Community Supported Agriculture (CSA) in the Midwest United States:

A regional characterization

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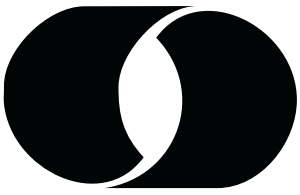

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Survey Quick Stats

Upper Midwest Community Supported Agriculture (CSA) operations were surveyed to evaluate their viability and provide a regional characterization of the movement. The survey, mailed to 144 operators on March 15, 2002, was designed to collect descriptive information on the operations and farmers as well as data on finances and labor. Surveys were sent to CSA farms located in Iowa, Illinois, Kansas, Michigan, Minnesota, Missouri, North Dakota, Nebraska and Wisconsin. Sixty-two completed surveys (43 percent) were returned within a month and 55 (38 percent) were usable.

Here are some of the findings, in brief.

- The typical upper Midwestern CSA farmer is 45 years old and has 14 years of farming experience.
- The farmer and his or her partner are likely to be college graduates.
- Just over half the farmers are female and have farmed for about eight years.
- Primary motivations to start a CSA operation were environmental and social values.
- CSA farms have been in operation for more than five years, on average.
- They serve 33 members and membership has increased by 350 percent since start-up.
- The average CSA farmer has just over 30 acres including the CSA operation.
- Almost two-thirds of the farms raise only produce, as a CSA or a CSA/market garden combination.
- When determining share price, most CSA farmers consider what they believe to be consumers' willingness to pay rather than the market price for their products.
- In terms of labor, half of the respondents have an off-farm job, but also farm 20 percent to 98 percent of the time.
- Family members often provide a majority of the labor—doing 75 percent to 100 percent of the CSA work.
- Two-thirds of the respondents hire other labor and spend $2,920 on average per season.
- Just over half also offer working shares to members, but for 70 percent of these, members provide just up to 5 percent of the operation's labor needs.
- Average net return per acre for these CSA farmers is $2,467. This figure is quite high when compared to return per acre of corn ($172.11), soybeans ($134.46) and wheat ($38.10) in the United States.[35]
- In terms of family income, farm enterprises and off-farm work both provide about half the annual income. CSA operations account for about one-half of farm income on average, even though CSA land as a percentage of total land farmed is 37 percent on average, and 12 percent for those farms with additional operations beyond CSA and market garden production.
- When asked if their share price provides them with a fair wage, over half (57 percent) of these CSA farmers replied negatively.
- However, nearly all (97 percent) respondents claim to be completely satisfied or satisfied most of the time with their CSA operations.
- These CSA farmers believe their members are completely satisfied (17 percent) or satisfied most of the time (83 percent).

Introduction

For the past 20 years, we have heard a great deal about Community Supported Agriculture as a novel marketing and community-building concept. The accepted history of Community Supported Agriculture in the United States is that Jan VanderTuin brought the concept from Switzerland in 1984. CSA projects had been sprouting up there and in other parts of Europe since the 1960s. Such enterprises also were found in Japan in the 1960s when women's neighborhood groups began approaching farmers to develop direct, cooperative relationships between producers and consumers, known as 'teikei.'

In 1986, the first two CSA projects in the United States began delivering harvest 'shares' from Robyn Van En's Indian Line Farm in Massachusetts and the Temple/Wilton Community Farm in New Hampshire.[1, 2, 3] As of March 2004, 1,034 CSAs were listed in a national database managed by the Robyn Van En Center for CSA Resources[1] in collaboration with the U.S. Department of Agriculture (USDA), National Agricultural Library, Alternative Farm Systems Information Center.[4]

A reference list of CSA information compiled by the USDA[4] lists more than 100 articles and books, many published in the mid-1990s. CSA has been covered in everything from Mother Jones[5] and Mother Earth News[6] to the American Journal of Agricultural Economics.[7] For more than a decade, major newspapers have been touting the CSA model as a way to buy farm fresh produce and build urban-rural partnerships.[8, 9, 10, 11, 12, 13, 14]

CSA characteristics

At its best, CSA offers members:

- a seasonal supply of fresh, reasonably-priced produce (often grown using organic methods);
- a direct relationship with the farmer growing their food;
- an opportunity to learn about agriculture and local ecosystems; and
- a community-building connection with farmers, neighbors and landscapes.

Farmers share the inherent risk of farming with their community. Membership shares (subscriptions) provide farmers with funds to cover costs and pay reasonable wages to themselves and other workers. They are guaranteed a market for their products throughout the season. They are freed from some of the burden of marketing and have more time to tend their crops and animals with care and to nurture the land.

CSA may minimize some of the negative effects of more conventional systems of food production and distribution because it involves less chemical use, less soil erosion, less food packaging, fewer food miles and more crop and ecosystem diversity. CSA may revitalize local economies by helping to retain more capital in the community and increasing interaction and understanding between urbanites and rural residents. Additionally, CSA may spur local, civic involvement by energizing environmental initiatives, preservation of open and rural landscapes and other community-building activities.[15, 16, 17, 18, 19, 20]

CSA is not without its drawbacks. A season plagued by weather extremes limits the harvest to be shared among members. Or, in good years, members tire of the responsibility of storing and preparing an abundance of produce each week; they feel guilty when it goes to waste. Unfamiliar vegetables and preparation requirements challenge them; they wistfully recall the days of freely choosing items, in the amounts they wanted, from the grocery store aisle. For the farmers, the situation may be that they do not pay themselves a living wage and feel overworked and underappreciated and must rely on volunteers and underpaid interns. There is no 'community' of shared responsibility and partnership. Both farmers and members feel unfairly treated. Here, the market-based relationships of CSA have overshadowed the philosophical orientation of the concept.[21, 22, 23] Price, profit and individual motivation are forces at play in the CSA experience. Now, 20 years after the CSA concept landed in the United States, more information is needed on the sustainability of the business of CSA.

CSA studies

Understandably, initial studies have focused on describing shareholder motivation for joining a CSA farm and their subsequent level of involvement, as well as characterizations of CSA farmers themselves.[15, 21, 24, 25, 26] In general, studies have found that shareholders join primarily to support local food systems and small farmers and for access to fresh, organic produce. However, lifestyle adjustments required to store and prepare produce and become more involved in the actual farm operation prove difficult for many shareholders.[21, 24, 26] And 30 to 40 percent CSA member attrition each season is not uncommon.[20]

Yet, the number of CSA farms in the United States continues to grow. As noted previously, more than 1,000 CSA operations are listed on the national online database with more than 20 percent in upper Midwestern states. The growth in Iowa alone is striking: There were three operations in 1995, and by 1998, 25 projects involved over 40 Iowa farms.[27] In 2004, there were at least 38 CSA operations in Iowa.[1]

These numbers tell us that there are many young CSA operations, which may indicate that the model is proving itself and attracting farmers. But, they do not tell us how many farms have abandoned the CSA model or if the level of financial return is adequate to sustain these operations. Farmers enter into CSA not only for greater, more secure market potential, but also to nurture the environment and build stronger local communities.[15, 21] However, a reasonable wage for the farmer must balance ethical commitments and lifestyle benefits in order to maintain the effort over the long run.

CSA research in the northeast

Some notable research on CSA feasibility in the United States has been conducted in the Northeast by Lass et al.[28] To characterize CSA farms and determine economic viability, mail surveys were conducted in nine northeastern states in 1996, 1997 and 1998; each survey collected data for the previous year's completed season. Average net income per farm, calculated using reported revenue and cost data, was $2,724 in 1995, $7,313 in 1996 and $8,820 in 1997. The researchers found, however, that operator and worker wages were not fully accounted for in these figures. They calculated labor costs using data on labor resources, hours worked and average hourly wages reported by respondents. When these costs were included, as well as imputed insurance and retirement benefits, average net income per farm fell to negative values: -$12,078 in 1995, -$5,265 in 1996 and -$4,834 in 1997.

Of course, these negative incomes do not necessarily indicate that CSA is a losing proposition. Management decisions and 'cultural' maturity of CSA participants may shift these returns to meet the ideal of a fair wage for CSA farmers and workers. Lass et al. point to data that support an increase in share prices based on the value of the produce itself.

A 1995 survey of 192 CSA members in the Amherst, Massachusetts, area[29] found that a large proportion of members did not perceive a cost savings by purchasing produce through their CSA farm and nearly half thought the share price was about the same or more than the cost of purchasing produce from a store. Retail values were computed for the season of shares from three area CSA farms as if the produce was purchased from available retail outlets: a national food chain offering mostly conventional produce, a regional chain with organic and conventional produce and a local store selling locally grown conventional produce. Contrary to shareholder perception, results showed substantial savings for these 1995 CSA shares in Massachusetts: retail values of organic produce were 160 percent to 250 percent of share costs and retail values of conventional produce ranged from 107 percent to 185 percent of share costs.

Another analysis of the Northeast survey data assesses the presence and extent of market power and concludes that the CSA farms have much more potential monopoly power than they exert.[30] It is suggested that the farms use only about 3.5 percent of their power for reasons related to the community-building ideals of CSA. Nickerson[7] claims that because farmers receive a fixed payment in advance for their season's production, they are induced to produce more than they would in traditional markets. This also may add to low share prices relative to value.

National CSA studies

Two national CSA surveys have been conducted: a 1999 survey with 368 respondents[31] and a 2001 survey with 354 respondents.[32] The results offer descriptive statistics that broadly characterize U.S. CSA farmers and operations. Instructive comparisons are made between CSA farms and U.S. farms in general using the 1997 USDA Census of Agriculture. For the 2001 survey, the average reported CSA income was $33,541; this was skewed by large operations, considering the median income was $15,000. The researchers used data on number of shares and share prices to calculate share income, which resulted in similar figures: an average of $33,730 and a mean of $15,798. This suggests that reported income was actually revenue and did not account for operating costs, including wages, similar to the results of the Northeast surveys.

Materials and methods

We surveyed upper Midwestern CSA operations to evaluate their viability and provide a regional characterization of the movement a decade after a critical mass of start-ups. The survey was mailed to 144 operators on March 15, 2002. It was designed to collect descriptive information on the operations and farmers and data on finances and labor. The mailing list was compiled using the national database of the Robyn Van En Center for CSA Resources.

Surveys were sent to CSA farms located in Iowa, Illinois, Kansas, Michigan, Minnesota, Missouri, North Dakota, Nebraska and Wisconsin. Sixty-two completed surveys (43 percent) were returned within a month and 55 (38 percent) were usable. The responses by state appear in Table 1.

Table 1. Survey responses by state

State	Responses, March/April 2002	No. CSAs in database, March 2004
Iowa	12	38
Illinois	2	14
Kansas	2	8
Michigan	5	33
Minnesota	12	36
Missouri	3	17
North Dakota	1	2
Nebraska	1	4
Wisconsin	17	64

Results

In the presentation of the survey results, when it is appropriate, we compare findings for these midwestern CSA farms to the 1998 survey (1997 season) in the Northeast[28] and the 2001 national survey.[32]

Respondent characteristics

Age and education

We assume information reported on respondent characteristics reflects that of the primary farmer, although the survey did not directly request that the primary farmer complete the questionnaire. Mean respondent age is 45.4 with a range of 27 to 63 years old (national mean: 43.6). However, CSA farmers are younger, in general, than farmers nationally, according to the 2002 USDA Census of Agriculture, which reports the average age of white principal operators to be 55.3.

On average, these respondents have 13.7 years of farming experience, with a range of 2 to 52 years (national mean: 12.9). (This is slightly skewed by two long-time farmers.) The median is 10.0 years of experience, equal to the national median. Most respondents, 78 percent, are college graduates compared to 74.8 percent nationally and 25 percent have graduate degrees compared to 23.2 percent nationally. Although these proportions are higher for Midwestern respondents, they are not significantly different. Three-quarters reported the education level of a spouse or significant other, and 78 percent of these partners are college graduates, including 24 percent with graduate degrees.

Gender

Just over half, 53 percent, of the respondents are women, compared to 36 percent of primary farmers in the national survey and 11 percent of principal operators (27 percent of all operators) according to the 2002 USDA Census of Agriculture. In 2001, a higher percentage of CSA farmers in the upper Midwest were women than for CSA farmers nationally. In terms of farming experience, the difference between these male and female CSA farmers is not as great as one might expect. For men, farming experience ranges between 2 and 52 years with a median of 10. For women, years of farming range from 3 to 46 with a median of 9.

Motivations and values of respondents

To learn about the motivations and values of CSA farmers, respondents were asked a series of questions to rate the influences of factors and benefits on members. Respondents were first asked to rate factors that influenced their decision to start the CSA farm, on a scale of 1 (weakest) to 5 (strongest). Table 2 shows the percentage of respondents who indicated 4 or 5 on the scale for each motivation factor and average responses.

Table 2. Motivation factors influencing decision to start CSA operation

N	Percent of respondents indicating 4 or 5	Mean response	Motivation factor
54	85	4.44	Closer relationship with consumers of product
54	78	4.06	Assured markets for products
54	74	4.07	Developing ties within the community
53	74	3.94	Guaranteed price for products
51	55	3.45	Source of production financing
53	38	3.09	Assured income in case of unfavorable growing conditions

Respondents were then asked to rate the offerings they believe they provide to members, on a scale of 1 (least valuable) to 5 (most valuable). Table 3 shows the percentage of respondents who indicated 4 or 5 on the scale for each offering and average responses.

Table 3. Farmer ratings of value to members

N	Percent of respondents indicating 4 or 5	Mean response	My CSA offers
54	100	4.93	High quality, fresh and healthy food
54	96	4.74	Knowledge that their food was produced in an environmentally safe way
53	62	3.81	Guarantee of food safety
53	38	3.09	The opportunity to take part in production of food
53	30	2.92	Inexpensive, organically produced food
54	22	2.67	One stop produce shopping

Finally, respondents were asked to assess five categories of values that may have led them to alternative agriculture. This was done via one-to-one comparisons, so each category was compared to the other four. The five categories of values were defined as follows:

- Ecological – how people do and should relate to their environment;
- Social – how people do and should relate to each other;
- Religious – honoring and following the teachings of a specific religion rather than a general spirituality or the ethics of doing good;
- Farming as a way of life – like to be in a rural setting, be own boss, work hard, grow living things and experience the ups and downs of farm life; and
- To make a living.

Results (shown in Table 4) were compiled by counting how many times a category was selected.

Table 4. Values leading to participation in alternative form of agriculture

N	Percent of respondents choosing category most often or as often as other categories	Value category
50	54	Ecological
50	38	Social
50	32	Farming as a way of life
50	18	To make a living
50	10	Religious

These results, when viewed together, suggest that the social and environmental aspects of CSA are stronger motivating factors than the possible market advantages of the model. Although assured markets and guaranteed prices do appear to be fairly strong motivating factors, these farmers do not seem to be drawn to CSA by an assured income or to make a living. When considering value provided to members, most farmers cite product quality and the environmentally friendly aspects of production. A majority of farmers do not believe they offer inexpensive, organic produce. This implies that farmers may feel they charge relatively high prices. Findings in Massachusetts, however, suggest there may be room for increases.[29]

Characteristics of CSA operations

The survey gathered information (see Table 5) on years of operation, CSA acreage and membership. The age of these operations ranges from one to 14 years with a mean of 5.6 years (national mean: 5.7).

Almost all of the respondents (98 percent) report that they farm organically for the CSA operation, and most of these (92 percent) have used organic methods since start-up. Although they were not asked directly about certification status, 11 respondents, 21 percent of those claiming that they farm organically, indicate that they are not certified and four indicate that they are.

Original acreage ranged from under an acre to five acres. Current acreage ranges from under an acre to nine acres.

Original membership ranged from one to 35. Current membership ranges from five to 80. On average, 48.1 percent of original members currently remain. Most operations (87 percent) show an increase in membership, which ranges from a 20 percent increase to more than 16 times greater than original membership and averages 350 percent. Nearly one-third of respondents (36 percent) indicated being at the highest membership level for which they could provide service. The range of members served per acre is 0.5 to 27.8.

Table 5. Characteristics of CSA operations in the upper Midwest		
	N	Mean (without outliers)
Years of operation	55	5.6
Original acreage	48	1.6
Current acreage	37	3.2
Original membership	51	13.7
Current membership	44	33.7
Members per acre	43	13.4

Share details

Share price

Average number of delivery weeks is 20.5 and 33 percent of the CSA operations offer at least two options for membership, differing by amount or types of produce or number of delivery weeks. Lower share price options range from $90 to $555, with a mean of $277.50. Higher share price options range from $150 to $650, with a mean of $396.20. Information from the national and northeastern surveys cannot be directly compared because questions qualifying share types differed greatly. But for informational purposes, the average number of delivery weeks nationally was 24, the average full share price was $429 (median: $400) and the average half share price was $282 (median: $250). For the 1997 season in the Northeast United States, the average price of a non-working, full share (where no volunteer time from the member was required) was $352.98 and the average price for a non-working, half share was $273.35.

Share price is set by the farm owner in 76 percent of the survey cases. Sixteen percent report that the owner and/or manager and members are involved in price setting. Only two respondents mention a core group setting share price. Respondents were asked to rate the importance of factors considered when determining share price, on a scale of 1 (least important) to 5 (most important). Table 6 shows the percentage of respondents who indicated 4 or 5 on the scale for each factor and average responses.

Table 6. Importance of pricing factors			
N	Percent of respondents indicating 4 or 5	Mean response	Pricing factor
54	70	3.74	Consumers' willingness to pay
52	60	3.75	My CSAs operational cost
52	56	3.50	My CSAs operational cost plus my labor
53	43	3.09	Prices of shares at other CSAs
53	43	3.06	Price of similar products at the market
50	42	3.18	My CSAs operational cost plus family labor

Consistent with the findings in the Northeast, these CSA farmers consider consumer willingness to pay more than the market price for their products when determining share price. Farmers do indicate that operational cost plays a part, but this does not necessarily include the cost of their own labor or that of family members.

Products offered in shares

On average, these CSA farms provide 30 types of vegetables, three fruit products and eight types of herbs. Most (81 percent) also offer flowers or value-added items. Nearly half provide flowers with their shares. Animal products are offered by just over one-third of the farms: 38 percent provide eggs or dairy products and 35 percent offer meat products. Processed products, such as honey, syrup and jams are provided by 35 percent, and 29 percent include grains or beans.

Distribution

Respondents use a variety of distribution options. Most use drop sites or have on-farm pick up and over a third provide home delivery.

Here is the breakdown:

- 65 percent offer pick up at drop sites,
- 62 percent have on-farm pick up,
- 36 percent offer home delivery,
- 18 percent offer pick up at a farmers' market, and
- 60 percent of the operations offer two or more delivery options.

Advertising and communications

More than half (61 percent) of the respondents advertise in some way. One-third (33 percent) of these use formal modes of advertising in newspapers or on radio. Most use informal means, such as flyer or brochure distribution, direct mailings or directory listings.

Almost all CSA operations (95 percent) provide members with information throughout the season, mostly in the form of weekly newsletters, garden updates and recipes. Most (89 percent) also ask for feedback from members with 49 percent conducting one or two formal surveys each season. Others ask for feedback verbally during face-to-face contact and/or have a mechanism to ask members a "question of the week."

Markets and other farm products

Most of the farms surveyed are involved in a variety of agricultural enterprises. Only 18 percent of respondents report the CSA as their only farming operation. In addition to the CSA operation:

- 44 percent have market gardens, and, so, 62 percent of the farms raise produce only;
- 24 percent have market gardens and raise livestock;
- 11 percent have some combination of a market garden and/or livestock and/or a grain crop; and
- 4 percent have large animal businesses (one raises horses and another trains draft animals).

Describing farms by category of other operations, 73 percent have market gardens. These operations use other produce markets beyond the CSA outlet:

- 65 percent participate in farmers' markets;
- 48 percent sell to grocery stores, natural food stores or cooperatives;
- 40 percent sell to restaurants;
- 33 percent sell directly off-farm via roadside stands, u-pick operations, mail order, direct requests or broker networks; and
- 10 percent sell through wholesale markets.

Thirty-one percent of all respondents reported raising livestock. Most of these farms (88 percent) offer meat and/or dairy products to their CSA members. Just 10 percent of all farms surveyed raise a grain crop.

Farm scale and land holdings

The amount of land in production for all respondents ranges from 0.75 to 640 acres. This is skewed by a handful of large farms: the median is 20 acres. Areas for the CSA operations themselves range from 0.07 to 45 acres with a mean of 6.7 and a median of 3.5 acres.

CSA land as a percentage of total land farmed for all respondents is 37 percent on average with a median of 20 percent. This may be skewed because some farms with CSA/market garden operations were unable to identify land area used only for the CSA operation. For those farms with additional operations beyond CSA and market garden production, CSA land as a percentage of total land farmed ranges from 0.3 percent to 56 percent, with a mean of 12 percent and a median of 5 percent.

Many operators (73 percent) own all of the land in production. Amount of land owned, not including those who only rent, ranges from 0.75 to 640 acres with a median of 20 acres. Half of these farms own five to 70 acres. Just over one quarter (27 percent) of the farms rent some or all of their land.

In comparison to the national survey, which claimed that "a large proportion of CSA operations do not own the land they operate" (Lass et al.[32] p.7), we see high percentages of land ownership for Midwest CSA farms. Also, the national survey indicated that 23 percent of CSA farms own no land compared to 15 percent of the midwestern farms surveyed.

Labor

CSA farmers use a variety of labor sources to supplement their efforts, including CSA shareholders, family members and hired hands. According to the survey data, none of these labor options correlate highly with return per acre.

Working shares

Some CSA farms offer members the option to work on the farm in exchange for some of the share price; 53 percent of these respondents offer working shares. However, this labor source does not seem to meet labor needs to any great extent. For 70 percent of those responding to the question, members provide 0 percent to 5 percent of the CSA operation's labor needs. Four CSAs (17 percent) report that members provide 10 percent to 20 percent of the labor. Only three respondents (13 percent) report that members provide 50 percent to 70 percent of the labor.

Family labor

Family labor is a vital resource for these Midwestern CSA farms. Most respondents (79 percent) indicated that family members participate in CSA work. Of these, 41 respondents reported labor input by family members, as follows.

- For 63 percent, family members do 75 percent to 100 percent of CSA work.
- For 12 percent, family members do 50 percent to 70 percent of CSA work.
- For 10 percent, family members do 20 percent to 30 percent of CSA work.
- For 15 percent, family members do 1 percent to 10 percent of CSA work.

Hired labor

Many respondents (65 percent) reported hiring other labor. Of these, 28 indicated annual out-of-pocket cost for hired labor, which ranged from $0 to $48,000. The distribution is:

- 18 percent reported $300 or less,
- 54 percent reported $1,000 to $5,000,
- 21 percent reported $7,000 to $15,000, and
- One reported annual out-of-pocket cost for hired labor to be $48,000.

Similar percentages of men and women hire labor, 65 percent and 62 percent, respectively. But, annual out-of-pocket cost for female respondents ranges from $0 to $8,000, whereas this cost for male respondents ranges from $200 to $48,000. Again, sample sizes are small, so only limited conclusions can be drawn from these results. But, they may indicate that male CSA farmers have a higher tolerance for hiring paid labor. For the male respondents with labor costs of $12,500 or more, all indicate working on the farm 90 percent to 100 percent of the time. Three farms have CSA/market garden operations and one has sheep. For the female respondents with labor costs of $7,000 or more, two of three have off-farm jobs and family members provide 75 percent of the labor. One is a CSA and market garden operation. One is a CSA and market garden with 28 dairy goats and the third is a CSA and market garden with broilers and 50 acres of a cash grain crop.

Hiring other labor is correlated with percent of labor provided by family members. This may indicate that as family members provide more of the labor, less hired labor is needed. Labor costs are correlated with higher CSA membership, larger capital investments and greater seasonal input costs.

Off-farm work

Respondents are split in regard to having an off-farm job. Of those with an off-farm job, 23 reported percent of time spent on farming. These are nearly evenly divided into four ranges of 20 percent to 25 percent, 30 percent to 40 percent, 50 percent to 70 percent and 75 percent to 98 percent of their time farming. If one assumes that those who indicated not having an off-farm job spend 100 percent of their time on farming, 76 percent of respondents spend 50 percent or more of their time on farming.

The results also suggest, although sample sizes are small, that more female CSA farmers tend to have off-farm work and spend more time at their off-farm jobs than men.

- 57 percent of female respondents reported having off-farm work.
- 44 percent of male respondents reported having off-farm work.
- Of those indicating an off-farm job, 62 percent of female respondents reported working less than 50 percent on farming.
- Of those indicating an off-farm job, 40 percent of the male respondents reported working les than 50 percent on farming.
- Assuming that those who indicated not having an off-farm job spend 100 percent of their time on farming, 68 percent of female respondents spend 50 percent or more of their time on farming.
- Assuming that those who indicated not having an off-farm job spend 100 percent of their time on farming, 83 percent of male respondents spend 50 percent or more of their time on farming.

Investments and seasonal costs

Respondents were asked how much has been spent on capital investments for the CSA operation. Investments ranged from $400 to $200,000. Respondents also were asked to report the cost of inputs for seasonal production. These range from $30 to $20,000.

For both investments and seasonal inputs, responses vary widely and it is difficult to discern any pattern. This may suggest that there is great variability among the CSA farmers themselves, in terms of the ability or willingness to track costs. There are, of course, a number of cost categories that some farmers may have not considered in their responses. The northeastern survey asked for costs by supplying respondents with a detailed list and resulting averages were much higher. For obvious seasonal inputs, the averages were $1,259 for seeds, plants and seed treatments, $810 for fertilizers and $104 for pest control. Average total expenses, not including wages or capital expenses, were $13,315 for the northeastern survey. This includes fuels, depreciation, utilities, insurance, interest, taxes, marketing, tools and equipment repair.

Net return

Net return per acre was reported by 38 respondents, with a range of $0 to $7,000. When multiplied by CSA acreage, total net return from CSA operations range from $0 to $125,000. Details follow in Table 7, which includes results from the Northeastern survey for comparison

Table 7. Net return (US$)

	Net return per acre	Total net return	Total net return without outliers	Northeastern survey: Net CSA income
N	38	30	25	n/a
Minimum	0	0	0	n/a
Maximum	7,000	125,000	21,000	n/a
Mean	2,466.50	17,469.18	6,643.01	8,820
Median	2,000	6,250	5,100	n/a
Std. Dev.	2,127.24	30,245.61	6,303.24	n/a
1st quartile	875	2,625	1,000	n/a
3rd quartile	4,000	18,750	10,250	n/a

The question regarding net return was phrased: "About what is your typical annual net return per acre from the CSA, above out of pocket costs?" Therefore, net return per acre as reported is most likely gross revenue less operating costs of inputs, machinery and maintenance, and farmers probably did not account for costs of labor, taxes and insurance or opportunity costs of land and labor. As mentioned previously, the researchers in the Northeast came to the same conclusion, and after including imputed labor expenses, they found the average imputed net income in 1997 to be negative $4,834. This rough comparison suggests that the total net return for midwestern CSA operations is less than for those in the Northeast. However, it is greater than the average net farm income ($5,873, which includes government payments) for farms of one to nine acres reported in the 2002 USDA Census of Agriculture.

Net return per acre ($2,466.50) also is much higher than that of three common commodity crops in the Midwest: corn ($172.11), soybeans ($134.46) and wheat ($38.10). These figures represent average return per acre planted, excluding direct government payments and less operating costs for the United States in 2002.[35] They also do not include costs of hired labor, opportunity costs of unpaid labor or land, capital recovery of machinery and equipment, taxes and insurance or general farm overhead.

Income

Respondents also were asked to report percentage of family income from off-farm work and percentage of farm income from the CSA operation. Off-farm jobs provide almost 50 percent of the family income on average. However, 20 percent reported no off-farm income.

- For 34 percent, off-farm work accounts for 0 percent to 20 percent of family income.
- For 30 percent, off-farm work accounts for 30 percent to 70 percent of family income.
- For 36 percent, off-farm work accounts for 75 percent to 100 percent of family income.

CSA operations account for 28 percent of family income on average with a median of 15 percent.

- 60 percent reported 0 percent to 24 percent of family income from the CSA operation.
- 24 percent reported 25 percent to 50 percent of family income from the CSA operation.
- 16 percent reported 80 percent to 100 percent of family income from the CSA operation; three respondents (6 percent) reported 100 percent of family income from the CSA operation.

In terms of total farm income, CSA operations account for 48 percent on average. This is notable because CSA land as a percentage of total land farmed is 37 percent on average and 12 percent for those farms with additional operations beyond CSA and market garden production.

- For 33 percent, 0 percent to 20 percent of farm income is from the CSA operation.
- For 12 percent, 25 percent to 30 percent of farm income is from the CSA operation.
- For 25 percent, 50 percent to 70 percent of farm income is from the CSA operation.
- For 31 percent, 80 percent to 100 percent of farm income is from the CSA operation.

Satisfaction

To get a sense of how CSA farmers feel about their CSA income, respondents were asked, "Do you feel that the share price you are currently charging provides you and your family with a fair wage?" Less than half (43 percent) do. As one might expect, feeling fairly treated is correlated with higher net return per acre and more capital investments in the CSA operation and somewhat correlated with higher share costs. Interestingly, it also is correlated with more original members remaining with the CSA, more time spent farming, higher percentage of family income coming from farm operations and higher percentage of family income coming from the CSA operation itself.

The survey also measured satisfaction levels of CSA farmers and the farmers' opinions of member satisfaction. Respondents reported these satisfaction levels with their CSA operations:

- 13 percent of the respondents claim to be completely satisfied,
- 84 percent reported being satisfied most of the time, and
- 4 percent claim to be unsatisfied most of the time.

Of the 48 (88 percent) not completely satisfied, 46 respondents provided causes for their dissatisfaction. Just under half (48 percent) identified the high number of work hours and/or labor issues as primary causes of dissatisfaction. Feeling underpaid and/or a low net return was identified by 35 percent. This measure of satisfaction is correlated with the fair wage measure, as expected, and with a higher percentage of farm income coming from the CSA operation.

Regarding farmers' opinions of the level of satisfaction of their CSA members:

- 17 percent believe members are completely satisfied, and
- 83 percent believe members are satisfied most of the time (2 on scale of 1 to 3).

Respondents identified causes of dissatisfaction for members as well. Many (74 percent) mentioned too much produce/too much preparation required as a primary cause of dissatisfaction for members. Lack of choice also was mentioned as a primary cause of dissatisfaction for members by 54 percent of respondents.

When asked what changes they expect in their CSA operation in the next five years, respondents replied as follows:

- 57 percent expect to grow,
- 37 percent expect to remain the same size, and
- 6 percent expect to decline in size.

So, even though these results reveal that a majority of CSA farmers feel overworked and underpaid, their level of satisfaction is fairly high, suggesting that the intangible benefits of such an operation may balance their outlook. They also feel their members are satisfied for the most part and anticipate growing in the near future.

SUMMARY

According to this survey, the typical upper midwestern CSA farmer is about 45 years of age and has 14 years of farming experience. Most likely both the farmer and his or her partner are college graduates. In just over half the cases, the farmer is a woman and she has probably farmed for about eight years. The farmer's primary motivations to start a CSA operation were environmental and social values.

These CSA farms have been in operation for more than five years, on average. They serve 33 members and membership has increased by 350 percent since start-up. They have doubled their acreage size since start-up to an average of just over three acres and can provide for 12 members per acre.

In terms of all land in agricultural production, including the CSA operation, the average farmer has just over 30 acres. This also is the average of land owned by these farmers, and a high percentage of them (73 percent) own all of the land in production. Almost two-thirds of the farms raise only produce, as a CSA or a CSA/market garden combination.

When determining share price, these CSA farmers consider what they believe to be consumers' willingness to pay rather than the market price for their products. A majority of them do not believe they offer inexpensive, organic produce, which may indicate that they feel they charge relatively high prices.

In terms of labor, half of the respondents have an off-farm job but also farm 20 percent to 98 percent of the time. Family members often provide a majority of the labor. For almost half of all respondents, family members do 75 percent to 100 percent of the CSA work. Two-thirds of the respondents hire other labor and spend $2,920 on average per season. Just over half also offer working shares to members, but for 70 percent of these, members provide just up to 5 percent of the operation's labor needs.

Responses regarding costs vary. Capital investments range from $400 to $200,000. Costs for seasonal inputs range from $30 to $20,000. These ranges may indicate that some farmers are better than others at tracking and itemizing costs. A more thorough cost analysis based on survey data requires specific questions guided by a detailed cost list.

The average net return per acre for these CSA farmers is $2,467. This figure is quite high when compared to return per acre of corn ($172.11), soybeans ($134.46) and wheat ($38.10) in the United States.[35] The average total net return is $6,643, which is lower than the northeastern results ($8,820) but greater than one- to nine-acre farms in the United States according to the USDA 2002 Census of Agriculture ($5,873).

In terms of family income, farm enterprises and off-farm work both provide about half the annual income. CSA operations account for about one half of farm income on average, even though CSA land as a percentage of total land farmed is 37 percent on average and 12 percent for those farms with additional operations beyond CSA and market garden production.

CSA membership and retention have significant, positive effects on CSA income as a percentage of family income. Large CSA operations may be the primary business focus. Capital investments are significant but do not have a substantive impact per dollar invested.

When asked if their share price provides them with a fair wage, over half (57 percent) of these CSA farmers replied negatively. This measure correlates, in the direction of feeling paid a fair wage, with member retention, more time spent farming and higher percentage of family income from farm and CSA operations. However, nearly all (97 percent) respondents claim to be completely satisfied or satisfied most of the time with their CSA operations. Causes of dissatisfaction were identified as high number of work hours, labor issues, feeling underpaid and low net return.

These CSA farmers believe their members are completely satisfied (17 percent) or satisfied most of the time (83 percent). Farmers identified too much produce, too much food preparation time and lack of product choice as causes of dissatisfaction for members.

Conclusions

There are, of course, a number of ways to consider the average return and income figures resulting from this survey. Returns per acre from these CSA operations are high when compared to return for the region's commodity crops. But this does not consider differences in labor requirements and opportunity costs. CSA income as a percentage of total farm income is nearly 50 percent, which is higher than the average percentage of CSA land to total production area.

Using the average CSA total net return of $6,643 and the average CSA income as a percentage of family income (28.27 percent), we can calculate a mean annual family income of approximately $23,500 for these Midwestern farmers. This income is just 53 percent of the average of median household incomes for the nine states surveyed: $44,568.[36]

But, these are farmers choosing to farm. And they have chosen the CSA model as a primary focus or as a complement to other agricultural enterprises. They are highly educated and younger than farmers nationally. For many respondents, their CSA operations were beginning their sixth season at the time of this survey and had grown in membership and land area since inception.

The overall picture portrayed by this survey is one of viability and commitment. Although more than half of respondents do not feel their share price provides them with a fair wage, almost all claim to be satisfied at least most of the time with their operations. Nearly all of these farmers anticipate continuing their CSA operations and over half expect the operations to expand. It may be that the intangibles of environmental stewardship and community involvement continue to sustain the outlook of these farmers. And, the average financial return from a CSA presents an attractive option as well.

The survey results recommend actions that may improve viability in the long run. Regarding share price, what are members really willing to pay? Other studies indicate that there may be room to increase share price or to better balance price and market value.[7,29] It would be constructive for each CSA farmer to try to determine willingness to pay by using surveys and studies to calculate the market value for their share bundle. Most farmers already survey customers and should be aware of market prices for their products. So, these are doable activities.

According to our linear models, increasing membership count, member retention, members per acre and CSA land area may improve financial return. The farmers themselves identified causes of dissatisfaction for CSA members. To improve retention, concerns with too much produce, too much preparation time and lack of choice should be addressed. By definition, the CSA model creates a community of members who share in the harvest. This requires behavioral change on the part of members in regard to food choice and produce preparation. So, there are limits to how individualized each member's experience can be. But, there may be creative ways to address these issues without adding greatly to the workload of the farmer. Results from member surveys may identify desirable demand levels and help the farmer to define new share levels based on type and quantity of produce.

CSA in the Midwest is growing and continued creativity and flexibility by CSA farmers will improve their financial health and help to sustain their ethical aspirations.

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