

California Ripe Olives

Growing the Golden State's Economic Strength



California Olive Committee
Economic Impact Study
November 2011

**CALIFORNIA OLIVE COMMITTEE
ECONOMIC IMPACT STUDY**

SUMMARY REPORT OF FINDINGS

Presented to:

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	4
INTRODUCTION AND PURPOSE	6
METHODOLOGY	8
IMPLAN	8
Specialty Feeder Model	9
COC Survey	10
Data Sources	10
FINDINGS OF THE ANALYSES	11
Computation of Total Expenditures Used in the Analyses	11
Total Economic Impact.....	12
Possible Diffusion of Labor Income Spending.....	13
Possible Uses for Business Taxes Created.....	14
CONCLUSIONS.....	15
TABLE ONE: ECONOMIC IMPACT	16

CALIFORNIA OLIVE COMMITTEE ECONOMIC IMPACT STUDY

EXECUTIVE SUMMARY

INTRODUCTION AND PURPOSE

In February 2011, the California Olive Committee (COC) and Fleishman-Hillard, Inc., retained Tootelian & Associates to assist the COC in conducting a study to assess the annual economic impact that growers of California Ripe Olive (ripe olives) have in the State of California. This impact includes the increased business activity created by growing ripe olives, the jobs that are created as a result of this growth in activity throughout the various sectors of the State's economy, and the incremental business taxes that are generated.

The specific issues addressed in this study of olive growers in California were:

- How much business activity they create and how the overall impact is diffused through the various sectors in the State's economy.
- How many jobs they create.
- How much labor income they create and how that income is diffused within the State.
- How much they generate in business taxes.

It is important to recognize that this study understates the economic impact of the California ripe olive industry. Because there are only two processors of ripe olives in the State, using their financial statistics could violate the individual confidentiality of their operations. Accordingly, this study focuses only on ripe olive growers and does not consider the economic impact of processors.

Two models were used in this analysis. IMPLAN was used to compute the overall economic impact, and a specially designed model was created to help define expenditure levels to use in the IMPLAN model.

FINDINGS AND CONCLUSIONS

Grower expenditures is the primary factor in assessing their economic impact on the State. To obtain an estimate of normal annual spending, acreage and expenditures per acre were averaged from 2008 through 2010 to determine total spending (i.e., average

number of acres multiplied by average expenditures per acre). It was decided to use an average year because some individual years would be better and worse than others, and this approach provides a better representation of what could be expected over time.

The average expenditure level was then reduced to account for possible spending outside of the State (i.e., out-migration). The net result was an estimate of an expenditure level of more than \$332.8 million in an average year. This statistic was used in IMPLAN to compute the economic impact of growers in the State.

Based on the findings of this study, it is clear that growers of California ripe olives have a significant impact on the California economy. Overall, the growers create:

- Nearly \$493.6 million in economic output annually. This equates to nearly \$1.4 million dollars each day of the year.
- About 3,555 jobs as a result of their business activities and the multiplier effect created by the fact that their purchases create jobs in a variety of farming and non-farming economic sectors.
- More than \$135.0 million in labor income as a result of their business activities. These are dollars going to wages and salaries for new employment as well as expanded incomes to those already in the labor force (e.g., overtime pay). These dollars are diffused throughout the States' economy as the funds are spent for an array of goods and services.
- Nearly \$14.7 million in indirect business taxes, not including income taxes. Depending on how these funds are used, they can help pay for State and local programs that further benefit the people residing in California.

Overall, these findings demonstrate how important a role California ripe olive growers play in strengthening the economic climate of California. Their activities are diffused throughout the State's economy, touching nearly every aspect of life in California.

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Tootelian & Associates is a Sacramento, California-based marketing and management consulting firm. It specializes in performing economic impact studies, conducting market research, and assisting its clients with their business and marketing plans. The consultant was Dennis H. Tootelian, Ph.D. Dr. Tootelian is a Professor Emeritus of Marketing in the College of Business Administration at California State University, Sacramento. He received his Ph.D. in Marketing from Arizona State University, with minor fields in Accounting and Management.

Dr. Tootelian has published approximately one hundred articles dealing with all facets of business, and has co-authored six texts on marketing and small business management. Results of some of his applied research and writing have appeared in The Congressional Record, The Wall Street Journal, Forbes, The Kiplinger Report, USA Today, ABC National News website, and even The National Enquirer. Dr. Tootelian has worked in a consulting capacity with Fortune 500 companies (e.g., McDonald's Corporation, Merck, Johnson & Johnson, Nestles U.S.A., McKesson Corporation), not-for-profit organizations (e.g., California Pharmacists Association, California Dental Association), and federal and state governmental agencies (e.g., Centers for Disease Control, California Environmental Protection Agency, California Department of Parks and Recreation, and California Department of Food and Agriculture). He has conducted economic impact studies related to a variety of California agricultural crops.

METHODOLOGY

Two models were used in this analysis. IMPLAN was used to compute the overall economic impact, and a specially designed model was created to help define expenditure levels to use in the IMPLAN model.

IMPLAN

The primary model used for this analysis was IMPLAN. It provides modeling based on data and tools to assess economic impacts at the state and other levels. IMPLAN has more than 1,500 users in the United States and internationally, including federal and state governments, universities, and private sector consultants.

The benefit of using an input-output model like IMPLAN is that it helps evaluate the effects of industries on each other based on the supposition that industries use the outputs of other industries as inputs. An input-output model makes it possible to examine economic relationships between businesses and between business and consumers. It measures changes in any one or several economic variables on an entire economy.

Each industry that produces goods and services has an influence on, and in turn is influenced by, the production of goods and services of other industries. These interrelationships are captured through a multiplier effect as the demand and supply trickle over from industry to industry and thus impact total output, compensation, employment, etc. Of particular interest are industry output, employment, value added as measured by employee compensation, and indirect business taxes.

The full range of economic impacts includes direct, indirect, and induced benefits:

- ***Direct benefits*** consist of economic activity contained exclusively within the designated sector(s). This includes all expenditures made and all people employed.
- ***Indirect benefits*** define the creation of additional economic activity that results from linked businesses, suppliers of goods and services, and provision of operating inputs.
- ***Induced benefits*** measure the consumption expenditures of direct and indirect sector employees. Examples of induced benefits include employees' expenditures on items such as retail purchases, housing, banking, medical services, and insurance.

The total direct, indirect, and induced benefits arising due to the multiplier effect are presented in four ways:

- **Output** accounts for total revenues including all sources of income for a given time period for an industry in dollars. This is the best overall measure of business and economic activity because it is the measure most firms use to determine current activity levels.
- **Employment** demonstrates the number of jobs generated and is calculated in a full-time equivalent employment value on an annual basis.
- **Indirect Business Taxes** consist of property taxes, excise taxes, fees, licenses, and sales taxes paid by businesses. While all taxes during the normal operation of businesses are included, taxes on profits or income are not included.
- **Labor Income** includes all forms of employee compensation paid by employers (e.g., total payroll costs including benefits, wages and salaries of workers, health and life insurance, retirement payments, non-cash compensation), and proprietary income (e.g., self employment income, income received by private business owners including doctors, lawyers).

The **multiplier effect** for sales and employment reflect the increased economic activity that comes from sales being generated, and expenses being incurred, by a business. When a business generates sales, it must use some of that money to purchase other goods and other services and hire people to meet the demand for its products and services. Purchases made by the business represent sales to other firms who must then also purchase goods and services and hire people to meet their new demand. The additional hiring to meet demand means more people will have income which they will use to purchase goods and services for their households. All of this brings added sales to firms in the community. The net effect is that sales dollars are recycled in the community through this process of sales requiring additional purchases and employment, which result in sales for other firms who must use that money to make their own purchases and hire people.

Specialty Feeder Model

To provide data for the IMPLAN analysis, the analyst developed a “feeder” economic model that specifically addresses the variables and the critical issues. This model not only provides the data used in the IMPLAN analysis, but brings the economic impact down to a more understandable level and illustrates the impact in more detailed ways.

Because agricultural revenues and expenditures can fluctuate significantly from year-to-year, an “average year” was created based on historical and industrial operating statistics from 2008 through 2010. It is important to note, therefore, that the economic impact of olive crops could vary on an annual basis depending on climatic, pest, market, and other conditions at least partly beyond the control of growers. Computing the impact specifically for any one year was not considered appropriate because it might not be reflective of what occurs over the course of time. Using a one year basis could misrepresent the impact of this crop by simply taking a particularly “good” year, or

understate the impact by taking a particularly “bad” year. The process for deriving the statistics is described more fully in the Findings of the Study.

COC Survey

Industry statistics were used to estimate average expenses and other operating data for this study. However, to ensure that this information was appropriate, the COC was asked to verify that the statistics being used were reasonable for California ripe olive growers. Based on the information received, the industry statistics were modified as deemed appropriate. Information from a prior economic impact study of fifteen specialty crop organizations also was used in cases where information was not available from industry and COC sources.

Data Sources

Data used to assess the economic impact came from a variety of sources. These include:

- Statistics on average olive production provided by the Census of Agriculture, U.S. Department of Agriculture; California Department of Food and Agriculture’s California Agricultural Resource Directory 2010-2011 and, University of California Cooperative Extension’s Sample Costs to Produce Table Olives.
- Industry average financial statements for growers of agricultural products provided by the Risk Management Association (RMA) in its “Annual Statement Studies” and by BizStats.
- Agricultural industry average financial and operating statistics provided by the Census of Business, United States Bureau of the Census.
- Consumer expenditure statistics for the Western United States provided by the United States Bureau of Labor Statistics.
- Population statistics provided by the California Department of Finance.
- Budget statistics for California provided in the State’s official website.

FINDINGS OF THE ANALYSES

The findings of this study are presented in four sections: Computation of Total Expenditures Used in the Analyses, Total Economic Impact, Possible Diffusion of Labor Income Spending, and Possible Uses for Business Taxes Created. Tabled data is presented at the end of this Summary Report.

Computation of Total Expenditures Used in the Analyses

The number of acres for growing ripe olives was obtained from the COC and compared to statistics reported by the United States Department of Agriculture (USDA). Although the acreage statistics were quite similar, the number of acres reported by the COC was lower than that of the USDA. Accordingly, the COC statistics were used because this would provide lower, and thereby more conservative, estimates of grower expenditures.

Expenditure estimates for growers were based on average costs per acre as reported by the University of California, Davis for 2009. These also were compared to financial statistics for agricultural crops reported by the Risk Management Association (RMA), an independent organization which compiles national industry average operating expenses.

Expenditures focused on total expenditures including non-cash overhead (e.g., depreciation and amortization). As reported by the University of California, Davis, expenditures per acre will vary based on yield per acre. Because yields do vary by year, the expenditures for each of the years from 2008 through 2010 were computed based on their yields.

Since the economic impact of growing ripe olives in an average year is a function of spending, it was appropriate to include depreciation and amortization because this would account for a portion of the capital replacement costs that would be incurred by growers at various points in time. The net effect is to make this analysis a “average year” because the timing of capital purchase will vary among growers.

Total expenditures also were adjusted downward to reflect the possible out-migration of some dollars for purchases of goods and services. In effect, it was assumed that not all expenditures would necessarily be made within California. Fifteen specialty crop organizations surveyed for a previous study indicated that about 91.1% of their expenditures were within the State. This statistic was used here because it provided an average for a wide cross-section of possible expenditure patterns.

To obtain an estimate of normal annual spending, acreage and expenditures per acre were averaged from 2008 through 2010 to determine total spending (i.e., average number of acres multiplied by average expenditures per acre). The average expenditure level was then reduced by 8.9% to account for possible spending outside of the State (i.e., out-migration). Based on these computations, the averages used for this study are shown below:

	2008-2010 Average
California Olive Committee acreage report	28,517
Yield per acre (tons)	3.16
Cost per acre (cash and non-cash)	\$4,053.40
Total Expenditures	\$365,271,246
Total Expenditures in California	\$332,802,691

The expenditure level of \$332,802,691 (row 5 above) was used in IMPLAN to compute the economic impact of growers in the State.

Total Economic Impact

The economic impact analysis was conducted for the total expenditures of growers in California. *It is important to note that these projections are based on annual expenditures, which means that this impact is what is expected to occur each year that such spending occurs.*

The Output, Employment, Labor Income, and Indirect Business Taxes for growers of ripe olives are presented in Table One and summarized below. These growers spend more than \$332.8 million annually in California. This equates to nearly \$911,790 per day (i.e., \$332.8 million divided by 365 days)

SUMMARY FOR TOTAL ECONOMIC IMPACT	TOTAL	PER DAY
Output	\$493,560,358	\$1,352,220
Employment	3,555	n.a.
Labor Income	\$135,006,286	\$369,880
Indirect Business Taxes	\$14,685,071	\$40,233

The overall Output, or the amount of overall business activity created, is projected to total nearly \$493.6 million, equating to nearly \$1.4 million each day of the year. This includes the direct spending by growers (“Direct”), the amount of additional business activity created by that spending (“Indirect”), and the amount of additional business activity created by people’s spending caused by the incremental labor income (“Induced”).

About 3,555 jobs are expected to be created as a result of the spending by these growers. More than half of these jobs (52.2%) are the direct result of grower expenditures, and 47.8% will be caused by spending resulting from increased labor income.

Labor Income resulting from the additional people employed and current employees earning more is projected to be more than \$136.0 million, equating to about \$369,880 each day of the year. About 48.8% of this income is the direct result of spending by these growers, while 51.2% is caused by labor spending. How these funds are likely to be spent based on consumer purchasing patterns is described later in this Summary Report.

Finally, nearly \$14.7 million in additional business taxes will be created annually from the increased business activity caused by these growers, equating to nearly \$40,235 each day of the year. These are tax dollars generated from businesses benefiting from the heightened economic activity and the increased employment. As is described later in this Summary Report, these tax dollars can be used to fund programs that further serve the communities within the State.

Possible Diffusion of Labor Income Spending

The labor income that is created will be diffused throughout the various sectors of California’s economy. As workers and their households spend this added income, those funds will be used to purchase a wide array of goods and services.

To illustrate how those funds could be distributed to various economic sectors in California, consumer expenditures across various categories were obtained from the U.S. Bureau of the Census. Assuming that those funds will be spent in the same proportion as consumers currently spend their incomes, the dollars that are generated for each sector are shown below. The total percentages and dollars may not add up because some consumer line item purchases were omitted.

	Spending of Labor Income	Spending per Day
Incremental Labor Income	\$135,006,286	
Additional Expenditures (dollars)		
Food		
Food at home	\$8,215,755	\$22,509
Food away from home	\$5,749,044	\$15,751
Housing		
Shelter	\$25,244,594	\$69,163
Utilities, fuels, and public services	\$6,685,719	\$18,317
Household operations	\$2,238,496	\$6,133
Housekeeping supplies	\$1,260,146	\$3,452
Household furnishings and equipment	\$3,629,617	\$9,944
Apparel and services	\$3,746,702	\$10,265
Transportation		
Vehicle purchases (net outlay)	\$5,431,527	\$14,881
Gasoline and motor oil	\$5,316,427	\$14,566
Other vehicle expenses	\$5,205,296	\$14,261
Public transportation	\$1,401,044	\$3,838
Health care		
Health insurance	\$3,151,357	\$8,634
Medical services	\$1,748,329	\$4,790
Drugs	\$966,443	\$2,648
Medical supplies	\$200,433	\$549
Entertainment	\$6,614,278	\$18,121
Personal care products and services	\$1,430,811	\$3,920
Reading	\$277,827	\$761
Education	\$2,022,187	\$5,540

	Spending of Labor Income	Spending per Day
Cash contributions	\$3,901,491	\$10,689
Personal insurance and pensions		
Life and other personal insurance	\$525,888	\$1,441
Pensions and social security	\$11,515,948	\$31,551
Miscellaneous	\$3,566,114	\$9,770
Total Spending	\$110,045,473	\$301,494

Possible Uses for Business Taxes Created

To illustrate how the business tax dollars could be used to help fund some of the State's operations, the 2010-2011 budgets of a variety of agencies were obtained from the official website for California. Some caution should be exercised in using these numbers since budgets are adjusted over the course of the fiscal year. Accordingly, these only are presented as illustrations of general amounts spent by each State agency.

Presented below is the percent of selected California State agency budgets that could be covered in full or in part by the business tax dollars generated by the business activities of growers of ripe olives within California. It is important to recognize that the total business tax dollars generated are applied to each State agency. However, the business taxes generated by these growers could pay for 0.8% of the total of all of the agencies' budgets listed below.

California Budget Category	2010-11 Enacted State Funds	% of Each Program Budget*
Arts Council	\$4,312,000	340.6%
California Conservation Corps	\$72,309,000	20.3%
Children & Families Commission	\$242,408,000	6.1%
Department of Aging	\$37,701,000	39.0%
Department of Fish & Game	\$281,920,000	5.2%
Department of Food & Agriculture	\$275,897,000	5.3%
Department of Housing & Community Development	\$128,586,000	11.4%
Department of Parks & Recreation	\$532,112,000	2.8%
Department of Rehabilitation	\$57,918,000	25.4%
Department of Veterans Affairs	\$244,380,000	6.0%
State Library	\$47,379,000	31.0%
Wildlife Conservation Board	\$29,559,000	49.7%
Total of Above	\$1,954,481,000	0.8%

*If percent exceeds 100.0%, it indicates the taxes could pay more than the General Revenue budget.

CONCLUSIONS

Based on the findings of this study, it is clear that growers of ripe olives have a significant impact on the California economy. Overall, the growers create:

- Nearly \$493.6 million in economic output annually. This equates to nearly \$1.4 million dollars each day of the year.
- About 3,555 jobs as a result of their business activities and the multiplier effect created by the fact that their purchases create jobs in a variety of farming and non-farming economic sectors.
- More than \$135.0 million in labor income as a result of their business activities. These are dollars going to wages and salaries for new employment as well as expanded incomes to those already in the labor force (e.g., overtime pay). These dollars are diffused throughout the States' economy as the funds are spent for an array of goods and services.
- Nearly \$14.7 million in indirect business taxes, not including income taxes. Depending on how these funds are used, they can help pay for State and local programs that further benefit the people residing in California.

Overall, these findings demonstrate how important a role California ripe olive growers play in strengthening the economic climate of California. Their activities are diffused throughout the State's economy, touching nearly every aspect of life in California.

TABLE ONE: ECONOMIC IMPACT

OUTPUT	Indirect	Induced	Total	Total per Day
Manufacturing	\$17,869,966	\$10,018,949	\$27,888,915	\$76,408
Wholesaling	\$5,618,500	\$4,734,440	\$10,352,940	\$28,364
Retailing	\$541,444	\$10,548,796	\$11,090,240	\$30,384
Real Estate	\$5,291,977	\$4,073,452	\$9,365,430	\$25,659
Professional Services	\$13,383,738	\$15,657,277	\$29,041,015	\$79,564
Administrative	\$555,749	\$1,131,116	\$1,686,865	\$4,622
Education	\$293,127	\$1,231,516	\$1,524,642	\$4,177
Health	\$552	\$9,130,523	\$9,131,076	\$25,017
Arts, entertainment, recreation	\$358,079	\$1,766,675	\$2,124,754	\$5,821
Accommodations, food services	\$489,877	\$4,093,280	\$4,583,156	\$12,557
Farming	\$29,132,080	\$556,538	\$362,491,309	\$993,127
Other	\$9,941,874	\$14,338,142	\$24,280,016	\$66,521
Total	\$83,476,964	\$77,280,704	\$493,560,358	\$1,352,220

EMPLOYMENT	Indirect	Induced	Total	Total per Day
Manufacturing	21.0	5.3	26.3	not applicable
Wholesaling	28.9	23.7	52.6	not applicable
Retailing	2.6	123.6	126.2	not applicable
Real Estate	31.6	23.7	55.2	not applicable
Professional Services	55.2	86.8	142.0	not applicable
Administrative	5.3	13.1	18.4	not applicable
Education	2.6	18.4	21.0	not applicable
Health	0.0	81.5	81.5	not applicable
Arts, entertainment, recreation	0.0	18.4	18.4	not applicable
Accommodations, food services	5.3	65.7	71.0	not applicable
Farming	983.5	0.0	2,840.0	not applicable
Other	50.0	52.6	102.6	not applicable
Total	1,186.0	512.8	3,555.3	not applicable

LABOR INCOME IMPACT	Indirect	Induced	Total	Total per Day
Manufacturing	\$2,240,616	\$1,701,722	\$3,942,338	\$10,801
Wholesaling	\$2,172,955	\$1,824,369	\$3,997,324	\$10,952
Retailing	\$224,808	\$4,440,998	\$4,665,806	\$12,783
Real Estate	\$1,045,258	\$760,651	\$1,805,909	\$4,948
Professional Services	\$5,179,954	\$6,086,551	\$11,266,505	\$30,867
Administrative	\$279,610	\$561,035	\$840,645	\$2,303
Education	\$154,518	\$660,015	\$814,533	\$2,232
Health	\$210	\$5,181,900	\$5,182,111	\$14,198
Arts, entertainment, recreation	\$133,428	\$649,549	\$782,977	\$2,145
Accommodations, food services	\$176,502	\$1,478,203	\$1,654,704	\$4,533
Farming	\$27,654,298	\$112,102	\$93,682,433	\$256,664
Other	\$3,940,287	\$2,430,713	\$6,371,000	\$17,455
Total	\$43,202,445	\$25,887,807	\$135,006,286	\$369,880

INDIRECT BUSINESS TAXES	Indirect	Induced	Total	Total per Day
Manufacturing	\$472,574	\$189,045	\$661,619	\$1,813
Wholesaling	\$801,384	\$670,612	\$1,471,997	\$4,033
Retailing	\$57,142	\$1,441,598	\$1,498,740	\$4,106
Real Estate	\$577,365	\$457,637	\$1,035,002	\$2,836
Professional Services	\$262,938	\$393,632	\$656,570	\$1,799
Administrative	\$7,731	\$16,251	\$23,982	\$66
Education	\$2,393	\$10,203	\$12,596	\$35
Health	\$0	\$73,183	\$73,183	\$201
Arts, entertainment, recreation	\$11,176	\$102,714	\$113,890	\$312
Accommodations, food services	\$31,635	\$245,872	\$277,506	\$760
Farming	\$472,390	\$10,808	\$7,620,213	\$20,877
Other	\$192,516	\$1,047,256	\$1,239,773	\$3,397
Total	\$2,889,244	\$4,658,811	\$14,685,071	\$40,233