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Direct Farm-to-Institution Marketing: The Common Challenges and Keys to Success of Northeast Producers

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DIRECT FARM-TO-INSTITUTION MARKETING: THE COMMON CHALLENGES AND KEYS TO SUCCESS OF NORTHEAST PRODUCERS

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Abstract

Farm-to-institution organizing or local purchases by institutions such as schools, colleges and universities, hospitals, and prisons are on the rise. Up to 42% of K-12 schools now have a local buying program. Institutions aim to purchase locally to support local farms and economies, and for higher quality products. Similarly, producers sell directly to local institutions to diversify and grow their markets and to support their communities. Despite the institutional market growth, many producers who try to access the market are small producers that face numerous entry barriers. They face many obstacles switching from direct-to-consumer markets that operate at low volume with high price premiums to wholesale markets which require efficiencies of scale to produce higher volumes and profits. Despite the obstacles faced by direct-to-consumer market producers, there is little understanding of the barriers producers who have successfully sold directly to institutions consistently face, or how they have overcome them with some institutions.

We conducted 11 interviews with producers throughout the Northeast about their farm structure, markets and unique experiences marketing directly to institutions. A qualitative analysis was conducted to discover what shared barriers producers engaged in the institutional market consistently face and what enables them to establish, maintain and strengthen a sales relationship with institutions. The findings can help producers understand the challenges and opportunities, how and when to approach, and provide strategies to enhance their success with the institutional market. The research concludes with implications for non-grower farm-to-institution stakeholders.

The common challenges producers faced in establishing, maintaining and strengthening institutional sales relationships included buyers who focus on low price points, uncommitted buyers, food service management companies, demand for processed products and laws and regulations. Producers have been able to overcome some or all of these barriers with institutions through having wholesale experience and systems that allow producers to better access and serve institutional markets because of the product consistency, and lower price points they can provide. Producers have successfully established, maintained and strengthened relationships with champion buyers through effective initial and on-going communication that result in product satisfaction.

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Introduction

Local and regional food systems bring a variety of potential benefits to people and communities. Local food purchases can have an overall positive impact on local economies because they often support small and mid-scale producers (Low et al., 2015). According to the Goldschmidt hypothesis, small and mid-scale producers may have a greater impact on both the social and economic development of their communities because they purchase more inputs locally and communicate directly with their customers and community (Goldschmidt, 1947). Although there are few data on the sales of local food to wholesale markets, the local food market has grown in the form of direct-to-consumer sales. Direct-to-consumer markets include farmers markets, Community Shared Agriculture (CSAs) and farm stands. The number of farmers markets nationwide is now over 8,500, a 98% increase since 2006 (U.S. Department of Agriculture, 2016). There are now at least 5,000 CSAs, up from 1,144 in 2005 (Martinez et al., 2010). The sharp rise in these markets has led to market saturation in some areas of the United States, and farm viability continues to be a challenge (Petrovich, 2015; Runyon, 2015).

Some producers have turned to a variety of wholesale markets as a diversification strategy (D. Conner & Porter, 2017). One wholesale market cited for its diversification potential is the institutional market (Conner et al., 2011; Izumi, Wright, & Hamm, 2010; Thompson et al., 2014). Referred to as farm-to-institution (FTI), institutional markets include schools, colleges/universities, hospitals, prisons, senior meal sites, summer camps, and corporate workplaces. FTI is growing, up to 42% of K-12 schools now have a local buying program (U.S. Department of Agriculture, 2016). Many institutions buy local products to support local farmers and economies, and measure their success by their percent of local purchases (D. Conner, 2017; Feenstra, Allen, Hardesty, Ohmart, & Perez, 2011; Klein & Michas, 2014). In Vermont, schools spent 5.6% of food purchases on local food in the 2014-2015 school year, resulting in an estimated economic impact of $1.4 million on the Vermont economy (Roche, Becot, Kolodinsky, & Conner, 2016). For New England producers selling to institutions, the market on average represented 13.4% of a producer's market share (FINE, 2017).

Despite the institutional market growth, many trying to access the market are small producers that face many barriers entering it. They face many obstacles because they are switching from direct-to-consumer markets that operate at low volume with high price premiums to wholesale markets which require efficiencies of scale to produce higher volumes and profits (Hardesty & Leff, 2009). The variety of new issues they face include: telling their farm's story, identifying products to supply, learning and adapting to the policies and procedures of buyers, price negotiation, product promotion, communicating food safety, and managing frequent communication with buyers (Grubinger, 2015). Research has shown that positive relationships between institutional buyers and producers have helped overcome barriers (Buckley, Conner, Matts, & Hamm, 2013; Heiss, Sevoian, Conner, & Berlin, 2015; Thornburg, 2013). There is a call for a better understanding of how FTI relationships are developed, maintained and terminated (Heiss et al., 2015).

Research also shows there are differences in perceived challenges with sales to the institutional market between those who are currently selling to the institutional market and those who are not (FINE, 2017). There is little understanding of the barriers producers who do sell directly to institutions consistently face or overcome with certain institutions but still have with

other institutions. This research aims to understand what barriers producers engaged in the institutional market face and what enables them to establish, maintain, and strengthen sales relationships with institutions. Our findings can help producers understand the challenges and opportunities, how and when to approach, and provide strategies to enhance their success with the institutional market. It can also help inform interested farm-to-institution stakeholders on the grower's perceptions of the direct-to-institution market.

Methods

We conducted qualitative research with 11 experienced vegetable farmers each with multi-year experience selling to institutional markets. In late 2016 we developed a semi-structured interview protocol that was approved by the University of Vermont's Research Protections Office. In January and February 2017, using contacts of one of our research team members, a vegetable extension specialist, participants were recruited using purposeful snowball-sampling. Producers were asked to take part in a one-hour interview aimed at capturing their experiences and perceptions of farm-to-institution marketing. They were offered a $100 stipend for sharing their time and knowledge.

The semi-structured phone interviews with participants took place in February and March 2017. Interviews ranged from 45 to 90 minutes in length and were recorded with participant's permission to preserve the accuracy of information. Recordings were transcribed verbatim and read over multiple times to develop a holistic understanding of the data, which were open coded by keywords, patterns, themes, and phrases. Data were then analyzed using emergent thematic analysis. Final themes were based on the shared categories and common codes across the data set. Quotes have been edited for clarity. Pseudonyms are used throughout to maintain the confidentiality of interviewees.

Sample

Participating Farms. The 11 farmers interviewed were located in Vermont (n=3), New Hampshire (n=3), Massachusetts (n=2), northern New York (n=2) and Connecticut (n=1). Farm size ranged from 1/8th - 400 acres, but both the low and high acreage are outliers. Four farms had between 10 and 20 acres, two farms had between 30 and 35 acres, and three farms had between 40 and 60 acres. All but two producers had tunnel vegetables or greenhouses; their size ranged from 5,500 square feet to 2.5 acres. Six producers were certified organic, two used organic practices but were not certified, two said products were "ecologically grown," and one had both conventional and certified organic products. The producers number of years farming ranged from six to 36 years and their number of years selling to institutions ranged from two to 36 years (Table 1).

Table 1

Producer's farm characteristics and markets.

Farmer	State	Acreage	Production Type	% Wholesale sales of total sales	% Institutional sales of total sales	# of institutions marketing to	Years Farming	Years doing FTI
Henry	VT	45	Ecologically grown	75%	7%	>5*	36	36
Dylan	VT	10	Cert. Organic	70%	3.5-10.5%	1	12	5
Kaitlyn	CT	16	Organic Practices	20%	1-2%	4	6	2
Alan	NH	60	Ecologically grown	90-95%	7%	>6*	20	20
John	MA	400	Both Conv. & Cert. Organic	99%	11%	3***	35	15
Seth	NH	14-18	Cert. Organic	100%	5%	1	15	5
Matt	MA	12	Cert. Organic	80-85%	4%	3	20	8
Arnold	NY	40	Cert. Organic	50-60%	3.2-6%	10**	8	8
Isaac	NY	35	Cert. Organic	35%	5%	>4*	9	4
Bill	NH	30	Cert. Organic	20%	0.5-1%	1	11	4
Susan	VT	1/8th	Organic Practices	100%	100%	3	12	12

Note. Acreage does not include seasonal extension area. * unspecified # of schools, ** one person buys for four out of six schools, *** two are large school districts. Cert.= certified. Conv.= conventional.

Participant Markets. Participating farmers sold to a variety of retail and wholesale markets. We define retail markets as direct-to-consumer markets (CSA, farm stands, farmers' markets,) and wholesale markets as direct-to-retail markets (restaurants, grocery stores, food co-ops), direct-to-institution markets, as well as sales to distributors and food hubs/aggregators. All but two participants were marketing to direct-to-consumer markets. All participants but one engaged in the direct-to-retail wholesale market.

Institutional Markets. All producers had sold direct-to-institutions within the last two years. One producers' percent of gross sales to institutions was 100%, all other producers percent of gross sales to institutions was ≤11%, the range was 0.5% -100%. In regards to future institutional sales, five producers thought they would increase, four thought they would stay the same, one thought they would stay the same or decrease, and one producer, Kaitlyn, decided to stop selling to institutions. The institutional markets producers sold to included: colleges and universities (four producers), assisted living centers (two producers), schools (six producers and two formerly sold), hospitals (six producers), and summer camps (one producer). Although we included schools as institutions in our analysis, the producers did not want to categorize small schools as institutional markets because they only buy small volumes. They only considered purchases by one buyer for multiple schools or at the district level to be considered an institutional market.

Results

This research aimed to discover the barriers producers engaged in the institutional market face for expanding their sales to their current and new institutions, and how they have been able to establish, maintain, and strengthen their sales relationships with institutions. The coding process produced five main barriers to the institutional market and one essential element to the institutional market: the presence of an enthusiastic institutional buyer or what literature has referred to as a "champion." Two themes emerged in how producers have established and strengthened relationships with enthusiastic buyers; a wholesale farm culture and effective communication with buyers. Case study appendices are included and referenced for a closer look at nuances. Before sharing results regardings barriers, this report will put forth what benefits producers realize in the direct-to-institution market.

Why producers sell to the direct-to-institutional market

Producers choose to sell to the institutional market to diversify their markets and have predictable volumes. Susan says, "It's a good market because they know what they want each week so I can plan." Additionally, producers enjoy the traditional benefits of wholesale markets; high volume sales that can reduce marketing costs. Dylan says, "The desire was to find a bigger buyer, scale up, single stop and higher volumes." Alan explains that institutional sales reduce his delivery cost:

> We want to sell to an institution because if I can have an institution on my stop and it's going to be a $1,000 stop, then I can afford to stop at five restaurants that are $300 stops on the way to that institution. Now I've brought my cost of distribution down on that leg of the route, because it's all how many dollars are sitting on the truck per mile, and so, now when we start doing that math, institutional sales start to lower your cost of distribution for the rest of your sales. And that becomes a factor in the overall wholesale picture.

Alan's comment reveals that high volume sales to institutions justify his delivery to low volume vendors.

Some producers prefer to sell directly to institutions over distributors because they often receive higher prices from the former than the latter. Henry says, "I can move the product at what is still a better price than what I would have to take from Fresh Conveyance [regional distributor, all have pseudonyms]." Similarly, Alan says,

> The cheapest way to get into the market is to sell to a distributor, but the problem is, that they beat you so far down on the price that it's usually not worth selling to them, and that's why we gave up selling to distributors. We can't afford to do it.

Despite the lower prices offered by distributors, producers did not mention other "middlemen" as offering low prices. Moreover, they recognize that aggregators reduce transaction costs through delivery and marketing, yet provide insurance and food safety coverage. They also help producers access the broader, urban, institutional market. Henry can sell to an institution because it is already in his delivery route, and Alan, in turn, has created an aggregation co-op to spread out the transaction costs among members. Producers sell to distributors and food hubs/

aggregators that in turn sell to institutions, but they do not include them in their institutional sales because they do not necessarily know what products ended up in an institution.

Market Barriers

Despite the benefits of direct sales to institutions, there are continued barriers that producers face with the institutional market. The major constraints producers found in establishing, maintaining and strengthening institutional sales relationships are low price points, uncommitted buyers, demand for processed products, regulations and laws that hinder farm changes to meet institutional demand, and the presence of a Food Service Management Company (FSMC).

Buyers who focus on low price points.

Institutional buyers frequently demand lower price points than producers care to meet. Producers in this report have found institutions willing to pay fair price points, but they have also faced more institutions that focus solely on purchasing at low price points. Alan, a conventional producer, has tried to sell to many institutions, and find most buyers think his prices are too high:

> Well if you get a good buyer, a good buyer will actually talk to you, most, a lot of buyers won't even talk to you. You give them the prices, and they'll just be like 'radio silence,' like, 'those prices were too high and I'm not going to call that person back ever.' And then you end up having to send out a salesperson and trying to figure out well 'what was the price point you were looking at?'

Alan's comments reveal that a "good" buyer is not common in the institutional market. Alan reflects his price point frustration in his recommendation to other producers interested in the institutional market; "Honestly I would say, make sure you have every little bit of other low-lying fruit before you go to the institutions, they are the hardest nut to crack and the least profitable thing to get into." Another conventional farmer, Henry echoes buyers desire for low price points:

> The colleges have always been very price sensitive; they have a buyer whose job it is to get ten quotes on every box of lettuce they need, and buy it at the cheapest price. So there have been times when . . . in order to get that market, I've had to take a lower price, something little above what I get from Fresh Conveyance. And other times he's perfectly happy with my regular pricing, and it depends on how much he's being pressured to on his food budget, whether he's made a case.

Henry's comments reveal that some buyers are heavily price-focused because of their food budgets, and that they tend to push back on price points. It also reveals that the price points that producers hope for might be higher than what the buyers can get from their traditional distributor.

The institutional demand for low price points can be an even higher hurdle for organic farmers because they tend to have higher costs of production than conventional farmers. Arnold, an organic farmer, says,

> If an institutional conversation could be had, the problem is that the conversations never had, 'well what's the price point that can work?' That's never the conversation. The conversation it always starts out, 'well how cheap can you sell it to me?' Or, the conversation starts out as, 'well, PYSCA [broadline distributor] has given me this price'. . . the minute the conversation starts out like this, it's a dead fish, if that's their valuation, we stand no chance.

For Arnold, he has trouble finding buyers that value organic products and want to find prices that will work for both the institution and producer. Matt, an organic farmer, similarly comments,

> I think what is critically unique to my operation is that I am an organic farmer . . . but none of these institutions genuinely want to pay for organic products and so its a huge uphill battle for me.

For Matt, his organic prices are a barrier to finding new institutional markets. He currently only sells to two colleges.

Low price points are the most common with schools because they tend to have the tightest budgets. Isaac, an organic farmer, explains his experience of trying to enter school markets,

> The conversations are kind of slow going related to . . . providing the elementary, K-6, with 52 weeks of carrots. Right now their price point is around $0.30 per pound, obviously conventional, but right now even in marginal wholesale, I don't like to get below $0.75 per pound. Otherwise, I'm kinda losing my shirt."

Isaac's comment demonstrates that he tries to work with school markets, but price point hinders a long-term relationship. Despite low price points for most schools, a few producers successfully work with schools for a diversity of reasons. See the case studies of John, Susan, and Kaitlyn below.

This research found that there is a hierarchy within the institutions in regards to price flexibility. From the least price flexible to most price flexible: correction facilities, K-12 schools, universities and colleges, hospitals, assisted living centers. One producer sold to a well-endowed summer camp. Summer camps match up well with the growing season, but price flexibility will vary depending on the summer camp demographic.

Uncommitted Buyers

A lack of buyer commitment to both their institution and the producer is a barrier for producers in maintaining a sales relationship with institutions. Buyer turnover at an institution is an issue some producers faced but was not frequent among the institution's producers consistently sold to. Buyer loss is an issue because producers have to start over on building a relationship with a new buyer. That said, new buyers could be more committed than the previous buyer. Matt was in the midst of trying to maintain a relationship with a new buyer: "It's all about relationships, if I maintain a relationship with this guy, then I will still be able to move my carrots there." Matt's comment reflect how he will have to invest time into getting a commitment from the new buyer.

A buyers lack of commitment to the producer inhibits a long-term relationship between the producer and institution. John, who has the most substantial volume of institutional sales

says, “too many of them [institutions] just want to have a pet farmer to point to now and then and that just never works.” John’s comment reveals that many institutional buyers only want to use farmers as a marketing tactic when convenient for them. Matt has a similar sentiment,

> I’ll visit them, and they will be all gung-ho all excited ‘yeah yeah yeah ra ra ra!’ and then they make one order and they have sorta satisfied their local whatever, whatever they had to satisfy, and they are done. And there are more than a few customers like that on the institutional end; it doesn’t take much for some of them to check a box.

Matt and John’s comments reveal that one-off purchases are frequent and rooted in “buy local” marketing by institutions. A buyers’ lack of commitment is also often tied to price constraints. Isaac remarks,

> In communication, there is always the discussion of pricing of x-y-z but it's difficult to get a literal commitment. I think verbal commitment is one thing, but then there's so much time in between when you talk to someone in June and then September. There are too many changes, decisions are made on a daily basis, and a lot of the time you will hear, ‘Oh hey we had every intention to buy, but the funds fell through,’ or, ‘We just couldn't afford it.’

Isaac finds that commitment from buyers is challenging to get when they have tight budgets. The lack of commitment from buyers is why some producers recommended other producers be cautious in altering their markets to serve institutions.

Demand for processed products

Institutions often demand processed products that most producers do not have because it requires investment in equipment and labor. Seth states that the labor time to prepare whole foods limits institutions local purchases:

> Labor is a huge issue and prep time, they [the institution] were telling me, they would love to get my beets, but it is really hard. Actually, it looks like they did not buy any beets in 2016 because they just don't have the people to do [process] it.

Seth’s comments reveal that institutions need for a processed product can limit the product variety and volume an institution can purchase. Although the demand for processed products is a barrier for most producers, it also presents an opportunity to establish an institutional sales relationship later discussed.

Laws and Regulations

The Food Safety Modernization Act (FSMA) and the Fair Labor Standards Act (FLSA) are structural barriers for producers to meet the product demands of institutions. Aggregation and on-premise processing can help producers meet the product variety and consistency demands of institutions. Unfortunately, these actions can alter a producer’s compliance with FSMA and FLSA.

Food Safety Modernization Act (FSMA). The regulatory intricacies of engaging with on-farm processing constrain producers in meeting demands for processed products. Under FSMA’s Preventative Controls Rule on-farm processing requires a farm to register as a “facility” or a “qualified facility” if they process food on site. Although a qualified facility has less

stringent requirements, both may require farm changes and farmer actions that can be time-consuming and costly for producers. Processing includes, "cutting, coring, chopping or slicing." (National Sustainable Agriculture Coalition, 2014). Henry expresses the tension between FSMA's laws and the institutional demand for processed products,"My personal awareness of institutional desire for the processed product was almost simultaneous with my awareness of food safety, so they were mutually negating." Despite the regulatory barrier, specific exemptions include; field coring, like removing the core of lettuce in the field, trimming the outer leaves of produce, and removing stems or husks (National Sustainable Agriculture Coalition, 2014).

Fair Labor Standards Act (FLSA). Processing and aggregation of products can also alter a producer's compliance with FLSA. Agricultural workers are currently exempt from receiving overtime pay. Product processing and aggregation are not under the definition of agriculture. Consequently, The U.S. Department of Labor cites, "Failing to pay overtime to employees whose jobs are related to agriculture but which do not meet the definition of agriculture contained in the Act" as a frequent issue for farmers (U.S. Department of Labor Wage and Hour Division, 2008). If a worker handles products from another farm or engages in on-farm processing, they lose their status as an agricultural worker, and they are no longer overtime exempt. Loss of agricultural worker status is a concern for producers, Arnold says:

> The one thing that I'm very scared about is the fact that there's a lot of things as growers we get away with right now. Like not having warehousing permits, or like the fact that technically when I buy in somebody else's sweet potatoes, my H2A are no longer agricultural workers, there processing workers. And I think there's a little bit of a booby trap laced in there and I don't like it and those technicalities, unfortunately, bankrupt people.

Arnold's comment exposes that he has employees that hold H2A work visas and that they technically "illegally" work if they handle aggregated produce. Arnold's concern about his workers' status is echoed by another producer who *did* almost become bankrupt from his agricultural workers working with aggregated produce:

> I do want to talk about the big *big* problem with the farm-to-school program that a lot of people will be surprised or will be surprised when it hits them and this problem is CFR 780.11 [FSLA regulation], it's from the Federal Register of laws. CFR 780.11, and it's if in any pay period any of your employees touch anything from another farm it's a punishable act. And as somebody who has been punished for this act, for this law, regulation, let me tell you, it's a terrible event . . . And let's face it if you are going to be doing schools the schools are not going to just buy one item. They are going to want to have apples, potatoes, and other things show up also, and if 27 different trucks arrive or 27 different items, they want it put together.

This producer's comment reveals that the established labor laws are structural barrier for producers when they want to provide aggregated produce for institutions. This producer feels so strongly about this issue that when he was asked what advice he would offer to other producers interested in the institutional market, he said,

> My advice is to maybe set up like two or three people who are part-time who only work thirty hours a week so they can dodge the bullet. Otherwise, they are going to find themselves losing a year of their lives work.

Hiring part-time people to manage aggregated produce for institutional sales would limit the payroll, and possibly legal complexities, that come with non-agricultural workers going into overtime

Food Service Management Companies (FSMC)

Producers find it difficult to have a direct sales relationship with institutions that contract out their dining operations to a Food Service Management Company (FSMC). Most producers felt FSMCs were not worth dealing with due to their required food safety certifications, high levels of liability insurance, and their strict product uniformity requirements. Alan described working with an FSMC versus a self-operated institution as "night and day" and that 50% of the institutions he sells to have an FSMC but they represent only 20% of his institutional sales. Arnold had a negative experience with an FSMC that previously ran the summer camp he worked with, "Aliment Co. [FSMC, all have pseudonyms] was really trying to push their agenda on me, and I was going to lose money on the deal because I'm not a registered purveyor, or I forget the term for it, a 'vendor' or something." Arnold comments that the FSMC he worked with prefers to work with "approved vendors." Approved vendors have gone through the approval process set by the FSMC. To become an approved vendor requires a high level of liability insurance and specific food safety certifications:

> You have to have I think its five million dollars worth of insurance coverage of basic umbrella, five million of liability coverage . . . maybe be inspected by primus labs and have your HACCP and GAP in place, and a lot of farmers don't have that.

John's comments point out the requirements to become an approved vendor required fixed costs smaller producers struggle to afford. If an FSMC wants to work with a particular producer who is not an approved vendor, the producer can transport their products through an aggregator or distributor that can cover the producer's liability insurance. Henry explained why he used a distributor with an FSMC,

> Aliment Co. are the only ones who make any fuss about it [libility insurance], and theirs' has to do with delivery. It's not about product liability; it's about your people and equipment on their premises. Therefore, I did some business with a small college, and we made a private deal about price and everything, but I sent it through Fresh Conveyance [regional distributor]. So it was Fresh Conveyance's insurance covering people and equipment on their premises.

Henry's comment shows that Aliment Co. concern about liability goes beyond product liability insurance. Arnold supports Henry's claim:

> The food service coordinator and Aliment Co. would not allow us to sell direct to the camp, they wanted us to go through one of their purveyors, so they were actually trying to talk me into trucking my product two hours away from here to get it trucked back here by their trucks.

Both Arnold and Henry find that the particular FSMC, Aliment Co., requires delivery through their specific vendors. Unlike Henry, Arnold found moving his produce through the FSMC vendor's trucks required prohibitive transaction costs.

FSMCs are also uninterested in working with small producers because they make profits by working with vendors they have contract deals with. John who has all the requirements to sell to an FSMC explains:

> The ones that are independent, like the university and two school districts are much easier to work with than the ones run by Aliment Co., or Watchers [FSMC]. I am not exactly [sure] how the system works but there's . . . kind of a 'pay-to-play method' on some of these other purveyors. Where they get a return on how much they buy from you . . . I am not certain exactly how that system works, nobody has ever shared that information with me, and I don't play that game anyway, but I think its slightly unfair because I think its exclusionary to the smaller guys like me.

John refers to the rebate scheme that FSMCs have with their preferred vendors; the FSMC make purchasing contracts with large vendors, wholesalers, and manufacturers which give the FSMC a substantial volume discount. Rebates are what make up the majority of FSMC profits. Although John is the largest producer in our study, on 400 acres, John is inherently at a disadvantage for taking part of this system because it is embedded in the broader conventional supply chain. Rebate schemes, product liability insurance, delivery requirements, food safety requirements, and strict product uniformity requirements all combine to make "direct" sales to FSMCs rare.

Food and Liability

Although high levels of liability insurance and specific food safety certifications are barriers for producers hoping to work with an FSMC, producers did not mention them as a general barrier. For liability insurance, producers all had at least one million dollars in liability which allowed them to work with their buyers. It is unclear what the self-ops food safety requirements are. Eight out of the 11 producers said the buyers they worked with did not mention food safety requirements to them. One producer, Dylan, said his buyer was working with him to fulfill their food safety needs. Two producers, Alan and John, who had the broadest institutional experience said all buyers have food safety requirements. Alan says:

> They want some evidence of something going on, I mean one of the ways we have covered ourselves with a couple of things is having gotten involved with the CAPS [Community Accreditation for Produce Safety] program because we have done that stuff and have visual things . . . everybody wants traceability and recall . . . they will ask you if you have a food safety plan, some of them want it, but most just ask if you have it. But almost everybody wants to see the traceability and recall, and they want to know the date of your last mock recall. And then liability . . . a million.

Alan's comment is confirmed by John who says buyers want a food safety certificate on file. The rest of the producers contrast Alan, John and Dylan's experiences because their buyers did not *ask* about food safety. For example when asked if his buyers have asked him about food safety Bill said, "Remarkably they have not. At the moment we are participating in the CAPS program, but no one has asked for our certificate." Bill's comment demonstrates that buyers have not asked him about his food safety plan although he has accreditation for using food safety best practices. Similarly, Isaac's response was,

> So no, as of right now they haven't, but we're trying to take the ball personally so that we can make the operation as transparent as possible and obvious to anyone who asks.

> Because we're certified organic . . . we're liable to give farm tours and answer any questions to the public, and obviously we will openly do that too.

Isaac points out that there is transparency required to uphold organic certification. Since Alan asserts buyers care about food safety, buyers might assume the transparency required for organic certification leads producers to produce food safely, or they trust producers are producing food safely. Arnold further complicates this, he says,

> I have a feeling that I'm required to be GAP certified or something to sell to school districts, I just have a feeling that's the case. But I think when she can ignore something she may, I'm not 100% sure about that.

Arnold's comment further demonstrates that many buyers do not disclose their institutional food safety policies to producers and buyers might use their agency to accommodate producers whom they trust to grow food safety but are not certified with their institution's food safety requirements. Despite the food safety variation among buyers, it is evident, through the barriers above, that institutional buyers have the power to make a farm-to-institution relationship thrive for fail.

Champion Buyers: Key to direct farm-to-institution relationships

Champion buyers are key to direct-farm-to-institution sales because they are the institutional buyers who want to work with a producer to establish a long-term sales relationship. Henry, who has been making institutional sales for 36 years says, "It's always about the enthusiasm, about the enthusiasm of the individual buyer, that person who answers the phone and orders the product." Henry's sentiment is echoed by Alan who elaborates on where a buyer's enthusiasm draws from,

> Every buyer we have, that's a good buyer, realizes that when they are buying our food that they're not buying, a pound of our carrots does not equal a pound of other carrots from California or somewhere else, it's not the same product. So it's probably the number one distinguishing characteristic in a buyer is that they're getting something different, it's not a pound for a pound, and they have to want that.

Alan's comments reveal that champion buyers believe that there is some value in the product that they cannot get through their traditional procurement outlet. Producers state the value buyers see in the products may be traits of the product; superior quality regarding taste and health benefits, or traits of the product's system; support of the local economy or support for a farmers production practices. Alan points out that champions, see value in the products and John elaborates that the value motivates them to take the extra steps to buy from more than one vendor:

> They have to be sincere in wanting to make this farm-to-school program work . . . because it is more work for them, instead of just having one order sheet now they have to do two, they have to accept two deliveries rather than just one, it makes their life a little more difficult.

John often can supply his buyers with products that are equal or sometimes below market prices, which reveals that price point aside, champion buyers are driven to invest their time to buy directly from producers.

Champions and Price

Champion buyers range in their ability to have price flexibility. The more enthusiastic a champion is, the more willing they are to find creative solutions to buy from producers who may have higher prices than their distributors offer. Henry states,

> People who are enthusiastic and creative find a way to make it work . . . we had a senior citizen place where the buyer, she came in and started buying some local stuff, she didn't buy everything from me, but she bought three or five different items and was keeping a steady budget. Their costs were not going up, and generally, it's felt if you are buying locally its costing you more, and she was saying it wasn't and she was able to make it work.

Henry reveals that although his prices might be more, the buyer works to fit Henry's products into her budget. Bill has a similar buyer, "He manages to do it with the budget and I think it is a small piece of the overall purchasing budget . . . small but significant." For Bill, the relatively small amount of money his buyer spends on his products has an immense impact on Bill's small farm income.

The champion buyer often will use creative buying strategies to buy more expensive products while maintaining a steady budget. Matt's buyer has a strategy to buy his more expensive organic carrots,

> I am able to sell them my carrots, they are willing to buy my organic carrots because they are willing to price them against their peeled carrots, and then the price is somewhere near what I charge because they don't really need to peel mine.

Matt's comment demonstrates that pricing organic products as processed products is a creative strategy buyers can use to buy more expensive organic products.

Wholesale Culture: Establishing and strengthening sales relationships with champion buyers

All producers in this study have wholesale markets, but some wholesale markets are more accessible for smaller producers than others; co-ops and restaurants are more accessible than large grocery chains. As a result, producers varied in their wholesale capacity but producers who had a stronger "wholesale culture" or wholesale knowledge and experience were the most successful at establishing and maintaining relationships with institutional buyers. The notable exception is Susan, a part-time farmer. Her only markets are small rural schools that do not buy wholesale volumes. The schools are happy to receive small volumes from her for part of the school year. Additionally, Susan has not tried to increase her markets through reaching out to institutions and has not faced the barriers that other full-time producers have. See her case study below (on page 31).

Language: case sizes and specs

One central element of wholesale culture is marketing in standard case sizes or units. For example, carrots sold in five, ten or 25-pound cases. Producers that have standard cases will have an easier time establishing a sales relationship with institutions. Seth recommends:

> Have standard cases, at least have a little bit of an idea, although they have been good at taking off standard cases at times, but you need to know a little bit about their world and about the case size that they are looking for.

Seth's comment infers that some buyers may be more flexible than others with acceptance of non-standard cases. Bill, who has a stronger direct-sales background explains why having standard case sizes can be different for smaller producers who are coming from a direct-sales background,

> I think that institutional buyers are accustomed to buying in case quantity, that case quantity sort of language as compared to a small farm that may be coming from more of a farmers market background. So farmers are not necessarily speaking the language and the packaging of these crops. Although institutional buyers may be used to seeing these crops . . . the average carrot is bigger, and sometimes the average is smaller and so were not always communicating that, or grading the carrots exactly according to number one number two or jumbo standards that exists in the wholesale world. So they're some language barriers. We've gotten up to speed as much as we have with our wholesale work to learn more about that language.

Bill's comment demonstrates that knowing the case size language can improve the communication between a producer and institutional buyers. Bill also admits that his product grading system is not always in line with wholesale standards, but his buyer is flexible with him. Similarly, for Arnold, all but one of his buyers do not complain about product grading:

> Things like carrots, I am not going to sit here and tell you I'm grading out a size one carrot and that's all your getting in a bag . . . there are so many of these unreasonable expectations that have been created, and some of us have been forced to work within. That is one of the challenges we have with the hospital. We haven't had any challenges like that with any of our other buyers except with them. But we started working with another hospital, and they are absolutely amazing.

Arnold and Bill's comments demonstrate that grading systems are dependent on the flexibility of the buyer. Overall producers did not say product grading system was an issue for the buyers they worked with, but it is unclear if most producers grade their products or not.

Product consistency and scale

Standard case sizes can help a producer establish a sales relationship, but a producer's capability to provide a consistent supply is the most critical element of wholesale culture that helps establish, maintain and strengthen an institutional sales relationship. Consistent supply is essential for institutions because they cannot change their menus rapidly in response to the farmer's supply:

> Streamlining in the sense of, we know that we can get this product, from this farmer, from this month to this month and it's going to be consistent, and the washing of their product is consistent, that they're not pushing crap out the door.

Isaac's comment reveals that for a producer to maintain a sales relationship with a buyer the buyer has to be confident that they will have a consistent, high-quality product from the producer.

To meet consistency demands, smaller growers have scaled up a few crops into "wholesale systems" in addition to their diversified production for direct-to-retail markets. Scaling up a few crops to establish a sales relationship with an institution is the strategy Isaac uses,

> I really like to one at a time step it up to certain crops, step up the level of production . . . I am not going to say 'hey we can do potatoes through the eight months of the offseason' if we can't do it. And really that's why I haven't progressed with a lot of these places because if someone says 'yes' and you can't produce, then sometimes you are burning your bridge, so we're pretty wary about whom we approach and when we approach them.

Isaac's remarks indicate that a consistently high volume of crops will allow him to approach institutional buyers confidently.

Scaling up crops have also helped producers to increase their efficiencies. Alan says, "we scaled up to be able to reach these wholesale markets, and we've become efficient." The efficiencies have allowed Alan to reduce his price points to establish a sales relationship with institutional buyers better. Bill explains that scaling-up specific crops is efficient but is at odds with his diversified production,

> I have come to realize that I think we could do a more efficient job on this acreage if we were growing five crops instead of 40. That would allow us to take advantage of soils and site characteristics and just be more efficient. So we would be able to do some good crop rotation and things like that, but get the efficiencies of a different scale and . . . the ability to focus in on those crops. So I think that I would be able to offer those crops to a wholesale market for less money, lower price than we find ourselves currently. We're basically growing to make the CSA work, and we build in a little bit of surplus here and there, but typically during the season, we make sure that the product wants of the CSA stream are satisfied, and the extra is what we wholesale. That definitely makes sense within our world, and I think it helps us do an even better job with the CSA . . . it does potentially hamstring us a little bit in terms of figuring out how we could do this at a lower cost for the institutions.

Bill realizes the tension between maintaining his diversified production and scaling-up crops to provide low price points for institutions. Diversified production works best for Bill because his markets are primarily direct-to-retail markets. As the CSA market becomes more competitive, Bill might alter his production to meet the needs of wholesale institutional markets.

Mechanization

On-farm mechanization has helped producers reduce their costs to help them establish sales relationships with institutional buyers. Alan has invested into the equipment to mechanize his production: "and because we invested in all of that equipment . . . our costs went way down on that, and so we make okay money." Alan's fully mechanized, while Isaac has mechanized some of the crops he has scaled up:

> "Right now we mechanically harvest a few of our crops here, some of our products we still harvest with human labor, so we are really in between. A farm down the road, he's done a lot of mechanization over the last couple of years, his price points are a little bit better than ours."

Isaac's comment demonstrates that the combination of mechanization and human labor can still reach the institutional market, but the more mechanization used, the lower price points will be for institutions. Matt also uses a mix of human labor and mechanization but explains why he does not want to be fully mechanized:

> "Well, it is all mechanized accept . . . we pick, we can beat a machine pretty easily with 13 guys, it just costs a little more over the years, but I am willing to pay it because I like my guys."

Matt has a well-trained group of employees, and he sees value in the longterm relationship he has with them.

Efficient delivery

Producers have also been able to reduce prices for institutions through efficient delivery systems; they combine low-profit institutional deliveries into routes serving more profitable, non-institutional, buyers:

> We are making weekly deliveries to the food co-op, and so we are able to just plug Maddison [insitutional buyer] into that loop, so we just throw in a little more for Maddison when the deliveries are happening anyway. And then it doesn't become a problem of; how are we going to do a dedicated trip?

Bill's comment reveals that he can deliver to his institutional market while on the way to his primary buyers. Henry delivers to institutions in a similar manner,

> Since I am often going right by them [the institution] anyway, I might as well get those prices, than send it to Fresh Conveyance [regional distributor] at a very cheap price . . . Everything is secondary, to these two big buyers. Could, if an institution could become a really big good paying buyer, that might change the geography of things . . . they have to potential for it don't they? They buy a lot of stuff.

Henry reveals depending on the location and volumes an institution buys, accommodating a new route for an institution may or may not be feasible.

One of the cost-cutting, direct-to-institution, strategies all the producers used, was re-using delivery containers:

> They [the institution] needed it [lettuce] at three dollars less a case, and we ended up using these reusable plastic cases, and because the price of the lettuce boxes is like $2.80. . . . I was like if we use these cases, I can do it for $2.80 less so give me the $0.20 more.

Alan's comment reveals that reusable totes can be used in price negotiations. The negotiation must consider, however, that re-useable totes are more expensive than traditional boxes. Seth points out that reusable containers can also cut down on the institutions waste stream:

> I think the reusable totes work great for us, and I think that they have been working great for them [the institution], because it's not a big change in their tippage, but . . . it's fewer wax boxes that they are tossing out.

Seth's comment reveals reduced waste could slightly cut the cost of waste removal for institutions.

Processed Products

Although the high institutional demand for processed products is a barrier for producers, it also presents an opportunity. According to Henry, "They [institutions] would love to get a lot of processed and peeled, and I don't think anybody is doing that . . . that's actually a market potential, if someone wanted to do that." Henry points out that processing could be a market niche for the right producer. Contract processing with local processors is an opportunity to make up price point differentials, as Isaac points out:

> We think there's a way into the institutions . . . they pay an incredible amount for pre-cut . . . and there are several different places right around here that do contract precutting. . . . we're thinking we can make up the price point between the difference . . . I couldn't get $0.60 per pound for butternut from the hospital . . . you can get a $1.60, $1.80 for cubed and peeled butternut.

Isaac thinks contract processing is a decent way to make up the price point differentials because institutions "overpay" for processed products. Isaac has looked at what it would cost him to contract-process and thinks he could "make a fortune." Other producers, like Arnold, do on-premise light-processing,

> One thing that I have worked out with institutional folks is the opportunity for seconds. . . .We invested in one of those carrot polishers last year, so we do a lot of second carrots . . . my stubs and my broken and everything that they can use in their soups and . . . second potatoes, misshapen items.

Arnold points out that the lightly processed products are an excellent opportunity to bring value to "second products." John also does on-premise processing; see his case study below. Dylan, who does on-premise lettuce processing, says the labor costs to process diminish the price premiums:

> Well, taking the product and actually processing it versus selling . . . the money is easier selling head lettuce and any time you are doing something to the head of lettuce your obviously going to get more money . . . but you are going to have to invest more energy into it . . . if I can sell a head of lettuce, I sell a head of lettuce . . . that's the best bar for us financially.

Dylan and Arnold's' experiences differ in that Dylan *manually* processes a product that is a comparatively high-value product whereas Arnold *mechanically* processes products that would otherwise go unused. Depending on the farm and the product mechanical processing or out-source processing is likely more cost efficient. Unfortunately, out-source processing depends on the spatial proximity of a processing facility and mechanical processing requires an equipment investment.

Organic producers are unlikely to be able to make up price point differentials with processed products because institutional buyers are not going to be eager to pay a premium for both a processed and organic product. Matt, also an organic producer is skeptical about processing for institutions,

> Yeah, he [John] is getting a big mark up for taking the labor off the institutions . . . but that's different; they are going to want to buy his stuff, they are not going to want to buy my stuff shredded up organic, if they [institutions] have a choice, and they have a choice.

Matt's comments that John, a neighboring conventional producer can make up price point differentials with processed products, but Matt would need to lose any organic price premium to sell processed organic products to an institutional buyer. Both Dylan and Arnold are organic, and they did not receive their organic price premiums on their lightly-processed products. Loss of the organic price premium is also why Dylan prefers only to sell a head of lettuce if he can.

The rudiments of wholesale culture such as standard case sizes, product consistency, and efficient delivery are crucial for producers who want to enter the institutional market. That said, depending on a producers markets and land capacity, scaling up, processed products, and mechanization may or not make sense for them. Isaac emphasized, "Really, I think that the education that is needed is, every farm is different."

Communication: Establishing a sales relationship with champion buyers

The most challenging part of direct-to-institutional markets is finding enthusiastic buyers, as Alan previously mentioned, most buyers give producers "radio silence" when he reaches out to them. Some producers had the luck to meet enthusiastic buyers in settings that indicate the buyer is already interested in local food, such as at a farmers markets or the buyer was a CSA member. Dylan met a buyer at a state food-focused networking dinner. Also, a few producers established a CSA or farmstand within an institution first and then connected with the dining service buyer while on the premise. Unfortunately, these type of connections are partly dependent on being in the right place at the right time.

Alternatively, producers have found the institutions they work with by surveying their surrounding institutions, including senior centers. Arnold went to his proximal chamber of commerce to find the workplaces with the highest density of employees.

To establish a relationship with buyers producers can reach out to the surrounding institutions and see if they can get a meeting with the buyer to seek out information about both the market and buyer. Alan recommends,

> Trying to initiate contact with the buyer first, understand like what kind of person you are dealing with. Is this the kind of person that wants my product? Is it worth investing the time to get through the bureaucratic hurdle?

Alan's comment reveals the need to figure out if the buyer is interested in a long-term relationship, rather than "one-off" purchases. Alan says the necessary information to discuss include product volumes and price point:

> So the most valuable thing, the information is like, what do the institutions want, what quantities do they want it at, what is a healthy price point for both the institutions and the farmers? And then farmers can start to understand, do I want to get into that business?

Alan's advice includes the need to find a *healthy* price point for both the producer and the institution. To know what a healthy price point is, Dylan, says producers must know their cost of production (COP) and volume capabilities:

> Figure out your cost of production and the volume that you are comfortable with, and come into any meetings with your eyes wide open about what you can do. And don't base it off of what their numbers are, where they are currently getting it, base it on where you're coming from . . . your own cost and come at it at from that perspective.

Knowing both production capacity and COP can empower the producer to make an informed decision about any volume discounts they can give to an institution.

Early discussions can help a producer decide if the market matches up with the farm but pledge from a buyer at a specific volume and price point is rare. Arnold recommends, "Be prepared to make an investment of your time. Their confidence in buying from you is not guaranteed, sales will increase over time if you put the effort in."

A surplus sales relationship can be established with enthusiastic buyers that want local products but cannot afford to pay full prices. Producers like Arnold will sell institutions a small volume of extra products at a discounted price:

> The hospital, they ask me every year to sell to them, I just tell them every year, 'well my prices haven't gotten to PYSCA's [broadline distributor] price'. . . when we have like a glut of squash and cucumbers . . . they'll buy it from us and I'll give it a PYSCA price. . . . We always end up selling them, a couple hundred pounds of squash, that's about it.

Arnold's comments reveal that despite a buyers interest in his products, surplus sales is the optimal option because Arnold cannot meet the competitive prices offered by a broad-line distributor. Producers found surplus sales to work well for the most price constrained institutions.

Communication: Maintaining and strengthening sales relationship with champion buyers

On-going communication and commitment to the institutional market can maintain and strengthen the institutional sales relationship. Producers see increased sales volumes and prices overtime if they invest time into effective communication with buyers to ensure product satisfaction.

Effective on-going communication

Producers need to determine what style of communication will work best with the institutional buyer. Henry says,

> There is something about communication; everybody has a different communication style. Some people, you pretty much have to talk to them on the phone, or you don't, other people you send them an email and they send an email back, and you never hear their voice or talk to them from one end of the year to the next.

Henry reflects that buyers have various styles of communication that the producer has to determine and accommodate. For ordering, many producers email weekly price sheets, and more technologically advanced farmers have online ordering platforms that allow for invoicing ease. Seth deliberately sends his product availability sheet to his buyer the day before the dining hall plans for the next week's menu.

Arnold boasts that his strong communication with buyers allow him to excel with institutional buyers:

> I think the one thing that farmers suck at doing is communicating with their buyers and I think I excel and do a very good job at communicating with my wholesale accounts that value me and I value them. And I'm very quick to react to their needs, I'm very quick. We don't have very many people who need their hand held a lot, but there are times when issues can arise. . . . I think that making sure you're committing to their purchasing is really rare, and is why our farm works so well. The farm-to-school push, there were other farms that were interested but the lady pretty much only buys from us because we are quick to reply to emails . . . it's the difference between . . . PYSCA has a dedicated sales guy.

Arnold's comment reveals that he can out-compete other producers in the school market because he can provide the highest level of customer service. A high level of customer service through a dedicated sales person has significantly increased Alan's institutional sales, see his case study below (on page 30). Part of customer service is seeking feedback, Seth says, "So, if something does not work, go back and say **'**was there something wrong with it?'" Seth's advice is to seek feedback if a buyer is unsatisfied, but Arnold recommends making sure a buyer is *always* satisfied:

> An important thing is always making sure that your buyer sees your product as being all right, not us as growers, just *assuming* what we shipped was good, but getting verbal confirmation from the buyer that what they have is good to them.

Arnold's advice in comparison to Seth's demonstrates Arnold's point that he excels in customer service over other producers.

Out of season communication

In addition to in-season communication, out-of-season communication can help strengthen the sales relationship. Out of season meetings often include discussions about what worked or did not work well last year, problem-solving, plans to try new products and price and volume increases. It can help both parties plan for the upcoming season. Seth and his buyer discuss what new products they should try:

> They've been good . . . very reliable, when I talk to them in the late winter, or early spring and they say what they think they are going to use, and I start emailing them, 'Here is what I have.' they have been really pretty good at using what they said that they were going to be interested in . . . 'we'll we want to try this out.'

Seth's comment demonstrates that he and his buyer establish an informal sales agreement at their winter planning meetings. Isaac sees great value in his out of season planning meetings,

> The sort of out of season planning and discussion and communication is huge, for instance, I'm in cahoots right now with discussing how we can get better pricing for this coming September when we start to have products, what kind of thing did really well.

Isaac's comment tells that these meetings are an excellent opportunity to increase prices on products that had maximum utility. Over time buyers can justify higher volumes of more expensive products if the products result in less waste. Alan has experienced this with carrot consumption with school children, and he also increased his sales volume of tasty green beans:

> With the retirement communities, when we started selling them green beans, I think they just thought they were throwing us a bone . . . 'oh we want to get local food on the menu, let's get a couple of cases a week of green beans.' But once they started getting high quality, super thin, dark green, really long green beans, they were like, 'wow, these are great' and then all of a sudden we're selling them all their green beans.

Alan's experience demonstrates that once both buyers and consumers see product quality, sales volumes are more likely to increase. Buyers may further be able to justify local purchases if the high-quality products increase participation in the cafeteria. Increased participation can also result from marketing the presence of higher quality local products in the cafeteria.

Discussion and Conclusion

There is heterogeneity in the institutional market among both producers and institutions. That said, the producers in this study found common challenges to establishing, maintaining and strengthening their sales relationships. These barriers include; buyers who focus on low price points, uncommitted buyers, food service management companies, demand for processed products and laws and regulations. These are ongoing challenges of the institutional market. Producers in this study have overcome challenges with some of the institutions they work with while they hinder them with other institutions. The challenges also hinder a strengthened sales relationship with institutions. Producers have been able to overcome some or all of these barriers with institutions through having wholesale experience and systems that allow producers to better access and serve institutional markets because of the product consistency, and lower price points they can provide. Producers have successfully established, maintained and strengthened relationships with champion buyers through effective initial and on-going communication that result in product satisfaction. Direct sales to institutions is a method of market diversification, but it is not an easy market to access. Sales to food hubs or other aggregators are likely more accessible for smaller, non-wholesale producers, who prefer not to sell to low-price distributors but still want to diversify their markets.

Findings in the context of other FTI research

Wholesale producers

There are FTI barriers cited by producers in the literature that producers in this study did not necessarily face because of their capacity to serve the general wholesale market. The barriers that other studies have found include; providing adequate product volumes, infrastructure like buildings, cooling facilities, trucks or transportation, and equipment needed to perform tasks and personnel (Hardesty et al., 2013; Heiss et al., 2015; Matts, Conner, Fisher, Tyler, & Hamm, 2015; Peterson, Selfa, & Janke, 2010). For the most part producers in this study, have seasonal extension methods (minus Susan and Matt), delivery trucks, storage, packing and washing facilities that allow them to serve the general wholesale market. Barriers found in other studies are most likely expressed by non-wholesale producers interested in the institutional market. A Vermont based survey that found "businesses already selling to wholesale markets are more likely to have invested in critical pieces of on-farm processing, storage, and distribution infrastructure." (Conner and Porter, 2017 p. 4).

Low price points

Producers in this study find buyers that focus on low price points to be an on-going challenge of the institutional market. Producers in this study tend to have slightly higher prices than what buyers can get from their distributors because they do not usually have the same economies of scale and, or, they are organic producers that rely on organic price premiums. Institutional buyers usually do not want to pay organic price premiums. One producer, John, in this study did not find low price points to be a barrier because he grows conventional products at economies of scale, thus low COP and comparable pricing to those of distributors. See John's case study below (on page 32).

Producers in this study agree with the research that finds that producers feel that institutions purchase at the lowest price (Bloom & Hinrichs, 2011; D. S. Conner, Sevoian, Heiss, & Berlin, 2014). Reseach finds that most producers see price driven buying as the normality, and low prices are seen as a barrier for producers to thrive in the FTI market (Feenstra et al., 2011; Matts et al., 2015; Peterson et al., 2010; Pinard et al., 2013; Thompson et al., 2014). Producers in this study have been able to find the intermittent buyers that have price flexibility for higher quality products.

Our finding complicates a New England based survey that found 64.1% of those currently selling to institutions agreed that institutions provide a fair price and 41% felt low price points was a barrier (FINE, 2017). Despite less than half of those already selling to institutions found low price points to be a barrier, it was the third most mentioned barrier. Differences might be because in that study only 26.9% of respondents are certified organic, and most producers in this study are certified organic (six out of eleven are certified organic, and two use organic practices).

One Vermont based survey, Conner & Porter (2017) found profitability with lower margin/ prices to be the least challenging for businesses currently selling to institutions and wholesale markets. Producers in this study do not necessarily disagree with this because they all have profitable wholesale markets. That said, producers in this study only find their general wholesale and institutional markets equally profitable, when institutional buyers do not heavily push back on prices. The non-institutional wholesale market buyers are more price flexible because they can pass price premiums on to the end consumer more readily than institutions can. The survey cannot reflect this nuance because there is no distinction between profitability for institutions and general wholesale. Also, the difference in findings could once again be because we had a higher proportion of organic producers; only 32% of the survey's producers were organic.

Processed products and regulations

Producers in this study found the demand for processed products to be a barrier. Conner & Porter (2017) found businesses currently selling to institutions and wholesale markets believe meeting product consistency and form, like minimally processed products to be the most challenging. Producers in others studies find processed products as a barrier because of a lack of proximal processing or value-added facilities (Hardesty et al. 2013; Bateman et al. 2014; Thompson et al. 2014). Tight regulatory requirements prompt the need for processing or value-added facilities.

Although regulations and laws regarding FLSA and FSMA do not exclusively apply to the institutional market, they are novel barriers within the farm-to-institution research. While

FLSA is a structural barrier for producers, it is unlikely mentioned as a barrier for institutional sales because producers will purport the issue is their ability to provide product variety, consistency or processing rather than the broader labor system that complicates their ability to aggregate or process to meet the demand.

FSMA is unmentioned in previous FTI research because it is a relatively new law. This is a new structure for producers and has elevated producers uncertainty around regulation compliance. Smaller and midscale producers who increase their production and sales volumes to institutions could alter their status under the FSMA's Produce Safety Rule that went into effect on January 26th, 2017 (FDA Produce Safety Rule, 2015). The Produce Safety Rule requires new on-farm standards for producers that increase farmers fixed costs, particularly around agricultural water tests. Given the disproportionately large impact this can have on lower income producers, Congress created a qualified exemption for smaller producers who sell to local markets. Qualified exempt farms have to gross less than $500,000 in all food sales and sell more than 50% of their sales directly to a qualified end user. Qualified end users are consumers, restaurants, grocery stores, or institutions in the same state or within a 275-mile radius of the farm (FDA Produce Safety Rule, 2015). It is important to note that institutions are qualified end-users whereas at this time food hubs are not. If producers scale up to increase volumes to institutions, it could put them over the income cap of $500,000 in gross sales, and they would subject them to the full set of expensive Produce Safety rules that they otherwise may be exempt.

Uncommitted buyers

Uncommitted buyers have been referenced in other research regarding buyer turnover (Heiss *et al., 2015).* Although the producers in this study find the institutions they work with have low levels of buyer turnover, other institutions that have frequent buyer turnover are difficult to retain a sales relationship with. Producers in this study comment that the less known problem with commitment is that many buyers will express interest in buying from them but after a few purchases, they stop buying because the buyer has met their "buy local" or similar requirement set by the institution. This issue is mentioned in another FTI study; a producer pointed out that "one-off" purchases are unproductive for producers (D. S. Conner, Izumi, Liquori, & Hamm, 2012).

Food service management companies

The presence of an FSMC is also a newfound barrier for FTI. In interviews, we did not initially ask producers if the institutions they sold to were self-ops or run by an FSMC, until after the first few interviewees indicated there was a stark difference in direct-sale accessibility. Producers in this study heavily mentioned one particular FSMC. It is unknown if this particular FSMC is more regionally prevalent or has more stringent policies than other FSMCs. FSMC often require sales through their "vendors," or a middleman rather than direct sales to keep transaction costs low. Food safety and liability were mentioned as a barrier to becoming a vendor for FSMCs but not for self-ops. In one Michigan based study, only 37.5% of producers indicated that institutions required a food safety audits, but it did not distinguish between self-op and FSMC run (Matts et al. 2015). If a producer can become a vendor or sells through a vendor to the FSMC product size and consistency requirements are strict. FSMC purchases through their vendors may come from local producers, but that analysis is out of the scope of this study. Sales to food hubs other aggregators are likely more accessible for producers who prefer not to sell to low-price distributors but still want to access institutional markets, especially an FSMC.

Champions and relationships

Producers successfully sold to institutions that had "champion buyers." Champions see value in the products above and beyond what they can get through their traditional procurement outlet. This value drives them to purchase from more than one vendor for local products despite the increased transaction costs: communication, and multiple deliveries and invoices. Our research supports other research that finds that champions are essential to strong FTI relationships. Champions tend to be more price flexible, often through "creative purchasing," and flexible around food safety audits, but they are time-consuming to find (Buckley et al., 2013; Heiss et al., 2015; Izumi et al., 2010; Thornburg, 2013).

Our research agrees with research that finds that communication between food service champions and producers allow for a shared understanding of each other's needs and often takes the form of phone calls, in-person meetings or even farm visits (Buckley et al., 2013; Klein & Michas, 2014). Our research also builds on research that finds that strong relationships between buyers and producers can lead to increased sales over time and gives the producer the power to negotiate their production and return on produce (Heiss et al., 2015; Izumi et al., 2010). From the producer's perspective, our research finds that the crucial element of a producers ability to increase product volumes, variety or prices is active communication that leads to product satisfaction. Product satisfaction within the institution can increase a buyers ability to pay or buy more. Producer dedication and exceptional customer service make a buyer's job easier and more likely to turn to the producer if they have an opportunity to increase local sales.

The dedication that is required by the producer or a hired employee leaves the producer with the question of whether the market is worth it to pursue.

Recommendations for Producers

- Producers ought to have in-person meetings with buyers to gauge if a buyer is a champion worth their time investment. In initial communication, producers need to understand their cost of production (COP), production capacity, and transportation costs in relation to the institution's volume, price point, and delivery needs. The aformentioned information can help determine if the market is a good match; do not try to force a match. COP analysis can help producers justify their desired price points, and help producers understand if they can launch a new route to deliver to an institution.
- Previous wholesale experience can help establish a sales relationship with institutional buyers; have standard case sizes and product consistency. One strategy for consistent product volumes is scaling up certain crops on top of diversified production.
- Lightly processed products have institutional market potential, but producers should conduct a cost-benefit analysis of investing in onsite or contract processing. Additionally, they should be aware of regulatory implications. Note that processes such as stem removal, field coring or trimming can produce value-added products that do not require facility registration because regulations do not consider them as acts of "product processing."
- Mechanization can help producers reduce their price point. If a producers price points are higher due to labor costs, they can harness it as a marketing opportunity towards institutional buyers who choose to buy local food to support the local economy and jobs within the community.

- Reusable totes can help reduce price points despite their initial higher cost. Producers can harness reduced waste as a marketing approach towards buyers who are environmentally conscious.
- To find buyers, attend networking events, use the chamber of commerce for high employee densities or survey institutions already in delivery routes. Producers could consider over-night summer camps and assisted living centers. Reach out to buyers in their least busy time, between 1-4 PM (National Center for Appropriate Technology, 2018).
- To better understand institutional market return in regards to time investment producers should inquire with buyers about the sustainability of the sales relationship. Producers should ask buyers if they have local purchasing requirements and if the institution has external "buy local" funds that could run out.
- Provide farm specific marketing materials to the institution. Marketing materials can embed the farm into the culture of the dining hall and possibly increase their sales further to justify farm purchases. If a farm embeds itself into the culture of the dining hall, they are more likely to be able to retain a sales relationship if the buyer leaves. Buyer loss can also be alleviated if the producer has established relationships with other institutional employees, especially if they enjoy eating farm products in the cafeteria.
- Aggregation can help reduce transaction costs. Producers should be aware of the regulatory implications of workers handling aggregated produce; they could hire part-time workers to handle it. Producers could aggregate deliveries with producers who already make sales to a particular institution and can inquire to institutions for this information. Sales to food service management companies will most likely have to go through food hubs or distributors.
- A producers investment in high-quality buyer-communication can lead to increased purchases over time. Efforts include; seeking confirmation that buyers are satisfied with the products, responding to buyers needs quickly, and having winter meetings to discuss issues, future opportunities, creative buying strategies, and price increases.

Implications for FTI Stakeholders and Future Research

Future Research:

1. Buyer champions play a key role in successful FTI relationships; future research should examine how to cultivate champion buyers in institutions. What are a buyer's main motivators, particularly a non-champion buyer's motivators? Are there tangible impacts that they need to be able to see from their purchases? Do they prefer a reward system? Alternatively, could educational campaigns be useful?
2. Future research should include extensive COP analysis of farms of various scales and practices to provide institutions with fair price references. This will allow institutions to pay fair prices that allow all workers and farmers to receive a livable wage based on their COP. Furthermore, future research can develop a metrics systems to quantify the value of paying higher prices to producers who have a higher COP due to their labor wages or their production practices, ie. Organic. The value could be some combination of internal/customer/ public recognition.

3. Investments in regional processing facilities are needed. Future research should examine the cost of investment versus market demand and potential returns on investment in regional processing facilities.
4. Future research should look at the opportunities to scale up home gardeners and engage those interested in part-time farming to produce small volumes of crops for small schools. Part-time farming could supplement people's incomes, engage potential young farmers, and give small schools access to high-quality products that full-time growers cannot feasibly deliver.

Implications For Institutions and Institutional Buyers:

1. Institutions can have a significant impact on local producers with even a relatively small commitment to local purchasing. If the institutions partner with local producers looking to expand their markets and pay fair prices to them, it will allow producers to use the revenues to reinvest into their farms to better serve the institutional market in the future.
2. Given the longer supply chains generally required by FSMC, institutions can leverage their purchasing desires in their FSMC contracts. In an institutions request for proposals, they should be explicit about what they want to see in their local buying programs and their intended impacts, rather than a certain percentage of local food. Examples include livable wages for farmers and workers, investments in local-farm partnerships, organic purchases, use of food hubs or cooperative distributors, or even use of creative buying strategies.
3. For buyers, commitment to purchasing agreements is essential to building a long-term relationship with producers. Discuss any factors that could hasten follow through on purchasing agreements ahead of time.
4. Buyers can prepare for initial meetings with producers, by knowing what products they could be interested in, at what volumes, and requirements around packaging, certification, food safety, and delivery.

Implications for Non-Profits and Funders:

1. Funders can help fun research objectives above. They can also help fund COP analysis for producers, and non-profits can compile this information for reference. They should also research and compile "creative" buying and budgeting strategies used by champion buyers.
2. Educational materials should be developed and shared widely with institutions about how they can make a significant impact on their local producers with even a relatively small commitment to local purchasing with creative buying strategies. They can also help encourage increased food budgets for institutions.
3. Non-profits can host networking events between institutional buyers and local producers. They can help producers and institutions organize what type of information they should have for events. Institutions should have what products they could be interested in, at what volumes, and requirements around packaging, certification, food safety, and delivery. Producers should know what their production capabilities, production window, and COP are for their crops. Producers should also provide information about how they

plan to invest in their farms in the future. These events can also birth new aggregation opportunities between producers.

Implications for Governmental Agencies:

1. Governmental agencies should examine the broad swath of regulations at both the state and federal level that influence agriculture and farm to school or institution and make innovative regulatory changes to harmonize their policy goals.
2. Farm-to-school efforts should be careful to only engage producers who have interest and capacity to take on new markets. Centralized ordering and processing kitchens can help reduce transaction costs for the program.

Implications for Producer Service Providers:

1. Producer service providers can help producers learn the intricacies and requirements of the institutional market, particularly encourage producers to engage the general wholesale market before engaging the institutional market, and provide wholesale readiness training that includes help with COP analysis and regulatory awareness or clarity.

Limitations of the study

This study is limited because we cannot speak to the barriers of the producers who have tried and were unable to reach the institutional market. That said, the challenges in this study are the systematic challenges that, those who are not yet in the market would also face and could be keeping them out of the market. This sample also heavily reflects the perspectives of organic producers rather than a balance of conventional and organic growers; this affects price point discussions.

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Case Studies

Alan Davis "biologically" farms 60 acres and 52,000 square feet of greenhouse and tunnel vegetables in New Hampshire. Alan's markets are within a 50-mile radius, and the majority are wholesale; 90% go through Alan 's cooperative distribution company (The Co-Op), and 10% goes to his farm stand, and wholesale pick-up. 93% of the Co-Op's markets are to other farm stands, workplace CSA drop-offs, grocery stores and restaurants, and 7% are to institutional dining services. The Co-Op's institutional customers include three assisted living communities, two hospitals, and "schools all over the place." His top crops sold to institutions are green beans and carrots. He has farmed and marketed to institutions since 1997.

Keys to success: Aggregation through The Co-Op, scaling up and mechanization.

The Co-Op, which started in 2014, provides more efficient delivery systems because it aggregates produce from about 30 farms and spreads out the cost of distribution out among producers.

> We started The Co-Op because I looked at what it was costing me to ship my own food and I was like, 'this is insane I can't afford to do this! I can't afford to be in this business!' And then, it turns out if you aggregate the costs if you aggregate distribution and you aggregate cost, you share cost, then all of a sudden the, it plummets the costs.

The Co-Op also provides a level of convenience and professionalism for buyers that have increased Alan's institutional sales dramatically;

> Ever since we went and formed our own distribution cooperative and its got its own letterhead and a fancy truck all of the sudden people take farm food more seriously . . . just being a farm that goes and talks to one, that's gonna take a special buyer that really want to buy local. . . if we insure them, a salesperson with a computer and a software package and we give them a standing order, routine, then all of a sudden, it's not like dealing with a farmer, it's changed everything.

Alan recognizes the need for "special buyers" to accommodate farm food, which some producers in this study have found. Alan has been able to go beyond the "special buyers" because The Co-Op provides similar services to that of a traditional distributor, like online ordering systems, refrigerated trucks, and food safety transparency and traceability. It has also allowed him to become an approved vendor for an FSMC.

Mechanization and scaling up crops has allowed Alan to lower his cost of production (COP) and prices for institutions. Alan has scaled up production of carrots, tomatoes, and green beans and he mechanically harvests carrots and mechanically seeds, harvests, and packs green beans.

Market future and continues challenges: Despite these efficiencies, Alan says he has not "cracked the institutional nut" yet because he does not provide processed products, his prices are still slightly higher than a large distributor's. Alan hopes to increase institutional sales by making up price point differentials through contract product processing with startup processing plants.

Implications: When possible producers should find ways to aggregate with other farms to deliver the volume and consistent supply needed by buyers. Producers can inquire to institutions about the other producers they work with or have reached out to them.

Susan Lyson uncertified organically farms 1/8th an acre of her backyard in Vermont. Susan markets within a 7.6-mile radius and 100% of her sales are to three small elementary schools. Susan's gross sales are $600 over the course of 2 months in the fall. Her top crops sold to the schools are carrots, lettuce, and cucumbers. Susan has farmed and marketed to schools since 2005.

Keys to success: Farm sales are secondary income, efficient delivery, schools are set up to process.

As a part-time homestead farmer, Susan plants food for her family and plants extra for the elementary schools. Low price points have not been an issue for Susan because she does not rely on farming revenue as her income. She can provide the elementary schools with direct to store conventional wholesale prices. Although the schools have not asked, Susan offers to lower the prices upon request.

Susan is also able to efficiently deliver products to the schools because they fit into her commute for her full-time job. Susan says she fills a niche because the other local growers in the area cannot profitably deliver to these small schools and the chefs do not want to arrange to pick up:

> The other growers in the valley who are actual growers, that make their living growing didn't find it profitable . . . to supply to the schools, because it was such a small amount that they needed that it was not worth their while, to make a delivery to the school, it was too much of a pain for the chef to arrange to pick it up from the farm, so there was this disconnect between larger growers.

Here Susan points out her scale matches up with the elementary schools. That said, she does not meet the school's demand. She previously sold $3,000/ year to the elementary schools before downsizing her farm, and she thinks they would buy up to $10,000 in produce if she had the supply. The schools have the skill and facility capacity to process her vegetables, but it is unknown if this capacity diminishes with higher volumes of unprocessed produce.

Market Future and Continued Challenges: Susan expects her institutional sales to remain the same because she will not expand her production capacity.

Implications: Farm-to-school advocates can help scale-up home gardeners to sell part-time to smaller schools that larger growers disregard. Part-time growing could be a good option for those who want to supplement their income with a hobby farm rather than do so commercially. Young people might find this as an attractive option to reduce risk and minimize investment, as Susan said,

> Just diversity is key, if for some reason that relationship sours, you still have your day job, it takes a lot of stress out of it. That was one of the deterrents to making it [farming] our sole income, and there really is no stress.

John Dugan organically and conventionally farms 400 acres and 5,500 square feet of greenhouse space in Massachusetts. John's delivers to markets within a 55-mile radius, and the majority of his markets are wholesale; 88% are to supermarkets and distributors, 11% are to institutions, and only 1% is a retail pick-your-own operation. John's institutional customers are a large university and two large school districts. His top crops sold to institutions are conventional peeled and diced butternut squash, shredded and sliced carrots, and French and sweet potato fries. John has farmed since 1982 and marketed to institutions since 2002.

Keys to success: Processed products and low-price points through crop specialization, mechanization, and efficient distribution

John has a processing facility on the site of his farm which allows him to provide the institutional demand for processed products. He also has highly efficient production through the specialization and mechanization of crops. Efficiencies allow him to offer market wholesale conventional prices plus the cost of delivery. John says,

> They do track our sales and the cost of our product, and we do consistently come in as a little less expensive because let's face it, logistically it's pretty efficient, I mean we are a mile and a half from the University . . . you can see the place from here.

John points out his delivery cost is less than a distributors' because he is proximal to the institutions. Like Susan, the institutions John works with matches his scale. John cannot work with small schools; he needs institutions that buy large volumes to make the delivery efficient. John's delivery is also efficient because he aggregates produce to increase product variety for institutional markets. Another interviewee recognized John's success,

> John is like the star institutional seller, he aggregates stuff, he slices, he dices, and he doesn't charge much for his stuff, they love it, they can check off the box that says 'buy local', and they could do it for less money than they were paying beforehand . . . I personally bag a 25-pound bag of [organic] carrots for 25 bucks; John Dugan sells a bag of conventional carrots for $12.50, all right.

Market Future and continued challenges: Despite John's low costs, buyers still need to be enthusiastic about local food because logistically they still must buy from more than one vendor. John has all the requirements to become a vendor for FSMC, but he still finds it too difficult to work with them. John does not intend to increase institutional sales because he has other successful wholesale markets and is concerned about breaking labor laws with his attempts to aggregate products from other farms.

Implications: John declares the labor laws that affect larger farms are the principal issues that inhibit farm to institution activities and deserve attention. On-farm product processing and conventional product specialization can result in high volume sales to institutions who want to buy local but not organic.

Dylan Root organically farms 10 acres and 18,000 square feet of tunnel space in Vermont. Dylan delivers to markets within a 10-12-mile radius, and the majority of his are markets are wholesale; 70% are to local grocery stores, co-ops, restaurants and institutions and 30% are to farmers markets and CSAs. Institutional sales have ranged from 5-10% of his wholesale market in recent years. Dylan's institutional market is almost exclusively a large hospital, but he will also sell surplus two schools on occasion. His only institutional crops are green leaf filets and chopped romaine lettuce. Dylan has farmed since 2005 and marketed to the hospital since 2012.

Keys to success: Communicating about and committing to the demands of an enthusiastic buyer; a high volume of processed products at low price points.

Dylan and the hospital buyer began a sales relationship with a winter meeting to determine what products Dylan could produce for the hospital. Dylan agreed to produce the two aforementioned processed lettuce products at the conventional market price point. Dylan made various farm investments to meet this demand that included; growing the crops, a processing kitchen, altered packaging, and GAP**.** The hospital is a reliable buyer for Dylan's high volumes of processed lettuce products.

Market Future and continued challenges: Now that Dylan grows these crops he realizes he receives a price point that marginally covers his COP. Dylan also does not have efficient delivery because the hospital needs him to deliver on the farm's "non-delivery" days. Furthermore, Dylan is also disappointed in the lack of product variety they buy from him. Dylan's frustrations are the reason he has, at times, treated the hospital as a "dump market." He explains,

> I think the best way to describe it for me; it became a high maintenance relationship and I was having no trouble selling everything we had in low maintenance relationships. So whenever there were any issues I was just like, I'll just sell cases of green leaf's to the grocery co-op, and then I don't need to cut green leaf's into clean leaves, and triple wash them and bag them and deal with all that . . . But now I feel like I have explored my local markets to the point where, okay, maybe I need to reach that one better than, if you are going to buy that volume of product, I can grow that volume of product. I wanted to do different stuff but, but maybe I need to do just the same thing.

Dylan's scale does not necessarily match well with the volume needs of this institution, but his limited local markets will lead him to scale up these two products further and increase his institutional sales. Dylan thinks his strong buyer-seller relationship will enable him to negotiate a higher price point:

> It's time to revisit that [prices] equation from my perspective, and when we have our winter meeting this year that is at the top of my list . . . trying to establish a better price. . . . I think that they will be open to it, they seem to like the product but, we will see.

Implications: Producers can have a stable institutional market if they adapt to the needs of the buyer, but to increase the producer's leverage they should and communicate about the goals and expectations of relationship from the start. Producers and buyers should discuss product volumes, price points in regards to the COP and the potential for product diversity.

Arnold Ingersol organically farms 40 acres and 2.5 acres of tunnel space in Northeast, New York. Arnold delivers to markets within a 44-mile radius and about half of his markets are wholesale; 50-60% are to aggregators, grocery stores, distributors and institutions and 40-50% are to CSAs and farmers markets. His institutional markets have ranged from 8-12% of his wholesale market in recent years. Arnold's institutional markets include two summer camps, two hospitals, and six schools. The majority of his institutional sales are to one summer camp. His top institutional crops are potatoes, carrots, and onions. Arnold has farmed marketed to institutions since 2009.

Keys to success: An enthusiastic buyer with a large budget, FSMC autonomy, and grower commitment.

Most of Arnold's institutional sales are to a wealthy summer camp. The director of the summer camp wanted to support Arnold when he began his farm because Arnold is an alumnus. The camp director ordered their FSMC to buy from Arnold. The FSMC did, but it was logistically difficult for Arnold. A year later the FSMC lost the contract, the summer camp became self-operated, as Arnold explains;

> It was going to be this whole fiasco for me to become a vendor, so thankfully . . . The camp believed in what we were doing, and now after that year Aliment Co. was there for one more year, and then they eliminated Aliment Co from the food service. So now they higher their own chefs and they run probably one of the most tip top summer food programs in existence, I would say.

After the camp became a self-op, a partnership began with Arnold and the camp. Campers come to visit the farm, Arnold began and continues to raise pigs off camp compost to supply the camp with sausage and the camp is soon to get a new kitchen to better store and process Arnold's food. Arnolds sells $30,000 in pork and $40,000 in vegetables to the camp. Arnold invests a lot into buyer-seller relationships:

> I made sure to drop in, any guy customer I drop in, and I tend to grease the wheel, I bring them some pork chops, I bring them something I know they'll enjoy, something they're not ordering from me and probably never will order, but they enjoy it.

Market Future and continued challenges: Arnold expects his institutional sales will increase, and he is expanding his acreage; the summer camp will be able to buy more products with their new kitchen, and they demand more pork than he can currently supply. Arnold finds prices a restraint for the schools and one hospital, but he sells them surplus and second crops at lower prices. The other hospital has an enthusiastic buyer that pays Arnold's organic prices.; the buyer passes the price premiums on to customers in retail locations. Arnold hopes price constrained institutions can make arguments to their board of directors to increase food budgets to support the growth and expansion of small farms. Arnold says, "Buying local food is not going to shrink your budget . . . When California runs out of water where are you going to get your salad mix from if the farms don't exist here to produce it?"

Implications: Although Arnold's success is hard to replicate partnerships between farms and institutions that can pay fair prices can help producers expand their production and invest back into their farms for higher efficiency. Institutions should advocate for increased food budgets to pay fair prices. Producers must be willing to invest time into partnership relationships.

Kaitlyn Underwood uncertified organically farms 16 acres and 6,000 square feet of tunnel space in Connecticut. The majority of her markets are retail; 80% are to her CSA, and only 20% are to two co-ops and two restaurants. Kaitlyn no longer sells to schools but in 2014 schools were 16% of her wholesale market, $4,700 in sales, and in 2015 they were 5%, $2,290 in sales. She sold separately to five schools, and a processing kitchen that served a large school district. Kaitlyn sold the highest volumes to the processing kitchen in the summer, which would process freeze crops, the top crops were summer squash, zucchini, broccoli, and beets. Kaitlyn has farmed since 2011.

Keys to short-term success: Fair prices and external funding to support the processing kitchen, produce pick-up and market coordination.

In Kaitlyn's school district the enthusiastic school district buyer worked to get grant money to build and support a school district processing kitchen. The processing kitchen reduces the logistical barriers of farm-to-school because it picks up, aggregates, processes and stores products for local producers like Kaitlyn. The processing kitchen also frequently bought Kaitlyn's surplus crops. Both the processing kitchen and schools accepted her wholesale prices without negotiation. That said, Kaitlyn took part in the competitive "bid process" with the processing kitchen for the second year and got the bid for squash and broccoli at $1.25-$1.50 /lb and $1.50-$2.00/lb respectively. Externally funded AmeriCorps volunteers connected Kaitlyn to the other five schools who wanted to buy "vegetable of the month" products from her.

Market Future and continued challenges: This sales relationship failed because Kaitlyn did not need new markets when the AmeriCorps coordinator recruited her to participate in farm-to-school. Kaitlyn's crop production did not align with the school's demand; she grows a diversity of products for her CSA, and they only wanted to buy a few products. Kaitlyn was not confident enough in the school market to decrease her product diversity to meet their demand and take away from her established markets. She was not confident because she faced adverse reactions to her product delivery by some school dining staff and had one-off purchases from two schools. Kaitlyn was also not confident in the market because the loss of the precarious external farm-to-school funding could increase the logistical constraints and curb enthusiasm. It is also unknown if external funding supported fair prices.

Sales to the schools and processing kitchen were time-consuming. She could not justify continued participation when her personal life got busier. Although Kaitlyn appreciated the opportunity to sell her surplus to the processing kitchen, it required communication that became burdensome over time. She preferred a scheduled weekly pick up with the local food bank rather than having to text the processing kitchen buyer to see if they wanted her products. If time permits, Kaitlyn may choose to participate again limitedly in farm-to-school. If she had access to more land she would consider greater participation, she says "like anything, it's like 'Oh but I don't have the land,' but if I had the land and it was working really well then . . . I would put more land into producing for them."

Implications: Grant money can stimulate farm-to-school enthusiasm and can help fulfill infrastructure needs, in this case, processing facilities, but for long-term success, coordinators should only engage producers who are looking for new markets, can grow their demanded products and, or want a new avenue for donating excess produce. Also, farm-to-school sustainability requires the system to function autonomously from precarious funding. A kitchen

culture where workers want to work with fresh ingredients is significant in upholding a sales relationship.

FARM-TO-INSTITUTION: THE FARMERS' EXPERIENCE

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Executive Summary

Background

Institutions, such as schools, colleges/universities, hospitals, prisons, senior meal sites, summer camps, and corporate workplaces are a rising market for Northeast producers. The Purpose of this research project was to do discover what challenges and successes Northeast growers face establishing and maintaining institutional sales relationships. This information can help inform growers who are interested in selling to institutions on how and when to approach this market and provide strategies to enhance their success with it.

Data Collection

11 Northeast growers were interviewed in winter 2016. Their average acreage ranged from 1/8th- 400 acres and all but two producers had seasonal extension methods. Six producers were certified organic, two used organic practices but were not certified, two said products were "ecologically grown," and one had both conventional and certified organic products. Producers' years farming ranged from 6 to 36 years and their years selling to institutions ranged from 2 to 36 years.

Institutional Markets

All but one producers' percent of gross sales to institutions was ≤11%, but it ranged from 0.5% -100%. In regards to future institutional sales, five producers thought they would increase, four thought they would stay the same, one thought they would stay the same or decrease, and one producer decided to stop selling to institutions.

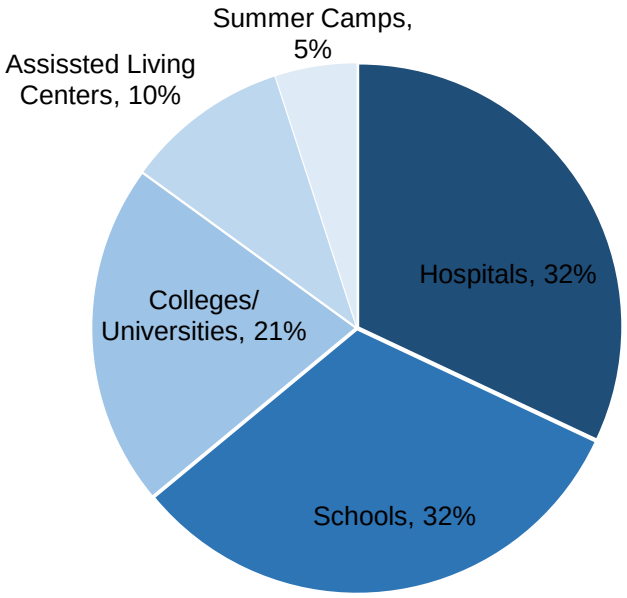

Figure 1. Percent of institution types served by Northeast producers. (n=11)

Shared Challenges

Price point: Institutions frequently demand lower price points than producers care to meet. This is particularly an issue with schools, which often have the tightest budgets.

Processed product: Institutions often demand processed product that many producers do not have because it requires investment in equipment and labor.

Regulations: Many producers felt meeting institutional demand may require farm changes that could influence the farms' compliance with Food Safety Modernization Act and the Fair Labor Standards.

Time investment: Establishing a sales relationship takes a lot of time and dedication from the producer. Time investment needed to maintain the sales relationship can vary.

The bureaucracy of Food Service Management Companies (FSMC): Producers struggle to establish direct sales relationships with institutions that use an FSMC. They have to establish a relationship with an institutional buyer and then meet the requirements of the institution as well as the FSMC. Most producers felt FSMCs were not worth dealing with due to their requirements for food safety certification, high levels of liability insurance, and the sense that purchasing decisions were made far away.

Keys to Successes

All about the enthusiastic buyer: Producers find success working with institutional buyers who care about high-quality food. If a buyer's sole concern in early conversations is about price, it will not be worth the time investment into the institution. Buyers who are enthusiastic for local foods are flexible; they are willing to take an extra step to buy from more than one vendor, and they are willing to pay higher prices than 'traditional' buyers. They do not require excessive

steps to assure produce safety, nor do they require an excessive level of product liability insurance (>$1 million). They are willing to work with their producers to solve problems.

Start small build up: Growers have success starting out small and increasing their sales volumes to institutions over time. Sales increase as the relationship strengthens and both parties prove to be reliable.

Adopting wholesale culture: Successful producers have standard packaging, pricing, and delivery. Producers should be able to serve a general wholesale market with appropriate case sizes, standardized ordering systems, and product consistency before moving into the institutional market. Smaller growers have scaled up a few crops into "wholesale systems" in addition to their diversified production for retail markets.

Selling Surplus: Growers successfully sell institutions surplus crops at lower prices in addition to the few crops they regularly sell them. Growers also sell surplus crops to institutions that can't afford to purchase from them regularly.

Creative Approaches

Find an effective way to communicate with buyers: Some growers simply communicate with buyers through emails while others have winter planning meetings; institutions are good at record keeping and can tell growers what to plant for them. Growers recommend communicating with buyers about the goals of the sales relationship and if their products meet the buyer expectations. Growers who show buyers they are committed to meeting their needs more rapidly increase their sales.

Light-processing: Engage in light processing on-farm or out-source the processing to capture high-value sales of produce that are in a form more likely to be purchased by institutions.

Efficient delivery systems: Combine low-profit institutional deliveries into routes serving more profitable, non-institutional, buyers. If be launching a new route to deliver to an institution, know what volumes and prices will be feasible for delivery in initial conversations with buyers. Reusable containers can cut packing costs and is a marketing point for producers who work with buyers who choose to buy local for environmental concerns.

Aggregation: When possible find ways to aggregate with other farms to deliver the volume and consistent supply needed by buyers.

Grower Recommendations

Recognize and pursue institutions with budget flexibility versus those with severe spending constraints: Senior centers, summer camps, and hospitals often have more budget flexibility than schools. Schools with farm-to-school grants are more likely to meet desired prices in the *short term*.

Engage in conversations and negotiations about price using your own production costs as supporting documentation: Find out what price and volume institutions want products then negotiate based off of your cost of production.

Understand the implications and costs of institutional markets: Liability insurance, food safety requirements, staff time, etc.