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White Oak's on-farm, USDA-inspected abattoirs. The beef abattoir is on the left, the one for poultry on the right.

## New model for supermarket beef on a Georgia Serengeti

By HARVEY USSERY

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**H**ow about a nice juicy steak for dinner tonight—sound good? As you inspect that pristine, shrink-wrapped package in the supermarket cooler, though, you might reflect on where it comes from and how it was produced.

It is almost certain that the package of beef on offer in your supermarket comes from an animal who was shipped long distances under highly stressful conditions to grow to slaughter weight in crowded feedlots, shoulder to shoulder with its fellows in a deepening accretion of manure, its very survival in such conditions requiring routine feeding of antibiotics, which in turn could lead to widespread bacterial resistance and the loss of effectiveness of whole classes of therapeutic antibiotics. The animal's weight gain was rushed by growth-promoting hormones and by the feeding of corn and soy, rather than the grasses which ruminants like cattle evolved to eat. And the cascade of ill effects didn't end in the feedlot, which was the source of widespread contamination of water systems, by fecal bacteria and other pathogens, and by excessive nitrates—which can cause potentially fatal “blue baby syndrome” among infants younger

than six months, and increased incidence of cancer in adults.

If this dismal picture—of abused animals raised in filth, fed junk food for cows laced with biologically-active additives—of a spreading stain of environmental pollution—seems abstract and far removed from your daily personal concerns, consider that industrial beef can be a direct threat to your health. The reason is simple: With the demise of local abattoirs and the centralization of beef slaughtering into mechanized, high-speed factories—processing up to 300-400 cattle per hour, by poorly paid workers in a highly stressful work environment—contamination by manure, clinging to hooves and hides of animals who have been standing and lying in the stuff, and by spillage of intestinal contents, is a constant possibility. Contamination of one carcass readily becomes contamination of many as the meat from hundreds of animals is combined into vast quantities of ground beef or processed meat products. Is it really surprising that when serious contamination does occur, USDA beef recalls may involve tens of millions of pounds from a single plant (35 million in 1999, 143 million in 2008)? In Eric Schlosser's blunt summary (*Fast Food Nation*): “There is shit in the meat.”

If you are disturbed by the Rus-

sian roulette at the heart of industrial beef production but feel there is nothing you can do about it, remember the fundamental law of the market: *One dollar, one vote*. That is, the dollar we plunk down at the supermarket counter is first and foremost a *vote*—for more of the same. Many consumers, if they make the extra effort, can vote for local sources of beef more sustainably raised on pasture and slaughtered in small lots by hand.

Unfortunately, many consumers throughout the nation only have access to supermarkets whose beef supply comes largely from four giant beef companies.

Fortunately, many beef-eaters dependent on supermarkets in the Southeast and Mid-Atlantic may now vote for an excellent alternative model: White Oak Pastures, in southwestern Georgia.

### History of a cattle farm

The history of White Oak Pastures mirrors, up to a point, the history of agriculture in the last century and a half. Owner Will Harris's great-grandfather founded White Oak in 1866 as a beef cattle farm, which slaughtered its own cattle to feed those living on the farm, and to serve markets in its immediate neighborhood. It has been operated by successive generations ever since.

The Second World War brought





The Katahdin sheep that make up part of White Oak's "Serengeti" mix are a "hair sheep" breed—bred for meat rather than wool.

enormous technological developments, applied first in the war and afterward made available in all sectors of the economy. Agriculture shifted almost overnight to vastly greater reliance on machines and chemicals. Harris's father enthusiastically adopted the new paradigms for "scientific" beef production—driven by machines, chemical fertilizers and pesticides, hormone implants for faster growth, heavy use of antibiotics, shipping of young steers for finishing in far-distant feedlots, and especially the confinement feeding of corn and soy in lieu of ranging the cattle on grass.

Will Harris continued all these practices after completing his education in animal science at the University of Georgia. He was ever more appalled at what he was doing to his animals, however—shipping them up to 30 hours in crowded rail cars without feed, water, or rest, an upper tier of animals defecating and urinating on those below. In 1995 he determined to return to a farm model closer to that of his great-grandfather, abandoned all use of hormone implants and antibiotics, and began a transition from grain feeding to exclusively grass-fed production. Rather than shipping feeder calves a thousand miles, he began finishing his beef cattle on the farm and having them butchered at a local custom abattoir. By 2000 he had ceased all use of chemical fertilizers and pesticides on White Oak's 1,000 acres and had leased an additional 1,000 acres man-

aged with the same practices.

Harris did not remain stuck in a static model from the past, however, but continued to change his methods as he learned more about natural farming and experimented with new ideas. In 2005 he installed a two-and-a-half-million-dollar, USDA-inspected abattoir in order to eliminate the stress of transporting his cattle for slaughter and to maintain complete control over the final product he offers his customers.

In 2010 Harris concluded that a beef-only farm is essentially as monocultural as a thousand-acre farm growing nothing but corn or nothing but soybeans. Reaching for ever greater diversity as a closer approximation of nature herself, he introduced sheep and poultry (initially chickens and turkeys, subsequently ducks, geese, and guineas) onto his cattle pastures.

2010 also featured two major additions to the farm's infrastructure: a solar array to supply part of the farm's energy needs, and a companion USDA-inspected poultry abattoir. The 50-kilowatt solar system, which generates 30 to 40 percent of the farm's electricity, will be expanded this year to 100 kilowatts. White Oak also uses solar thermal technology to heat the wash down water for its two abattoirs.

### **A Georgia Serengeti**

White Oak Pastures is certified humane by four major certifying agencies. The major criterion for certification in all cases is that all classes

of its livestock, whether ruminant or avian, be allowed to range over pasture foraging natural feeds, in lieu of close confinement. But humane treatment of White Oak's animals is not really a matter of complex rules or arcane criteria—it arises from simple common sense and basic empathy. As Will Harris puts it: "If you would like to open up a lawn chair and drink a couple of glasses of wine while you watch [your animals], then you have good animal welfare. No normal person enjoys watching a hen in a battery cage or a sow in a farrowing crate, or a steer wading in its own excrement."

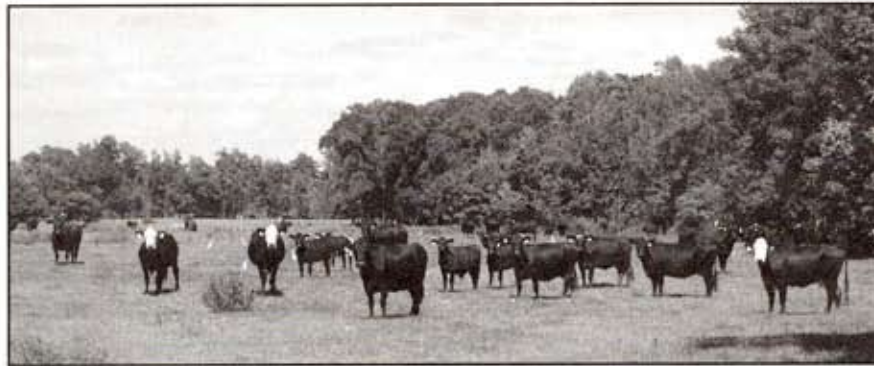
Will Harris calls his pasture-based production a "Serengeti model"—large ruminants followed by small ruminants followed by birds, each set of species filling its own ecological niche and providing the others with biological services. In White Oak's case, the cattle thrive on the pasture grasses, the sheep eat the weeds, and the poultry help control insect populations. As in Joel Salatin's model for following beef cattle with his layer flocks, the poultry pick apart the cowpies for fly larvae, spreading their fertility evenly on the pasture sward, breaking disease and parasite cycles—and adding to the live-protein component of their diet.

Pasture management is based on rotation of herds of cattle through a series of 20- to 45-acre paddocks surrounded by high-tensile wire fencing. Each paddock includes a watering tank and enough tree cover for shade for the entire group. The fencing does not contain either the sheep or the poultry, who are entirely free to roam anywhere they like, but they tend to follow the cattle.

Because of the mild Gulf climate, White Oak can raise all its pastured species year-round.

Unlike on the real Serengeti, where a host of wild predators play a large role as well, White Oak's version features guardian dogs—seven Great Pyrenees—who provide full-time protection from predators for all the poultry, cattle, and sheep.

It is important to emphasize the



White Oak's herd is closed on the maternal side, all the way back to when the farm was founded by Will Harris's great-grandfather. It is Angus based, and most bulls brought in to prevent inbreeding are purebred Black Angus.

importance of this all-pasture approach to beef production at White Oak, in stark contrast to the conventional model in which cattle are fed corn and soy, feeds that ruminants did not evolve eating. The high-energy, high-protein diet supports faster growth, but of course we all know we never get something for nothing—we live in a world of trade-offs. When it comes to feeding cattle, one trade-off to consider is *E. coli* O157:H7.

Though we may think first of foodborne illness when “*E. coli*” is mentioned, actually about 700 strains of *Escherichia coli* bacteria have been identified, the vast majority harmless, some even beneficial to humans. Many strains are active in the rumen—the main stomach of a ruminant such as a cow—which is alive with fermenting bacteria. The rumen is alkaline, and *E. coli* strains in the ferment have adjusted to that alkaline environment. Even if some strains are pathogenic and, after passing from the cow into the wider environment, happen to find their way inside an animal with an acidic stomach, they immediately die. Unfortunately the pH in the rumen of feedlot cattle fed corn and soy exclusively turns acidic. Now a pathogenic strain like *E. coli* O157:H7 adapts for survival in acidic conditions. When it is released to the wider environment (via cow poops) and gets a ride on a food plant (maybe spinach washed in water contaminated by cow poops) into an animal with an acidic stomach, it is primed to be extremely virulent. Guess what animal has an acidic

stomach? *Homo sapiens*. In short, it is quite possible that—had we hired a group of really smart scientists to breed a life-threatening bacterium from a harmless strain of *E. coli*—it is doubtful they would have been as successful at the job as the contemporary approach to feeding supermarket beef cattle.

### On-farm slaughtering

The pathway toward cleaner, safer supermarket beef continues into White Oak's abattoir, one of only two on-farm USDA-inspected plants for beef slaughter in the country. The plant was designed for minimal stress by Temple Grandin, internationally recognized expert on humane animal handling and slaughter.

Everything about the slaughtering process at White Oak ensures a cleaner, safer product than is typical in the mainline beef industry. The animals are cleaner to begin with, coming as they do directly off grassy fields rather than manure wallows. The farm slaughters on average about 26 cattle per day, in contrast to the thousands per day typical of an industrial-scale slaughterhouse. Mechanization is minimal—processing is done by hand, by a trained crew paid well above the minimum wage, who receive generous benefits and additional financial incentives which give them a personal stake in the farm's success. Meat from the carcasses is tested routinely in the plant to confirm the absence of pathogens.

The same practices and precautions are used in the poultry abattoir,



where processing of 500 birds a day (with a targeted increase to 800 per day) is done manually—in contrast to an industrial poultry facility that might handle 500,000 birds per day on robotic processing lines which are responsible for much of the contamination of supermarket poultry by salmonella and campylobacter, according to studies by *Consumer Reports*.

White Oak takes care to avoid environmental pollution by its slaughter operations with its zero-waste approach to all slaughter residues—in the process reclaiming those “wastes” as farm resources. Blood and softer tissues go into an anaerobic digester which converts them to liquid fertilizer. Residues harder to break down—such as tendons, feathers, and tissues high in fat—are mixed with “gin wastes” (cotton mill residues) and pulverized bone in large composting windrows. Both the resulting solid compost and the liquid fertilizer are applied to the farm’s hayfields and to pastures outside the current rotation.

Wash water from the abattoirs is treated in White Oak’s own water treatment plant before being used to irrigate the farm’s pastures.

### Changing the game?

As consumers become more and more perturbed by massive beef recalls and scary outbreaks of foodborne illness, many of them are seeking out alternative food sources they can trust. My wife and I are fortunate to be able to buy all our beef, lamb, and pork face-to-face from farmers we know personally, within a radius of 10 miles of our back door. All the animals without exception were raised on pasture, in ways that conserve and build soil and prevent environmental pollution, while supporting the health of plants, animals, and people. We are voting with our dollars for a more sustainable American agriculture—for us as for most citizens, our food purchases are our only realistic way of doing so.

But many consumers do not have the same access to conscientious

local farmers that we have, and are completely dependent on supermarkets for their families’ meats. Fortunately, many of them living in parts of the Southeast and Mid-Atlantic now have the opportunity to vote with their dollars for a better alternative. (White Oak Pastures sells its beef, lamb, and poultry through an online store; through five national distributors into health food stores and restaurants; and through Publix and Whole Foods supermarkets throughout the Southeast and as far away as Ohio, Pennsylvania, and New Jersey.)

For too long the argument has been made that the American way of mass-scale meat production is *necessary*—that there is no alternative to the CAFO (confined animal feeding operation) if we are to “feed the world.” But do note that White Oak Pastures is *thriving*, earning enough return on its efforts to install multi-million-dollar facilities and provide its workers a decent living even as it ensures the farm’s agricultural sustainability and respects the local ecology. It has proved that a pastured meat production model is not incompatible with either profitability or operating at supermarket scale, thus offering a model for other farmers to follow if they don’t want to be left behind by the growing consumer demand for safer, higher quality food.

The changes to the conventional model which White Oak Pastures put in place to market a better beef are pretty simple—and to my mind pretty obvious—but they are quite profound. As Will Harris puts it, “My beef is just like industrially produced beef—except that it is safer, healthier, and more nutritious, doesn’t have a negative impact on the environment, ensures the highest welfare of the animals, supports local food systems, and tastes better—other than that, it’s just the same.”

*Harvey Ussery is the author of The Small Scale Poultry Flock: An All-Natural Approach to Raising Chickens and Other Fowl for the Home and Market Growers, available from the Countryside Bookstore.*

