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Assessing Market Channel Performance for Colorado Fruit and Vegetable Producers

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Abstract

Though data have long been collected to educate producers about how to improve farm performance through benchmarking, this information is almost exclusively available by commodity and not by market channel. Further, there is evidence that the small and mid-scale producers that dominate these markets often do not keep detailed financial records, despite clear evidence that doing so improves the viability of operations. This paper uses a Colorado case study of the Market Channel Assessment Tool (MCAT) to determine recruitment methods that maximize participation among small and mid-scale producers. We find there are four best practices associated with successful farmer recruitment.

Keywords: farmer recruitment, local food markets, market performance, primary data collection

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Introduction

There is growing evidence of the differential performance of food marketing channels (e.g., LeRoux et al., 2010; Hardesty and Leff, 2010), with most transactions involving intermediary businesses (e.g., aggregators, distributors, wholesalers) (Low et. al, 2015). The U.S. Department of Agriculture (USDA) and a number of state agencies have implemented a wide array of policies and programs to support new market channels. A major goal of these programs is improving farm and ranch viability, with emphasis on small and mid-scale, young, and beginning operators (U.S. Department of Agriculture, 2016). Critics note, however, that programs are promoted without adequately evaluating how local and regional foods affect market performance and the welfare of key stakeholders.

Though the USDA, Farm Credit, and several land grant universities have long collected data to educate producers about how to improve farm performance through benchmarking, this information is almost exclusively available by commodity and not by market channel. Further, there is evidence that the small and mid-scale producers that dominate these local and direct food markets (in terms of farm numbers) often do not keep detailed financial records, despite clear evidence that doing so improves the viability of operations (e.g., Muhammad et al. 2004).

In 2008, Cornell University developed a Market Channel Assessment Tool (MCAT), which utilizes recordkeeping techniques and data analysis to aid individual producers with marketing decisions. It also allows for aggregation of industry-level data of specialty crop growers to establish state-wide or regional benchmarks by market channel. The MCAT uses a "representative week" of harvest and sales during peak production to generate a snapshot of the farm's whole season. For one week, each worker records the time they spend harvesting, processing, transporting, and selling each crop for each market channel (Figure 1). Information on pay rates, the distance to each market, and the farm owner's perception of risk and lifestyle preferences is also compiled.

Anonymous Farm	**WORKER NAME:**	**DATE:**

TIME SPENT (to nearest 5 min):		**PRODUCT(S):**	
ACTIVITY: (Each log sheet should cover one activity at a time)			
◯ **Harvest** e.g., create pick list, organize staff for harvest, harvest	◯ **Process/Pack** e.g., cull, grade, sort, wash, bunch, bag, package	◯ **Travel/Delivery** e.g., load/unload truck, travel to/from market, deliveries	◯ **Sales/Bookkeeping** e.g., bookkeeping, billing, sales calls, sales time, set up/take down
◯ **Other (please describe):**			
PRODUCT DESTINATION: (Check all that apply)			
◯ ***Farmers Mkt 1***	◯ ***Farmers Mkt 2***	◯ ***Distributor***	◯ ***Farm Stand***
◯ ***Restaurant 1***	◯ ***Restaurant 2***	◯ ***Farm 2 School***	◯ ***Other _____***
NOTES (e.g., case split out -6 cases of cukes harvested, 2 for FM 4 for restaurants, including names of markets):			

Figure 1. Example Labor Log.

Using the week of records and the supplemental information, a MCAT report is developed for each farm. The report is designed to show producers how their marketing labor is used by activity, market channel, and worker to help them identify and expand efficiencies or identify and correct bottlenecks. One of the first ways to identify inefficiencies is to compare a channel's percentage of sales relative to its percentage of total marketing labor used (Figure 2). Finally, the report ranks the market channel portfolio using five criteria: sales volume, labor requirements, profit margin, financial risk, and lifestyle preferences (Figure 3).

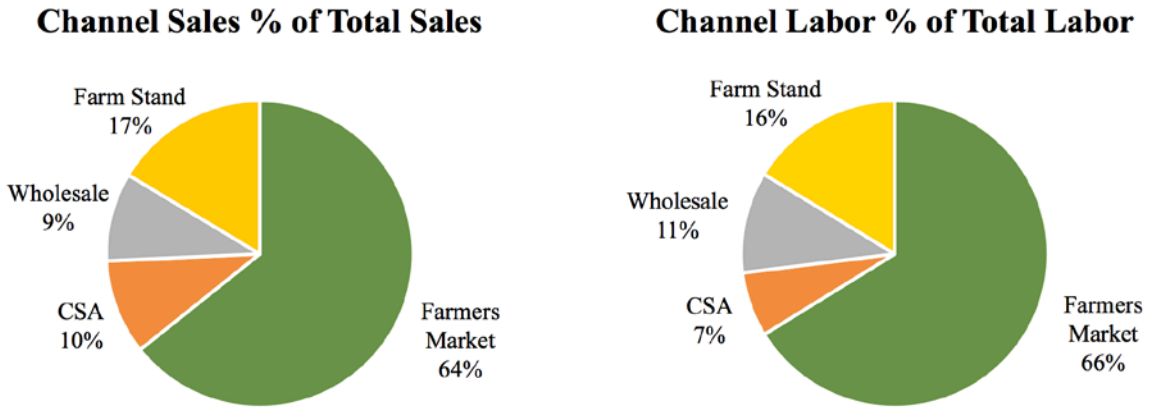

Figure 2. Sales versus Labor Percentages.

Market Channel	Sales Volume Rank	Labor Hours Rank	Profit Margin Rank	Financial Risk Rank	Lifestyle Rank	Final Scores	
						Unweighted	Weighted
Farmers Market	1.00	4.00	2.16	1.00	4.00	**2.4**	**2.4**
CSA	3.96	1.00	1.00	1.00	1.00	**1.6**	**2.2**
Wholesale	4.00	1.19	4.00	1.00	1.00	**2.2**	**2.7**
Farm Stand	3.61	1.48	2.11	1.00	2.00	**2.0**	**2.5**
Factor Weighting	**0.40**	**0.20**	**0.15**	**0.05**	**0.20**		

Figure 3: Example Market Channel Ranking.

Since Cornell completed its preliminary assessments (Schmit and LeRoux, 2014), researchers from Oregon State University have also utilized the MCAT (Murray and Gwin, 2016). Both studies, however, reported small sample sizes (31 and 6, respectively) due to recruitment challenges. Despite preliminary success, both LeRoux et al. (2010) and Murray and Gwin (2016) found recruitment to be one of the most challenging aspects of implementing the MCAT. The small and mid-scale fruit and vegetable growers that this tool is designed to support are often reticent to participate, primarily because of the added time requirement of recordkeeping. Similarly, a 2013 SARE grant to improve recordkeeping for small-scale specialty crop producers in West Virginia had only two out of the six producers eventually report because the burden of collecting information caused a majority of producers to drop out of the study, despite a $250 incentive (Teets, 2013).

LeRoux et al. (2010) designed the MCAT to specifically track marketing labor, which is consistently the largest share of total marketing cost. Ironically, reducing labor requirements might increase time available for recordkeeping such as the information this research requires. Accordingly, this paper uses a case study of MCAT application in Colorado to determine recruitment methods that maximize participation among small- and mid-scale producers. We find there are four best practices associated with successful farmer recruitment: (i) build strong relationships with partners; (ii) visit regional farm markets to facilitate producer referrals; (iii) collect data at the farm, supporting farming activities; and (iv) identify incentives of value for participants.

Case Study

In 2016, Colorado State University (CSU) partnered with the Colorado Department of Agriculture (CDA) on a Federal-State Marketing Improvement Program grant, the goal of which was to improve the profitability of fruit and vegetable producers by assessing the market channel performance of non-commodity marketing strategies (e.g., wholesale, farmers' markets, CSA, farm-to-school). Colorado represents an interesting case, as it has experienced greater than average growth in local and regional food markets, despite flatter sales reported in the 2012 Ag Census. Further, opportunities presented by the mayor of Denver's interest in purchasing local food products may create opportunities for local producers if marketing networks can develop viable logistics (Angelo and Goldstein, 2016).

Colorado's fruit and vegetable industry is becoming more diverse in terms of production and marketing (U.S. Department of Agriculture, 2014). Between 2007 and 2012, the number of farms reporting vegetable sales increased from 738 to 780—a 6% increase. Fruits and vegetables represent about 12% of all crop revenues and are produced on a little more than 83,000 acres in 48 counties. Most of Colorado's fruit and vegetable acreage (about 79,000 acres) is targeted at the fresh market sector. In 2012, 2,896 farms included direct sales in their marketing portfolio. The number of farmers' markets increased from 106 in 2009 to 159 in 2013. Additionally, in 2012, 234 farms reported having a CSA marketing arrangement (U.S. Department of Agriculture, 2014).

Between July and October 2016, CSU Extension staff and students surveyed 20 fruit and vegetable producers in three regions: Montezuma Valley in the southwest (30% of surveyed farms), Uncompahgre Valley in the west (30%), and the Northern Front Range (40%). The farms ranged from 1/10 of an acre to 10 acres with an average of 2.4 acres in production. Weekly sales during the week surveyed ranged from under $400 to over $20,000, averaging $1,188 in weekly revenue. Farms surveyed produced 2 to 45 different crops with an average of 27 crops. Ninety percent of farms produced vegetables, 70% produced fruit, and 60% produced both fruit and vegetables. Table 1 shows the breakdown of market channel categories used; only one farm did no direct marketing.

Table 1. Market Channel Utilization by MCAT Participants.

Market Channel Type	Farmers Market	CSA	Farm-Stand	Restaurant Sales	Retailer Sales	Distributor	Other
Percentage of Respondents	75%	45%	70%	50%	30%	50%	25%

Recruitment Procedure

In July 2016, Cornell University's Matt LeRoux spent one week in Colorado, training the team, producing a webinar for Colorado Fruit and Vegetable Growers Association (CFVGA) members, and conducting practice MCATs with select growers. Based on this interaction as well as feedback from farmers around the state, we find there are four best practices to facilitate recruitment: (i) build strong relationships; (ii) visit farmers' markets to gain producer referrals; (iii) collect data at the farm, supporting farming activities; and (iv) offer producer-valued incentives for participation.

At the project's onset, the Colorado State University team worked hard to ensure buy-in from key partners throughout the state who have strong relationships with fruit and vegetable growers, including the CDA (Markets Division), the CFVGA, the CSU Extension (Food Systems Team), the Colorado Farmers' Market Association, the Northern Colorado Food Cluster, and the Building Farmers in the West program. As part of this process, we advertised the project in each of our partners' newsletters and, in some cases, asked for nominations.

These strong relationships with project partners played a vital role as enumerators went into the field in 2016. Although the geographic diversity accurately represents the state as a whole, it also posed a set of challenges, most notably that the CSU enumerators were over 300 miles from home and lacked relationships with regional growers. Support from our partners, notably CSU Extension field offices, was pivotal in establishing credibility, trust, and social capital between producers and enumerators. The first week in a new region, enumerators met with local CSU extension and research centers, visited farmers' markets, assisted with food distributor deliveries (to gain access to their vendors), and met with restaurants and grocery stores that were buying locally-grown produce. After explaining the MCAT as well as benefits to producers, these networked professionals were willing to make introductions. The referrals helped to secure farm visits.

Though the referrals from buyers were helpful, it was notably more difficult to get the requisite time and attention from producers during the peak season to fully explain the process of data collection. Enumerators can address this issue by working alongside producers with harvesting, weeding, or other farm functions. Though this requires substantial effort and additional time on the part of the enumerator (a 20–30 minute interview often took multiple hours), it ensures producer trust and gives them time to converse, ask questions, and fully understand the data collection process. The trust is important given that producers are asked to share their sales information and pay rates. Though these producers were often hesitant to release information at first, after hours of working alongside them and explaining how the numbers would be used,

enumerators reported a higher likelihood of establishing the necessary trust to get the information needed—and sometimes get referrals for more farms in the community.

Another important aspect of successful recruitment involves identifying appropriate producer incentives. Participation in the MCAT study has many direct producer benefits. The most tangible, recommended by LeRoux et al. (2010), includes $100 cash upon completion. However, producers noted several additional incentives that were valuable, including a personalized MCAT report, economic advising from a university-based agricultural economist, and the opportunity to be the first group of farmers in the state with the ability to track their marketing performance relative to statewide benchmarks.

Of note are some trends in how the characteristics of a farm or producer responded to these incentives. In Colorado, farms in their first year or two of production were still determining the effectiveness of different market channels. These producers seemed much more interested in participating to improve their business planning and were especially responsive to financial incentives. Farms in operation for 3–5 years employed varying levels of recordkeeping but agreed almost unanimously that they needed better records. These farms were the most cooperative about keeping records because having a researcher compile and report the results was very appealing. More established farms were less interested because of their experience with their own production. However, they were very responsive to having a customized report and perhaps most motivated by the opportunity to receive consulting and to see how their marketing benchmarks compared to state averages.

Next Steps

In addition to improved knowledge of farm performance for participating growers, CSU, CSU Extension, and the CDA will begin to use this preliminary data collected to develop benchmarking reports for fruit and vegetable growers who participate in these alternative markets. These benchmarking reports will allow producers to compare their businesses to an average of other producers, facilitating their ability to analyze their financial situation, set future goals and make sound financial and investment decisions.

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