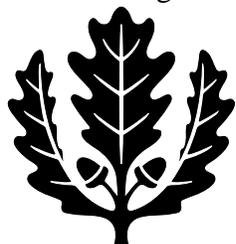


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Regional Specialization in Communal Agriculture: The Shakers, 1850- 1880

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Abstract

When the Shakers established communal farms in the Ohio Valley, they encountered a new agricultural environment that was substantially different from the familiar soils, climates, and markets of New England and the Hudson Valley. The ways in which their response to these new conditions differed by region has not been well documented. We examine patterns of specialization among the Shakers using the manuscript schedules of the federal Agricultural Censuses from 1850 through 1880. For each Shaker unit, we also recorded a random sample of five farms in the same township (or all available farms if there were fewer than five). The sample of neighboring farms included 75 in 1850, 70 in the next two census years, and 66 in 1880. A Herfindahl-type index suggested that, although the level of specialization was less among the Shakers than their neighbors, trends in specialization by the Shakers and their neighbors were remarkably similar when considered by region. Both Eastern and Western Shakers were more heavily committed to dairy and produce than were their neighbors, while Western Shakers produced more grains than did Eastern Shakers, a pattern imitated in nearby family farms. Livestock and related production was far more important to the Eastern Shakers than to the Western Shakers, again similar to patterns in the census returns from other farms. We conclude that, despite the obvious scale and organizational differences, Shaker production decisions were based on the same comparative advantages that determined production decisions of family farms.

Regional Specialization in Communal Agriculture: The Shakers, 1850-1880

When the Shakers established communal farms in the Ohio Valley, they encountered a new agricultural environment that was substantially different from the familiar soils, climates, and markets of New England and the Hudson Valley. The ways in which their response to these new conditions differed by region has not been well documented. While some writers found essential similarities among the various Shaker communities, we exploit an underused source of data to show that Eastern and Western Shakers farmed in ways that were more similar to their neighbors than to each other.

Shaker activity in the West dated from early in the nineteenth century. Within ten years of the missionary expedition of 1805, the movement that had already established several communities in New England and New York had added 5 more settlements in Ohio and Kentucky and converted hundreds of new members into the faith. Altogether, the Shakers maintained 17 communities that lasted more than 75 years, spread through a crescent from western Kentucky to Maine.¹

Despite the regional diversity among Shaker settlements, it is interesting that some of the literature on the Shakers often treats these communes as being almost identical. The pioneering scholar of the Shakers, Edward Deming Andrews, fostered this view by asserting that “[e]ach of the Shaker villages was like the others, not only in the organization of its religious and temporal affairs, but in its architecture, in its customs and folk ways, in its dress and the speech of its inhabitants, and in the general nature of its architectural, horticultural and industrial art activities.”²

¹Stephen J. Stein, *The Shaker Experience in America: A History of the United Society of Believers* (New Haven: Yale University Press, 1992).

²Edward Deming Andrews, *Community Industries of the Shakers* (Albany: New York State Museum Handbook 15), 13. Note also that on p. 255 Andrews appears to qualify his assertion by suggesting that New Lebanon was representative of the Shakers only in the East.

Andrews then focused on the largest Shaker community at New Lebanon, New York, as representative of all Shaker communities. Because of the dominating influence of Andrews on Shaker studies, the result was either an approach that considers all communities as being identical, or one that focused on the New Lebanon or Eastern communities, with notable exceptions. As Wolford writes, despite the exceptions, “the vast majority of writers on the Shakers still ignore the western societies.”³

Now it is true that different Shaker communities shared the same basic religious and moral principles, had the same administrative structure, and they were governed by the same central ministry in New Lebanon. Does it follow, however, that different communities were identical or even similar in other ways? We aim to answer this question in terms of the farming activities of the Shakers. Using the information recorded about the Shakers in the enumeration schedules of the US Agriculture Censuses (available for the period between 1850 and 1880), we examine systematic differences in specialization and crop choices between the eastern and the western communities. In addition, in order to assess systematic differences between communal decision making and family farmer decision making, we compare the Shaker farms with those of neighboring farms in the same townships.

The Shakers and Regional Specialization in Agriculture

The Shakers, whose official name was the United Society of Believers in Christ’s Second Appearing, were (and are, but since the Shakers of the past are the subject of this paper, we use the past tense) Christians inspired by their foundress, Ann Lee, to live celibate lives and pray in such a way as to experience direct contact with the divine. Early in the Society’s history they adopted a form of communalism, in which all assets were owned jointly and Believers worked for the community without wages. Each community was further divided into Families which were essentially autonomous and consisted of 50 to 100 Shakers. Economically, the Shakers aimed at

³John B. Wolford, “Shaker Studies and Folklore: An Overview,” *Folklore Forum* 22, no. 1 (1989): 78-107, quote on 102; see also Stein, *Shaker Experience*, 380-82 for the influence of Andrews on Shaker studies.

balancing the isolation that promoted their unusual brand of spiritualism and the interaction with worldly markets that provided goods they needed to maintain their community, but were unable to make themselves.

By all accounts the Shakers were skilled and productive farmers. Ham described the many Western Shaker experiments with productivity enhancing technologies: new feeds, fertilizers, crop rotations, and pest management techniques. They kept up with the burgeoning agricultural press and publicized the findings of their own field trials of seeds, machinery, and breeds. They were especially well known for scientific breeding of fruits and livestock.⁴ In sum, they seem to have deserved their reputation among contemporaries for well run farms, wrote Stein, which they were able to do because “they made effective use of their extensive communal land holdings and large supply of inexpensive labor.”⁵

Corresponding to the westward expansion of the Shakers into the Ohio Valley, the western frontier of the United States was also expanding, creating new opportunities for new settlers. The opening of the Ohio Valley to white settlement provided unprecedented opportunities for regional specialization in agriculture. In antebellum New England and eastern New York, production of wheat, pork, and wool fell dramatically. In their places, farmers chose to produce more perishable goods such as dairy items, fruits and vegetables. By 1860 the federal agricultural census showed an orchard and truck gardening belt from Massachusetts to New York and New Jersey. Behind this shift was the rise of the highly productive Western grain regions. The Old Northwest in 1860 encompassed both a clearly defined wheat belt stretching across Michigan, Wisconsin, and northern Illinois, and a corn belt that ranged from Ohio to Iowa. Both of these phenomena, truck farming in the East and grain farming in the West, followed from individual farmers responding to relative costs of production. In turn, these developments led to

⁴F. Gerald Ham, “Shakerism in the Old West,” Ph.D. dissertation, University of Kentucky, 1962, 236.

⁵Stein, *Shaker Experience*, 135-136.

better diets in urban areas and substantial exporting of grain to Europe, both important developments in American economic history.⁶

In economic terms such regional specialization is a natural process driven by comparative advantage. Several sources of regional comparative advantages have been suggested by historians. Danhof wrote that farmers at the time placed the greatest weight on two such: soil quality and market proximity. Gregson noted the role of soil diversity, even within a circumscribed area such as a township, to influence production choices. Bidwell and Falconer asserted that the ease of marketing was paramount, which led them to emphasize the importance of transportation improvements that reduced travel time to markets. Gates agreed with the importance of declining transportation costs, but noted that the agricultural result was not monoculture, but diversification among farms within easy reach of cities. Farmer production strategies, observed Danhof, tended to be similar throughout a given region, since “farmers in a given locality shared the same climate, similar soils, and similar relationships to market.”⁷

Over the course of time, the role played by greater access to markets increased in importance as transportation improved, and this reinforced the effects of variation in soil quality. Initially the rocky and barren soil of New England could be fertilized fairly cheaply. Eventually, however, the costs of manuring were far beyond the value of what the land could provide, since the prices obtained for that produce were determined by lower cost farmers in the West. As a result, sea changes occurred in the mixture of crops and livestock produced in the northeast. From 1860 to 1900, observed Shannon, production of wheat fell 85 percent in New England, production of corn fell one-third, and the population of sheep fell two-thirds. At the same time, the number of dairy cattle rose one-third and milk production quintupled. Other increases were

⁶Percy Bidwell and John Falconer, *History of Agriculture in the Northern United States* (Washington: Carnegie Institute, 1925), 259-60, 449; Clarence Danhof, *Change in Agriculture: The Northern United States 1820-1870* (Cambridge: Harvard University Press, 1969), 144-150; Paul W. Gates, *The Farmer's Age: Agriculture 1815-1860* (Armonk: M.E. Sharpe, 1989, reprint of 1960 Holt, Rinehart, and Winston edition), 269. See also Jeremy Atack and Fred Bateman, *To Their Own Soil* (Ames: Iowa State University Press, 1987), 175ff.

⁷Danhof, *Change in Agriculture*, 146; Mary Eschelbach Gregson, “Rural Response to Increased Demand: Crop Choice in the Midwest, 1860-1880,” *Journal of Economic History* 53, no. 2 (1993): 332-345; Bidwell and Falconer, *History of Agriculture*, 450; Gates, *Farmer's Age*, 417-419.

seen in apple production, which more than doubled, and tobacco production, which quadrupled.⁸ In the Old Northwest, meanwhile, grain production boomed. From 1870 through the end of the century, Ohio was among the top seven states in production of both wheat and corn. Illinois and Iowa were the two greatest corn producers over this period. From 1860 to 1880, Illinois, Indiana, and Missouri were the three largest swine producing states.⁹

In this dynamic context of evolving regional specializations, we consider production decisions of the Shakers. The diversity of Shaker agricultural economies has been only partially recognized in the secondary literature.¹⁰ Possibly because Andrews had asserted that each of the communities was essentially a carbon copy of the New Lebanon community, the earliest studies of the Society did not consider regional differences. But long before Andrews, the nineteenth century journalist Charles Nordhoff had published a thorough and fascinating travelogue of his visits to several dozen of what were then known as “communistic societies.” Nordhoff provided a detailed view of the New Lebanon community and thumbnail sketches of 13 of the other communities. His reports indicated substantial variations in the local conditions facing Shaker farmers. At Alfred, Maine, and Canterbury, New Hampshire, the Shakers were limited in their agricultural production by the infertile soil on their land. At Enfield, Connecticut, and Harvard and Shirley, Massachusetts, though, Shaker farmers had produced handsome returns by concentrating on garden seed sales, orchards, and hay making on former swamp land. On the other hand, Union Village, Ohio, was located in a region famous for its fertile soil, and their cornucopia included thoroughbred Durham cattle. North Union, Ohio, specialized in production of fruits, vegetables and dairy products. South Union, Kentucky, boasted fertile orchards and pastures, and in addition to grains, bred livestock that was sold as far west as Missouri.

⁸Fred A. Shannon, *The Farmer's Last Frontier: Agriculture 1860-1897* (Armonk: M.E. Sharpe, 1989; reprint of 1945 Farrar & Rinehart edition), 246.

⁹Shannon, *Farmer's Last Frontier*, 163; Francis A. Walker, *Compendium of the Tenth Census* (Washington: Government Printing Office, 1884), 681.

¹⁰For example, Stein, *Shaker Experience*, 135 notes without elaboration that “[f]arming varied between villages.”

Nordhoff's comments illustrate the variety of Shaker agricultures, both in terms of products and productivities.¹¹

Specialization and Crop Selection by the Shakers and Their Neighbors

We examine patterns of specialization among the Shakers using the manuscript schedules of the federal Agricultural Censuses from 1850 through 1880. Each census year, marshals combed the nation in mid-summer, filling in the standardized forms with answers from respondents. Most such respondents, of course, were heads of households. For the Shakers, Elders or Deacons dealt with the marshals. Marshals, in turn, approached Shaker communities with varying degrees of recognition, which may account for the uneven response rate in the surviving manuscripts. Some Shaker sites were enumerated by Family, some by Community, and some not at all, and some of the manuscripts did not survive to be microfilmed. The available sample covers 42 Communities or Families in the 1850 Census, 36 in the 1860 Census, 32 in 1870, and 30 in 1880, but some entries omitted some information (Table 1). For example, in 1850 at Pleasant Hill, Kentucky, the census marshal left the second page blank, which asked for wool, potato, orchard, and garden production data. For each Community or set of Families, we also recorded a random sample of five farms in the same township (or all available farms if there were fewer than five). The sample of neighboring farms included 75 in 1850, 70 in the next two census years, and 66 in 1880. The Agricultural Census schedules offer an unmatched opportunity to study communal farms spread across different regions of the country, over a period of 40 years.

We begin with the issue of specialization by community. A useful statistic that economists have developed to quantify concentration in a given market is easily transferable to study concentration of production in a few products or diversification by production of many goods.

¹¹Charles Nordhoff, *The Communistic Societies of the United States* (New York: Dover Publications, 1966; reprint of Harper & Brothers 1875 edition), 180-207 *passim*.

The statistic is called the Herfindahl index and has been used to study agricultural specialization previously.¹² It is defined as

$$S = \sum (s_i / V)^2$$

where V is the value of all output and s_i is the value of output accounted for by the i th good. A farm that practices monoculture, that is, all of the value of a year's output comes from exactly one crop, would have a Herfindahl index of 1. We consider 13 different products, so as to account for goods produced throughout the regions of Shaker settlement: wheat, corn, rye, oats, potatoes, peas and beans, hay, wool, butter, cheese, and value of orchard produce, market gardens, and slaughter.¹³ A farmer who produced equal values of all 13 products would have a Herfindahl index of $0.077 = \sum (1/13)^2$. These represent extreme values of this index of specialization, with larger values indicating greater specialization and smaller values indicating greater diversification.

Figure 1 shows estimates of the Herfindahl index for the sample of Shaker communities and the random sample of neighboring comparison farms, in each census year from 1850 to 1880. Eastern farms were those in New England and eastern New York, that is, the New Lebanon and Watervliet, New York, communities. Western farms were those in Ohio and Kentucky, as well as the Groveland, New York, community. Groveland's location in the Genesee Valley, the antebellum breadbasket of the country suggested inclusion in the Western rather than the Eastern group.¹⁴ Several regularities are apparent in the graph. Overall, the index was increasing for each

¹²Mary Eschelbach Gregson, "Specialization in Late Nineteenth Century Midwestern Agriculture," *Agricultural History* 67, no. 1 (1993), 16-35.

¹³While the census provides value of output of gardens, orchards, and slaughters, the other products are given only by quantity--ton, bushel, or pound. To translate these into values requires prices, which are not given in the Census. We found price data from several sources to complete the task. Arthur Harrison Cole, *Wholesale Commodity Prices in the United States, 1700-1861: Statistical Supplement* (Cambridge: Harvard University Press, 1938); S.E. Ronk, *Prices of Farm Products in New York State, 1841 to 1935* (Ithaca: Cornell University Agricultural Experiment Station Bulletin 643, March 1936); Thomas Senior Berry, *Western Prices Before 1861: A Study of the Cincinnati Market* (Cambridge: Harvard University Press, 1943); U.S. Bureau of the Census, *Historical Statistics of the United States: Colonial Times to 1970* (Washington: GPO, 1975): 502-525. We thank Winifred Rothenberg for generously supplying unpublished prices for Massachusetts markets.

¹⁴Neil A. McNall, *An Agricultural History of the Genesee Valley 1790-1860* (Philadelphia: University of Pennsylvania Press, 1952).

group over this period, which suggests a trend toward greater specialization. At each census, farms in the comparison sample were more specialized than were Shaker farms. This is not completely surprising: the much greater size of the Shaker farms would have allowed diversification into a greater range of goods. After 1850, the Eastern Shakers were more specialized than were the Western Shakers, although no such pattern was evident in the neighboring sample. Also, both Shakers and their neighbors in the West became more diversified over the 1850s, but then more specialized from 1860 to 1880. Thus, although the level of specialization was less among the Shakers than their neighbors, trends in specialization by the Shakers and their neighbors were remarkably similar when considered by region.

We next consider the types of products in which the Shakers and their neighbors specialized. In order to examine and compare the differences in the choices of crops more broadly, we consider the share of output value provided by production of three groups of goods: “perishables,” which includes butter, cheese, milk (in 1870 and 1880), and value of garden and orchard produce; “grains,” which includes wheat, Indian corn, rye, and oats; and “livestock and related,” which includes hay, wool, and the value of slaughter. Tables 2 through 4 show percentage shares of production value from each of three groups of products. We considered these shares for each census year and by region, and calculated Shaker and “neighbor” figures separately. To gain a broader perspective, we included comparable data from the published census summaries for the counties and states in which the Shaker communities and their neighboring farms lay (with one exception: since New York state had both eastern and western Shaker communities, it was omitted from the state calculations in each year.)¹⁵ Side by side comparisons allow us to compare not only if the Shakers to their immediate neighbors, but allow

¹⁵ J.D.B. DeBow, *Statistical View of the United States...:A Compendium of the Seventh Census* (Washington: A. O. P. Nicholson, 1854); J. C. G. Kennedy, *Agriculture of the United States in 1860; Compiled from the Original Returns of the Eighth Census* (Washington: GPO, 1864); Francis A. Walker, *The Statistics of the Wealth and Industry of the United States...from the Original Returns of the Ninth Census* (Washington: GPO, 1872); Francis A. Walker, *Compendium of the Tenth Census* (Washington: GPO, 1883).

us to see how similar the neighboring farms were to the rest of their county, and to the state as a whole.

Table 2 shows production value shares of perishable goods. In 1850, both eastern and western Shakers derived about a third of the value of their farm production (that is, of the 13 goods enumerated above) from perishables. This was a much greater proportion than for other farmers. The neighboring sample, countywide and statewide averages indicated that eastern farmers derived a sixth of their production value from perishables, and western farmers well under a tenth. The value of the sample of neighboring farms can be seen by comparing figures for them to aggregated data for the entire county and state. With a few exceptions, the sample is quite similar to the county and state averages, suggesting that the sample of neighboring farms is representative of other farms in those counties with Shaker communities, and that those counties are representative of other counties in those states. Thus, comparisons between the Shakers and their neighbors, made at the farm level, can probably be generalized to comparisons between the Shakers and other farmers in their region.

In every cell but one, the share due to perishables was greater in the east than in the west, which is consistent with the secondary literature on American agriculture at the time. The proportion for the eastern Shakers however remained steady at a third, which was a greater share than for neighboring farmers or other farmers in their county and state. This may reflect a Shaker desire either for self-sufficiency or for better nutrition. Remembrances of diets in Shaker manuscripts suggest a healthy quantity of these foods. Youngs described “supper” (the mid-day meal) at mid-century New Lebanon as including the following:

--meat or fish, including spare ribs in early winter;

--tea, coffee, chocolate, water;

--salt, pepper, catsup;

--apples, cherries, plums, peaches, cranberries, and quinces in sauces and preserves

and rare foods such as fresh cod in winter, shad from the Hudson River in spring, clams and oysters, Carolina sweet potatoes, and once a year, strawberry shortcake.¹⁶ Breakfast included milk, butter, applesauce, apple pie, and pickles (!), as well as meat, potatoes, and bread.

Other patterns over time were evident. Over the 1850 to 1880 period, proportions of value from perishables generally increased for the neighboring non-Shaker farmers, for example, from 7 percent to 17 percent in the western counties with Shaker communities, or from 16 to 22 percent in the eastern states with Shaker communities. At the same time, the eastern Shakers were holding steady at a third and the western Shakers decreased their share of perishables from a third to about a fifth in 1870 and 1880. It may have been that the declining Shaker population reduced the need within the communities for production of fruits, vegetables, and dairy goods, and that explains why the Shakers were bucking the trend throughout the North toward greater shares of value from perishables. We summarize by noting that from 1860 Eastern Shakers produced relatively more perishables than Western Shakers, which resembled regional differences in the greater economy, but at the same time perishables were a greater part of the Shaker than of the non-Shaker farm economies.

Perhaps the greatest agricultural difference between the northeast and the Old Northwest was in grain production. As described above, it was the greater yields of grain in western New York and what is now known as the Midwest that undercut grain raising in eastern New York and New England. In Table 3, this pattern appears in the 1850 census, in which two-thirds of the value of Ohio and Kentucky produce among neighboring farms and in counties and states alike was due to wheat, corn, rye, and oats production. Throughout the 1850-1880 period, the western counties and states derived half to two-thirds of the value of production from grains, while the comparable figure for eastern farms was generally a tenth to a fifth. The Shakers and their neighbors followed suit. Both among the eastern Shakers and the sample of nearby farms in the East, the share of output value from grains was 8 to 18 percent. Western Shakers were much

¹⁶Isaac N. Youngs, *A Concise View of the Church of God*, 1856 manuscript, Edward Deming Andrews Memorial Shaker Collection item 861, Winterthur Museum and Library, 292-298.

more heavily invested in grain production, from a third to a fifth of the value of all their output, than were Eastern Shakers. In these terms, Eastern and Western Shakers resemble their neighbors more than they did each other.

Table 4 shows proportion of value from the third broad group of products, loosely classified as livestock and related. This group consists of the value of slaughter along with the value of one livestock input, hay, and one output, wool. The 1880 census did not ask for the value of slaughter, so we estimated it by multiplying the number of cattle and sheep slaughtered by an average value of each animal. This is an underestimate, as it excludes the value of slaughtered swine. While we believe this provided a sufficiently useful estimate for Tables 2 and 3, since Table 4 concerned livestock production directly we felt that the accuracy of the slaughter value's estimate for 1880 was sufficiently uncertain that we did not calculate the value of livestock related production for 1880. However, results for 1850-1870 are consistent with each other. Eastern Shakers were much more committed to livestock raising and its trappings than were western Shakers. Eastern Shaker farms derived about half of the value of their production from livestock activities, while western Shakers gained only a sixth to a third. Neighboring farmers as well as the counties and states in which the Shakers found themselves showed similar patterns: eastern livestock production accounting for half to two-thirds of production value, and western livestock less than half and usually much less than half. Thus, where western farmers, Shaker and non-Shaker alike, emphasized grain production, eastern farmers concentrated on livestock. This is generally consistent with the notion that much of that livestock production was dairy related, as eastern farms produced a greater share of dairy products than did western farms. And, we emphasize, these regional differences obtained among Shaker and non-Shaker farms alike, so that similarity of farm production patterns was much more dependent upon region than Shaker status.

Conclusions

Our findings show that the specialization and crop choices of western Shakers were systematically and consistently different from the eastern Shakers. The eastern Shakers were more specialized than the western Shakers. In particular, they produced a higher percentage of perishables, a lower percentage of grains, and a higher percentage of livestock related items. Considering that these differences parallel the systematic differences between other farmers (neighbors, county, state) in the east and the west, they show the regional diversity of Shaker farming strategies through their adaptation to local conditions. Western Shaker thus resembled more their neighbors in the west than other Shakers in the east.

By considering the Shakers in the context of regional farming patterns, we find a general increase in specialization in the later nineteenth century among both the Shakers and neighboring family farmers. These findings carry suggestive implications for the issue of Shaker interaction with markets. Recent studies of market integration in New England and Georgia have associated greater specialization in farm production with increased access to markets.¹⁷ It is striking in our findings how the course of specialization in the world outside the Shakers was mimicked in Shaker production decisions. We know from comments in manuscript that for some farm products such as flax and sugar derived from maple sap, the Shakers explicitly made production decisions based on prevailing market prices.¹⁸ We have found in production of dairy and pork that the Shakers also made production decisions that were consistent with trends in input and output prices.¹⁹

We cannot conclude that Shaker production decisions were primarily, or even substantially, market driven based on the data presented in this paper. But we can say that the Shakers acted in ways very similar to nearby farmers whose exposure to market forces was increasing with every planting and harvest. The evidence we present here is consistent with

¹⁷Winifred B. Rothenberg, *From Market-Places to a Market Economy: The Transformation of Rural Massachusetts, 1750-1850* (Chicago: University of Chicago Press, 1992); J. William Harris, "Crop Choices in the Piedmont Before and After the Civil War," *Journal of Economic History* 54, no. 3 (1994), 526-542.

¹⁸Youngs, *Concise View*, 201, 213.

¹⁹John E. Murray and Metin M. Co gel, "Market, Religion, and Culture in Shaker Swine Production, 1788-1880," forthcoming in *Agricultural History*.

greater Shaker reliance upon market information in making production decisions. If the Shakers, too, considered local cost factors in deciding what and how much to produce, perhaps that is an additional factor that led to Shaker longevity.

Table 1

Shaker communities and families found in the U.S. Agricultural Censuses

| Community | 1850 | 1860 | 1870 | 1880 |
|----------------------|------|------|------|--------|
| Enfield, Conn. | 5 | 4 | 3 | 1 |
| Hancock, Mass. | 3 | 3 | 2 | 1 |
| Harvard, Mass. | 4 | 4 | 2 | 1 |
| Shirley, Mass. | 2 | 2 | 2 | 1 |
| Tyringham, Mass. | 2 | 2 | 1 | closed |
| Canterbury, N.H. | 3 | 3 | 3 | 1 |
| Enfield, N.H. | 3 | 3 | 3 | 3 |
| Alfred, Me. | 3 | 2 | 0 | 1 |
| Sabbathday Lake, Me. | 1 | 1 | 1 | 1 |
| Watervliet, N.Y. | 3 | 4 | 4 | 4 |
| New Lebanon, N.Y.* | 7 | 5 | 8 | 4 |
| Groveland, N.Y. | 1 | 2 | 2 | 2 |
| North Union, Oh. | 0 | 0 | 0 | 2 |
| Union Village, Oh. | 3 | 0 | 1 | 0 |
| Watervliet, Oh. | 0 | 1 | 0 | 1 |
| Whitewater, Oh. | 1 | 0 | 2 | 0 |
| Pleasant Hill, Ky. | 1** | 0 | 1 | 5 |
| South Union, Ky. | 1 | 0 | 1 | 2 |

Entries give the number of units at each Shaker community that responded to that year's census. Most numbers "1" refer to entire communities.

*includes Canaan, N.Y.

**partial return; second page missing.

Table 2

Percentage share of farm income from butter, cheese, orchards, and gardens

| | Shakers | Neighbors | Counties | States |
|-----------|---------|-----------|----------|--------|
| 1850 east | 31 | 16 | 17 | 16 |
| 1850 west | 35 | 5 | 7 | 8 |
| 1860 east | 34 | 19 | 18 | 18 |
| 1860 west | 27 | 14 | 10 | 10 |
| 1870 east | 31 | 18 | 17 | 21 |
| 1870 west | 19 | 6 | 11 | 12 |
| 1880 east | 35 | 20 | 28 | 22 |
| 1880 west | 22 | 21 | 17 | 12 |

Source: U.S. Census manuscript schedules. Income as sum of income from production of wheat, corn, rye, oats, potatoes, peas and beans, hay, wool, butter, cheese, orchards, gardens, and slaughter.

Table 3

Percentage share of farm income from wheat, corn, rye, and oats

| | Shakers | Neighbors | Counties | States |
|-----------|---------|-----------|----------|--------|
| 1850 east | 11 | 18 | 20 | 16 |
| 1850 west | 44 | 66 | 64 | 65 |
| 1860 east | 10 | 17 | 17 | 23 |
| 1860 west | 36 | 39 | 59 | 55 |
| 1870 east | 9 | 11 | 15 | 8 |
| 1870 west | 51 | 36 | 47 | 48 |
| 1880 east | 8 | 10 | 11 | 9 |
| 1880 west | 44 | 39 | 56 | 68 |

Source: U.S. Census manuscript schedules. Income as sum of income from production of wheat, corn, rye, oats, potatoes, peas and beans, hay, wool, butter, cheese, orchards, gardens, and slaughter.

Table 4

Percentage share of farm income from hay, wool, and livestock slaughter

| | Shakers | Neighbors | Counties | States |
|-----------|---------|-----------|----------|--------|
| 1850 east | 49 | 55 | 52 | 56 |
| 1850 west | 17 | 30 | 25 | 25 |
| 1860 east | 51 | 63 | 57 | 50 |
| 1860 west | 32 | 45 | 26 | 31 |
| 1870 east | 55 | 61 | 59 | 60 |
| 1870 west | 26 | 57 | 39 | 37 |

Source: U.S. Census manuscript schedules. Income as sum of income from production of wheat, corn, rye, oats, potatoes, peas and beans, hay, wool, butter, cheese, orchards, gardens, and slaughter.