



READY TO GROW

A Plan for Increasing Illinois Fruit and Vegetable Production

Action Plan and Feasibility Study
July 2010

PREPARED BY FAMILYFARMED.ORG AND FUNDED BY THE ILLINOIS DEPARTMENT OF AGRICULTURE



Ready to Grow: A Plan for Increasing Illinois Fruit and Vegetable Production

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Action Plan and Feasibility Study



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ABOUT FAMILYFARMED.ORG

For the past decade, FamilyFarmed.org has been a leader in the development of local food systems. FamilyFarmed.org's mission is to expand the production, marketing, and distribution of locally grown and responsibly produced food, in order to enhance the social, economic and environmental health of our communities. The FamilyFarmed EXPO is the Midwest's leading local food trade show. It also features farm and food financing and policy conferences. The next EXPO is scheduled for March 17-19, 2011.

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INTRODUCTION

Ready to Grow: A Plan for Increasing Illinois Fruit and Vegetable Crop Production is a research, analysis and strategic planning project led by FamilyFarmed.org located in Oak Park, Illinois. The study was funded by the Illinois Department of Agriculture through a 2009 USDA Specialty Crop Block Grant.

OBJECTIVES OF THE PROJECT

The project has three objectives:

1. Identify the barriers that keep growers from entering or increasing production for wholesale markets in Illinois,
2. Devise workable solutions to resolve those barriers, and
3. Assess the feasibility of increasing production substantially enough to encourage the development of food systems infrastructure in Illinois.

The primary outputs of the project are an Action Plan aimed at reducing the barriers to increasing the supply of Illinois-grown fruits and vegetables into the Illinois wholesale marketplace and a Feasibility Study for a fresh produce aggregation and distribution facility. The goal of the Action Plan is to provide the Illinois Food Farms and Jobs Council and stakeholders in the Illinois Specialty Crop Industry with actionable recommendations to reduce barriers and increase Illinois specialty crop supply into wholesale markets. The goal of the Feasibility Study is to present the business case for private investment in an aggregation and distribution facility to connect Illinois specialty crop growers with wholesale customers, and highlight risks and opportunities for investors to consider before entering the market.

KEY DEFINITIONS USED IN THIS REPORT

Food Hub: A food hub is an emerging concept that encompasses some of the roles of a packing house (see definition below). Food hubs can be relatively small or large warehouses that aggregate produce and facilitate sales to wholesale customers or directly to consumers. Ideally they are located in close proximity to the farms they serve.

Food Safety Certification: USDA or private certifiers work with growers to review their On-Farm Food Safety Plan against a set of scoring guidelines based on Good Agricultural Practices (GAP). This on-farm audit allows the

certifier to determine a pass or fail score based on farm performance. Key indicators used in this process include soil and land use history, irrigation and wash water safety, worker health and hygiene, animals, traceability, chemical usage, and cooling operations. A passing score gives growers one year of food safety certification, sometimes known as GAP Certification.

Good Agricultural Practices (GAP): Good Agricultural Practices, or GAPs, are a set of recommendations that can help improve the quality and safety of produce. GAPs focus on four primary components of production and processing: soil, water, hands, and surfaces. GAPs are important as more and more wholesale buyers are requiring third-party audits certifying that a farm/facility is adhering to a self-authored plan to minimize the risk of contamination by microbial pathogens. These plans are based on the Food and Drug Administration's "Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables."

Hazard Analysis and Critical Control Point (HACCP): This is a food safety certification geared towards food processors. It includes farms that raise animals or do value added production.

Packing House: A packing house is an aggregation facility that receives and prepares raw fruits and vegetables from farmers to then sell fresh and in some cases frozen to wholesale customers. Packing house roles vary from facility to facility and can offer such services as washing, cooling, sorting, grading, packaging, labeling, and sales, marketing and distribution.

Wholesale: Wholesale is used in this document to differentiate from direct to customer sales channels such as farmers markets, a CSA program, and you-pick enterprises where the customer pays the farmer directly. In this report, wholesale encompasses all sales channels where an intermediary is utilized such as in sales via distributors, processors, supermarkets, restaurants, auctions, schools, and food service companies. Over 99% of the food consumed in the US moves through wholesale channels.

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EXECUTIVE SUMMARY

There is great potential in expanding the production, supply, sales and consumption of Illinois-grown fruits and vegetables through wholesale marketing channels. Direct-to-consumer channels such as farmers markets and Community Supported Agriculture (CSAs) are growing rapidly, yet more than 99% of agricultural products consumed in the U.S. are purchased through wholesale channels¹. Any serious ambition to scale up local food production requires a system that reaches wholesale markets.

Demand for locally grown food is strong and increasing. According to Mintel, a leading market research company which tracks consumer purchase and lifestyle trends, "Local procurement is a fast-growing category with tremendous promise, and marketers that are aware of the many dynamics at play can generate significant revenues."² As reported by Food Navigator USA, Mintel found that one out of six Americans goes out of their way to buy local products yet 30% reported being unable to locate them. Locally-sourced fruits and vegetables show greatest consumer interest, with 31% purchasing these products from local sources at least once per week.³

The trend is similarly strong in the restaurant industry. Chefs surveyed by the National Restaurant Association ranked locally-grown produce as the #1 menu trend of 2010⁴, and the editors of FoodChannel.com rank "Locavore" (local food) as first among the top food influencers of the decade⁵. According to National Restaurant Association research⁶, "89 percent of fine-dining operators serve locally sourced items, and nine in 10 believe demand for locally sourced items will grow in their segment in the future. Close to three in 10 quickservice operators serve locally sourced items now and nearly half believe these items will grow more popular in their segment in the future. Seventy percent of adults say they are more likely to visit a restaurant that offers locally produced food items."

In addition to high demand, the economics of local food systems are impressive. Dollars spent on local food are recycled through the local economy at a rate of 1.4⁷ to 2.6⁸ times, which can significantly increase regional economic development and job creation. A 2010 study by the Leopold Center for Sustainable Agriculture examined the economic outcomes of growing 100% of the state's consumption of 28 types of fruits and vegetables in Illinois. The study found that this volume of goods has a retail value of \$988 million and would require 2600 farm jobs to produce⁹. The incremental effects are not known, but with less than 5% of Illinois fruit and vegetable sales

currently produced in Illinois¹⁰, the upside could be considerable.

Despite high demand, promising economics, and the fact that four-fifths of Illinois land is farmland, 89% of which is prime farmland¹¹, Illinois wholesale buyers cannot currently meet their demand for fruits and vegetables from in-state production. The fourteen buyers interviewed for this report repeatedly stated that their demand for Illinois-grown fruits and vegetables far surpasses available supply, so they resort to purchasing produce grown outside the state. If they could, they would purchase over \$23 million in Illinois-grown produce on an annual basis:

More than 99% of agricultural products consumed in the U.S. are purchased through wholesale channels

LOCAL FOOD DEMAND FROM SURVEYED BUYERS

Chartwells Thompson/ Chicago Public Schools	\$500,000
Chipotle	\$150,000
Fortune Farm Direct	\$1,500,000
Goodness Greeness	\$1,000,000
Hy-Vee	\$400,000
Irv and Shelly's Fresh Picks	\$250,000
Lettuce Entertain You	\$500,000
Locavore Foods	\$500,000
Sustainable Foods	\$4,000,000
SYSCO Chicago	\$8,000,000
SYSCO Central Illinois	\$2,000,000
Testa Produce	\$500,000
US Foods	\$2,500,000
Whole Foods Market	\$1,250,000
TOTAL	\$23,500,000

This sampling represents only a small percentage of Illinois retailers, restaurants and distributors, so overall demand is substantially greater. With \$14.6 billion spent annually on fruits and vegetables in Illinois and less than 5% of that expenditure currently produced in Illinois, a large percentage of the remainder can be captured by a local food system in Illinois¹².

Action Plan and Feasibility Study

To address the challenges Illinois growers face with wholesale marketing, the Project Team studied barriers that prevent growers from increasing participation in wholesale markets and proposes an Action Plan to mitigate them. This work is the culmination of a six-month assessment in which 181 growers were surveyed, 14 trade buyers and 20 growers interviewed, and over 60 stakeholders participated in two downstate strategy sessions. Understanding barriers is important to help growers, buyers, policymakers and other stakeholders understand the challenges faced in meeting the growing demand for local food as well as the opportunities to overcome them.

The Project Team also completed a Feasibility Study to determine the viability of a packing house as a way to overcome some of the barriers. A packing house, or food hub, is a facility that aggregates and packs produce from a number of farms and ships it in large volumes to customers. Demonstrating feasibility is the first step in the business development process which then leads to formal business planning and the construction of a facility.

KEY FINDINGS REGARDING BARRIERS TO MEETING WHOLESALE DEMAND:

- There is a large capacity among a network of growers with experience in wholesale marketing to further expand production and sales to wholesale buyers. Almost half of respondents who indicated this growth potential said that they could at least double participation by 2015. Extrapolating from survey responses, this could result in 550-700 acres of additional production by 2015.
- The most significant barriers to scaling up identified in this study include marketing (finding buyers and negotiating terms), processing capacity, risk of not selling crops grown, access to funding/financing, food safety certification cost, liability insurance cost, grower satisfaction with current marketing channels, and labor availability.
- To address these barriers, growers recommend improving the local food system infrastructure, providing education and information about resources available, help with lowering their costs, and building win-win relationships with buyers.
- 83% of respondents believe a packing house would be valuable and the chief reasons cited were marketing to let farmers focus on farming.

RECOMMENDATIONS FOR THE ILLINOIS FOOD FARMS AND JOBS COUNCIL AND THE ILLINOIS SPECIALTY CROP INDUSTRY TO HELP MITIGATE BARRIERS THAT GROWERS FACE:

1. Encourage the development of regional packing houses to supply wholesale markets.
2. Support existing efforts across the state to better inform farmers about funding and financing options.
3. Implement a Good Agricultural Practices (GAP) food safety audit cost-share program and offer GAP training to Illinois growers.
4. Create and disseminate a resource sheet to inform growers about options for locating qualified farm labor.
5. Create and disseminate a fact sheet and support existing efforts to train growers about best practices in post harvest handling.

FEASIBILITY ASSESSMENT FOR A PACKING HOUSE:

The number one recommendation of the Project Team is the development of a system of regional packing houses to aggregate produce and ensure that buyers can get a high quality product in sufficient volumes with proper post harvest handling, food safety, and packaging. To develop momentum towards this, the Project Team conducted a Feasibility Study for the development of an aggregation, packing and distribution facility (packing house) serving wholesale customers. The primary determinant of feasibility is the commitment of sufficient acreage to provide the necessary raw material for a packing house to operate profitably as an independent commercial business.

With increasing national and state support for local food system development, the political climate is favorable for the development of a packing house

Through interviews, secondary research and the development of a financial model, the Project Team concludes that a packing house is feasible based on favorable market dynamics, political climate, grower engagement and financial projections. Of note:

- Market demand is strong and the growth potential is increasing
- With increasing national and state support for local food system development, the political climate is favorable for the development of a packing house

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- There are strong indications that Illinois farmers will increase their participation in wholesale marketing if a packing house were developed
- Financial modeling presents that a packing house facility scaled to process the yield of acreage likely to participate within 2-5 years of startup can operate profitably.
- Potential business risks can be mitigated with attention to the following:
 - o Management team skill is critically important, particularly in marketing and sales
 - o Establish a wide and cooperative network of growers
 - o Collaborate with other intermediaries to strengthen the market
 - o Engage all stakeholders to maintain a supportive climate

An informal assessment of the potential acreage that might participate if a packing house were established indicates several thousand acres in the areas surrounding both Kankakee and Peoria, and additional acreage throughout the state. Project stakeholders also noted that southern Illinois is a vast fruit producing area and

could be an ideal spot for a regional packing house. The study presents potential packing house locations, suggests beginning with a proof of concept facility prior to roll out, and identifies profit maximizing strategies and potential ownership structure options.

The Project Team concludes that Illinois fruit and vegetable growers interested in wholesale markets are for the most part **Ready to Grow**. This report presents concrete ways the Illinois Specialty Crop Industry can help them accomplish their goals to more closely meet the current and projected demand. One action the industry can begin pursuing immediately is the business planning process for the development of regional packing houses, which is the next step following a positive feasibility assessment.

This work is the culmination of a six-month assessment in which 181 growers were surveyed, 14 trade buyers and 20 growers interviewed, and over 60 stakeholders participated in two downstate strategy sessions.

PART ONE: READY TO GROW ACTION PLAN

OBJECTIVES

The goals of the Action Plan were to identify the barriers that keep growers from entering or increasing production for wholesale markets in Illinois and devise workable solutions to resolve those barriers.

METHODOLOGY

This work is the culmination of a six-month assessment in which 181 growers were surveyed, 14 trade buyers and 20 growers were interviewed, and over 60 stakeholders participated in two downstate strategy sessions. The grower/buyer meetings took place in Springfield on January 8 and June 3. The survey of Illinois fruit and vegetable growers ran from February 2 through April 6. Phone interviews of buyers and growers were completed in May. The Project Team found great benefit in drawing quantitative data and qualitative insights from the meetings, survey, and interviews.

FamilyFarmed.org began the project at the January 2010 Illinois Specialty Growers Conference in Springfield where the project was presented and an initial grower/buyer panel discussion was convened. FamilyFarmed.org, the Illinois Department of Agriculture, and AgriNews advertised the project and panel meeting. Over 35 stakeholders attended, primarily growers and buyers, and these stakeholders greatly informed the content development of the survey as well as provided initial thoughts on barriers to scaling up production.

The goal of the survey was to inform both the Action Plan and Feasibility Study. Quantitative and qualitative questions were presented to gather the following information from growers:

1. Demographics, such as number of years farming, acres of fruits farmed, acres of vegetables farmed, percentage sold direct, percentage sold wholesale, and units produced;
2. Thoughts and opinions on scaling-up operations to meet wholesale-level demand;
3. Thoughts and opinions on barriers to scaling up;
4. Ideas for addressing those barriers;
5. Potential production/sales increases if those barriers were removed; and,
6. Thoughts and opinions on whether or not a packing house that aggregates, packs, markets and distributes fruits and vegetables would be valuable as a way to increase participation in wholesale markets.

The Project Team developed a print and complementary online version of the survey (please see Figure 4 in the Appendix for survey) and shared it with stakeholders to test and provide feedback. The survey was then launched February 22 and was advertised across the state via print and online ads, in print and online newsletters, through mailings to grower groups, and through electronic announcements to list serves.

In all, 181 responses were collected, far surpassing the Project Team's expectations. While the majority of these responses were received online, the option for growers to mail or fax in a paper survey was indeed valuable as a full 10% of responding growers utilized this option. The pool of responses was then culled to remove those whose farms were not in Illinois, who did not grow fruits or vegetables, and surveys that were significantly incomplete. This left 138 surveys in the final data pool. These survey respondents were diverse enough to represent a cross section of Illinois farmers and the surveys complete enough to analyze the findings. It is important to note that nearly all questions in the survey were optional. Therefore, the total number of responses varies from question to question.

The Project Team reviewed the findings both internally and with stakeholders at a meeting on June 3, 2010 in Springfield. Select follow up phone interviews were conducted to gain further insight into barriers and to invite interested growers to participate as advisors in the Action Plan and Feasibility Study. In all, the Project Team interviewed 20 growers and 14 trade buyers. Actionable recommendations for barrier mitigation are proposed based on grower input on the surveys, from the two meetings in Springfield, from phone interviews, and from analysis and interpretation by the Project Team.

SURVEY RESPONDENTS — KEY CHARACTERISTICS

The following section hones in on the survey data as this information provided the primary basis upon which this study's recommendations were founded. By design, demographic questions were largely omitted from the survey. Rather than collect extensive demographic data which can dampen response rates, the Project Team felt it more important to gather growers' insights into barriers to scaling up, ideas to mitigate those barriers, and interest in a packing house. It was therefore optional for growers to provide demographic data such as zip code. This section provides a high-level snapshot of survey respondents for a better contextual perspective of the barriers cited.

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SIZE OF FARM

Combined fruit and vegetable acreage of respondents ranged from less than one acre to 352 acres planned for 2010 (see Table 1). The average of all respondents was 31.3 acres and the median was 5.0 acres. The largest 20% of the 88 growers who provided acreage data accounted for 81.8% of the acreage planned for 2010. The breakdown of fruit and vegetable acreage follows:

- Fruit acreage among respondents varied greatly from less than one acre to 300 acres planned for 2010. The average of all respondents was 16.2 acres and the median was 1.0 acre. The largest 20% of the 66 fruit growers who provided acreage data accounted for 92.0% of the fruit acreage planned for 2010, indicating a greater concentration of small farms among fruit grower respondents than in the total sample.
- Vegetable acreage among respondents was almost 60% greater than fruit acreage, although a smaller range was reported, from less than one acre to 175 acres planned for 2010. The average of all respondents was 23.8 acres and the median was 4.5 acres. The largest 20% of the 71 vegetable growers who provided acreage data accounted for 81.0% of the vegetable acreage planned for 2010.

TYPES OF CROPS GROWN

Growers were asked to volunteer a list of the “top crops grown on your farm.” This could have been interpreted as top in acreage or sales. The Project Team thought it valuable to capture whether respondents represented a variety of fruit/vegetable crops grown, a specific segment of the Illinois fruit/vegetable industry, highly diversified operations, and so on. Growers indeed crossed the spectrum, and vegetable crops cited by respondents were even more numerous and varied than fruits. In no particular order and not an exhaustive list, crops mentioned included:

- Fruit: berries, melons, peaches, plums, rhubarb, apples, pears, and grapes.
- Vegetables: pumpkins, tomatoes, squash, corn, sweet corn, green beans, peppers, asparagus, potatoes and leafy greens.

GEOGRAPHIC LOCATION

Respondents from all corners of the state were represented. See Figure 1 in the Appendix for a map detailing the location and acreage of the 63 respondents who provided zip codes.

TABLE 1: AVERAGE AND MEDIAN ACREAGE OF SURVEY RESPONDENTS

	Respondents Providing Acreage Data	Total Acres Planned for 2010	Average Acres	Median Acres	% of Total Acres from Largest 20% of Respondents
All Respondents	88	2758	31.3	5.0	81.8%
Fruit Acres	66	1066	16.2	1.0	92.0%
Vegetable Acres	71	1692	23.8	4.5	81.0%

TABLE 2: YEARS OF FARMING EXPERIENCE AMONG SURVEY RESPONDENTS

How many years have you been farming fruits and vegetables?	Number of Response(s)	Response Ratio
<1 year	16	9.5%
1-5	42	25.1%
6-10	22	13.1%
>10 years	53	31.7%
I do not grow fruits and vegetables (these respondents were taken to the end of survey leaving 138 in the data pool)	29	17.3%
No Responses	5	2.9%
Total	167	100%

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YEARS OF EXPERIENCE

Years of farming fruits and vegetables ranged from under one year to over 10 (see Table 2). Interestingly, some respondents reported currently being primarily grain or soy producers who are just beginning small-scale fruit and vegetable farming.

MARKETING CHANNEL PARTICIPATION

For both fruits and vegetables, respondents cited the wholesale channel as accounting for anywhere from 0% to 100% of their sales (see Table 3). More specifically:

- The majority (64%) of fruit growers sold fruit exclusively through direct channels in 2009, compared to only 5% selling exclusively through wholesale channels. The average reported percentage of 2009 fruit sales through direct channels was 83.3% compared to 14.5% through wholesale. (Note – the study did not inquire as to total dollar sales by channel, so these figures are an average of the reported percentages.)
- The wholesale channel appears to be better developed among responding vegetable growers than fruit growers. A smaller percentage (41%) of vegetable growers sold vegetables exclusively through direct channels in 2009, and a larger percentage (12%) sold exclusively through wholesale channels. The average reported percentage of 2009 vegetable sales through direct channels was 66.0% compared to 32.9% through wholesale.
- Marketing channel activity projected for 2010 was not significantly different than that reported for 2009.

SUMMARY OF KEY CHARACTERISTICS

Though limited demographic questions were asked, the Project Team asserts that the survey responses represent a healthy cross section of Illinois fruit and vegetable farms. There was great variety reported in farm size, marketing channels, crops grown, location, and grower experience farming fruits and vegetables.

PERCEPTIONS ABOUT SCALING UP PRODUCTION

A key finding is that a significant number of growers indicated that if certain barriers were removed, it would be possible for them to scale up supply for the wholesale market.

Of the 83 who responded to the survey question, Would it be possible for you to increase your supply to wholesale markets if certain barriers were removed or conditions were met?, 66 (80%) answered yes and 17 (20%) answered no.

Examples of comments from growers stating it would be possible to increase supply if certain barriers were removed or conditions were met:

- I'd like to have 1 crop for wholesale marketing, if there was a method of refrigerated storage and distribution
- 300 acres available
- Local aggregation center
- I would need more access to land and more equipment
- If we had a ready market
- Grants to help increase production and packing

Examples of comments from growers stating it would not be possible to increase supply:

- I need affordable land to expand my production
- Delivery is the biggest barrier. It takes three or four hours round trip, including unloading and paperwork, for one load--during the busy fall season I don't have that much time for one load.
- I simply am not interested

TABLE 3: CHANNELS OF DISTRIBUTION USED BY SURVEY RESPONDENTS

	Respondents Selling 100% Direct in 2009 # response ratio avg. acres			Respondents Selling 100% Wholesale in 2009 # response ratio avg. acres			2009 Direct Sales, Average Reported Percentage	2009 Wholesale Sales, Average Reported Percentage
Fruit	29	64%	5.8	2	5%	8.5	83.3%	14.5%
Vegetables	24	41%	12.1	7	12%	56.7	66.0%	32.9%

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- The cost of meeting the requirements for food safety in the wholesale market and the profits to be made are limiting factors
- Labor-labor-labor
- I need buyers ready to work with me

This question was asked again, though slightly differently, later in the survey. When asked, "Would you increase your participation in the wholesale market if certain barriers were removed or conditions were met," 58 (72%) said yes and 23 (28%) said no. This larger percentage of negative responses could mean that while it would be possible to scale up, growers were simply not interested in doing so. In fact, some respondents cited that they were not at all interested in wholesale, were nearing retirement and not interested in scaling up, or were otherwise satisfied with their marketing channels and/or current operations. It is also possible that the significantly greater number of negative responses in the second instance was impacted by its position in the survey. The second question about increasing participation in the wholesale market followed an

extensive line of questioning about the significance of existing barriers that may have caused respondents to perceive the opportunities for scaling up more negatively.

Characteristics of the 58 growers who said they would increase wholesale production suggest a large capacity for expansions among an experienced network of growers (see Table 4). This group of respondents has a combined capacity of over 2100 acres. Half of these growers are already participating in the wholesale market and have room for expansion. The average projected percentage of sales through wholesale markets in 2010 is 59.2% for fruit and 58.2% for vegetables among these respondents.

Those who responded positively in the second instance were then asked to project what 'scaling up' might look like for their operation in 2012 and 2015 (see Table 5). Almost half of respondents indicated that they could at least double participation by 2015. Extrapolating from survey responses, this could result in 550-700 acres of additional production by 2015.

TABLE 4: ACREAGE OF RESPONDENTS WHO ANSWERED "YES" TO QUESTION: "WOULD YOU INCREASE PARTICIPATION IN WHOLESALE MARKETS IF BARRIERS WERE ADDRESSED?"

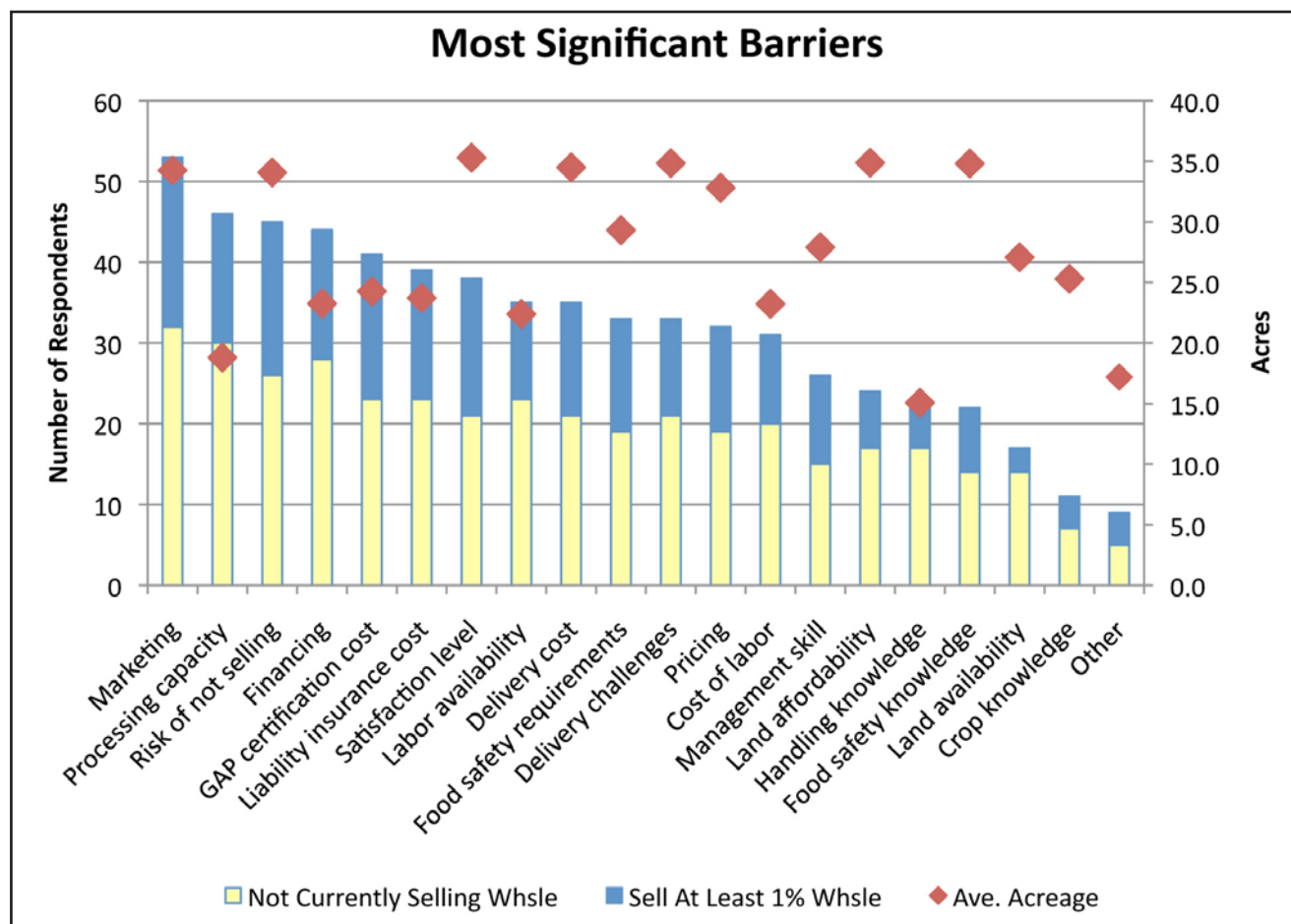
	# Respondents	Total acres projected for 2010	Average acres	2010 Wholesale Sales, Average Projected Percentage
All Respondents	58	2107	36.3	
Fruit Acres	37	624	16.9	59.2%
Vegetables Acres	48	1483	30.9	58.2%
Already selling wholesale	29	1625	56.0	

TABLE 5: POSSIBLE INCREASE IN ACREAGE OF RESPONDENTS WHO ANSWERED "YES" TO QUESTION: "WOULD YOU INCREASE PARTICIPATION IN WHOLESALE MARKETS IF BARRIERS WERE ADDRESSED?"

	Total	<10%	10-25%	25-50%	50-75%	75-100%	100%+
Possible Increase by 2012							
# Respondents	53	5	17	11	5	6	9
Total Acreage of Respondents	1937	507	644	346	254	14	171
Acreage of Respondents Currently Selling Wholesale	1465	308	433	331	246	14	133
Possible Increase by 2015							
# Respondents	47	5	9	12	4	6	11
Total Acreage of Respondents	1593	438	582	247	160	22	144
Acreage of Respondents Currently Selling Wholesale	1345	328	577	133	154	12	141

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TABLE 6: MOST SIGNIFICANT BARRIERS AND SELECTED CHARACTERISTICS OF RESPONDENTS CHOOSING



BARRIERS TO INCREASED WHOLESALE PARTICIPATION

Next, growers were asked to rate particular barriers, 20 in all, on a scale from 1-5 as being “not at all significant” to a “very significant” factor in “preventing you from increasing participation in the wholesale market.”

MOST SIGNIFICANT BARRIERS TO SCALING UP

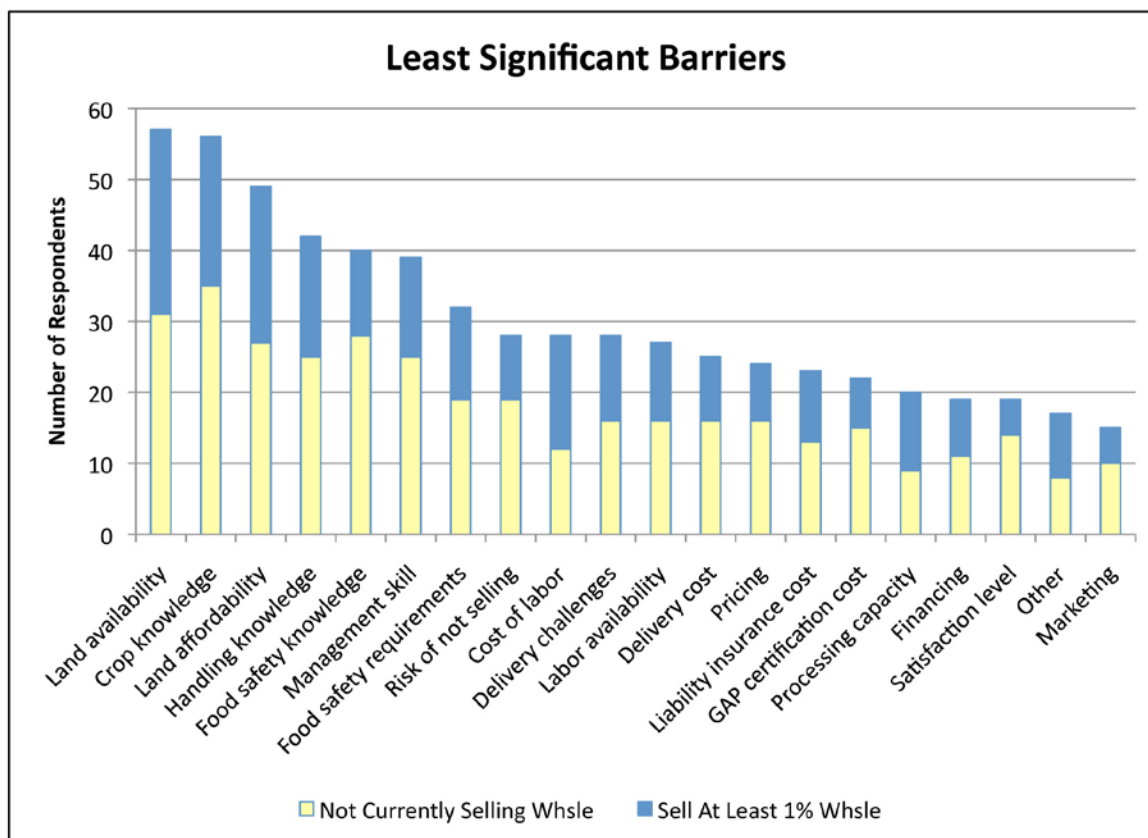
Significant barriers are defined as those for which the majority of respondents selected 4 or 5, with 5 meaning “very significant”. Marketing – defined as finding, negotiating, and securing commitments from buyers – ranked as the #1 barrier among respondents, both direct and wholesale sellers, and the #3 barrier – risk of not selling what I grow – is closely related (see Table 6). These barriers are cited more frequently among the larger growers, with average farm size of about 34 acres.

Processing capacity is the #2 barrier, but is considerably more significant to direct marketers and smaller growers. Other barriers cited as significant among a large number of the largest growers include satisfaction level with the way things are and delivery costs and other issues. Good Agricultural Practices (GAP) certification cost and liability insurance costs, while lower in the significance rankings, were affirmed as important barriers in discussions with stakeholders at the June 3 meeting.

Marketing – defined as finding, negotiating, and securing commitments from buyers – ranked as the #1 barrier among respondents

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TABLE 7: LEAST SIGNIFICANT BARRIERS AND SELECTED CHARACTERISTICS OF RESPONDENTS CHOOSING



LEAST SIGNIFICANT BARRIERS

Least significant barriers, those rated as 1 or 2, with 1 being “not at all significant”, related to land availability/cost and technical knowledge (see Table 7).

IDEAS FOR BARRIER MITIGATION

Growers were asked an open-ended question, “What ideas do you have for addressing some of these barriers?” The following ideas are just some of the 52 comments offered:

- I am filling out this survey on behalf of 6 Amish communities located within 50 miles north and south of where I live. There is possible 20 acres grown at present and I think that could easily be increased to 50 acres if marketing would be in place.
- It would be helpful to have a truck come through and pick up the produce.
- A coop or third party that could handle deliveries, perhaps building mixed loads from local growers with complementary product offerings.

- Educate store managers as to the benefits of locally grown produce. Maybe that has to be done at the consumer level as well. Demand has to come from them.
- Grants or cost shares for farmers to upgrade their packing facilities to GAP standards in trade for grower agreements (contracts) to grow vegetables for financing the facilities. Price schedules set up to be profitable for both sides. Affordable and correct yields setup for crop insurance.
- Promote local food to area farmers who are considering transitioning from commodity crops to food production.
- Establish/improve storage, processing, and distribution infrastructure.

Many of the ideas offered by growers spoke to the need for more infrastructure, education/ information, help with lowering costs, and building win-win relationships with buyers. These ideas feed directly into the recommendations presented at the end of Part One of this report.

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PACKING HOUSE FINDINGS

The Project Team began this project with the assumption that a conveniently located packing house would be a potential solution to some of the barriers growers face in scaling up production to better meet demand. For this reason, a series of questions was asked specifically about a packing house. These were asked after allowing respondents to provide their own ideas to reduce barriers. Findings from these questions include:

POSITIVE FINDINGS REGARDING A PACKING HOUSE

- 83% of respondents would find a packing house valuable.
- Most commonly cited reasons for finding a packing house valuable were marketing and to make life easier/focus on farming.
- Suggested features and services of a packing house were those that are commonly offered by a packing house included cooling, washing, grading, packaging, distribution and marketing. Some also cited on-farm pickup.
- New ideas presented by respondents for packing house services included cold storage, flexible hours and freezer space (from a berry grower).
- Two growers suggested establishing the facility as a grower cooperative, and one suggested considering an auction.
- Comments/quotes in support of a packing house for mitigating barriers:
 - o would be able to meet requirements of larger markets/buyers
 - o reduction of my labor and allow concentration in areas we have skills for and enjoy
 - o A “pack house” is the main obstacle slowing down my operation.
 - o I could concentrate on growing!

- o If I could find processing facilities I could transition my current 100 acres of conventional corn/soy

83% of respondents would find a packing house valuable

NEGATIVE FINDINGS REGARDING A PACKING HOUSE

- Most commonly cited reasons for not finding a packing house valuable included distance, already have on farm packing house, cost, and farm operation too small
- Many commented that they did not understand what a packing house does/offers
- Comments/quotes citing that a packing house would not be valuable:
 - o We have our own packing house. I can see that it would be VERY valuable for someone without a packing house.
 - o Do not have enough produce to have the need

DRIVING DISTANCE

When growers were asked how far they were willing to travel to a packing house (“check all that apply”), most stated under 30 miles (see Table 8 below). There was also significant interest in on-farm pick up. These preferences were similar for respondents who currently participate in the wholesale market, but several larger growers indicated willingness to travel distances up to 200 miles.

INPUT FROM JUNE 3, 2010 STAKEHOLDER MEETING IN SPRINGFIELD

Over 30 Project stakeholders and advisors met to discuss the development a packing house in Central Illinois. An informal assessment indicated that farms with several thousand acres in the areas surrounding both Kankakee and Peoria might utilize regional packing houses if they were developed. Participants also pointed out that southern Illinois is a vast fruit producing area and

TABLE 8: PREFERRED DRIVING DISTANCE TO A PACKING HOUSE

	Number of Response(s)	Response Ratio	Average Size of Farm (acres)	Number Selling Wholesale	Response Ratio
I would drive <30 miles	43	51.8%	12.0	17	41.5%
I would drive <100 miles	11	13.3%	19.4	7	17.1%
I would drive <200 miles	4	4.8%	46.9	2	4.9%
If they offered on-farm pick up	25	30.1%	32.4	15	36.6%

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could be an ideal spot for a regional aggregation facility/ packing house.

The discussion suggests the following factors are important to the success of an aggregation and distribution system in Illinois:

- A network of packing houses or food hubs throughout the state with proximity to both growers and customers
- A wide and cooperative network of growers
- Pre-season crop planning
- Reliable agreements with parties who take possession of goods (packing house or wholesale buyer), whether tacit or contractual
- Skillful and equitable marketing capability
- Tight correlation between quality and price

Farms with several thousand acres in the areas surrounding both Kankakee and Peoria might utilize regional packing houses

SUMMARY OF FINDINGS, IMPLICATIONS

Some overall assertions of the Project Team follow. They are based on survey findings, feedback from the stakeholder meetings and phone interviews.

- The success of the January and June meetings and the high survey response demonstrate significant interest in wholesale markets among growers.

- The difference in barrier rankings between those currently selling wholesale and those who are not selling wholesale is significant enough to suggest that (1) to even begin participating in wholesale markets a particular set of barriers must be addressed, and (2) once those barriers are addressed, a different set of barriers faced by growers in the wholesale market could see an increase in significance as more growers participate.
- Many barriers to scaling up for wholesale markets can be mitigated through the development of a packing house (see Table 9), and there was demonstrated strong interest in this concept.
- More than 60 growers provided their contact information and 39 explicitly invited follow-up discussions to advance the study. This indicates that a packing house could have a strong base of growers to serve.

A packing house is not likely to mitigate the following barriers, which were cited as significant among 40% or more of survey respondents. Other steps will need to be taken to assist growers in addressing these barriers:

- Access to funding for capital improvements, equipment
- GAP certification cost
- Grower satisfaction level with the way things are
- Availability of labor
- Cost of labor or other labor issue
- Meeting food safety requirements

TABLE 9: ROLE OF A PACKING HOUSE IN MITIGATING BARRIERS

Barrier (40%+ cited as significant)	Role of Packing House
Marketing	Marketing is key function
Lack of processing capacity	Washing, grading, packing
Risk of not selling what I grow	Marketing
Delivery cost	Shortened delivery span
Delivery challenges	Distribution service
Pricing	Marketing
Liability insurance cost	Meet requirements for wholesalers allowing growers to carry lower levels of coverage

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RECOMMENDATIONS

The Project Team presents five recommendations to address the most important barriers uncovered in the study.

1. ENCOURAGE THE DEVELOPMENT OF REGIONAL PACKING HOUSES TO SUPPLY WHOLESALE MARKETS

A packing house or food hubs around the state offering services such as washing, grading, packaging, distribution, and marketing could go a long way toward mitigating some of the top barriers identified. Those barriers included marketing, lack of processing capacity, risk of not selling what is grown, delivery cost, delivery challenges, and liability insurance and pricing. Compared to other recommendations, this could be a resource-intensive recommendation as it entails infrastructure development; however, the return on investment could be very significant for growers, consumers, and the specialty crop industry in Illinois.

As previously stated, the project began with the assumption that such a facility located in Central Illinois would be worth considering. After reviewing the survey data and meeting with stakeholders, it has emerged that a more viable option to further explore is the potential for multiple packing houses to serve a greater number of growers and to be more locally tailored to supply, transportation, and other such factors. As such, the number one recommendation of the Project Team is to commence a business planning and development process for such a facility or facilities. For a more in-depth analysis of the feasibility of a packing house, see Part Two of this report.

2. SUPPORT EXISTING EFFORTS ACROSS THE STATE TO BETTER INFORM FARMERS ABOUT FUNDING AND FINANCING OPTIONS

The most commonly cited barrier that cannot be addressed with a packing house was access to funding for capital improvements and equipment. This barrier was more significant for those growers who are not currently selling wholesale, likely indicating that it is more of a hurdle to overcome to even begin to participate in wholesale markets. Conversely, as growers who currently sell at least some wholesale noted it is less of a barrier than other factors, the Project Team asserts that supporting existing efforts to inform growers about financing options is an appropriate course of action.

This might take the shape of any or all of the following actions:

- Support growers who want to attend conferences such as the Financing Farm to Fork conference in Chicago. The conference presents an array of funding and

financing options for farmers and brings in traditional and nontraditional food and farm investors to meet directly with growers.

- Support initiatives to add training modules to existing grower conferences/meetings around the state that specifically address funding and financing options.
- Create a fact sheet and distribute it to growers listing information about existing funding and financing options, eligibility, how to apply, and who to contact for more information. This could take the form of a question and answer fact sheet that would help the grower figure out which option might be best for his or her situation and goals.

3. IMPLEMENT A GOOD AGRICULTURAL PRACTICES (GAP) FOOD SAFETY AUDIT COST-SHARE PROGRAM AND OFFER GAP TRAINING TO ILLINOIS GROWERS

Growers and buyers alike acknowledge that following GAP food safety recommendations is becoming an expectation for doing wholesale-level business. An Illinois program to help growers learn food safety best practices and a cost share program to lessen the expense of participating in a USDA GAP audit would help growers better meet these expectations. Such a program would allow Illinois-grown produce to better compete with out of state GAP certified produce. Currently, some Illinois buyers interviewed favor purchasing out-of-state GAP certified produce over Illinois non-certified produce.

Growers validated this point in the survey as 53% cited GAP certification cost and 41% cited meeting food safety requirements as significant barriers to scaling up. Among growers currently experienced in selling wholesale, the significance of these two barriers was even higher at 60% and 45%, respectively. This indicates that this barrier might increase as the number of growers selling wholesale increases.

Possible suggestions for the structure of such programs include:

- Offering an audit cost-share program for growers to become GAP certified. The Wisconsin Department of Agriculture, Trade and Consumer Protection is currently offering a cost share program through funding from the Specialty Crop Block Grant program. The program pays 75% of the cost for a USDA GAP/GHP audit.
- Engaging the university/educational community, non-profits and other grower groups to assist with grower training, such as through a train-the-trainer method. This could be done inexpensively through an annual webinar for agricultural professionals on Good Agricultural Practices.

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- Offering “Best Practices in Food Safety” workshops around the state at existing conferences/grower gatherings.

GAP cost-share and grower training could be implemented rather quickly and rather inexpensively. In fact, such an initiative could be rolled out with a pilot program to ensure it best meets the needs of growers. The short-term return on investment would be barrier removal, improved understanding of on-farm food safety best practices, and more GAP certified farms in Illinois. Longer term, the impact on production, sales and consumption of fruits and vegetables in Illinois could be very significant, especially in light of the Illinois Food Farms and Jobs local procurement goals by institutions.

4. CREATE AND DISSEMINATE A RESOURCE SHEET TO INFORM GROWERS ABOUT OPTIONS FOR LOCATING QUALIFIED FARM LABOR

Like financing, this was cited as a significant barrier more so for growers who are not currently in the wholesale market. Again, this could indicate that it is more of a hurdle to overcome to even begin to participate in wholesale markets. One respondent noted that by nature, specialty crops are highly seasonal and very labor intensive. Still, there are several pools of qualified and interested labor around the state such as Farm Beginnings graduates (programs in Northern, Central and Southern Illinois), community college agriculture/local food production students (such as Richland Community College, John A. Logan Community College, Heartland College), workforce development agricultural program graduates, and Illinois Department of Economic Opportunity's summer youth training program participants. A fact sheet that explains the programs, associated costs, if any, and who to contact for more information could be very beneficial for growers seeking qualified help. The creation and distribution of such a fact sheet would be very inexpensive, could be implemented quickly, and could have a very significant impact, especially for smaller operations.

5. CREATE AND DISSEMINATE A FACT SHEET AND SUPPORT EXISTING EFFORTS TO TRAIN GROWERS ABOUT BEST PRACTICES IN POST HARVEST HANDLING

Proper cooling is critical for many fruit and vegetable crops grown for the wholesale market. Cooling and cold storage were the most commonly cited features

of a packing house that growers mentioned on their own without suggestion by the Project Team. Wholesale buyers overwhelmingly affirm this, citing that “preservation of the cold-chain” is the most important factor in maintaining product quality and shelf life. It is critical that growers understand proper post harvest handling practices, especially cooling, to ensure their products will meet the needs of buyers.

To best address this need, the Project Team recommends:

- Developing a fact sheet to inform small to mid-size growers about best practices in preserving the cold chain while produce is under their control. This could include resources on common cooling practices used on small farms and how to access the necessary equipment.
- Offering workshops based on the fact sheet at grower meetings/conferences across the state.
- Supporting the dissemination of other best practice resources to growers such as making available books, manuals, training and workshops on post harvest handling and cooling. One example is “Wholesale Success: A Farmers' Guide to Selling, Postharvest Handling and Packing Produce.”

CONCLUSION

Supply is currently falling far short of wholesale level demand for Illinois grown fruits and vegetables. Demand will only increase with institutional buyers responding to consumer demand and pursuing the Illinois Food Farms and Jobs local procurement goal of 20% by 2020¹³. When asked what barriers keep them from scaling up to meet this demand, growers were very forthcoming with obstacles and possible solutions. Growers were also very interested in actively participating in the process to remedy the barriers, the most significant of which is a packing house that can resolve a myriad of barriers. This project has illuminated that Illinois growers are indeed ready to more closely meet the wholesale level demand for Illinois grown fruits and vegetables. Through barrier mitigation, especially proceeding with a business plan for packing house development, the Illinois Food Farms and Jobs Council and the Illinois Specialty Crop Industry can help bridge the supply gap and realize the many benefits of a thriving local food system.

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PART TWO: READY TO GROW FEASIBILITY STUDY

OBJECTIVE

The goal is to assess the feasibility of increasing production substantially enough to encourage the development of food systems infrastructure in Illinois.

METHODOLOGY

In addition to the research conducted for the Ready to Grow Action Plan, the Project Team corresponded with and interviewed growers, buyers and operators with experience in produce aggregation and processing systems, both in Illinois and Virginia. It also conducted secondary research to obtain 1) market and trends data from the USDA and syndicated sources, and 2) operating data relating to staffing, financials and facilities from similar companies which were used as analogs, or equivalents, for relevant aspects of their operation. Financial disclosures such as one would find in an annual report were accessed for publicly-traded companies, and case histories were accessed for private companies which are not required by the U.S. Securities and Exchange

Commission to publicly disclose financial statements. Through the synthesis of these sources a financial model was built and reviewed with experienced operators to validate its assumptions. Sources are cited where discrete inputs were used.

Private Analog Case Studies¹⁴

Alsum Produce
Appalachian Sustainable Development
Cherry Capital Foods
Goodness Greeness
Growers Collaborative
Grown Locally
Parker Farms
Westcott Orchards

Public Analog Financial Disclosures¹⁵

Birds Eye (now private)
Chiquita
Del Monte
Dole
Fresh America (no longer operating)
Pilgrim's Pride
Tasty Baking
Total Produce (Great Britain)
Tyson

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FINDINGS

1. THE ENVIRONMENT IS FAVORABLE FOR THE DEVELOPMENT OF A PACKING HOUSE IN ILLINOIS

MARKET SIZE AND GROWTH POTENTIAL

Demand for local food is strong and increasing. According to Mintel, a leading market research company which tracks consumer purchase and lifestyle trends, “Local procurement is a fast-growing category with tremendous promise, and marketers that are aware of the many dynamics at play can generate significant revenues.”¹⁶ As reported by Food Navigator USA, Mintel found that one out of six Americans goes out of their way to buy local products yet 30% reported being unable to locate them. Locally-sourced fruits and vegetables show greatest consumer interest, with 31% purchasing these products from local sources at least once per week¹⁷.

The trend is similarly strong in the restaurant industry. Chefs surveyed by the National Restaurant Association rank locally-grown produce as the #1 menu trend of 2010¹⁸, and the editors of FoodChannel.com rank “Locavore” (local food) as first among the top food influencers of the decade¹⁹. According to National Restaurant Association research²⁰, “89 percent of fine-dining operators serve locally sourced items, and nine in 10 believe demand for locally sourced items will grow in their segment in the future. Close to three in 10 quickservice operators serve locally sourced items now and nearly half believe these items will grow more popular in their segment in the future. Seventy percent of adults say they are more likely to visit a restaurant that offers locally produced food items.”

The story is no different in Illinois. Buyers interviewed for this study have indicated a desire to purchase over \$23 million in Illinois grown produce on an annual basis. They include:

Chartwells Thompson/Chicago Public Schools	\$500,000
Chipotle	\$150,000
Fortune Farm Direct	\$1,500,000
Goodness Greenness	\$1,000,000
Hy-Vee	\$400,000
Irv and Shelly's Fresh Picks	\$250,000
Lettuce Entertain You	\$500,000
Locavore Foods	\$500,000
Sustainable Foods	\$4,000,000
SYSCO Chicago	\$8,000,000
SYSCO Central Illinois	\$2,000,000
Testa Produce	\$500,000
US Foods	\$2,500,000
Whole Foods Market	\$1,250,000
TOTAL	\$23,550,000

And this is just the beginning. With \$14.6 billion spent annually on fruits and vegetables in Illinois and less than 5% of that expenditure currently produced in Illinois, a large percentage of the remainder can be captured by a local food system in Illinois (see Figures 2 and 3 in Appendix).

POLITICAL CLIMATE

The political climate for development of a packing house is likewise favorable. According to the USDA Economic Research Service²¹, “Federal, State, and local government programs increasingly support local food systems. Many existing government programs and policies support local food initiatives, and the number of such programs is growing... State and local policies include those related to farm-to-institution procurement, promotion of local food markets, incentives for low-income consumers to shop at farmers' markets, and creation of State Food Policy Councils to discuss opportunities and potential impact of government intervention.” This is evidenced strongly in Illinois. For example, the Illinois Local Food, Farms, and Jobs Act of 2009 has established a goal for State institutions to procure 20% of all food and food products from local farms or manufacturers by 2020²².

Drivers for state and local policies are partly economic. Dollars spent on local food are recycled through the local economy at a rate of 1.4²³ to 2.6²⁴ times, which is an additional \$19 to \$36 billion generated in Illinois each year. Job creation can also be significant. A Leopold Center study projected that if 100% of Illinois consumption of just 28 types of fruits and vegetables were grown in Illinois, 2,600 jobs would be required²⁵. With less than 5% of Illinois fruit and vegetable sales currently produced in Illinois, the upside might be an increase of 2,400 jobs. Other drivers for state and local government support relate to food security, environmental and health objectives. It is widely accepted that an efficient and integrated local food system can strengthen homeland security, reduce greenhouse gas emissions, and give underserved communities improved access to healthy foods.

AVAILABILITY OF SUPPLY

Of equal or greater importance to customer demand and a favorable political climate is the willingness of Illinois growers with large acreage to commit production to the packing house. There must be buy-in from a strong base of growers who agree to the pricing arrangement and participate in pre-season crop planning. As the Ready to Grow Action Plan concludes, there are strong signals of grower interest in increasing participation in the wholesale market if a packing house were established.

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An informal assessment of the potential acreage that might participate indicates several thousand acres in the areas surrounding Kankakee and Peoria, and additional acreage throughout the state. (See Packing House Findings in Part One.)

2. THE BUSINESS CASE APPEARS FAVORABLE FOR THE DEVELOPMENT OF A PACKING HOUSE IN ILLINOIS

To determine if a packing house in Illinois can operate profitably, a financial model simulating a pro forma profit and loss statement was developed by the Project Team. The financial model was built according to the following business design and input assumptions. The business model is based on discussions with current operators and Project advisors, and inputs were obtained from numerous sources cited throughout the analysis. Where no source is cited, inputs were derived using operating data from analogous packing houses noted under Methodology. Inputs with the greatest bearing on the financial model's findings were verified with at least two experienced sources, and where there was disparity the more conservative view was incorporated.

BUSINESS MODEL

Operating Model

The packing house develops relationships with a core group of growers and buyers and conducts pre-season crop planning. The production plan indicates the approximate quantity and timing of varieties to be delivered to the facility. On-farm pick-up may be offered, and the cost for this service is negotiated with other terms. Agreements confirming price to the grower may be written if the packing house customer also commits to a wholesale price. At the facility, raw material is cooled, washed, graded, packed, labeled and shipped to customers according to their specifications. Retail grade product is packed in cases and seconds are bulk packed and shipped to processors.

Services

In addition to packing services, packing house staff oversees crop planning, buying, selling, food safety assurances and traceback, and the operation maintains a high level of liability insurance to satisfy wholesale buyers. This is beneficial to growers since it reduces the amount of coverage they are required to carry. The packing house may also coordinate GAP food safety audits and technical assistance programs as secondary services. To the extent possible, these are carried out during the off-season.

Revenue Model

The packing house earns a commission on sales negotiated with each grower and pays the grower the balance of proceeds after commission and packing fees. Packing fees are dependent on the type of service required and include a markup. This revenue model incents the packing house to maximize price and volume, and to boost profit margin by minimizing direct and indirect overhead costs. Growers are incited to improve quality to attract a higher price, and to achieve uniformity which increases percent pack out by reducing processing spoilage (for further explanation see Production).

Company Structure

The financial model emulates a for-profit business with taxable income and no operating subsidies, but assumes below-market-rate financing for property and equipment through USDA. The ownership structure is flexible within this framework, allowing for corporate owners or a cooperative to govern the company and determine how its proceeds will be distributed. A few growers expressed interest in a cooperative to the Project Team. The chief benefit of a cooperative is that all the factors of production are controlled by the business owners, increasing the reliability of supply because suppliers share in the profits. The chief risk is the ability of the cooperative to lead a challenging and complex marketing and logistics operation. For further discussion on the



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challenges of cooperative management of agricultural businesses, see *Romance vs. Reality: Hard Lessons Learned in a Grass-fed Beef Marketing Cooperative*²⁶.

FINANCIAL MODEL INPUTS

Production

Grower participation was the greatest uncertainty at the start of the study, so the financial model was built to test the impact acres of production would have on net income, also called sensitivity analysis. This required a conversion from acres to throughput (volume sold). The average yield/acre is 12,000 pounds for a wide assortment of specialty crops, two-thirds of which is retail grade and the remainder seconds²⁷. The average weight per retail case is 25 pounds²⁸. Seconds are modeled in bulk weight.

Throughput

A small processing spoilage rate is factored into the percent pack out (percentage of raw material converted to case pack or bulk weight). All output is assumed sold, but price will vary widely. On these assumptions, average maximum throughput is 5 cases per week per square foot of packing area. Without seasonal extension or importing, the facility will operate from April through October, with 75% of annual throughput between late June and late September. Plant capacity is determined by the utilization rate during this season, and the financial model limits throughput to a seasonal utilization rate of approximately 95%.

Pricing

To maximize volume and reduce complexity, the large majority of product is sold to distributors rather than directly to retailers. The average price per case is \$10.00 with modeled sensitivities from \$8.00-\$15.00 per case. Seconds sold in bulk to processors are priced at 30% of retail price on a per pound basis with sensitivities from 10-50% of retail price. Commission on sales is variable between 5-10% based on volume and complexity. The financial model assumes an all-inclusive packing fee of approximately \$6.00 per case for cooling, housing, packing, containers, labeling and freight. In practice this fee will vary based on the type of service required, but the effect of this variance is immaterial to net income estimated by the financial model.

COSTS

Variable costs for the packing and shipping operation (labor, materials, equipment and overhead expense) are covered by packing fees. Office staff and overhead expenses are based on four employees at startup (manager, bookkeeper, quality, sales) and the addition of two staff people for each additional \$5 million in

revenue. Salaries are based on averages for rural locales²⁹. Capital expenses for building and equipment are based on averages for rural areas and depreciated over 30 and 15 years, respectively. Financing is based on USDA Rural Development guaranteed loan programs which afford 0% financing and other favorable terms³⁰. Debt service expense is based on a below-market interest rate and principal payments deferred until the business stabilizes (outside of model projections). Such terms are negotiated with the lender and would require an eligible, highly creditworthy borrower.

ANALYSIS

The Project Team recommends a conservative development plan: start with a single small- to mid-sized facility to prove the concept, then build multiple facilities throughout the state and expand their capacity on pace with acreage commitments. While grower interest appears very strong, commitments will take a few years to develop. As one grower advised, "No prudent farmer would agree to expand his acreage by 50% for any customer in the first year of their relationship; this has to build over time³¹."

Location

To minimize transportation time, expense and emissions, the packing houses need to be close to growers, near major transportation routes, and as close to customer bases as possible. This suggests at least three facilities to serve Illinois, and possibly more. Illinois is 390 miles long and 210 miles wide, with farms widely scattered throughout the state (see Figure 1 in Appendix for a map showing the location of the growers who responded to the Illinois Ready to Grow survey). Chicago and St. Louis are 300 miles apart, so one facility will not optimally serve both metropolitan areas. A facility in the southern part of the state serving St. Louis, a facility in the north serving Chicago, and one in a central location serving the mid-sized cities of Springfield, Bloomington and Champaign could create an efficient local food system for the state.

Facility Size

The Illinois Ready to Grow survey suggests 550-700 acres committed state-wide by 2015 among survey respondents; however, input from stakeholders suggests the potential of several thousand acres in the regions identified above. The financial model was therefore designed to determine the size of facility that could profitably serve one to two thousand acres, with capacity for additional acreage. It suggests an 18,000 square foot facility which requires approximately 1,200 acres to break even, and can serve up to 3,500 acres at 95% of capacity during peak season (see Table 10). This facility has a total capacity of 68,000 cases per week and 3.5 million cases per year.

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Financials

The economics of a facility of this size are attractive (see Table 10 below). The base case for the financial model is 3,500 acres, \$10.00 average case price, seconds sold in bulk at 30% of retail price and 8.5% commission. This is an estimate of the business in steady state; the startup years may more closely resemble the lower acreage scenarios. In the base case, net revenue (gross revenue minus bad debt expense) is \$12.3 million. This is on par with established packing houses serving large metropolitan markets and in line with the procurement estimates from buyers interviewed for this study (see Market Size and Growth Potential). Gross margin is 12.1%, which is equivalent to public companies in the fresh produce industry (see Table 11). Overhead expenses (selling, general and administrative) stabilize at 5.3% of net revenue, which is lower than most public company comparables due to lower corporate overhead and advertising costs, and therefore the operating margin is higher than public company comparables at 6.8% vs. an average of 3.7%

Profit Maximizing Strategies

Net dollar income is modest at this scale (see Table 10), and can be increased either by expanding the facility to accommodate additional acreage in season, or by increasing asset utilization in non-seasonal periods. Utilization can be increased through seasonal extension technologies such as hoop houses, or through importing and value-added processing in the off-season. Under the same business model, expanding to the pound weight equivalent of 10,500 acres would maximize annual utilization of the facility and generate \$37 million in revenue. Note that importing in off-season will change the revenue mix into lower margin business, so the \$1.6 million net income is overstated.

Pricing Sensitivity

The financial model also analyzed sensitivities to price at \$8.00 for retail cases and 10% of retail price for bulk product. All other factors held equal, this produces a -\$3.5 million (-29%) net revenue variance and a -\$55,000 (-12%) net income variance from base case, so the business records \$374,000 net profit at this low end of the pricing scale. At \$8.00 per case grower proceeds decrease 56%, bringing into high relief the reality that growers carry the majority of pricing risk. Every player in the supply chain prices on a cost-plus basis except the grower, who gets what remains irrespective of the farm cost of production. A grower cooperative ownership structure reduces the financial risk for growers because they share in the downstream profits.

3. THE BUSINESS CASE IS NOT WITHOUT RISKS, BUT THERE ARE WAYS TO MITIGATE.

There are large risks in the produce wholesaling industry. Perishables is a challenging and demanding business requiring skillful planning and negotiation, sophisticated logistics, strong relationships, excellent sales skills, hard work and a lean and flexible operating model to survive wide variances in pricing and production. The challenges are evidenced by the number of startups operating under subsidies as nonprofits, and failed attempts by commercial interests to enter the wholesaling business. As one extension agent who works closely with packing houses observed, "Produce is a tough business. Lots of commodity growers think they can transition into this. I've been at this for 23 years and can count on one hand how many have done it successfully and hung in for more than five years. And I still have fingers to use!" ³²

From interviews with operators and other stakeholders, four themes emerged as important factors for success:

TABLE 10: ILLINOIS PACKING HOUSE FINANCIAL DATA AND ACREAGE SENSITIVITY ANALYSIS

Acres	Net Revenue	Gross Margin	SG&A	Operating Income	Operating Margin	Net Income	Seasonal Utilization	Annual Utilization
500	\$1,767,136	12.1%	20.2%	(\$143,350)	-8.1%	(\$320,527)	13.4%	4.4%
1000	\$3,534,272	12.1%	10.1%	\$69,760	2.0%	(\$107,417)	26.8%	8.8%
1260	\$4,453,183	12.1%	8.0%	\$180,577	4.1%	\$2,210	33.7%	11.1%
2500	\$8,835,680	12.1%	5.5%	\$583,668	6.6%	\$263,889	66.9%	22.1%
3500	\$12,369,952	12.1%	5.3%	\$839,135	6.8%	\$429,612	93.7%	30.9%
10500	\$37,109,856	12.1%	5.0%	\$2,619,505	7.1%	\$1,584,375	281.0%	92.6%

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TABLE 11: COMPARABLE PUBLIC COMPANY MARGIN ANALYSIS

Company	Ticker	Data Range	Gross Margin	SG&A	Operating Margin
Chiquita	CQB	2007-2009	14.5%	10.2%	4.3%
Dole	DOLE	2007-2009	10.1%	6.9%	3.1%
Del Monte	FDP	2007-2009	9.8%	4.9%	5.0%
Fresh America	FRES.PK	1999-2001	11.1%	10.7%	0.4%
Total Produce	TOT.L (€)	2008-2009	13.4%	11.8%	1.6%
Birds Eye	n/a	2004-2006	21.0%	13.4%	7.6%
Avg. Produce			13.3%	9.6%	3.7%
Pilgrim's Pride	PPC	2007-2009	3.6%	4.5%	-0.9%
Tyson	TSN	2007-2009	4.8%	3.2%	1.6%
Tasty Baking	TSTY	2007-2009	34.4%	28.4%	6.0%

Management team skill is critically important, particularly in marketing and sales

Growers need assurance that they will be rewarded with a better price if they deliver a better quality product, so the sales staff must be able to effectively gauge and market quality to buyers to ensure an equitable correlation between quality and price. This is a skill that is gained with experience, so if the sales staff is relatively inexperienced, functions such as transportation and logistics could be outsourced until the team has perfected marketing and sales.

Establish a wide and cooperative network of growers

There should be a core group of growers that participate in pre-season crop planning, but cultivating relationships with a broader range of growers will increase the likelihood of filling gaps if weather or other unplanned events disrupt supply. These transactional relationships can be the foundation for future partnerships as the business expands.

Collaborate with other intermediaries to strengthen the market

This is a highly interdependent industry, one in which "coopetition" – cooperation with competitors – can expand markets and support prices. During pre-season crop planning, other intermediaries serving the same market should be consulted to avoid gluts which reduce the price for all players. During harvest, these intermediaries will become customers, and vice versa, as a means for finding markets and filling orders.

Engage all stakeholders to maintain a supportive climate

The Project Team witnessed the beneficial effect of establishing informal networks throughout the study. Representatives from the Illinois Department of Agriculture were contacted at the outset to secure

financial support and establish goodwill for the project. Representatives from agricultural nonprofits, the Illinois Farm Bureau, the Illinois Local Food Farms and Jobs Council and Extension services were engaged as project advisors, which afforded invaluable insight and provided access to multiple networks of growers. Buyers and growers were brought together to better understand the issues, needs and requirements on both sides of the wholesale transaction to set expectations. This inclusive approach can similarly benefit the business development process for a private interest. These stakeholders will become important business partners and enablers to a commercial enterprise, so building trust through appropriate engagement and transparency can pay dividends once the business is established.

CONCLUSION

This study demonstrates that it is feasible for a packing house to operate profitably. The Project Team emphasizes that a financial model built for a feasibility assessment using operating data from analogous companies is not a guarantee of actual results once the business is a going concern, nor is it a substitute for a financial model developed for a business plan. It is designed as a test of reasonableness for the economic viability of a business model, and on that basis this feasibility assessment for an Illinois packing house has a positive result: a facility scaled to process the yield of acreage likely to participate within 2-5 years of startup can operate profitably. It is vital that any party seeking to own and operate a packing house conduct due diligence on every aspect of the business, write a robust business plan and create financial forecasts that reflect that plan.

This study demonstrates that it is feasible for a packing house to operate profitably.

APPENDIX



FIGURE 1: MAP OF GROWERS WHO RESPONDED TO THE ILLINOIS READY TO GROW SURVEY

63 survey respondents provided zip code information

Blue pins represent farms under 10 acres

Green pins represent farms of 11-50 acres

Yellow pins represent farms over 50 acres

FIGURE 2: CALCULATION FOR EXPENDITURES ON FRUITS AND VEGETABLES IN ILLINOIS, 2008

Figure	Description	Source
\$657	2008 Average annual expenditures of all consumer units: • Fruits and vegetables at home	(U.S. Bureau of Labor Statistics 2009)
\$3,744	• Food at home (total)	(Ibid)
17.5%	• Percent fruits & vegetables of all food at home	$\$657 / \$3,744 * 100$
\$2,698	• Food away from home (total)	(Ibid)
\$473	• Fruits & vegetables away from home	$\$2,698 * 17.5\%$
\$1,130	• Total fruits & vegetables home & away	$\$657 + \473
12,901,563	2008 IL population	(U.S. Census Bureau 2008)
\$14,584,534,677	2008 Retail expenditures on fruits & vegetables in IL	$\$1,130 * 12.9 \text{ million}$

FIGURE 3: CALCULATION FOR THE PERCENT OF ILLINOIS FRUIT AND VEGETABLE SALES PRODUCED IN ILLINOIS

Figure	Description	Source
\$14,584,534,677	2008 Retail expenditures on fruits & vegetables in IL	Figure 2 above
27%	Farm value compared to retail value (%)	Derived from (Swenson, Selected Measures March 2010, 35)
\$3,937,824,363	2008 Farm share of retail sales (\$)	$\$14.5 \text{ billion} * 27\%$
\$221,281,000	2008 Cash receipts to IL farmers for vegetables, fruit, nuts	(USDA NASS 2009)
5.6%	Percent of IL fruit and vegetable sales produced in IL (Note: overstated by the unknown portion of cash receipts from processors and out-of-state customers)	$\$221 \text{ million} / \$3.9 \text{ billion} * 100$

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FIGURE 4: SAMPLE ILLINOIS GROWER SURVEY

Grower Survey for Illinois Department of Agriculture 2010 Specialty Crop Block Grant Study *Ready to Grow: A Plan for Increasing Illinois Specialty Crop Production*

The purpose of the study is to better understand the barriers that prevent fruit and vegetable growers from participating in wholesale markets and estimate the potential increase in production and sales if certain barriers are reduced or removed. This Grower Survey will collect important data and perspectives for the study. It will take about 10 minutes to complete using this form or online at www.familyfarmed.org/RTGSurvey. Please encourage other growers to participate in the survey. Thank you for your help!

1) Is your farmland located in Illinois? ☐ Yes (please continue) ☐ No (the study is limited to Illinois growers)

2) How many years have you been farming fruits and vegetables?
☐ <1 ☐ 1-5 ☐ 6-10 ☐ 10+ ☐ n/a (the study is limited to fruit and vegetable growers)

3) List the top fruit and vegetable crops grown on your farm

Fruit	Vegetables

4) Describe your farm, production and sales channels for 2009 and 2010

	Total Acres 2009	Units Produced 2009	Unit (bushel, lbs...)	% Sold Direct 2009	% Sold Wholesale 2009	Total Acres 2010	Units Planned 2010	% for Direct Sales 2010	% for Wholesale 2010	% Of acreage Certified Organic	% In Transition to Certified Organic
Fruits											
Vegetables											

5) Would it be possible for you to increase your supply to wholesale markets if certain barriers were removed or conditions were met?

☐ Yes Comment _____
☐ No _____

6) What are the most significant barriers that prevent you from entering into or increasing your participation in the wholesale market? _____

7) Please indicate the significance of the following barriers in preventing you from increasing participation in the wholesale market:

1 Not at all significant – 5 Very significant

Comment:

- 1 2 3 4 5 Knowledge about what to grow or how to grow certain specialty crops _____
- 1 2 3 4 5 Risk of not selling what I grow _____
- 1 2 3 4 5 Marketing—finding, negotiating, and securing commitments from buyers _____
- 1 2 3 4 5 Knowledge about proper post harvest handling and packaging _____
- 1 2 3 4 5 Knowledge about food safety best practices and requirements _____
- 1 2 3 4 5 Meeting food safety requirements _____
- 1 2 3 4 5 GAP certification cost _____
- 1 2 3 4 5 Liability insurance cost _____
- 1 2 3 4 5 Availability of suitable land _____
- 1 2 3 4 5 Affordability of land _____

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- 1 2 3 4 5 Availability of labor _____
- 1 2 3 4 5 Cost of labor or other labor issues, explain: _____
- 1 2 3 4 5 Access to funding for capital improvements, equipment _____
- 1 2 3 4 5 Management skill for running a larger operation _____
- 1 2 3 4 5 Pricing, explain: _____
- 1 2 3 4 5 Delivery cost _____
- 1 2 3 4 5 Delivery challenges, describe: _____
- 1 2 3 4 5 Lack of processing capacity _____
- 1 2 3 4 5 My satisfaction level with the way things are _____
- 1 2 3 4 5 Other _____

8) What ideas do you have for addressing some of these barriers? _____

9) Would you increase your participation in the wholesale market if certain barriers were removed or certain conditions were met?

☐ No Why? _____

☐ Yes Which barriers/conditions? _____

10) If yes, by what percentage would you increase your production/sales of fruits and vegetables for wholesale markets...

... by 2012? _____% e.g. <10% of current production/sales, 10-25%, 25-50%, 50-75%, 75-100%, 100%+

... by 2015? _____%

Comment _____

11) As one possible way to increase your participation in wholesale markets, how valuable would it be if you had easy access to a pack house (that aggregates, packs, markets and distributes fruits and vegetables)?

☐ Very valuable Why? _____

☐ Somewhat valuable Why? _____

☐ Not valuable Why? _____

12) What does 'easy access' mean to you? Please check all that apply.

- ☐ I would drive <30 miles
- ☐ I would drive <100 miles
- ☐ I would drive <200 miles
- ☐ If they offered on-farm pick up
- My ZIP code is _____

13) If a pack house is valuable to you, what features and services would you like it to have? _____

The following information will be used only to inform the project and will kept strictly confidential within the independent project team.

Your Name _____ Name of Farm _____

Address _____

Phone Number (_____) _____ Email _____

Are you willing to have someone contact you for a brief follow-up phone interview? ☐ Yes _____ Best time to call _____

Thank you for participating in the survey!
Please tell other growers about it!

Please return by mail, fax or email by March 19, 2010

Questions? Contact FamilyFarmed.org at (708) 763-9920
7115 W. North Ave. #504, Oak Park IL 60302
Fax (708) 763-9925 info@familyfarmed.org

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