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Distributing and sourcing local produce in Latino-focused food stores: a qualitative study with stores and small farmers in San Diego County

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Abstract

A strategy to address challenges in sourcing and maintaining produce in *tiendas* is to build a new localized food economy. Key informant interviews were conducted with *tienda* owners and managers and small produce farmers to understand produce distribution and sourcing behaviors, and to identify the potential to connect *tiendas* with small produce farmers. Interviews were analyzed using an inductive coding approach and were summarized into three themes: people, place, and product. Results provide context for understanding factors that affect access to local produce in Latino communities. Future research should be conducted with produce distributors, and policy-level strategies should be considered.

Keywords

healthy food retail; Latinos/Hispanics; small produce farmers; local produce; food access

Introduction

In the US, Latino neighborhoods are more likely to have a higher prevalence of small food stores and convenience stores versus traditional supermarkets compared to non-Latino neighborhoods (Ohri-Vachaspati et al. 2019). In Southern California, these small stores often cater to the Latino community, contain bilingual signage and employees, and are referred to as *tiendas* (Ayala et al. 2005). *Tiendas* typically offer a variety of produce and at a lower price than supermarkets in the same region (Emond, Madanat, and Ayala 2012). Despite this, small food stores, including *tiendas*, still report challenges in sourcing produce because of lack of purchasing power compared to larger food stores (O'Malley et al. 2013), and report difficulties in maintaining produce due to the quality of the produce sourced and the lack of appropriate storage facilities (Horowitz et al. 2004; Gardiner et al. 2013).

Dietary behaviors such as fruit and vegetable intake are dynamic and influenced by our social, economic, and physical environments (Larson & Story, 2009; Story, Kaphingst, Robinson-O'Brien, & Glanz, 2008). Improving the availability and quality of fruits and vegetables within the *tienda* environment is important because it could lead to more produce purchases (Langellier et al. 2013). This is significant given that Latinos still do not meet the recommended dietary intake guidelines for fruits and vegetables (Moore et al. 2015) yet demonstrate a demand for these foods by purchasing more fruits and vegetables than other diverse groups (Cullen et al. 2007). The current USDA dietary guidelines recommend US adults consume 1.5–2 cup equivalents of fruits and 2–3 cup equivalents of vegetables daily (US Department of Agriculture. 2015a, 2015b). However, recent estimates indicate that the median cup equivalent intakes for Latinos are 0.78 for fruits and 1.33 for vegetables (Moore et al. 2015). A separate study found that English-speaking and limited English-speaking Latinos had lower vegetable intake, 0.74 and 0.61 times per day respectively, compared to 1.10 times per day among non-Latino Whites (Sorkin and Billimek 2012). However, positive fruit intake among limited English-speaking Latinos was found with intake at 1.21 times per day versus only 0.98 times per day among non-Latino Blacks (Sorkin and Billimek 2012). Despite these fruit intake results, the limited English-speaking Latinos in this study still did not meet the recommended dietary intake guidelines. The understanding of and the need to identify strategies to improve upon Latinos' fruit and vegetable intake patterns is important because 42.5% of Latinos are obese, which is higher than the national average (34.9%) (Flegal et al. 2016).

One potential strategy to address challenges in sourcing and maintaining produce in *tiendas* is to restructure the current food system and build a new localized food economy by connecting *tiendas* to small farmers (Foltz, Harris, and Blanck 2012). A localized food economy could assist *tiendas* in sourcing higher quality, local produce (Network 2012), which could reduce costs due to rapid spoilage as reported by small store owners and managers (Gittelsohn et al. 2014). The availability of local produce in stores could also attract customers looking for high-quality fruits and vegetables, which could promote the purchases of these foods (Foltz, Harris, and Blanck 2012). A localized food economy may also increase the revenues of small farms that compete against larger, industrial-scale farms, which currently creates an unequal and destabilizing market for small farms (Izumi, Alaimo, and Hamm 2010). Therefore, bridging the gap between small farms and *tiendas* could positively influence the health of Latinos, the economic vitality of small farms and *tiendas*, and the sustainability of farming communities (Dillemuth 2017).

The objectives of the present study were to 1) understand the produce sourcing behaviors of *tiendas* in San Diego County, 2) understand the distribution behaviors of small produce farmers in the county, and 3) identify the potential to connect *tiendas* and small produce farmers to source and distribute local produce. These objectives were investigated using a qualitative study design and the Diffusion of Innovations framework (Rogers 2010); a framework that seeks to explain how, why and over what time period new ideas, technology and behaviors spread.

Materials and methods

Key informant interviews (20–45 minutes) were conducted by JSF and RW, both trained in qualitative methodology, with nine *tienda* owners and managers and ten small produce farmers in San Diego County between September 2014 – July 2015. *Tienda* owners and managers were participants in a parent study. The parent study was a National Institutes of Health intervention trial, *El Valor de Nuestra Salud* (The Value of Our Health) (Ayala et al. 2015), which used structural and social intervention strategies to modify the physical and social environments of *tiendas* to improve fruit and vegetable consumption among Latino customers. *Tienda* owners and managers were recruited to participate in an interview, by JSF, regarding their produce sourcing behaviors at the conclusion of the *El Valor de Nuestra Salud* study assessment. Eligibility criteria for *tiendas* in the parent study included: carried some fresh produce; had a serviced meat department; was considered small or medium-to-large based on the number of cash registers and store aisles (for matching purposes); and catered to a Latino clientele (e.g., had Spanish language signage; some or all employees observed spoke Spanish; had some products from Mexico and other Latin-American countries including specific cuts of meat in the serviced meat department, and specific dishes in the serviced prepared food department, if available) (Ayala et al. 2015). *Tienda* owners and managers who agreed to participate in the present study's interview, signed an informed consent form, and received \$10 for their participation (in addition to the incentive received for completing the *El Valor de Nuestra Salud* assessment). All *tienda* owners and managers participating in the *El Valor de Nuestra Salud* study (n = 10) were eligible for the present study because one of the eligibility criteria for the parent study was that owners and managers had decision-making authority in the *tienda* (Ayala et al. 2015).

Small produce farmers were recruited, by JSF and RW, from nine farmers' markets located throughout San Diego County. Farmers' markets were identified via the San Diego Farm Bureau (<https://www.sdfarmbureau.org/>). All identified farmers' markets were entered into a Microsoft Excel database and randomly ordered using the random number generator function. Farmers' markets were visited in the order of the list. Upon entering the farmers' market, every other produce market booth was approached to assess the farmer's willingness to participate in an interview regarding their produce distribution behaviors. Small produce farmers who agreed to participate were screened for eligibility to participate in the interview. Eligibility criteria included: at least 18 years old, farm located in San Diego County, main agricultural product was more than one variety of fruit and/or vegetable, grew and sold \$250,000 worth of fruits and/or vegetables, and had authority to decide where or to whom to sell fruits and/or vegetables. Interviews took place upon the completion of the screener or were conducted at a later date and time at a location convenient to the farmer. All small produce farmers received \$20 for their participation.

Interview questions for the *tienda* owners and managers and small produce farmers were developed to understand the potential adoption of new produce distribution or sourcing behaviors from these two perspectives within the food store supply chain. Interview questions and interviewer-initiated probes were developed with constructs from the Diffusion of Innovations framework in mind. However, questions and probes were not tied to specific constructs to facilitate an open discussion regarding basic parameters within and

factors which matter most to produce distribution and sourcing (Corbin and Strauss 2014). Interview topic areas included: relationships with various entities in the food store supply chain (e.g., produce distributors), distribution and sourcing behaviors, decision-making processes for distributing and sourcing produce, readiness and willingness to change current sourcing and distributing behaviors, beliefs about working with *tiendas* or small farmers to distribute or source produce, and ideas for distributing and sourcing produce within *tiendas* or other similar small food stores in San Diego County. Sample interview questions for the *tienda* owners and managers and small produce farmers from the interview guides are provided in Appendix 1.

All interviews were audio-recorded and transcribed verbatim RW. A 10% random sample of interviews were checked for transcription accuracy by JSF by listening to the audio and comparing it to the transcribed text. The interviews were then imported into ATLAS.ti (version 7.1.2) for data management and analyses. Demographic data were also collected and entered into SPSS (Version 20.0. Armonk, NY: IBM Corp.) for descriptive analyses.

Key informant interviews were analyzed for common themes and concepts by JSF, using an inductive coding approach, from which codes were developed. Codes were operationally defined by providing definitions for all codes, as well as any sub-codes, in addition to rules and examples for when the code or sub-code should be applied (Creswell and Creswell 2018). All codes, sub-codes and operational definitions were entered into a codebook (Creswell and Creswell 2018). Coding was an iterative process and any major code changes involved the recoding of all transcripts and revisions to the codebook (Creswell and Creswell 2018). Open coding was first applied to identify important themes in decision-making processes of *tienda* owners and managers and small produce farmers (Creswell and Creswell 2018). Next, thematic coding, with concepts of the Diffusion of Innovations framework in mind, was conducted to understand the potential adoption of new produce distribution or sourcing behaviors among *tienda* owners and managers and small produce farmers. Another member of the research team, experienced in qualitative data analyses, served as an external auditor and assessed the accuracy of the relationships between the data and main objectives of the study by providing their insight (agreement or disagreement) with the codebook and coded text in order to enhance the validity of the data (Creswell and Creswell 2018). This study was approved by the San Diego State University Institutional Review Board.

Results

Of the ten *tienda* owners and managers approached to participate in an interview, one refused, resulting in a participation rate of 90%. Thirty-four small produce farmers were approached for participation. Of these small produce farmers, 8 (25%) refused to participate and 16 (50%) were ineligible primarily due to not having the authority to decide where or to whom to sell fruits and/or vegetables. Assuming those that refused to participate were eligible, the participation rate of small produce farmers was 55%. Demographic characteristics of participants are reported in Table 1. More than half of both the *tienda* owners and managers (66.7%) and small produce farmers (70.0%) were male. More than half of the *tienda* owners and managers worked for the *tienda* full-time (77.8%) while all small produce farmers (100%) worked for the farm full-time. The median number of years

owners and managers reported working at the *tienda* was 5 years (range: 1–20 years), while small produce farmers reported a median of 20 years (range: 5–60 years) working for the farm.

Results from the coding of key informant interviews were summarized into three major themes: 1) *people*, 2) *place*, and 3) *product*. Within each of these major themes, were predominant sub-themes. For *people*, the predominant sub-themes included relationships, awareness of farmers, and commitment to the community. For *place*, the predominant sub-themes were delivering and receiving, minimum orders, and profit. For *product*, the predominant sub-themes were quality, price, and care. All themes, along with example quotes, are shown in Table 2.

People

When discussing readiness and willingness to change current sourcing and distributing behaviors, the dominant discussion was about relationships. Most small produce farmers shared that if other farmers changed their current distribution system, they would be more inclined to change their own, particularly if the new distribution system proved successful. This finding relates to both *adopter categories* and to *relative advantage* within the Diffusion of Innovations framework. For example, one small produce farmer said, “If (name redacted) started to work with small stores, everyone would. She is the queen farmer in San Diego, and everyone respects her. She is legit, the real thing.” In fact, several small produce farmers referred to this farmer in their discussions of decision-making processes for distributing produce and in discussions of relationships with other small produce farmers in the county. This demonstrates that the farmer is a highly respected individual, and may be considered an *opinion leader*, within the small produce farmer community. If she were to adopt a new distribution system, such as distributing to *tiendas*, others may adopt the new behavior. Additionally, most of the farmers discussed how the small farming community is close-knit, which may partially explain their likelihood of mimicking the distribution behaviors of others. For example, while discussing the farmers’ markets, one small farmer stated,

I’ve been in [farming] since I was seven. So, I know, usually everyone... I’m used to getting along with anyone... even when it’s a new vendor... Everyone at the markets ends up becoming like family... It’s like, ‘Oh look at this is this person. She’s new and she’s selling this’... And then everyone just slowly becomes family. That’s how I see the market.

All *tienda* owners and managers showed interest in working with small produce farmers to source produce but most discussed a lack of awareness of farming or farmers, including how to communicate with them to begin a working relationship. These insights relate to the factor of *complexity* within the Diffusion of Innovations framework. As one *tienda* owner and manager stated, “If we can find out who (the farmers) are or what they grow, maybe we can work with them.” As most *tiendas* worked with produce distributors, owners and managers had limited interactions with the produce industry outside of their distributors and therefore were unaware of small produce farmers in their surrounding community or even in San Diego County. From the farmers’ perspective, most believed that there was a general lack of awareness regarding farming practices, which affected their decision-making

processes regarding distribution because they wanted to work with entities that understood their occupation. This finding relates to *compatibility* within the Diffusion of Innovations framework, which was highlighted when a farmer discussed the challenges of others not understanding their occupation and its complexities. One small produce farmer stated,

Once we start talking to other people they're just not in the loop. They don't get it... It's not magic. Like an orange doesn't just appear. Like it took a long time for that orange to get on that table.

The last predominant sub-theme in *people*, that also relates to *compatibility*, was a commitment to the community. All small produce farmers discussed their work as important to feeding the community and discussed farming as an altruistic occupation. However, small produce farmers did not think the food store industry shared the same outlook. This perception negatively impacted small produce farmers' willingness to work with *tiendas* or other similar small food stores. For example, as one small produce farmer stated,

I'd work with another organization if I found somebody who really gives a damn. Somebody that really cares about us... not just in it for money... that actually wants to do something good for the community. Do stores care about the community? I don't know.

Most small produce farmers perceived food stores, in general, to not have similar values to their own and discussed food stores' preoccupation with money. One small produce farmer succinctly said, "We need to make a profit but we're here to feed people. Stores only think about profit." This common perception negatively impacted the willingness of small produce farmers to work with stores.

Place

Discussions within the theme of *place*, centered around organizational-level processes and capacity, which relates to the *complexity* factor within the Diffusion of Innovations framework. For instance, a common discussion among *tienda* owners and managers was the receiving of produce within their stores. Most *tienda* owners and managers discussed the benefits of working with a produce distributor which included the ability to have all produce delivered in one visit. Owners and managers expressed concerns that small produce farmers would not have all the produce needed and were incapable of delivering produce in one visit. Therefore, owners and managers thought they would have to work with multiple small produce farmers and deal with multiple deliveries. For example, as one *tienda* owner/manager stated,

Problem is, we find [a farmer] and he's good but he can't always come through. You know, a lot of times, they say, 'I've only got a pallet of this or this.' And what am I [going to] do with a pallet of one product, you know?

Almost all owners and managers stated that they did not have the capacity to receive multiple deliveries per day. For example, as one *tienda* owner and manager stated, "I only have one person doing produce receiving so I like him to do that just once, instead of receiving (produce deliveries) two, three times a day."

Tienda owners and managers also discussed their inability to meet the minimum order requirements that small produce farmers may require. Often, small produce farmers require minimum orders for deliveries to limit travel and to ensure that all produce harvested is accounted for. Produce distributors however have the capacity to make several deliveries in a day and in quantities that *tiendas* are able to source and maintain. One *tienda* owner/manager, who did have experience in working with a local farmer stated, “We tried working with a farmer but couldn’t order what they [wanted] us to, we’re too small to store large amounts of produce and to help him sell all his (produce).” This was a commonly stated actual and perceived barrier reported by *tienda* owners and managers, despite their limited prior experience in working with farmers.

From the perspective of small produce farmers, an organizational-level process that arose as a predominant sub-theme was profit. Almost all small produce farmers discussed how they were overwhelmed by the number of farmers’ markets available in the county and the need to work multiple farmers’ markets to make a viable profit. As one farmer stated,

There’s so many farmers’ markets. I mean they’re worse than [coffee shop chain]. There’s one in every community... it’s ridiculous... back in the day it was a luxury to have one. Now there’s one everywhere. And it’s the same farmers. So it’s the same farmers doing, you know, when I used to only have to do one market, now we have to do three or four markets to try to make what we used to make.

This illustrates that while the availability of multiple farmers’ markets may benefit a community, it creates a barrier to how small produce farmers make their profits.

Product

An important part of the *tienda* owners’ and managers’ decision-making processes for sourcing produce was quality of product. All *tienda* owners and managers stated that they implemented quality control checks on all produce delivered to ensure it met their standards. They noted that customers are more likely to purchase high-quality versus low-quality produce. For example, one *tienda* owner/manager stated, “Quality is important when choosing a supplier. The other important factor is consistency in quality... it has to be good quality every time, all year. I don’t have time or money for mistakes.” Despite their limited experience in working with small produce farmers, all *tienda* owners and managers discussed how they perceived small produce farmers to have high quality products, more so than produce distributors, which relates to the potential *relative advantage* of sourcing local produce from small farmers. As one *tienda* owner/manager said, “Farmers always have high quality products because all day and night, they’re growing.”

The price of the product is an essential factor that impacts both *tienda* owners and managers and small produce farmers. In regards to the *compatibility* factor within the Diffusion of Innovations framework, *tienda* owners and managers discussed the need to source affordable produce so that they could set reasonable price points for their customers, “Our customers... need affordable items, that’s just the reality.” The small store owners and managers that had sourced local produce perceived the cost to be higher than other produce distributors. As one small store owner/manager stated,

I worked with farmers and local produce distributors, and local produce is expensive... the unfortunate part is [my customers don't] have that kind [of] money to spend on their produce, [when] they can buy the same thing and it was grown somewhere else for half the price.

Small produce farmers discussed that the produce price point was a barrier in their work. Small produce farmers discussed how produce distributors often sell products at a lower price point than small farmers are able to, and that price points set for products at farmers' markets is perceived to be higher than in traditional supermarkets, highlighting the *complexity* factor within the Diffusion of Innovations framework. This therefore impacts small produce farmers' sales. One small produce farmer reported that she will often hear farmers' markets patrons comparing price points, "At farmers' markets you'll hear people say, 'Wait to buy that, we can get that at [grocery store chain] (for less)'."

Small produce farmers took as much pride in their work of feeding communities, as they did in the care and quality of their products. This was discussed in terms of their passion for their work, their farms, the demands of their work, and the overall practice of growing produce. Given this, they often preferred to sell directly to consumers (e.g., farmers' markets) because this ensured the proper handling of their products. Most small produce farmers did not think small food stores had the capability to care for produce appropriately and therefore, did not want to distribute their produce to these stores. This finding relates to both the *compatibility* and *complexity* of distributing produce to *tiendas* or other small food stores. As one small farmer stated,

I think there are [produce managers in stores] that don't know how to handle produce. They just have no education in it... have no understanding of the machinery they're using, the coolers, the equipment they're using. So it's a risk.

Comments like this demonstrate that small farmers are more likely to distribute to entities that can be trusted to adequately care for their products.

Discussion

In this study, *tienda* owners and managers and small produce farmers in San Diego County were interviewed to understand their distribution and sourcing behaviors and decision-making processes. The purpose of the study was to assess the feasibility of connecting the *tiendas* and small produce farmers to improve the selection of produce within *tiendas* and to make the *tiendas* a healthier consumer nutrition environment (Glanz and Yaroch 2004; Glanz et al. 2005). The findings provide context for understanding factors within the existing food supply chain that may affect the ability to restructure the current food system to increase access to local produce in Latino neighborhoods via *tiendas*. Additionally, this study explains how these factors influence the decision-making processes of *tienda* owners and managers and small farmers in distributing and sourcing produce.

Results from this study suggest that factors within *people* (relationships, awareness of farming and farmers, and commitment to the community), *place* (receiving and delivering, minimum orders, and profit) and *product* (quality, price, and care) impact the produce distribution and sourcing decision-making processes of *tienda* owners and managers and

small produce farmers. Overall, *tienda* owners and managers were more open to working with small produce farmers than small produce farmers were to working with *tienda* owners and managers. This is not surprising given that small business owners, such as *tienda* owners and managers, are often engaging in new strategies and innovations to improve sales (Inman and Nikolova 2017), demonstrating their roles as *innovators* or *early adopters*.

Given the small produce farmers' hesitation to work with *tiendas*, it may be worthwhile to implement new strategies within the farmers' market setting to support small produce farmers to become more open to change. One option is to focus on *observability*

Research teams could begin with an intervention strategy within the farmers' market setting to gain entrée, to build rapport with small farmers in a setting in which farmers are comfortable, and to provide the opportunity for farmers to see tangible results because of a new innovation. An example of an initial innovation, or intervention strategy, that could be implemented in a farmers' market to build rapport and to allow for *observability* would be a food prescription program or a healthy food incentive project (Saxe-Custack et al. 2019; Garner et al. 2019; Parks et al. 2020). In this strategy, small produce farmers would treat prescriptions as vouchers that can only be redeemed for fruits and vegetables (Wholesome Wave 2016). Upon engaging in and observing the outcomes of the innovation, small produce farmers may be more inclined to continue to work with researchers on other innovations, or intervention strategies, or try additional strategies such as distributing produce to other entities.

Similar to studies conducted on the produce purchasing behaviors of customers, factors that influenced the sourcing and distributing decision-making processes of *tienda* owners and managers and small produce farmers included price (Hu et al. 2013; Zoellner et al. 2010) and quality (Caspi et al. 2012) of produce. This demonstrates that three of the key stakeholders in the food system (farmers, retailers, and customers) have similar values in terms of sourcing, distributing and purchasing produce, which exhibits some *compatibility*. The price in which produce is sold and paid for is impacted by policies that affect the entire food production system (Drewnowski and Darmon 2005). However, to address price points, innovative solutions, such as population-wide fiscal policies (Pearson-Stuttard et al. 2017) need to be developed to ensure that the price of produce is affordable for customers, yet profitable for *tienda* owners and managers and small farmers. Such population-wide fiscal policies could include integrating pricing incentives with food assistance programs such as the Supplemental Nutrition Assistance Program (SNAP) or the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), or providing agriculture subsidies for small farmers to grow specific crops (Pearson-Stuttard et al. 2017).

Connecting *tienda* owners and managers to small produce farmers would improve the quality of produce available within *tiendas* (Millichamp and Gallegos 2013), however, training on how to adequately care and maintain produce may be needed for owners and managers (Gittelsohn et al. 2014). Assisting owners and managers in identifying small grants for equipment, such as refrigeration units, to improve their ability to maintain produce (Paek et al. 2014) would help to build their capacity and decrease the *complexity* factor. However, for *tiendas* that already have the capacity to maintain produce, another potential strategy to

connect *tiendas* with small produce farmers is to invite farmers to visit *tiendas* at a time convenient for both *tiendas* and small farmers. This experience would allow small farmers to see first-hand how their produce is handled and maintained within *tiendas* (allowing for *observability*). The goal would be to address the small produce farmers' concerns regarding the care of their produce while building a relationship with the *tiendas*.

To improve the overall perception that small produce farmers have of food retailers, efforts are needed to build and foster healthy relationships to demonstrate their potential *compatibility* with one another. As shown in other research, trust is an important factor for buyer-seller relationships, particularly in the food retail market (Viktoria et al. 2011). Relationship-building between *tienda* owners and managers and small produce farmers can occur via formative research methodology, such as a community engagement process. This would enable *tienda* owners and managers and small farmers to meet and contribute ideas and strategies as to how the existing food supply chain can be reformulated so that they can effectively work together. Community engagement strategies have been implemented previously and have shown success in environmental- and policy-level programs and interventions to improve food environments (Gittelsohn and Trude 2015). A community engagement process would also increase the *tienda* owners' and managers' awareness of farming practices and farmers, as well as show small produce farmers whether *tiendas* are committed to the communities they serve. Additionally, issues related to receiving, delivery, and minimum orders would be discussed so that *tienda* owners and managers and small produce farmers can better understand the barriers and facilitators each face. The goal would be to come up with potential solutions to address these issues. This community engagement strategy would be more effective if opinion leaders, particularly from the small farming community, were included (Iyengar, Van Den Bulte, and Valente 2011; Valente and Pumpuang 2007). As demonstrated in this study, several small farmers identified one small farmer in San Diego County as a leader and role model; having this farmer attend community engagement meetings would be integral.

Findings from this study should be considered in light of its limitations. First the study is limited by the small sample size. Participants were recruited from San Diego County so findings may not generalize to other geographic areas. Additionally, only *tienda* owners and managers were interviewed, which may restrict generalization to other ethnic food markets (Joassart-Marcelli, Rossiter, and Bosco 2017). The perspectives and experiences of this study's *tienda* owners and managers and small produce farmers may not reflect the full range of factors within the existing food supply chain that affect the ability to restructure the current food system and make decisions on the sourcing and distribution of produce. Despite these limitations, this study demonstrated strengths in its in-depth interviews that allowed for probing and rich contextual information. Recruiting *tienda* owners and managers and small produce farmers from throughout San Diego County increased confidence that the findings were not limited to specific *tiendas*, small farms, or to a specific region of the county.

Implications

Findings from the present study highlight the need to better understand factors within the food supply chain that facilitate and impede *tiendas* and small produce farmers from

working together. Interviews with other key stakeholders within the food supply chain, such as produce distributors (Ayala et al. 2017), should be conducted. This would allow for a better understanding of the perspectives and experiences of additional stakeholders and the factors that impact the ability for *tiendas* to source local produce and the ability for small farmers to distribute local produce to small stores. Prior to connecting *tienda* owners and managers with small produce farmers, methods to build and foster relationships between these entities should be identified and implemented. Potential methods include consistent informal meetings or healthy food retail conferences for *tienda* owners and managers and small produce farmers to attend. Lastly, policy-level initiatives, such as population-wide pricing strategies or minimum stocking requirements (Laska and Pelletier 2016) could help to support a more local food supply chain and system, thus benefiting *tiendas* and small produce farmers.

Appendix 1.: Sample interview questions for tienda owners and managers and small produce farmers

Sample interview questions from the *tienda* owners and managers interview guide

- In general, how do you make decisions about which suppliers you work with?
 - [Probe] What are important reasons for choosing one supplier over another?
- Tell me about how you make decisions about which produce suppliers to work with. How do you decide which ones you want to work with?
 - [Probe] What criteria do you use to choose one produce supplier over another?
- In what ways, if any, is the decision-making process you go through about produce suppliers any different from the decision-making process you go through to choose other suppliers?
 - [Probe] Other than you, is there anyone else involved in making the decision about selecting a produce supplier to work with?
 - [Probe] What would make you change your mind and start working with a different produce supplier?
 - [Probe] How often do you change produce suppliers?
- What has been your experience selling the locally grown produce? Did you work with a farmer or a local produce distributor to obtain this product?
- [If worked with a farmer:] What were the benefits of working with a farmer? Were there any challenges?
- To your knowledge, do any of your current produce suppliers carry locally grown produce?

- Does whether a produce supplier sell locally grown produce affect whether you select to work with him/her? If so, how?

Sample interview questions from the small produce farmers interview guide

- What are the steps from harvest to the delivery of the product to the organization(s) you work with? What does that process look like?
 - Probe: Do you have the capacity to deliver your product directly to the organization(s) you work with?
- To what extent do you plan your crop rotation on requests from organization(s)?
 - Probe: If an organization wanted a particular fruit or vegetable for the summer season, when would they need to inform you of this need?
- In general, how do you make decisions about which organizations you work with?
 - Probe: What are important reasons for choosing one organization over another?
 - Probe: What would make you change your mind and start working with a different organization?
- How do you determine price points with the organizations you work with?
 - Probe: Do you set up formal contracts?
- What would motivate you to visit small grocery stores to help the staff at the store demo your product?
- What would motivate you to engage in educational activities (i.e. about nutrition, where food comes from) at the small grocery store to encourage customers to eat fresh produce?
 - Probe: Do you have the capacity to participate in such activities?
 - Probe: What resources would you need to conduct such activities?
 - Probe: Would connecting with other organizations that can demo your product be useful is participating in these activities?
 - Probe: What types of organizations would you be willing to work with?
- If a store made a commitment to purchase your produce, how interested would you be in growing specifically for that store? Why?
- What information or learning opportunities would help you work with small grocery stores?
- Tell me about how you connect with others in the farming community.
 - Probe: How often do you meet up with other farmers?
 - Probe: What kinds of things do you talk about (i.e. work, personal life)?

- Probe: Where do you most often connect with farmers (i.e. at farmer's markets)?
- If you need advice related to farming, how comfortable are you in reaching out to other farmers for advice?
 - Probe: How often do other farmers ask you for advice?
- Compared to other professions, how supportive do you think small farmers are of one another?
- Probe: What kind of support do you offer one another?
- Probe: Tell me about how you share ideas with one another.
- How would you change your distribution practices next year if your friends that are farmers began a new distribution practice and reported positive experiences?

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Table 1.

Characteristics of *tienda* owners and managers and small produce farmers.

	<i>Tienda</i> owners and managers (n=9)	Small produce farmers (n=10)
Male, %(n)	66.7 (6)	70.0 (7)
Years worked for <i>tienda</i> or farm, median (range)	5 (1–20)	20 (5–60)
Full-time employment for <i>tienda</i> or farm, %(n)	77.8 (7)	100 (10)

Table 2.

Themes from key informant interviews.

Themes and sub-themes	Definition	Example quote
<i>People</i>		
<i>Relationships</i>	Comments related to the way in which two or more people and/or entities are connected or the way in which two or more people or entities behave toward each other.	"I've been in [farming] since I was seven. So, I know, usually everyone... I'm used to getting along with anyone... even when it's a new vendor... Everyone at the markets ends up becoming like family... It's like, "Oh look at this is this person. She's new and she's selling this... And then everyone just slowly becomes family. That's how I see the market." <i>Farmer</i>
<i>Awareness of farming and/or farmers</i>	Knowledge or perceptions of farmers and/or farming.	"Farming is almost separated. And we accept that we're at the bottom even though we should be at the top. But it's just a different mentality. And even like our so-called farmers, like we're a community and we understand each other. But once we start talking to other people they're just not in the loop. They don't get it... It's not magic. Like an orange doesn't just appear. Like it took a long time for that orange to get on that table." <i>Farmer</i>
<i>Commitment to the community</i>	Fellowship with others, as a result of sharing common attitudes, interests, and goals; concern for the well-being of others.	"People will come, they know me, they know my assistants, they know my co-workers. I've known them for a long time. There [are] people who I've seen their kids like grow up on our fruit over the last... 10 years... Whereas you know just a picture or a sign hanging in a supermarket with a [farmer's] face on it and a name is... Much less of a personal connection." <i>Farmer</i>
<i>Place</i>		
<i>Profit</i>	Comments related to financial gain or the exchange of a commodity for money.	"There's so many farmers' markets. I mean they're worse than [coffee shop chain]. There's one in every community. No, it's ridiculous... back in the day it was a luxury to have one. Now there's one everywhere. And it's the same farmers. So it's the same farmers doing, you know, when I used to only have to do one market, now we have to do three or four markets to try to make what we used to make." <i>Farmer</i>
<i>Receiving and delivery</i>	Comments related to the administrative function that involves checking the quality, quantity, and condition of incoming produce, including the feasibility of receiving produce and availability of produce. Also includes comments related to the methods of distribution.	"Problem is, we find [a farmer] and he's good but he can't always come through. You know, a lot of times, they say, 'I've only got a pallet of this or this'. And what am I [going to] do with a pallet of one product, you know?" <i>Tienda owner/manager</i>
<i>Minimum order</i>	Comments about the amount of a product that a farmer can or will supply.	"What kind of minimums would (farmers) require...because... some suppliers you have to have a minimum in order to get product." <i>Tienda owner/manager</i>
<i>Product</i>		
<i>Quality</i>	Comments related to the perception of the degree to which produce meets the farmer's, manager's or customer's expectations.	"The better [the] quality produce, the longer it's [going to] last on my shelf, the more I'm [going to] get out of it... That's whose product I want." <i>Tienda owner/manager</i>
<i>Price</i>	Comments related to price points, deciding the amount required for produce as payment or the importance of price in selecting produce suppliers or sources for which to distribute.	"I worked with farmers and local produce distributors and local produce is expensive... the unfortunate part is [my customers don't] have that kind [of] money to spend on their produce, where they can buy the same thing and it was grown somewhere else for half the price." <i>Tienda owner/manager</i>
<i>Care</i>	Awareness or familiarity of handling, stocking, and/or delivering produce.	"I think there are [produce managers in stores] that don't know how to handle produce. They just have no education in it... have no understanding of the machinery they're using, the coolers, the equipment they're using." <i>Farmer</i>