

The Search for the Cure



The quest for the superlative American ham

No food in colonial Anglo-America declared gustatory adequacy at the world table more forcefully than ham. Travelers to the English territories, such as Rev. Andrew Burnaby, declared American pork superior in flavor to any in the world. With the establishment of the republic, the ingenuity of a population of artisanal food producers fixed upon improving the most estimable of American products, ham. Eminence in the sociable world of the agricultural societies, distinction in the market place, and victory in the food contests at the burgeoning world of fairs stimulated innovation in the curing of hams. Here we will chronicle the articulation of two schools of ham production: the dry-cure sect, who would increasingly view themselves as purists and traditionalists, and the wet curists, who regarded themselves as experimentalists in taste, economy, and scientific agriculture, yet whose pork brined in a barrel was the staple of the common household.

Antiquity conveyed the ur-cure, the primordial method of preserving meat. Salting and drying meat prevented the decomposition of flesh because moisture is a requisite for most bacterial reproduction and salt (sodium chloride) draws moisture from flesh. Unfortunately, sweating meat in rock salt turned muscle tissue gray and tough. It was discovered, however, that certain types of rock salt—salt with impurities—kept meat red and somewhat moist. This impure form of salt—called saltpeter—was sought out and admixed with salt for meat preservation until the Middle Ages when smoking was added to salt and saltpeter

to impart flavor and to counter insect depredations. The method practiced by Europeans at the time of the settlement of Jamestown—common to Westphalian ham and Jamon de Iberica—was the “three s method”: salt, saltpeter, smoke.

Ham modernity dates from the erection of what Wolfgang Shivelbusch has called the first global drug culture—the oceanic trading system that made the exchange of sugar, spice, tea, coffee, and chocolate the engine of the world system. Only after the explosion of the world sugar supply occasioned by the consolidation of the Brazilian cane plantations in the sixteenth century was the commodity cheap enough for trial and error in the kitchen and smokehouse. Indeed, there was decidedly a sugar moment in Western cuisine, when sucrose was added to everything as the pangustatory element. When added as the fourth s to the ancient cure, sugar mellowed the harshness of salted flesh. Sugar-cured hams became the bedrock of American porcine cuisine.



Fig 1. Ham

Ham constitutes the thigh of a back leg of a hog. The thigh has three large cross braided muscles, now designated the inside round, outside round, and sirloin tip. The shank end in traditional hams was cut through at the joint with the skin left on. The butt end was cut in roughly at the hip. Certain of the fat was trimmed. A more modern way of trimming a whole ham leg shortens the shank and trims the skin and fat from that end.



Ossabaw pigs at Caw Caw Creek Farm in South Carolina. Photo by Emile DeFelice.

Ever since Hernando DeSoto brought his thirteen hogs into Florida, swine have flourished in North America. The earliest breeds did not resemble today's industrial pink pig. Indeed, the first settled hogs, the Iberico Black hog, the Old English breed, do not resemble their breed descendents, the Spanish Black and the Hampshire. Of these early types there is only one extraordinarily rare example left in America: the Ossabaw Island pig, a mottled descendent of the pigs that Spaniards loosed on the islands of the Caribbean and along the southeastern coast. One population survived into the twenty-first century on Ossabaw Island off the coast of Georgia. Slow-growing, irritable, and the most efficient fat-producing mammal known to science, the breed has become the fascination of biologists working on obesity studies. Because of its harsh habitat, the wild Ossabaws themselves rarely become bulky. But the fat they do produce marbles the muscle, and since fat is the source of ham flavor, the Ossabaw ham is the most extraordinary delicacy in American porcine cuisine. Emile DeFelice of St. Matthews, South Carolina, periodically produces Ossabaw hams and chops at his Caw Caw Creek Farm. To secure one you will have to vie with two New York chefs who amuse themselves by bidding every pig into a stratospheric region that gives nosebleeds to even the well-heeled pork connoisseur.

In Anglo-America the institutionalization of swine breeding occurred in the early 1830s when a group of Kentucky farmers imported a group of Hampshires from the border of England and Scotland. The rise of industrial-scale butchery in Cincinnati in the late 1820s had prompted a consciousness in market farmers about regularization of their swine herds as a means of competing with industrial pork. Distinguished breeds, they claimed, provided a better quality ham but could not be the product of industrial meatpacking. Shortly thereafter the first Berkshire pigs, with their enormous girth and mellow flesh, were brought into Ohio. In the quest for the ideal ham, the breed of the hog being butchered and prepared was a consequential matter. Sometime in the twentieth century it ceased to be, so now, even among producers of artisanal country hams there is little inclination to search out those heritage breeds that first won

renown for New World hams. And is there anything more ludicrous than the present day barbeque contests in which contestants are prohibited from supplying meat that might be more sapid than those of their fellows? The organizers give everyone the same hybrid pink pig. It's all about the sauce, the rub, the heat—it has nothing to do with meat.

Testimonies about the quality of New World ham date from 1688 when Rev. John Clayton, reporting to the Royal Society his observations on the commodities of Virginia, declared the meat as good as any to be had in Westphalia. This is a far more informative claim than it might appear on the surface, for it reveals much about the mode of preparation. Traditional Westphalian ham is made from hogs fattened with acorns from the oak forests of western Germany and then dry cured and smoked over a cold fire of beechwood and juniper boughs. The original Virginia ham derived its flavor from an acorn mast and dry curing. It was smoked. This is worth noting because during the eighteenth century there would be disagreement about the proper feeding of pigs and a related alteration in the method of curing.

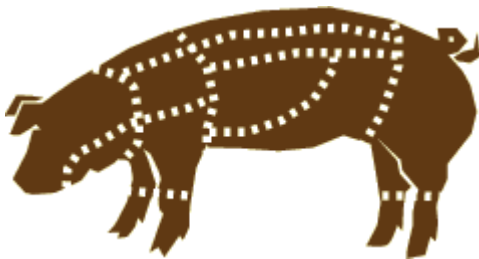


Fig. 3

William Byrd (1674-1744), the Virginia gentleman who championed an ethic of agricultural improvement, criticized the habit among country farmers (typified, for him, by the lazy North Carolinians described in his *Histories of the Dividing Line*) of letting hogs roam free in the forests to graze on roots and acorns. The semi-wild hog developed stringy muscle from its robust wandering life, and the farmer lost the benefit of its manure. Byrd would keep his pigs penned and fed on dung heap scraps. But with this diet, the meat of his animals, while more tender, risked becoming less palatable. What mattered more, taste or economy? In the nineteenth century critics began to opt for taste: "I am satisfied that it is 'not good economy' to endeavor to make manure from hogs by keeping them up in a pen. I am convinced that ten bushels of corn, fed on a clean board, will make as much good solid pork, as fifteen fed on a dung heap—and with this additional recommendation, that the pork is perfectly sweet and entirely free from that nauseous flavor which is so peculiar to pork kept in a filthy state, and having their food administered to them in dung or litter." Feeding hogs on corn was pioneered in Pennsylvania at the end of the eighteenth century. In Virginia, where the taste of the mast-fed pig haunted the gustatory imagination, traditionalists followed the old country practice of letting swine loose in the woods. The practice continued until the early twentieth century when peanut mast was found to instill in pork something like

that piquant yet mellow flavor infused by acorns.

Every method of curing—dry or wet—used salt, and since antiquity the purity of the salt posed a problem. In the early nineteenth century, three sources had begun vying for the dollars of those who aspired to the production of superior hams. Liverpool salt, imported from England, had been a staple of American commerce since the development of the Cheshire rock salt beds in the 1690s and was used largely in the salting of cod from Massachusetts to Newfoundland. Its purity and durable reputation made it the favorite salt of eighteenth-century American ham curers and butter makers. In the South, salt from the Turks and Caicos islands in the Caribbean possessed similar repute. From the late eighteenth century, various domestic salt works began vying for the trade. Two managed to build strong reputations during the 1820s and 1830s. At lake Onondaga, New York, salt works were erected in Liverpool and Syracuse. Their product was derived from the boiling of lake brine into flavorful crystal. On Turkey Island, Florida, a mined salt dome provided southern markets with fine salt through the 1830s and 1840s. But for many country folk, purchase of premium salt often proved too costly. Locally produced salt, however, presented a familiar problem: strange tastes arising from impurities, usually sulphate of magnesia and lime, nitrate of soda and muriate of magnesia. What to do?

Place a peck of salt into a large kettle with just clear rain water enough to dissolve it; boil it and skim off every particle of scum that rises to the surface. Then dissolve one ounce of carbonate of soda in four ounces of water, put it in the kettle and stir it well; then boil again for ten minutes, taking off all the scum that rises; then strain the brine through several folds of flannel. A considerable quantity of earthy matter will be found in the bottom of the kettle, and that is the cause of the impurity. After this straining, a small quantity of muriatic acid must be added to the brine to neutralize the soda; say half an ounce or so; then the brine is to be put back into the kettle and boiled again till it chrystalizes, or it may be put into a shallow wooden vessel and the water evaporated in the sun. Boiling is the quickest method. As soon as the salt is re-chrystalized, it should be washed by putting it in a clean basket, and throwing a bucket of perfectly pure water over it and letting it drain off rapidly; then dry. In this way, salt perfectly pure may be obtained.

Saltpeter, while essential for the preservation of hams, proved equally if not more important as an ingredient of gunpowder. In June 1642 the General Court of Massachusetts ordered every town to erect a shed and “make saltpeter from urine of men, beastes, goates, hennes, hogs and horses dung.” Thomas Paine’s first publication in America was a magazine article instructing persons in the manufacture of saltpeter . . . for ammunition. A translation of Lavoisier’s “L’art de fabriquer le salin et la potasse” was published anonymously (pirated?) for American use sometime at the end of the eighteenth century, and by the end of the Revolution (and the concurrent decline in demand for gunpowder) saltpeter had become a widely traded and readily available domestic commodity.

Putting chilled, freshly butchered hams in salt was the only part of the process that did not suffer alteration in any of the schools of dry-cure preparation. European tradition usually had the slaughter of winter meat occur on St. Martinmass Day, November 11. But because of the importance of cool weather in the curing of hams, it took place substantially later in the American South: December in Virginia; January in the Carolinas. The fresh-butchered meat had to be cooled to about forty degrees Fahrenheit when salting was begun. Traditionalists would follow salting with the other two s's of the "dry cure": saltpeter and smoke. The proportions varied, but J. Q. Hewlitt's formula of one thousand pounds of meat, three pecks of Liverpool salt, and four pounds of saltpeter presented a norm. The hams were packed in tubs or casks. These were often perforated to allow liquid to drip out during the minimum of three weeks sitting. At the end of the salting period, during which fresh salt was often added to the tubs, the ham would be extracted and the salt coating washed off. Hewlitt then smoked the hams in a closed room using green hickory chips. It was important that the smoke be cool, so as not to cook the hams. Temperature in the smokehouse was not to exceed human body temperature. At the end of February the hams would be sewn up in bags for protection.

A modern school of dry curing developed during the colonial era when spices (pepper, sugar, and red pepper most frequently) were scrubbed into the meat after the salting and during the smoking. While sugar boosted flavor, pepper boosted the survivability of the ham. Both red and black pepper deterred the infestation of meat by the dreaded trinity of insects—the cheese skipper, the larder beetle, and the red-legged ham beetle. Of these the skipper (*Piophil casei*), a small two-winged fly with striped abdomen, inspired most anxiety, for its larvae could reduce salted hams to slimy rot in a short time. Because the larvae can withstand human stomach acid, ingestion may further lead to the colonization and injuring of one's intestines. Hence the imperative to balk the fly's depredations on ham was and is great. Both the skin side and the cut side of the ham were liberally doused, but the cut side received the most attention. Smoking alone could not counter the pests.

Smoke was, however, the element of ham flavor considered the sine qua non. Both dry curers and the more ambitious briners smoked their hams. While hickory remained the favored wood of the majority of meat processors, experimentalists employed a range of fruit woods and oak. Only the resinous conifer trees were declared off limits, because of the bitterness their smoke imparted to meat.

Wet curing hams in brines tended to proceed in one of two ways. Either one salted the ham as one would in dry curing and then soured it in pickle with eventual smoking optional. Or one pickled the ham from the get go and then smoked it. Method one was the poor man's path, followed because one could leave the meat in the barrel without worrying about insect infestation for months or until one scraped the bottom of the pork barrel sometime in summer. The October 19, 1803, issue of *The Lancaster Hive* supplies a recipe typical of this approach. "Take about a tea spoonful of powdered salpetre, and rub it well on the skin side of each ham, and let it remain for two or three hours—then take

fine salt, and mix with it as much molasses as will make it the colour of light brown sugar; with this rub the hams well all over, and then pack them up in a tight cask with their skin side downwards, put a weight on the whole, and let them remain for eight or ten days—if the hams exceed twelve or fourteen pounds each, a little more saltpeter may be added—after eight or ten days, take out the hams and drain them, then take the liquor from the cask, and add to it sixteen gallons of cold water, to which add as much salt as will make the pickle bear an egg, one pound of saltpeter and two pounds of brown sugar—boil this liquor, and skim it well when boiling—and when cold, pour it over the hams, and let them remain in it for three or four weeks, according to their size; then smoke them.” The majority of practitioners, even in the colonial era, opted not to smoke, leaving their pork in the barrel.

The second method became the favorite of contest curers, producing hams for state fairs. Wet curing produced a moist ham, suffused to the bone with sweetness. Perhaps the pinnacle of this approach was achieved late in the antebellum period by the Maryland farmwife, Mrs. D. Brown, who won contests throughout the Chesapeake region. She could even best Virginians with her “Maryland Ham—Ne Plus Ultra.”

Maryland Ham—Ne Plus Ultra (1858)

*Take a single pound of Pepper, four times as much of Salt;
Two ounces of good Allspice, and a quart of Barley Malt;
Potash, about two ounces, Salt Petre twice as much;
One pound of good White sugar, which feels sandy to the touch;
A little common Soda, (to make the lean more mellow,)
And prevent the fatty part of meat, from becoming yellow.
Put these in filtered water, (five gallons is enough)
And boil them altogether—what a precious mess of stuff!
Skim off the foreign matter as it is not fit to eat,
When you will have the brine, for one hundred pounds of meat.
You need not stop to cool it, it is all the better hot,
But pour it, sans ceremonie, directly from the pot;
There let the meat for thirty days, lie soaking in this brine,
(but just add a small nutmeg, and a pint of Glycerine.)—
Then take it from the pickling tub, and wash it in cold water.
Next hang it up to smoke ten days, “leastwise” I think you ought to;
Burn Maple, Oak, Corn-Cobs or Tan, most any wood will do;
The old fogy song, 'bout Hickory wood, I don't believe is true;
Don't smoke whilst wind comes from the east, or southeast or the south;
For take my word that meat will taste quite bitter in the mouth;
But choose it north, north west or west, your meat will then smoke right,
And not present, as t'other would, a very ugly plight;
You then will have an article, that will the palate tickle;
I'm sure you will agree with me, that 'tis a pretty pickle.*

*You think the next thing to be told is how to keep it good;
That surely is not difficult, if once 'tis understood—
Sew up in canvas and suspend, but not quite to the skies,
You'll keep it thus secure against, the Rats, Mice, Bugs, and Flies.
Now don't you think this last is plain, as plain as plain need be,
I think it is so very plain, a blind man it would see.*

Early Americans sought for cures and found four: two dry, two wet. The ancient country ham, dry cured with salt, saltpeter, and smoke contested with the modern manifestation in which sugar and pepper were added to the rub. The common wet cure, in which ham was salted then pickled, became the poor-household's staple. A more elaborate method, of brining and smoking, emerged in the contest world. It was this path that would be developed by meat packers into "city ham," the moist-sweet haunch of commerce.

Further Reading:

For commentaries on colonial ham see Andrew Burnaby, *Travels through the Middle Settlements in North America, in the Years 1759 and 1760; with Observations upon the State of the Colonies* (London, 1775) and John Clayton, "Letter to the Royal Society, May 12, 1688," in Peter Force, comp., *Tracts and Other Papers Relating Principally to the Origin, Settlement, and Progress of the Colonies in North America to the Year 1776*, vol. III, no. 12: 36. For the history and uses of sodium nitrite as a meat preservative, see Ronald J. Pegg and Fereidoon Shahidi, *Nitrite Curing of Meat: The N-Nitrosamine Problem and Nitrite Alternatives* (London, 2000). For the global ramifications of the expansion of sugar planting, see Wolfgang Schivelbusch, *Tastes of Paradise: A Social History of Spices, Stimulants and Intoxicants* (New York, 1993). To learn about the Ossabaw pig and its current employments, consult useful Websites at [Oklahoma State University](#) and at [Purdue University](#). If you wish to order an Ossabaw ham, contact Emile DeFelice, [Caw Caw Creek Farms](#). For brining hams and the use of the pork barrel, see Sarah F. McMahon, "'All Things in Their Proper Season': Seasonal Rhythms of Diet in Nineteenth-Century New England," *Agricultural History* 63:2 (Spring 1989).

The quotation in paragraph eight advocating feeding pigs corn to improve the flavor of the meat is from *The Genesee Farmer* 8:51 (December 22, 1838). J. Q. Hewlitt's formula in the tenth paragraph is found in *The American Farmer* 14:7 (January 1859).

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