say, there was no mention in the article of the nutritional content of the resulting meat. When I first read these articles, I assumed that no one would actually feed bubblegum to their animals, despite the “positive” results of the studies. Then a professor of animal science drove me by a Beechnut gum factory in upstate New York where dairy farmers used to buy truckloads of bubblegum to feed to their cows. The only reason the farmers stopped coming is that the factory closed down.

Researchers studying *human* nutrition have been just as slow to see the connection between animal diets and human diets. To virtually all dieticians, beef is beef, eggs are eggs, and milk is milk. Few pay any attention to what the animals were fed or how they were raised. Thus, when the USDA guidelines say “eat less red meat,” the edict applies to all red meat, whether it’s a fatty steak from a grainfed cow, or a lean steak from a grassfed cow with its invisible bounty of omega-3s, vitamin E, and CLA.

I have spent the past three years searching for studies that have explored the link between animal feed and human food. It’s been arduous work. One of the main problems is that there is scant research about the nutritional value of products from grassfed animals. For

the past 50 years, virtually all the studies have focused on grainfed products. To fill in the void, I've searched through yellowing journals published before the advent of factory farming, extrapolated from small studies financed by individual farmers, and relied on studies based in Ireland, Australia, or New Zealand—parts of the world where animals are still kept home on the range.

Finding the amount of vitamin E in grassfed beef has been the biggest challenge. I began to search for the data when I learned that grass has 20 times more vitamin E than corn or soy. Given the magnitude of this difference, I reasoned that meat from grassfed animals *must* have an extra helping of vitamin E.

Diligently, I searched the scientific record. At long last, I located one American study that provided some data. The impetus for this rare study came from disgruntled Japanese buyers who were complaining that the meat from American feedlot cattle spoiled more quickly than the meat from Australian free-range cattle. To find out why, the Americans measured the vitamin E levels in the two types of meat. (They knew that antioxidants such as vitamin E helped prolong shelf life.) Their tests revealed that the meat from the Australian grassfed cattle had three to four times more vitamin E, thanks to all that vitamin E-rich grass. What did the American researchers do with this finding? True to form, they began studying how much synthetic vitamin E to add to feedlot diets. I doubt that it even occurred to them to take a closer look at the Australian model.

A main reason for this lack of interest in the pasture-based model is that much of our animal research is funded by commercial interests—specifically the grain, chemical, pharmaceutical, farm equipment, and meat-packing companies. Together, these vertically integrated behemoths have a multi-billion dollar stake in perpetuating factory farming. The USDA, meanwhile, aids and abets by focusing its efforts on tweaking the feedlot system. The Meat and Animal Research Center (MARC) in Lincoln, Nebraska is more willing to spend \$100,000 researching how quickly feedlot manure seeps into the water table than to spend a similar amount exploring pasture-based farming.

My Fantasy

What will it take to change the priorities of the research community? An enlightened public. And what will it take to enlighten the public? A sustained

media campaign. But since there is no money to fund such a campaign, the breakthrough will have to come from investigative journalism. I have a fantasy about how that might happen. First, a journalist from a major TV show such as *60 Minutes* or *Dateline* or a prestigious newspaper such as *The New York Times* or *The Washington Post* will decide to explore the stunning differences between factory farms and pasture-based farms. Building on this ground-breaking work, an award-winning TV producer will create a one-hour documentary showing the vivid contrasts. The program will conclude—as it must—that raising animals on pasture is better for consumers, the animals, the environment, and small-scale farmers. Before long, dozens of TV shows, newspapers, and magazines will launch their own investigations.

All of a sudden, grassfarming will be the talk of the town. Serving organic meat won't win points in Los Angeles anymore unless it's grassfed as well. Meanwhile, Ted Turner will have stopped sending all of his bison calves to feedlots to be fattened like cattle, and by 2005, his "Turner Reserve Grassfed Bison" will be the thing to serve at celebrity gatherings. Propelled by this groundswell of interest, investors and institutions will finally devote more time, money, and energy to supporting pasture-based farming.

Will grassfarming really become the darling of the media? Only time will tell. But even if it doesn't, there is evidence that grassfarming is gathering momentum the old fashioned way—word of mouth. Friends are telling friends about the health benefits of pastured animal products, and they're turning the curious into converts by inviting them over to share in a feast. I've gotten calls from quite a few grassfarmers this year who say they're having trouble keeping up with demand. The good news about grassfarming seems to be spreading—one satisfied customer at a time!

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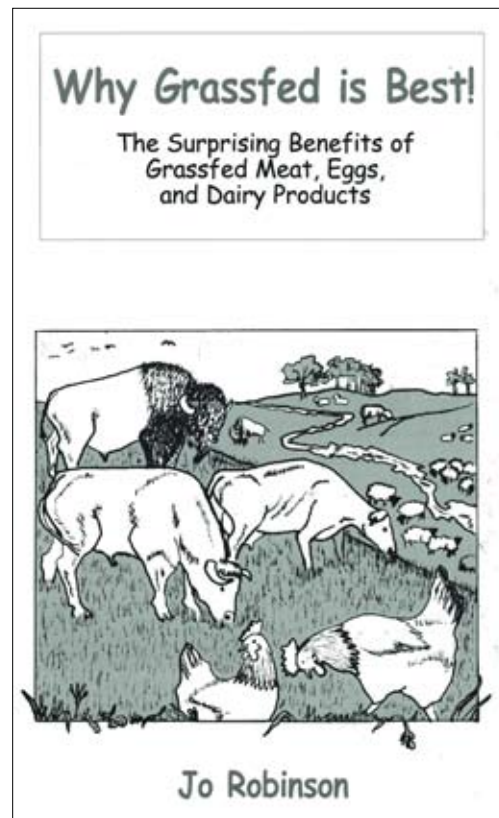
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Jo Robinson, author and researcher.

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