Price Sustainability and Stability – An Achievable Goal? A Case Study of Organic Valley®

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Originating from a bold idea, Organic Valley currently reigns as the largest organic cooperative in North America. In 1988, from the non-glaciated, hilly part of Southwestern Wisconsin, seven progressive rural entrepreneurs started a courageous and visionary journey. The founders' original objectives were to create an organization that would provide stable pay-prices to farmers and a sustainable family farm life style. For much of its more than 25 year history, Organic Valley has achieved this mission. However, in the past few years a more hostile economic environment emerged testing the resolve of George Siemon, CEO, and the Organic Valley leadership team. This case shares the evolution of a determined, idealistic group of mostly small rural producers leading a farmer owned firm from nothing but a dream to a complex international cooperative facing an important set of challenges. The current quandary: can the original mission of Organic Valley – to simultaneously deliver a stable producer pay-price and a sustainable life style to member suppliers – be maintained?

The Evolution of Organic Valley

The 1980s was an economically difficult decade for U.S. farmers. Globalization of commodity markets, excess production, double digit inflation, interest rates approaching 20%, and consolidation at the food processing and input supply industry levels converged to lower gross and net margins at the farm production level. During the latter part of the

decade many producers sold their farm assets, declared bankruptcy, combined operations with other families, restructured their operating and mortgage loans and suffered through foreclosures In some instances however, groups of farmers attempted to control their destinies by creating new organizational forms. This is the case of seven farmers near LaFarge, Wisconsin.

In late 1987 this group met with the objective of exploring alternatives that might offer the opportunity to continue a way of life they did not want to forego. After four informal meetings the Coulee Region Organic Producer Pool was founded in March 1988. Its goal was to combine family farmers into a unified group to collectively market their organic output. They defined a family farm as "a farm owned and operated by families with a focus on protecting the land and supporting the community and rural economy for future generations" (Organic Valley 2013b). Shortly after cooperative incorporation an organic dairy pool formed.

The newly formed group was quick to action. By 1990, Organic Valley® cheese was marketed under the Family of Farms brand. In 2002, Organic Valley began marketing private label products, and within eight years private label output accounted for 25% of sales. Branded, private label, and bulk sales became the cooperative's marketing and sales strategy, three-legged stool (Organic Valley 2011). By 2014 the cooperative approached $ 1 billion in revenue, offering more than 1000 products in the organic market.

Organic Valley: Organizational Structure and Operations

Organic Valley expanded its membership from Wisconsin into Minnesota and Iowa in 1994 as it began the process of accessing raw material supplies regionally and then nationally. Consequently, the cooperative changed its name to the Cooperative Regions of Organic Producer Pools (CROPP) in 2001 to reflect a national organization with regional pools. Organic Valley now has members in 35 states, Australia, and three provinces of Canada. The majority are dairy farmers (Exhibit 1). At its 2013 annual meeting, the cooperative discussed the possibility of further expanding its global footprint (Preusser 2013). In 2014, the cooperative was sourcing its organic milk from eight regional dairy pools[1] in 31 states (New York, Northeast, Midwest, Northwest, Rocky Mountain, California, Southwest, and Southeast) (Organic Valley 2013a).

Organic Valley is structured as a closed membership U.S. agricultural cooperative. Diverse membership enables the cooperative to build markets more efficiently, reduce the costs of production, and ensure a stable raw material supply. The cooperative adds new members only when there is an increased demand for their milk. Organic Valley's marketing agreement requires members to deliver 100% of their milk to the cooperative and has strict, enforceable termination clauses. Each member holds one, and only one, share of Class A membership stock. This stock entitles members to a one-member, one-vote voting right.

"Self-funding has been a key to Organic Valley's success" (Organic Valley 2009, 2013c). This attitude of member responsibility permeates the Organic Valley member culture as evidenced by the adaptation of equity capital acquisition policies and practices. Organic Valley issued preferred stock with a $50 face value and a maximum 8% interest

in 1988 and 1989. They borrowed working capital from banks by pledging farmer members' assets as collateral in the early years of the cooperative. Beginning in 1993, the cooperative initiated a base capital plan and required each dairy member to invest 5.5% of the member's annual sales in the cooperative. This retained capital becomes class B stock and earns 8% interest annually. The cooperative has also issued Class C and Class E nonvoting preferred stock with varying rates of dividends to members and outside investors in 2004, 2009 and 2013. Stock is transferrable, exception Class A voting shares, with approval of the board of directors.

From the beginning, Organic Valley's strategy for rapid growth was to outsource processing through strategic alliances. The cooperative only owns two processing plants. It contracts with regional processing plants to process fluid milk in specific production pool regions. These partnerships are derived from the cooperative's general strategy "to build the business and then the buildings - build Organic Valley by identifying co-pack plants to work with us," according to George Siemon, CEO and founding member of Organic Valley (Stevenson 2013). This co-packing strategy saves Organic Valley from investing large amounts of capital in fixed assets. Currently, Organic Valley® is the third most recognized organic dairy brand in the U.S. (Organic Valley 2014d). Its products are sold in all 50 states, Japan, China, and Mexico.

A board of seven directors, elected at large from the cooperative's membership, governs the cooperative. Board members meet once a month to discuss the cooperative's business. Executive committees, one for each commodity pool, report to the board of directors. Each commodity pool is divided into regional pools based on geographic locations. Representatives to executive committees are elected regionally. Executive

committees are critical to Organic Valley's governance and serve as a two way conduit communicating members' concerns and recommendations to and from the board. The dairy executive committee has monthly conference calls to discuss pay price, feed costs or other members' concerns. A professional management team is responsible for day-to-day operations of the cooperative.

Background: Organic Industry

Sales of organic food in the U.S. increased from $1 billion in 1990 to $31 billion in 2012 (Exhibit 2). The U.S. organic food industry is largely driven by consumer demand (Greene et al. 2009, Dimitri and Oberholtzer 2009). About three-quarters of U.S. consumers purchase some organic food each year, and one-quarter of consumers purchase organic food monthly. In order to assure national standards, the U.S. Congress passed the Organic Food Production Act in 1990. This law established the National Organic Program, which created uniform national organic food standards that were finally implemented in October 2002 (National Organic Program 2014).

Due to higher production costs for organic food and growing consumer demand, organic food has commanded a significant premium over comparable conventional food products. For example, a half-gallon of organic fluid milk generates a 60-109% premium over conventional branded milk in 2006 (Smith, Huang, and Lin 2009). In the 1990s, most organic food was sold in natural and specialty stores. By 2011, only 38% of organic food was sold in this category of store, and 55% of organic food was sold through traditional food retailers (Organic Trade Association 2012).

Organic dairy is the second largest segment of organic food after organic produce. Sales of organic dairy were $3.9 billion, representing 16% of total organic food sales in 2012 (Organic Trade Association 2013). Organic dairy sales increased around seven times from less than $500 million in 1997 to about $3.5 billion in 2008. Sale of organic milk decreased in recession-riddled 2008-9, but increased again starting in 2010.

Organic Milk Supply

Since 2002 the National Organic Program requires a three-year period for land and one year for dairy cows to make the transition from conventional to organic production. Only 400 dairy cows were certified as organic in 2004 (National Agricultural Statistics Service 2010). By 2014, the total number of certified organic dairy cows in the U.S. increased to over 235,000 (Exhibit 3). In 2013, Organic Valley had 50% of the total number of certified organic dairy cows in the U.S. and Horizon Organic had contracted with or owned 24%. The total number of cows supplying milk to Organic Valley and Horizon Organic increased 25% from 2010 to 2013.

There were approximately 2,000 organic dairy farms in the U.S. in 2008 (National Agricultural Statistics Service 2010). Wisconsin has the largest number of organic dairy farms, but California provides the largest volume of organic milk. Of the 381 organic dairy farms in Wisconsin in 2011 (National Agricultural Statistics Service 2012), 292 are members of Organic Valley (Exhibit 1). The average herd size is 90 cows for Horizon Organic producers (Horizon Organic 2014), and 77 cows for Organic Valley (Organic Valley 2014c). At the beginning of 2011, Organic Valley membership included 1,144 dairy farmers. Horizon had 531 contracted farmers and two company-owned farms

(Exhibit 3). In December 2013 Horizon sold its 4,000-cow farm, but extended contracts for the milk to the buyers (Cornucopia Institute 2014). By 2013, 1,530[2] dairy farmer members were affiliated with Organic Valley and Horizon Organic contracted with 600 dairy farms.

Organic Milk Processors

The U.S. has two national organic milk buyers and processors: Horizon Organic, a subsidiary of WhiteWave Foods, and Organic Valley, a cooperative. These two rivals compete in organic milk procurement and organic dairy wholesale and retail markets. Both Organic Valley and Horizon Organic invest heavily in brand building, customer loyalty, quality, new product and new package development, and market analysis. In 2004, the fluid milk market share for Horizon Organic was 42% and for Organic Valley was 36%; in 2007, the figures were 33% and 19%, respectively (Dimitri and Venezia 2007).

Horizon Organic, founded in 1990, was the first company to market fluid organic milk nationally. It was acquired in 2004 by Dean Foods and operated under the WhiteWave Foods Division until 2012, when Dean Foods spun off WhiteWave Foods as an independent company. WhiteWave Foods is a natural and premium food processing company owning well-known brands such as Silk, International Delight, Earthbound Farm Organic, Horizon Organic, and the European brand Alpro. Net sales of WhiteWave Foods in 2013 were $2.5 billon (WhiteWave Foods 2014). Horizon Organic in 2013 was the number one brand in organic dairy products with a dominating 43% of market share

in organic fluid milk in the U.S. It offers a full line of dairy products, organic eggs, and snacks.

The third largest organic milk processor is Aurora Organic Dairy, a private company located in Boulder, Colorado. It is vertically integrated, comprising large dairy farms and a processing facility. The main products of the company are privately labeled organic milk and butter (Aurora Organic Dairy 2014). Besides these three dominant companies, about 50 smaller organic milk buyers or processors operate in the U.S. Some of them are family-owned-and-operated facilities, and others are local or regional factories or cooperatives that handle both organic and conventional milk. Stonyfield is a premium organic yogurt processor located in New Hampshire, which sources milk from Organic Valley and independent producers. Other processors with brand recognition include MOO Milk in Maine, Trickling Springs, and Natural by Nature in Pennsylvania.

Organic Milk Pricing

U.S. conventional milk prices are generally market driven but regulated by the Federal Milk Market Order System, which announces the blended minimal milk price every month (Agricultural Marketing Service 2010). However, organic milk prices are largely determined by market conditions. Organic Valley and Horizon Organic forward contract with their milk producers. Horizon Organic and Organic Valley's pricing protocols include a base price, seasonal premium, seasonal deduction (Organic Valley only), and market-adjusted premium.

Horizon Organic contracts with farmers for one to three years by setting prices with individual farmers confidentially (Horizon Organic 2007). Horizon Organic changes

its market-adjusted premium (MAP) to reflect market conditions and costs of production. It has the sole right to reduce the pay price, based on market conditions with 30 days' written notice to its producers if the proposed price change is less than 25% (NODPA 2011).

Organic Valley's farmer members collectively determine their pay price for the upcoming year based on current costs of production and a fair return (Organic Valley 2014b). This pay price is announced early in the calendar year and is fixed for one year. Members within the same region receive the same price regardless of herd size. If market conditions change within a given year, the board of directors can adjust the pay price based on volatility or disruptions in supply or demand conditions as well as the cooperative's performance. The historical base prices for Organic Valley have been consistently set higher than the base prices for Horizon Organic. Nevertheless, with added premiums, the two rivals' final annual pay prices generally converge. Final average differences have ranged between 25 cents to $1.16/cwt over the last seven years (Exhibit 4).

The base farm price for organic milk is more stable within a given year and also more stable in the long run than conventional milk price. For the past 25 years, farm prices for organic milk increased each year, except 2008 and 2009. Even though the overall trend for conventional milk pay prices has been increasing, prices fluctuate within a three-year cycle (Exhibit 5). The largest difference between organic and conventional milk prices was $10.90 in 2009. This difference decreased to $6.50 in 2013. The fluctuation in differences is primarily caused by variation in conventional milk prices. Comparing coefficients of variation (CV) for a five-year moving average between farm

prices for organic and conventional milk, we observe that the CV values of conventional milk are much larger than the CV values for organic milk. The ranges are 16% for conventional and 10% for organic, and the means of these two CVs are significantly different at the 1% level (Exhibit 6).

Organic Valley's base price is fixed, but the cooperative pre-announces a one-dollar summer deduction in May, June and July to balance the burden of the spring flush. Additionally, Organic Valley provides incentive payments in addition to its base price in January, February, and December (for example, $2.00 in 2009 and 2010, and $3.00 per cwt from 2011 to 2013). Therefore, the actual monthly pay prices may vary from month to month (Exhibit 7), but the producer knows these adjustments in advance. The price range for organic milk between 2008 and 2013 was $5.98 compared to $10.80 for conventional milk during the same period.

Organic Valley's Balancing Act: Farmer Pay-Price Stability

"Supply management is a critical part of maintaining our sustainable approach. The products our farmers produce must be utilized organically to ensure the premiums we all want for our labors. We want to maintain our stable price structure, and a key piece of this is providing the business with a stable and predictable level of production."
Wayne Peters, President of the Board of Directors, Organic Valley, 2008

Since the founding of Organic Valley in 1988 until 2004, the growth of supply and demand for organic milk was mostly balanced. However, from 2004 (following the implementation of the organic standards regulations) through 2008, demand for organic milk exceeded supply. This growing demand became attractive to rivals. As a result,

Dean Foods acquired Horizon Organic, and HP Hood licensed the Stonyfield brand for fluid organic milk. These transactions resulted in increased rivalry in the organic milk market, especially in milk procurement. Consequently, Organic Valley was not able to supply all of its customers. Due to this tight supply-demand situation, Organic Valley decided to stop supplying Wal-Mart, its third largest customer at the time, and 15 other customers to ensure supply for its core natural food store customers (Pattison 2007).

The economic recession of 2008-9 brought an end to excess demand for organic milk. During 2008-9, real per capita disposable income decreased by 1.3% and real consumption of food and beverages decreased by 1.5% (Exhibit 8)[3]. In addition, the price of conventional milk decreased to about one-third the price of organic milk (Siemon 2010). The per capita income difference and the price gap between organic and conventional milk caused total sales of organic fluid milk to drop by 4% in 2009.

Due to the economic recession sweeping the nation in 2008-9, Organic Valley's 20% annual sales growth came to a screeching halt and its national average annual pay price decreased from $28.05 to $27.25/cwt from 2008 to 2009, the first decrease since 2000 (Organic Valley 2010). Organic Valley's total sales revenue in 2009 decreased by 1.5% (Exhibit 9). However, organic milk supply headed in the opposite direction. In early 2009, supply of organic milk continued increasing for the first eight months, higher than projected, increasing inventories and related costs. A major crisis at Organic Valley loomed.

How did Organic Valley react to the 2008-9 economic crisis? Organic Valley's leadership considered three options: recalculate the pay price based on actual monthly organic milk utilization; terminate the membership of recently accepted members; or

collectively reduce production. After considerable discussion, the board of directors adopted the last option and enforced a quota system. The quota program required that each farmer reduce production by 7% based on the average of the farmer's previous three years of milk production. Farmers were allowed to deliver more milk, but the over-quota milk was priced at $15, considerably less than the annual pre-announced base price. Organic milk supply decreased in September, and was significantly lower than projected for the following three months, making projected and actual supply growth close. The pay price remained unchanged. As a result of the quota program, organic utilization increased to 94%, inventory was reduced 25% from 12.2 to 9.2 million pounds, and the quality of the milk delivered by farmers increased. Total milk delivered in 2009 increased by 1% from 2008 instead of a projected 3.7%, and customer complaints decreased due to the higher quality of the milk (Organic Valley 2010). The quota was enforced from July 2009 to July 2010 for most farmers, until September 2010 for new members from HP Hood, and until December 2010 for West Coast farmers (Organic Valley 2011). All farmers managed through the crisis and no one left the cooperative. "The farmer-owners stepped up by providing leadership and sacrificing income to safeguard our long-term strategy" (Organic Valley 2010).

The direct effect of the crisis on the organic milk processing industry was dramatic. One of the large players HP Hood, a private company, which had entered the industry in 2004, exited the market. At the initial period of the 2009 downturn, Hood decided not to renew the contracts with farmers in remote areas.

Due to the pre-announced pay price, Organic Valley did not decrease its wholesale price in 2009 and 2010 as Horizon Organic and other processors did. In an

attempt to maintain market share, the cooperative spent an additional $3 million on product promotion. Market share for Organic Valley's half-gallon fluid milk decreased by 10%, but private label and bulk sales increased due to the substitution effect (Organic Valley 2011).

Overall, 2010 was a successful year for Organic Valley. Sales increased by 19% over 2009, and the number of members increased 14% from 1,404 to 1,607. Although the quota was enforced for the first half of the year, the cooperative met its expected profit goal, which enabled the cooperative to launch its second profit sharing program since 2006 (Organic Valley 2011).

However, not all news was positive. During the recession, organic feed prices decreased between August 2008 and July 2010. In response, some organic grain farmers converted to conventional operations due to higher margins for conventional grain and lower margins for organic grain (Silva et al. 2012). Severe weather in 2011 and 2012 also diminished grain and feed yields. These factors reduced the supply of organic grain and feed in subsequent years. As a result, organic feed prices skyrocketed in 2011 and 2012, peaking in August 2012 (Agricultural Marketing Service 2014b). Organic livestock farmers, especially those who do not produce feed, were greatly affected by the high feed prices. Consequently, in the summer of 2011, these high feed costs and dry summer weather reduced organic milk supply significantly (Link 2012).

Although the price of organic feed increased, Organic Valley's milk pay price remained fixed. Therefore, organic dairy farmers fed their herds less grain, leading to reduced milk production. As a result, organic milk supply became scarce in late 2011 and

2012. Retailers and consumers clamored for organic milk. In response to high feed costs, Organic Valley raised its pre-announced base pay price by $2.00 for the year 2012. However, this increase still did not cover the extraordinarily high feed costs. Consequently, some farmers sold part of their herds, and some fed them less or lower quality feed. Plus, a small number of farmers converted to conventional operations (TBO.com 2012). These decisions further reduced organic milk supply. By late 2013, the average pay price for organic farmers in the Northeast was approaching the mid-$30 range, but the profitability of many farmers continued to be low (Parsons 2013).

In June 2013, Stonyfield announced that it would begin sourcing a small portion of its milk from local organic dairy farmers rather than from Organic Valley (Lundgren 2013). Stonyfield is one of Organic Valley's largest customers. It was purchasing approximately 25% of Organic Valley's total milk volume, representing 13.5% of Organic Valley's total sales in 2011 and 10.5% in 2012. Additionally, Organic Valley had licensed the Stonyfield fluid milk brand since 2010. In 2011, Organic Valley's sales of Stonyfield milk represented 9.0% of the cooperative's total sales and 8.5% of its milk supply. In 2012, these figures dropped to 8.0% and 7.4%, respectively (Organic Valley 2013c).

Stonyfield's future actions regarding organic milk supply will have a profound effect on Organic Valley's milk utilization, which might affect the producer pay price. As a preemptive move, in August 2013, Organic Valley farmers received notice from their cooperative that a second supply management quota would begin in October 2013. However, the quota was cancelled when the excess supply forecast was not realized. (Organic Valley 2013e).

High feed costs, extreme weather, and rivals' tactics and strategies are putting farmers under extreme financial stress and are making it difficult for Organic Valley's leaders to set a stable milk purchase price. Both undersupply and oversupply of organic milk challenge the cooperative's pay-price and profit levels (Organic Valley 2012). Organic Valley and its farmers have experienced wide swings particularly in the last ten years. Organic milk supply was short in 2004, 2011, and from August 2013 into early 2014. In contrast, the industry and Organic Valley were in an oversupply situation in 2009 and 2010. How does Organic Valley's leadership manage this volatility when much of the cooperative's original appeal was based on a platform of family farm sustainability and stable pay-prices?

Organic Valley's Balancing Act: Family Farm Sustainability

"Our challenge is to insure the co-op's future and continue the wonderful culture of a cooperative, owned and run by farmers 10, 20, 30 years from now. We need to maintain that culture. It's that culture that makes us so unique."

--Sarah Holm, Organic Valley member from Elk Mound, Wisconsin, 2013

Organic Valley promotes social, ecological and economic sustainability. In terms of the social aspect, Organic Valley actively supports local communities by funding annual events, donating to community's activities and organizations, advocating organic farming, and assisting member farmers in disaster relief. In terms of ecology, Organic Valley uses clean energy and attempts to reduce employees and members' carbon footprint. It also helps farmers improve soil quality, energy efficiency and other practices

(Organic Valley 2013d). Economic sustainability is the root and mission of Organic Valley and drives the operation of the cooperative.

Organic Valley's Sustainability

"The continued success of the cooperative's branded products is the foundation of a sustainable pay price to farmers," said Mike Bedessem, CFO (Organic Valley 2014a). The cooperative invests heavily in marketing branded products to increase the reputation of Organic Valley and deepen brand loyalty. Organic Valley differentiates itself from investor-owned firms by emphasizing its farmer-owner roots and by involving member farmers in sales, marketing and consumer awareness events. In addition, Organic Valley invests heavily in consumer research and marketing, and applies a three-pronged sales strategy to increase its organic utilization and improve revenue.

Revenues of Organic Valley increase almost every year, but its net income varies (Exhibit 10).At the beginning of the fiscal year, the board of directors sets a profit target for the cooperative. Historically, the profit level is set to return approximately 2% of sales. Once the profit target is met, the cooperative shares additional profits with employees, members and their communities. In 2006 and 2010, Organic Valley met its profit target, so farmers, as well as employees, received a 13^{th} payment, beyond the cooperative's normal monthly payment. However, profits dropped substantially in 2013 to only 0.5% of sales, far below the expected 2.4% level. This variability and level of return concerns Organic Valley's leadership.

Another concern for Organic Valley's board and management is leadership succession. Well-managed leadership succession, especially at the senior management

level is essential for the long-term sustainability of Organic Valley. Many of the cooperative's senior managers have worked at Organic Valley for more than 10 years and have collectively instilled the organization with a unique culture. CEO George Siemon is one of Organic Valley's founding members. Dairy Pool Director Jim Wedeberg is also a founding and active member. COO Louise Hemstead started working at Organic Valley in 1993 and is also an active member. Finding qualified replacements for these senior managers who are approaching retirement is critical to maintaining Organic Valley's long-term vision as well as long-term growth. Acknowledging this concern, the Organic Valley board increased the budget for staff training and started an annual farmer leadership symposium in 2011.

Farmer Members' Sustainability

The original purpose and strategy of Organic Valley was to provide an alternative model to save small family farms by developing an organization that would facilitate organic farming and add value to members' output through differentiated marketing. Many small farmers who converted to organic operations were attracted by this sustainability purpose, the stable pay-price policy and the philosophy of financial well-being (Campbell 2005, Parsons 2013, Parsons, Dalton, and Wang 2006). Organic Valley pays farmers first and operates on the remainder. Organic Valley's market growth helps members by allowing the cooperative to achieve scale and scope economics in multiple functions. It also means the cooperative can better take advantage of new market opportunities that arise. In recent years, Organic Valley has begun offering new services to farmer members, including agronomy services, soil testing, nutrition advice, and feed consulting and purchasing. Nevertheless, being able to offer members a sustainable and stable pay price is key. Since

the 2008-9 recession, margins at the organic dairy farmer level are becoming increasingly narrow and variable.

The period from 2009 to 2013 has been economically difficult for conventional and organic dairy farmers. This is especially the case for small farmers because of their relative cost disadvantage. Nationally, organic and conventional dairy farms of all sizes saw a negative net return during this period, except for farms with more than a thousand cows in 2010 (Exhibit 11). In both the organic and conventional categories, large dairy farms have higher returns than smaller ones due to economies of scale. However, in the group of dairy farms with less than 100 cows, organic dairy farms outperformed conventional dairy farms, especially in terms of return on operating costs. Organic dairy farms have higher overhead and unpaid labor costs than conventional dairy farms of similar size. The opportunity cost for unpaid labor affects dairy producers differently. Many small dairy farmers are willing to accept a lower return on their labor because they appreciate the lifestyle. Their major production decisions are based on operating costs, especially short-term production decisions (McBride and Greene 2010). This is why many small dairy farmers converted to organic production systems in the late 1990s and early 2000s – to save their farms financially. A well governed and managed organic cooperative gives small dairy farmers greater opportunity to stay in the business and gives their children a chance to remain in farming (Campbell 2005).

Producing organic milk offers small dairy farmers an option to maintain a viable business. A recent study found that organic dairy farmers in Minnesota had positive profits from 2006 to 2013 and these profits were higher than the profits earned by conventional dairy farmers of similar size (Exhibit 12). Another recent long-term study of

organic dairy farmers from 2004 to 2013 by Parsons and his colleagues found that profits are decreasing, larger farms outperformed smaller ones, and half of organic dairy farmers cannot make a reasonable living wage if current margins are not increased. According to Parsons, these farms will not be able to survive in the long run and the next generation will be unlikely or unable to take over the farms. However, Parsons' study also shows that organic dairy farmers with better management skills have a probability of generating higher returns.

Uncertainty and Challenges

Organic Valley's founders aimed to create an organization with unique rules, rights, and responsibilities in order to help family farmers maintain an economic and social livelihood consistent with their values and beliefs. However, due to the uncertainty of demand and supply as well as rapid structural changes within the industry, members and management now wonder whether the original dream on which Organic Valley was founded is still achievable. At the beginning of 2014, Organic Valley had 1,530 dairy farmer members. About 84%, or 1,284 farms, had fewer than 100 cows (Exhibit 13). Given the rapid change in economic conditions, production costs and increased degree of rivalry, how can the cooperative be successful for another 25 years, 50 years or more? How can the cooperative continue to stay true to its founding mission as well as adapt to the changing environment? With these major issues looming the board is pondering the following specific issues:

- Can Organic Valley maintain economic sustainability for their family farm members while maintaining their current stable pay-price - pricing policy? If so, will flexibility in the policy need to become more formalized?
- Can the cooperative organizational form meet the needs of small family farms? Discuss the pros and cons of this closed membership form of cooperative relative to more traditional forms of collective action and other organizational business forms.
- Is Organic Valley the price leader in the raw organic milk supply market? What implications might this have or not have for Organic Valley farmer members?
- What assumptions should be made about future demand and supply, the structure of supply, and the future viability of small and large organic dairy farmers?

Endnotes

1. Pooling is a method of handling products distinctively for cooperatives. The same products from different producers are combined and the producers receive the same price for their output (Cobia 1989). Organic Valley has eight commodity pools. Each commodity pool has regional pools.
2. This number is the latest number from the Organic Valley 2013 Annual Report, which is greater than the number in exhibit 1.
3. Previous studies suggest that organic fluid milk is more price and income elastic than conventional milk and income has a positive effect on organic fluid milk consumption (Dimitri and Venezia 2007, Alviola and Capps 2010). Alviola and Capps (2010) report that income elasticity is 0.2672 for organic fluid milk and -0.0135 for

conventional milk, with price elasticity of -2.0046 for organic milk and -0.8729 for conventional milk. When income decreases, consumers substitute more inexpensive milk for more expensive milk (Dong and Stewart 2013). Sales of Organic Valley branded products decreased during the recession, but private label sales increased. These trends are consistent with the previously mentioned studies.

References

Agricultural Marketing Service. 2010. "Dairy Federal Milk Marketing Orders - Program Overview." USDA. http://www.ams.usda.gov/AMSv1.0/ams.fetchTemplateData.do?template=TemplateO&navID=IndustryMarketingandPromotion&leftNav=IndustryMarketingandPromotion&page=FMMOProgramObjectives.

Agricultural Marketing Service. 2014. "Organic Grain and Feedstuffs Report ".

Alviola, Pedro A., and Oral Capps. 2010. "Household Demand Analysis of Organic and Conventional Fluid Milk in the United States Based On the 2004 Nielsen Homescan Panel." *Agribusiness* 26 (3):369-388.

Aurora Organic Dairy. 2014. "Aurora Organic Dairy- About US." Accessed May 13, 2014. http://www.auroraorganic.com/about.htmlfiles/14/about.html.

Campbell, Dan. 2005. "Cream of the CROPP." *Rural Cooperative* 72 (3):15-18.

Cobia, David W. 1989. *Cooperatives in Agriculture*: Prentice-Hall.

Cornucopia Institute. 2014. "WhiteWave Watch: Former Dean Foods Subsidiary Sells Corporate-Owned Factory Dairy." http://www.cornucopia.org/2014/01/whitewave-watch-former-dean-foods-subsidiary-sells-corporate-owned-factory-dairy/.

Dimitri, Carolyn, and Lydia Oberholtzer. 2009. Marketing US Organic Foods: Recent Trends from Farms to Consumers. Economic Research Service of USDA.

Dimitri, Carolyn, and Kathryn M. Venezia. 2007. Retail and Consumer Aspects of the Organic Milk Market Economic Research Service of USDA.

Dong, Diansheng, and Hayden Stewart. 2013. Households' Choices Among Fluid Milk Products: What Happens When Income and Prices Change? : Economics Research Service of USDA.

Greene, Catherine R, Carolyn Dimitri, Biing-Hwan Lin, William D McBride, Lydia Oberholtzer, and Travis A Smith. 2009. Emerging Issues in the US Organic Industry. Economic Research Service of USDA.

Horizon Organic. 2007. "Horizon Organic Pay Price." Accessed 2014/05/13. http://www.horizondairy.com/faqs/files/16/faqs.html.

Horizon Organic. 2014. "Frequently Asked Questions -How big are Horizon's partner farms?" Accessed 2014/05/13. http://www.horizondairy.com/faqs/files/16/faqs.html.

Link, Connor. 2012. "Is the Organic Milk Market Headed for a Price Crisis?", Last Modified 2012/01/31/. http://newhope360.com/managing-your-business/organic-milk-market-headed-price-crisis.

Lundgren, Britt. 2013. "Growing Organic Dairy Close To Home - Stonyfield - The Yogurt Dish." Stoneyfield. http://www.stonyfield.com/blog/close-to-home/.

McBride, William D, and Catherine Greene. 2010. "Organic Dairy Sector Evolves to Meet Changing Demand." *Amber Waves* 8:28-33.

National Agricultural Statistics Service. 2012. 2011 Certified Organic Production Survey. USDA.

National Organic Program. 2014. "Agricultural Marketing Service - NOP." http://www.ams.usda.gov/AMSv1.0/ams.fetchTemplateData.do?template=TemplateA&navID=NOPHomelinkNOPFactSheets&rightNav1=NOPHomelinkNOPFactSheets&topNav=&leftNav=&page=NOPNationalOrganicProgramHome&resultType=&acct=nop.

Northeast Organic Dairy Producer Alliance. 2012. "Organic Dairy Pay Price Update January 2012." http://www.nodpa.com/payprice_update_01192012.shtml.

Organic Trade Association. 2012. "Consumer-Driven U.S. Organic Market Surpasses $31 Billion in 2011." http://www.organicnewsroom.com/2012/04/us_consumerdriven_organic_mark.html.

Organic Trade Association. 2013. "Consumer-Driven and Farmer Powered Organic Food and Farming." http://vitalfarms.com/wp-content/uploads/2013/05/ConsumerDrivenFarmerPowered2013.pdf.

Organic Valley. 2010. CROPP Cooperative 2009 Annual Report

Organic Valley. 2011. CROPP Cooperative 2010 Annual Report

Organic Valley. 2012. CROPP 2011 Annual Report.

Organic Valley. 2013a. CROPP Cooperative 2012 Annual Report

Organic Valley. 2013b. CROPP Prospectus. La Farge, WI.

Organic Valley. 2013c. CROPP Sustainablility Report. La Farge, WI.

Organic Valley. 2013d. Take Stock 3rd Quarter 2013 Newsletter. La Farge, WI.

Organic Valley. 2014a. CROPP 2013 Annual Report.

Organic Valley. 2014b. "Dairy Pay Price." Accessed 2014/05/13. http://www.farmers.coop/producer-pools/dairy-pool/pay-price/files/24/pay-price.html.

Organic Valley. 2014c. "Organic Valley - herd size." Accessed 2014/05/13. http://www.organicvalley.coop/about-us/transparency/herd-chart/files/18/herd-chart.html.

Organic Valley. 2014d. "Organic Valley Dairy Pool." Accessed June 7. http://www.farmers.coop/producer-pools/dairy-pool/.

Parsons, Robert. 2013. "Economic Sustainability of Vermont Organic Dairy Farms: How Strong Is the Economic Leg?". eXtension http://www.extension.org/pages/70086/economics-of-organic-dairy-farming-webinar-by-eorganic#.U6nHR01OXcu.

Parsons, Robert, Timothy Dalton, and Qingbin Wang. 2006. "Profitability of Northeast organic dairy farms." *American Agricultural Economics Association Annual Meet., Long Beach, CA*:23-26.

Pattison, Kermit. 2007. "Wal-Mart loved Organic Valley's milk: So Why Cut off the Flow?" *Inc*, Jul 2007, 50-53.

Preusser, Charley. 2013. "Organic Valey celebrates 25 years of success." Last Modified 2013/04/17 Accessed 2014/05/13. http://www.swnews4u.com/archives/12416/files/34/12416.html.

Siemon, George L. 2010. "Organic dairy market also hurt by low prices." *Rural Cooperatives* (January/Februrary):15,-38.

Silva, Erin, Laura Paine, Matt Barnidge, Cris Carusi, and Ruth McNair. 2012. Organic Agriculture in Wisconsin: 2012 Status Report. In *Organic Dairy and livestock markets impacted by organic grain shortage*: UW-Madison Center for Integrated Agricultural Systems and the Wisconsin Department of Agriculture, Trade and Consumer Protection.

Smith, TA, CL Huang, and B-H Lin. 2009. "Estimating organic premiums in the US fluid milk market." *Renewable agriculture and food systems* 24 (03):197-204.

Stevenson, G.W. 2013. "Values-based food supply chains: Organic Valley."

TBO.com. 2012. "Demand is Up, but Supply is Lagging for Organic Milk." 2012/02/22/. Accessed 2014/03/25/03:47:50. http://highlandstoday.com/list/highlands-agri-leader-news/demand-is-up-but-supply-is-lagging-for-organic-milk-361251.

WhiteWave Foods. 2014. "WhiteWave Foods 10-K ". http://www.whitewave.com/investors.

Exhibits

Exhibit 1. Organic Valley Producer Map

Source: http://www.farmers.coop/producer-pools/cropp-producer-map/

Exhibit 2. Organic Food Sales in the U.S. (2002-2012)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total sales*	8.6	10.4	12	14.2	17.2	20.4	23.6	24.3	26.7	29.2	31.3
Growth rate	17.3%	20.9%	15.4%	18.3%	21.1%	18.6%	15.7%	3.0%	9.9%	9.4%	7.1%

Source: Nutrition Business Journal 2012. *Unit: billion $

Exhibit 3. **Certified Organic Dairy Cows Supplying U.S. Organic Valley and Horizon Organic (2007-2013)**

	2007	2008	2009	2010	2011	2012	2013
Total certified cows in U.S.	166,178	249,766	n/a	254,579	254,771	n/a	235,620**
HO farms	400	500	n/a	533	n/a	n/a	600
HO cows	40,000	49,000	n/a	51,790	n/a	n/a	57,400
HO percentage of total	24%	20%	n/a	20%	n/a	n/a	24%
OV dairy farms	N/A	1037	1098	1144	1366	1507	1530
OV cows	69,300	79,849	84,546	88,088	105,182	116,039	117,810
OV percentage of total	42%	32%	n/a	35%	41%	n/a	50%*
Growth rate of OV farmers	n/a	15%	6%	4.2%	19%	10%	1.5%

HO: Horizon Organic; OV: Organic Valley;

* Organic Valley. 2013. "CROPP Cooperative Roots - the First 25 Years," p. 176; ** Calculated based on Organic Valley data

Source: Horizon and Organic Valley data are from their websites. U.S. data are from Economic Research Service (ERS) of USDA

Exhibit 4. Organic Milk Pay Price for Organic Valley and Horizon (2007-2013)

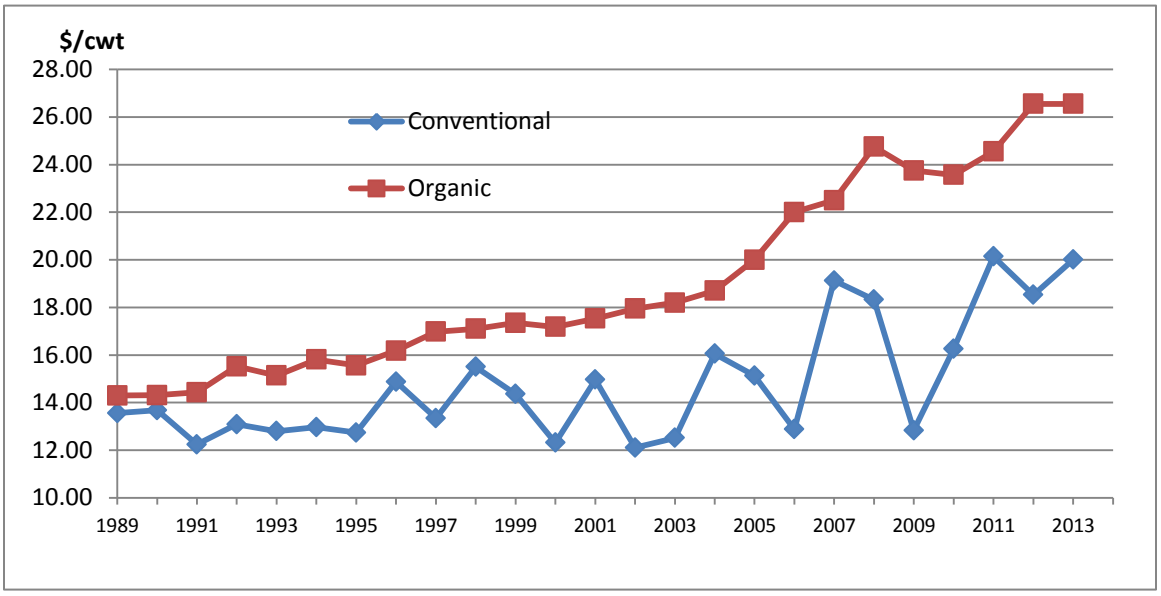
	Organic Valley ($/cwt)*							Horizon Organic ($/cwt)*						
Year	2007	2008	2009	2010	2011	2012	2013	2007	2008	2009	2010	2011	2012	2013
Base price	26	28.75	27.3	27.3	27.3	28.8	28.8	24	25	25	25	25	25	25
MAP					1	1	1	2	2.5	2	1	2.5	3.5	3.5
Seasonal MAP			2	2	3	3	3	1.5	3	4	3	3	3	3
Summer deduction		-1	-1	-1	-1	-1	-1							
Average	26	28.25	27.17	27.5	28.8	30.55	30.55	26.5	28.5	28.33	27	28.5	29.5	31.5

*This is the Northeast regional price; Organic Valley charges a flat hauling fee for each member, and pays all members in the same region the same price, no volume premium. MAP: market adjustment premium

Note: Organic Valley also has regional premiums based on the cost of production. In the Northeast region, the premium was $3.25 in 2013. It has 11 regional premiums. Both firms offer component prices and quality premiums.

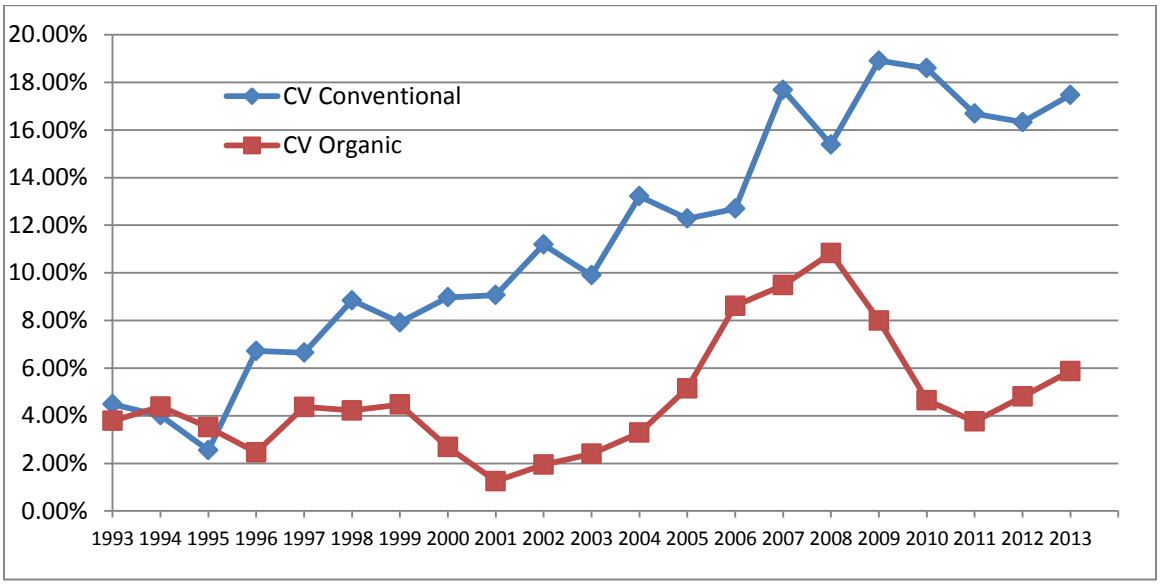
Source: Northeast Organic Dairy Producer Alliance (NODPA), 2014, http://www.nodpa.com/payprice_update_01192012.shtml

Exhibit 5. Annual Farm Price for Organic and Conventional Milk (1989-2013)



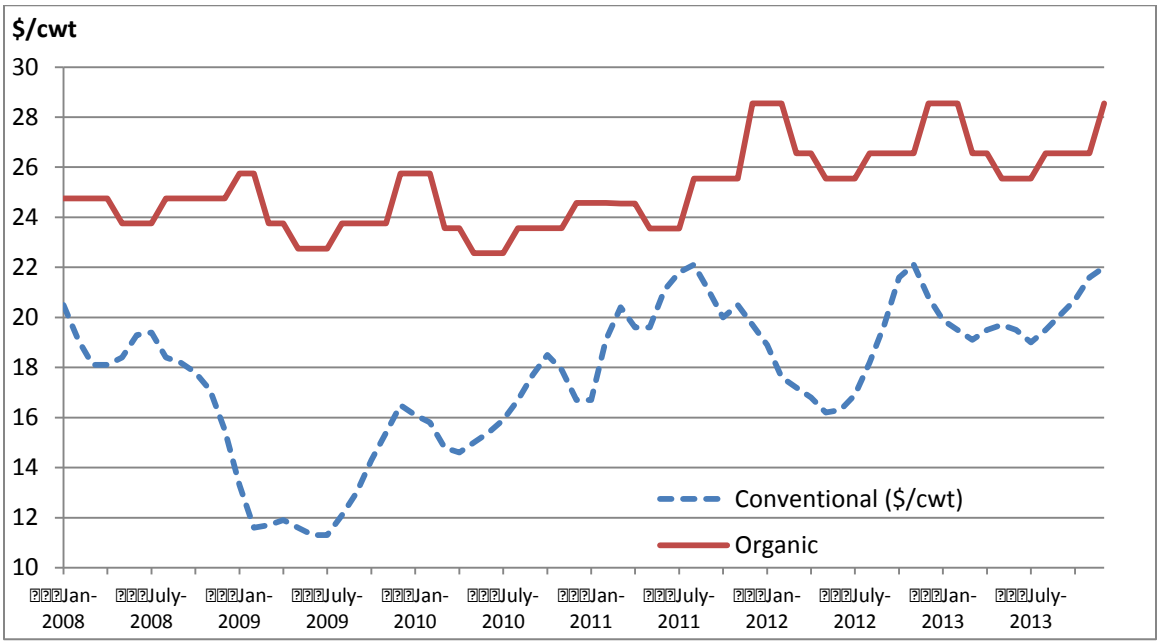
Sources: Organic milk price is Organic Valley's base price; conventional milk price is the all milk price from Economic Research Service of USDA

Exhibit 6. Coefficient of Variation (CV) for 5-year Moving Average (1989-2013)



The coefficient of variation (CV) is defined as the ratio of the standard deviation to the mean and informs the comparison of variations between different samples.

Exhibit 7. Monthly Organic and Conventional Milk Farm Prices (2008-2013)



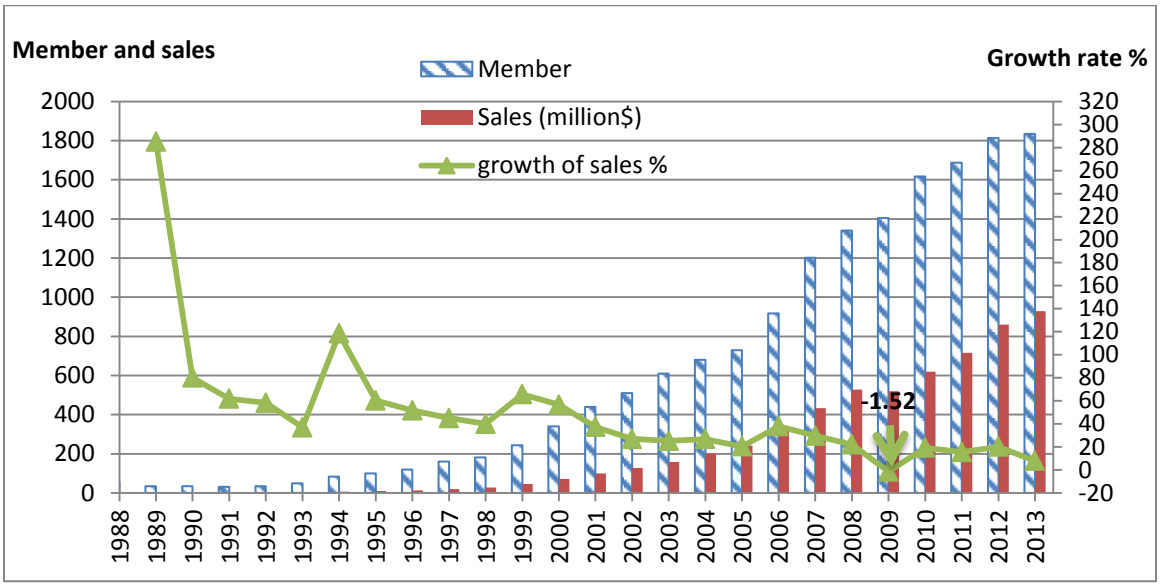
Sources: Organic milk price is from Organic Valley; conventional milk price is from Economic Research Service of USDA

Exhibit 8. Real Consumption Expenditure on Food and Beverage, Real per Capita Income Change, and Organic Fluid Milk Sales Change

	2007	2008	2009	2010	2011	2012	2013
Real consumption change from previous year (%)	1.34	-1.19	-1.52	2.15	1.57	1.32	1.34
Real per capita income change from previous year (%)	1.15	0.59	-1.34	0.29	1.65	1.28	0.03
Annual sales of organic fluid milk (millions lbs)	1413	1676	1605	1810	2074	2156	2267
Annual sales change of organic fluid milk from previous year (%)	33.05	18.61	-4.24	12.77	14.59	3.95	5.15

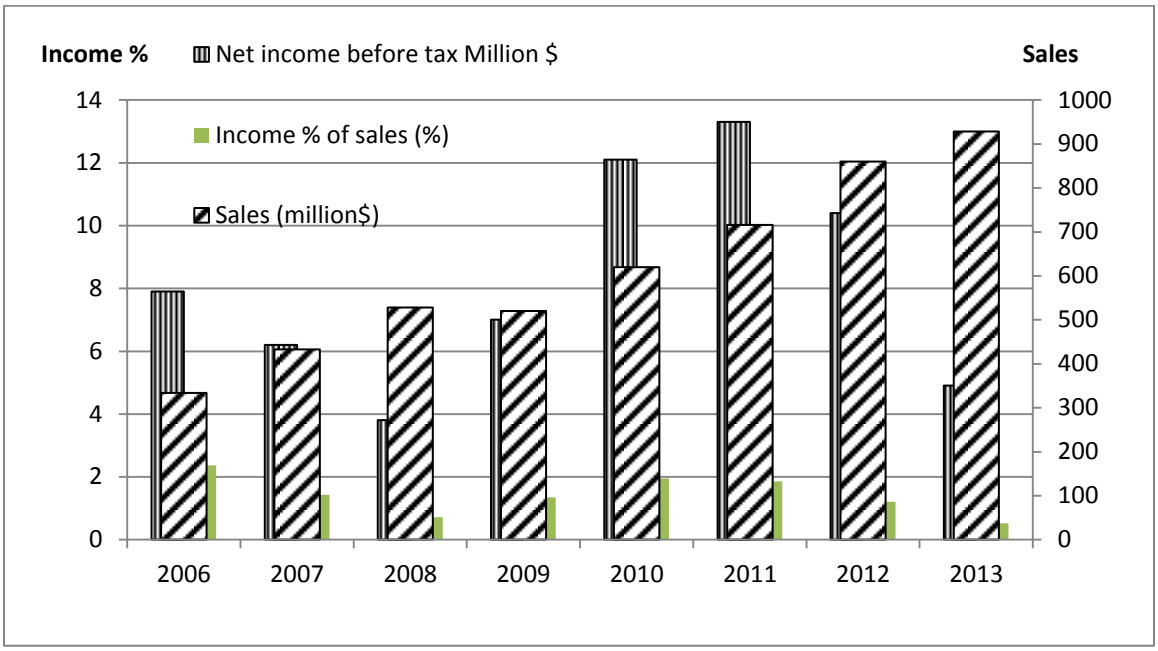
Data Source: Real Personal Consumption Expenditures by Major Type of Product, Quantity Indexes, Bureau of Economic Analysis, and Economic Research Service of USDA

Exhibit 9. Organic Valley Members and Sales (1988-2013)



Data source: Organic Valley website http://www.organicvalley.coop/

Exhibit 10. Organic Valley Net Income and Growth Rate (2006-2013)



Source: Organic Valley Website http://www.organicvalley.coop/

Exhibit 11. Conventional and Organic Milk Production Costs and Returns per Hundredweight Sold, by Size Group, in the U.S. (2010)

Item	<50 cows		50-99		100-199		200-499		500-999	>1,000	All Sizes	
	dollars per cwt sold											
	Con*	Organic	Con	Organic	Con	Organic	Con	Organic >200	Con	Con	Con	Organic
Milk sold	16.61	25.83	16.61	26.69	16.63	25.22	16.64	27.72	16.30	15.05	15.95	26.59
Total gross value	19.06	28.60	18.77	29.41	18.52	27.49	18.39	30.05	18.04	16.66	17.74	29.11
Operating costs:												
Total feed costs	12.54	15.65	11.50	14.96	11.04	14.79	10.94	15.51	9.69	8.85	10.01	15.24
Total operating cost	16.54	20.52	15.35	20.25	14.36	19.67	14.45	19.49	12.75	11.03	12.92	19.93
Allocated overhead:												
Hired labor	0.52	0.84	0.80	1.72	1.21	2.24	1.79	4.49	1.84	1.43	1.41	2.60
Opportunity cost of unpaid labor	13.22	15.52	6.79	8.99	3.42	4.59	1.40	1.01	0.49	0.16	2.09	6.65
Total overhead	22.55	27.46	14.88	20.56	9.88	15.43	7.55	10.99	5.33	3.85	7.40	17.60
Total costs listed	39.09	47.98	30.23	40.81	24.24	35.10	22.00	30.48	18.08	14.88	20.32	37.53
Value of production less total costs	-20.03	-19.38	-11.46	-11.40	-5.72	-7.61	-3.61	-0.43	-0.04	1.78	-2.58	-8.42
Value of production less operating costs	2.52	8.08	3.42	9.16	4.16	7.82	3.94	10.56	5.29	5.63	4.82	9.18
Supporting information												
Milk cows (head)	33	34	68	68	135	130	313	460	701	2,236	182	77
Output per cow (lbs.)	15,885	12,223	17,530	12,599	19,232	13,721	20,040	16,663	22,673	23,297	20,961	13,884

*Con=Conventional. Source: Economic Research Service of USDA

Exhibit 12. Organic and Conventional Dairy Enterprise Analysis of the State of Minnesota (2006-2013), Average per Cow ($ Value)

		2013	2012	2011	2010	2009	2008	2007	2006
Organic	Number of farms	19	25	27	38	31	30	23	22
	Number of cows	103.8	95.9	84.8	78.8	77.8	76.9	64.7	72.3
	Milk produced per cow	13,715	12,720	12,133	12,819	12,129	12,629	13,372	12,323
	Avg. milk price per cwt.	29.92	29.23	27.32	26.19	25.77	25.39	24.44	22.15
	Net return over operation expense	545.17	577.49	421.37	756.2	651.63	674.65	814.91	821.54
	Net return	302.68	303.33	124.62	487.68	366.47	411.7	541.49	568.28
Conventional	Number of farms	399	427	468	527	509	499	575	557
	Number of cows	178.4	166.7	158.1	137	136.4	140.7	128.5	124.3
	Milk produced per cow	22,926	22,434	22,071	21,732	21,264	21,344	21,300	21,432
	Avg. milk price per cwt.	20.34	19.63	19.96	16.26	13.57	19.46	18.64	13.34
	Net return over operation expense	289.93	293.33	535.24	211.85	-201.56	514.17	864.95	308.83
	Net return	92.24	90.62	331.08	11.61	-402.77	290.44	639.12	103.52

Source: Farm Business Management of University of Minnesota, www.finbin.umn.edu

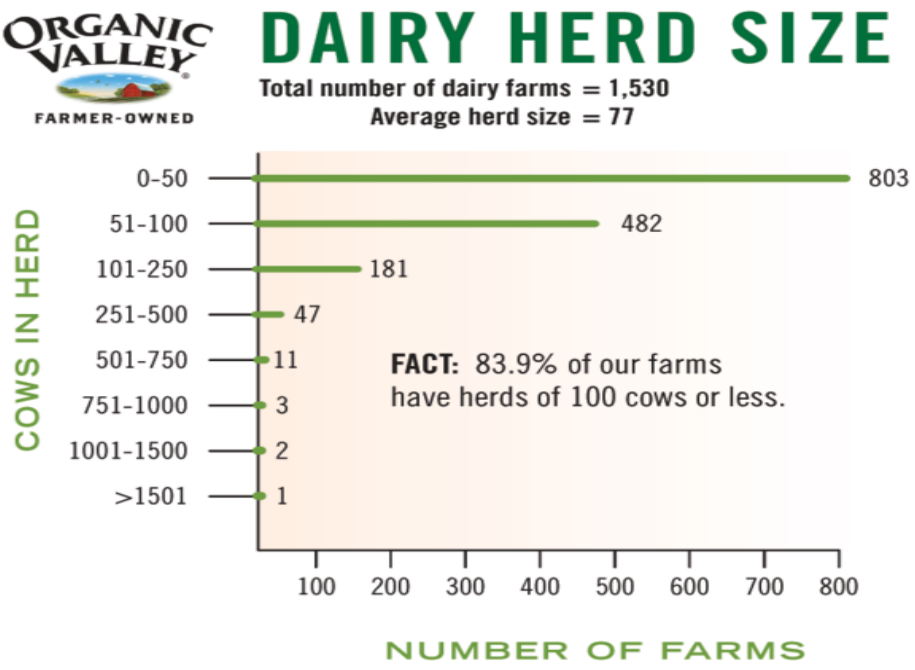



Exhibit 13. Dairy Herd Size for Organic Valley