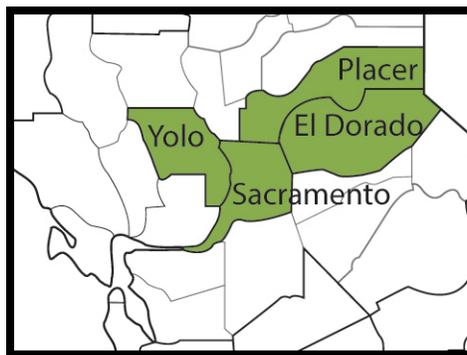




Economic Impact of Local Food Marketing by El Dorado County Producers in the Sacramento Region



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**ECONOMIC IMPACT OF LOCAL FOOD MARKETING
BY EL DORADO COUNTY PRODUCERS IN THE SACRAMENTO REGION**

Executive Summary

Consumers often cite supporting the local economy as a reason why they purchase locally produced foods. To determine this economic impact, our University of California Cooperative Extension team interviewed producers engaged in direct marketing to measure the economic impact of local food marketing in the Sacramento Region (El Dorado, Placer, Sacramento and Yolo counties). Our key findings indicate that, for every dollar of sales, El Dorado County direct marketers are generating 83 percent more economic activity within the region, as compared to Sacramento Region producers who are not involved in direct marketing.

- El Dorado County direct marketers averaged \$23,143 in sales per producer, ranging from \$3,500 to \$105,375; all but one of them had sales under \$100,000. They were considerably smaller than most of the other direct market producers interviewed for this project; overall, sales of all direct market producers interviewed in the Sacramento Region average \$164,631. Sales for producers in the Sacramento Region not engaged in direct marketing averaged \$568,015.
- Direct marketers in El Dorado County earned 41 percent of their total revenues through direct marketing and an additional 41 percent of their total sales were generated from sales of wine grapes to wineries within the Sacramento Region (which we classify as direct market), and 18 percent from wholesale channels. On site farmstands were their largest direct market channel with 26 percent of total sales, followed by farmers markets with 17 percent of total sales.
- Ninety-two percent of the inputs used by El Dorado County direct marketers were purchased within the Sacramento Region. Meanwhile, 45 percent of the inputs used by producers in the Sacramento Region not engaged in direct marketing were purchased locally. El Dorado County direct marketers had the highest rate of local input purchasing among the four counties in the Sacramento Region.
- El Dorado County direct market producers' annual production and marketing expenses averaged \$25,261 in 2013. Expenses of producers in the Sacramento Region not engaged in direct marketing totaled \$214,486.

- El Dorado County direct marketers' output multiplier is 1.77, compared to 1.42 for producers in the Sacramento Region not engaged in direct marketing. This means that El Dorado County direct marketers generate \$0.35 additional output within the Sacramento Region for every dollar of production, when compared with producers in the Sacramento Region not engaged in direct marketing. The greater economic impact of direct market producers is attributed primarily to the larger percentage of inputs being purchased within the region.
- The total output multiplier of 1.77 is relatively high. Other industries in the region competing for land have multipliers ranging from 1.61 to 1.77 (1.61 for auto dealers, 1.77 for building material and garden supply retailers).
- El Dorado County direct marketers have a job effect of 38.0, compared to 10.5 for the nondirect marketers. This means, that for every \$1 million of output they produce, the direct marketers are generating a total of 38 jobs within the Sacramento Region, compared to only 10.5 jobs for the nondirect marketers. The difference is primarily due to the fact that El Dorado County producers rely heavily on hired labor relative to the value of their total production.
- We created a scenario based on a 10 percent increase (240 acres) in the county's wine grape acreage which produces approximately \$1,000,000 in additional output annually for direct market producers. The increased sales of wine grapes to local wineries generates approximately \$1.8 million additional dollars circulating in the Sacramento Region, along with approximately 38 new jobs. The economic impacts related to the planting of the new acreage and the winery activities associated with processing the additional grapes are not included in these calculations.

**ECONOMIC IMPACT OF LOCAL FOOD MARKETING
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Shermain Hardesty¹, Libby Christensen², Erin McGuire³ and Scott Oneto⁴

Growing interest in local foods has raised questions about the extent to which local and regional food systems promote regional economic development. Consumers often cite supporting the local economy as a reason why they purchase locally produced foods. To find out whether there is such an impact and if there is, how much it amounts to, our University of California Cooperative Extension team interviewed producers engaged in direct marketing to measure the economic impact of local food marketing in the Sacramento Region (El Dorado, Placer, Sacramento and Yolo counties).

We collected economic information through interviews with 88 local farmers and ranchers regarding their purchases of inputs such as fuel, packaging materials and labor, services such as insurance and bookkeeping, and the revenues generated from selling their products both direct to consumers and through other channels. We measured their sales and expenses during 2013, both within and outside of the Sacramento Region. In Table 1, we presented the overall population of producers involved in direct marketing and response rates to our survey by county.

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Table 1. Survey Responses by County

County	Survey respondents	Total direct market farmers in county ^a	Response rate
El Dorado	33	126	26%
Placer	17	118	14%
Sacramento	9	95	9%
Yolo	29	95	31%
Total	88	434	20%

^aTotal direct market farmers in the county are the actual number who responded to the USDA-NASS 2012 Census of Agriculture.

We incorporated these data into an economic modeling program to estimate the economic impacts of producers engaged in direct marketing. Additionally, we assessed the qualitative impacts of direct food marketing, for example — those related to increasing consumption of seasonal and high-quality produce, building relationships within the community and creating a sense of place. We examined these impacts by interviewing local organizations, such as leaders of food banks, producer training programs, and regional agricultural marketing organizations. These broader findings are included in the report, *Economic Impact of Local Food Producers in the Sacramento Region* (http://ucanr.edu/econ_impact).

General Results

For our economic analysis we limited our interviews to producers in the Sacramento Region who generated at least \$1,000 from marketing direct to consumers⁵ during 2013. We measured their sales in different market channels, and also the amount and location of their production expenses. This report relates only to these interviews with the 33 El Dorado County producers— 23 orchard and vineyard, eight vegetable and two livestock.

⁵ We interviewed producers engaged in direct marketing because they are intentionally involved in marketing some or all of their production within the Sacramento Region. In El Dorado County, we also interviewed wine grape and apple growers who sell some or all of their production to wineries or juicers in the Sacramento Region; these wineries and juicers are an integral part of the region's food system. We recognize that other producers who sell exclusively through wholesale channels could have some of their production marketed locally; however, they are not doing this intentionally and are not the focus of this study.

During 2013, the 33 El Dorado County producers averaged \$23,143 in total sales, ranging from \$3,500 to \$105,375; all but one of them had sales under \$100,000 (which for the purposes of this report we classified as a “small” farm); the remaining one farm had sales between \$100,000 and \$250,000 (“medium” farm).

Fifty-two percent farmed full time. Only three of all El Dorado County producers hired year-round employees. These producers hired on average 1.3 full time employees and an additional 7.6 seasonal employees. The producers who did not have year-round employees hired an average of 4.8 seasonal employees.

El Dorado County direct marketers varied widely in size, from half an acre to 80 acres, with an 8.4 acres average. Forty-eight percent of farms are conventional, another 36 percent of farmers indicated that they were not certified organic but were using organic practices, 20 percent were certified organic. Most operations (88 percent) are structured as sole proprietorships.

El Dorado County direct marketers used a wide range of marketing channels. Overall, they earned 41 percent of their total revenues through direct marketing. An additional 41 percent was generated from sales of wine grapes to wineries within the Sacramento Region (which we classify as direct marketing), and 18 percent from wholesale channels. Individually, the farms generated between 25 percent and 100 percent of their revenues through direct marketing; 12 of the 33 producers sold only direct to consumers. Farmers markets are traditionally the most popular direct market channel; for El Dorado County producers, they accounted for 17 percent of total revenues, followed by on-farm farmstands (26 percent) and CSAs (four percent).

El Dorado County direct marketers generated 89 percent of their revenues in the Sacramento Region, while 3 percent of their revenues came from sales in the Bay Area and the remainder from other parts of California and other states. All of the farmers market sales took place within the Sacramento Region. The fourteen vineyard operations sold most of their wine grapes to wineries within the Sacramento Region (87 percent), with seven of them selling all of their production locally. Three percent of wine grapes went to the Bay Area (which includes Napa and Sonoma counties), while the remainder was sold to wineries in other parts of the state.

Overall, El Dorado County direct marketers generated 50 percent of their revenues from wine grape sales, 20 percent from sales of “other” fruit, fresh vegetables, and the remainder from sales of livestock, poultry, processed food products and agritourism.

Total operating expenses for the El Dorado County direct marketers averaged \$25,261, ranging from \$2,650 to \$195,100. Their average gross margin was -\$2,118, which was calculated by subtracting total operating expenses from gross revenues; depreciation, loan interest payments and income taxes were not included as expenses. Their average gross margin rate was -9.2 percent, calculated by dividing the gross margin revenue by total revenues. It was the lowest for the four country region, with Placer County producers’ average gross margin of 25.5 percent being the highest. We attribute much of El Dorado direct market producers’ low gross margin to the fact that all but one of the 33 producers are small farms; small farms are often financially challenged by their lack of economies of scale. Another reason for the negative gross margin rate is that some of the wine grape acreage may not yet be fully bearing; eight of the 14 vineyards had operating expenses that exceeded their total revenues. These deficits should diminish as the vines mature.

IMPLAN Model

IMPLAN is a software program that uses input-output (I-O) analysis. It is the most widely used software for economic impact analysis. I-O models measure how sales in one specific industry impact a region’s output value and labor income, based on spending patterns previously established between the industry and other industries in the region. The “region” is a critical factor. It can be defined as a county, a cluster of counties, the state, or even a larger geographic area. For this study, we defined the Census Bureau’s four-county Sacramento Metropolitan Area (consisting of El Dorado, Placer, Sacramento and Yolo counties) as the region. Therefore, only expenses and sales that are made within the region are considered to be local.

There are three levels of economic impact related to local food marketing that can be measured: *direct*, *indirect* and *induced*. To explain these concepts it is useful to consider an example. Imagine a customer goes to the El Dorado Hills Farmers’ Market and spends \$10 on vegetables.

The direct effect is the \$10 in revenue for that farmer. Direct effects take place only for the industry immediately affected, which in this analysis are El Dorado County producers who sold at least \$1,000 of product direct to consumers.

There are also ripple effects from the \$10 farmers market sale. Indirect effects occur when the producer purchases inputs from other industries within the region to produce that \$10 of vegetables. For example, the farmer spends \$0.68 on irrigation materials and utilities within the Sacramento Region to produce \$10 of vegetables. When the producer purchases goods and services from suppliers within the region, these local suppliers, in turn, generate demand for additional goods and services within the region. With the example of irrigation materials and utilities, the increased demand will require the hardware store owner to purchase more irrigation materials from its supplier. This additional demand is called the *indirect effect*; only the demand that is generated locally is counted.

The second ripple effect is called the *induced effect*. It occurs when households spend their income on goods and services within the region. The producer spends money to hire labor and purchases inputs. The spending generates income for the farm, employees, suppliers, and the employees of the farmer's suppliers--including that hardware store owner and her employees. The induced effect occurs when these households spend some of their income on consumer goods and services within the region, such as food, clothing, health care, dining out, recreational activities and other products and services.

Using IMPLAN to Assess Economic Impacts

As part of our analysis of the economic impact of El Dorado County direct market producers, we compare their total expenses with that of other producers in the Sacramento Region. The expenditure information for the producers in the Sacramento Region not engaged in direct marketing was accessed through IMPLAN, which derives its estimates from the United States Department of Agriculture's Agricultural Census and the Bureau of Economic Analysis. These production expenses were aggregated to include only vegetable, fruit, vineyard, tree nut and livestock operations for the entire four-county region. For lack of a better term, we refer to

producers who do not engage in direct marketing as “nondirect marketers”. El Dorado County direct market producers’ expenses averaged \$25,261 in 2013 (Table 2).

Table 2. Average Production Expenses and Local Purchasing Ratio by Category^a

EXPENSES	El Dorado County Direct Marketers			Sacramento Region Nondirect Marketers		
	% local	total (\$)	% of total expenses	% local	total (\$)	% of total expenses
Hired labor	100	548	2.2	100	52,739	24.6
Contract labor	91	6,451	25.5	100	11,408	5.3
Fuel, oil, grease	100	761	3.0	4	5,586	2.6
Vehicle, equipment and building repairs	99	1,919	7.6	21	2,831	1.3
Machinery hire/commercial trucking	100	700	2.8	77	5,193	2.4
Bookkeeping & tax services	96	331	1.3	78	237	0.1
Sales, property, excise taxes	100	2,426	9.6	100	9,293	4.3
Real estate rental/lease	100	1,012	4.0	97	1,806	0.8
Insurance	92	1,029	4.1	92	402	0.2
Irrigation and utilities	98	1,876	7.4	57	1,569	1.0
Fertilizer and soil amendments	88	590	2.3	5	784	0.4
Pest and weed control materials	71	821	3.3	9	2,094	0.8
Crop advising services	98	647	2.6	-	-	-
Seeds and plants	48	543	2.1	-	55,242	25.8
Livestock feeding and bedding	100	360	1.4	3	48,883	22.8
Veterinary & medicine	100	26	0.1	69	979	0.6
Breeding	-	-	-	-	-	-
Processing and other expenses	0	15	0.1	-	-	-
Certification, inspections, licenses and permits	95	451	1.8	-	-	-
Marketing costs and services	86	1,904	7.5	78	5	0.0
Office supplies	100	429	1.7	71	114	0.1
Other operating expenses	88	2,423	9.6	79	15,321	7.1
Total Expenses	92	25,261		45	214,486	

^a A dash indicates that information about the particular expenditure category was not easily broken out from existing IMPLAN data.

The expense proportions displayed in Table 2 are critical data used in IMPLAN to calculate the indirect and induced effects for both production systems. According to IMPLAN, expenses of the nondirect marketers in the Sacramento Region averaged \$214,484, which are nearly eight

and a half times greater and reflect larger operations. Another stark contrast is that 92 percent of the El Dorado County producers' expenses were incurred in the Sacramento Region, compared to 45 percent for the nondirect marketers. El Dorado County direct marketers had the highest rate of local input purchasing among the four counties in the Sacramento Region.

All of the employees resided in the Sacramento Region. Contract labor was the highest expense category for direct marketers in El Dorado County. It averaged \$6,451 and comprised 26 percent of total expenses, compared to 5 percent for the region's nondirect marketers. This use of contract labor is the highest among the four counties in the region; however, it is expected since contract labor is commonly used for pruning vineyards and fruit trees, and harvesting wine grapes and other fruit crops.

When compared with the region's nondirect marketers, several expense categories also comprised a considerably higher proportion of total expenses for El Dorado County producers. They included sales, property and excise taxes, other operating expenses, repairs, marketing costs and services (such as farmers market fees, certifications and packaging), irrigation and utilities, insurance, fuel, oil and grease, real estate rental, fertilizer and soil amendments, office supplies, processing, certifications, bookkeeping, and pest and weed control materials. Most of these higher expenses (except for marketing costs) are likely to be attributable to the direct marketers' smaller scale; the nondirect marketers had considerably larger operations--averaging gross revenues of \$353,529 compared to \$23,143 for the direct marketers. Compared to the County's direct marketers, livestock feeding and bedding expenses represented a significantly higher proportion of the Sacramento Region's nondirect marketers' total expenses. This difference is attributable to the fact that livestock operations comprised only 6 percent of our sample of El Dorado County direct marketers, compared to 45 percent of the nondirect marketers in the Sacramento Region.

IMPLAN Results

Using IMPLAN, we estimated a total output multiplier of 1.77 for El Dorado County direct marketers. This implies that every \$100 of sales generated by these producers also creates an additional \$77 of output produced in the Sacramento Region. It includes \$62 of indirect effect,

from the additional demand for inputs from other industry sectors that supply El Dorado County direct marketers. It also includes \$15 of consumer goods and services purchased (induced effect) which is generated by household spending within the Sacramento Region by the El Dorado County direct marketers, their employees and their suppliers' owners and employees. Both the indirect effect and induced effect involve only purchases made within the Sacramento Region.

According to IMPLAN, the Sacramento Region's nondirect marketing farms have a smaller output multiplier of 1.42, consisting of an indirect effect of 0.09 of additional input purchases and an induced effect of 0.33 of additional household spending in the Sacramento Region. Therefore, each \$100 of sales generated by an El Dorado County producer engaged in direct marketing creates \$35 more of economic activity in the Sacramento Region, when compared with an additional \$100 of sales generated by a Sacramento Region nondirect marketer. **The higher economic impact of the El Dorado County direct marketing farms is due primarily to their extensive purchasing of inputs within the region (92 percent) for all inputs, compared to the 45 percent of the inputs purchased by nondirect producers were purchased within the region.** The direct marketers' indirect effect is .62, compared to only .09 for the producers not engaged in direct marketing.

The following example illustrates the implications of the differences between the direct marketers' total output multiplier with that of the nondirect marketers. Assume that Farmer Green, an El Dorado County producer, had sales totaling \$200,000 in 2013. Applying the 1.77 multiplier, her \$200,000 of production generated \$354,000 of economic activity in the Sacramento Region. Meanwhile, Farmer Brown, a nondirect marketer, also had sales totaling \$200,000 in 2013. Applying the 1.42 total output multiplier, his production generated \$284,000 of economic activity in the Sacramento Region. The economic activity generated by Farmer Green is \$70,000 greater than that generated by Farmer Brown.

There are also large differences in the job effect IMPLAN generates for the two producer groups. El Dorado County direct marketers have a job effect of 38.0; this means that for every \$1 million of output produced by the direct marketers they are generating a total of 38 jobs within the Sacramento Region. These jobs include on-farm labor, as well as jobs related to the farms'

indirect effects, which involve the farms' suppliers, and jobs created by the direct marketers' induced effects involving household expenditures. The Sacramento Region nondirect marketers have a job effect of 10.5. The difference is primarily due to the fact that El Dorado County direct marketers rely more heavily on labor relative to the value of their total output.

Another important difference between these two producer groups is related to their gross margins, which is used to cover the producers' depreciation and loan interest expenses, income taxes and profit. In the Sacramento Region, El Dorado County direct marketers have a negative gross margin rate (-\$2,118), compared to a (very high) gross margin rate of 62.2 percent (\$353,529) for the Sacramento Region's nondirect marketers. The .15 induced effect generated by IMPLAN is based on the assumption that these producers do not have other sources of income, which probably is not a valid assumption. Thus, both the induced effect and total output multiplier for El Dorado direct marketers are underestimated by IMPLAN.

Nevertheless, the resulting difference in the induced effects between the two producer groups-- .15 for the direct marketers compared to .33 for the nondirect marketers--has a relatively small impact on the difference between their total output multipliers. The much larger difference is between their indirect effects-- .62 for the direct marketers compared to .09 of the nondirect marketers. This is due primarily to the direct marketers' much higher local purchasing rate for inputs-- .92 for the direct marketers and .45 for the nondirect marketers.

While supporting the local economy is often cited by consumers as a primary reason for buying locally grown foods, only two other economic impact studies in the United States are known of that also used data collected from producers engaged in direct marketing. The differences between the output multipliers for direct and nondirect marketers in these studies were not as large as that in our study, but values of their direct marketers' output multipliers were similar to ours. One study was conducted in upstate New York by Schmit et al. (2013). Their total output multipliers were 1.87 for small-scale direct marketers and 1.94 for the larger-scale direct marketers, compared to 1.90 for the nondirect marketers. The other study involved producers throughout the state of New York marketing through a food hub (a business that aggregates and

distributes local food) with a 1.75 output multiplier, compared to the nondirect marketers with a 1.68 output multiplier (Jablonski et al. 2016).

El Dorado County direct marketers’ total output multiplier of 1.77 is relatively high (Table 3). IMPLAN’s total output multipliers in the four county region range from a high of 2.91 associated with local government passenger transit to a low of 1.0. Various nonresidential construction sectors have multipliers ranging from 1.50 to 1.66, while single-family residential has a 1.71 multiplier. Other industries in the region competing for land have multipliers ranging from 1.61 (auto dealers) to 1.77 (building material/garden supply retailers).

Table 3. Total Output Multipliers in the Sacramento Region for Selected Industries, 2013

Industry	Multiplier
Farming-vegetable, fruit, nuts and livestock--direct market	1.77
Restaurants-full service	1.76
Retail-building materials/garden supplies	1.77
Retail-general merchandise	1.75
Construction-single family	1.71
Hotels and motels	1.70
Construction-various nonresidential	1.50-1.66
Restaurants-limited service	1.61
Farming-vegetable, fruit, nuts and livestock-- nondirect market	1.42

Thus, an additional dollar in sales generated by a direct marketer creates a similar economic ripple effect when compared to other industries that are often identified as key to regional economic development and that compete with agriculture for land, such as new housing developments and big box stores. On a per acre basis, the direct marketers’ higher multiplier effect is offset by the “big box” retailers’ higher revenues. Walmart stores (fitting the retail-general merchandise category in Table 3) have annual sales averaging about \$400 per square foot of store space. However, this square foot measure is misleading because the stores need large parking lots. Currently, there is a 155,000 square foot Walmart store planned in Auburn on an 18.6 acre parcel. Since there are 43,560 square feet per acre, a 155,000 square foot store produces approximately \$62 million in sales annually. The store averages \$3.33 million of sales

per acre, which is still considerably higher annual revenues than any farm is likely to produce (of legal crops!)

On the other hand, many residents believe that farmland is more esthetically pleasing than a Walmart store and its parking lot. We can also cite the findings from our qualitative survey; participants stressed that the economic impacts of direct market producers are not isolated. When speaking of local economic benefits and examples, interviewees said that the local food system creates connections by building social networks and relationships and/or building a sense of place.

One additional quantitative effect is that the multiplier does not capture all of the economic activity generated by El Dorado County's direct marketers. In particular, researchers in Oregon found that the proportion of customers spending outside of a farmers market to inside of a farmers market ranged from .31 to .92 based on customer surveys at Oregonian five farmers markets. Of the 4,200 farmers market shoppers in Kirkland, Washington surveyed by Washington State University, 57 percent came downtown primarily for the farmers' market, and spent an average of \$13.47 at the farmers market and \$16.03 at downtown businesses. Similar results were obtained for farmers market shoppers in New Orleans, Wisconsin and Idaho. In a study of three farmers markets in three cities (Baltimore, Cleveland, and Los Angeles), the estimated annual economic impact of the farmers market on nearby businesses ranged from \$19,900 to more than \$1 million per market. No such studies are known to have been conducted in Northern California. However, we can conclude that the 1.86 multiplier understates the economic activity in the Sacramento Region generated by the region's direct marketers. Readers should be cautioned that these results, the multipliers and other economic impacts that were estimated only apply to El Dorado County and the Sacramento Region. Other regions would need to conduct their own survey of their direct marketing producers to determine their expense proportions and local sourcing purchasing practices, and use these data when running their IMPLAN models.

Looking Into the Future

El Dorado County direct marketers' output has an economic ripple effect that is similar to that of other industries that are often identified as key to regional economic development and that compete with agriculture for land. To illustrate the potential impacts of an investment in direct market agriculture, we tested a scenario. El Dorado County has more than 2,400 acres of vineyards and is home to approximately 50 wineries. Its producers also sell a significant amount of their production to other wineries outside the region. In our sample, 14 of the 23 El Dorado fruit growers primarily grew wine grapes. During our conversations with stakeholders, they explained how demand for wines produced by El Dorado wineries was increasing. To meet this growing demand, we modeled a scenario assuming a 10 percent increase in the county's wine acreage--an additional 240 acres of wine grapes were put into production.

Using the input-output data that we collected during our interviews with the El Dorado producers, we determined that the 240 acre increase would generate approximately \$1,000,000 in additional sales for the direct market producers. The grapes would be sold to El Dorado County wineries.

As a result of the high multiplier for direct market agriculture, the influx of the \$1,000,000 in new wine grapes sales would generate approximately \$1.8 million additional dollars circulating in the Sacramento Region, along with approximately 38 new jobs. The total job effect is a combination of the direct, indirect, and induced effects. Most of the new jobs (30) are created from the direct effect. The indirect effect is \$617,000 and seven new jobs generated by the producers' suppliers. The induced effect is \$156,000 and one new job resulting from additional household spending in the Sacramento Region by the producers, their suppliers and the employees. It should be noted that these calculations do not include any of the economic activity generated by the planting of the additional 240 acres of grapes, nor the addition economic activity from the local wineries' increased production (wineries are outside of the scope of this project).

This analysis demonstrates how El Dorado County producers who are engaged in direct marketing contribute to economic development in the Sacramento Region. Each dollar of output

that they produce and sell locally is generating \$0.35 more output than a dollar of output generated by nondirect producers in the Sacramento Region. These results are driven primarily by the fact the most producers who direct market purchase virtually all of their inputs within the region, while producers who do not direct market spend purchase less than half of their inputs within the region.

Conclusions

The two groups of producers, El Dorado County direct marketers and Sacramento Region nondirect marketers, have very different approaches to growing, distributing, and marketing their products. Those engaged in direct marketing tend to be smaller operations, are more labor-intensive, and source more of their inputs locally.

As is the case throughout the Sacramento Region, the direct market producers in El Dorado County only account for 22 percent of the region's farms and fifteen percent of the total value of the county's agricultural production. However, when the sums of the indirect and induced effects for the two producer groups are compared, El Dorado County direct marketers generate an 83 percent greater economic impact on the Sacramento Region's economy when compared to the impact of an additional dollar of product sold by the nondirect marketers.

This analysis assesses the impact that El Dorado County producers who are engaged in direct marketing have on the region's economy. We recognize that direct marketers comprise a relatively small part of El Dorado County's agricultural sector. Nevertheless, they do generate both economic and qualitative benefits for the Sacramento Region, and warrant policymakers' support to nurture their growth.

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References

- Brown, C., and S. Miller. 2008. "The Impacts of Local Markets: A Review of Research on Farmers Markets and Community Supported Agriculture (CSA)." *American Journal of Agricultural Economics* 90, no. 5: 1298–302.
- Bubinas, K. (2011). Farmers Markets in the Post-Industrial City. *City & Society*, 23(2), 154-172.
- Corum, Vance. 2003. Kirkland Wednesday Market Rapid Market Assessment. August 20, 2003. Small Farms Program, Washington State University.
www.nwdirect.wsu.edu/markets/KirklandRMAaug20-2003.pdf (accessed 9/14/15)
- Gunter, A., and D. Thilmany. "Economic Implications of Farm to School for a Rural Colorado Community." *Rural Connections*, no. May (2012): 13–16.
- Jablonski, B.B.R., T.M. Schmit, and D. Kay (2016). Assessing the Economic Impacts of Food Hubs on Regional Economies: A Framework that Includes Opportunity Cost. *Agricultural and Resource Economics Review*. 45(1): 143-172.
- Lev, L., L. Brewer and G. Stephenson. 2003. *How Do Farmers' Markets Affect Neighboring Businesses* (No. 16). Oregon Small Farms Technical Report.
- Lev, L. and J. Potter. 2003. Moscow Farmers' Market Rapid Market Assessment. July 19, 2003.
<http://www.nwdirect.wsu.edu/markets/MoscowRMA2003.pdf> (accessed 9/14/15).
- marketumbrella.org. 2012. Measuring the Financial Impact of a Public Market. Crescent City Farmers Market (X3) 2012.
http://www.crescentcityfarmersmarket.org/uploads/file/Crescent_City_Farmers_Market_x3_2012-20121021.pdf (accessed 9/19/15)
- marketumbrella.org. 2012. News: Farmers Markets Contribute Millions to Local, Regional Economies.
<http://www.marketumbrella.org/index.php?mact=News,cntnt01,detail,0&cntnt01articleid=163&cntnt01returnid=83> (accessed 3/9/16).

- Polson, Burt. 2013. The Simplicity of Sales per Square Foot. Napa Valley Register. December 9, 2013. <http://www.fool.com/investing/general/2015/05/12/the-largest-retailer-in-history-how-walmart-sales.aspx> (accessed 3/9/16).
- Schmit, T.M., B.B.R. Jablonski, and Y. Mansury. (in press). Assessing the Economic Impacts of Local Food System Producers by Scale: A Case Study from New York. *Economic Development Quarterly*.
- The Motley Fool. 2015. The Largest Retailer in History: How Walmart Sales Reached \$500 billion. <http://www.fool.com/investing/general/2015/05/12/the-largest-retailer-in-history-how-walmart-sales.aspx> (accessed 3/9/16)
- Thomson, Gus. 2015. North Auburn Walmart Still a Go as Costco Falts. Auburn Journal. 2/15/15. <http://www.auburnjournal.com/article/2/13/15/north-auburn-wal-mart-still-go-costco-falts> (accessed 3/9/16)
- US Department of Agriculture-National Agricultural Statistics Service. 2012 Census of Agriculture. https://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_2_County_Level/ (accessed 7/12/15)