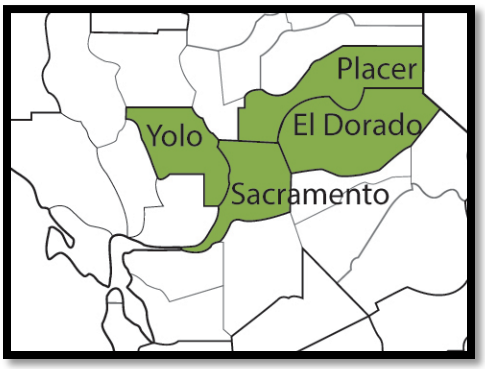
Economic Impact of Local Food Marketing by Placer County Producers in the Sacramento Region



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Shermain Hardesty, Libby O. Christensen, Jim Muck,
Julia Boorinakis-Harper and Cindy Fake

University of California Agriculture and Natural Resources

UC DAVIS

UCCE Placer Nevada

ECONOMIC IMPACT OF LOCAL FOOD MARKETING BY PLACER 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 the size of such an 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, Placer County direct marketers are generate twice as much economic activity within the Sacramento Region, as compared to Sacramento Region producers who are not engaged in direct marketing.

- Placer County direct marketers averaged $80,668 in sales, compared to $568,015 for producers in the Sacramento Region not engaged in direct marketing.

- Direct marketers in Placer County earned 53 percent of their total revenues through direct marketing, 45 percent through wholesale channels, and 2 percent from commodity markets. Farmstand sales were their largest direct market channel with 27 percent of total sales, followed by farmers markets with 17 percent of total sales. Their largest wholesale channels was grocery stores (26 percent), followed by distributors (nine percent).

- Placer County direct marketers generated 70 percent of their total revenues in the Sacramento Region, 22 percent in the Bay Area, and the remaining eight percent in other parts of California and outside of the state.

- Placer County direct market producers' annual production and marketing expenses averaged $60,121 in 2013. Expenses of producers in the Sacramento Region not engaged in direct marketing totaled $214,486, more than three times higher than the Placer County's direct marketers.

- 81% of the inputs used by Placer County direct marketers are purchased within the Sacramento region. Meanwhile, 45% of the inputs used by producers in the Sacramento region not engaged in direct marketing are purchased within the region.

- Placer County direct marketers' output multiplier is 1.86. This means that for every dollar of production they produce, they generate an additional $0.86 of economic activity within

the Sacramento region. The total output multiplier for producers in the Sacramento region not engaged in direct marketing is 1.42. Thus, Placer County direct marketers generate $0.44 additional output within the Sacramento region for every dollar of sales, when compared with producers in the region not engaged in direct marketing.

- Placer County direct marketers' total output multiplier of 1.86 is relatively high. Other industries in the region competing for land have multipliers ranging from 1.50 (auto dealers) to 1.77 (building material and garden supply retailers).

- Placer County direct marketers have a job effect of 29.2, compared to 10.5 for the producers in the region not engaged in direct marketing. This means, that for every $1 million of output they produce, the direct marketers are generating a total of 29 jobs within the Sacramento Region, compared to only 10.5 jobs for producers not marketing direct. The difference is primarily due to the fact that Placer County producers rely heavily on hired labor relative to the value of their total production.

- We created a scenario to test the potential economic impact of a small permanent collaborative farm store targeted to tourists traveling to the Tahoe region. Placer County direct marketers would increase their output of produce and meat by $1 million which they would sell through the Placer Grown Farm Store which is funded by a grant. In addition to the $1 million increase in the direct marketers' sales, the grant would also generate $857,000 of output annually in the Sacramento Region, including 29 new jobs.

ECONOMIC IMPACT OF LOCAL FOOD MARKETING BY PLACER COUNTY PRODUCERS IN THE SACRAMENTO REGION

Shermain Hardesty[1], Libby Christensen[2], Jim Muck[3], Julia Boorinakis-Harper[4] and Cindy Fake[5]

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 producers (both 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 present the overall populations of producers involved in direct marketing and response rates to our survey by county.

[1] Shermain Hardesty is a Cooperative Extension Specialist, Agricultural & Resource Economics, University of California-Davis, and leads the University of California's Small Farm Program. She can reached at: shermain@primal.ucdavis.edu.
[2] Libby Christensen is a Graduate Student Researcher, Agricultural & Resource Economics, University of California-Davis.
[3] Jim Muck is a Community Education Specialist, UC Cooperative Extension, Placer and Nevada County.
[4] Julia Boorinakis-Harper was a Community Education Specialist, UC Cooperative Extension, Placer and Nevada County.
[5] Cindy Fake is a Farm Advisor, UC Cooperative Extension, Placer and Nevada County.

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%**

[a]Total 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 thee 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 consumers during 2013.[6] 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 17 Placer County producers—11 fruit and nut, three livestock, and three vegetable.

During 2013, the 17 Placer County producers averaged $80,668 in sales, ranging from $2,316 to $390,103; 12 of them had sales under $100,000 (which for the purposes of this report, we

[6] We interviewed only producers engaged in direct marketing because they are intentionally involved in marketing some or all of their production within the Sacramento region. 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.

classify as a “small” farm), four had sales between $100,000 and $250,000 (“medium” farm) and one had sales over $250,000 (“large" farm).

Forty-seven percent farmed full time. Most of these producers did not have any year-round employees, but they hired an average of 2.9 seasonal employees. The size of their operation varied significantly, from one acre to over 500 acres. Fifty-three percent are farmers who indicated that they were not certified organic but were using organic practices, and 18 percent are certified organic. Over half have been farming for at least eight years. Most (82 percent) are structured as sole proprietorships.

Placer County direct marketers used a wide range of marketing channels. Overall, they earned 53 percent of their total revenues through direct marketing, 45 percent from the wholesale channels, and 2 percent from commodity markets. Individually, the farms generated between 27 percent and 100 percent of their revenues through direct marketing; five of the 17 producers sold only direct to consumers. While farmers markets are traditionally the most popular direct market channel, on-farm farmstands generated the greatest share of direct market revenues for the Placer County producers (26 percent of total revenues), followed by farmers markets (17 percent).

The Placer County producers generated 70 percent of their revenues in the Sacramento Region, while 22 percent of their revenues were from sales in the Bay Area and the remaining eight percent from other parts of California and other states. All but one of the producers selling at farmers markets sold only in the Sacramento Region. Two-thirds of the producers also sold through wholesale channels. Most of the wholesale activity was in the Sacramento Region, but producers also sold to distributors, restaurants, grocers, processors, and farmers in the Bay Area. Both small- and larger-scale producers sold wholesale; however, wholesale revenues tended to comprise a higher share of total revenues as their total revenues increased. For Placer County producers engaged in direct marketing, sales of fresh fruit dominated, generating 62 percent of the total revenues, followed by 18 percent from vegetables and herbs, and the remaining revenues from livestock, poultry, processed food products, and agritourism.

Placer County producers averaged $60,121 in total operating expenses. Their average gross margin was $20,547. It was calculated by subtracting total operating expenses from gross revenues. Depreciation, loan interest payments and income taxes were not included as expenses. producers use their gross margin to cover these expenses and (hopefully) to pay themselves some profit. Their average gross margin rate was 25.5 percent, calculated by dividing the gross margin by total revenues. It was the highest for the four country region, with El Dorado County producers' average gross margin of -9.2 percent being the lowest.

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 Foothill 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 Placer 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 $0.40 on fuel, oil, and grease within the Sacramento Region to generate $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 fuel, oil, and grease, increased demand at the gas station will require the gas station to purchase more gasoline 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. In this example, the producer spends money to hire labor and purchases inputs. Her spending generates income for her farm, her employees, her suppliers, and the employees of her suppliers--including that gas station attendant. 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 Placer County direct market producers, we compare their total expenses with that of other producers in the Sacramento Region. These production expenses were aggregated to include only vegetable, fruit, tree nut, and livestock operations for the entire four-county region. The expense information for producers in the Sacramento Region not engaged in direct marketing was accessed through IMPLAN, which derives its estimates from the USDA's Census of Agriculture and the Bureau of Economic Analysis. For lack of a better term, we refer to producers who do not engage in direct marketing as "nondirect marketers".

Placer County direct market producers' expenses averaged $60,121 in 2013 (Table 2). The expense proportions displayed in Table 2 are critical data used in IMPLAN to calculate the indirect and induced effects for both production systems. The expenses of nondirect marketers in the Sacramento Region totaled $214,484, which is more than three and half times greater and reflects considerably larger operations. Another stark contrast is that 81 percent of the Placer County producers' expenses were incurred in the Sacramento Region, compared to 45 percent for the nondirect marketers.

Although only 41% of the Placer County direct marketers had any year-round employees, hired labor was their highest expense category. It averaged $16,104 and comprised 27% of total expenses, compared to 25% for the region's nondirect marketers. All of the employees resided in the Sacramento Region.

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

	Placer County Direct Marketers			Sacramento Region Nondirect Marketers		
EXPENSES	% local	total ($)	% of total expenses	% local	total ($)	% of total expenses
Hired labor	100	16,104	27	100	52,739	25
Contract labor	100	376	1	100	11,408	5
Fuel, oil, grease	94	2,159	4	4	5,586	3
Vehicle, equipment and building repairs	98	3,526	6	21	2,831	1
Machinery hire/commercial trucking	31	242	0	77	5,193	2
Bookkeeping & tax services	93	584	1	78	237	0.
Sales, property, excise taxes	90	2,288	4	100	9,293	4.
Real estate rental/lease	65	894	2	97	1,806	1
Insurance	91	3,129	5	92	402	0
Irrigation and utilities	76	3,499	6	57	1,569	1
Fertilizer and soil amendments	93	2,134	4	5	784	0
Pest and weed control materials	66	393	1	9	2,094	1
Crop advising services	0	0	0	-	-	-
Seeds and plants	34	1,325	2	-	55,242	26
Livestock feeding and bedding	18	4,471	7	3	48,883	23
Veterinary & medicine	8	468	1	69	979	1
Breeding	0	0	0	-	-	-
Processing and other expenses	36	1,709	3	-	-	-
Certification, inspections, licenses and permits	79	650	1	-	-	-
Marketing costs and services	87	4,661	8	78	5	0
Office supplies	100	2,532	4	71	114	0
Other operating expenses	74	8,976	15	79	15,321	7
Total Expenses	**81**	**60,121**		**45**	**214,486**	

[a]A dash indicates that information about the particular expenditure category could not be broken out from existing IMPLAN data.

When compared with the region's nondirect marketers, several other expense categories also comprised a noticeably higher proportion of total expenses for Placer County producers; they included repairs, insurance, marketing costs and services (such as farmers market fees, certifications and packaging) and office supplies. Most of these higher expenses (except for marketing costs) are likely to be attributable to the direct marketers' smaller scale.

Compared to Placer County direct marketers, livestock feeding and bedding expenses represented a significantly higher proportion of the Sacramento Region nondirect marketers' total expenses. This difference is attributable to the fact that livestock operations comprised only 17 percent of the direct marketers in our sample of Placer County direct marketers, compared to 44 percent of the nondirect marketers in the Sacramento Region.

IMPLAN Results

Using IMPLAN, we estimated a 1.86 total output multiplier for Placer County direct marketers. This implies that every $100 of sales generated by these producers also creates an additional $86 of output produced in the Sacramento Region. It includes $42 of indirect effect, from the additional demand for inputs from other industry sectors that supply Placer County direct marketers. It also includes $44 of consumer goods and services purchased (induced effect) which is generated by household spending within the Sacramento Region by the Placer 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, farms in the Sacramento Region not engaged in direct marketing have a smaller output multiplier of 1.42, consisting of an indirect effect of 0.09 for additional input purchases and an induced effect of 0.33 for additional household spending in the Sacramento Region. Therefore, each $100 of sales generated by a Placer County producer engaged in direct marketing creates $44 more economic activity in the Sacramento region, when compared with an additional dollar of sales generated by a Sacramento Region nondirect marketer. The higher economic impact of the direct marketing farms is due primarily to their extensive purchasing of inputs within the region (81 percent) for all inputs, compared to the 45 percent of inputs used by nondirect marketers being purchased within the region.

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, a Placer County farmer, had sales totaling $200,000 in 2013; she generated 80 percent of her sales at farmers markets, and 20 percent selling to restaurants. Applying the 1.86 multiplier, her $200,000 of production generated $372,000 of economic activity in the Sacramento Region. Meanwhile, her neighbor, Farmer Brown does no direct marketing; she sells all of her crops to a produce distributor for $200,000 in 2013. Applying the 1.42 total output multiplier, Farmer Brown's production generated $284,000 of economic activity in the Sacramento Region. The economic activity generated by Farmer Green is $88,000 greater than that generated by Farmer Brown.

There are also large differences in the job effect IMPLAN generates for the two producer groups. Placer County direct marketers have a job effect of 29.2; this means that for every $1 million of output produced by the direct marketers they are generating a total of 29.2 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 Placer 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 Placer County, only 25.5% ($20,547) of the revenues generated by the direct marketing producers remains in their pockets, compared to 62.2% ($353,529) for the Sacramento Region nondirect marketers. Since the nondirect marketers tend to have larger operations, their depreciation and loan interest expenses and income taxes are likely to be higher, as well as their profit levels. According to economic theory, the proportion of disposable income spent by households decreases as their disposable income increases. Therefore, the profits generated by higher income producers (nondirect marketers in this case) do not circulate in the local economy to the same extent as money that goes to a wage worker or producer with less disposable income. This decreases the induced effect and the overall economic impact of the nondirect marketers in the Sacramento Region. However, the direct marketers' considerably higher rate of purchasing inputs locally also contributes to their higher output multiplier.

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 not small-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).

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

Industry	**Multiplier**
Farming-vegetable, fruit, nuts and livestock--direct market, Placer County	1.86
Restaurants-full service	1.77
Retail-building materials/garden supplies	1.77
Retail-general merchandise	1.76
Construction-single family	1.72
Hotels and motels	1.71
Construction-various nonresidential	1.61-1.67
Restaurants-limited service	1.62
Farming-vegetable, fruit, nuts and livestock--nondirect market, Sacramento Region	1.42

Placer County direct marketers' total output multiplier of 1.86 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 construction 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, such as Home Depot).

Thus, an additional sales dollar generated by a direct marketer creates a larger 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. But, 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 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 qualitative benefits of direct marketing that are reviewed in our report for the entire Sacramento region. When speaking of local economic benefits and examples, interviewees said that the local food system creates connections by building social networks and relationships and building a sense of place. This "place making" was every bit as important to interviewees as the additional dollars generated in the economy.

One additional quantitative effect is that the 1.82 total output multiplier does not capture all of the economic activity generated by Placer County's direct marketers. In particular, researchers have found that farmers market customers also shop at other businesses during their visit downtown to the farmers market. 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 five farmers markets in Oregon. 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 $1,000,000 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 Placer County direct marketers.

Readers should be cautioned that these results, the multipliers and other economic impacts that were estimated only apply to the Placer 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

Participants in our qualitative interviews most frequently identified the positive economic impact of direct market producers in their communities and stressed that these impacts could be greater. To build on past success, participants highlighted financial investment and education as key drivers to expanding the impact. With this in mind, we developed a scenario to test what the impact of additional financial investment and education would look like in the form of expanded market outlets for locally grown food.

To illustrate the potential impacts of an investment in direct market agriculture, we tested a scenario. Our Placer County stakeholder advisory team mentioned growing interest in building a small permanent collaborative farm store. The store would feature products grown by Placer County producers. Rather than having individual stalls, producers would share responsibility for staffing. The site would be strategically located off of I-80, and would be marketed to tourists traveling to the Tahoe region. To get the project off the ground, we assumed that the stakeholders secure a grant from the USDA's Local Food Promotion Program to purchase $1 million worth of crops and meat products to stock the Placer Grown Farm Store. Placer County direct marketers would increase their output of produce and meat by $1 million which they would sell through the Farm Store.

Due to Placer County's high multiplier for direct market agriculture, the $1 million grant does not just increase the direct marketers' sales by $1 million. The investment would also generate an additional $857,000 circulating in the community ($425,711 from the indirect effect and $431,190 from the induced effect), including 29.2 new jobs. Most of the new jobs (23 FTE) would come directly from the increased production by the direct market producers, but the indirect and induced effects would create 6.2 FTE jobs.

This scenario demonstrates how Placer County producers who are engaged in direct marketing contribute to economic development in the Sacramento Region. However, it also poses a challenge: ten of the 17 Placer County producers interviewed for this study farmed less than ten acres, and do not have access to additional farmland nearby. Expanding the economic contributions of local food producers would be facilitated if the county preserved its existing farmland and developed programs to enable them to expand their operations.

Conclusions

The two groups of producers, Placer 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, are more labor-intensive, and source more of their inputs locally. When the sums of the indirect and induced effects for the two producer groups are compared, Placer County direct marketers generate double the economic impact on the Sacramento Region's economy for every dollar of product they sell. Furthermore, the direct marketers' output has a larger 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.

As is the case throughout of the Sacramento Region, the direct market producers in Placer County are a small segment of the total agricultural sector; they account for 23 percent of the county's farms but only seven percent of its agricultural production. Among the counties in California reported as having 1,000 or more farms in the USDA 2012 Census of Agriculture, Placer County has the highest percentage of farms involved in direct marketing. Clearly, direct marketing is important to Placer County's agriculture.

This analysis assesses the impact that Placer County producers who are engaged in direct marketing have on the region's economy. For every dollar of product that they sell, their 1.86 output multiplier generates ripple effects on the Sacramento Region's economy that are double that of the nondirect marketers' 1.42 output multiplier. We recognize that direct marketers comprise a relatively small part of Placer 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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