There is no question that American dairying underwent a great transformation during the mid-nineteenth century. Improvements in animal husbandry; the factory processing of butter, cheese, condensed milk, and ice cream; refrigerated railroad transportation and commodity exchanges to handle dairy products represented an entirely new level of technology. Alvord, Pirtle, Weist, Schlebecker, and Selitzer have discussed these important developments. But in drawing a contrast between what went before and what came after the 1850s, historians have generally characterized the earlier American dairying as thoroughly primitive—scraggly cows, careless

*Preparation of this paper was made possible by a grant from the Smithsonian Institution to research early American dairying.

1. Henry Alvord, “Dairy Development in the United States,” United States Department of Agriculture Yearbook for the Year 1899 (Washington: U.S. Government Printing Office, 1900), pp. 381-402. “Dairying as a specialty did not appear in the United States to any extent until well along in the nineteenth century . . . the methods and utensils were crude. The average quality of the products was inferior;” Thomas R. Pirtle, History of the Dairy Industry (Chicago: Mijpper Bros., 1926), pp. 213-14; Edward Weist, The Butter Industry in the United States (New York: Columbia University Press, 1916), p. 15. “Up to 1850 there was no science in dairying. Everything was done by guess; there was no order, no system, no science in dairy operations;” John T. Schlebecker, A History of American Dairying (Chicago: Rand McNally and Company, 1967), p. 10. “Commercial dairying flowered in the 1800s. Until then it had remained an unimportant industry for several reasons. All dairy products perished rapidly. In order to turn to commercial dairying, the farmer had to have a market near at hand large enough to assure that he could sell all that he produced, and promptly . . . Commercial dairying was something new in America in the nineteenth century, and farmers naturally hesitated about entering it;” Ralph Selitzer, The Dairy Industry in America (New York: Books for Industry, Inc., 1976), p. 41. “No real effort had yet been made to develop the herds to provide consistent milk quality and stable quantities . . . Cows were milked in open yards and sanitary concepts were primitive indeed.”
processing, and small scale, local marketing. This was not entirely true. In the midst of backwardness, a highly sophisticated dairy industry existed as well, from about 1750 to the beginning of the War of 1812. Before the end of the eighteenth century, farmers built irrigated pastures and elaborate dairy houses for herds of over a hundred head of cattle. Dairywomen made cheese as good as any in the world and processed butter that remained edible for up to three years without refrigeration. The colonial dairy trade, along the coast and to the West Indies, expanded after the Revolution. Well before Jefferson became president, Americans exported butter to China—a trade that required two crossings of the Equator. This was no simple business by any means.

The hearths of American dairying were around Philadelphia and in southern New England, mainly between Boston and New Haven. As early as 1685, William Penn wrote that farmers in his colony were trying to “get into Dairies as fast as they can,”—this only three years after the earliest settlement. The Quakers and other religious sects who sought refuge in Pennsylvania came from Britain and northern Europe, where dairying was already commercially important. In their old world communities, Welsh, Irish, English, Rhineland, and Palatinate farmers had developed systems of husbandry suited to their peculiar circumstances. In Pennsylvania, these several traditions mingled, for the first time on a large scale, and vitalized the business of agriculture. English farmways dominated in New England, although the Huguenots brought their dairying practices to Rhode Island. Almanacs—the farmers’ practical handbooks—helped further spread information about dairying throughout the colonies.

During pioneering times, cattle were first a source of power for work, second a source of meat, and third, almost incidentally, a source of milk. The harder a cow worked, the less milk she gave, as high milk production heavily drained the animal’s energy. Gradually, farmers learned that contented cows milked best and began treating them with care.


Dairying, 1750–1812

Almost from the time they arrived in Pennsylvania, German farmers built substantial barns for their livestock, as they had in Europe. The English colonists, on the other hand, were unaccustomed to winters as severe as those in Pennsylvania and New England, and had traditionally let their cattle forage outdoors year-round. Peter Kalm seldom saw any animal shelters in the middle colonies. In 1789, a Philadelphia almanac writer complained that American cows lost one half of their milk for want of stabling, and that calves commonly died of exposure. Apparently, though, barns became more numerous and better built. Samuel Deane, in The New England Farmer (1790), described how to build a tight cow house, safe from “the cold north wind,” with stantions, but he thought farmers needed “but little teaching concerning these apartments as they have been so long acquainted with them.” A Delaware man published a plan for a stable and dairy having one hundred cows in 1793. The building, with two sheds of 125 feet and two dairy houses, had five-foot stalls for each animal and pipes connecting the stalls with the dairy room, through which the milk flowed. A farm offered for sale in 1800 had among its improvements “a dairy, quite new, on a very good plan, laid with marble.” If most dairymen neglected to build proper animal shelters, successful ones did.

Without understanding the science of animal nutrition, farmers knew well enough how cattle responded to different feeds. Native weeds were poor food for cattle, although salt marsh grass served as a fairly good hay. The many small islands on Narragansett Bay had marsh-meadows for grazing that also had natural barriers against wolves and straying. Farmers along the Delaware River built dikes and tide gates during the 1750s to reclaim several thousand acres of salt marsh for pasture. Inland, the Pennsylvania


Germans constructed irrigated meadows and “farms were valued in proportion to the quantity of land capable of irrigation.”

New Englanders ditched and diverted brooks to raise more hay. English grasses—timothy, red clover, and saintfoin—increased in American pasturage from 1750 on. Irrigation and better grasses allowed graziers to fatten western cattle that drovers brought east. But for dairymen, greener pastures meant smaller acreage per cow and/or larger herds. On brush pasture, a milk cow might require ten acres or more for foraging, where one acre of saintfoin was sufficient.

While the average number of cows was small in the colonies (3.7 per Pennsylvania farm in 1765; 2.28 in Connecticut in 1771), there were some surprisingly large herds. Two Rhode Island farms in 1755 had seventy-three and 110 dairy cows, while several Narragansett County farms had twenty-five to fifty head. Johann Schoepf, on his travels through Pennsylvania in 1784, saw a plantation of 300 “black cattle” with a large dairy where “much butter and good cheese are made.” Average farm size in Chester and Lancaster Counties, Pennsylvania ranged from seventy-five to 130 acres in both 1759 and 1782. In modern times, the typical American dairy farm, of 200 acres, has twenty cows, while in Europe both average acreage and average number of animals is smaller.

The critical feeding problem came in winter. A cow ate about forty pounds of hay a day, with a supplement of boiled potatoes,
DAIRYING, 1750–1812

turnips, bran, buckwheat, lentils, carrots, malt dust, or corn crops. Several almanacs offered advice on feeding calves, i.e. ways to get them on vegetable food and off their mother's milk. Poor Richard noted in 1790 that "if you live within thirty miles of a good market, you will find it much cheaper to sell all your calves for veal and keep up your stock of milk cows by purchasing such as are bought from distant parts at a low price." Josiah Twamley, who wrote the first book on dairying published in America (1796), instructed that "great care ought to be taken with respect to the food of animals which furnish . . . so great and necessary a part of our sustenance," an idea that would come to fruition with Morrison’s Feed and Feeding generations later.

Dairy cattle needed protection from disease and pests to milk productively. Common troubles such as "hollow horn," "wolf in the tail," and "loss of cud" came from exposure, but improved with care. To control foot rot, farmers had to keep their animals out of mud and filth. Using antiseptics was not understood, although some farmers probably applied home remedies, that in some cases had alcohol which acted as a disinfectant. The more serious bovine diseases—tuberculosis and brucellosis—infected humans as well as calves through milk. Hump back deformities in people evidenced a case of bovine tuberculosis. A century before Koch and Pasteur, these dreaded diseases raged in Europe and America without control. Farmers’ almanacs carried advice about controlling cattle sickness, but not in any scientific fashion. Then in 1806, the Philadelphia Society for Promoting Agriculture offered a gold medal "for the best essay and plan for promoting veterinary knowledge and instruction." Eventually, the University of Pennsylvania


would open the first veterinary medicine school in the United
States.  

Peter Kalm thought that cows in America degenerated in size
with each generation. Other Europeans probably thought as much
of American people. The opposite was true. Early cattle importations
brought small animals to save space on ships. Farmers knew well
enough how to select the best stock for breeding and did so. George
Logan, in Philadelphia, told Jefferson he fattened his cows to 700
pounds. But probably few mature cows in the eighteenth century,
in either Europe or America, weighed over 400–500 pounds, and
were therefore substantially smaller than the fat beasts Edward
Hicks painted from Pennsylvania farms during the 1840s. 

Farmers knew that the physical size of cows and their milk pro-
ducing capacity went together proportionately. Samuel Deane
described a good New England cow as having “a broad forehead,
a large deep belly, thick thighs, round legs with short joints and a
long body.” He also thought red cows were the best milkers while
black cows bore calves better. Several authorities in the 1790s
advised farmers “to sell all their cows except those that were of a
breed remarkable for giving a great deal of milk,” and to “breed
from those which produce the best and largest quantity of milk.”
Devon cattle, developed in England about 1760, possibly came
to America before the Revolution, and there were importations
of milking Durham-Shorthorns in 1783. But even these pure breed
varieties were dual purpose animals to a large extent. Most colonial
cattle were simply described as brown, red, black, red and white,

15. Cattle medicines: Poor Will’s Almanack . . . 1788 (Philadelphia: Joseph Cruck-
shank, 1787); Smith, Husbandman’s Magazine, pp. 61–63; Spurrier, Practical Farmer,
pp. 297–99; Diseases: Fletcher, Pennsylvania Agriculture, pp. 172–73, 349; Schlebecker,
American Dairying, pp. 32–34; Dairymaids commonly contracted cow-pox, a mild
form of small pox, from touching pox postules on cows. Although dairymaids
broke out in spots similar to small pox, they didn’t die from the infection. Edward
Jenner noticed this in England around 1775, which led to his successful discovery
and use of the small pox vaccination in 1796. Edward Jenner, An Inquiry into the
Causes and Effects of the Variolae Vaccinae . . . Known by the Name of Cow Pox (London:
Sampson and Low, 1798).

16. Kalm, Travels, vol. 2; Betts, Farm Book, p. 73; Weights: B. H. Slicher Van
Bath, The Agrarian History of Western Europe A.D. 500–1850 (London: Edward Arnold,
(ca. 1761), p. 109; Fletcher, Pennsylvania Agriculture, p. 172.


18. Twamley, Dairying Exemplified, p. 56; Encyclopaedia (18 vols., Philadelphia: Thomas
Dobson, 1798), p. 797; Thomas G. Fessenden, The Register of Arts (Philadelphia:
C. and A. Conrad and Co., 1808), p. 50; Poor Richard Improved, 1790.
brown and white, black and white, mottled-faced, brindled, and pied-crossed or criss-crossed breeds. Pure bred single purpose animals came later.—Holsteins not until 1857. However, in 1809, the Pennsylvania Society for Improving the Breed of Cattle became the first livestock improvement association in America. It held annual fairs at Philadelphia until 1814.19

Certainly milking production improved with proper husbandry. Around 1756, a New Jersey farmer noted that cows should give at least two gallons of milk a day or else be changed. A New York farmer in 1790 wrote that eight gallons a day was maximum. A cow could lactate for forty weeks; so, theoretically, milking at two gallons a day, annual production would have been 4,816 pounds. This was only slightly less than the average 5,000 to 6,000 pounds of milk Shorthorns produce in the twentieth century. A well cared for dairy cow earned £5 to £6 for her owner each year, as Charles Reed reckoned in New Jersey in 1757 and Samuel Deane reiterated for New England in 1790. Thus, dairy cattle were often the most profitable farm animals during the late eighteenth century.20

For most farmers in the eighteenth century, even those in southeastern Pennsylvania and southeastern New England, dairying was not a commercial activity. Among farmers who did market some butter, cheese, or milk, most did so only as a sideline. But for some, dairy husbandry involved building irrigated meadows, planting lush grasses, putting up fine barns and stables, paying smart attention to the care and feeding of their animals, and learning more about their complicated business. What was true of most farmers was not necessarily true of farmers who produced the most.

Husbandry was only half of dairying; processing was the other half. Generally, women handled dairy processing on the farm. They were the farmers' wives, daughters, employees, or servants, although Samuel Deane warned that dairying was too "ticklish a business to be trusted to servants." The remarkable thing about dairy processing in the eighteenth century was how dairymaids made wholesome

foods with no knowledge of bacteriology. Milk is the perfect culture for germs.\(^{21}\)

Calf births in March and April brought the traditional “spring flush” of milk, which continued flowing during the hottest months. A good dairymaid could milk six to eight cows an hour, which she did at dawn, dusk, and sometimes during midday. She milked each cow thoroughly. Although the lactometer existed in the eighteenth century, few dairies had such an instrument for measuring butterfat content. But dairymaids knew from experience that the richest milk—the strippings—came last from the udder. They could put the milk with the highest butterfat into one pail.\(^{22}\)

The dairy house or room was as often a part of the farmhouse as it was connected to the cattle stable. New England dairy houses were most often annexed to the dwelling, partly above and partly below ground. The dairywomen dried their cheese in the upper part and set milk and cream in the lower.\(^{23}\) One dairy had among its utensils three wooden pails with iron or brass hoops, several iron pails, a twenty-five gallon cheese tub with cover and stand, three churns (one large plunger churn, a barrel churn, and a small hand churn), two cheese presses, six cheese molds “with 8 to 16 inch diameter round oak boards to fit them,” two large glazed, earthenware pots for three to four gallons of cream, one dozen glazed earthenware pans for cooling milk, two cream skimmers, two skimming dishes, a dozen cheese cloths of two sorts, and four double hanging shelves for utensils and cheese.\(^{24}\) Every authority on dairying advised maids to scald or boil and thoroughly dry all utensils after use. They knew, without understanding why, that dirty tools made milk go sour.\(^{25}\)


24. Verplanck, “Farm Book,” pp. 211–12. Generally, it is unusual to find among a museum’s collection of dairy implements any that are definitively documented to the eighteenth century. Rather, they have an approximate date of “Eighteenth century-early nineteenth century.” Among American museums having collections of dairy implements are Old Sturbridge Village, Colonial Williamsburg, Shelburne Museum, and Sleepy Hollow Restorations.

25. Torquato Tasso, *The Householders Philosophie, Annexed, A Dairie Booke* (Amsterdam:
The first step in making butter was separating the cream from the skim milk. In springhouses, where shallow pans of milk sat in a stream of running water, cream rising took from eight to twenty-four hours. Temperature determined the time required. If too cold, the cream separated quickly but then soured. A moderate temperature of fifty-five to sixty degrees best suited separating. Skimming went on during the time the cream rose, the best butter being made from the freshest cream. There was enough fat in two gallons of milk to make a pound of butter.  

Having enough cream to churn into butter presented a problem. If it took more than one or two days milking to collect enough cream, it had to be stored somewhere, somehow. Deane advised dairymaids not to keep cream in the milk house, because cream soured fresh milk. In some cases, salt would be added to heated cream to restore its freshness. Sal ammoniac and salt petre supposedly preserved the flavor of fresh cream. Another recipe for preserving cream had the dairymaid make a concentrated sugar water solution, mix it ounce for ounce with warm cream, and store it in air-tight containers. Supposedly, the cream remained sweet for several months that way and was suitable for keeping milk or cream at sea.


There was probably a certain touch that made churning more or less successful. Twamley recommended continuous gentle strokes when using a plunger churn. The temperature had to be right, but the dairymaid could adjust the temperature by placing the churn in a tub of hot or cold water. Still, churning could not have been too technically demanding as dogs or goats sometimes powered churns without appreciating the finer points.

The dairymaid scooped butter out of the churn and placed it in a bowl which she had rubbed with salt. Using a paddle, she pressed the remaining buttermilk from the fat. Some maids worked butter with their hands, on which an expert commented in 1803, "the beating up of the butter by the hand is an indelicate and barbarous practice."

Keeping sweet butter fresh required a certain hide-and-seek genius. Pots of butter could be stored in a basket lowered to just above the water level in a well, or covered with wet cloths and hoisted up a chimney. In winter, butter pots could be kept in the middle of the flour bin.

Export butter had to be preserved chemically. A common "mode of preserving butter," had the dairymaid take two parts of the best common salt, one part sugar, and one part salt petre, and blend them completely. Then she mixed one ounce of the preservative with every sixteen ounces of butter. Butter so prepared kept for three years. Before being eaten, heavily salted butter had to be washed with fresh milk and hot water.

28. For a "Profitable Method for Making Butter in Winter," see Carleton's Almanack... 1793 (Boston: Samuel Hall, 1792); Poulson's Town and Country Almanack... 1793 (Philadelphia, 1792); United States Almanac... 1793 (Elizabethtown, New Jersey: Shepard Kollack, 1792); Thomas' Almanack... 1793. Other references to churning: Twamley, Dairying Exemplified, pp. 67-68; Verplanck, "Farm Book," pp. 78-79; Thomas' Almanack... 1803. For a detailed description of a dog churn, see Spurrier, Practical Farmer, pp. 312-14.

29. Thomas' Almanac... 1803, p. 41; Twamley, Dairying Exemplified, p. 67; Woodward, Ploughs, p. 350; New Jersey Almanack... 1790; Encyclopaedia, p. 797; Fessenden, Register of Arts, p. 51.


31. To preserve butter for three years: Humphreys, Gleanings, pp. 48-49; New Jersey and Pennsylvania Almanac... 1797; Columbian Almanack... 1798; South Carolina and Georgia Almanac... 1798; Thomas' Almanack... 1803, p. 42; The Town and Country Almanac... 1804 (Baltimore: John Butler, 1803), p. 28; Baltimore Almanack... 1819 (Baltimore: William Warner, 1818), p. 3. To preserve butter for a few weeks: Poulson's Almanack... 1791; Poor Will's Almanack... 1791; Pennsylvania, Delaware,
William Waring, in the *New Jersey Almanac for 1790*, noted that "large quantities of butter, exported from New England to the East Indies," sold at low prices for the following errors: not working out the buttermilk, putting large quantities of salt between the layers, salting the butter with unsuitable salt, not soaking the kegs with strong brine before the butter was packed, and using "sappy" kegs of unfit wood. He admonished that "it is of the utmost consequence to have our butter superior in quality as it soon will be in quantity, to those in Ireland; otherwise we shall be deprived of foreign markets." A Philadelphia ordinance in 1789 regulated the size and construction of butter casks on the notion that it would "establish the reputation of our butter and raise its value." As a consequence of the way it was preserved and packed, butter was among the least perishable of all food products (only ships bread kept longer) exported from North America. Perishability set the practical limits of trade.

Successful cheesemaking was more complicated than making butter. Cheese processing involved more techniques and there was a greater variation of size, color, texture, and flavor than with butter. Charles Reed, in 1756, thought it was not unusual for a dairymaid to make two tons of cheese in a season. Obviously, cheesemaking was no great mystery.

Dairywomen understood the basic steps in cheesemaking, most of which they learned from their mothers. First, they prepared the rennet. Dried stomach linings from calves retained the enzyme rennin that caused milk curds to coagulate. Dairymaids also used fresh

---


mawskins. Too little rennet had no effect; too much ruined the cheese. Rennet problems were the largest cause of bad cheese. 36

Next, milk had to be heated or cooled to a temperature of about 100 degrees. Otherwise the rennin would not act properly. Twamley advised that a thermometer was a worthwhile investment, although most dairymaids probably relied on a touch of judgement. 36

When the dairymaid added the rennet, she also put salt in for texture; marigold petals, cochineal, annato, or carrot juice for color; and possibly sage, pennyroyal, mint, or saffron for flavor. When the curds had formed, she sliced them with a wooden knife and allowed them to sink below the whey, which she drained off about fifteen minutes later. After another fifteen minute rest, she used her hands or a curd knife to chop the cheese. Wrapping the broken curds in a cheesecloth, the dairymaid put the bags into a mold and then placed the mold on a cheesepress. Cheesepresses were simple lever devices that either had weights or screws to apply the pressure. Pressing caused excess whey to drain off. From time to time, for several days, the dairymaid had to turn the cheese in the press for a uniform effect. 37

Aging cheese took up to two years, during which time insects, rodents, mold, and temperature excesses took their toll. As a protective covering, the dairymaid sometimes coated her cheese with butter to keep the rind from drying out or with tar to keep insects away. Salt petre and pearl ashes supposedly shooed away flies, but probably at some cost of flavor. Export cheese had to be scalded to toughen its rind. Twamley also thought that low-fat cheese kept best on long sea voyages. 38

By varying the processing, American dairymaids made a surprising variety of cheese in the eighteenth century, although almost all were English types. The most popular were Cheshire, Narragansett,

36. Art of Cheesemaking, Taught From Actual Experiments, pp. 3-4; Twamley, Dairying Exemplified, pp. 16-17.
37. For detailed cheesemaking recipes, see: Deane, New England Farmer, pp. 48-49; American Almanac . . . 1792; Verplanck, “Farm Book,” pp. 190-210; Poulson’s Almanack . . . 1793; The Art of Cheesemaking, Taught From Actual Experiments; Humphreys, Gleanings, pp. 68-72; Encyclopaedia, p. 369; Spurrier, Practical Farmer, p. 307; Johnson, The Art of Cheesemaking; Twamley, Dairying Exemplified, pp. 7-8, 26-28, 44; Fessenden, Register of Arts, pp. 53-56. Many eighteenth century cookbooks also carry such recipes.
Gloucester, Double Gloucester, Stilton, Wiltshire, Suffolk, Somersetshire, and Connecticut. They made Cheddar as well, although possibly not by the same “cheddering” process Robert McAdam introduced into the United States in 1867. Recipes for Slipcoat—a soft cheese, Brickbat, and cream cheese were also well known. Pennsylvania farmwomen made a potato cheese that supposedly tasted like German Westphalian cheese. 39

According to Twamley, cheese rounds from large English dairies commonly weighed between eighty to 140 pounds. Americans also could produce cheeses that large. The New Jersey Agriculture Society in 1790 held a contest for the best cheese over three hundred pounds. In 1793, one New Jersey farm produced a monstrous cheese of five hundred pounds. 40 Generally, most cheeses were about five inches thick, a foot in diameter, and weighed between twelve and twenty pounds. One authority on cheese thought that rounds smaller than five pounds lost their natural moisture and that cheeses six inches thick of twenty pounds were consistently the best. 41

Probably there was a considerable range of ‘goodness’ in American cheese, as Twamley pointed out was true of cheese in England. 42 Peter Kalm, who liked practically nothing in America, thought that a Swedish cheese made in Racoon, New Jersey, could rival any English variety. It was unclear what he thought of English cheese. 43 Certainly, cheesemaking improved as almanacs, farm books, and agricultural societies dispersed information about better techniques. The Burlington (New Jersey) Society for the Promotion of Agriculture and Domestic Manufacturers resolved that “every improvement in the quality of our cheese is of the greatest importance to the agricultural interests of this country.” One of the Society’s first projects was a cheesemaking contest. 44 In 1790, Alexander


41. Johnson, Art of Cheesemaking, pp. 7–8; New Jersey and Pennsylvania Almanac . . . 1796.

42. Twamley, Dairying Exemplified, p. 15.


44. Woodward, Development of Agriculture in New Jersey, p. 53.
Hamilton wrote that “our farmers are directing their attention to dairies and we are now furnished with large supplies of excellent American cheese.” Perhaps by Hamilton’s wish to encourage this activity, Congress levied an import duty of four cents per pound on imported cheese. In 1794, the duty was increased to seven cents a pound.

With the making of butter and cheese, farm women matched the sophistication of their men in the dairy industry of the eighteenth century. It was a complicated business involving a greater degree of biological control than any other form of farming. Their success was a remarkable achievement.

There is probably no way of accurately knowing how much of dairy production went into domestic consumption. Milk was not the popular drink in the eighteenth century that it became much later. The Navy, in 1794, figured that twelve ounces of cheese was a suitable amount in a sailor’s weekly ration, but sailors probably got less than the ration allowed and ordinary folk likely ate less than that. Butter was the most important dairy product in the diet. Travelers’ accounts and diaries spoke of meals with meats, vegetables, and breads covered with butter. In 1787, an Annapolis family, “consisting of ten persons, half of whom are servants, keeping two horses and one cow,” estimated requiring 150 pounds of butter a year. That figure compares to the 15.1 pounds Richard Cummings estimated for average annual butter consumption per capita in the United States during the 1850s and the 15.2 pounds Merrill Bennett and Rosamond Pierce calculated for 1879.


growth of such cities as Philadelphia (20,000 people in 1755; 69,000 in 1800), New York (12,000 in 1761; 60,000 in 1800), Baltimore (100 in 1752; 26,000 in 1800) and Charleston (8,000 in 1763; 20,000 in 1800), created the principal commercial markets for milk, butter, and cheese food.50

"Convenience and a ready market is [sic] the life of a settler—not cheap lands," wrote a New Yorker in 1795.51 The building of turnpikes during the 1790's increased the flow of goods and speeded them to market. The Lancaster Turnpike, connecting Lancaster and Philadelphia, opened in 1795. Richard Parkinson, in 1798, told how farmers loaded their wagons with butter, eggs, fruits, and other perishables and made their way to market at 2 A.M., in the cool night air.52 Hucksters sold milk on city streets from carts or from containers they carried yoked around their necks. In the 1770s New York confectioners began to advertise ice cream for sale, as did others elsewhere by 1800. Merchants handled the trade in butter and cheese little differently than they did other food products.

Between 1768 and 1772, more than twice the amount of butter and cheese went into the coastal trade as went to foreign export, 2.2 million pounds compared to one million. Philadelphia, from 1770 to 1772, shipped 62,235 pounds, 38,420 pounds, and 45,610 pounds of butter to North American coastal ports compared to 13,650 pounds, 18,670 pounds, and 15,540 pounds to the West Indies. Philadelphia usually led in the export of butter, while Newport, Rhode Island and New London, Connecticut exported the most cheese consistently. Boston had a substantial trade in both butter and cheese, occasionally leading in cheese exports. The coastal trade to the North of Boston included Halifax and Quebec in Canada, while below Savannah it included St. Augustine and Pensacola in Florida and both Bermuda and the Bahamas. Indeed, Halifax and St. Augustine were the principal coastal markets for butter and cheese during the late colonial period.53


As with all food products, the British North American colonies provided the West Indies with their groceries. Flour, beef, fish, vegetables, and dairy products went to the islands so the planters there would not have to divert any agricultural resources from sugar production. American butter and cheese exports to the British and foreign West Indies were 123,310 pounds in 1770, 236,838 pounds in 1771, and 279,699 pounds in 1772. Small amounts of butter and cheese went to Southern Europe and the Wine Islands and to Africa. A voyage to the tropical West Indies from Philadelphia or Boston might require three or four months one way. That Americans consistently sent dairy products to hot climates evidences the quality of the processing.\(^{54}\)

The Revolution broke the mold of colonial trade. On 2 July 1783, English Orders-in-Council restricted the West Indian carrying trade to British bottoms and excluded barreled meats and fish, butter, and cheese of the United States from entering the British islands. Parliament hoped to encourage the export dairy industry in Ireland by eliminating the Americans. John Adams wrote: “Obstinate attempts to prevent the islands and the Continent, by force, or policy, from deriving from each other those blessings which nature has enabled them to afford, will only put both to thinking of means to come together.”\(^{55}\)

The French, however, opened their West Indian ports for American trade in August 1784. The Dutch on St. Eustatius and the Danes on St. Bartholomew allowed American butter and cheese in on paying a ten percent duty. The Spanish, too, permitted and taxed American provisions in their islands. But even the trade to the English islands continued on the basis of emergency authority the island governors had during times of shortages.

Until 1790, though, the exports of American food products languished. But by then the French Revolution had broken out, which shortly would lead to a quarter century of almost constant warfare in Europe. The Napoleonic Wars once again opened the West Indies to American trade, as the Europeans were entirely unable to provision their island colonies. In the decade of the

\(^{54}\) Ibid.


1790s, United States dairy exports amounted to twenty-eight million pounds. Exports in 1796 alone amounted to 2.5 million pounds of butter and 1.8 million pounds of cheese. Butter and cheese prices had never been so high. Never less than three-fourths of the export dairy trade went to the West Indies. Some butter and cheese went to Florida, the Wine Islands, Africa and Southern Europe—about the same as it had during the colonial period. But in 1790, for the first time, three percent of the butter and cheese exports went to the East Indies. In 1794, China appeared for the first time in the dairy trade and in 1796 China and the East Indies accounted for five percent of American dairy exports, or 130,000 pounds.

In itself, the Far East trade meant commercially little. But to send any butter or cheese at all to the Orient involved a voyage half way around the world, with two crossings of the Equator. The methods of keeping butter and cheese preserved for long periods of time indeed had to work.

In 1801, the export trade of the early American dairy industry reached its zenith. Butter and cheese exports amounted to 4.5 million pounds—a mark that would not be reached again until 1841. Napoleon attempted to starve Britain into defeat with the Continental System, but American food exports poured into England under protection of the Royal Navy. Between 1802 and 1812, American dairy exports totalled nearly twenty-eight million pounds. By comparison, exports in the decade of 1815 to 1825 were seventeen million pounds and in the following decade, 22 million pounds. Certainly Americans responded to the opportunities for business that the European wars created. As Jefferson had glibly commented in 1791, “we have only to pray that their soldiers may eat a great deal.” They did.

The peace that followed 1815 allowed the European powers to reestablish mercantile policies toward their colonial possessions. Once again, American dairy products were shut out. In 1833, the British abolished slavery in their colonies, and the traditionally


important trade of American food products to the West Indies diminished ever after. The decline of dairy exports deprived farmers of market alternatives. For practical purposes, the early American dairying industry thus ended with the War of 1812—as did the pattern of trade, food processing, and farming that had begun sixty years earlier. Where preservation, processing, and foreign trade were the keys to marketing dairy products in the eighteenth century, transportation and urban markets became the keys to dairying from the 1850s onward.

RACIAL PREJUDICE—1819 STYLE

The Legislature, at the last session evinced great sensibility as to the state of public morals by suppressing banks, and by their law providing for the guardianship of drunkards. We shall feel happy, if they would follow up their strokes at next meeting, and take into consideration the evils that are flowing from the state of our society as regards vagrant free negroes. Pittsburgh is becoming a perfect St. Domingo, and the free blacks may be viewed as a privileged order—they enjoy all the rights of freemen, and they are exempt from the burden of militia duty and fines. This is not, however, what we complain of; they have become a perfect nuisance on the face of industry; we have four or five respectable exceptions to be sure, but they only operate to make the case the more striking. Pittsburgh, for many years, has been remarkable for the industry of its inhabitants; notwithstanding this, the labouring class, with all its economy can no more than support their families.—This free gentry, however, who spend three[-]fourths of their time in lounging through our streets, or leaning against corner posts, and who never engage in any regular employment, are always well fed, and very generally tolerably clothed. How is this accomplished? is a question worthy of the notice of our police and of our legislature. We shall be happy for the sake of morality; as well as for the security of property, if the subject could be efficiently brought up.

[Pittsburgh Gazette, 2 July 1819.]

Contributed by Robert M. Blackson, The Pennsylvania State University, Altoona Campus.