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3. COMPETITIVENESS AND THE "COURAGEOUS CAPITALIST"

There are plenty of people now living in Brooklyn who remember all this part of the city, as it was laid out in farms, orchards, gardens, &c. It used to help supply the New York market with garden vegetables, just as Flatbush and other outer towns do now.

--- Walt Whitman, "Brooklyniana," 1862

Producing large quantities of vegetables efficiently did not guarantee their sale at profitable prices. Finding solvent consumers and establishing physically accessible markets for their cabbages and potatoes in the face of cheap southern competition were also indispensable tasks confronting Kings County farmers.

MARKETING VEGETABLES

For the past two or three weeks our village streets have nightly resounded with the noise of farm-wagons loaded to the brim with potatoes on their way to market, while the morning hours have been made resonant with the merry rattle of their return, bespeaking ready sale and good prices.

- "Potatoes," Kings County Rural Gazette, July 27, 1872

In addition to the compelling economic consideration of the mass availability of cheap manure in the city, which von Thünen had emphasized, many farmers preferred farming higher-priced land near the city to cheaper land farther away because they were optimally located with regard to the market for vegetables that the explosively growing urban population cre-



ated. For this reason, some Long Island and New Jersey market gardeners were willing to pay "large sums" to rent farmland near farmers' markets in Manhattan or Brooklyn. In the 1880s, three thousand to four thousand farmers' wagons entered Manhattan daily to sell market garden produce.¹

Brooklyn lacked a public market for vegetables before 1826; prior to that time, farmers with "their immense carts" gathered on a commons. By the mid-1850s, 50 wagon loads of vegetables were delivered daily to the James Street Market during the season. The lack of an efficient infrastructure for vegetable marketing in Brooklyn had become so palpable to farmers by the early 1870s that the *Rural Gazette* used it as an argument for rejecting annexation: "We send you the great bulk of your produce, and yet you won't provide a suitable place for selling it; so we are often forced to cart it to New York and let your grocers cart it back again." Worse yet, Brooklyn authorities arrested farmers for selling without a license (which cost \$3.00 for a team of horses and \$1.00 for a single horse) or even traveling through the city to New York without a tag (costing 30 cents).²

Kings County farmers took their produce to Washington Market and West Washington Market in Manhattan for much of the nineteenth century. During the 1858 season, "when garden produce is sold by every man who raises it for the city, there are no less than sixteen hundred to two thousand wagons which pay daily for the privilege of selling their vegetables." Despite the large supplies of vegetables, complaints were voiced as early as the 1860s that, through the indifference or corruption of city officials, middlemen in New York were able to extract "enormous profits" from consumers. The city's industrial classes thus carried an almost intolerable burden in the form of prices 45 percent higher than in Philadelphia.³

Stiles described vegetable marketing in Manhattan at the end of the 1870s: "Nearly all the produce raised within twenty-five miles of New York is carted in with teams by the proprietors, in the night. The largest part is sold at wholesale to dealers or middle-men, between midnight and daylight, chiefly in the vicinity of Washington market, which until recently was the center of the retail as well as the wholesale trade." Those who failed to sell their produce wholesale stayed until morning to sell at retail. As a result of the "great throng of market wagons, which for years had greatly impeded business in the lower part of the city," another market was established near West 12th Street and 10th Avenue.⁴

Reacting to complaints from residents of congestion on the Lower West Side, the Board of Aldermen adopted a resolution on August 6, 1878, designating a part of the former Fort Gansevoort, situated farther uptown, as a



market stand for farm wagons. The chief of police and superintendent of markets addressed the problem at Washington Market by extending the hours during which farm wagons were permitted to stand in the streets from 7 P.M. to 10 A.M. Queens County farmers were satisfied with this new arrangement, but their counterparts from Kings County, "who are in the habit of wholesaling their loads in the afternoon, found their business materially interfered with." When Kings County farmers sought the aid of their Queens competitors, the latter were tempted to refuse on the grounds that two years earlier the former had failed to assist in improving conditions at the market. But when Queens farmers realized that the streets would be even more crowded in the mornings if Kings County farmers were forced to stop wholesaling in the afternoon, they reached an agreement with the superintendent of markets that farmers would be privileged to wholesale in the wide parts of certain streets from 1 P.M. to 5 P.M. Soon thereafter, however, the Common Council of New York prohibited the farmers from selling their goods in the streets near Washington Market, requiring them instead to move uptown to Gansevoort Market.5

During their waning days at West Washington Market in 1879, farmers saw their conditions deteriorate because, in the words of the market's semi-official organ, the *Market Index and Journal*, "they have no recognized rights in the way of disposing of their produce. They are compelled to stand along the curbstones whenever they get a chance, all night long, and, if the market is poor, nearly the whole forenoon of the next day, and either dispose of their produce at a sacrifice, or else carry it back home with them. Grocers and hucksters are their only salvation." 6

When Gansevoort Market opened, during a snowstorm, on December 22, 1879, farmers, who had to pay the same 25 cents daily fee that they had previously paid for the privilege of standing in certain streets with their wagons, immediately complained that it provided space for only 300 wagons, whereas more than 2,000 farmers daily brought produce to New York. By January, a representative of the Kings County farmers said that the prospect of the new market had so discouraged them that they were "really hesitating whether or not to plant their fields." The *Market Index and Journal* predicted that as a consequence Kings County farmers would sell their produce to grocers in Brooklyn. This possibility prompted the *Rural Gazette* to propose making a virtue of a necessity: if farmers just withheld their produce from New York markets, Gotham would let loose such an "unearthly howl" that buyers would be forced to accept higher prices. Queens and Kings County farmers' reactions to the forced move differed sharply. Whereas



Gansevoort required Kings County farmers, who landed at Manhattan on the lower ferries, to drive their wagons an additional four miles, the ferries from Queens, which docked farther uptown and thus had been inconvenient in relation to Washington Market, were closer to Gansevoort. Moreover, "coming so far as some of them do, they would lief as stay and sell to grocers, and not as our farmers, deliver two and three loads a day to shippers."

One of the chief irrationalities of the distribution system as practiced at Washington Market continued to mar the operation of Gansevoort as well: with many more farmers than places to stand, those who arrived first each day could choose their stand, whereas others might find no stand at all. The farmers' grievance was also visited upon New York consumers: since farmers were obliged to drive to New York hours ahead of time merely to secure a place to stand, they were unable to offer vegetables as fresh as would otherwise have been possible.8

By January 1880, Kings County farmers began organizing in opposition to the forced move to Gansevoort. One hundred farmers enthusiastically convened in the New Utrecht town hall. The meeting was chaired by the well-known New Utrecht farmer and politician Adolph Gubner. Some complained that if Washington Market and West Washington Market were scarcely able to accommodate the 1,800 to 2,500 wagons that congregated there, the much smaller Gansevoort would be disastrous. One farmer charged that the more remote market would force farmers to "keep more horses, more help, and receive less" for their produce. Since shippers were located downtown, if farmers took in a load at midday, they would have to drive three miles uptown, wait until they sold it, and then drive three miles back downtown. Following such presentations, the assembled farmers voted to form the Farmers and Market Gardeners' Association of the Town of New Utrecht, and to confer with their counterparts in the four other rural towns to form similar organizations.

That goal was exceeded a week later when, spurred on by the Rural Gazette, more than one hundred fifty farmers, representing all the towns, met to create the Kings County Farmers and Market Gardeners' Association — which outlived this immediate crisis — dedicated to protecting its members' rights and interests in the sale of market produce in New York City. A committee, consisting of one farmer from each of the five towns, was formed to meet with a committee of merchants, lessees, and owners to plan the opposition to Gansevoort. Wholesale grocers in the Washington Market area were also injured by the farmers' expulsion because farmers were



wont to spend much of the money that they realized at the market on provisions that they bought from the grocers. To be sure, Kings County farmers insisted that, although they much preferred returning to Washington Market, it, too, needed to be expanded to accommodate them: "they would not consent to be driven from street to street, as they had been in the past." In addition, as they emphasized at yet another countywide meeting, they objected to being forced to leave the streets around Washington Market at 6 or 7 A.M., and desired to be permitted to remain until 9 A.M.¹⁰

The City of New York ended the farmers' uncertainty on February 12, when its comptroller issued an opinion upholding the decision to exclude farmers from Washington Market. He focused on the inevitability of disruptive change in an explosively growing metropolis beset with congestion: "With the immense increase in population of the city and the necessity for greater supplies of vegetables and farm products the number of farmers' and gardeners' market wagons have also multiplied disproportionately, until from a few score of wagons occupying stands in the streets twenty five or thirty years ago, there are now frequently more than one thousand in a day ... encumbering the main thoroughfares and side streets through the night and early in the morning." The shift to Gansevoort afforded farmers the advantage of concentrating the trade in one place: they could sell their produce promptly "without being obliged to close out at a sacrifice to middlemen and peddlers, as they were often obliged to do when required to leave their stands in the streets at fixed hours." The longer distance that Kings County farmers had to travel was more than compensated for by the ability "to get an eligible stand without the necessity of coming to the city in the afternoon or early in the evening before market days, as formerly, to get a good stand in the streets."11

Despite the enactment, three months later, by the state legislature of an act establishing the lands around Gansevoort as a public market place for farmers' wagons and authorizing New York City to buy whatever portions of the described land that were not already city property, Kings County farmers, who supported the bill, remained discontented. Gansevoort's failure to provide them with adequate space or a "paying location" prompted them to try to return to their old location. Farmers who continued selling downtown ran the risk of being fined \$25 for letting their wagons stand in the street while they sought out customers. They were permitted, however, if they had sold their produce before they came to New York, to deliver it and drive away, but it was unlawful to sell from the wagon. But since farmers were increasingly marketing mixed loads, which required them to find



a customer for each kind of produce, risk-free sales in Manhattan were becoming less likely. Consequently, many farmers began selling in Brooklyn. By late 1882, 300 farm wagons lined Fulton Street.¹²

Indeed, immediately after the comptroller had published his decision, agitation began for the creation of a vegetable market in Brooklyn. By 1883, farmers delivered more than one hundred loads at the new Fulton Street market. Midday loads to New York were also common. Public discussion of the need for a new public market in Brooklyn in 1883–84 was based on the large and potentially even larger output of Kings County farms, which produced about as big a harvest of peas and beans as Queens and Suffolk county farms combined in addition to a somewhat smaller volume of potatoes. More significant, however, was the contemporary claim that the gross farm sales of Kings County (\$1,000,000), Queens (\$3,125,000), and Suffolk (\$1,600,000) could be increased sixfold. Such contemporary impressions strongly contradict an inevitabilist conception of the demise of urban agriculture, in spite of the *Rural Gazette*'s conviction that the county towns were "all destined to become one grand metropolitan commonwealth — one immense Brooklyn." ¹³

Because the farmers were soon also prohibited from standing on Fulton Street near the ferry, their representatives urged the authorities in Brooklyn to provide them with appropriate market facilities. In the interim between the breakup of Washington Market in Manhattan and the opening in 1884 of Wallabout Market in Brooklyn, farmers complained that they, "like wandering Jews . . . had to drive all around a great city to sell a load of produce." Fulton Street in Brooklyn soon "was lined with farmers' wagons laden with products fresh from the gardens and farms of the suburbs." ¹⁴

Progress toward opening a market gained momentum in 1883 when the public learned of the irrationality of a system that required Kings County farmers to sell their produce in Manhattan, where Brooklyn grocers then bought it to cart it back for sale in Brooklyn. The unnecessarily increased price and the loss of freshness — as one farmer explained to a large audience: "You eat on Sunday what was gathered three days before" — galvanized action to establish a large permanent market at Wallabout.¹⁵

To alleviate the impediments to other traffic, the Brooklyn Works Commissioner issued an order on September 20, 1884, requiring the farmers to stand on another street adjoining the wastelands of the U.S. Navy Yard. After that date farmers had to go to Wallabout to sell their produce because wagons were not permitted to stand elsewhere. This removal was linked to a promise by the city of Brooklyn to find a permanent location for a produce



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market. By October 13, the U.S. Navy leased over 400,000 square feet to the city, which then drained the land, built streets, sewers, and water mains, and installed gas and electric light for a 104,000 square foot market large enough for 400 farmers' wagons. ¹⁶

To eliminate the uncertainties arising from an at-will lease, the city of Brooklyn persuaded the federal government in 1890 to sell 18 acres, to which it received title in 1891 for \$700,000. The federal government sold the city an additional 27 acres in 1894 for \$1,200,000, which was raised through special market bonds that New York and Brooklyn bankers and trust companies readily took at premiums ranging between 4 and 8 percent. These extensive measures and the enactment in 1894 by the state legislature of a statute regulating the administration of Wallabout market suggest that even as late as the mid-1890s, local, state, and national political authorities and financial circles were convinced that Long Island vegetable farming could look forward to a profitable future.¹⁷

Wallabout became the world's largest market, a middle-of-the-night wholesale market designed to eliminate the nuisances that plagued residents when farmers and their wagons — the latest models of which were deep enough to hide a standing man — and horses gathered on and near Fulton Street. By the early 1890s Wallabout Market, where market days were Tuesdays and Saturdays from April to November and Fridays the remainder of the year, was described as bustling with activity: hundreds of farmers, who began arriving at four o'clock in the afternoon from as far as twenty to thirty miles away, crowded the square with their produce-laden wagons. At the peak, one Saturday in the summer of 1896, 546 wagons of market gardeners' vegetables were sold at Wallabout. As late as 1903, the vitality of farming throughout the western third of Long Island was sufficient to prompt the U.S. Bureau of Soils to observe that "nearly every level acre not occupied for building purposes, or held in large country estates, is under intensive cultivation to market gardening and truck crops." 18

At the turn of the century, market gardeners on the western end of Long Island were still using 1,800-pound horse-drawn wagons, costing \$350, that hauled three tons of produce. Leaving their farms in the evening or night, they drove twenty or thirty miles on macadam roads to arrive at 2 A.M. at the New York City market, which opened at daybreak. In 1915, when intensive market gardening was still being practiced on the western end of Long Island on land worth \$7,500 or more an acre, farmers personally took their market wagons to New York City markets, returning home as quickly as possible to do a day's work.¹⁹





FIGURE 6. Marketman John Torborg ready to drive a market wagon loaded with celery to Wallabout market from the Rapalje-Hitchings farm, New Lots, c. 1900. Courtesy of Peter Rapelje.

The importance that Dutch farmers attached to marketing can be gleaned from the actions of a market gardener who had the opportunity to shape one of the very few governmental interventions into agriculture. Teunis Garrett Bergen (1806–1881) was the scion of one of Kings County's oldest Dutch farm families. Although a surveyor, for decades he farmed in

New Utrecht. Bergen was elected to the 39th Congress as the representative from the Second Congressional District in New York from 1865 to 1867; his major legislative contributions to a Congress of monumental importance in reconfiguring post-Civil War relations between North and South and the future of the freed slaves focused on matters of pecuniary significance to himself and his fellow market gardeners. He proposed an amendment to the Civil War internal revenue law that farmers and gardeners who "travel through the cities and sell the produce of their farms and gardens" be exempt from a \$10 peddler license. Despite Representative (and future President) Garfield's objection that if "a man goes peddling his own produce he ought to be considered a peddler and to pay a tax," the amendment was adopted. During House debate on a proposal to exempt from federal tax farmers' wagons costing up to \$200, Bergen declared that farmers around New York used wagons for carting produce to market that cost \$300 to \$400: "I know this by experience." The House promptly agreed to his amendment to raise the ceiling.20

A striking description of the system of vegetable marketing at the very peak of Kings County's production has been preserved in the litigation between John Turner, an Irish farmworker and marketman, and his Dutch farm employer, William W. Kouwenhoven, of Flatlands, in the early 1880s. July through November were this typical vegetable farm's busiest months, during which loads were marketed daily; until October the marketman took three to five loads a day. Vegetables were marketed at least as late as Christmas. That Turner sold barrels of Kouwenhoven's lettuce as late as December 23, 1881, suggests either that the growing season extended into the winter or that the farmer held back produce to obtain premium prices in the winter. Alternatively, since Kouwenhoven owned a hothouse, he, like many northern metropolitan farmers, was equipped to produce beyond the natural growing season (although some of the lettuce was sold at a reduced price because it was "touched by frost"). Sending an average of four loads per day of potatoes and cabbages to market was common for market gardeners during the harvest season.21

From the \$30 to \$35 for which the farmer on average sold his load had to be deducted the direct marketing expenses. One reckoning for Kings County in 1872 stated that a farmer had to pay his marketman \$3.00, the carrier \$1.25 for the stand fee, 20 cents for the watchman, 50 cents for the ferry, and 12 cents for toll gates, for a total of \$5.07. At times farmers could realize much higher amounts per load: W. H. Algeo, the long-term tenant on



John A. Lott's Flatbush farm, received upwards of \$500 for four loads of potatoes that he sold on one day in Manhattan in July 1873. William Bennett of Gravesend, who regularly marketed more than \$100 of produce daily, sold potatoes, tomatoes, sweet corn, and pears for \$713.96 on August 19, 1893. And on one day in 1882 a New Utrecht farmer took \$926 worth of peas off his farm.²²

Kouwenhoven sold part of his produce directly to grocery stores in Brooklyn: Saturday "was market day, when we sent loads to New York; Fridays we sent goods to Brooklyn. . . . When we go to New York we go in the night, and when we go to Brooklyn it is in the day time. We sell a great deal of stuff in Brooklyn. The principal portion is sold in Kings County. In the market season some market in the night and some in the day time. I market both night and day." Selling was in part a chaotic, random, and desperate process driven by the need to dispose of all the produce that had been loaded at the farm onto the wagon at the best prices the marketman could get: "The sales are made almost entirely in open market for cash (hence no accounts kept and no book charges), and are made generally to strangers . . . , of whose very names the marketman is ignorant . . . , in quantities to suit the purchaser and at prices varying greatly even for the same goods and on the very same day." If the marketman could not sell it as a whole load, he generally had to take any price he could get. Consequently, he "might get so much for a barrel of sprouts of one man and at a later portion of the day would take considerably less from another." 23

The travails of nocturnal marketing were manifold: "All the summer evening long... you may meet on the streets of lower New York the great wagons of the Long-Island farmers from Flatbush, Flatlands, Gravesend, and New Utrecht, trundling their slow way from the ferries to Washington Market.... Arrived there, and their place secured in the line, the drivers sleep for a few hours, in their wagons or in the neighboring taverns, until their wares are disposed of, and then make their way home, still in the gray of the morning." A Flatlander, mocking the supposed advantages of annexation to Brooklyn, urged his fellow townspeople in 1873 to "think of the gas lamps, which light you on your midnight tours to the market, and enable you to furnish a fresh supply of vegetables every morning to her [Brooklyn's] generous residents." To exacerbate matters, farmers were sometimes robbed on the way back from the market. Marketing, especially in the years before the opening of the Brooklyn Bridge, was also very time-consuming for the marketmen, who complained of being stopped by people "just for fun" at



2 A.M. as they congregated in a "big drove" of wagons in Manhattan all night until the grocers came.²⁴

The obvious inefficiencies of this marketing mechanism suggest one weakness in the competitive position of Kings County producers that collective action might have remedied. Although farmers themselves despaired of effecting improvements in marketing conditions, their resistance to eviction from Washington Market, which ultimately led to the opening of Wallabout Market, demonstrated their capacity for self-organization. That Kings County farmers as late as the 1880s actively and collectively pursued new markets also emerges from a meeting that a group of New Utrecht farmers, including representatives of such old-line families as Cowenhoven, Van Pelt, and Bennett, attended in 1885. They met with the management of the Staten Island Rapid Transit Company, which operated the Bay Ridge Ferry and the Sea Beach Railroad, to "discuss the advisability of increasing the facilities of the Bay Ridge Ferry, so as to accommodate the truck farmers by opening a new wagon road to the ferry, building a new slip at Bay Ridge, and putting on boats which can be used for transporting teams." The transportation managers were pleased to hear the farmers report that at least three thousand teams carrying market garden produce would use the ferry during the season. Although the outcome of these plans is unknown, the fact that farmers at this late date sought new outlets for their produce outside of Brooklyn and New York suggests that they were dissatisfied with transportation to or conditions at Wallabout or that they perceived competition there as increasingly unfavorable. Alternatively, Kings County farmers may have been producing more and desirous of selling to a potential market of people whose per capita consumption of vegetables had been below average.25

As disruptive as the nightly trips to the urban markets may have been for the farmers and their marketmen, many residents were more concerned about disruptions to their own lives. For years the *Rural Gazette* functioned as a forum for such complaints. In 1873 it published a letter in which "We the people affected and annoyed humbly beg... the farmers from Flatbush, Flatlands and New Utrecht" to use the wooden pavement after 7 P.M. "as they wend their weary way to the ferries... to... dispose of their produce." Many farmers preferred to travel with their wagons over the horse-drawn rail tracks, but set their wheels too wide to fit them, the consequence being "a constant grating, screeching, howling noise, at all times of the night." Three years later, the newspaper editorialized on the subject. Sympathizing



with the Brooklyn residents, the *Rural Gazette* suspected that the real culprits were newly employed drivers "stupidly ignorant of the annoyance." The editorial at last elicited responses from farmers, who conceded the justice of the complaints, but could see no remedy because riding on the wooden Nicholson pavement "would send a three-deck load of potatoes or vegetables all over the street," while horses would be severely injured attempting to take a heavy load down on the smooth scrimshaw pavement.²⁶

Such clashes between agrarian and urban ways of life would have become an increasingly contentious issue, which would have tested the social viability of urban farming. The advent of the steam railroad and electric trolley and their adoption for transporting farm produce would have been a relatively uncomplicated solution. In light of the unprecedented number and kinds of horrible injuries and deaths that railroads inflicted in Kings County as elsewhere, however, they would not have eliminated the injuries and deaths that farmers caused by driving over pedestrians with farm wagons on the way to and from markets in Brooklyn and New York.²⁷

The transformation of agriculture in the East in adjustment to western competition prompted similar conversions to market gardening and truck farming along the East Coast from Boston to Baltimore to meet rising demand from the burgeoning middle class in the cities for such semiluxuries as vegetables and fruits. Indeed, by the end of the century, the taste and solvent demand for these products had reached into working-class families: a survey of New York City from the mid-1890s revealed that they were eating fewer potatoes and more onions, beets, peas, beans, tomatoes, strawberries. A distinct source of demand for specialty vegetables was the new European immigrants, who brought their culinary tastes with them. Kohlrabi, for example, was "highly appreciated in New York, especially amongst the Germans." Adequate data on urban vegetable consumption did not become available until after World War I, but even New York's poor possessed enough solvent demand for fresh vegetables to assure Kings County's farmers a market that they could not glut.²⁸

The New York Times provided an amusing description of the extent to which consumption of fresh vegetables and fruits had become customary even among the poor in New York City by 1884. Located in Lower Manhattan, Union (or Houston) Market was open Saturday nights in the spring, summer, and autumn; there largely non-English-speaking "foreigners" bought cabbages for 3 to 5 cents, onions for 4 cents a quart, potatoes for 15 cents a peck. There might be little satisfaction "in buying the freshest and



greenest vegetables from a . . . dirty-fingered peddler who probably never saw a fifty-acre farm in his life, and ten chances to one couldn't tell if he were asked whether asparagus grows in the sod or on bushes," but it was "the great green grocers' shop of economical buyers. Poor people get more for their money there than anywhere else in town." ²⁹

New York's marketing system was not optimally arranged to ensure vegetable prices that workers could afford. In 1882, according to the New York Times, after commission merchants, wholesale dealers, and green grocers had added their profits, consumers paid prices at least 50 percent higher than the wholesale price. The central problem was that whereas other cities provided markets where "truckers can take the products of their farms and sell them directly to the consumers," New York not only lacked such accommodations, but "compels those growers who do come here to carry their produce to some out-of-the-way place like the farmers' market at Gansevoort-street or sell it at wholesale to some dealer." Intermediaries whose livelihoods depended on this system sought to justify it on the grounds that direct marketing to consumers was good in theory, but impracticable because farmers lacked the time to peddle their crops. Some busy farmers — such as John L. Ryder of Flatlands, a longtime town supervisor, who could be seen driving his wagonload of vegetables to New York at three o'clock in the morning and at every supervisors board meeting drove their own wagons, but their employment of marketmen was not necessarily an irrational division of labor.³⁰

Those involved in the vegetable trade were acutely aware that the future lay with supplying a mass market at prices low enough for the expanding urban proletariat to afford. In 1881, the New York Market Index-Journal reported on intimations in the press that William Vanderbilt, the railroad magnate (who until the age of 45 had been relegated to a farm on Staten Island, for which he hauled manure from his father's stables in Manhattan), had devised a plan to establish a vegetable market at 34th Street in Manhattan to be supplied by a vegetable train that would run along the Hudson River. There thousands of farmers, unable to compete with western grain farmers, would be encouraged to convert to vegetable farms, the products of which Vanderbilt's train would get to New York as early as those of Long Island, as a vegetable garden, is no longer capable of providing for the three million of people now drawing on it and the suburban New Jersey farmers for fresh vegetables." Although the Market Index-Journal was not prepared



to accept that view, it recognized that "with a population ever increasing... the question of cheap vegetables must in the near future present itself, unless larger supplies are forthcoming." ³¹

SOUTHERN COMPETITION

Up to about 1890 the great cities drew most of their fruits and vegetables from relatively high priced land . . . near the centers of population and industry. . . . Outside competition with the local product was almost unknown. Every producing area had its one, natural, nearby market and usually only one. The ice plant and refrigerator cars changed all this with tremendous rapidity.

- Wells Sherman, Merchandising Fruits and Vegetables, 1930

The greatest competitive threat to the viability of Kings County vegetable production, however, arose not among Vanderbilt's would-be customers in the Hudson Valley, but from the rise of low-cost truck farming in the post-Reconstruction South. As new transportation and refrigeration technologies made it possible for southern farmers to sell their vegetables in northern markets, a new set of cost pressures restricted the profitability of suburban New York agriculture. Even these intra-industry forces, however, did not suffice to drive Kings County farmers out of business. Southern vegetables "caused no little alarm among gardeners who depend upon New York and Philadelphia for their markets," but the force of this threat was much weakened by the fact that their "crops are, as a rule, about ended when ours commence," while northern consumers "are willing to pay a price for the fresh... products of home growth." 32

Dr. Armenius Oemler, "the largest slave-owner previous to the war engaged in the business in the neighborhood of Savannah" and author of a book on southern truck farming that went through several editions, shed light on this interregional competition in his somewhat tendentious 1885 insider account. Thirty years earlier, Long Island and New Jersey market gardening had been "very profitable," often conferring "competency and wealth, notwithstanding the farm land was sometimes worth from \$200 to \$1,000 per acre." When the advent of fast and frequent steam transportation "revolutionized" the situation, "the higher prices of early produce accrue to gardeners of southern latitudes at a distance of hundreds of miles, who cultivate land averaging not more than one-fifth the value, and, in consequence of the warmer climate, at less expense. In fact, market gardening



has recently become comparatively so unremunerative that many of those formerly pursuing that branch of husbandry have turned their attention to dairy farming." Norfolk became the first major point of production for supplying Eastern markets, but "within the last few years competition from more southern localities... subjected Norfolk... to similar experience." 33

Several empirical defects mar Oemler's account. First, the thirty-year period during which market gardening had allegedly already been in decline saw its aggregate value in Kings and Queens counties increase 5.5-fold. Second, from 1850 to 1900, not only did the value of Norfolk County's market gardening also rise fivefold, but no other southern county was among the 25 top producing counties. As late as 1901, a treatise on vegetable growing in the South observed that truck farming there had "not yet become near so extensive as it is conducted in most of the Northern States." Norfolk's position as the national leader in per acre use of fertilizer in 1900 must be seen in connection with the fact that much of the southern soil "was long ago exhausted, or never had any great depth." ³⁴

Third, the reference to cheap southern land as an explanation of the rise to prominence of its truck farming made little sense with respect to at least one group. Dutch farmers in Kings County whose families had owned their land for a century or two presumably made no provision for the "cost" of their land in calculating prices for their vegetables since no one had paid anything for it for generations. Indeed, even at one-fifth the value, the relevant cost of southern farmland, if recently acquired, may have been higher than among Dutch farmers. To be sure, by the 1880s, relatively few old-line Dutch farmers were still personally farming, but even for recent farm buyers or tenants rent may not have played an important part; in contrast to general farming, where rent or interest on land purchase money amounted to almost half the cost of operating, in market gardening it was "usually only about 10 per cent. of the working expenses, so that an apparently cheap rent, or cheap purchase, does not very materially affect the result." In addition, practical horticulturists advised that it was "always better" to pay higher rent or interest in order to be closer to the market and to avoid the extra expenses of teaming and obtaining manure and labor farther out.35

Finally, the swift southern advance was contradicted by Oemler's own report on "the many difficulties of transportation," which included discriminatory freight rates. By the turn of the century, the USDA recognized not only that southern advantages had been offset to some extent by higher transport costs, but that "the far South can not compete with more northern localities at the same season with most crops." ³⁶



Kings County farmers were alert to all these advantages and disadvantages. In the early 1870s the *Rural Gazette* noted that although the soil might be better and the land cheaper in the West, demand and transportation costs were just as important. It used this comparative analysis to urge industrial urbanization on Long Island as the savior rather than the scourge of local farming: "if all over this Island, our villages should increase to towns, (especially manufacturing towns) the benefits would naturally accrue to the farmers, whose lands would increase in value, and who would also have an increased demand for their produce and could furnish the market without paying dearly for transportation, or subjecting themselves to the extortions of middlemen. Thus the secret of success is, not to go West, but encourage the growth of our own population." ³⁷

Whatever cost advantages southern vegetable farmers may have enjoyed vis-à-vis their Long Island competitors were in large part rooted in the vestiges of slavery. Oemler considered "emancipation . . . the birth of truck farming on an extensive scale. It was not an industry that could have recommended itself to rice planters, and these were the only agriculturists owning large forces of slaves in the vicinity of the large Atlantic coast cities, nor would any of them have for a moment entertained the proposal of hiring their hands to truck farmers." The farmer had to look to "the same Godgiven instrument, the negro, . . . for his labor. It is rarely, even in the vicinity of Norfolk, that recourse is had to any other race." Oemler did not reveal whether the sunrise to sunset working hours for 50 to 75 cents per day were also divinely ordained, but he gave an impression of the immense pool of labor required by noting that for the strawberry harvest at Norfolk alone "between 2,560 and 3,200 hands are indispensable." ³⁸

Oemler also explained the logic behind the apartheid labor policy: "The negro must be accepted as the only practical solution of the labor question, and, notwithstanding his instability, he is the best for many reasons. It would be impolitic, even were it possible, to trust to more intelligent and energetic laborers from abroad, and mix the two races as field laborers." Farm owners could not depend on "retaining the foreign help, as his greater energy and a praiseworthy desire for self-elevation would soon prompt the emigrant, or white laborer, to . . . better his condition." ³⁹

Nor were such frank racial views confined to pecuniarily interested exslaveholders. The author of a major turn-of-the-century history of the postbellum South went even further, virtually inverting causality and arguing that southern vegetable farming owed its existence to free blacks' "preference... for work that is not continuous.... [T]he labor is engaged for single



jobs, which cover only a few days or a few weeks; the hands come and go according to the demands of each crop. . . . The negro is thus afforded numerous opportunities of earning wages sufficient for his wants without his whole time, throughout the year, being occupied." ⁴⁰

The census reported that in 1889 day wages on truck farms in the South were little more than 60 percent of those in the New York-Philadelphia area, and the cost of labor per acre in some crops such as string or snap beans was less than one-fourth that in the North. Although many truck farmers kept "little or no record of their business," the Census Office, based on "cheerful cooperation" by planters, marketmen, and transportation firms, recorded 70,342 laborers at some time during 1889 in the New York-Philadelphia area compared with 22,489 in the Norfolk district. To be sure, in some crops, for example, beets, sweet potatoes, and spinach, per acre labor costs were higher in Norfolk than in New York-Philadelphia. Despite these low wages, the census of 1900 asserted that: "At a distance from centers of population, this transient labor is hard to secure, and even fancy wages sometimes fail to attract a sufficient supply." As late as 1909, the major economic history of the postbellum South confirmed that cheap and abundant labor was such an essential element of southern truck farming that "on this account many trucking areas are located rather close to large cities." In the North, in contrast, observers emphasized: "Proximity to the large cities and manufacturing works draws labor away from the farms, and unfortunately for the agricultural industry it loses the most enterprising and intelligent."41

Advances in railroad transport, ice plants, and mechanical refrigeration made southern truck farmers competitors of market gardeners in and around the cities of the Northeast. In 1854, the first shipments of vegetables were sent by ship from Norfolk — where a decade earlier two farmers from New Jersey had introduced intensive agriculture — to New York, but such southern supplies did not become commercially significant until after the Civil War. Residents of New York and other cities as yet "had not acquired the taste for vegetables out of season, but were satisfied with the supply during the period of natural growth in their own immediate locality." With the labor "surplus" that the end of slavery created, southern planters began dedicating thousands of acres to vegetables and fruits for northern markets. Along the Atlantic seaboard, from Norfolk to southern Florida, "probably the finest trucking country in the world," owners of truck farms ranging from ten to one hundred acres saw the value of their land rise from as little as \$2 to as much as \$500 per acre. As late as 1882, the Rural Gazette still re-



ferred to the ability of Florida truck farms to supply northern markets with "an almost unlimited amount of early vegetables" as an event that would occur "bye and bye."⁴²

Southern producers' greatest impact on Kings County farmers lay not in direct competition, but in their preemption of the early market and shortening the season during which local producers monopolized the market. Beginning in the 1830s and 1840s, in certain sections of the county such as New Utrecht, "almost all residents were engaged (owing to the peculiar quality of the soil) in raising early vegetables for the New York market. As there was no Southern competition (such as now [1894]) their products commanded high prices, and consequently by prudence, economy, energy and industry, they acquired wealth and independence." But by the last decade of the century, when market gardening had been "completely revolutionized," it was no longer possible for early Long Island vegetables to be sold profitably in New York. Although even contemporaries conceded that "very little can be said with absolute accuracy" about vegetable prices, they had no doubt that nationally "prices of fresh vegetables declined very greatly from 1890 to 1900" in no small part as a result of the pressure exerted by southern production.⁴³

This South-North trade took on new dimensions in 1885 when Norfolk truck farmers made their first rail shipments to New York. The advent of long-distance refrigerated transport of perishable foodstuffs made it possible to move such large amounts so quickly that it facilitated "the greater growth of the city itself." This new technology "changed the whole face of the production map," but as late as 1929, an official of the Port of New York Authority, in writing about the city's food distribution system, could still observe that although railroad refrigeration cars "caused sources of supply which were most favored under the old transportation system to lose their former relative advantage, ... in the main it has so expanded demand as to call merely for a shift in the type of production rather than visiting disaster even upon these former sources of supply." If, therefore, the disappearance of Kings County farmers was not inevitable as a matter of price competition with Florida and California farms, self-preservation would have required significant entrepreneurial reorganization. In particular, given the enormous and intricate continuous distribution system established in New York City from the 1880s on, direct marketing of perishables was "often a timeconsuming and difficult proposition" for the farmer, who could "scarcely be a producer and salesman at the same time on account of the time spent in making trips to market and disposing of his product." Farmers' "lack of



organization and knowledge of the prospective supplies of shipped-in produce" also disadvantaged them in selling to dealers with such knowledge of the "prospective railroad supply through passing reports." In the absence of an intense process of concentration and centralization that might have enabled a few Kings County vegetable farmers to emerge as sufficiently large producers to justify the creation of their own marketing departments, they could have dealt with this structurally lopsided information disparity only by forming sales cooperatives, which they failed to undertake.⁴⁴

As New York City became the largest U.S. market for southern vegetables, "people of modest means" could do what a few decades earlier not even the rich could manage — namely, buy vegetables out of season. Railroads, realizing how profitable the transport of vegetable and fruit crops could be, provided crucial support for the development of the industry by furnishing specialized rolling stock, sponsoring demonstrations for and supplying plants to farmers, and transporting harvest workers. The railroads' self-interest was clear since it was "only at points where a sufficient number of men are growing the same crop or crops that are marketed at the same season to enable shipments to be made in car-lots, that good shipping facilities" could arise. Consequently: "Often only one or two truck crops are grown in a given locality." 45

Burnet Landreth, a New Jersey vegetable farmer and horticultural author, writing shortly after the results of the 1890 agricultural census had been published, noted that the "unprecedented development in the Carolinas and Gulf States of the business of growing vegetables for autumn and winter shipment to the cities of the North . . . has been one of the surprises in modern agriculture." Whereas in the past vegetables "all had their seasons, and, when they were past, only those people who had greenhouses could expect more until the return of the corresponding season the following year," Georgia and Florida, "with their evergreen productiveness, have been able to revolutionize the old conditions, by sending to the northern cities, even when snow clad and ice bound, the fruits of balmy summer." Winter vegetable production in Georgia and Florida, still "in its infancy," was "certain to develop to an immense degree, as no competition can come from a more southern district. The profits of the Norfolk truckers were cut by the Charleston and Savannah market gardeners, and they, in turn, by the Florida cultivators, but the Gulf is south of Florida, so the competition stops."46

Landreth was alive to the fact that within "fifty to sixty hours of market by rail or boat, delicate fruits and comparatively perishable culinary vege-



tables may be moved successfully, but beyond that distance danger of decay increases. . . . A shipment, eighty hours on its travels, may occasionally reach its destination and pay largely, but the loss of other shipments which may arrive at destination heated and decayed will more than absorb previous profits." Even international competition in vegetables was a reality, brought on, for example, by a drought in 1881 that reduced yields by half: "Bringing potatoes to this country from abroad seems very much like carrying coals to Newcastle; nevertheless, it is a fact that more than half a million bushels of imported potatoes will have found a market in the United States before this years domestic crop is available." 47

Not even southern boosters denied that local farmers could offer freshness that distant competitors could never match. One of the "drawbacks of truck-farming," as Oemler himself conceded, was that "as soon as the same vegetable matures at a point farther North, it comes into market in a condition fresher and more acceptable to the trade, and, therefore, excludes from profitable sale all shipments of the article from the more southern and distant points." In the New York City area, "gathering of perishable vegetables and picking of fruit may be pursued till sunset, and the next morning find them in market." And more specifically, whereas the earlier season at which southern crops were harvested enabled farmers to sell them in the North despite the greater expense of transportation, "no Southern grower of tomatoes, cucumbers, egg plant or other garden products would expect to find a market for his goods in Northern cities when those markets were in receipt of the same class of garden truck from territory adjacent, the products of which would be fresher and cheaper than those from distant points." By June, shipments of southern produce fell away "before the local competition" on the New York vegetable market. Even in Florida, shipments "cease when the warm season advances beyond the northern boundary of the State." 48

In some cases, seasonality also meant two-way trade. Northern growers, for example, supplied southern consumers with cabbages during the summer, whereas the North procured its cabbages from the South after exhausting its winter supply. Moreover, the distance- and transportation-related competitive disadvantages applied only to crops that were both bulky and perishable such as cabbage, celery, and lettuce. Low value per unit cost of transport remained an overriding factor in regional competition.⁴⁹

There may have been no summertime demand for southern cucumbers in New York, but the mere existence of extensive shipments from Charleston and Norfolk depressed New York farmers' profits. Thus southern pro-



duction always imposed some constraints on Kings County farmers by creating a ceiling on the prices they could charge and certain consumer price expectations. Nevertheless, as Henderson observed, although "Southern competition... seriously interferes with the forcing of cucumbers, as it does with nearly everything else in early vegetables and fruits... the bloom and fine appearance, together with the more delicate flavor, of the forced Cucumber, finds customers in all large cities who are willing to pay for the finer quality." Thus Long Island farmers could still average profits of \$125 to \$150 per acre for pickling cucumbers. 50

Fortunately for Kings County market gardeners, cabbage — the "universal consumption" of which meant that its markets in the 1890s had "never yet been glutted" — was their principal crop. For example, in 1865, when Kings County produced 61 percent of all the cabbage in New York State, the crop accounted for 34 percent of the farmers' total market-garden production. In addition, celery, as a winter vegetable crop, was "never shipped from South to North, as it can be grown much cheaper North," and lettuce, because it was consumed in great quantities, was "likely to be one of the most profitable vegetables to force [in hot houses], for the reason that from its soft and bulky character it cannot be shipped from the South as many other kinds of vegetables." ⁵¹

Heated forcing houses or cultivation under glass was an important method of competition to which northern vegetable farmers turned in response to the impact of southern produce on their markets. As early as 1860 one Queens County farmer had enclosed three and one-half acres under glass "to compete with Norfolk and Charleston in the production of early cucumbers, radishes and salad." In the decade and a half following the Civil War, growers in the Boston area, the center of forcing winter vegetables such as lettuce, cucumbers, and tomatoes — the prices of which were about five times higher than those grown as field crops — began using hot water to heat greenhouses as substitutes for hotbeds. New York market gardeners also adopted these methods. The USDA estimated in the 1890s (though the data may have been from a decade earlier) that nationwide 1,000 commercial establishments employing 2,250 workers were engaged in these practices: "Within 15 miles of Boston there are probably not less than 40 acres of glass . . . devoted to vegetables. . . . Two-thirds of this is in houses, the rest being in hotbeds and frames. . . . [T]he amount devoted to vegetable growing about New York, Chicago, and other cities will bring the total up to 100 acres." Using capital equipment of \$2,250,000, these operations produced an annual product with a retail value of \$4,500,000.52



In the early 1890s, when some market gardens on Long Island maintained acres under glass in hothouses and cold frames, one farmer netted \$5,000 from vegetables in a single winter. Hothouses enabled Long Island farmers to deliver some vegetables to the New York market by Christmas — several months before their first shipments from the South. They also offered large Long Island farmers one additional competitive advantage: by making it possible to employ laborers all year round, they enabled employers "to get and keep the best workmen." ⁵³

Although little is known about the extent of hothouses in Kings County, they were common. The fact that farmers selling their products at the Manhattan farmers' market in a December snowstorm resembling a "Siberian desert" feared losses resulting from freezing suggests that they must have been growing vegetables in hothouses. In 1880 in New Utrecht alone "there were more hotbeds than on the whole of Long Island outside of it. Some farmers have as many as 800 hotbeds for furnishing early lettuce and other things" to the New York market. From the inclusion of hotbed sashes and shutters among the farm stock items sold at auction when Kings County farmers died or abandoned farming, it is clear that out-of-season cultivation was common in the 1870s and 1880s. The auction in 1875 of the utensils of Henry T. Van Pelt, a recently deceased large and "first-class" market gardener in New Utrecht, included 300 hotbed sashes and frames, 275 shutters, and hotbed soil. Nor was hotbed cultivation confined to New Utrecht. Farmers in Flatlands made raising lettuce under glass a specialty, "netting handsome profit."54

The Census of Agriculture in 1900 recorded a huge increase in agricultural land under glass, with Cook County alone reporting 125 acres. Kings County was not a leader in this specialty, but its 948,000 square feet (or more than 21 acres) still placed it 19th nationally.⁵⁵

The comparative locational data that Landreth gathered on what he called capital per acre (including fertilizers, seed, tools, and rental) revealed a predictable differential. The figure ranged, along the eastern seaboard, from \$95 in Florida, to \$75 to \$125 at Norfolk, to \$75 on eastern Long Island, and \$150 on western Long Island. Higher land prices may have accounted for Kings County's position at the high end. He also noted that expenses could swell "to an astonishing degree": \$700 or more was not uncommon on five-to ten-acre farms on the outskirts of Philadelphia and other large cities that employed several men to the acre, intensely manured, and used expensive forcing-house methods. Late-nineteenth-century urban vegetable production could absorb considerable amounts of capital: \$3,000 with the labor of



3 men and 2 horses was required for 2 acres; \$5,000, 6 men, and 3 horses for 10 acres; and as much as \$20,000, 40 men, and 20 horses for 100 acres. Alternatively, the annual expenses for running farms of these three sizes were \$2,500, \$8,000, and \$25,000.⁵⁶

Synthesizing the foregoing considerations, Peter Henderson concluded in 1886 that "the business of gardening in such large cities as New York, Philadelphia, Boston or Chicago, is by no means so profitable as formerly, mainly owing to the vast competition from the Southern States, but that it is yet far more profitable than farm operations for the labor and capital employed . . . cannot be doubted." And in 1895, Charles Baltet's compendious international study of horticulture stated that far from having been ruined by southern competition, northern urban market gardeners continued to prosper. The absence of any freight costs made it possible for New York City vegetable farmers, despite "the extremely high price of labor, the high value of land, and the enormous capital invested," to achieve the highest profit per acre of any open-air (nongreenhouse) operations in the country. Little wonder that as late as 1901 the USDA reported that the "western end of Long Island is so thickly occupied by this industry that it virtually presents to the eye the appearance of one great truck farm; and the vast output from this section is almost entirely consumed by the millions of people located within a few short miles of the base of supply." 57

By 1901, when the ranks of Kings County vegetable producers had been thinned to perilously low levels, the Massachusetts Horticultural Society heard a quarter-century retrospective of the pressures to which New York City farmers would have been exposed had they not sold already out: "California, the great West, and the sunny South, are now getting the cream of prices by their early, and with us, unseasonable, productions, now that transportation is so cheap... connecting distant sections of this great country, constantly supplying their best fruits and vegetables to our market. All this tends to discourage many, and only the courageous capitalist, who can afford to purchase modern appliances, is now making any profit." 58

Despite the advances achieved by southern producers, the late-nine-teenth-century agricultural censuses failed to register any significant break-through by southern counties into the ranks of the largest vegetable producers. "Yet," a USDA horticulturist observed in 1913, "many of our largest and most important truck farms are situated in the South Atlantic States. The reason for this is that the climatic and soil conditions of these regions, together with the labor supply which is available, render the industry profitable in two respects — cheapness in the cost of production, and the ability



to produce crops in advance of the normal season farther north." By cheap southern labor, the official meant "negro laborers" whose "large numbers make possible . . . harvesting . . . at moderate cost, and this means . . . at a satisfactory profit to the planter." 59

In spite of the growth of southern truck farm shipments, northern market gardeners were able to maintain many of their local markets. By the turn of the century, they were, to be sure, "driven out of the race in many lines by competition of specialists at distant points, where conditions of growth are so unusually favorable as to overcome the expense of transportation. But," the Census of Agriculture continued, "to offset this they have redoubled their efforts in the production of those crops in the cultivation of which the advantage remained with them." In particular, better equipment "enabled them to cheapen the product without decreasing their margin of profit." Five- to ten-acre farmers located on high-rent land around the large northern cities and "employing several men to the acre and sometimes a larger force" had "everything new in the way of labor-saving appliances." Indeed, practical horticulturists had been advising market gardeners at least since the 1860s that since "the high price of farm-labor" was the "only drawback to a relative profit," it was critical to use "the best labor-saving instruments."60

One of the most prized devices "superseding the old methods" was the seed drill. In onion cultivation, it enabled "a smart boy of sixteen [to] seed more ground in a day, and do it better, than twenty men could." Even more effective than the hand drill was the horse drill: by the 1890s, it could furrow, plant, and cover root crops such as beets, carrots, onions, and turnips in one-forty-eighth the time that pure hand labor had required in the 1850s to 1870s. Similarly, horse-drawn planters reduced by 90 percent the amount of time needed to furrow the ground, and drop and cover potato seeds; digging machines reduced the required time by two-thirds in the latter part of the nineteenth century.⁶¹

As late as 1884, the New York City-area horticulturist Henderson wrote that: "It is safe to say that the average profits to the market gardener in the vicinity of our large cities, where he pays sometimes as high as \$100 per acre annually for rent, is at least \$300 per acre. The usual amount of ground cultivated by market gardeners is ten acres, and they think it is a poor year when their profits from that amount of land do not average \$3,000" even when they sell wholesale to middlemen. The annual net profit of 30 percent at wholesale prices, Henderson had little doubt, could be doubled if the farmer could sell directly to the consumer.⁶²



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On well-cultivated New York City-area farms other than his own, Henderson estimated that profits had been only \$200 per acre during the ten years prior to 1886 — half of their level during the Civil War, whose farm prices he expected never to see again, and two-thirds of the \$300 per acre average profits that he estimated for "all well cultivated market gardens" in the New York area during the 1850s. To be sure, the "vast competition" made the New York profit level in the 1880s "a low average for the majority of towns and cities" nationally. In reprinting Henderson's figures in 1880, the Rural Gazette assured its readers that "such a grand result" was attainable in an average season.⁶³

Other practical horticulturalists reported similar cost and profit structures in the latter half of the nineteenth century. According to one account from about 1890, on an acre worth \$200, it cost \$163 to grow 8,000 head of cabbage, which could be sold for \$280, leaving a profit of \$117. Another report stated that 6,000 head of cabbage that cost \$240 to produce (including \$140 for manure, \$6 for applying the manure, \$2 for plowing, \$2 for furrowing, \$5 for transplanting, \$30 for the plants, \$25 for rent, and \$25 for marketing) could be sold for \$360, leaving a profit of \$120 per acre. Twenty years earlier, a horticulturist reported a \$250 per acre profit for 6,500 to 7,000 cabbage that cost \$100 to produce. For onions, one account referred to \$600 to \$800 of proceeds from an acre from which \$300 of costs had to be deducted, leaving \$300 to \$500 of profit.⁶⁴

Despite the pressure of southern competition, surviving Kings County farmers were able to hold their own. William Bennett's Gravesend farm, for example, was quite profitable in each of the 16 years covered by his surviving account books: from 1883 right up to the time he sold the farmland, Bennett's profits totaled \$41,419.06 on \$93,214.51 in sales. Such consistent profitability was largely a function of the fact that the price of potatoes—his chief crop—held steady except during the depth of the depression in 1895–96. As late as 1903, a history of Long Island, invidiously comparing Suffolk county, noted that largely because "the proximity of a great market makes a vast difference in the value of vegetable productions, . . . many an acre in Kings county . . . furnishes support to a whole family." 65

Kings County farms' profitability could not hide one major disadvantge that they faced. Any given land area, which could produce only a limited number of crops and was economically useless the rest of the time, was competing with uses in the South producing year-round rents. Assuming that all farms had the same basic costs for equipment, labor, and supplies, the ability to spread costs over more months and crops would have reduced



unit costs. Even if there had been no national market for vegetables and Kings County farmers would not necessarily have been driven out of business in precisely the same way that a small local steel company would have been bankrupted by the emergence of much more productive capital-intensive national firms, less-profitable farms might nevertheless have been exposed to heightened pressures in the sense that financial rationality could have constrained them to invest their capital in operations promising a higher rate of return.

If Kings County farmers adjusted microeconomically to keep up with their competitors, their achievement is the more remarkable for their failure to benefit from the external economies of collective institutions in which farmers elsewhere participated. Such institutions encompassed the educational apparatus that evolved in the nineteenth century to inculcate in farmers scientific as well as commercially viable practices. The growth of science in agricultural practice was manifested in the spread of agricultural societies at the state and local levels; the steadily growing circulation of the agricultural press; private support for experimental, educational, and marketing initiatives; and finally federal and state government subsidies, beginning with departments of agriculture and extending also to the state colleges, their extension programs, and experiment stations.⁶⁶

Notwithstanding the spread of knowledge and collective action among farmers in general, many of these rationalization efforts — particularly those requiring collective enterprise — came to nought among truck farmers in the New York region, particularly in Kings County. The principal function of local agricultural societies was to organize meetings with knowledgeable speakers and to run local or county fairs and exhibits where information about the latest techniques and products could be exchanged. The Kings County Society for Promoting Agriculture and Domestic Manufactures was established early enough (1819), but soon languished with only occasional revivals. The New York State Agricultural Society never published another report from the Kings County Agricultural Society after it inexplicably failed to submit its annual report in 1843.⁶⁷

Complaining in 1873 that "almost every county in our State has a farm club," the Rural Gazette, in vain, urged "our farmers to consider this subject and by union of effort make their lands and property much more productive." Observing later that year that "[e]ven our sister county of Queens is annually in the habit of holding" a fair, the newspaper lamented that "we of Kings county are trudging on in an oldfashioned way, each for himself without regard to his neighbor, and none striving to excel in their calling



except it be to get the crop to market first and obtain the highest price." Kings County farmers visited the Queens County Agricultural Society annual exhibition, but not as exhibitors. In 1884 the Rural Gazette still viewed Kings County farmers' failure to hold a county fair a "mystery, unless a leader is lacking," especially since it would offer them the opportunity to learn about the best methods of producing the best crops.68

The failure of Kings County farmers to commit themselves collectively to spreading scientific methods or to marketing their products persisted to the end of the century. Whether this attitude reflected an immunity born of local circumstances — the abundance of inherited land, the steady supply of manure, and the ready market demand that outstripped the local supply of fresh produce — or resistance stemming from inbred habits is unclear. But as late as 1912, the keynote speaker at the second annual meeting of the New York State Vegetable Growers Association described his reluctant constituency as isolated from the general large body of farmers and maintaining their individualistic and competitive method of work.69