

Pistachio Power

A report on an industry of investment, impact and return



Pistachio Grower Economic Impact Report California, Arizona and New Mexico

WESTERN PISTACHIO ASSOCIATION ECONOMIC IMPACT STUDY

SUMMARY REPORT OF FINDINGS

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	
INTRODUCTION AND PURPOSE	6
METHODOLOGY	8
IMPLAN	
Specialty Feeder Model	9
WPA Survey	10
Data Sources	
FINDINGS OF THE ANALYSES	11
Computation of Total Expenditures Used in the Analyses	11
Total Economic Impact	12
Economic Impacts for Each State	13
California	13
Arizona	14
New Mexico	
Possible Diffusion of Labor Income Spending	
Diffusion of Total Labor Income Spending	
Diffusion of Labor Income Spending in California	17
Diffusion of Labor Income Spending in Arizona	
Diffusion of Labor Income Spending in New Mexico	
Possible Uses for Business Taxes Created	
Possible Uses for Incremental Business Taxes in California	20
Possible Uses for Incremental Business Taxes in Arizona	
Possible Uses for Incremental Business Taxes in New Mexico	
CONCLUSIONS	
TABLE ONE: THREE-STATE TOTAL	
TABLE TWO: CALIFORNIA TOTAL	
TABLE THREE: ARIZONA TOTAL	
TABLE THREE: NEW MEXICO TOTAL	29

WESTERN PISTACHIO ASSOCIATION ECONOMIC IMPACT STUDY

EXECUTIVE SUMMARY

INTRODUCTION AND PURPOSE

In July 2010, Fleishman Hillard retained Tootelian & Associates to assist it in conducting a study to assess the economic impact Western Pistachio Association (WPA) growers have overall and in their respective states of California, Arizona, and New Mexico. This impact includes the increased business activity created by growing and processing pistachio nuts, the jobs that are created as a result of this growth in activity throughout the various sectors of state economies, and the incremental business taxes that are generated.

The specific issues addressed in this study of pistachio nuts growers in California, Arizona, and New Mexico were:

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

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

Economic impact analyses were conducted for the total expenditures of growers in the three states and for expenditures by growers in each state. 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 all growers of pistachio nuts are presented in Table One and summarized below. These organizations spend nearly \$415.3 million annually in California, Arizona, and New Mexico. This equates to nearly \$1.2 million per day (i.e., \$415.3 million divided by 365 days).

SUMMARY FOR TOTAL ECONOMIC IMPACT	TOTAL	PER DAY
Output	\$682,480,972	\$1,869,811
Employment	5,910	n.a.
Labor Income	\$224,415,635	\$614,837
Indirect Business Taxes	\$24,410,415	\$66,878

Based on the findings of this study, it is clear that growers of pistachio nuts have a significant impact on the economies of California, Arizona, and New Mexico. Overall, the growers create:

- Nearly \$682.5 million in economic output, the best measure of economic activity, each year. This equates to nearly \$1.9 million dollars each day of the year.
- ➤ Nearly 5,910 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 \$224.4 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 three states' economies as the funds are spent for an array of goods and services.
- ➤ More than \$24.4 million in indirect business taxes, not including income taxes. Depending on how these funds are used, they can help pay for some or all state and local programs that further benefit the people residing in California, Arizona, and New Mexico communities.

Overall, these findings demonstrate how important a role pistachio nut growers play in strengthening the economic climate of the three states. Their activities are diffused throughout each state's economy, touching nearly every aspect of life in the three states.

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The specific issues addressed in this study of pistachio nuts growers in California, Arizona, and New Mexico were:

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

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 and Director of the Center for Small Business 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.

 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 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 will measure 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 opetration of bussinesses 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, laywers).

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 to assess 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 2000 through 2008. It is important to note, therefore, that the economic impact of pistachio nut 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 significantly inflate the impact of these specialty crops 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.

WPA Survey

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

Data Sources

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

- Statistics on average pistachio production in total and by state provided by the Census of Agriculture, U.S. Department of Agriculture; California Department of Food and Agriculture's California Agricultural Production Statistics 2009-2010; and, University of California Cooperative Extension's Sample Costs to Establish and Produce Pistachios.
- 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 and other state statistics provided by the United States Bureau of the Census and the California Department of Finance.
- Budget statistics for California, Arizona, and New Mexico came from each state's official website.

FINDINGS OF THE ANALYSES

The findings of this study are presented in five sections: Computation of Total Expenditures Used in the Analyses, Total Economic Impact, Economic Impacts for Each State, Possible Diffusion of Labor Income Spending, and Possible Uses for Business Taxes Created. These results are presented for the combined total of all three states and for each state. Tabled data is presented at the end of this Summary Report.

Computation of Total Expenditures Used in the Analyses

The numbers of pistachio farms in California, Arizona, and New Mexico were obtained from the Census of Agriculture. These were verified by the WPA.

Expenditure estimates for growers were based on average costs per acre as reported by the University of California, Davis for 2000 through 2008. 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 excluding depreciation and amortization. Since the economic impact of growing and processing pistachio nuts on a state's economy is a function of spending, it was not appropriate to include depreciation and amortization. However, eliminating depreciation and amortization costs, this study excludes future investments that growers will be making to replace depreciable assets such as equipment and facilities. Eventually, growers have to make capital purchases but the timing of those expenditures is unknown. The net effect is to make this analysis more conservative than it might be in terms of estimating the economic impact overall and for each state's economy.

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 a given state. 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.

Based on these computations, average expenditures excluding depreciation and amortization in total and in each state are shown below:

State	Total Acres	Total Cost per Acre	Cash Cost per Acre	Total Grower Expenditures	Total Grower Expend. Per Day
Total	153,774	\$3,836	\$2,700	\$415,259,829	\$1,137,698
California	151,484	\$3,836	\$2,700	\$409,075,786	\$1,120,756
Arizona	1,523	\$3,836	\$2,700	\$4,112,794	\$11,268
New Mexico	767	\$3,836	\$2,700	\$2,071,249	\$5,675

The expenditure levels (column 5 above) were used in IMPLAN to compute the economic impact of growers in total and for each of the three states.

Total Economic Impact

Economic impact analyses were conducted for the total expenditures of growers in the three states and for expenditures by growers in each state. *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 all growers of pistachio nuts are presented in Table One and summarized below. These organizations spend nearly \$415.3 million annually in California, Arizona, and New Mexico. This equates to nearly \$1.2 million per day (i.e., \$415.3 million divided by 365 days).

SUMMARY FOR TOTAL ECONOMIC IMPACT	TOTAL	PER DAY
Output	\$682,480,972	\$1,869,811
Employment	5,910	n.a.
Labor Income	\$224,415,635	\$614,837
Indirect Business Taxes	\$24,410,415	\$66,878

The overall Output, or the amount of overall business activity created, is projected to total nearly \$682.5 million, equating to nearly \$1.9 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").

Nearly 5,910 additional 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 \$224.4 million, equating to nearly \$614,840 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, more than \$24.4 million in additional business taxes will be created from the increased business activity caused by these growers, equating to nearly \$66,880 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 for programs that further serve the communities within each state.

Economic Impacts for Each State

Economic impact analyses were conducted for each of the three states. *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 economic impacts of the expenditures by growers of pistachio nuts in each state are presented in the following tables on an annual and daily basis and summarized below.

SUMMARY PER YEAR	CALIFORNIA	ARIZONA	NEW MEXICO
Output	\$672,317,476	\$6,759,391	\$3,404,105
Employment	5,822	59	29
Labor Income	\$221,073,641	\$2,222,645	\$1,119,349
Indirect Business Taxes	\$24,046,896	\$241,764	\$121,755

SUMMARY PER DAY	CALIFORNIA	ARIZONA	NEW MEXICO
Output	\$1,841,966	\$18,519	\$9,326
Employment	n.a.	n.a.	n.a.
Labor Income	\$605,681	\$6,089	\$3,067
Indirect Business Taxes	\$65,882	\$662	\$334

California

The Output, Employment, Labor Income, and Indirect Business Taxes for California are presented in Table Two. These growers spend nearly \$409.1 million annually in California, averaging more than \$1.1 million each day.

The Output, or the amount of overall business activity created, is projected to total more than \$672.3 million within California, or more than \$1.8 million each day of the year. This includes the direct spending by the 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"). More than half of this (60.8%) is the direct result of these grower expenditures, and 39.2% will be caused by spending resulting from increased labor income.

More than 5,820 additional 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 these

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 nearly \$221.1 million, equating to more than \$605,680 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, more than \$24.0 million in additional business taxes will be created from the increased business activity caused by these growers, equating to more than \$65,880 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 for programs that further benefit the communities within California.

Arizona

The Output, Employment, Labor Income, and Indirect Business Taxes for Arizona are presented in Table Three. These growers spend nearly \$4.1 million annually in Arizona, averaging nearly \$11,270 each day.

The Output, or the amount of overall business activity created, is projected to total nearly \$6.8 million within Arizona, or nearly \$18,520 each day of the year. This includes the direct spending by the 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"). More than half of this (60.8%) is the direct result of these grower expenditures, and 39.2% will be caused by spending resulting from increased labor income.

Nearly 60 additional 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 these 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 \$2.2 million, equating to nearly \$6,090 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 \$241,765 in additional business taxes will be created from the increased business activity caused by these growers, equating to more than \$660 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 for programs that further benefit the communities within Arizona.

New Mexico

The Output, Employment, Labor Income, and Indirect Business Taxes for New Mexico are presented in Table Four. These growers spend nearly \$2.1 million annually in New Mexico, averaging about \$5,675 each day.

The Output, or the amount of overall business activity created, is projected to total more than \$3.4 million within New Mexico, or more than \$9,325 each day of the year. This includes the direct spending by the 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"). More than half of this (60.8%) is the direct result of these grower expenditures, and 39.2% will be caused by spending resulting from increased labor income.

Nearly 30 additional 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 these 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 \$1.1 million, equating to nearly \$3,070 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, about \$121,755 in additional business taxes will be created from the increased business activity caused by these growers, equating to nearly \$335 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 for programs that further benefit the communities within New Mexico.

Possible Diffusion of Labor Income Spending

The labor income that is created will be diffused throughout the various sectors of each state's economy. As people spend this added income, those funds will be used to purchase a wide array of goods and services.

Diffusion of Total Labor Income Spending

To illustrate how those funds could be distributed to various economic sectors in the three-state region, 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	Spending
	Labor Income	Per Day
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Labor Income	\$224,415,635	\$614,837
Average annual expenditures	\$183,285,413	\$502,152
Food	\$22,176,848	\$60,758
Food at home	\$12,444,562	\$34,095
Food away from home	\$9,729,030	\$26,655
Housing	\$64,746,237	\$177,387
Shelter	\$41,446,057	\$113,551
Utilities, fuels, and public services	\$10,513,734	\$28,805
Household operations	\$3,822,584	\$10,473
Housekeeping supplies	\$2,546,219	\$6,976
Household furnishings and equipment	\$6,414,387	\$17,574
Apparel and services	\$6,648,822	\$18,216
Transportation	\$32,176,128	\$88,154
Vehicle purchases (net outlay)	\$12,141,751	\$33,265
Gasoline and motor oil	\$7,778,665	\$21,311
Other vehicle expenses	\$9,904,856	\$27,137
Public transportation	\$2,347,601	\$6,432
Health care	\$9,312,257	\$25,513
Health insurance	\$4,802,650	\$13,158
Medical services	\$2,699,252	\$7,395
Drugs	\$1,383,814	\$3,791
Medical supplies	\$426,540	\$1,169
Entertainment	\$10,806,777	\$29,608
Personal care products and services	\$2,116,422	\$5,798
Reading	\$455,845	\$1,249
Education	\$2,741,581	\$7,511
Miscellaneous	\$3,487,212	\$9,554
Cash contributions	\$7,407,477	\$20,294
Personal insurance and pensions	\$18,855,693	\$51,659

Diffusion of Labor Income Spending in California

Assuming that the labor income in California 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.

	California Spending of Labor Income	California Spending Per Day
Labor Income	\$221,073,641	\$605,681
Average annual expenditures	\$180,555,929	\$494,674
Food	\$21,846,591	\$59,854
Food at home	\$12,259,238	\$33,587
Food away from home	\$9,584,145	\$26,258
	California	California
	Spending of	Spending
	Labor Income	Per Day
Housing	\$63,782,037	\$174,745
Shelter	\$40,828,843	\$111,860
Utilities, fuels, and public services	\$10,357,164	\$28,376
Household operations	\$3,765,658	\$10,317
Housekeeping supplies	\$2,508,300	\$6,872
Household furnishings and equipment	\$6,318,864	\$17,312
Apparel and services	\$6,549,807	\$17,945
Transportation	\$31,696,962	\$86,841
Vehicle purchases (net outlay)	\$11,960,936	\$32,770
Gasoline and motor oil	\$7,662,826	\$20,994
Other vehicle expenses	\$9,757,353	\$26,732
Public transportation	\$2,312,640	\$6,336
Health care	\$9,173,579	\$25,133
Health insurance	\$4,731,129	\$12,962
Medical services	\$2,659,055	\$7,285
Drugs	\$1,363,207	\$3,735
Medical supplies	\$420,188	\$1,151
Entertainment	\$10,645,843	\$29,167
Personal care products and services	\$2,084,904	\$5,712
Reading	\$449,056	\$1,230
Education	\$2,700,753	\$7,399
Miscellaneous	\$3,435,281	\$9,412

Diffusion of Labor Income Spending in Arizona

Assuming that the labor income in Arizona 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.

	Arizona Spending of Labor Income	Arizona Spending Per Day
Labor Income	\$2,222,645	\$6,089
Average annual expenditures	\$1,815,285	\$4,973
Food	\$219,643	\$602
Food at home	\$123,253	\$338
Food away from home	\$96,358	\$264
Housing	\$641,256	\$1,757
Shelter	\$410,488	\$1,125
Utilities, fuels, and public services	\$104,130	\$285
Household operations	\$37,859	\$104
Housekeeping supplies	\$25,218	\$69
Household furnishings and equipment	\$63,529	\$174
Apparel and services	\$65,851	\$180

	Arizona Spending of Labor Income	Arizona Spending Per Day
Transportation	\$318,677	\$873
Vehicle purchases (net outlay)	\$120,254	\$329
Gasoline and motor oil	\$77,041	\$211
Other vehicle expenses	\$98,099	\$269
Public transportation	\$23,251	\$64
Health care	\$92,230	\$253
Health insurance	\$47,566	\$130
Medical services	\$26,734	\$73
Drugs	\$13,705	\$38
Medical supplies	\$4,225	\$12
Entertainment	\$107,032	\$293
Personal care products and services	\$20,961	\$57
Reading	\$4,515	\$12
Education	\$27,153	\$74
Miscellaneous	\$34,538	\$95

Diffusion of Labor Income Spending in New Mexico

Assuming that the labor income in New Mexico 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.

	New Mexico Spending of Labor Income	New Mexico Spending Per Day
Labor Income	\$2,222,645	\$6,089
Average annual expenditures	\$1,815,285	\$4,973
Food	\$219,643	\$602
Food at home	\$123,253	\$338
Food away from home	\$96,358	\$264
Housing	\$641,256	\$1,757
Shelter	\$410,488	\$1,125
Utilities, fuels, and public services	\$104,130	\$285
Household operations	\$37,859	\$104
Housekeeping supplies	\$25,218	\$69
Household furnishings and equipment	\$63,529	\$174
Apparel and services	\$65,851	\$180
Transportation	\$318,677	\$873
Vehicle purchases (net outlay)	\$120,254	\$329
Gasoline and motor oil	\$77,041	\$211
Other vehicle expenses	\$98,099	\$269
Public transportation	\$23,251	\$64
Health care	\$92,230	\$253
Health insurance	\$47,566	\$130
Medical services	\$26,734	\$73
Drugs	\$13,705	\$38
Medical supplies	\$4,225	\$12
	New Mexico	New Mexico
	Spending of	Spending
	Labor Income	Per Day
Entertainment	\$107,032	\$293
Personal care products and services	\$20,961	\$57
Reading	\$4,515	\$12
Education	\$27,153	\$74
Miscellaneous	\$34,538	\$95

Possible Uses for Business Taxes Created

To illustrate how the business tax dollars could be used to help fund some of each state's operations, the budgets of a variety of agencies were obtained from the official websites for California, Arizona, and New Mexico. 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.

Possible Uses for Incremental Business Taxes in California

Presented below is the percent of each California state agency's budget that could be covered by the business tax dollars generated by growers of pistachio nuts' business activities 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 1.8% of the total of all of the agencies' budgets listed below.

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	2008-9	% of Each
California Budget Category	State Funds	Agency's Budget
Total Indirect Business Taxes		\$24,046,896
Arts Council	\$4,286,000	561.1%
Children & Families Commission	\$752,133,000	3.2%
Department of Aging	\$49,705,000	48.4%
Department of Fish & Game	\$285,053,000	8.4%
Department of Food & Agriculture	\$249,770,000	9.6%
Department of Forestry & Fire Protection	\$844,700	2846.8%
Department of Parks & Recreation	\$539,535	4457.0%
Dept. of Housing & Community Development	\$401,408	5990.6%
Emergency Medical Services Authority	\$13,376,000	179.8%
Total of Above	\$1,356,108,643	1.8%

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

Possible Uses for Incremental Business Taxes in Arizona

Presented below is the percent of each Arizona state agency's budget that could be covered by the business tax dollars generated by growers of pistachio nuts' business activities within Arizona. 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 0.2% of the total of all of the agencies' budgets listed below.

	2008-9	% of Each
Arizona Budget Category	State Funds	Agency's Budget
Total Indirect Business Taxes		\$241,764
Arizona Office of Tourism	\$16,622,200	1.5%
Department of Agriculture	\$12,117,500	2.0%
Department of Commerce	\$15,722,200	1.5%
Department of Emergency and Military Affairs	\$14,283,200	1.7%
Department of Fire, Building and Life Safety	\$3,764,000	6.4%
Department of Veterans' Services	\$8,220,600	2.9%
Department of Water Resources	\$24,167,700	1.0%
Schools for the Deaf and the Blind	\$20,681,300	1.2%
Total of Above	\$115,578,700	0.2%

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

Possible Uses for Incremental Business Taxes in New Mexico

Presented below is the percent of each New Mexico state agency's budget that could be covered by the business tax dollars generated by growers of pistachio nuts' business activities within New Mexico. 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 0.2% of the total of all of the agencies' budgets listed below.

	2008-9	% of Each
Arizona Budget Category	State Funds	Agency's Budget
Total Indirect Business Taxes		\$121,755
Cultural Affairs Department	\$32,728,500	0.4%
Department of Game and Fish	\$333,100	36.6%
Economic Development Department	\$9,382,000	1.3%
Governor's Commission on Disability	\$856,600	14.2%
Homeland Security and Emergency Mgmt. Dept.	\$3,308,100	3.7%
New Mexico Livestock Board	\$1,726,500	7.1%
Tourism Department	\$11,286,800	1.1%
Total of Above	\$59,621,600	0.2%

^{*}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 pistachio nuts have a significant impact on the economies of California, Arizona, and New Mexico. Overall, the growers create:

- Nearly \$682.5 million in economic output, the best measure of economic activity, each year. This equates to nearly \$1.9 million dollars each day of the year.
- ➤ Nearly 5,910 additional 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 \$224.4 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 three states' economies as the funds are spent for an array of goods and services.
- ➤ More than \$24.4 million in indirect business taxes, not including income taxes. Depending on how these funds are used, they can help pay for some or all state and local programs that further benefit the people residing in California, Arizona, and New Mexico communities.

Overall, these findings demonstrate how important a role pistachio nut growers play in strengthening the economic climate of the three states. Their activities are diffused throughout each state's economy, touching nearly every aspect of life in the three states.

TABLE ONE: THREE-STATE TOTAL

OUTPUT	Direct	Indirect	Induced	Total
Manufacturing	\$0	\$29,704,541	\$16,654,105	\$46,358,646
Wholesaling	\$0 \$0	\$9,339,412	\$7,869,873	\$17,209,285
Retailing	\$0 \$0	\$900,021	\$17,534,849	\$18,434,870
Real Estate	\$0 \$0	\$8,796,646	\$6,771,139	\$15,567,785
Professional Services	\$0	\$22,247,261	\$26,026,475	\$48,273,737
Administrative	\$0	\$923,800	\$1,880,209	\$2,804,009
Education	\$0	\$487,253	\$2,047,100	\$2,534,353
Health	\$0	\$918	\$15,177,310	\$15,178,228
Arts, entertainment, recreation	\$0	\$595,220	\$2,936,674	\$3,531,894
Accommodations, food services	\$0	\$814,303	\$6,804,098	\$7,618,401
Farming	\$415,259,829	\$48,425,110	\$925,111	\$464,610,050
Other	\$0	\$16,525,986	\$23,833,729	\$40,359,715
Total	\$415,259,829	\$138,760,471	\$128,460,672	\$682,480,972
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EMPLOYMENT	Direct	Indirect	Induced	Total
Manufacturing	0.00	34.97	8.74	43.71
Wholesaling	0.00	48.08	39.34	87.42
Retailing	0.00	4.37	205.44	209.82
Real Estate	0.00	52.45	39.34	91.79
Professional Services	0.00	91.79	144.25	236.04
Administrative	0.00	8.74	21.86	30.60
Education	0.00	4.37	30.60	34.97
Health	0.00	0.00	135.51	135.51
Arts, entertainment, recreation	0.00	0.00	30.60	30.60
Accommodations, food services	0.00	8.74	109.28	118.02
Farming	3,086.04	1,634.81	0.00	4,720.85
Other	0.00	83.05	87.42	170.48
Total	3,086.04	1,971.39	852.38	5,909.80
LABOR INCOME IMPACT	Direct	Indirect	Induced	Total
Manufacturing	\$0	\$3,724,487	\$2,828,706	\$6,553,194
Wholesaling	\$0	\$3,612,017	\$3,032,577	\$6,644,594
Retailing	\$0	\$373,690	\$7,382,096	\$7,755,786
Real Estate	\$0	\$1,737,491	\$1,264,401	\$3,001,891
Professional Services	\$0	\$8,610,434	\$10,117,434	\$18,727,869
Administrative	\$0	\$464,785	\$932,586	\$1,397,371
Education	\$0	\$256,849	\$1,097,116	\$1,353,966
Health	\$0 \$0	\$350 \$331,703	\$8,613,669	\$8,614,019
Arts, entertainment, recreation	\$0 \$0	\$221,792	\$1,079,719	\$1,301,512
Accommodations, food services	\$100,500,630	\$293,392	\$2,457,158	\$2,750,550
Farming	\$109,569,628	\$45,968,651	\$186,342	\$155,724,622
Other	\$100,500,630	\$6,549,784	\$4,040,478	\$10,590,262
Total	\$109,569,628	\$71,813,724	\$43,032,283	\$224,415,635

INDIRECT BUSINESS TAXES	Direct	Indirect	Induced	Total
Manufacturing	\$0	\$785,540	\$314,242	\$1,099,783
Wholesaling	\$0	\$1,332,110	\$1,114,732	\$2,446,842
Retailing	\$0	\$94,985	\$2,396,311	\$2,491,297
Real Estate	\$0	\$959,731	\$760,712	\$1,720,443
Professional Services	\$0	\$437,072	\$654,318	\$1,091,390
Administrative	\$0	\$12,851	\$27,014	\$39,865
Education	\$0	\$3,978	\$16,960	\$20,938
Health	\$0	\$0	\$121,649	\$121,649
Arts, entertainment, recreation	\$0	\$18,577	\$170,737	\$189,315
Accommodations, food services	\$0	\$52,585	\$408,703	\$461,288
Farming	\$11,863,580	\$785,234	\$17,965	\$12,666,780
Other	\$0	\$320,012	\$1,740,813	\$2,060,825
Total	\$11,863,580	\$4,802,677	\$7,744,159	\$24,410,415

TABLE TWO: CALIFORNIA TOTAL

OUTPUT	Direct	Indirect	Induced	Total
Manufacturing	\$0	\$29,262,181	\$16,406,092	\$45,668,273
Wholesaling	\$0	\$9,200,330	\$7,752,675	\$16,953,005
Retailing	\$0	\$886,618	\$17,273,720	\$18,160,338
Real Estate	\$0	\$8,665,646	\$6,670,304	\$15,335,950
Professional Services	\$0	\$21,915,955	\$25,638,889	\$47,554,845
Administrative	\$0	\$910,043	\$1,852,209	\$2,762,252
Education	\$0	\$479,997	\$2,016,614	\$2,496,611
Health	\$0	\$904	\$14,951,289	\$14,952,194
Arts, entertainment, recreation	\$0	\$586,356	\$2,892,941	\$3,479,297
Accommodations, food services	\$0	\$802,176	\$6,702,771	\$7,504,947
Farming	\$409,075,786	\$47,703,964	\$911,335	\$457,691,085
Other	\$0	\$16,279,881	\$23,478,797	\$39,758,679
Total	\$409,075,786	\$136,694,052	\$126,547,638	\$672,317,476
EMPLOYMENT	Direct	Indirect	Induced	Total
Manufacturing	0.00	34.45	8.61	43.06
Wholesaling	0.00	47.37	38.75	86.12
Retailing	0.00	4.31	202.38	206.69
Real Estate	0.00	51.67	38.75	90.43
Professional Services	0.00	90.43	142.10	232.53
Administrative	0.00	8.61	21.53	30.14
Education	0.00	4.31	30.14	34.45
Health	0.00	0.00	133.49	133.49
Arts, entertainment, recreation	0.00	0.00	30.14	30.14
Accommodations, food services	0.00	8.61	107.65	116.26
Farming	3,040.08	1,610.47	0.00	4,650.55
Other	0.00	81.82	86.12	167.94
Total	3,040.08	1,942.03	839.68	5,821.79
LABOR INCOME IMPACT	Direct	Indirect	Induced	Total
Manufacturing	\$0	\$3,669,022	\$2,786,581	\$6,455,603
Wholesaling	\$0 \$0	\$3,558,227	\$2,987,416	\$6,545,643
Retailing	\$0	\$368,125	\$7,272,162	\$7,640,287
Real Estate	\$0 \$0	\$1,711,616	\$1,245,571	\$2,957,187
Professional Services	\$0 \$0	\$8,482,208	\$9,966,766	\$18,448,973
Administrative	\$0 \$0	\$457,863	\$918,698	\$1,376,562
Education	\$0 \$0	\$253,024	\$1,080,778	\$1,333,802
Health	\$0 \$0	\$344	\$8,485,394	\$8,485,739
Arts, entertainment, recreation	\$0 \$0	\$218,490	\$1,063,640	\$1,282,130
Accommodations, food services	\$0 \$0	\$210,490	\$2,420,566	\$1,202,130
Farming	\$107,937,919	\$45,284,087	\$183,567	\$153,405,573
Other	\$107,937,919	\$6,452,245	\$3,980,307	\$10,432,552
Total	\$107,937,919			
INDIRECT BUSINESS TAXES	\$107,937,919 Direct	\$70,744,275 Indirect	\$42,391,447 Induced	\$221,073,641 Total
Manufacturing	\$0	\$773,842	\$309,563	\$1,083,405
Wholesaling	\$0 \$0	\$1,312,272	\$1,098,132	\$2,410,404
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Retailing	\$0	\$93,571	\$2,360,626	\$2,454,196
Real Estate	\$0	\$945,439	\$749,384	\$1,694,823
Professional Services	\$0	\$430,563	\$644,574	\$1,075,137
Administrative	\$0	\$12,660	\$26,611	\$39,271
Education	\$0	\$3,919	\$16,708	\$20,626
Health	\$0	\$0	\$119,838	\$119,838
Arts, entertainment, recreation	\$0	\$18,301	\$168,195	\$186,495
Accommodations, food services	\$0	\$51,802	\$402,617	\$454,419
Farming	\$11,686,908	\$773,541	\$17,698	\$12,478,146
Other	\$0	\$315,247	\$1,714,889	\$2,030,135
Total	\$11.686.908	\$4.731.155	\$7.628.833	\$24.046.896

TABLE THREE: ARIZONA TOTAL

OUTPUT	Direct	Indirect	Induced	Total
Manufacturing	\$0	\$294,198	\$164,945	\$459,143
Wholesaling	\$0	\$92,499	\$77,944	\$170,443
Retailing	\$0	\$8,914	\$173,668	\$182,582
Real Estate	\$0	\$87,123	\$67,062	\$154,186
Professional Services	\$0	\$220,340	\$257,770	\$478,110
Administrative	\$0	\$9,149	\$18,622	\$27,771
Education	\$0	\$4,826	\$20,275	\$25,101
Health	\$0	\$9	\$150,318	\$150,327
Arts, entertainment, recreation	\$0	\$5,895	\$29,085	\$34,980
Accommodations, food services	\$0	\$8,065	\$67,389	\$75,454
Farming	\$4,112,794	\$479,609	\$9,162	\$4,601,565
Other	\$0	\$163,676	\$236,053	\$399,728
Total	\$4,112,794	\$1,374,304	\$1,272,293	\$6,759,391
EMPLOYMENT	Direct	Indirect	Induced	Total
Manufacturing	0.00	0.35	0.09	0.43
Wholesaling	0.00	0.48	0.39	0.87
Retailing	0.00	0.04	2.03	2.08
Real Estate	0.00	0.52	0.39	0.91
Professional Services	0.00	0.91	1.43	2.34
Administrative	0.00	0.09	0.22	0.30
Education	0.00	0.04	0.30	0.35
Health	0.00	0.00	1.34	1.34
Arts, entertainment, recreation	0.00	0.00	0.30	0.30
Accommodations, food services	0.00	0.09	1.08	1.17
Farming	30.56	16.19	0.00	46.76
Other	0.00	0.82	0.87	1.69
Total	30.56	19.52	8.44	58.53
Total	30.30	17.32	0.11	30.33
LABOR INCOME IMPACT	Direct	Indirect	Induced	Total
Manufacturing	\$0	\$36,888	\$28,016	\$64,904
Wholesaling	\$0	\$35,774	\$30,035	\$65,809
Retailing	\$0	\$3,701	\$73,113	\$76,814
Real Estate	\$0	\$17,208	\$12,523	\$29,731
Professional Services	\$0	\$85,279	\$100,205	\$185,484
Administrative	\$0	\$4,603	\$9,236	\$13,840
Education	\$0	\$2,544	\$10,866	\$13,410
Health	\$0	\$3	\$85,311	\$85,314
Arts, entertainment, recreation	\$0	\$2,197	\$10,694	\$12,890
Accommodations, food services	\$0	\$2,906	\$24,336	\$27,242
Farming	\$1,085,193	\$455,280	\$1,846	\$1,542,319
Other	\$0	\$64,870	\$40,017	\$104,887
Total	\$1,085,193	\$711,254	\$426,198	\$2,222,645
INDIRECT BUSINESS TAXES	Direct	Indirect	Induced	Total
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\$0

\$7,780

Manufacturing

\$10,892

\$3,112

Wholesaling	\$0	\$13,193	\$11,040	\$24,234
Retailing	\$0	\$941	\$23,733	\$24,674
Real Estate	\$0	\$9,505	\$7,534	\$17,040
Professional Services	\$0	\$4,329	\$6,480	\$10,809
Administrative	\$0	\$127	\$268	\$395
Education	\$0	\$39	\$168	\$207
Health	\$0	\$0	\$1,205	\$1,205
Arts, entertainment, recreation	\$0	\$184	\$1,691	\$1,875
Accommodations, food services	\$0	\$521	\$4,048	\$4,569
Farming	\$117,499	\$7,777	\$178	\$125,454
Other	\$0	\$3,169	\$17,241	\$20,411
Total	\$117,499	\$47,566	\$76,699	\$241,764

TABLE THREE: NEW MEXICO TOTAL

OUTPUT	Direct	Indirect	Induced	Total
Manufacturing	\$0	\$148,161	\$83,068	\$231,229
Wholesaling	\$0	\$46,583	\$39,254	\$85,837
Retailing	\$0	\$4,489	\$87,461	\$91,950
Real Estate	\$0	\$43,876	\$33,773	\$77,650
Professional Services	\$0	\$110,966	\$129,816	\$240,782
Administrative	\$0	\$4,608	\$9,378	\$13,986
Education	\$0	\$2,430	\$10,211	\$12,641
Health	\$0	\$5	\$75,702	\$75,707
Arts, entertainment, recreation	\$0	\$2,969	\$14,648	\$17,617
Accommodations, food services	\$0	\$4,062	\$33,938	\$37,999
Farming	\$2,071,249	\$241,537	\$4,614	\$2,317,400
Other	\$0	\$82,429	\$118,879	\$201,308
Total	\$2,071,249	\$692,115	\$640,741	\$3,404,105
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EMPLOYMENT	Direct	Indirect	Induced	Total
Manufacturing	0.00	0.17	0.04	0.22
Wholesaling	0.00	0.24	0.20	0.44
Retailing	0.00	0.02	1.02	1.05
Real Estate	0.00	0.26	0.20	0.46
Professional Services	0.00	0.46	0.72	1.18
Administrative	0.00	0.04	0.11	0.15
Education	0.00	0.02	0.15	0.17
Health	0.00	0.00	0.68	0.68
Arts, entertainment, recreation	0.00	0.00	0.15	0.15
Accommodations, food services	0.00	0.04	0.55	0.59
Farming	15.39	8.15	0.00	23.55
Other	0.00	0.41	0.44	0.85
Total	15.39	9.83	4.25	29.48
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LABOR INCOME IMPACT	Direct	Indirect	Induced	Total
Manufacturing	\$0	\$18,577	\$14,109	\$32,686
Wholesaling	\$0	\$18,016	\$15,126	\$33,142
Retailing	\$0	\$1,864	\$36,821	\$38,685
Real Estate	\$0	\$8,666	\$6,307	\$14,973
Professional Services	\$0	\$42,947	\$50,464	\$93,412
Administrative	\$0	\$2,318	\$4,652	\$6,970
Education	\$0	\$1,281	\$5,472	\$6,753
Health	\$0	\$2	\$42,964	\$42,965
Arts, entertainment, recreation	\$0	\$1,106	\$5,385	\$6,492
Accommodations, food services	\$0	\$1,463	\$12,256	\$13,719
Farming	\$546,516	\$229,284	\$929	\$776,729
Other	\$0	\$32,669	\$20,153	\$52,823
Total	\$546,516	\$358,195	\$214,638	\$1,119,349
INDIRECT BUSINESS TAXES	Direct	Indirect	Induced	Total

Manufacturing

\$0

\$3,918

\$1,567

\$5,486

Wholesaling	\$0	\$6,644	\$5,560	\$12,204
Retailing	\$0	\$474	\$11,952	\$12,426
Real Estate	\$0	\$4,787	\$3,794	\$8,581
Professional Services	\$0	\$2,180	\$3,264	\$5,444
Administrative	\$0	\$64	\$135	\$199
Education	\$0	\$20	\$85	\$104
Health	\$0	\$0	\$607	\$607
Arts, entertainment, recreation	\$0	\$93	\$852	\$944
Accommodations, food services	\$0	\$262	\$2,039	\$2,301
Farming	\$59,174	\$3,917	\$90	\$63,180
Other	\$0	\$1,596	\$8,683	\$10,279
Total	\$59,174	\$23,955	\$38,627	\$121,755