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PHOTOGRAPHS BY AARON SPRINGER

A TASTE of BEEF

Part 2

“A Taste of Beef” is a two-part examination of local beef cattle breeding, feeding, aging and tasting. Part 1, which ran in the Spring 2009 issue and is now online at www.ediblechesapeake.com, looked at heritage cattle breeds and began the discussion of grain-feeding versus grass-feeding. Farmers using grain as part of their cattle feeding regimen explained their belief that grain is necessary for steady year-round nutritional balance and weight gain. Part 2 continues with more of the grass-grain debate, a primer on slaughter and aging, notes on beef flavor, and the results of two comparative beef tastings.

Forrest Pritchard at the Takoma Park Farmers Market, one of many markets where he and his family sell their 100 percent grass-fed beef and other meats directly to the consumer.



Opposite page:
Primal beef cuts are dry-aged in a temperature-controlled cooler at Virginia's Ayrshire Farm.

The Case for Grass

Proponents of 100 percent grass-feeding point to the many overall environmental advantages of their method. In the pasture-based system of managed grazing, cattle are moved from paddock to paddock on a regular basis, using a series of electric fences constructed to be light-weight and easily portable, to maximize pasture health as well as the animals' weight gain. This kind of tractor-free system is "very low environmental impact," and promotes biodiversity, notes Forrest Pritchard of Smith Meadows Farm in Berryville, Virginia. "We're off the grid with these animals for the vast majority of their lifecycle."

By allowing ruminant animals such as cattle to grow fat on grass rather than grain, producers are also avoiding the extra energy and expense involved in the growing, harvesting, hauling and feeding of grain or silage to the animals. Pasture-based production can maximize the use of land that is too hilly, rocky or otherwise unsuitable for crops. A report called *Local Foods and Sustainability in the Chesapeake Bay Watershed* prepared last year for the Chesapeake Bay Foundation found that grass-feeding created 90 percent less erosion than grain-feeding and that cattle on high-quality grass produce 20 percent less methane than cattle being fed on grain. The report also estimated that only 5 percent of the cattle in Maryland, and less than 1 percent of the cattle in Pennsylvania are being raised exclusively on grass.

Joel Salatin, a nationally recognized Virginia farmer and expert on pasture-based farming, always emphasizes that in addition to

making environmental sense, grass-based farming is financially prudent. "When I hear someone question how we can possibly convert a large percentage of our farm to grass and stay in business,

my response is I don't see how we can afford not to," he writes in *You Can Farm: The Entrepreneur's Guide To Start And Succeed In A Farming Enterprise*. "Grass does not need to be replanted. It can be harvested with animals that are appreciating instead of machinery that depreciates. It need not be stored, handled or packaged. It is not prone to insect or disease damage and therefore is perhaps the lowest risk of all crops."

The Finishing Touch

While grass-finished cattle production offers these advantages, it's worth noting the differences between grass- and grain-finished cattle are not always black and white. Finishing refers to how the cattle is fed during its last few months, a time during which the animal is basically being fattened for slaughter. Some grain-finished cattle are eating far less grain than others. Allowable under organic standards, grain-finishing can also be environmentally friendly in many ways, assuming producers are small-scale, locally oriented, and don't overcrowd their cattle. The producers featured in this article all pledge to avoid synthetic hormones, steroids or routine antibiotics. Nearly all the local farmers we spoke with who use a grain ration either grow their own feed or buy it from

local neighbors, so they know how the feed was produced and keep their transportation and storage costs low. Some deliver the grain to the animals in pastures, while others do use feedlots. And though purists may decry any kind of confinement, even the term “feedlot,” which is associated with the negative images of cramped sickly animals in Confined Animal Feeding Operations (CAFOs), isn’t clear-cut.

In Sharpsburg, Maryland, for example, farmer Brian Poffenberger employs both managed intensive grazing and a feedlot. “It’s a nice feedlot,” says his wife Meredith, chuckling but more seriously highlighting that not all feedlots are created equal. Indeed, leading the way through a couple of his feedlots, Poffenberger accurately notes they could also be described as “a feeding area plus a corral.”



KRISTY BAHRENBURG JANZEN

Though purists may decry any use of feedlots, Brian Poffenberger’s tidy, uncrowded feedlot contrasts sharply with the large, muddy confinement pens typically associated with industrial agriculture.

Poffenberger’s business is actually a two-pronged affair: he raises calves on 100 percent grass for sale to Hedgeapple Farm in Buckeystown, which finishes them on grass too; he also keeps some animals, which he finishes on grain and sells under the name Stonecrest Farms. The Stonecrest Farms cattle typically spend about three months of their two-year lifespans in the feedlot. Otherwise, they’re fully pastured and eating fresh grasses—or, in winter, the high-quality hay Poffenberger harvests around June. “We’re not that feedlot-oriented,” says Poffenberger, who learned to farm from his father Bill, a mentor in the Maryland Grazers’ Network who has won awards for his pasture management. “We’re basically a grass-based system.”

The Poffenbergers strive to be the best stewards of the land they can be. “I have to live here,” Brian adds. “I want a good quality of life, for everyone, including my neighbors ... I want to be

accountable. I want our customers to have a good eating experience. I also want everyone to know we’ve done our best to care for the animals and not degrade the environment,” he adds. “I’m pretty confident knowing I’m not hurting the Bay. The manure here will actually help the soils, because there isn’t too much.”

Similarly, Mike Brannon, director of operations for Roseda Beef in Monkton, Maryland, points out that overcrowding is one of the biggest culprits leading to sick animals and problematic meat. The feedlot itself is not what leads to the well-publicized health problems of industrially produced cattle, he says. “Antibiotic use is due to population density as much as anything,” he says. “We’re careful not to overcrowd.” Roseda finishes its cattle at small feedlots in Maryland, Virginia and Pennsylvania that handle only its animals.

Is It Really the Fat?

Ultimately, many people just want to know how the meat tastes. Hunter Webster, an Angus beef producer in Mercersburg, Pennsylvania, feels grain-feeding from the beginning is critical in producing meat with good flavor, tenderness, and marbling, the standard gauge of meat quality. “Higher marbling means a more even distribution of fat,” Webster says. “If you have a beef without fat, you don’t get flavor and tenderness,” he says. Yet some research shows marbling isn’t the only important factor when it comes to eating beef. Studies on genetic markers cited by Roseda’s Brannon, for example, seem to indicate that tenderness is not necessarily dependent on marbling, although marbling can be a desirable characteristic that helps meat remain moist and flavorful even if overcooked. Another study, funded by the USDA, shows marbling is not necessarily a reliable indicator of the “eating quality” of beef. “The USDA grading system is based largely on marbling,” says Anne Fanatico, agriculture specialist, in a report on beef marketing alternatives published by ATTRA-National Sustainable Agriculture Information Service. “Because of this, beef finished on pasture tends to grade relatively poorly,” Fanatico says. Despite stark differences in grading, taste panels “detected no difference in *eating quality* between the two,” she notes. In fact, eating quality depends on many factors in addition to marbling, the report says.

From Hoof to Plate: At the Abattoire

Slaughter, aging, butchering, storage and preparation are all additional factors affecting flavor, tenderness and overall eating quality. The age of the animal upon slaughter plays a role as well, though it does not necessarily follow that an older animal is tough. Beef cattle typically reach slaughter weight under 30 months, with conventional grain-fed animals often “feeding out” in as little as 18 months. It is also well-documented that stress factors such as rough handling, temperature fluctuations and the mixing of unfamiliar cattle together at the slaughterhouse can adversely affect meat quality. Small regional slaughterhouses that can handle the small volume and special needs of local growers are in short supply, but are critical in making local beef available to restaurants, stores and consumers.

Perhaps the most mysterious stop a piece of meat makes on the journey from hoof to plate is aging. In the old days, the whole carcass would be hung after slaughter in a cooler (or outside

in winter) for several weeks allowing natural enzymatic action to work on the meat, lending flavor and tenderness. Humidity, temperature, lighting and air circulation during this time all play a role in this process of dry-aging. Today, however, in the interest of time and money, most meat isn't hung at all. Instead, in a process called wet-aging, the carcass is cut into its main sections and vacuum-packed in plastic right away—more like wet-packing. According to author Shannon Hayes in *The Grassfed Gourmet Cookbook*, more than 90 percent of the nation's beef supply is wet-aged. But small-scale producers who use small-scale meat processors can usually negotiate to dry-age their meat for two to three weeks.

“Wet-aged beef has a taste that's bitter and metallic, but that's all the American consumer knows,” says Brannon of Roseda Beef. “Wet aging enhances tenderness, but not flavor,” Brannon adds, as he explains that the shrinkage which occurs in dry-aging helps concentrate and intensify the flavor of beef. Because Roseda dry-ages the entire carcass, even its ground “steakburgers” have the distinctive deep dry-aged flavor, a difference Brannon feels sets this signature product apart from other ground beef.

The Terroir of Beef

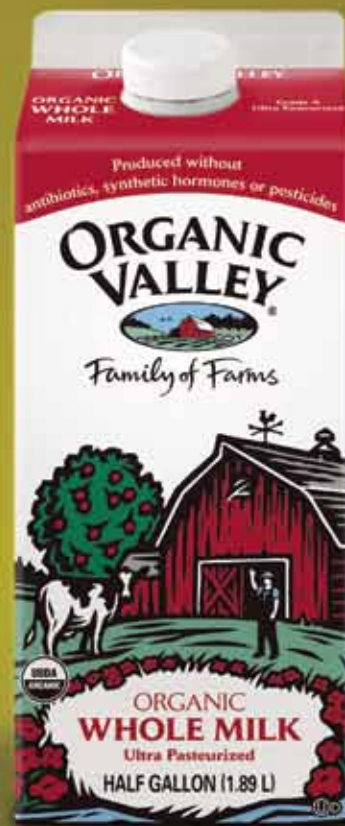
Making judgments about beef is highly subjective. Adding confusion, the English language—or perhaps just popular parlance—seems to lack adequate vocabulary to describe beef, or meat in general. Descriptors like smooth, sweet, pleasant, sour, bland, rich and strong aren't precise enough to capture any nuances. But your palate—and brain—nevertheless identify distinctions. As a scent can conjure up a memory, a flavor can go beyond words. Attorney Elizabeth Griffith grew up north of Baltimore, surrounded by farms and across the street from a slaughterhouse. Now married to this magazine's photo editor, she told us that eating a hamburger from ground beef her husband purchased during a photo shoot at Rumbleway Farms in Conowingo, Maryland, just a few miles from where she grew up, “took me straight back to my childhood.”

It's an amazing realization that beef can be conceptualized like fruit such as apples, with some people preferring Stayman Wine-sap, while others go for Macintosh or Golden Delicious, as Don Schrider, manager of the large livestock unit at Ayrshire Farm in Upperville, Virginia, likes to point out. And no wonder: “There are literally hundreds of compounds in meat that contribute to flavor and aroma,” according to a recent study called “A Fresh Look at Meat Flavor” by animal science professors C.R. Calkins and J.M. Hodgen of the University of Nebraska. “Entire books have been written on individual aspects of meat flavor,” they note. After extensive research and reviews of existing studies and taste tests, their conclusions—that consumer preferences “vary greatly” and that a “wide range of results” have been reported on flavor differences between forage-fed and grain-fed animals—serve to reinforce the results that our less-academic tests reveal.

To properly articulate—and in turn fully appreciate—beef flavor and eating quality, perhaps beef lovers can turn to the wine world for help. Adjectives such as spicy, nutty, full-bodied and fruity with chocolate overtones come to mind. Indeed, like wine, beef expresses *terroir*, the influence of its environment on its

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flavor. “Our farm reflects the uniqueness of the soil, water and our little microclimate,” says Pritchard of Smith Meadows Farm, and that uniqueness translates into the flavor of his farm’s beef.

And the Winner Is . . .

We participated in two taste tests: a comparison of ten heritage beef breeds at Ayrshire Farm; and the first annual 100% Grass-fed Beef Challenge Cook-off, sponsored by the Pennsylvania Association for Sustainable Agriculture (PASA). At both tastings, we and the other tasters were most surprised by the fact that regardless of our personal favorites, the meat samples all had their own distinct characteristics. And, though there were consensus winners, there were also devotees of just about every sample presented.

At Ayrshire, more than 40 tasters sampled simply roasted chuck steak and were asked to cast one vote for their favorite breed. The Randall Lineback, a rare breed brought back from the brink of extinction by Joe Henderson at Chapel Hill Farm, near Berryville, Virginia, was the clear winner, with breeds such as Galloway and Irish Dexter coming in close behind. Even the breeds that failed to gain anyone’s “favorite” status, fell clearly into the camp of “second favorite” for many.

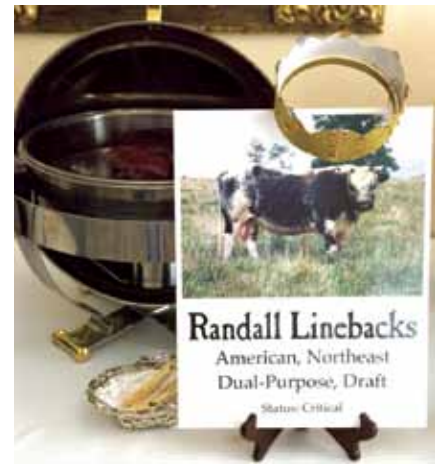
The PASA grass-fed taste-testers did a series of elimination rounds to come up with the winning steak, the entry from Rich DiFebo of Harvest Home Meats in Bangor, Pennsylvania. The 10-member panel was pleasantly surprised by the general quality of the grilled Delmonico steaks—none presented any sharp grassiness or gaminess, all were easily worth paying a premium for on a dinner plate. The judging panel also found interesting variations in the appearance of the raw steaks, concluding that the best-looking raw steaks didn’t necessarily result in the best-tasting cooked steaks, not a very helpful conclusion for a beef shopper.

Or perhaps it is helpful, reminding us that we need to look beyond our marketing-influenced notions of what our meat should be, that we need to learn and think much more about the journey of the animal and the plants that fed it and the people who took care of it before it became a shrink-wrapped or vacuum-packed dinner proposition.

The great news in all of this: there are plenty of local choices. We won’t all agree on which tastes best, but our local food community will likely yield something for every beef eater to love.

Renee Brooks Catacalos is publisher and editor of Edible Chesapeake. She participated in both the Ayrshire Farm and PASA tasting events.

Kristi Bahrenburg Janzen is managing editor of Edible Chesapeake. She participated in the Ayrshire Farm tasting event. Her in-laws own a Kansas farm that produces both 100 percent grass-fed beef pastured on prairie, as well as conventional grain-finished cattle.



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