

**Community Supported Agriculture in the Mid-Atlantic Region:
*Results of a Shareholder Survey and Farmer Interviews***

By Lydia Oberholtzer

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Project Information

This report was prepared for the Small Farm Success Project, a collaborative effort by educators, researchers, and others affiliated with University of Maryland Cooperative Extension, Future Harvest–Chesapeake Alliance for Sustainable Agriculture (CASA), Pennsylvania Association for Sustainable Agriculture, USDA Agricultural Research Service, Henry A. Wallace Center for Agricultural & Environmental Policy at Winrock International, Accokeek Foundation, and Pennsylvania State University. The Small Farm Success Project focuses on supporting and expanding marketing opportunities for small-scale farmers in the Mid-Atlantic region. Community supported agriculture (CSA) is one marketing venue that can contribute to the success of small farms.

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Foreword

As the population grows in the Mid-Atlantic region, the price of land continues to escalate. Farmers cannot justify paying the same cost for land in agricultural use as builders will for residential or commercial development. As a result, land in agricultural use is decreasing and the average size of farms, as measured in acres, is growing smaller. However, we can also see that farmers are adapting to this situation. The same population growth that has increased the price of land has also created enormous markets for farmers. As one of my farmer friends says, “Despite our problems in the Mid-Atlantic, we are a market-rich area for agricultural products.”

High-value land demands high-value products. Farmers add value to their production by (1) raising fruits, vegetables, and ornamental horticultural products; (2) processing food on-farm; (3) practicing organic agriculture; and (4) selling directly to consumers. Direct marketing to consumers includes traditional strategies such as farmers’ markets, restaurant sales, roadside stands, and pick-your-own. One of the newer marketing strategies is community supported agriculture or CSA.

In CSA, members (or shareholders) pay the farmer in advance to cover at least part of the anticipated costs of the farm operation. In return, they receive shares in the farm’s production throughout the growing season. Often this takes the form of one or two bags of vegetables and/or fruit every week. Besides receiving working capital in advance, farmers develop a loyal customer base and may receive better prices for their crops.

As a marketing alternative, CSA has been increasing rapidly in recent years. However, we still do not understand fully its operation. Some farmers observing this phenomenon want to learn more so that if they do start a CSA, it will be successful. Other CSA farmers are pondering why their CSA has never achieved the financial success for which they had hoped.

Lydia Oberholtzer, formerly of the Henry A. Wallace Center for Agricultural & Environmental Policy at Winrock International, explores these issues fully in this publication. Through in-depth farmer interviews and a survey of consumers who participate in CSA, she has identified key issues required for success. In particular, she sheds important light on what is required by the farmer to retain shareholders from year to year, perhaps the biggest constraint to long-term success.

This publication will be useful to both farmers and policy-makers; the ‘lessons learned’ from it will help farmers as they adapt to the continuously changing landscape of the Mid-Atlantic region.



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Executive Summary

As in many other places in the United States, urban development and population growth in the Mid-Atlantic region are fueling farmland conversion. For farmers in these areas to remain competitive, many are turning to high-value agricultural enterprises and alternative marketing strategies. Increasingly, farmers are marketing their products directly to the region's expanding urban and suburban populations, choosing to sell through farmers' markets and other direct marketing alternatives, such as community supported agriculture (CSA), rather than through wholesale marketing channels (Hanson, 1998). In the Mid-Atlantic, CSA is an important marketing approach for some farms, especially small-scale operations.

Historically, CSA is an arrangement whereby members or 'shareholders' of a farm pledge in advance to cover the anticipated costs of the farm operation and the farmer's salary. In return, they receive a share in the farm's harvest throughout the growing season. In the traditional model of CSA, growers and consumers provide mutual support and share the risks and benefits of food production. Another central idea is that by selling directly to members who have provided the farmer with working capital in advance, growers may receive better prices for their crops and gain some financial security.

To better understand CSA farms in the Mid-Atlantic region, researchers with the Small Farm Success Project, a collaborative effort focused on supporting and expanding marketing opportunities for small-scale farmers in the region, explored the functioning of CSA farms and analyzed the key opportunities and limitations of these farms. The study area spans Maryland, Pennsylvania, and Virginia. The research consisted of interviews with 13 current and former CSA farmers, conducted primarily in the fall of 2001, and a survey of 276 CSA shareholders from 4 farms, conducted in the first months of 2003. This report provides an analysis of the important challenges faced by CSA farmers in the region, as revealed by the farmer interviews, as well as a more in-depth study of CSA shareholder satisfaction and retention.

Key Issues for CSA Farmers: Results from Interviews

The 13 farmers interviewed possess a number of common characteristics. First, they are relatively new to CSA farming, with an average of 11 years of total farming experience and 4.2 years of experience with CSA. Most of the CSA farms in the study were small, with a median of 6 acres in production, and used organic production methods. Most served urban and suburban markets, with only two serving rural markets exclusively. The average number of shares provided to households was 100 (with a median of 80 shares), and the price of the share averaged \$465. Of the 13 CSA farms that were part of the study, 6 obtained their farm income solely or primarily from CSA, while one obtained only 1 percent of gross farm income from CSA. The others relied on farmers' markets, restaurants, and local food stores (often natural foods retail stores) as complementary marketing outlets. Many of the farmers, especially those with access to urban customers, described unlimited markets for their products. Most view the CSA model as a good marketing tool, and talked positively about CSA farming, even those who were no longer running a CSA. However, many also reported key challenges, including membership retention, farmer income, and labor, as well as a list of individual difficulties.

Farmers reported many different reasons for using CSA as a marketing channel. For the vast majority of the farmers interviewed, the economic aspect of CSA (specifically securing funds before the production season) was mentioned as a key driving force in starting a CSA farm, even though some are struggling financially. In addition, most of those interviewed have a strong environmental ethic, and believe that organic production is an important component of CSA. Although historically the social aspects of CSA are considered an integral part of the concept, only 3 of the farmers interviewed were motivated by them.

Shareholder retention and recruitment is a major challenge for many CSA farms, and a difficult one to resolve. The average annual retention rate reported by the 13 farmers interviewed was 53 percent, with a range of 10 to 90 percent. While several farmers seem to enjoy high retention rates and long waiting lists of potential members, most are grappling with this issue. The farmers view produce quality, quantity, and variety, and providing product choice as key elements to shareholder retention. Communication issues, especially use of a weekly newsletter and personal contact, were also noted as important. Word-of-mouth advertising and favorable newspaper articles were the most effective forms of membership recruitment reported.

Farm labor is a significant concern for CSA farms. The median number of hired workers on the CSA farms (including farmers) was 2.4. Labor arrangements in CSA often include seasonal employees, interns/trainees, and/or assistance from shareholders. In general most of the CSA farmers interviewed did not expect or rely on shareholders to provide farm labor. Only 2 farmers (of 13 interviewed) said they depend significantly on shareholders as part of their labor force.

Although farm income for CSA farms in the study was higher than the national average, difficulties remain. Total median gross value of the farms interviewed was \$51,000, with \$35,000 of the total provided by the CSA portion of the farm. Nationally, only 21 percent of farms gross over \$50,000. However, for those farmers using CSA as a primary outlet, the perceived benefits for farm income varied. Most farmers noted that the CSA covered expenses, and some felt that it generated a decent wage for the farmer. However, many farms had sources of off-farm income and benefits, and adequate salaries for the farmers seemed absent in many cases.

Shareholder Retention and Satisfaction: Results of a Survey

A survey of 276 CSA shareholders from 4 CSA farms in southeastern Pennsylvania was performed to examine shareholder information and experience, satisfaction, and retention issues. Most respondents were women, lived in a suburban area, were in the 30–49 age group, and had advanced degrees. Income levels varied widely, with no one range of income making up the majority. A high percentage of the respondents were eating organic foods prior to joining the CSA, and 30 percent considered someone in their household vegetarian. Most of the survey respondents were new to the CSA experience. Over 75 percent were members for 2 years or less. This has implications for short- and long-term retention since, as one might expect, as the length of membership increases for a shareholder, so does the likelihood that he or she will return the next year and in the long run.

Farmers need to pay particular attention to the reasons shareholders join CSA farms when recruiting new members. The desire for fresh, organic, and/or local produce and to support a local farmer or farm rated the highest in terms of importance. These results are similar to a number of other recent surveys. Rating lowest (i.e., the least likely reasons for joining a CSA) were trying new foods, convenience, less expensive food, and an opportunity to work on the farm.

Farmers should not expect involvement by members on the farm. Although shareholder involvement in farm activities (e.g., farm labor, farm festivals) is traditionally an important part of the CSA concept, almost 50 percent of shareholders did not take part in any form of farm activity other than picking up their share. Many respondents noted that they too busy with work or had scheduling conflicts with the farm events.

CSA farms are providing adequate vegetables during the growing season, and participation in CSA is changing produce consumption patterns. A majority of shareholders were able to obtain a large percentage of their vegetables during the growing season from their CSA, and large majority of the shareholders reported being able to use most of the share each week. Patterns of consumption, both in terms of variety and amount of produce consumed, are being affected by participation in CSA. Almost three-quarters (74 percent) said

they increased the variety of produce consumed due to CSA participation, while 58 percent said they increased the amount of produce consumed.

Shareholder satisfaction with various aspects of CSA needs to be examined fully to retain shareholders. Most shareholders said that the CSA matched (56 percent) or exceeded (20 percent) their expectations. The survey results also indicate that shareholders seemed generally satisfied with most aspects of the CSA experience. Freshness and quality of produce received the highest ratings. The lowest ranking aspects were communication with the farmer, social/community aspects or activities of farm, and the variety/mix of other foods. However, except for the last two aspects just mentioned, all other aspects were each rated as satisfactory or very satisfactory by over 70 percent of respondents.

Shareholders understand and accept the idea of sharing the risk of the season with a farmer—a key CSA concept. The study results show that respondents overwhelmingly understood the concept of risk; knew it prior to joining the CSA; believed that they accepted some of the risks in the past season; and were comfortable with that amount of risk. The fact that 2002 was a difficult season, in terms of drought and possibly the amount of produce provided to shareholders, makes these results even more noteworthy.

Although short-term retention rates were fairly high for the participating farms, longer-term retention remains a challenge. Sixty percent of respondents, across all farms, said they would purchase a share for the 2003 season (short-term retention), while 18 percent said they were unsure at the time of the survey. Of those who said they would return in 2003, 71 percent (or 47 percent of the total number of respondents) were committed for the next 3–5 years (long-term retention), and 26 percent were unsure. The retention rates, however, varied among the farms. The top reasons that shareholders gave for not returning to the CSA, or being unsure about their return, included time constraints and transportation issues (e.g., pick-up site or farm inconvenient), moving away from the area, or transferring to another CSA. Many felt that the amount of produce provided for the cost of the share was not enough. On the other hand, others could not use all the produce and had difficulties with the variety of produce.

The survey uncovered shareholder traits associated with short- and long-term retention. Those shareholders more likely to return in the short-term tend to be members of the CSA longer, and are older than other members. They have a number of reasons for joining the CSA and tend to be satisfied with the quality, quantity, and freshness of the produce. They also believe that the amount and variety of produce they consume has increased over time; that they purchased higher percentages of the vegetables they consumed from the CSA; and used a higher percentage of the share each week. Long-term returnees tend to be members of the CSA longer on average, and have higher incomes than other members. They were more likely than other members to purchase most of their vegetables from the CSA. They also tend to be satisfied with the quality, quantity, and freshness of the produce.

Introduction to Community Supported Agriculture

Urban development and population growth in the Mid-Atlantic region, as in many other places in the United States, are fueling farmland conversion. In Maryland and Pennsylvania, two of the states included in this study, farm numbers and farmland acreage have fallen dramatically in recent years. Total farm numbers in Maryland declined by 18 percent, and farmland acreage fell by 10 percent, from 1987 to 1997. During the same period, Pennsylvania's farm numbers fell by 12 percent and farmland acreage by 8 percent. By comparison, the national average was 8 and 3 percent, respectively (USDA NASS, 1999). Furthermore, 2 of the top 20 threatened agricultural areas (based on market value of agricultural production, development pressure, and land quality), as rated by the American Farmland Trust, include parts of southeastern Pennsylvania and Maryland: the Northern Piedmont region is ranked number 2 and the Mid-Atlantic Coastal Plain is ranked number 9 (Sorensen et al., 1997).

To remain competitive, some farmers in the region have turned to high-value agricultural enterprises and alternative marketing strategies (Shelsby, 1999; Tubene, 2002). Increasingly, farmers are marketing their products directly to the region's expanding urban and suburban populations, via farmers' markets, community supported agriculture (CSA), and other farm-to-consumer alternatives, rather than through wholesale marketing channels (Hanson, 1998). In a study of the Northeast's food system (which includes statistics for Pennsylvania and Maryland), direct marketing was noted as a natural fit for farmers and consumers in the region, because of its dense population and many urban-fringe farms (Ruhf et al., 2002).

In 2003, an online database maintained by the Robyn Van En Center for CSA Resources listed over 900 CSA farms across the U.S. This number is most likely a conservative estimate of the total number of CSA operations in the country today. In Maryland, Pennsylvania, and Virginia, the states that were the focus of this research, there were approximately 124 CSA farms listed for 2003, almost 14 percent of the total. Clearly, the Mid-Atlantic area is an important place for CSA farms and consumers.

CSA farms in the U.S. were first established in the mid-1980s. Historically, CSA has consisted of "a community of individuals who pledge support to a farm operation so that the farmland becomes, either legally or spiritually, the community's farm, with the growers and consumers providing mutual support and sharing the risks and benefits of food production. Typically, members or 'share-holders' of the farm or garden pledge in advance to cover the anticipated costs of the farm operation and farmer's salary. In return, they receive shares in the farm's bounty throughout the growing season, as well as satisfaction gained from reconnecting to the land and participating directly in food production" (DeMuth, 1993). Another central idea in CSA farming is that by selling directly to community members who have provided the farmer with working capital in advance, growers may receive better prices for their crops and gain some financial security.

There are many hopes and ideals surrounding CSA as a marketing tool for small farms, and as a vehicle for community development and ecologically sound farming. Some of the farmers interviewed for this Mid-Atlantic study believe that CSA is "the" farming alternative that will allow small farms to remain viable. Others see CSA as just one of several marketing strategies for their farm's products. Because of these different ideologies and goals, CSA takes on many forms. The spectrum ranges from CSA farms that embrace the 'community model' and emphasize community-building, to farms that use a subscription-based format and highlight the economic benefits of CSA for the farm operation. Some

farms rely solely on CSA, while others are diversified into many different markets, such as farmers' markets, retail, and restaurant sales (Lass et al., 2003). In addition, some operations are farmer-led, whereby a farmer seeks shareholders¹ to become annual members in the CSA. There are also CSA farms that are shareholder-led, where community members seek out a farmer or farmers to provide their food.

Among existing operations, there is much variability in the extent that shareholders participate in decision-making regarding the CSA operation. A research study by Ostrum (1997), focused on CSA farms in the Midwest, identified three basic models regarding decision-making and participation in CSA. In the first arrangement, the farmer(s), a 'core group,' and members share in decision-making on the farm, with significant dependence on members' labor. The core group consists of farmers and non-farmer volunteers who help to start and/or administer the farm. In the second model, decision-making is farmer-led and the labor pool generally consists of the farmer(s) and hired labor. The third model can be a mixture of the other two arrangements, with the farm organized as a non-profit organization with a board of directors involved in decision-making. In practice, however, farms rarely fall into just one category. Groh and McFadden (1998) have also outlined a number of different variations on the more-typical CSA theme—from congregation or corporation supported agriculture to CSAs involving low-income households or homeless people.

According to Groh and McFadden (1998), there is a regional difference between CSA operations on the East coast where CSA first developed in the U.S., and those on the West coast. The first CSA farms on the East coast were based on the idea that a "group within a community—an already organized group or just a number of people in a given geographical area—would commit to support a farm for the entire year" (p. 82), regardless of the amount of harvest. On the West coast (e.g., California), farmers were not relying on CSA to cover an entire farm's budget or even a large portion of it. Rather it was perceived as an add-on marketing concept for 40–100 acre farms that were already oriented towards wholesale markets, or farmers' markets and other direct markets.

CSA operations range from serving a few dozen members to several hundred (with the largest CSAs serving thousands). Many use organic or biodynamic farming methods and strive to provide fresh, high-quality foods. Some encourage members to work on the farm in exchange for a portion of the membership costs. Most offer a diversity of vegetables, fruits, and herbs in season. Some also provide eggs, meat, milk, baked goods, flowers, and other farm products. Delivery and presentation of the share vary considerably: Some farmers bag or box the produce for each shareholder, while others set up a stand and allow some choice of items. Many farmers prefer that members pick up their share on the farm itself, while others deliver to drop-off sites. Share sizes and prices, payment plans, and shareholder benefits (such as you-pick vegetables and other on-farm activities) also differ greatly among CSA farms.

In terms of risk-sharing, ideally, CSA "lets farmers and consumers share in the risks and benefits of farming. Unlike conventional agriculture, in which farmers alone bear the risks of weather, pests, and the marketplace, in community supported agriculture, the entire farm community shares both bounty and scarcity" (CIAS, 1998). In practice, however, many farmers do not practice full risk-sharing with their shareholders. For example, some may purchase produce and other items from neighboring farms if production is not adequate to meet shareholder expectations.

Despite the differences in operation and organization of CSA farms across the U.S., some general characteristics are apparent as well. According to a national survey of 368 CSA farms (Lass et al., 2004),

¹ Farmers use different language when talking about their shareholders. Some call them clients or customers, while others call them members. Often this reflects the CSA's underlying philosophy, with the more community-based farms calling them shareholders or members, and subscription-based farms calling them clients or customers. In this report, the terms are used interchangeably.

CSA operations are concentrated in three geographic regions (i.e., the Northeast, West Coast, and North Central states); they tend to be small enterprises with complementary farming or marketing strategies; and they use environmentally-friendly production practices. CSA operators are younger than the average U.S. farmer, and are relatively new to farming. There are also more women taking credit as primary farmers than on the average U.S. farm. The survey found that CSA farmers are virtually all white (98 percent of respondents) and highly educated (over 95 percent attended or graduated from college). In addition, many CSAs use non-traditional land tenure and business structures.

There are several practical guides for starting and running a CSA operation (e.g., Fulton Center for Sustainable Living, 1998; Henderson and Van En, 1999; Van En, 1992) and websites that compile a full range of additional resources (e.g., Gold, 2003). *Farms of Tomorrow Revisited* offers an excellent overview and case studies of CSA farming, as well as practical advice for potential CSA farmers (Groh and McFadden, 1998). Many of the benefits and disadvantages of CSA, for both the farmer and the shareholder, have been described in these publications, so will not be discussed at length in this report.

Although much of the existing literature on CSA tends to consist of descriptive accounts or resource information for farmers, analytical work and statistical data are slowly being compiled also. The recent national survey of CSA farms (Lass et al., 2004) is a major piece of this research. In addition, Lass and Sanneh (1997) have provided economic costs and returns for 26 CSA farms in the Northeast. Several studies have compared CSA share costs and retail produce values (CIAS, undated a; Conner 2003; Cooley and Lass, 1997; Sabih and Baker, 2000), and generally found more favorable prices for CSA shareholders compared to retail produce, both conventional and organic. Ostrum's 1997 dissertation provides a comprehensive analysis of farmer and shareholder issues for 24 farms in Wisconsin and Minnesota, and Suput's (1992) early master's thesis examines various aspects of CSA farms in Massachusetts.

Studies of CSA membership and related issues are still quite limited in number. Lass and colleagues (2003) have noted the need for additional research to better understand CSA shareholders and retention. The several studies that have focused on issues surrounding CSA shareholders include an analysis of CSAs on the central coast of California (Perez, 2002; Perez et al., 2003), a study of seven CSAs in the southeastern U.S. (Kane and Lohr, 1997b), and a survey of two CSA farms near Ithaca, New York (Conner, 2003). In addition, Kolodinsky and Pelch (1997) used a shareholder survey to examine the factors influencing the decision to join CSA farms in Vermont. Some of the results from these studies are discussed in more detail in the following sections of this report.

Finally, there are few studies that focus on CSA farms in the Mid-Atlantic region. The Small Farm Success Project team hopes that this report will add value to the literature on CSA farms in general, and on shareholder satisfaction and retention issues in particular, and in doing so, help CSA farmers and supporters to extend their success in the region.

CHAPTER TWO

Study Approach

The study of CSA farms in the Mid-Atlantic region that is described in this report had three main goals: (1) to better understand the characteristics and functioning of CSAs in the region; (2) to examine the innovative methods used by CSA farmers; and (3) to explore challenges (especially member retention) and opportunities for CSA marketing in the region. The study area spans Maryland, Pennsylvania, and Virginia. Phase I of the research consisted of farmer interviews and was conducted primarily in the fall of 2001. Phase II consisted of a survey of shareholders from 4 southeastern Pennsylvania CSA farms, performed in January 2003. This report analyzes the results from the farmer interviews and the shareholder survey, in order to shed light on many of the important challenges faced by CSA farmers in the region, and to provide an in-depth analysis of shareholder satisfaction and retention concerns.

In advance of the research, the author conducted an extensive review of the research literature and other types of information on CSA farming. The publications consulted included journal articles, academic theses and bulletins, and other reports, along with 'how-to' manuals, newsletters from CSA farms, and Internet resources. In addition, the author brings practical experience to the project, having worked on two CSA farms and participated as a core group member on one CSA farm.

Farmer Interviews (Phase I)

Formal interviews were conducted with 11 current and 2 former CSA farmers (13 total). Ten farmers were interviewed in the fall of 2001, and three in the fall of 2002. The CSA farms were chosen to represent the full range of CSA operations and philosophies (e.g., community-based versus subscription-based farming) in the study area. Eight farmers were located in central or southeastern Pennsylvania, 3 in Maryland, and 2 in northern Virginia. Seven of the 13 interviews were conducted in-person, with the remaining carried out via telephone. The interview period ranged from 1-1/2 hours to 3 hours, and farm tours accompanied the in-person interviews. For the 11 current CSA farmers, the interview results refer to the 2001 (for those farmers interviewed in 2001) or 2002 seasons (for those interviewed in 2002). For the two farms that were no longer running CSAs, the interviews referred to the last year they were operating (1998 or 2000 seasons).

To supplement the farmer interviews, formal interviews were conducted with staff from two organizations serving CSA farms in the Mid-Atlantic region². These interviews were conducted to investigate many of the issues raised with individual CSA farmers, and to examine more closely the methods used by these organizations.

The farmer interview instrument was developed to collect information about the farmer's experience and interests; the farm's history and current marketing structure; how the CSA is organized and types of services provided; shareholder demographics, recruitment and retention issues; farmer's major concerns and problems with CSA; and advice for potential CSA farmers. Profiles of six of the farms, describing their operations and key marketing advice and challenges from the farmer's viewpoint, were compiled by the author and published earlier in pamphlet-form (Oberholtzer, 2002).

² Organizations or other structures (e.g., coalitions of CSA farms) that serve more than one CSA seem to be increasing in number across the U.S. (see Henderson, 1999, and Ostrum, 1997, for more on these organizations).

Shareholder Satisfaction and Retention Survey (Phase II)

In Phase II of the study, shareholders from four CSA farms in southeastern Pennsylvania were surveyed to examine shareholder satisfaction and retention issues. The idea for the survey was initiated by one of the farmers who ultimately participated in the survey. Additional farms were recruited for the study with the assistance of the Pennsylvania Association for Sustainable Agriculture (PASA) and Farm to City.³

The survey questionnaire was developed using information gleaned in the literature review and from the farmer interviews conducted in Phase I (see Appendix A for a copy of the full survey). In addition, many of the questions were based on the survey instrument used by Kane and Lohr (1997b) to study CSAs in the southeastern U.S. Each of the 4 participating farmers was asked twice to review the survey tool. The survey was directed at the 2002 harvest season, and was organized as follows:

- Section I examined the shareholder's experience, including type of share purchased by the household (e.g., full or half, working or non-working), length of membership, reasons for participating in CSA and his/her expectations, use of produce received, and participation in activities.
- Section II focused on shareholder satisfaction, with questions on share cost, whether he/she would join in future, his/her perception of risk-sharing, and others. Likert scales were used to obtain specific ratings of various aspects of the experience (e.g., quantity of produce).
- Section III gathered demographic information on the shareholder and his/her household.

Contact lists of CSA members from the 2002 season were obtained from the CSA farmers. In total, 495 surveys were mailed in January 2003. All 2002 season members of three of the farms (Farms #1, #2, and #4) were surveyed. Because the member list of Farm #3 was sizeable, 50 percent were selected. To accomplish this, member names were divided into the four drop-off locations (in Philadelphia and surrounding suburbs), and 50 percent were randomly sampled from each location. Survey response rates (and other descriptive statistics) are provided in Chapter 4, with the full results in Appendix B.

The survey data were entered into SPSS for analysis. The farmers were provided with a preliminary report of the shareholder survey in March 2003 to help them make decisions prior to the 2003 season. A correlation analysis was also completed with many of the survey variables and those variables used to define short-term and long-term shareholder retention. The narrative examines those variables found to be significant, with the data from that analysis appearing in Appendix C. Although there are some interesting differences in the results among the individual farms (See Appendix B for details), for the most part these were not analyzed for this report.

Some context for the 2002 CSA season should be noted. In 2002, the Mid-Atlantic region experienced a severe drought affecting production on many farms in the region. Therefore, it may well be that surveyed shareholders received less produce than in an average year. However, in some cases, CSA farmers may have purchased products from neighboring farms to make up for shortfalls, and thus those shareholders are less likely to have felt the impacts of the drought. The drought's overall effect on shareholder retention is difficult to judge because the survey questionnaire did not directly address the issue. However, it is clear from the responses in some sections of the survey that shareholders were aware of the drought and the resulting difficulties for the CSA farms.

³ **PASA** is a statewide, nonprofit membership organization working to improve the economic and social prosperity of Pennsylvania food and agriculture (see <http://www.pasafarming.org>). **Farm to City** is a business that connects farmers to markets in the Philadelphia area through CSA farms, farmers' markets, and other programs (see <http://www.farmtocity.org>).

CHAPTER THREE

Farmer Interviews: Results and Discussion

Farm and Farmer Characteristics

The CSA farmers interviewed for this study are relatively new to CSA farming. The average number of years of experience as a farmer for those interviewed was 11 years. The average number of years running a CSA farm was 4.2 years. Of the 13 CSA farmers interviewed, 5 were females. Two farms were led exclusively by female farmers, and 7 were led exclusively by male farmers.

Table 1 compares selected farm and farmer characteristics from this study with the findings from a national survey of CSAs. The median total acreage for the farms that were part of the study was 60 acres (range 11–300 acres) with a median of 6 acres in production (range 5–200 acres). These numbers include both rented and owned land, and are similar to those found in the national survey (Table 1).

Table 1: Comparison of CSA Farms and Farmers from Mid-Atlantic and National Surveys

Characteristic	Mid-Atlantic Survey	National Survey ^a
No. years farming (average)	11	13.9 ^b
No. years running CSA (average)	4.2	5.5
Cropland acres operated (primarily vegetables/fruit) (median)	6	7
Gross farm income (median)	\$51,000	\$20,000–29,999 (range)
CSA farm income (median)	\$35,000	\$15,000
Full share price (average)	\$465	\$412
Season length (average)	23 weeks	23 weeks

^a Lass et al., 2004. (The number of respondents was 368.)

^b 13.9 years is the reported average for “Farmer A” in the national survey. Farmer A best represents those interviewed in this study.

Ten of the farms were certified organic.⁴ The other three farmers consider their farms organic, although they were not certified. Six of the CSA farms served only urban/suburban markets; two served only rural markets; and five served both rural and urban/suburban markets. The urban/suburban markets focused on the Baltimore, Philadelphia, and Washington, D.C., metro areas.

The farms varied widely in the types of shares offered to members: Some offered only full shares, others provided full and half shares, and one farm offered a range of 1- to 5-person shares. To provide consistency for this analysis, a full-share equivalent was developed. Using this equivalent, the farms’ CSA production ranged from 27 to 250 shares, with an average of 100 shares and median of 80 shares⁵. For the 11 CSA farms still in existence in 2001, 1,100 shares were provided in total; the number of households served is likely greater since many farms had members splitting shares. Share costs ranged from \$310 to \$560 for a full share, with an average of \$465 (higher than the national average of \$412 reported in Table 1). The average weekly price for a full share was \$20, with a range of \$16 to \$25. The season length averaged 23 weeks (similar to that found in the national study), with a range of 16 to 26 weeks.

⁴ These interviews were completed before October 2002, when the national organic standards went into effect.

⁵ One farmer who had designed his CSA very flexibly was omitted from the price and season length calculations because he provided a per-week price (\$9.50 for a 1-person share and \$15 for a 2-person share) and allowed the members to choose which weeks they wanted delivery, up to a total of 16 weeks.

To deliver the produce shares to their members, 4 of the 13 farms arranged for pick-up exclusively on the farm. Many of the other 9 farms had pick-up options on the farm, but also made deliveries to central pick-up sites, ranging from 3 to 10 sites for each farm. One farmer even delivered the share to each member's door for the first 2 years of his CSA. The bulk of the shares were filled with vegetables, and a smaller amount of fruits (largely melons and berries). None of the farmers provided meat products from their own farms, but over half of the farmers offered them at an additional cost through neighboring farms. Over half provided eggs and/or cut flowers, but usually at an additional price, and a few provided limited you-pick opportunities on the farm as well.

Reasons for Starting a CSA Farm

Most of the farmers had some farming background, as apprentices or farmers, although for 5 farmers, working on a CSA farm was their first experience as a farmer (either on their own farm or as apprentices). Many had been introduced to the concept by other farmers; others were led to it by their experience on other CSA farms. When asked why they started a CSA, or expanded their operations to include CSA, the farmers cited a variety of reasons. For the vast majority of those interviewed, the economic aspect of CSA—specifically, securing funds before each production season—was mentioned as a key reason, yet some are still struggling financially. Most of the CSA farmers interviewed also have a strong environmental ethic, and believe that organic production is an important component of CSA farming (and shown by the fact that 10 of the 13 farms were certified organic). One farmer noted, however, that the environmental aspect of CSA became too much of a factor in running the CSA, “so much so that [he] threw a blind eye to the economics and lost a lot of money over a 4-year period.”

The social aspects (e.g., community-building) of CSA are traditionally an integral part of the concept. However, while most farmers interviewed enjoyed the social components of the CSA (e.g., communicating with members, putting on farm festivals), only 3 farmers viewed community-building as a key element of their farm. For example, one farmer said that she started a CSA because she wanted “a community of people to grow food for; a community that understands the farm and is committed to it.”

One farmer explained the driving force behind why her family had started a CSA, and how their reasons for running a CSA operation have evolved over time. Neither she nor her husband had farming experience before they bought a farm, and they heard about CSA at conferences and from other farmers. They use several marketing outlets, including CSA, farmers' markets, and restaurants.

For us, [CSA] is part of the balance of the farm. We grow a lot of diverse crops and we have a lot of diverse markets. This is just part of the diversity. Organic was a nice way for us to start out but we were not diehards. We are getting more into it and seeing the bigger picture. We are also starting to see the social thing. But, we have 29 members this year and maybe 5 of them get the entire picture—the environmental and social aspects of CSA.

For the most part, the farmers interviewed for this study sought out mentors as they developed their CSA farms. Others started by reading 'how-to' manuals, and attending conferences to gather ideas. Many suggested that new CSA farmers start out by networking with established farmers to gather ideas and advice. A few urged new farmers to avoid CSA operations until they gained production experience, because of the season-long pressure to meet shareholders' expectations. This advice comes from others, too. Elizabeth Henderson, CSA farmer, author, and CSA leader, notes that farmers going into CSA should have experience and be confident that they will provide enough food because providing weekly shares can be very stressful (NE SARE, 2002).

Farm Income and Labor

Farm income is a critical issue nationally. A report from the USDA Economic Research Service found that over 95 percent of household income on farms comes from off-farm sources (Mishra et al., 2002). The ratio of off-farm income to household income is even higher for small and limited-resource farms. Six out of 10 CSA farms in this study (only 10 of 13 farmers answered this question) reported having some type of off-farm income, including income from a spouse working full-time off the farm and/or the farmer's part-time income from off-farm work during the winter months.

Of the 13 farms that were part of this study, 6 obtained their farm income solely or primarily from the CSA operation⁶. On the other side of the spectrum, one farm used wholesale markets for 98 percent of its income, and relied on CSA for less than 1 percent. The other 6 farms had mixed-marketing operations and generally used farmers' markets, restaurants, and local food stores/grocery stores as additional marketing outlets. In terms of shareholder capacity, a few said they wanted to increase their share numbers, but most of those interviewed were satisfied with their current number of shareholders. One farmer said he wanted to get out of CSA farming to focus on other marketing outlets that were less labor intensive.

For the 13 farms surveyed, the median gross value of the CSA portion of farm sales was approximately \$35,000 (ranging from \$10,500 to \$120,000). For these farms, the median gross value for all farm products (including sales from other marketing outlets) was \$51,000 (ranging from \$15,000 to \$600,000). These numbers are higher than the national median for CSA farms of \$15,000 and \$20,000–29,999, respectively (Table 1). They are also higher than the average for all U.S. farms; according to 2002 census data (USDA NASS, 2004), only 21 percent of farms gross over \$50,000 a year. However, it should also be noted that these data include many farms, 39 percent of the total, that are very small—grossing less than \$2,500 a year.

Obtaining detailed income data from the CSA farmers interviewed was difficult. For 7 of the 13 farmers interviewed, CSA is just one of several marketing outlets for the farm's products. In the cases where CSA did not make up the majority of income, it is difficult to analyze income and expenses because often farmers will lump CSA expenses with other farm enterprises. For these farmers, however, the CSA portion of the farm seems to complement other marketing methods quite well. Most importantly, as noted by most of the farmers interviewed, the CSA arrangement provides operating capital up front and early in the season. Some researchers (CIAS, undated b) have warned CSA farmers that while mixing marketing strategies can provide economic benefit, it can also cause conflict with shareholders if they are short-changed because a crop is in short supply. This was also mentioned by a couple of the farmers interviewed for this report. The CIAS researchers noted that most CSA farmers in their studies had provided for their CSA members first, unless they had set aside a special planting for another market.

For those farmers using CSA as a primary outlet (6 of the 13 farmers interviewed), the perceived benefits for farm income varied. Most said that the CSA covered general expenses, and a handful felt that it generated a decent wage for the farmer. However, a handful of the farmers had spouses working off-farm with a good salary and benefits, including health insurance. In a couple of cases, the land was inherited and there were no mortgage costs. For the most part, however, in this study, adequate salaries for the farmers seemed missing from their analysis of operating expenses. This is also true elsewhere. A study of 26 CSA farms in the Northeast showed that CSA operators often do not include their own wages or salaries in computing their share price, so average share prices would need to be raised by at least \$120 to account for their wages (Lass and Sunneh, 1997). As these authors wrote, “[it] is unlikely

⁶ Of the 6 farms, only 2 reported 100 percent of farm income from the CSA. The other 4 reported 1–10 percent of farm income from other marketing outlets.

that many operations can exist very long by not paying the operator a fair wage.” Likewise, a Canadian study found that CSA share prices typically covered operating costs only (Sabih and Baker, 2000).

Although the gross median value of CSA farms in this study suggests an optimistic economic picture, some researchers report that CSA farmers continue to struggle to obtain adequate returns on their labor and adequate health care and retirement security (CIAS, undated b; Ostrum, 1997). They warn that CSA income can cover some initial operating expenses (such as seeds and basic supplies), but it does not generally cover major start-up costs. From interviews with farmers who had quit CSA farming, Henderson (1997) found that farmers most frequently stop because they do not have enough shares to cover the costs of a full-time farmer and that off-farm employment opportunities (and the salaries they bring) compete for their time. From interviews with CSA farmers in Wisconsin and Minnesota, Ostrum (1997) found that the least satisfactory aspect of CSA farming appears to be economic, and that most farms depended on some form of off-farm income to supplement the CSA operation.

Farm labor is also a significant concern for most farms, both small and large. CSA farming is labor intensive, from the work in the fields to the bagging of the produce, and often involves very narrow windows of time for harvesting. CSA farms vary considerably in their use of outside farm labor. CSA farmers have a number of options when additional farm labor is needed. As with many farms, they can bring in seasonal help or take on interns/trainees. Additionally, they can look to their shareholders for help with farm labor, and other farm activities, during the season. In general, however, most of the CSA farmers interviewed did not expect or rely on shareholders to provide farm labor. Only 2 farmers of the 13 interviewed said that they depended significantly on shareholders for their labor force. In fact, some farmers said they did not encourage shareholders to work on the farm, and recognize some of the limitations in relying on their labor. For example, one farmer said:

Shareholders are not required to work on the farm. They are ‘allowed’ to work on the farm. Their participation is not needed. I know CSAs that went out of business because [the farmers] were expecting them to come out to the farm to pick up their shares, and expecting them to work on the farm—two ways to ensure your failure as a subscription grower in DC, because of everyone’s lifestyle and the traffic.

Most farms, at a minimum, hired some type of seasonal, part-time labor. Using decimals to report part-time workers, the median number of paid workers (including farmers, part-time seasonal employees, shareholders who were paid, and others) hired on the CSA farms was 2.4. The median best represents a typical CSA since the range was 1.5 to 8.2 workers, with the two farms having the highest gross incomes (over \$300,000) reporting on the high end. In some cases, however, it was difficult for farmers to separate out the labor for the CSA from the labor associated with other marketing channels. Therefore, the 2.4 value is likely an inflated estimate, although it is also in line with the 2.8 median of hired workers found by Lass and colleagues (2004) in their national survey.

Not all farmers, however, hired workers. One CSA farmer interviewed did not want to bring in additional labor and limited the farm’s shares accordingly. This farmer described the dilemma that some CSA farmers find themselves in:

We are so small that we [have problems] if we start to deal with a small labor force. The year before, we had one part-time high school kid. We lost money on the deal. If we do a little less, and do it ourselves, we do better. I don’t know where that fine line is, but you either have to get much bigger or stay small.

A handful of farmers interviewed for this study also noted that there is a level of ‘burn out’ that can occur with CSA operations, something that farmers need to pay particular attention to over the long run. Ostrum (1997) cites the physical demands of CSA farming, and their related health consequences, as one

reason farmers stop marketing through CSA. Lass and colleagues (2004) have suggested that more research is needed to understand the complex labor arrangements in CSA farms since many have informal labor arrangements that make it difficult to examine the extent of the labor needs for CSA.

Shareholder Retention and Recruitment

The farmers were asked about their shareholder retention rates, since higher rates of turnover from year-to-year mean more time spent recruiting new members, as well as more ‘hand-holding’ of new members as they become familiar with the CSA concept and the farm. However, the issues surrounding the ability to recruit and retain shareholders are complex, including market demographics, shareholder involvement, and farmer personality, to name a few. The farmers interviewed for this study estimated that, on average, their shareholder retention rate from year-to-year was 53 percent, with a range of 10 to 90 percent. Many farmers interviewed for this study did not keep detailed statistics on retention rates and most provided a range when asked for retention rates. The average they reported is very similar to the 55 percent retention rate reported by Kane and Lohr (1997b), and falls within the 50–75 percent range reported by Groh and McFadden (1998). While a few farmers interviewed seem to enjoy high retention rates and a long waiting list of potential members, most are grappling with this issue and spend significant time on recruitment. This fact is counter to why farmers often get into CSA farming in the first place—to devote a majority of their work time to producing food (Kane and Lohr, 1997a).

Most of the farmers interviewed said that offering quality, quantity, and a variety of products was the most effective way to retain their members. Farmers also said that offering an element of choice of vegetables each week was an important way to satisfy and retain their members. Close to half of the CSA farmers interviewed allowed some choice of vegetables (e.g., by setting up a stand like a farmers’ market and giving shareholders a per-unit limit), while the rest provided a set bag or box each week. Communication issues were also noted as important in retaining members. Most see their weekly newsletter as a key element in communicating about farm happenings and how members can use their share, and to enhance shareholders’ interest in the farm. Personal contact was also perceived by the farmers to be very important for satisfying their shareholders.

In terms of recruitment of new members, all of the farmers interviewed reported word-of-mouth advertising and favorable newspaper articles as the most effective promotional tools. For instance, having current shareholders recruit other members was perceived as highly effective. Another farmer who could be choosy because he had long waiting lists used site coordinators to recruit other members and would deliver to the site only if a certain number had signed up for the drop-off location. In general, the CSA farmers did not use paid advertisements. A few farmers had tried mass mailings in the first year but found it ineffective. Targeted mailings (e.g., to alternative health-care practitioners, university offices, local food stores, etc.) were viewed as a more useful approach to reach prospective members. Several farmers also reported gaining shareholders by giving presentations to local organizations.

All of the farmers in this study (even former CSA farmers), regardless of their retention rates, reported very good relationships with their shareholders. Surprisingly, none of them complained about their members in any way, even those with very low retention rates. Additional insights on shareholder satisfaction and retention, as gained from the survey of CSA members, are reported in Chapter 4.

CSA Farmers Identify Marketing-Related Challenges and Limiting Factors

To conclude the interviews, farmers were asked to identify any factors relating to marketing or customer relations that may limit the successful operation or development of their CSA, and the major problems they face as a CSA farmer. Their answers are grouped below into four major categories: shareholder recruitment and satisfaction; farmer-centered issues; farm/structural issues; and consumer-centered issues. Because the question focused on marketing aspects, those factors cited that were primarily oriented to farm production, e.g., pest problems, were not listed. Unless noted, each represents a unique answer.

Shareholder Recruitment and Satisfaction

- Shareholder retention (mentioned by 3 farmers).
- Membership recruitment (mentioned by 2 farmers).
- Providing produce early in the season (this farmer obtains early-season produce from a neighboring farmer to fill out the bag).
- Keeping shareholders interested throughout the season (generally) and figuring out the mix of foods each week that will keep them happy.
- Keeping up with producing the newsletter and making the content interesting.
- Managing shareholder expectations during a drought year.
- Market demographics (this farmer said that her farm is in a “conservative” area and that many people in the area are not health conscious or supportive of sustainable agriculture).

Farmer-Centered Issues

- The “anxiety” factor (mentioned by 2 farmers). One said he felt anxious at the beginning of the season, while the other described a season-long stress from meeting member expectations.
- The “burn out” factor (mentioned by 2 farmers). One noted that he was ready to move on to another marketing system that was less labor intensive but provided similar profitability—“after packing that many bags over the 6 years, I don’t care if I ever see one again!”
- Too much work during both the harvest season and the entire year (including production, marketing, and recruitment) (mentioned by 2 farmers).
- Recruiting is too time consuming—too much time spent marketing in the winter and spring, and sometimes into the harvest season.
- Limited people management skills. One farmer said he is not a good manager of other people so it is difficult to have assistance from more than one other farmer/laborer.

Farm/Structural Issues

- Drop-off locations and customer parking created many hassles in cities (mentioned by 2 farmers). Farmers were unable to get permits, and one noted that he had no permanent drop-off locations and was dependent upon personal relationships with building managers and others.
- Having consistent, high-quality labor pool, and providing decent compensation for workers.
- Staying organized (e.g., deliveries must be on time, being organized for each individual consumer).
- Transfer of the farm through the family (estate planning) is creating many difficulties and may affect the future of the farm.
- Too little money overall provided by the CSA.

Consumer-Centered Issues

- The public not understanding the concept of ‘community supported agriculture,’ and the need for different terminology to describe farms that are not structured using the ‘community model.’
- The public’s eating habits (e.g., no time to cook, little knowledge of cooking fresh produce, eating fast food).

CHAPTER FOUR

Shareholder Survey: Results and Discussion

Completed surveys were returned by 276 (out of 459) shareholders from 4 CSA farms in southeastern Pennsylvania, for a 60 percent response rate overall (Table 2). Response rates for the 4 individual farms ranged from 56 to 68 percent.

Table 2: Survey Response Rate from Southeastern Pennsylvania CSAs

	No. of surveys mailed	No. of surveys returned	Response rate
Farm #1	124	69	56%
Farm #2	148	94	64%
Farm #3	116	65	56%
Farm #4	71	48	68%
All farms	459	276	60%

Farm Profiles

Short profiles of each of the participating farms appear on the following pages. In addition, Table 3 outlines some of the main characteristics of these farms.

Table 3: Characteristics of Four Participating CSA Farms

	Farm #1	Farm #2	Farm #3	Farm #4
Year started	1999	1997	2001	1996 (2000)
Market diversification	Almost all CSA; surplus to restaurants	Almost all CSA; surplus to health food stores and schools	50% CSA; surplus to restaurants, also dairy products sold	CSA only
Acres in CSA production	4	6	8	3
Total no. of shares offered	110 full shares	150 households (1–5 person shares)	230 full shares	58 households (mainly full shares)
Price per share	\$475–600 depending on pick-up site, member's work on farm	\$270–950	\$560	\$425 full/\$245 half
Season length (weeks)	25	26	24	24–25
Core group present	Yes	Yes	No	No
Estimated retention	50% (yearly average)	>50% (yearly average)	30% (2001 to 2002)	70% (2001 to 2002)

Farm Profile: Farm #1

Farming operation: The farm started in 1999 on rented land that is family-owned; 6 acres are used for CSA production. The certified organic CSA makes up the vast majority of the income for the farm, with some of the surplus produce sold to restaurants. The farmers are a wife-and-husband team.

CSA operation: The CSA offers full shares only, although many members split the shares with other households. For the first 2 years, the farm's customer base was within 10–15 miles. However, as production has increased, shares are delivered to Philadelphia, about 60 miles away. For 2002, approximately 110 full shares were sold—40 locally and 70 in Philadelphia—for 25 weeks from May to November. Local shares are available for on-farm pick-up only, and contain an unlimited amount of produce, with prices of \$475–600 depending on the number of volunteer farm work done by the member. In Philadelphia, a 'set box' of produce is delivered to central drop-off locations for \$575. The majority of the foods are vegetables, with fruits and cut-flowers on occasion. The farmer makes available chicken, eggs, cheese, milk, beef, and other products from neighboring farms. The farm offers an orientation day, a monthly newsletter, weekly e-mails to the Philadelphia shareholders, and 2 festival days. Local shareholders are encouraged to work on the farm in various capacities. In 2002, this farm had a core group that set farm policies and shared in the decision-making, although it was uncertain this would continue.

Retention rate: The farmer estimated that 50 percent of their shareholders are new members each year, but this takes into account that they have been expanding membership each year. The farmer reported that the retention rate is higher in the local area.

Key challenges: The farm has not been paying for itself, the farmer reports. They have no capital, no savings, and no medical insurance. The farmer also would like to address social issues better, providing low-income customers with fresh foods. However, she notes the discrepancy between that goal and how the farm currently functions, with many of the shares going to higher-income city households.

Farm Profile: Farm #2

Farming operation: The CSA farm started in 1997 on the farmer's family farm of 64 acres, with 6 acres in production for the CSA. The farmer markets primarily through the CSA. The farm is organized as a non-profit educational conservation center that operates the CSA as one of its five program areas. An internship program is another component, providing the farm with its entire labor force.

CSA operation: The CSA served 150 households in 2002, with share sizes ranging from one-person to five-person shares, and prices ranging from \$270 to \$950. The farm's customer base comes from an average of 8 miles from the farm, and pick-up is available only on the farm. Vegetables make up a majority of the share, and are provided for 26 weeks, from May to November. Some fruits are available, and flowers, chestnuts, and some other crops are offered on a you-pick basis. Shareholders may obtain chicken in their share from a pastured poultry farmer. The CSA has a monthly newsletter, orientation and membership meetings, volunteer work days, and a number of festival days. Shareholders are encouraged to work on the farm, and the farm has a core group whose main function is to maintain and recruit coordinators to oversee the distribution site. Some of the shareholders also volunteer to help with the newsletter, events, and education components.

Retention rate: The farmer estimates retention rates higher than 50 percent from year to year.

Key challenges: Especially during the winter and spring, the farmer spends a great deal of time and energy recruiting shareholders and interns. He also notes that the agricultural economy is very stressful, even in the CSA model. His time commitment is so overwhelming that it is only by bringing in additional financial support through the non-profit conservation center that he is able to divert some of his time from production work to educational initiatives.

Farm Profile: Farm #3

Farming operation: The CSA, started in 2001, is part of an Amish certified organic farm that has been in the family since the 1960s. The farm is 70 acres total, with 8 acres in vegetable production and 60 in pasture for grazing. The CSA makes up the majority of the farm's vegetable and fruit income; some is also sold to restaurants. Approximately 50 percent of the farm income, however, comes from dairy products. The farm runs a 50-herd grass-fed organic dairy with milk, cheese, and beef available. The farmer expressed an interest in converting most of his milk products to cheese in the future.

CSA operation: In 2002, the CSA had 230 full shares costing \$560 each, with many members splitting their shares with other households. The season lasts approximately 24 weeks from May to October. The farmer hires a non-profit organization in Philadelphia to coordinate membership recruitment and distribution to five sites in center city Philadelphia and surrounding suburbs. Vegetables make up most of the share, with some fruits available as well. Eggs are offered on special order. The CSA has a monthly newsletter and weekly emails ("what is in the box") that are created by the coordinating organization with input from the farmer. The farm has one potluck festival day that draws a number of the shareholders (150 of them in 2002). There is no provision for shareholders to work on the farm and no core group.

Retention rate: The organization that coordinates the membership recruitment estimates the farm retained 30 percent of members from 2001 into 2002 (although this takes into account moving from full and half shares in 2001 to just full shares in 2002).

Key challenges: Production in 2002 was very difficult because of the severe drought, and therefore the boxes were light. The organization tried to communicate with the shareholders to lower their expectations for harvest amounts. The move to full shares (from half shares the year before) probably meant that they lost customers because many want half shares, although the farmer encouraged households to split a full share.

Farm Profile: Farm #4

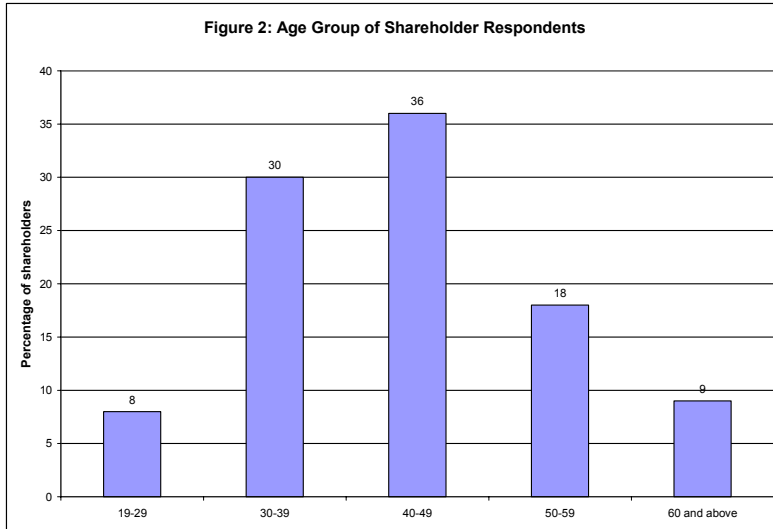
Farming operation: The CSA farmer rents approximately 3 acres of land that the farmer and his wife took over from another CSA in 2000 (the CSA at this site had started in 1996). The farm is certified organic, with all of the production going to the CSA members. The farmer draws his customer base from small towns close to the farm and the western suburbs of Lancaster City, within a range of approximately 20 miles.

CSA operation: Because the farmer took over the CSA from another farmer, the farm had an established base of clients. In 2002, the membership was limited to 58 households (up from 25 when the farmer started in 2000), with pick-up on the farm only. They provided mainly full shares at \$425 in 2002, plus some half shares at \$245. The season lasts approximately 24–25 weeks, from May to November. Vegetables make up a majority of the share. Eggs and meat are available on special order from neighboring farms. You-pick herbs and flowers are also available to shareholders. The CSA has a bi-weekly newsletter and a yearly potluck festival. Working on the farm is encouraged, and about one-half the shareholders work at one time or another on harvest days. There are a few 'working shares' that require 80 hours of work per season to receive a free share. There is no core group.

Retention rate: The farmer estimates that the CSA retained 70 percent of its shareholders from 2001 to 2002, and he thinks it will be the same for the 2003 season.

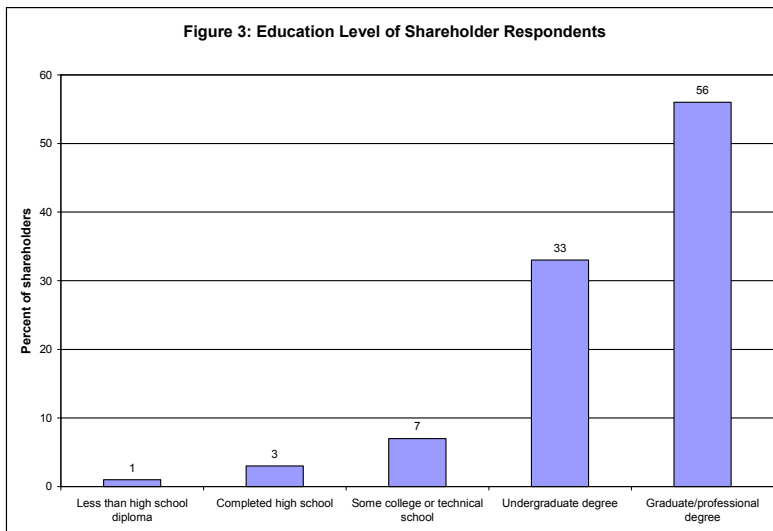
Shareholder Demographics

The survey respondents were mostly women (80 percent). Sixty-one percent said they live in a suburban area, 28 percent in an urban setting, and 12 percent in a rural area. The age of the shareholders is skewed



toward the 30–49 age groups, making up 66 percent of the total. Eighteen percent are in the 50–59 age group, and only 9 percent each are 19–29 or 60 and above (Figure 2).

The vast majority of the respondents (89 percent) have college degrees or higher, including 56 percent with a graduate or professional degree, and 33 percent with an undergraduate degree. Only 11 percent reported having some college or technical school, a high school diploma only, or less than high school (Figure 3).



Household income levels, however, ranged more widely among the respondents (Figure 4). Nearly one-third of respondents (29 percent) reported household incomes over \$100,000. Almost a quarter fell into each of the middle categories—\$25,000–\$49,999 (20 percent); \$50,000–74,999 (25 percent); and \$75,000–99,999 (23 percent). Only 4 percent reported household incomes below \$25,000. The respondents’ median income category was \$75,000–99,000. This income level is higher than the income for the general population in Pennsylvania; according to the U.S. Economic Census, the median household income in 1999 was approximately \$45,000–51,000. This is also true when the 1999 data are adjusted for inflation.

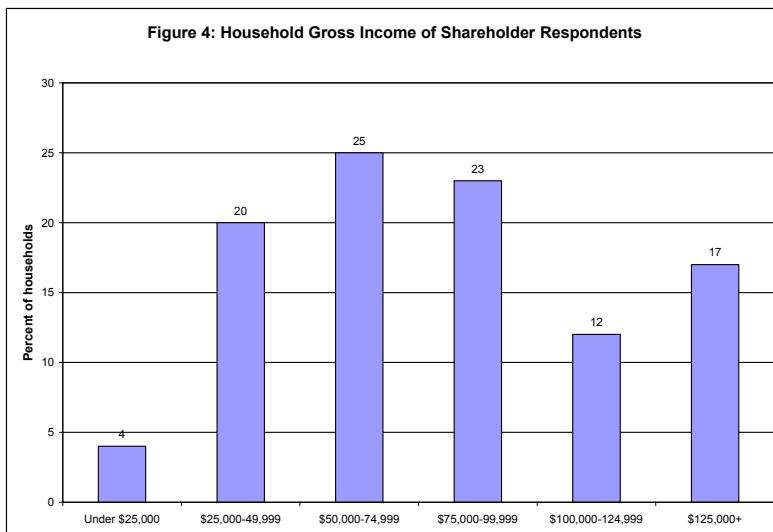
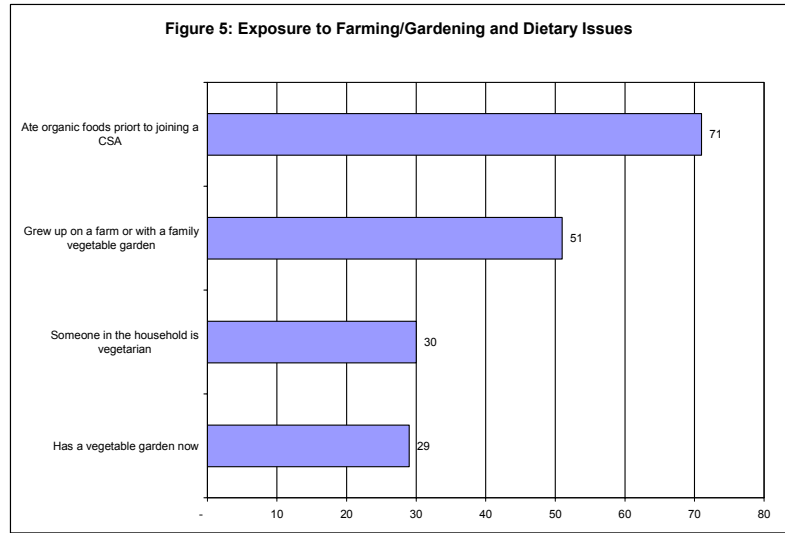


Figure 5 illustrates the shareholders' exposure to farming and gardening, as well as dietary issues. Almost three-quarters of the respondents (71 percent) were eating organic foods prior to joining the CSA. Twenty-nine percent of the respondents had a home garden at the time of the survey, while 51 percent either grew up on a farm or had a family vegetable garden. Thirty percent said they or someone in their household is vegetarian.



Shareholder Expectations of CSA

Shareholders were asked to rate the reasons they chose to participate in CSA, using a 4-point scale with 1 being 'not important' and 4 being 'very important' (Question 4). Table 4 reports on the percentage of shareholders (of the 276 respondents) who rated each of 13 reasons as 'very important.' (Appendix B provides total mean values, as well as individual farm mean values, for these variables.) The desire for fresh produce, for locally grown produce, to support a local farmer or farm, or for organic produce were the top-rated reasons, with each ranked as 'very important' by at least 70 percent of respondents. Fewer, yet more than half, rated general concern for the environment (62 percent), concern for farm preservation (58 percent), or knowing where/how their food was grown (53 percent) as very important. Fewer respondents cited health/dietary reasons (42 percent) or desire for a sense of community (26 percent). Less than one-in-ten of the shareholders surveyed reported that trying new foods (8 percent), convenience (4 percent), less expensive food (4 percent), or an opportunity to work on the farm (3 percent) were 'very important' reasons for choosing CSA.

The reasons cited by Pennsylvania participants for choosing CSA are very similar to the results from shareholder surveys in other areas. Members of eight CSA farms on California's central coast cited purchasing organic produce, supporting or buying locally, and purchasing fresh produce as the top three reasons for participating in CSA (Perez et al., 2003). Among CSA members in the southeastern U.S., the

Table 4: Reasons for Choosing to Participate in CSA

Reason	Percentage rating as 'very important'	Number of respondents
Desire for fresh produce	76	270
Desire for locally grown produce	75	274
Desire to support a local farmer or farm	74	273
Desire for organic produce	72	272
General concern for the environment	62	273
Concern for farm preservation	58	270
Knowing where/how your food was grown	53	266
Health/dietary reasons	42	269
Desire for a sense of community	26	266
Desire to try new foods	8	267
Convenience	4	267
Less expensive food	4	254
Opportunity to work on a farm	3	262

top four reasons for participating in CSA were to obtain organic produce, fresh foods, and locally grown produce, and to support a local farm (Kane and Lohr, 1997b). Conner (2003) also found freshness, locally grown, and organically grown traits to be the most important to shareholders in New York. Ostrum (1997) found similar results as Conner (2003), for shareholders in Minnesota and Wisconsin, but the Minnesota members also ranked concern for the environment in the top issues.

Two survey questions asked where respondents had heard about CSA (Q6), and who or what had influenced their expectations of the experience (Q5). Forty-two percent said they heard about CSA from a neighbor or friend, and close to one-quarter said they learned about it from another shareholder (28 percent) or from the newspaper/radio/television (24 percent). Only 13 percent heard about CSA from the farmer him/herself. About 15 percent cited “other” as their source of information about CSA, and a handful volunteered “the Internet” as their source. Forty percent of respondents reported that their expectations of the CSA experience came from CSA farmers; 33 percent cited newspapers or other media; 28 percent mentioned friends; 24 percent mentioned other shareholders; and 19 percent cited a previous CSA experience. Only 8 percent reported that they had “no expectations.”

Shareholders and Their Experience with the Farm

The majority (59 percent) of the shareholders surveyed purchased a full share from their CSA; the remainder purchased either a half-share (14 percent) or split a full share (26 percent) with another household (Q1). While 2 of the 4 farms offered only full shares to their members, the other two offered half shares. The farms also urged their members to split shares with another household if they thought the smaller volume would be more appropriate to their needs. For all farms, the mean number of persons in each household eating from the share (whether it was full or half) was 2 adults and 1.6 children (Q2).

The majority of CSA members who answered the survey were relatively new to the CSA experience (Q3). For all farms, more than half said the 2002 season was their first year as a CSA member (54 percent), while 24 percent had been members for 2 years, 19 percent for 3–5 years, and only 4 percent for more than 5 years (Table 5). These combined numbers, however, do not reveal the differences among the four farms. Farm #3 had been operating a CSA for only 2 years, so did not have members in the higher categories. Farm #1 also had a relatively higher proportion of first-year shareholders, compared to the overall average, because the farm had recently expanded into new markets and had increased membership numbers. In contrast, more than half of the respondents from Farm #2, which had started a CSA in 1997, and #4, which had started a CSA in 1996, had been members for 2 or more years. The differences in membership length have implications for short- and long-term retention of members. As might be expected, and the correlation analysis of the data shows (see Appendix C), as the length of membership increases, so does the likelihood that the shareholder will return the next year (short-term retention) and for the next 3–5 years (long-term retention).

Table 5: Length of Membership in CSA Farm

No. of years	All farms	Farm #1	Farm #2	Farm #3	Farm #4
First year	54%	68%	42%	68%	40%
2 years	24%	15%	22%	32%	28%
3–5 years	19%	16%	31%	0%	23%
> 5 years	4%	1%	5%	0%	9%

Sixty percent of those surveyed picked up their share on the farm; on-farm pick-up was the only option for Farm #2 and #4 (Q8, 9). The average distance traveled for on-farm pick-up was 12 miles each way, and the longest distance traveled was 50 miles. The other 40 percent received their share at a pick-up site, with the majority of these shareholders coming from the Philadelphia area. For this group, the average distance traveled to the pick-up site was 2.6 miles, and the longest distance was 15 miles.

For some CSA farms, the involvement of members in farm activities is an important contribution to their operations; while other farms tend to view member participation as an obligation that mainly satisfies the shareholder. Those surveyed reported visiting the farm only 1.8 times outside of picking up the share. Almost 50 percent did not visit the farm for activities (farm meetings, farm labor, etc.) other than picking up their share. For those who participated, the primary involvement was with farm festivals (26 percent), as farm labor (16 percent), or in farm meetings (15 percent) (Q9, 10). These results appear to be consistent with the reasons members reported they joined CSA—only 26 percent said a desire for a sense of community was a very important reason for joining the CSA, while only 3 percent similarly rated the opportunity to work on a farm. It should also be noted that there was much variation in amount of member participation among the four farms (see Appendix B for the complete data), and much of this variation may be explained by the actual opportunities presented to members. For example, Farm #3 provided few opportunities for participation (i.e., one farm festival) since the operators are Amish and prefer limiting on-farm activities, including farm labor, by members.

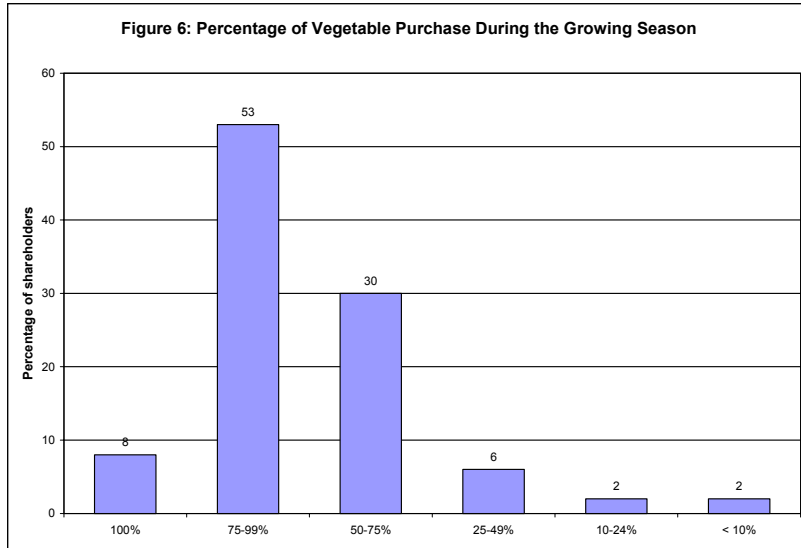
In an open-ended (i.e., ‘fill-in’ type) question, shareholders were asked why they did not participate in farm activities (Q11). Their individual responses were grouped for analysis. Table 6 lists 11 reasons, each mentioned by at least two shareholders. Issues around time constraints made three of the top five: 39 percent were too busy or had no time, 33 percent had scheduling conflicts, and 14 percent were too busy with work. Other key reasons were having children that in some way limited participation (cited by 20 percent), long distance to the farm (19 percent), and simply no interest in participating (10 percent). Only 6 percent said they did not know about the opportunities, suggesting that communication from the farmer on these aspects is satisfactory.

Table 6: Reasons Shareholders Do Not Participate in Farm Activities (All Farms)

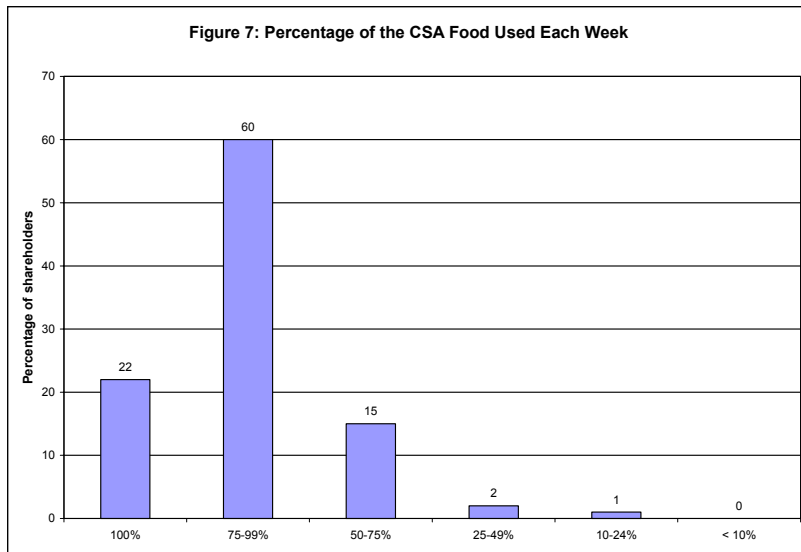
Response category	Number of responses (N=132)	Percentage of respondents
Too busy or no time	52	39
Scheduling conflicts or other commitments (often cited for those farms with only one opportunity—a farm festival—to visit the farm)	43	33
Children limit participation	26	20
Farm is too far away	25	19
Work takes up too much time or conflicts with farm visits	19	14
Not interested	13	10
Shareholder did not know about opportunities	8	6
Physical limitations to participating	7	6
Shareholder has own garden or farm and does not feel he/she needs the farm experience	4	3
No car or transportation	2	2
Extreme heat of the season	2	2

Members' Use of Share

A majority of the survey respondents said they obtained a large percentage of their vegetables during the growing season from their CSA (Q13). On average for all farms, about 61 percent said that the CSA



share made up 75–100 percent of their vegetable purchases during the growing season (Figure 6). Another 30 percent reported a range of 50–74 percent, and only 10 percent said it made up less than half of their vegetable purchases. A large majority of the shareholders (82 percent) said they used 75–100 percent of their weekly share (Q14, Figure 7). Fifteen percent said they used 50–75 percent, and only 3 percent said they used less than half of the share they received.



The survey respondents were able, for the most part, to collect their shares successfully during the season (Q15, 16). For all farms, over 90 percent said they were able to collect more than 75 percent of their shares, and two-thirds collected more than 90 percent of their shares. Of those who could not pick up their CSA share, most asked other people to pick it up for them. Fourteen percent asked at least once that the farmer not pack a share for them, and approximately 25 percent abandoned the share at least once.

Table 7 illustrates the extent that participation in CSA changed the diets of members, in terms of the variety and amount of produce consumed (Q12). For all farms, nearly three-fourths (74 percent) said their participation resulted in an increase in the variety of produce they consumed, and 58 percent said

Table 7: Changes in Variety and Amount of Produce Consumed Due to CSA Participation (All Farms)

	Variety	Amount
Increased	74%	58%
Stayed the same	25%	42%
Decreased	1.1%	0.7%

CSA participation increased the amount of produce consumed. Similar percentages were reported by Perez and colleagues (2003) in their survey of CSA members in California. In that study, in addition to increases in variety and amount of produce, CSA members reported changes in their cooking habits and menu planning, and felt that they were eating healthier, two aspects that were not addressed in this study of Pennsylvania CSAs.

Shareholder Satisfaction

More than three-quarters of the shareholders who responded to the survey were satisfied with their participation in CSA the previous season. More than half (56 percent) said their expectations were met overall, and one-in-five (21 percent) said the experience exceeded their expectations (Q20). About one-in-five (21 percent) said it fell short of expectations, and 2 percent had no expectations. With regard to the price they paid for their produce share, nearly three-quarters (72 percent) felt that the price was about right, 27 percent felt it was too high, and only 1 percent said it was too low (Q21).

To examine specific aspects of the CSA, shareholders were asked to rate their satisfaction with a list of attributes using a 4-point scale (Q17). Table 8 reports on the percentage of respondents who rated each item as either '3' (satisfied) or '4' (very satisfied). Overall, shareholders seemed generally satisfied with most CSA attributes, since over three-quarters said they were satisfied or very satisfied with 8 of the 10 items. Produce freshness (99 percent) and quality (92 percent) received the highest ratings. Over three-quarters of the respondents similarly rated the newsletter quality (88 percent), convenience of distribution time/day (82 percent), convenience of pick-up site (80 percent), produce quantity (80 percent), and variety and mix of the vegetables/fruit (76 percent). Nearly three-quarters (73 percent) were satisfied with communication with the farmer. Fewer were satisfied with the social or community aspects of the farm (52 percent), and the variety and mix of other foods received (38 percent). For these two aspects, a large number of respondents left the question blank or marked "not applicable" (Table 8). For all farms, 39 percent of respondents did not provide a rating for social/community activities. This may be due to the fact that one of the farms (Farm #3) offered few social activities, and, as noted earlier, almost 50 percent of respondents did not take part in any form of farm activity. Regarding the variety of mix of other foods (besides vegetables/fruits), 53 percent did not provide a rating, demonstrating the limited variety in foods other than produce provided by the farms in the survey.

The overall satisfaction ratings bode well for the CSA farmers who took part in this study since fresh produce was the top reason that members said they choose to participate in CSA. Comments provided by many shareholders indicated they were aware of the 2002 drought conditions, and took them into account when responding to questions that gauged their satisfaction. For example, some respondents who said the CSA had met their expectations also wrote in comments such as "I know it was a drought year. I would expect more produce in a better season." Although shareholders overall seemed satisfied with their experience, it is possible they would expect more produce in future seasons.

Table 8: Level of Satisfaction with Specific Aspects of CSA Experience (All Farms)

CSA aspect	Respondents who were 'satisfied' or 'very satisfied' (%)	Number of respondents	Number missing/not applicable
Freshness of produce	99	276	0
Quality of produce	92	275	1
Quality of newsletter	88	262	14
Convenience of distribution time/day	82	267	9
Convenience of pick-up site	80	267	9
Quantity of produce	80	274	2
Variety/mix of produce (vegetables/fruit)	76	270	6
Communication with the farmer	73	228	48
Social/community activities/aspect of farm	52	169	107
Variety/mix of other foods	38	128	148

Sharing the Risk between Farmer and Member

The survey asked several questions to explore the shareholders' understanding of the concept of risk as it applies to CSA, and their acceptance of the risk element (Q24–27). To introduce the topic, the questionnaire stated:

Many (but not all) CSA farms place some of the risks of farming on the shareholder. This means that the shareholder pays the farmer up-front and accepts that the season's harvests may not meet expectations due to weather, labor, and/or other problems.

For all farms, 97 percent of the survey respondents said the farmer had described the concept of risk to them; 93 percent said they knew about it prior to joining the CSA; 92 percent felt they had accepted some of the risks in the past season; and 88 percent were comfortable with the amount of risk they had accepted. For the latter question, among individual farms the responses ranged from 72 percent to 95 percent (see Appendix B for complete results). The fact that 2002 was a difficult season, in terms of drought and possibly the amount of produce provided to the shareholders, makes these results noteworthy. Although only the farmers can say whether the CSA shareholders really did take on some of the risk of the season (since many may have covered their losses with purchased produce), clearly shareholders that are introduced to the topic, even first-year shareholders, understand that they are taking on part of the risk when they join a CSA farm, and accept the idea.

Short-Term and Long-Term Shareholder Retention

To explore short-term retention rates, survey recipients were asked if they planned to purchase a share from their *current* CSA the next year, i.e., 2003 (Q22). To examine long-term retention, those who answered 'yes' to this question were then asked whether they thought they would purchase a share from the same farm for the next 3–5 years (Q23). For all farms, 60 percent said they would purchase a share for the 2003 season, 22 percent said they would *not* purchase a share, and 18 percent were unsure. For the individual farms, the short-term retention rates ranged from 33 percent to 73 percent. Among those who anticipated purchasing a share in 2003, 71 percent said they would purchase for the next 3–5 years (or 47 percent of the total number of respondents), while 3 percent said they would not, and 26 percent were unsure. For the individual farms, the long-term rates ranged from 28 to 61 percent (Table 9).

Across all farms, those surveyed from Farm #1 were least satisfied, with only 28 percent saying they expected to continue as members for the next 3–5 years. When interviewed, the farmer had described a very challenging 2002 season for various reasons. Farm #4 and #2 had the highest short-term retention rates, with 73 percent and 72 percent of members, respectively, saying they would return in 2003. With regard to CSA participation over the longer run, Farm #2 had the highest long-term returnee rate, with 61 percent saying they would join the farm for the next 3–5 years, while Farm #3 and #4 had average rates of long-term retention (45 percent and 54 percent, respectively).

Table 9: Short-Term and Long-Term Retention of Shareholders

Retention	Percentage of total respondents (N=276)				
	All farms	Farm #1	Farm #2	Farm #3	Farm #4
Would return in 2003	60%	33%	72%	60%	73%
Would return for next 3–5 years	47%	28%	61%	45%	54%

Table 10 lists the reasons shareholders gave for not returning to the CSA in future years, or being unsure about whether they would return. Respondents often listed more than one reason, and their responses were categorized into groups for analysis. Time and transportation issues were cited often; 18 percent mentioned pick-up site problems or said the farm location was inconvenient, and 8 percent said the pick-up times were inconvenient. Fifteen percent of respondents said they would be leaving the area or would be away in the summer, and a similar amount felt that the amount of produce provided was insufficient, given the cost. Ten percent said they would transfer to a different CSA. In addition, comments about the quantity and variety of produce were often at odds with one another. For example, many shareholders want more produce. Other shareholders could not use the produce that was offered. There are shareholders who want more variety, while others are looking for staple items and are challenged by too much variety. Similar findings by Laird (1997) in his 1995 study of 73 CSA farms in the U.S. and Canada revealed inconvenience factors (pick-up, farm inconvenient) as the primary reason for non-renewal of members, followed by moving out of the area, and unhappiness with the produce provided.

Table 10: Reasons for Not Returning to the CSA (All Farms)

Response category	Number of responses (N=131)	Percentage of respondents
Pick-up site problems or farm inconvenient	23	18
Share not worth the cost (e.g., for the amount of produce provided)	20	15
Moving or would be away for summer	20	15
Moving to another CSA	13	10
Difficulties cooking/eating produce (e.g., not being able to cook all the foods received, kids not eating produce provided, too much variety)	11	8
Pick-up times were inconvenient	10	8
Prefer to shop at local market/food cooperative	10	8
Personal financial situation	9	7
Not enough variety in the share, or share contents not consistent with needs of the household	9	7
Not enough produce during the season	7	5
Household will grow its own food (e.g., planning a garden)	6	5
Future participation contingent on the ability to continue to split shares with others or purchase half shares.	6	5

A correlation analysis was used to discern which variables are associated with those used to measure short-term and long-term retention. Although very few of the variables were highly correlated with either short-term or long-term retention, those cited below (and listed in Appendix C) are the ones that are statistically significant.

Shareholders who felt they would continue as members of their CSA in the short-term have the following characteristics:

- they had been a member of the CSA longer;
- they are older than other members; and
- they chose to participate in CSA because they (1) they value fresh, local, or organic produce organic (2) want to support local farms; (3) are seeking a sense of community; (4) have dietary concerns; (5) are concerned about farm preservation; or (6) want to know how their food is grown.

In addition, short-term returnees also:

- believed that the amount and variety of produce they consume had increased with participation;
- purchased higher percentages of the vegetables they consumed from the CSA and used a higher percentage of the share each week;
- were less likely to split a share with another household (i.e., purchased a full share or half share);
- were more likely to pick up their share on the farm, instead of at a drop-off site;
- tended to be satisfied with the quality, quantity, and freshness of the produce;
- did not think the share price was too high; and
- were more likely to have attended farm meetings.

Similar, but fewer, variables were correlated with long-term retention among the shareholders surveyed. Those who said they would be more likely to return to the farm for the next 3–5 years have the following characteristics:

- they had been a member of the CSA longer;
- they were more likely to purchase most of their vegetables from the CSA;
- they tended to be satisfied with the quality, quantity, and freshness of the produce received; and
- they tended to have higher incomes than other members.

Findings by Perez (2002) in a survey of shareholders of eight CSA farms in California provide additional, and at times similar, insights regarding the issue of shareholder retention. Perez found that people were more likely to re-join a CSA when “they were satisfied with the quality, quantity, and product mix of the produce; when picking up the box was convenient; and when people felt the share price was fair” (p. 18). Also, Perez found that if the payment schedule did not pose a financial hardship and members were not throwing away or composting excess produce, then the members were more likely to return the next year. Those who experienced a positive change due to membership—including changes in their eating habits—were also more likely to join again.

Summary and Discussion

Community supported agriculture (CSA) is an important alternative marketing approach for many small farms in the Mid-Atlantic region. However, there are many challenges to making a CSA successful; satisfying and retaining members is only one of these. This study, focused on CSA operations in Pennsylvania, Maryland, and Virginia, joins other recent analytical work that examines key issues for CSA farmers and shareholder retention. It also provides one of the first studies of CSA farms in the Mid-Atlantic states.

In the first phase of the research, 13 current and former CSA farmers from the Mid-Atlantic area were interviewed. These farmers operate, for the most part, small-scale farms. Close to half use CSA exclusively or nearly so, while the rest sell to diverse markets. The vast majority serves urban/suburban markets, and most provide primarily vegetables and fruits from their own farms. In general, the farmers interviewed, and especially those with access to urban customers, reported unlimited markets for their products and services. However, many reported difficulties with membership retention, farmer income, and labor, as well as an assortment of other concerns.

Although many of the farmers interviewed view CSA as an approach that can support small farm viability, there are many difficulties to be found in both the production and marketing ends of the system. One farmer interviewed told us that “CSA farming is not for everyone—consumers and farmers alike.” Many experienced CSA farmers, both those who took part in the study and others, believe that farmers interested in establishing CSA farms should have farming experience and be confident that they can provide enough food. One strategy is to gain experience with other markets first (e.g., farmers’ markets), and ease into CSA incrementally.

While gross farm income in this study was higher than the national average, adequate income to cover farmer wages is a major concern for many CSA farms. Similar to other recent studies that find the economics of CSA farming to be unsatisfactory, many of the CSA farmers interviewed for this study indicated that farm income was below a level that would provide for a full-time farmer, as well as farm operating costs. Approximately half of the farmers interviewed depended on some type of off-farm income. As expected, one of the benefits of CSA that most found particularly attractive was a source of income at the beginning of the season.

Shareholder satisfaction and retention is a key challenge for many CSA farms. The average annual retention rate for the 13 farmers interviewed was 53 percent with a range of 10 to 90 percent. While some level of membership turnover can be expected, the turnover level is important since it influences the time farmers will need to spend recruiting. Clearly, those with lower retention rates are facing major investments in time and effort each year in recruitment, a fact that is counter to why many of them get into CSA farming in the first place—to devote a majority of their work time to producing food.

To examine the shareholder retention and satisfaction issues more closely, 276 members of 4 CSA farms in southeastern Pennsylvania were surveyed after the 2002 season. Respondents were mainly women, living in suburban areas, and aged 30–49. Almost 90 percent had an undergraduate degree or higher and the majority had household incomes of \$25,000–100,000. Over 70 percent were eating organic foods prior to joining the CSA farm, and 30 percent had a vegetarian in the household. Over half were first-year members of the farm, and 75 percent had been with the farm 2 years or less.

The top four reasons for participating in CSA, among those surveyed in southeastern Pennsylvania, were a desire for fresh, locally grown produce, to support a local farmer or farm, and for organic produce. These findings are very similar to the results of research in other areas, suggesting that CSA farmers in the Mid-Atlantic could benefit by considering these aspects when targeting recruitment of new members.

Most respondents were able to use the majority of their share each week and to obtain a large portion of their vegetables from the farm during their period of membership. Many also cited an increase in the variety (74 percent) and amount of produce (58 percent) they consume. Across the four farms, only about half of the respondents took part in farm activities (other than collecting their produce), and most of those who did attended farm festivals or parties. Those who did not participate in farm activities, for the most part, said that they were too busy because other commitments or work interfered.

Surveyed shareholders seemed generally satisfied with various aspects of the CSA experience. Freshness and quality of the produce received were the highest rated among 10 items listed, which bodes well for farmers since many shareholders are seeking these qualities when joining the farm. CSA farmers should pay particular attention to the social and community aspects on the farm, taking into account that many shareholders will look for convenient avenues to participate, if they participate at all, as well as the variety and mix of foods other than vegetables and fruits; these were rated lowest by the shareholders.

Even though 2002 was a difficult season given the severe drought in the region, the vast majority of shareholders were aware of and comfortable with sharing risk with the farmer. Overall, 60 percent of the members said they would return to the CSA farm in 2003, while 22 percent said they would not return. This retention rate is in line with rates reported by farmers in the interviews. Approximately 47 percent of respondents said they would continue as members for the longer-term (for the next 3–5 years). The top reasons CSA members cited for not returning were inconvenience factors (i.e., pick-up sites and times, or farm location), insufficient quantity of produce relative to the price paid, and/or they planned to move away from the area or to try another CSA farm. A correlation analysis helped discern the variables associated with short- and long-term retention—including length of membership, type of share, shareholder age and income level, reasons for participating in the CSA, consumption of the produce, pick-up location, satisfaction of various aspects, and participation in activities. These attributes ought to be examined closely by farmers as they look for ways to increase retention of their CSA members.

The shareholder survey showed a number of areas in which CSA farmers can strive to increase member satisfaction. It is clear that shareholders want more choice in terms of produce and in food products beyond vegetables. With regard to the former, Ostrum (1997) found that members had the impression of paying more for food, even when they felt the price per volume was fair, because they had paid for items they could not use and would not have purchased on their own. However, when permitted some choice about what they received, they perceived that the food was plentiful and viewed their expenditure in a positive light. Farmers might offer greater choice by setting up a system that allows members to select the food items that they prefer, including increased you-pick opportunities. To increase the variety of products available, farmers can look for ways to link with neighboring farms (including other CSAs) to provide members with items not available from their CSA.

In general, while CSA has the potential to connect farmers and community members and educate the latter about farming issues, many shareholders (especially in suburban/urban locales) say they have hectic schedules that limit their participation in farm activities. Responses from CSA members in southeastern Pennsylvania clearly demonstrate this limitation. As this study shows, for only a minority of the CSA members surveyed were the community aspects of the farm important. Furthermore, for many of the members, convenience factors (e.g., pick-up sites and times) were important aspects of the farm. Finding the right balance—between the community aspects of the farm, for those members who want them, and

the convenience factors—is particularly critical, and may have a large influence on overall success or failure. Regardless, high quality, fresh food is what most shareholders are looking for in their CSA experience, and is fundamental to shareholder satisfaction.

Many CSA farmers were introduced to the concept by other farmers. Most reported that they depended on informal farmer networks and discussions with other farmers at conferences to continue to learn and improve their systems. These farmer-to-farmer relationships can be supported by organizations and institutions through the development of networks or coalitions of CSA farms at the local, regional, or national levels. Many of these models are just starting to develop across the country, and they take on different forms everywhere. For example, some may cooperate in delivering food to shareholders, while others may share equipment, marketing, or purchasing. Some of these organizations have made a start in the Mid-Atlantic region. However, these organizations need additional support from both public and private entities, and CSA members, to become successful.

Some see huge, untapped markets for CSA because of the relatively small numbers currently participating; yet, as noted by Perez and colleagues (2003), others see many limitations to the overall expansion of CSA farming. Limiting factors are the narrow demographics of current shareholders, the availability of organic foods elsewhere, the desire for convenience and choice from consumers, and the constraints placed on participating households, in terms of preparing and eating seasonally available foods. Retention rates revealed in this study and others show also that shareholder turnover can be quite high for some farmers, and will continue to add to their work loads, until satisfactory solutions to increase retention are found.

The CSA approach, however, can offer a number of benefits to the farmer and shareholders. Financial incentives for the farmers include securing money at the start of the season. A few studies have indicated that shareholders receive a fair price on CSA produce, and that they can obtain high quality produce, often organic, through the CSA system. In addition, research also reveals positive aspects to CSA beyond the practical ones. CSA provides a mechanism for consumer education about farming and direct consumer-to-farmer communication. As reported, CSA farmers in this study were relatively new to the farming experience, suggesting that CSA may be a vehicle for farm entry. The CSA farmers were also generally committed to environmental goals connected to farming, overwhelmingly felt CSA is a good marketing outlet (even those who have stopped) and were satisfied with their relationships with members.

As the CSA movement has developed in the last couple of decades, research on CSA farming and systems has also expanded. The national survey of CSA farms is an important step in developing a research agenda and gaining key learning about CSA farms. Lass and colleagues (2004) suggested the need for research in the following areas: (1) long-term economic and quality of life realities associated with CSA; (2) aggregate dynamics of CSA (e.g., exit rates of farms, growth rate of farms); (3) variations in CSA organization, culture, and vision; (4) networking in which CSA can be involved; and (5) issues around CSA shareholder retention. This report touches on a number of these areas, and the author hopes, helps to assess the difficulties and advantages of using CSA as a marketing approach.

It seems that CSA is likely to continue for some time as a niche marketing avenue for small-scale farmers in the region, albeit a very important one for those who choose to use it. The Small Farm Success Project team hopes that the results of this research will help CSA farmers, as well as the service organizations working with CSA farms in the region, to develop strategies to overcome the challenges of using these innovative models.

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Appendix A

CSA Shareholder Survey Questionnaire

I. Shareholder Information and Experience

1. **What type of share did you purchase in the 2002 season?** (Please mark one box in section A, and one box in section B)

- | | |
|---|--|
| <p>A. <input type="checkbox"/> Full share (2 or more person share for Maysie's)</p> <p><input type="checkbox"/> Half share (1-person share for Maysie's)</p> <p><input type="checkbox"/> I split a full share with someone else</p> <p><input type="checkbox"/> Other (please specify): _____</p> | <p>B. <input type="checkbox"/> Working share</p> <p><input type="checkbox"/> Non-working share</p> <p><input type="checkbox"/> Bartered share</p> <p><input type="checkbox"/> Self-harvest share</p> |
|---|--|

2. **How many people in your household ate from the share?**

of adults _____ # of children (18 and younger) _____

3. **How many years have you been a member of this CSA?** (Please mark an X in one box)

- | | |
|---|--|
| <input type="checkbox"/> This was my first year | <input type="checkbox"/> 3-5 years |
| <input type="checkbox"/> 2 years | <input type="checkbox"/> more than 5 years |

4. **Please rate the reasons that you chose to participate in CSA.**

(4 = very important; 3 = important; 2 = somewhat important; 1 = not important)

Desire for fresh produce	4	3	2	1
Desire for locally grown produce	4	3	2	1
Desire for organic produce	4	3	2	1
Desire to support a local farmer or farm	4	3	2	1
Desire for a sense of community	4	3	2	1
Health/dietary reasons	4	3	2	1
General concern for the environment	4	3	2	1
Convenience	4	3	2	1
Opportunity to work on a farm	4	3	2	1
Desire to try new foods	4	3	2	1
Concern for farm preservation	4	3	2	1
Knowing where/how your food was grown	4	3	2	1
Less expensive food	4	3	2	1
Other (please specify): _____	4	3	2	1
Other (please specify): _____	4	3	2	1

5. **Please complete the following statement. My expectations of membership in this CSA were primarily influenced by:** (Please mark all that apply)

- A previous CSA experience
- What I learned from the CSA farmers (either directly or through a brochure)
- What other shareholders told me
- Information I read/received from other venues (e.g., newspapers, other media)

- What a friend told me
- I had no expectations
- Other (please specify): _____

6. **From whom or where did you learn of CSA?** (Please mark all that apply)

- From the CSA farmer
- From a friend or neighbor
- From a shareholder/CSA member
- From a family member
- From a bulletin or poster at a store or public place
- Newspaper/radio/TV
- E-mail notice
- Other (please specify): _____

7. **Approximately how many miles is the farm from your house?** _____ miles

8. **Where did you pick up your share during the 2002 season?**

- On the farm
- At a pick-up site → How many miles is the pick-up site from your house? _____ miles
- I split a share and the other household picks up for me

9. **Other than picking up your share, how many times this past season did you visit the farm?**

_____ times

10. **Which types of farm activities did you participate in this past season?** (Please mark all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Attended farm meetings | <input type="checkbox"/> Helped with distribution (on-farm or off-farm) |
| <input type="checkbox"/> Attended festivals/parties | <input type="checkbox"/> Participated as farm labor (e.g., harvesting, weeding) |
| <input type="checkbox"/> Participated in core group | <input type="checkbox"/> Performed administrative work for the farm |
| <input type="checkbox"/> Other (please specify): _____ | |
| <input type="checkbox"/> None | |

11. **If you did not participate in any farm activities this past season, why not?**

12. **How do you believe the amount and variety of produce you consume has changed as a result of your participation in the CSA?** (Please place an X in one box for each)

- | | | | |
|----------------|------------------------------------|--|------------------------------------|
| Amount | <input type="checkbox"/> Decreased | <input type="checkbox"/> Stayed the same | <input type="checkbox"/> Increased |
| Variety | <input type="checkbox"/> Decreased | <input type="checkbox"/> Stayed the same | <input type="checkbox"/> Increased |

13. **What percentage of your vegetable purchases, in terms of quantity, do you estimate that the CSA provided during the growing season?** (Please place an X in one box)

- | | |
|---------------------------------|--|
| <input type="checkbox"/> 100% | <input type="checkbox"/> 25-49% |
| <input type="checkbox"/> 75-99% | <input type="checkbox"/> 10-24% |
| <input type="checkbox"/> 50-74% | <input type="checkbox"/> Less than 10% |

14. **What percentage of the CSA share do you estimate you used each week?** (If you split a share with another household, please tell us how much of your portion of the CSA share you used each week)

- | | |
|---------------------------------|--|
| <input type="checkbox"/> 100% | <input type="checkbox"/> 25-49% |
| <input type="checkbox"/> 75-99% | <input type="checkbox"/> 10-24% |
| <input type="checkbox"/> 50-74% | <input type="checkbox"/> Less than 10% |

15. **Over the course of the growing season, what percentage of your weekly shares were you unable to collect (due to vacations, unable to get to pick-up site, etc.)?**

- | | |
|---------------------------------|--|
| <input type="checkbox"/> 100% | <input type="checkbox"/> 25-49% |
| <input type="checkbox"/> 75-99% | <input type="checkbox"/> 10-24% |
| <input type="checkbox"/> 50-74% | <input type="checkbox"/> Less than 10% |

16. **Which of the following did you do when you couldn't pick up your weekly share?** (Please check all that apply)

- Asked some else to pick up the share for me
- Asked someone else to pick up the share for use by them
- Told the farmer not to pack a share for me
- Abandoned the share
- Donated the share
- Other (please specify): _____

II. Shareholder Satisfaction

17. **Please rate the level of satisfaction with the following aspects of the CSA experience.** Please circle one, and provide us with comments if you would like. (4 = very satisfied; 3 = satisfied; 2 = unsatisfied; 1 = very unsatisfied; NA = not applicable)

	4	3	2	1	NA	(Comments)
Quantity of produce						_____
Quality of produce						_____
Freshness of produce						_____
Variety/mix of produce (vegetables &/or fruit)						_____
Variety/mix of other foods						_____
Quality of newsletter						_____
Convenience of pick-up site						_____
Convenience of distribution time/day						_____
Social/community activities/aspect of farm						_____
Communication with the farmer						_____
Other: _____						_____

18. **Are there any activities/aspects of the CSA that you want more of, or would add?** (e.g., more social activities, variety/mix of other foods, etc.)

19. Are there any activities/aspects of the CSA that you would like less of?

20. Overall, were your expectations regarding the CSA experience met this past season? (Please mark the box that most closely reflects your experience)

- The CSA experience exceeded my expectations.
- The CSA experience matched my expectations.
- The CSA experience fell short of my expectations.
- I had no expectations.

21. Given what you received from the CSA this year, do you feel the price of your share was:

- Too high
- About right
- Too low

22. Do you plan on purchasing a share from this CSA farm again next year?

- Yes → Do you think you will buy a share from this farm for the next 3-5 years? Yes
- No No
- Unsure Unsure

23. If you answered "no" or "unsure" to either question in #22, please tell us why.

24. Many (but not all) CSA farms place some of the risks of farming on the shareholder. This means that the shareholder pays the farmer up-front and accepts that the season's harvests may not meet expectations due to weather, labor, and/or other problems. Has your farmer described this aspect of CSA to you?

- Yes No

25. Did you know about this prior to joining your CSA?

- Yes No

26. Do you believe that during this past season you accepted some of the production risk of the farm?

- Yes No Unsure

27. If you answered "yes" to #26, are you comfortable with the amount of risk that you have?

Yes No Unsure

III. Demographic Information

I am: Male Female

Do you have a vegetable garden now? Yes No

Did you grow up on a farm or with a family vegetable garden? Yes No

Were you eating organic foods prior to joining the CSA? Yes No

Are you a vegetarian or is someone in your household a vegetarian? Yes No

Which of the following best describes where you live? (Please mark one box)

Urban
 Suburban
 Rural

What is your zip code? _____

Which is the highest level of education you have completed?

Less than a high school diploma Undergraduate degree
 Completed high school Graduate/professional degree
 Some college or technical school

What was the total gross income in your household last year?

Under \$25,000 \$75,000-99,999
 \$25,000-49,999 \$100,000-124,999
 \$50,000-74,999 \$125,000+

What age group are you in?

0-18 40-49
 19-29 50-59
 30-39 60 and above

IV. Final Comments

Would you like to share any other comments or suggestions for change in the CSA operation?

Appendix B

Survey Results by Farm										
	All Farms		Farm #1		Farm #2		Farm #3		Farm #4	
# Distributed	459		124		148		116		71	
# Returned	276		69		94		65		48	
Response Rate	60%		56%		64%		56%		68%	
1(a). Type of share	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Full	161	59.0%	42	62.7%	63	67.0%	31	47.7%	25	53.2%
Half	39	14.3%	2	3.0%	30	31.9%	1	1.5%	6	12.8%
Split a share	70	25.6%	21	31.3%	1	1.1%	32	49.2%	16	34.0%
1(b). Type of share	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Working share	39	22.4%	12	24.0%	2	4.0%	0	0.0%	25	58.1%
Non-working share	122	70.1%	26	52.0%	47	94.0%	31	100.0%	18	41.9%
Bartered Share	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Self-harvest Share	13	7.5%	12	24.0%	1	2.0%	0	0.0%	0	0.0%
2. Household members	Avg		Avg		Avg		Avg		Avg	
Number of adults	2.0		2.0		1.9		2.1		2.1	
Number of children (<18 yrs)	1.6		1.4		1.6		1.6		1.7	
3. No. years a member of CSA	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
First year	149	54.2%	47	68.1%	39	41.5%	44	67.7%	19	40.4%
2 years	65	23.6%	10	14.5%	21	22.3%	21	32.3%	13	27.7%
3-5 years	51	18.5%	11	15.9%	29	30.9%	0	0.0%	11	23.4%
More than 5 years	10	3.6%	1	1.4%	5	5.3%	0	0.0%	4	8.5%
4. Reasons for joining	N	Mean (Std)	N	Mean (Std)	N	Mean (Std)	N	Mean (Std)	N	Mean (Std)
Desire for fresh produce	270	3.7 (.58)	64	3.7 (.62)	93	3.7 (.59)	65	3.7 (.54)	48	3.8 (.57)
Desire for locally grown produce	274	3.7 (.59)	67	3.7 (.56)	94	3.6 (.72)	65	3.8 (.43)	48	3.8 (.48)
Desire for organic produce	272	3.6 (.65)	65	3.4 (.79)	94	3.8 (.55)	65	3.6 (.58)	48	3.7 (.65)
Support local farmer/farm	273	3.7 (.57)	68	3.6 (.60)	94	3.7 (.61)	64	3.8 (.43)	47	3.7 (.58)
Sense of community	266	2.7 (.97)	63	2.4 (1.0)	94	2.7 (.85)	62	2.9 (.95)	47	2.8 (1.1)
Health/dietary reasons	269	3.2 (.90)	64	3.0 (.88)	94	3.3 (.85)	63	2.9 (.91)	48	3.3 (.92)
Concern for environment	273	3.5 (.69)	67	3.6 (.61)	94	3.5 (.74)	64	3.4 (.70)	48	3.7 (.66)
Convenience	267	1.8 (.86)	63	1.8 (.78)	94	1.8 (.81)	63	1.9 (.84)	47	2.0 (1.1)
Opportunity to work on farm	262	1.5 (.76)	64	1.5 (.76)	93	1.5 (.70)	58	1.1 (.28)	47	2.0 (.99)
Desire to try new foods	267	2.0 (.94)	63	2.0 (.91)	94	1.9 (.92)	63	2.0 (.93)	47	2.1 (1.1)
Concern for farm preservation	270	3.4 (.82)	65	3.4 (.83)	94	3.4 (.85)	64	3.4 (.80)	47	3.4 (.79)
Knowing where/how food was grown	266	3.3 (.84)	63	3.3 (.80)	93	3.3 (.88)	63	3.2 (.87)	47	3.6 (.78)
Less expensive food	254	1.7 (.85)	61	1.6 (.88)	91	1.8 (.86)	58	1.7 (.76)	44	1.6 (.90)
5. Expectations of CSA were influenced by?	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
A previous CSA experience	52	18.8%	12	17.4%	13	13.8%	11	16.9%	16	33.3%
What I learned from CSA farmers	111	40.2%	32	46.4%	35	37.2%	17	26.2%	27	56.3%
What shareholders told me	66	23.9%	8	11.6%	23	24.5%	17	26.2%	18	37.5%
Information from other venues (e.g., newspaper)	90	32.6%	25	36.2%	27	28.7%	27	41.5%	11	22.9%
What a friend told me	77	27.9%	14	20.3%	28	29.8%	20	30.8%	15	31.3%
I had no expectations	23	8.3%	5	7.2%	9	9.6%	6	9.2%	3	6.3%
Other	16	5.8%	4	5.8%	5	5.3%	4	6.2%	3	6.3%
6. How did you learn of CSA?	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
From the CSA farmer	37	13.4%	9	13.0%	13	13.8%	0	0.0%	15	31.3%
From a friend or neighbor	115	41.7%	31	44.9%	39	41.5%	31	47.7%	14	29.2%
From a CSA member	76	27.5%	7	10.1%	32	34.0%	17	26.2%	20	41.7%
From a family friend	13	4.7%	3	4.3%	4	4.3%	2	3.1%	4	8.3%
From a bulletin or poster	35	12.7%	6	8.7%	16	17.0%	5	7.7%	8	16.7%
Newspaper/radio/TV	66	23.9%	21	30.4%	13	13.8%	21	32.3%	11	22.9%

E-mail notice	16	5.8%	7	10.1%	0	0.0%	9	13.8%	0	0.0%
Other	41	14.9%	10	14.5%	16	17.0%	9	13.8%	6	12.5%
7. No. miles respondent lives from the farm (All)	Avg	28	Avg	41.8	Avg	11.1	Avg	55	Avg	12.7
8 (a). Pick-up location	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
On the farm	166	60.1%	24	34.8%	93	98.9%	1	1.5%	48	100.0%
At a pick-up site	107	38.8%	44	63.8%	0	0.0%	63	96.9%	0	0.0%
I split a share & the other household picks up for me	3	1.1%	1	1.4%	1	1.1%	1	1.5%	0	0.0%
8 (b) How far is pick-up site from your house?	Avg	2.6	Avg	2.5	Avg	NA	Avg	2.7	Avg	NA
9. Other than picking up share, how many times did you visit the farm this season?	Mean	1.8	Mean	1.8	Mean	2.4	Mean	0.2	Mean	2.9
10. Types of farm activities member took part in	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Farm meetings	42	15.3%	12	17.4%	29	31.2%	1	1.6%	0	0.0%
Festivals/parties	71	25.9%	21	30.4%	34	36.6%	9	14.1%	7	14.6%
Participated in core group	13	4.7%	6	8.7%	5	5.4%	2	3.1%	0	0.0%
Helped with distribution	20	7.3%	4	5.8%	9	9.7%	3	4.7%	4	8.3%
Participated as farm labor	43	15.7%	9	13.0%	9	9.7%	0	0.0%	25	52.1%
Administrative work	4	1.5%	2	2.9%	2	2.2%	0	0.0%	0	0.0%
Other	25	9.1%	8	11.6%	14	15.1%	2	3.1%	1	2.1%
None	132	48.7%	30	43.5%	33	35.9%	48	77.4%	21	43.8%
12(a). How has amount of produce consumed changed as result of CSA?	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Decreased	2	0.7%	1	1.5%	1	1.1%	0	0.0%	0	0.0%
Stayed the same	112	41.8%	34	51.5%	37	40.7%	22	34.9%	19	39.6%
Increased	154	57.5%	31	47.0%	53	58.2%	41	65.1%	29	60.4%
12(b). How has variety of produce consumed changed as result of CSA?	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Decreased	3	1.1%	3	4.7%	0	0.0%	0	0.0%	0	0.0%
Stayed the same	66	25.0%	16	25.0%	30	33.0%	11	17.5%	9	19.6%
Increased	195	73.9%	45	70.3%	61	67.0%	52	82.5%	37	80.4%
13. Estimate of % of vegetable purchase CSA provided during growing season?	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
100%	23	8.4%	0	0.0%	10	10.8%	9	13.8%	4	8.3%
75-99%	146	53.1%	28	40.6%	51	54.8%	31	47.7%	36	75.0%
50-74%	81	29.5%	26	37.7%	26	28.0%	22	33.8%	7	14.6%
25-49%	16	5.8%	9	13.0%	5	5.4%	1	1.5%	1	2.1%
10-24%	5	1.8%	2	2.9%	1	1.1%	2	3.1%	0	0.0%
Less than 10%	4	1.5%	4	5.8%	0	0.0%	0	0.0%	0	0.0%
14. Estimate of % of CSA share used each week?	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
100%	60	21.7%	19	27.5%	27	28.7%	8	12.3%	6	12.5%
75-99%	166	60.1%	38	55.1%	54	57.4%	38	58.5%	36	75.0%
50-74%	42	15.2%	6	8.7%	11	11.7%	19	29.2%	6	12.5%
25-49%	5	1.8%	4	5.8%	1	1.1%	0	0.0%	0	0.0%
10-24%	3	1.1%	2	2.9%	1	1.1%	0	0.0%	0	0.0%
Less than 10%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
15. Estimate of % of weekly shares unable to collect?	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
100%	0	0%	0	0%	0	0%	0	0%	0	0%
75-99%	13	4.8%	5	7.2%	6	6.5%	2	3.1%	0	0.0%
50-74%	1	0.4%	0	0.0%	1	1.1%	0	0.0%	0	0.0%

25-49%	10	3.7%	3	4.3%	5	5.4%	1	1.6%	1	2.1%
10-24%	67	24.5%	22	31.9%	26	28.0%	12	18.8%	7	14.9%
Less than 10%	182	66.7%	39	56.5%	55	59.1%	49	76.6%	39	83.0%
16. Which did you do when you couldn't pick up your share?	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Asked someone else to pick up the share for me	78	28.4%	13	19.1%	23	24.5%	24	36.9%	18	37.5%
Asked someone else to pick up the share for use by them	125	45.5%	31	45.6%	34	36.2%	40	61.5%	20	41.7%
Told farmer not to pack	39	14.2%	4	5.9%	28	29.8%	0	0.0%	7	14.6%
Abandoned the share	68	24.7%	19	27.9%	34	36.2%	6	9.2%	9	18.8%
Donated the share	21	7.6%	6	8.8%	6	6.4%	9	13.8%	0	0.0%
17. Level of satisfaction with specific aspects	N	Mean (Std)	N	Mean (Std)	N	Mean (Std)	N	Mean (Std)	N	Mean (Std)
Quantity of produce	274	3.1 (.83)	69	2.4 (.87)	93	3.3 (.72)	64	3.3 (.65)	48	3.6 (.50)
Quality of produce	275	3.6 (.69)	69	3.1 (.85)	94	3.7 (.50)	64	3.6 (.71)	48	3.8 (.38)
Freshness of produce	276	3.9 (.37)	69	3.7 (.50)	94	4.0 (.23)	65	3.8 (.44)	48	4.0 (0)
Variety/mix of produce (vegetables &/or fruit)	270	3.0 (.75)	68	2.6 (.77)	91	3.0 (.72)	64	3.1 (.72)	47	3.4 (.61)
Variety/mix of other foods	128	3.1 (.76)	25	2.7 (.80)	56	3.0 (.75)	15	3.1 (.70)	32	3.4 (.62)
Quality of newsletter	262	3.4 (.65)	63	3.4 (.64)	92	3.4 (.65)	59	3.1 (.70)	48	3.6 (.50)
Convenience of pick-up site	267	3.2 (.83)	66	3.4 (.74)	91	3.1 (.74)	64	3.4 (.80)	46	3.0 (1.1)
Convenience of distribution time/day	267	3.3 (.78)	65	3.2 (.78)	90	3.2 (.79)	64	3.4 (.79)	48	3.5 (.72)
Social/community activities	169	3.1 (.76)	38	3.3 (.62)	68	3.3 (.62)	30	2.6 (1.0)	33	3.1 (.68)
Communication w/ the farmer	228	3.4 (.76)	55	3.3 (.58)	86	3.4 (.76)	39	2.8 (.85)	48	3.8 (.57)
20. Did the CSA experience meet your expectations?	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Exceeded expectations	57	20.9%	5	7.4%	18	19.6%	12	18.5%	22	45.8%
Matched expectations	153	56.0%	28	41.2%	59	64.1%	43	66.2%	23	47.9%
Fell short of expectations	58	21.2%	33	48.5%	15	16.3%	7	10.8%	3	6.3%
Had no expectations	5	1.8%	2	2.9%	0	0.0%	3	4.6%	0	0.0%
21. Price of share?	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Too high	73	27.1%	34	49.3%	16	17.8%	17	26.6%	6	13.0%
About right	193	71.7%	33	47.8%	74	82.2%	47	73.4%	39	84.8%
Too low	3	1.1%	2	2.9%	0	0.0%	0	0.0%	1	2.2%
22 (a). Do you plan on purchasing a share again for the next year?	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Yes	164	59.6%	23	33.3%	67	72.0%	39	60.0%	35	72.9%
No	61	22.2%	31	44.9%	12	12.9%	11	16.9%	7	14.6%
Unsure	50	18.2%	15	21.7%	14	15.1%	15	23.1%	6	12.5%
22 (b). If yes above, for the next 3-5 years?	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Yes	131	71.2%	19	59.4%	57	81.4%	29	67.4%	26	66.7%
No	6	3.3%	2	6.3%	1	1.4%	1	2.3%	2	5.1%
Unsure	47	25.5%	11	34.4%	12	17.1%	13	30.2%	11	28.2%
24. Has farmer explained risk issues?	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Yes	265	97.4%	67	100.0%	90	96.8%	61	93.8%	47	100.0%
No	7	2.6%	0	0.0%	3	3.2%	4	6.2%	0	0.0%
25. Did you know prior to joining?	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Yes	255	93.1%	60	87.0%	87	93.5%	62	95.4%	46	97.9%
No	19	6.9%	9	13.0%	6	6.5%	3	4.6%	1	2.1%
26. Do you feel you accepted some risk?	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Yes	250	91.6%	65	97.0%	81	87.1%	61	93.8%	43	89.6%
No	9	3.3%	1	1.5%	5	5.4%	0	0.0%	3	6.3%
Unsure	14	5.1%	1	1.5%	7	7.5%	4	6.2%	2	4.2%

27. If yes to #26, do you feel comfortable with the amount of risk?	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Yes	217	87.5%	47	72.3%	74	91.4%	55	93.2%	41	95.3%
No	18	7.3%	10	15.4%	5	6.2%	3	5.1%	0	0.0%
Unsure	13	5.2%	8	12.3%	2	2.5%	1	1.7%	2	4.7%
Gender of respondent	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Male	63	23.1%	20	29.0%	19	20.4%	13	20.3%	11	23.4%
Female	217	79.5%	50	72.5%	78	83.9%	51	79.7%	38	80.9%
Do you have a vegetable garden now?	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Yes	80	29.1%	18	26.1%	30	32.3%	18	27.70%	14	29.20%
No	195	70.9%	51	73.9%	63	67.7%	47	72.30%	34	70.80%
Did you grow up on farm or with family vegetable garden?	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Yes	139	50.9%	28	41.2%	53	57.0%	30	46.2%	28	59.6%
No	134	49.1%	40	58.8%	40	43.0%	35	53.8%	19	40.4%
Were you eating organic foods prior to joining the CSA?	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Yes	195	70.9%	52	75.4%	67	72.0%	42	64.6%	34	70.8%
No	80	29.1%	17	24.6%	26	28.0%	23	35.4%	14	29.2%
Are you a vegetarian or someone in your household a vegetarian?	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Yes	81	29.5%	20	29.0%	21	22.6%	22	33.8%	18	37.5%
No	194	70.5%	49	71.0%	72	77.4%	43	66.2%	30	62.5%
Which describes where you live?	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Urban	76	27.5%	35	50.7%	1	1.1%	23	35.4%	17	35.4%
Suburban	167	60.5%	23	33.3%	78	83.0%	42	64.6%	24	50.0%
Rural	33	12.0%	11	15.9%	15	16.0%	0	0.0%	7	14.6%
Highest level of education	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Less than high school diploma	2	0.7%	2	2.9%	0	0.0%	0	0.0%	0	0.0%
Completed high school	8	2.9%	2	2.9%	1	1.1%	1	1.5%	4	8.3%
Some college or technical school	20	7.3%	8	11.6%	2	2.2%	2	3.1%	8	16.7%
Undergraduate degree	90	32.7%	18	26.1%	35	37.6%	22	33.8%	15	31.3%
Graduate/professional degree	155	56.4%	39	56.5%	55	59.1%	40	61.5%	21	43.8%
Total household gross income	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
Under \$25,000	10	3.9%	5	7.5%	2	2.5%	2	3.3%	1	2.1%
\$25,000-\$49,999	50	19.5%	14	20.9%	7	8.6%	11	18.3%	18	37.5%
\$50,000-\$74,999	64	25.0%	21	31.3%	19	23.5%	11	18.3%	13	27.1%
\$75,000-99,999	58	22.7%	17	25.4%	22	27.2%	11	18.3%	8	16.7%
\$100,000-124,999	30	11.7%	5	7.5%	11	13.6%	10	16.7%	4	8.3%
\$125,000+	44	17.2%	5	7.5%	20	24.7%	15	25.0%	4	8.3%
Age group of respondent	N	Valid %	N	Valid %	N	Valid %	N	Valid %	N	Valid %
0-18	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
19-29	22	8.1%	6	8.8%	5	5.6%	8	12.5%	3	6.3%
30-39	80	29.6%	14	20.6%	30	33.3%	18	28.1%	18	37.5%
40-49	97	35.9%	25	36.8%	35	38.9%	20	31.3%	17	35.4%
50-59	48	17.8%	13	19.1%	13	14.4%	16	25.0%	6	12.5%
60 and above	23	8.5%	10	14.7%	7	7.8%	2	3.1%	4	8.3%

N= Number of responses. Std = Standard deviation.

Appendix C

Correlation Matrix of Results: Shareholder Retention Traits

		Short-term retention	Long-term retention
Years a CSA member	Pearson Correlation	0.286**	0.181*
	Sig. (2-tailed)	0.000	0.014
	N	274	183
Reason joined CSA: Desire to support local farms	Pearson Correlation	0.211**	0.052
	Sig. (2-tailed)	0.000	0.481
	N	272	183
Reason joined CSA: Seeking a sense of community	Pearson Correlation	0.197**	0.091
	Sig. (2-tailed)	0.001	0.225
	N	265	180
Reason joined CSA: Dietary concerns	Pearson Correlation	0.133*	0.065
	Sig. (2-tailed)	0.030	0.387
	N	268	182
Reason joined CSA: Concern for farm preservation	Pearson Correlation	0.179**	0.035
	Sig. (2-tailed)	0.003	0.644
	N	269	181
Reason joined CSA: Know where/how food was grown	Pearson Correlation	0.137*	-0.063
	Sig. (2-tailed)	0.026	0.404
	N	265	180
Reason joined CSA: Fresh produce	Pearson Correlation	0.200**	0.120
	Sig. (2-tailed)	0.001	0.105
	N	269	183
Reason joined CSA: Local produce	Pearson Correlation	0.196**	0.049
	Sig. (2-tailed)	0.001	0.505
	N	273	184
Reason joined CSA: Organic produce	Pearson Correlation	0.192**	0.091
	Sig. (2-tailed)	0.001	0.001
	N	271	271
Increase in amount of produce consumed	Pearson Correlation	0.196**	0.160*
	Sig. (2-tailed)	0.001	0.032
	N	267	181
Increase in variety of produce consumed	Pearson Correlation	0.306**	0.085
	Sig. (2-tailed)	0.000	0.257
	N	263	178
Percentage of vegetables purchased comes from CSA during harvest season	Pearson Correlation	-0.355**	-0.250**
	Sig. (2-tailed)	0.000	0.001
	N	274	184

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Correlation Matrix: Shareholder Retention

		Short-term retention	Long-term retention
Percentage of share used	Pearson Correlation	-0.176**	-0.099
	Sig. (2-tailed)	0.003	0.180
	N	275	184
Satisfied with quantity of produce	Pearson Correlation	0.448**	0.299**
	Sig. (2-tailed)	0.000	0.000
	N	273	182
Satisfied with quality of produce	Pearson Correlation	0.370**	0.150*
	Sig. (2-tailed)	0.000	0.042
	N	274	183
Satisfied with freshness of produce	Pearson Correlation	0.354**	0.183*
	Sig. (2-tailed)	0.000	0.013
	N	275	184
Rating of share price	Pearson Correlation	0.380**	0.335**
	Sig. (2-tailed)	0.000	0.000
	N	268	178
Share type (e.g., full share, half share, split share)	Pearson Correlation	-0.177**	-0.112
	Sig. (2-tailed)	0.003	0.131
	N	272	182
Where shareholder picks up share	Pearson Correlation	-0.261**	-0.141
	Sig. (2-tailed)	0.000	0.057
	N	275	184
Income level	Pearson Correlation	0.115	0.208**
	Sig. (2-tailed)	0.067	0.006
	N	255	172
Age group	Pearson Correlation	0.122*	0.046
	Sig. (2-tailed)	0.045	0.538
	N	269	181
Attendance at farm meetings	Pearson Correlation	0.150*	0.121
	Sig. (2-tailed)	0.013	0.104
	N	273	182
Short-term retention	Pearson Correlation	1	0.504**
	Sig. (2-tailed)	--	0.000
	N	275	184
Long-term retention	Pearson Correlation	0.504	1
	Sig. (2-tailed)	0.000	--
	N	184	184

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

¹ Negative correlations for percentages of vegetable purchased and percentage of share used indicate short-term and long-term retention associated with the higher percentages in these questions (e.g., 100% of the share used); negative correlations with share type indicate short-term and long-term retention associated with full share; negative correlations with shareholder pick-up site indicate short-term and long-term retention associated with farm pick-up.