

CALIFORNIA AVOCADO COMMISSION STATE- OF-THE-INDUSTRY SURVEY: SUMMARY REPORT OF FINDINGS

Presented to:

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CALIFORNIA AVOCADO COMMISSION STATE- OF-THE-INDUSTRY SURVEY: SUMMARY REPORT OF FINDINGS

EXECUTIVE SUMMARY

INTRODUCTION

In July 2021, the California Avocado Commission (CAC) retained The Tootelian Company (consultant) to assist it in conducting a survey of members focusing on the state of the avocado industry as it relates to the financial health of growers. Issues of importance in this study included grower operating characteristics, income and expenses, sources of water and irrigation costs, and perceptions as to factors that might affect grower profitability over the next three years. The goal of this survey was to provide the CAC with a better perspective as to the health of the industry so it could develop actions useful in helping the avocado industry survive and prosper.

METHODOLOGY

The population for this study was defined as the members of the CAC, and all were included in the survey. The CAC felt it was important to provide growers with the opportunity to participate, and to obtain data from as many members as possible.

Given the nature of the study and the information sought, it was determined that a mail survey would be the most appropriate method of data collection. This method gave growers time to obtain the information requested and complete the questionnaire. Additionally, they could return their completed questionnaires directly to the consultant. The questionnaire contained questions related to the issues identified in the Introduction of this Report. Members were provided business-reply envelopes (i.e., postage-paid), and were given approximately seven weeks to respond.

The survey was sent to the 1,743 CAC members on August 2, 2021, and members were asked to respond by August 23, 2021. Because business-reply envelopes are sometimes batch processed by the United States Postal Service, responses were accepted through September 21, 2021. During this time span, CAC also contacted members to encourage them to respond. Responses were received from 174 members, providing a 10.0% response rate. Two of those respondents did not include their district identifier or acreage, so their responses were not included in most computations.

SUMMARY AND CONCLUSIONS

Based on the findings of this study, and subject to the Caveats expressed in the Methodology, the following summary comments appear warranted for the Avocado State-of-the-Industry Survey. They are provided in bullet format for emphasis:

Farm Acreage

- Across all districts, the average number of bearing and non-bearing acres was 39.1 acres and 7.8 acres respectively. Districts with the largest average number of total acres (i.e., bearing and non-bearing acres) were District 1 (54.8 acres) and District 3 (43.4 acres). The smallest average number of total acres were in District 2 (20.1 acres) and District 4 (36.4 acres).
- The average number of bearing acres were highest in Districts 1 (41.9 acres) and 3 (40.1 acres), and smallest were in District 2 (14.8 acres) and District 4 (27.2 acres). Overall, bearing acres comprised about 80.0% of the total acres across all districts, and the ratio of bearing to total acres were highest in District 3 (92.4%) and District 5 (79.7%), and lowest in District 2 (73.5%) and District 4 (74.7%).
- Among the three acreage categories in 2020, the average number of acres per farm for those with 10 acres or less was 5.5 total acres, with 4.9 of those were bearing acres (89.1% of total acres). For those in the 11 to 50 acre category, the average number of total acres was 26.7 acres, with 22.7 of those were bearing acres (85.0% of total acres). For those in the 51 acres or more category, the average number of total acres was 158.8 acres, with 120.8 of those were bearing acres (76.1% of total acres).

Pounds Harvested and Crop Values by District and Acreage

- The average number of pounds harvested per acre in 2020, 2019, and 2018 were 7,556, 4,882, and 7,935 respectively. From 2018 through 2020, the average number of pounds harvested per bearing acre declined at a rate of -2.4% per year. The largest number of pounds harvested per bearing acre in 2020 were in District 5 (12,359) and District 4 (8,090), and the smallest number of pounds harvested per bearing acre were in District 2 (5,098) and District 1 (6,109).
- The average crop value per acre in 2020, 2019, and 2018 were \$6,410, \$6,406, and \$6,577 respectively. From 2018 through 2020, the average crop value per bearing acre rose at a rate of 0.8% per year. The highest crop values per bearing acre in 2020 were in District 5 (\$12,158) and District 4 (\$8,933), and the lowest crop values per bearing acre were in District 2 (\$5,781) and District 1 (\$6,422).
- The average number of pounds harvested per bearing acre in 2020 was highest in farms with 11 to 50 acres (9,521 pounds), and lowest in farms with 51 acres or more (6,924 pounds). Those with 10 acres or less averaged 7,094 pounds per bearing acre. Annual growth rates in numbers of pounds harvested per bearing acre from 2018 through 2020

were 8.1% for farms with 10 acres or less, 1.6% for those with 11 to 50 acres, and 2.6% for those with 51 acres or more.

- The average crop value per bearing acre in 2020 was highest in farms with 11 to 50 acres (\$9,969), and lowest in farms with 10 acres or less (\$7,155) and 51 acres or more (\$7,391). Annual growth rates in crop values per bearing acre from 2018 through 2020 were 6.7% for farms with 10 acres or less, 2.3% for those with 11 to 50 acres, and -1.4% for those with 51 acres or more.

Overall Farm Income, Expenses, and Net Margin

- Total gross income grew at a rate of 4.4% per year from 2018 through 2020, while total expenses rose at an annual rate of 6.1%. This resulted in total net margin declining at a rate of -27.2% per year over these three years.
- Total expenses as a percent of gross income in 2020, 2019, and 2018 were 96.5%, 91.1%, and 93.4% respectively. This provided net margins of 3.5%, 8.9%, and 6.6% in 2020, 2019, and 2018 respectively.
- Average gross income was \$274,463 in 2020, \$265,440 in 2019, and \$259,459 in 2018. The growth rate in gross income over these years was 2.7% per year. Because total expenses grew at an annual rate of 4.4%, the net margin fell from \$17,090 in 2018 to \$9,622 in 2020. This represents a rate of decline of -25.0% per year.
- Average gross income per bearing acre rose from \$8,794 in 2018 to \$9,260 in 2020. This represents a growth rate of 2.6% per year. Total expenses per acre rose from \$8,211 in 2018 to \$8,934 in 2020, representing a 4.3% annual growth rate. As a result, net margin per acre declined from \$583 in 2018 to \$326 in 2020, declining -25.3% per year.
- Average gross income per pound harvested rose from \$1.17 in 2018 to \$1.18 in 2020. This represents a growth rate of 0.4% per year. Total expenses per pound rose from \$1.09 in 2018 to \$1.14 in 2020, representing a 2.0% annual growth rate. As a result, net margin per pound harvested declined from \$0.08 in 2018 to \$0.04 in 2020, declining -26.9% per year.
- Average gross income per dollar of crop value rose from \$1.06 in 2018 to \$1.11 in 2020. This represents a growth rate of 2.6% per year. Total expenses per dollar of crop value rose from \$0.99 in 2018 to \$1.08 in 2020, representing a 4.3% annual growth rate. As a result, net margin per dollar of crop value declined from \$0.07 in 2018 to \$0.04 in 2020, declining -25.3% per year.
- The three-year average for total expenses as a percent of gross income was 93.7%, resulting in an average net margin of 6.3%. Net margin per acre and per bearing acre averaged \$438 and \$539 respectively. Net margin per pound averaged \$0.08, and net margin per dollar of crop value averaged \$0.07.

Farm Income, Expenses, and Net Margin by District

- Districts with the highest ratio of total expenses to gross income (i.e., total expenses divided by gross income) were District 1 (130.7%) and District 4 (114.8%). Districts with the lowest ratio of total expenses to gross income were District 5 (75.5%) and District 3 (83.6%).
- Average gross income per bearing acre were highest in District 5 (\$13,791) and District 4 (\$10,549), and lowest in District 1 (\$6,333) and District 2 (\$6,423). Average total expenses per bearing acre were highest in District 4 (\$12,111) and District 5 (\$10,336), and lower in District 3 (\$6,127) and District 2 (\$6,817).
- Average gross income per pound harvested were highest in District 4 (\$1.34) and District 2 (\$1.23), and lowest in District 1 (\$1.05) and District 5 (\$1.08). Average total expenses per pound harvested were highest in District 4 (\$1.54) and District 1 (\$1.49), and lower in District 5 (\$0.81) and District 3 (\$0.92).
- Average gross income per dollar of crop value were highest in District 4 (\$1.23) and District 5 (\$1.11), and lowest in District 2 (\$0.81) and District 3 (\$0.97). Average total expenses per dollar of crop value were highest in District 4 (\$1.41) and District 1 (\$1.40), and lower in District 3 (\$0.80) and District 5 (\$0.83).

Farm Income, Expenses, and Net Margin by Acreage

- The highest ratio of total expenses to gross income (i.e., total expenses divided by gross income) were in farms with 10 or less acres (147.4%) and 51 acres or more (102.7%). Farms with 11 to 50 acres had the lowest average total expense to gross income ratio of 78.9%.
- Average gross income per bearing acre were highest in farms with 11 to 50 acres (\$9,407 per bearing acre). Farms with 10 acres or less and farms with 51 acres or more had similar gross incomes (\$8,042 per bearing acre and \$8,449 per bearing acre respectively). Total expenses per bearing acre was highest in farms with 10 acres or less (\$11,857), and lower in farms with 11 to 50 acres (\$7,419) and 51 acres or more (\$8,675).
- Average gross income per pound harvested was highest in farms with 51 acres or more (\$1.22), and lower in farms with 10 acres or less (\$1.04) and 11 to 50 acres (\$0.99). Total expenses per pound harvested was highest in farms with 10 acres or less (\$1.53) and lower in farms with 11 to 50 acres (\$0.78) and 51 acres or more (\$1.25).
- Average gross income per dollar of crop value were highest in farms with 51 acres or more (\$1.13), and lower in farms with 10 acres or less (\$1.04) and 11 to 50 acres (\$0.94). Average total expenses per dollar of crop value were highest in farms with 10 acres or less (\$1.54) and lower in farms with 11 to 50 acres (\$0.74) and 51 acres or more (\$1.16).

Water Sources

- Respondents did not appear to change their sources of water much over the three years from 2018 through 2020. The most commonly used water sources in 2020 were water agencies (34.5%), wells/surface water on the property (25.0%), and mutual water companies (23.2%). These three water sources accounted for 82.7% of the sources used in 2020. Combinations of these three water sources were used by 17.3% of the respondents to this survey.
- In 2020, the most commonly used water source in District 1 was water agencies (47.6%), in District 2 it was water agencies (59.3%), in District 3 it was wells/surface water on the property (29.6%), in District 4 it was mutual water companies (40.0%), and in District 5 it was wells/surface water on the property (52.8%).

Overall Irrigation Costs

- The average irrigation cost per acre was \$1,094 in 2020, \$1,227 in 2019, and \$1,367 in 2018. This resulted in a declining growth rate of -10.5% in irrigation costs per acre. Average irrigation costs per pound harvested dropped from \$0.21 in 2018 to \$0.17 in 2020, a -10.0% decline per year. Irrigation costs per dollar of crop value dropped from 18.9% in 2018 to 15.9% in 2020, an -8.3% decline per year.
- Irrigation costs as a percent of gross income dropped from 18.7% in 2018 to 15.1% in 2020, a -10.1% decline per year. Irrigation costs as a percent of total expenses dropped from 20.2% in 2018 to 15.3% in 2020, a -12.9% decline per year.

Irrigation Costs by Source of Water

- The average irrigation cost per acre in 2020 was highest with mutual water companies (\$1,389 per acre) and water agencies (\$1,157 per acre), and lowest with a combination of wells/surface water on the property and mutual water companies (\$555 per acre) and wells/surface water on the property and water agencies (\$698 per acre).
- The average irrigation cost per pound harvested in 2020 was highest with water agencies (\$0.21 per pound) and mutual water companies (\$0.19 per pound), and lowest with a combination of wells/surface water on the property and mutual water companies (\$0.07 per pound) and wells/surface water on the property (\$0.08 per pound).
- Average irrigation cost per dollar of crop value in 2020 was highest with water agencies (19.4%) and mutual water companies (17.9%), and lowest with a combination of wells/surface water on the property and mutual water companies (7.0%) and wells/surface water on the property (8.0%).
- Average irrigation cost as a percent of gross income in 2020 was highest with mutual water companies (18.3%) and water agencies (17.9%), and lowest with a combination of

wells/surface water on the property and mutual water companies (16.8%) and wells/surface water on the property (7.3%).

- Average irrigation cost as a percent of total expenses in 2020 was highest with mutual water companies (19.5%) and water agencies (17.3%), and lowest with wells/surface water on the property (7.4%) and a combination of wells/surface water on the property and mutual water companies (7.0%).

Irrigation Costs by District

- The highest irrigation costs per acre in 2020 were in District 2 (\$1,996) and District 1 (\$1,776), and the lowest costs per acre were in District 5 (\$570) and District 3 (\$606). The highest irrigation costs per pound harvested were in District 2 (\$0.46 per pound) and District 1 (\$0.41 per pound), and the lowest irrigation costs per pound were in District 5 (\$0.06 per pound) and District 3 (\$0.10 per pound). The highest irrigation costs as a percent of crop value were in District 2 (40.7%) and District 1 (32.9%), and the lowest costs as a percent of crop value were in District 5 (6.0%) and District 3 (8.5%).
- Average irrigation cost as a percent of gross income in 2020 was highest in District 2 (40.4%) and District 1 (33.7%), and lowest in District 5 (5.3%) and District 3 (8.1%).
- Average irrigation cost as a percent of total expenses in 2020 was highest in District 2 (39.1%) and District 1 (23.7%), and lowest in District 5 (6.8%) and District 4 (8.2%).

Irrigation Costs by Acreage

- The highest irrigation costs per acre in 2020 were in farms with 10 acres or less (\$2,785 per acre) and 11 to 50 acres (\$1,307), and the lowest costs per acre was in farms with 51 acres or more (\$852 per acre). The highest irrigation costs per pound harvested was in farms with 10 acres or less (\$0.38 per pound), and the lowest irrigation costs per pound were in farms with 11 to 50 acres (\$0.14 per pound) and farms with 51 or more acres (\$0.16 per pound). The highest irrigation cost as a percent of crop value was in farms with 10 acres or less (37.9%), and the lowest costs as a percent of crop value were in farms with 11 to 50 acres (13.8%) and farms with 51 acres or more (17.8%).
- Average irrigation cost as a percent of gross income in 2020 was highest in farms with 10 acres or more (37.4%), and lowest in farms with 11 to 50 acres (15.0%) and farms with 51 or more acres (13.2%).
- Average irrigation cost as a percent of total expenses in 2020 was highest in farms with 10 acres or less (25.4%) and 11 acres or more (18.1%), and lowest in farms with 51 acres or more (12.8%).

Perceived Potential Threats to Future Profitability

- Cost factors considered to be the most serious threats to future profitability based on mean ratings, with 5.00 being very serious and 1.00 being not at all serious, were water costs (4.62), costs of complying with government regulations (4.02), and the costs of labor (4.00). These were reasonably consistent across districts and acreage categories.
- Other factors identified as being the most serious threats to future profitability based on mean ratings, with 5.00 being very serious and 1.00 being not at all serious, were the availability of water (4.57), imported avocados (4.23) and environmental regulations (4.15). These, too, were reasonably consistent across districts and acreage categories.

CALIFORNIA AVOCADO COMMISSION STATE- OF-THE-INDUSTRY SURVEY: SUMMARY REPORT OF FINDINGS

INTRODUCTION

In July 2021, the California Avocado Commission (CAC) retained The Tootelian Company (consultant) to assist it in conducting a survey of members focusing on the state of the avocado industry as it relates to the financial health of growers. Issues of importance in this study included grower operating characteristics, income and expenses, sources of water and irrigation costs, and perceptions as to factors that might affect grower profitability over the next three years. The goal of this survey was to provide the CAC with a better perspective as to the health of the industry so it could develop actions useful in helping the avocado industry survive and prosper.

Background

Created in 1978, the California Avocado Commission strives to enhance the positioning of California avocados through advertising, promotion, and public relations, and it engages in related industry activities. The CAC supports California avocado growers and focuses on fostering grower viability by building demand for California avocados at a price premium and increasing the fruit's perceived value, preference, and loyalty.¹

The CAC budget goes primarily toward marketing, which includes developing strategic, targeted programs with retailers and foodservice operators. Other key activities include advocating for California avocado growers on issues such as water, trade and export, and supporting production research and grower education. The CAC is the official information source for California avocados and the California avocado industry.

In the Spring 2021 issue of *From the Grove*, California Avocado Commission President Tom Bellamore, in his "Coffee Shop Talk" article, discussed the ongoing conversation and speculation surrounding the financial health of the California avocado industry. Specifically, what does the spectrum of grower profitability look like? Are most growers in the black over a three-year average, or are many growers operating at a loss? And what is the correlation to the number of

¹ Material for this and the following paragraph were extracted from the CAC website:
<https://californiaavocado.com/>

growers on either end of that continuum and their respective percentage of the industry's aggregate volume?¹

While the CAC tracks annual industry aggregate volume, total acres, average pricing and average per acre yield, it is unable to extrapolate from existing data the spectrum of profitability for the industry. There are, of course, a myriad of factors contributing to a farmer's profitability. Some are universal: farm-gate pricing; labor availability and costs; along with water costs and product quality. Others, however, are more individual to each grower's operation: fertilizer use, yield volumes, size curves, land-debt costs, etc. Without statistically sound data on the profitability of the industry, the CAC feels its ability to effect changes is diminished.

Accordingly, the Commission's Board directed the Production Research Committee to oversee a grower profitability study. The purpose of the study is to determine the spectrum of profitability for California avocado farmers. If successful, a next step would be to identify the key drivers of profitability for California avocado farmers, and then determine if new opportunities exist for the Commission to provide help.

Goals of the Survey

The overall objectives of this survey were to assist the CAC to better understand the operating characteristics and financial health of California avocado growers. Results of the survey could provide the CAC with insights into grower income, expenses, and profits. Furthermore, since water is a central issue for nearly all commodity farmers, the results could provide insights into water sources and irrigation costs based on grower location and size. Finally, the results could provide information on what growers see as serious cost and other threats to their future profitability.

Specific issues addressed in this survey included avocado grower:

- Bearing and non-bearing acreage.
- Production in terms of pounds harvested and crop values.
- Gross income from avocado farming operations.
- Total expenses associated with avocado farming operations.
- Water sources and irrigation costs.
- Views on how serious a threat selected cost and other factors are to farming profitability.

About the Consultant

The consultant for this study was Dr. Dennis H. Tootelian, the founder of The Tootelian Company. He is an Emeritus Professor of Marketing in the College of Business at California State University, Sacramento. He also is the former Director of the CSUS Center for Small Business, which he developed into one of the largest of its kind in the United States. Dennis received his Ph.D. in Marketing from Arizona State University, with minor fields in Accounting and Management.

¹ This and the following two paragraphs were extracted from an internal CAC memorandum.

Dennis has published approximately one hundred articles dealing with nearly all facets of business, and has co-authored six texts on marketing and small business management. His academic research has appeared as peer-reviewed articles (i.e., reviewed by academicians for quality of research methodology) in such journals as the Journal of Marketing, Journal of Retailing, Journal of Business Research, Journal of Food Products Marketing, Journal of Health Care Marketing, and Journal of Professional Services Marketing. 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.

Dennis has worked in a consulting capacity with Fortune 500 companies (e.g., Merck, Johnson & Johnson, McKesson Corporation, 3M, Target Stores, Nestle U.S.A.), medium sized businesses (e.g., E & J Gallo Winery, PCS Health Systems, John Asquaga's Nugget), professional and trade associations (e.g., California Pharmacists Association, California Dental Association), not-for-profit organizations (e.g., Chicago 2016 Olympics Committee, Dignity Health), and federal and state governmental agencies (e.g., California Department of Food and Agriculture, United States Centers for Disease Control and Prevention, California Environmental Protection Agency, California Department of Parks and Recreation).

Dennis specializes in conducting surveys and economic studies. He has conducted numerous surveys for public relations campaigns, including the California Department of Food & Agriculture's "California Grown" campaign. Some of these studies were designed to demonstrate the value of organizations and events to communities for legislative advocacy, to generate media attention for the organization, or to create public support for an organization or event. He also has conducted economic impact studies for agricultural clients including the California Avocado Commission, American Pistachio Growers, California Table Grape Growers, United States Highbush Blueberry Council, California Walnut Commission, and the California Cut Flower Commission.

METHODOLOGY

The methodology for this survey conformed to generally accepted research practices. Adjustments in the methodology needed to address normal time and cost constraints were not considered significant.

Population for the Study

The population for this survey was defined to be the 1,743 members of the California Avocado Commission. Given the importance of the study and the possible variability of respondent operating characteristics, it was determined that sending the questionnaire to all members was the most appropriate method for this survey.

Research Design

Given the nature of the study and the information sought, it was determined that a mail survey would be the most appropriate method of data collection. Because operational statistics and financial data were being requested, it was important to give respondents adequate time to collect the information. Furthermore, the data could be provided without the individual respondent having to identify herself/himself.

The CAC sent out periodic requests through its normal communication channels to encourage members to participate. Additionally, recipients were provided with a postage-paid (business-reply), self-addressed envelope and asked to send their completed questionnaires to a third-party for tabulation. Individual responses were not to go back to the CAC.

Questionnaire Design

The questionnaire for the survey was jointly designed by the CAC and consultant, and focused on the issues identified in the Introduction of this Report. The consultant worked with the CAC to refine the questionnaire to bring more specificity to the questions and response categories. Once the questionnaire was approved, the CAC prepared the final version, printed the questionnaires and envelopes, and mailed the questionnaires to its members.

Although the questionnaire contained only five questions, all of them were multi-part in nature. In addition to the questionnaire, respondents were provided with a guide to convert zip codes into CAC districts, and a copy of the IRS Schedule F form (Profit & Loss from Farming) as a reference for where certain financial information being requested could be obtained.

Members were first asked to provide operational characteristics of their farms for the years 2020, 2019, and 2018. These included the number of bearing and non-bearing acres, total pounds of avocados produced, and the crop value of the avocados.

Respondents were then asked to provide their gross income and total expenses for avocado farming operations for each of the three years. To bring greater similarity to the data they provided, respondents were asked to take the financial information from their IRS Schedule F form for each of the last three years.

The third set of questions focused on water issues. Respondents were asked where they obtain their water and how much they spent for irrigation in each of the last three years. Water sources were defined into three categories: wells and/or surface water on property, mutual water company, and water agency. It was possible that growers could use any one or combination of sources for their irrigation needs. Irrigation costs were defined to include both water and utility charges to provide water throughout the avocado grove(s).

Finally, respondents were asked how serious a threat various cost and other factors would be to their farm's profitability over the next three years. Cost factors included the main expenses (e.g., labor, water, fertilizer and other crop input expenses). Other factors included the availability of land and labor, environmental regulations, importing and exporting, etc. The rating options were based on a common 5-point Likert-style scale (i.e., Very Serious, Somewhat Serious, No Opinion, Not Very Serious, Not at All Serious).

Overall, respondents were asked for potentially nearly eighty pieces of information. A copy of the questionnaire is presented in Appendix A.

Caveats

The results of any research should be used with caution and at the reader's own discretion. Every study, no matter how well constructed, contains the possibility of some degree of error. Accordingly, the reader assumes sole responsibility for the use of this information.

FINDINGS OF THE STUDY

Questionnaires were mailed to California Avocado Commission members on August 2, 2021, and responses were accepted until 5:00 p.m. on September 21, 2021. During that time span, CAC staff contacted members to encourage them to respond to the survey. Responses were received from 174 CAC members, representing a 10.0% response rate. Two of those respondents did not include their district identifier or acreage, so their responses were not included in most computations.

According to the CAC, the number of bearing acres in California was 47,334 in 2020, 46,078 in 2019, and 47,158 in 2018. Therefore, the respondents in this study represents 10.1% of the total bearing acres of avocados within the State in 2020, 10.4% for 2019, and 9.8% for 2018. These statistics are nearly identical to the percent of respondents to the study (10.0%). While the consistency of the sample response rate and bearing acres and the bearing acres of avocados in California do not guarantee that the findings presented below are fully representative of the State, they suggest that this sample could be a good profile of avocado growers.

With respect to the findings presented below, it is important to recognize that:

- The results are based on respondent-supplied statistics. A review was made of all individual responses to identify possible “outliers,” which would be statistics that are so greatly higher or lower than others as to distort the average results. While there were some wide ranges, no statistics were considered so vastly outlying that they should be excised from the data base.
- Some growers indicated they did not have revenues in a particular year due to natural disasters (e.g., the Thomas fire in Ventura County, excessive heat/cold), etc. Similarly, some growers appeared to have an exceptionally good/bad year in terms of pounds harvested, crop values, revenues, expenses, etc. These types of “exceptions” were not omitted from the data base because such incidents can occur in any given year. There are risks and opportunities that always exists for growers in any particular year, and those should not be discounted. However, leaving those in the data base could raise or lower averages and result in wider ranges than might normally be expected.
- The number of responses to each question was important since the analyses included computing averages for acreage, pounds harvested, crop values, income and expenses, and irrigation costs. Because some respondents did not provide all of the data requested, some were included in particular averages and not in others where they provided no or incomplete information.
- The results are presented as averages in total, by district, and by acreage size. As such, individual growers may find these statistics are considerably different from their own operations.
- Average annual growth rates were computed from 2018 through 2020 for most operating characteristics, income and expenses, and irrigation costs. In this presentation, there are

statements that growth rates declined, and negative numbers are provided (e.g., -10.0%). It is recognized that stating a negative growth rate and then presenting a negative sign in front of the statistic might be translated into a positive (i.e., two negatives make a positive). However, the use of a negative sign was used herein to emphasize the declining growth rate.

The findings of this study are presented in six sections:

- Operating Characteristics
- Farm Income, Expenses, and Net Margins
- Sources of Water
- Irrigation Costs
- Three-Year Averages
- Perceived Threats to Future Profitability

Tabled data is presented immediately following the Summary and Conclusion section of this Report.

Operating Characteristics

CAC members were asked for information about their operations for each of the last three years (i.e., 2018, 2019, 2020). This included the CAC district(s) in which they operated, their operating characteristics (e.g., acreage, pounds produced, crop value), total income and expenses associated with growing avocados, water sources, and irrigation costs. Respondent characteristics are provided in Table One, operating characteristics by district in Table Two, and operating characteristics by acreage in Table Three.

Two of the most critical issues in this study concerned where the growers are located (i.e., District) and their number of acres. Shown below are the number of respondents combined in Districts 1 and 2, and combined in Districts 3, 4, and 5. These combinations of district number and acreage category were used in the chart below to help ensure the confidentiality of individual respondents.

	Districts 1 & 2	Districts 3, 4, & 5	Total
2020			
10 acres or less	42	31	73
11 to 50 acres	26	47	73
51 acres or more	9	15	24
Total	77	93	170
2019			
10 acres or less	43	30	73
11 to 50 acres	25	47	72
51 acres or more	9	14	23
Total	77	91	168

	Districts 1 & 2	Districts 3, 4, & 5	Total
2018			
10 acres or less	45	30	75
11 to 50 acres	23	45	68
51 acres or more	9	13	22
Total	77	88	165

Overall Operating Characteristics

Respondent characteristics included the district(s) in which they operated, the number of bearing and non-bearing acres they farmed, the pounds they harvested, and the crop values of their harvests. As indicated previously, their responses are presented in Table One and summarized below.

	2020	2019	2018
Acres			
Total Bearing Acres	4,771	4,770	4,600
Total Non-Bearing Acres	1,233	1,046	968
Total Acres	6,004	5,816	5,568
% Bearing to Total Acres	79.5%	82.0%	82.6%
Pounds			
Total Pounds	37,122,887	23,788,484	33,943,485
Crop Value			
Total Crop Value	\$39,463,338	\$37,773,140	\$37,294,707

Respondents had a total of 6,004 bearing and non-bearing acres devoted to avocados in 2020, 5,816 acres in 2019, and 5,568 acres in 2018. This represents a 3.8% annual growth rate in acres devoted to avocados from 2018 through 2020.

With respect to bearing acres, respondents had 4,771 bearing acres of avocados in 2020, 4,770 acres in 2019, and 4,600 acres in 2018. This represents a growth rate of 1.8% in bearing acres from 2018 through 2020. About 80.0% of the total acreage each year was in bearing acres.

The number of pounds harvested was reported to be more than 37.1 million in 2020, nearly 23.8 million in 2019, and more than 33.9 million in 2018. This represents a 4.6% annual growth rate in pounds of avocados harvested from 2018 through 2020.

The crop value of harvested avocados was nearly \$39.5 million in 2020, nearly \$37.8 million in 2019, and nearly \$37.3 million in 2018. This represents a 2.9% annual growth rate in avocado crop value from 2018 through 2020.

Of the total number of respondents providing information for 2020, 12.8% operated in District 1, 32.6% in District 2, 15.7% in District 3, 18.0% in District 4, and 20.9% in District 5. Very few respondents indicated they operated in different districts in 2020 compared to 2019, and/or 2018. And, very few operated in more than one district.

Individual bearing and non-bearing farm acreage were grouped into three categories for analysis purposes: 10 acres or less, 11 to 50 acres, and 51 acres or more. This was done to help ensure individual respondent confidentiality and provide meaning numbers of respondents in each category. Of the total, 42.9% of the respondents in 2020 reported having 10 acres or less, 42.9% had 11 to 50 acres, and 14.1% had more than 50 acres devoted to avocados. These percentages changed only slightly compared to 2019 and 2018.

The overall averages per respondent are presented below.

	2020	2019	2018
Acres			
Avg. Bearing Acres	31.30	31.70	31.39
Avg. Non-Bearing Acres	7.81	6.69	6.21
Avg. Total Acres	39.11	38.39	37.60
Pounds			
Avg. Pounds per Respondent	268,645	188,628	262,226
Avg. Pounds per Bearing Acre	7,556	4,882	7,935
Crop Value			
Avg. Crop Value per Respondent	\$287,189	\$299,735	\$286,495
Avg. Crop Value per Bearing Acre	\$8,072	\$7,752	\$7,949
Avg. Crop Value per Pound	\$1.09	\$1.59	\$1.03

The overall average number of total acres farmed in 2020 was 39.1 acres. The average number of bearing and non-bearing acres were 31.3 acres and 7.8 acres respectively. The number of bearing acres remained about the same from 2018 through 2020, but the number of non-bearing acres increased.

The average number of pounds of avocados harvested in 2020 was 268,645, and the average per bearing acre was 7,556 pounds. From 2018 through 2020, the average number of pounds harvested increased while the average per bearing acre declined somewhat.

The average crop value in 2020 was \$287,189, with an average of \$8,072 per bearing acre and \$1.09 per pound harvested. The average crop value and crop value per bearing acre remained about the same from 2018 through 2020, while the average crop value per pound rose over this time period.

Operating Characteristics by District

Avocado growers were asked to provide their district number and operating characteristics for the years 2020, 2019, and 2018. These characteristics included the number of bearing and non-bearing acres they farmed, the total pounds they harvested, and the gross crop value of their harvest in each CAC district within which they operated. Their responses are presented in Table Two, and their averages for 2020 are shown below.

	District 1	District 2	District 3	District 4	District 5
2020					
Acres					
Avg. Bearing Acres	41.9	14.8	40.1	27.2	32.6
Avg. Non-Bearing Acres	12.9	5.3	3.3	9.2	8.3
Avg. Total Acres	54.8	20.1	43.4	36.4	40.9
Pounds					
Avg. Pounds per Respondent	268,719	87,706	288,629	283,774	414,400
Avg. Pounds per Bearing Acre	6,109	5,098	6,126	8,090	12,359
Crop Value					
Avg. Crop Value per Respondent	\$282,497	\$99,463	\$332,968	\$313,370	\$407,648
Avg. Crop Value per Bearing Acre	\$6,422	\$5,781	\$7,068	\$8,933	\$12,158
Avg. Crop Value per Total Acre	\$4,907	\$4,251	\$6,533	\$6,674	\$9,687
Avg. Crop Value per Pound	\$1.05	\$1.13	\$1.15	\$1.10	\$0.98

As shown above for 2020 on a district basis, the average number of total acres ranged from a low of 20.1 (District 2) to a high of 54.8 (District 1). In terms of bearing acres, the averages ranged from a low of 14.8 acres (District 2) to a high of 41.9 (District 1).

The average number of pounds harvested in 2020 ranged from a low of 87,706 (District 2) to a high of 414,400 (District 5). In terms of pounds harvested per bearing acre, the averages ranged from a low of 5,098 pounds (District 2) to a high of 12,359 (District 5).

With respect to 2020 crop values, the average crop value ranged from a low of \$99,463 (District 2) to a high of \$407,648 (District 5). In terms of crop value per bearing acre, the averages ranged from a low of \$5,781 (District 2) to a high of \$12,158 (District 5). Average crop value per pound ranged from a low of \$0.98 (District 5) to a high of \$1.15 (District 3).

Operating Characteristics by Acreage

Avocado growers were grouped into three acreage size categories in order to compare operating characteristics by the size of their operations. Operating characteristics included their number of bearing and non-bearing acres, the total pounds they harvested, and the gross crop value of their harvest in 2020, 2019, and 2018. Their responses for are presented in Table Three, and their averages for 2020 are presented below.

	10 Acres or Less	11 to 50 Acres	51 Acres or More
2020			
Acres			
Avg. Bearing Acres	4.9	22.7	120.8
Avg. Non-Bearing Acres	0.6	4.1	38.1
Avg. Total Acres	5.5	26.7	158.8
Pounds			
Avg. Pounds per Respondent	40,617	229,372	872,531
Avg. Pounds per Bearing Acre	7,094	9,521	6,924

	10 Acres or Less	11 to 50 Acres	51 Acres or More
Crop Value			
Avg. Crop Value per Respondent	\$40,969	\$240,163	\$931,410
Avg. Crop Value per Bearing Acre	\$7,155	\$9,969	\$7,391
Avg. Crop Value per Pound	\$1.01	\$1.05	\$1.07

As would be expected due to size differences, the average number of pounds harvested in 2020 ranged from a low of 40,617 pounds (those with 10 acres or less) to 872,531 pounds (those with 51 acres or more). In terms of pounds harvested per bearing acre, the averages ranged from a low of 6,924 pounds (those with 51 acres or more) to a high of 9,521 pounds (those with 11 to 50 acres).

With respect to 2020 crop values, the average crop value ranged from a low of \$40,969 (those with 10 or less acres) to a high of \$931,410 (those with 51 acres or more). In terms of crop value per bearing acre, the averages ranged from a low of \$7,155 (those with 10 or less acres) to a high of \$9,969 (those with 11 to 50 acres). Average crop value per pound ranged from a low of \$1.01 (those with 10 or less acres) to a high of \$1.07 (those with 51 acres or more).

Farm Income, Expenses, and Net Margins

Growers were asked to provide their total gross income and total expenses from avocado farming operations for 2020, 2019, and 2018. This is the type of information they would report on their IRS Schedule F form (Profit & Loss from Farming). Their responses by year are presented in Table Four, by district in Table Five, and by acreage in Table Six.

Total Gross Income, Expenses, and Net Margin

Total gross income, expenses, and net margin for 2020, 2019, and 2018 are presented in Table Four, and selected statistics are provided below.

	2020	2019	2018	Growth Rate 2018-2020
Total Income, Expenses, & Net Margins				
Total Gross Income	\$42,113,270	\$40,346,948	\$38,659,419	4.4%
Total Expenses	\$40,631,536	\$36,773,638	\$36,095,913	6.1%
Total Net Margin	\$1,481,734	\$3,573,310	\$2,563,506	-24.0%
Expenses & Net Margin Ratios				
Total Expenses as % of Gross Income	96.5%	91.1%	93.4%	1.7%
Net Margin as % of Gross Income	3.5%	8.9%	6.6%	-27.2%
Avg. per Bearing Acre				
Avg. Gross Income per Bearing Acre	\$9,260	\$8,923	\$8,794	2.6%
Avg. Total Expenses per Bearing Acre	\$8,934	\$8,133	\$8,211	4.3%
Avg. Net Margin per Bearing Acre	\$326	\$790	\$583	-25.3%

	2020	2019	2018	Growth Rate 2018-2020
Avg. per Pound				
Avg. Gross Income per Pound	\$1.18	\$1.73	\$1.17	0.4%
Avg. Total Expenses per Pound	\$1.14	\$1.58	\$1.09	2.0%
Avg. Net Margin per Pound	\$0.04	\$0.15	\$0.08	-26.9%
In Relation to Crop Value				
Avg. Gross Income per \$ of Crop Value	\$1.11	\$1.09	\$1.06	2.6%
Avg. Total Expenses per \$ of Crop Value	\$1.08	\$0.99	\$0.99	4.3%
Avg. Net Margin per \$ of Crop Value	\$0.04	\$0.10	\$0.07	-25.3%

The overall 2020 gross income of respondents to this survey totaled more than \$42.1 million, averaging \$273,463. These averages per respondent are reasonably consistent with those of 2019 (\$265,440) and 2018 (\$259,459). The growth rate in total gross income from 2018 through 2020 was 4.4% per year, and the average gross income rose 2.7% annually. As previously indicated, some growers reported that their incomes declined appreciably due to the Thomas fire and other natural disasters in particular years.

Total expenses averaged 96.5% of gross income in 2020, 91.1% in 2019, and 93.4% in 2018. Total expenses rose from 2018 through 2020 at an annual rate of 6.1%.

Net margin (i.e., gross income minus total expenses) averaged 3.5% in 2020, 8.9% in 2019, and 6.6% in 2018. Due to the higher growth rates in total expenses relative to gross income, the growth rate in net margin declined -27.2% per year from 2018 through 2020.

Gross income per bearing acre rose from \$8,794 in 2018 to \$9,260 in 2020, representing an annual growth rate of 2.6%. Total expenses per bearing acre grew from \$8,211 in 2018 to \$8,934 in 2020, resulting in a growth rate of 4.3% per year. As a result, net margin per bearing acre declined from \$583 in 2018 to \$326 in 2020, representing a negative growth rate of -25.3% per year.

Gross income per pound harvested rose from \$1.17 in 2018 to \$1.73 in 2019, and then declined to \$1.18 in 2020, resulting in not much overall annual growth from 2018 through 2020 (0.4%). Total expenses per pound grew from \$1.09 in 2018 to \$1.14 in 2020, representing a growth rate of 2.0% per year. Consequently, net margin per pound, while rising in 2019, declined from \$0.08 in 2018 to \$0.04 in 2020, resulting in a negative growth rate of -26.9% per year.

Gross income per dollar of crop value rose from \$1.06 in 2018 to \$1.11 in 2020, representing a 2.6% annual growth rate. Total expenses per dollar of crop value increased from \$0.99 in 2018 to \$1.08 in 2020, representing a growth rate of 4.3% per year. Net margin per dollar of crop value declined from \$0.07 in 2018 to \$0.04 in 2020, for a negative growth rate of -25.3% per year.

Gross Income, Expenses, and Net Margin by District

Total gross income, expenses, and net margin by district for 2020, 2019, and 2018 are presented in Table Five, and selected statistics for 2020 are provided below.

	District 1	District 2	District 3	District 4	District 5
2020					
Total Income, Expenses, & Net Margins					
Total Gross Income	\$6,297,447	\$5,095,916	\$7,492,063	\$8,110,817	\$15,117,027
Total Expenses	\$8,230,001	\$5,408,523	\$6,265,369	\$9,312,307	\$11,415,336
Total Net Margin	-\$1,932,554	-\$312,607	\$1,226,694	-\$1,201,490	\$3,701,691
Expenses & Net Margin Ratios					
Total Expenses as % of Gross Income	130.7%	106.1%	83.6%	114.8%	75.5%
Net Margin as % of Gross Income	-30.7%	-6.1%	16.4%	-14.8%	24.5%
Avg. per Bearing Acre					
Avg. Gross Income per Bearing Acre	\$6,333	\$6,423	\$7,327	\$10,549	\$13,791
Avg. Total Expenses per Bearing Acre	\$8,981	\$6,817	\$6,127	\$12,111	\$10,336
Avg. Net Margin per Bearing Acre	-\$2,648	-\$394	\$1,200	-\$1,563	\$3,456
Avg. per Pound					
Avg. Gross Income per Pound	\$1.05	\$1.23	\$1.12	\$1.34	\$1.08
Avg. Total Expenses per Pound	\$1.49	\$1.30	\$0.92	\$1.54	\$0.81
Avg. Net Margin per Pound	-\$0.44	-\$0.07	\$0.20	-\$0.20	\$0.27
In Relation to Crop Value					
Avg. Gross Income per \$ of Crop Value	\$0.99	\$0.81	\$0.97	\$1.23	\$1.11
Avg. Total Expenses per \$ of Crop Value	\$1.40	\$1.16	\$0.80	\$1.41	\$0.83
Avg. Net Margin per \$ of Crop Value	-\$0.41	-\$0.35	\$0.17	-\$0.18	\$0.28

Total gross income in 2020 ranged from a high of more than \$15.1 million (District 5) to a low of nearly \$5.1 million (District 2). The average gross income per respondent in 2020 ranged from a high of \$458,092 (District 5) to a low of \$101,918 (District 2). Districts 4 and 5 had growth rates of total gross income from 2018 through 2020 of 17.1% and 13.7% respectively. Districts 1, 2, and 3 had negative growth rates in total gross income from 2018 through 2020 of -6.2%, -1.5%, and -6.9% respectively.

Total expenses in 2020 ranged from a high of more than \$11.4 million (District 5) to a low of more than \$5.4 million (District 2). The average total expenses ranged from a high of \$391,905 (District 1) to a low of \$108,170 (District 2). Total expenses in Districts 1, 3, 4, and 5 had growth rates from 2018 through 2020 of 14.2%, 1.1%, 9.7%, and 6.2% respectively. Total expenses in District 2 had a negative growth rate from 2018 through 2020 of -3.5%.

As a result of these incomes and expenses, total net margin in 2020 ranged from a high of more than \$3.7 million (District 5) to a low of a loss of more than \$1.9 million (District 1). Average net margin ranged from a high of \$112,172 (District 5) to a low of a loss of \$92,026 (District 1). Only two of the five districts (Districts 3 and 5) showed positive net margins in 2020. District 5 had growth rate of net margin from 2018 through 2020 of 53.1%. Districts 2, 3, and 4 had negative growth rates in total net margin from 2018 through 2020 of -25.0%, -30.1%, and -18.7% respectively. The growth rate in total net margin for District 1 could not be calculated because of the negative number.

Total expenses as a percent of gross income in 2020 ranged from a high 130.7% (District 1) to a low of 75.5% (District 5). Net margin as a percent of gross income in 2020 ranged from a high of 24.5% (District 5) to a low of -30.7% (District 1).

Gross income per bearing acre in 2020 ranged from a high of \$13,791 (District 5) to a low of \$6,333 (District 1). Total expenses per bearing acre in 2020 ranged from a high of \$12,111 (District 4) to a low of \$6,127 (District 3). Net margin per bearing acre in 2020 ranged from a high of \$3,456 (District 5) to a low of -\$2,648 (District 1).

Annual growth rates in average gross income per bearing acre from 2018 through 2020 ranged from a high of 8.1% (District 5) to a low of -21.9% (District 1). Annual growth rates in average total expenses per bearing acre from 2018 through 2020 ranged from a high of 9.8% (District 4) to a low of -1.9% (District 2). Annual growth rates in average net margin per bearing acre from 2018 through 2020 ranged from a high of 41.0% (District 5) to a low of -31.8% (District 3).

Gross income per pound harvested in 2020 ranged from a high of \$1.34 (District 4) to a low of \$1.05 (District 1). Total expenses per pound harvested in 2020 ranged from a high of \$1.54 (District 4) to a low of \$0.92 (District 3). Net margin per pound harvested in 2020 ranged from a high of \$0.27 (District 5) to a low of -\$0.44 (District 1).

Annual growth rates in average gross income per pound harvested from 2018 through 2020 ranged from a high of 12.0% (District 2) to a low of -0.5% (District 5). Annual growth rates in average total expenses per pound harvested from 2018 through 2020 ranged from a high of 11.8% (District 2) to a low of -6.7% (District 5). Annual growth rates in average net margin per pound harvested from 2018 through 2020 ranged from a high of 29.9% (District 5) to a low of -29.3% (District 4).

Gross income per dollar of crop value in 2020 ranged from a high of \$1.23 (District 4) to a low of \$0.81 (District 2). Total expenses per dollar of crop value in 2020 ranged from a high of \$1.41 (District 4) to a low of \$0.80 (District 3). Net margin per dollar of crop value in 2020 ranged from a high of \$0.28 (District 5) to a low of -\$0.41 (District 1).

Annual growth rates in average gross income per dollar of crop value from 2018 through 2020 ranged from a high of 10.6% (District 1) to a low of -8.1% (District 2). Annual growth rates in average total expenses per dollar of crop value from 2018 through 2020 ranged from a high of 9.9% (District 1) to a low of -4.3% (District 4). Annual growth rates in average net margin per dollar of crop value from 2018 through 2020 ranged from a high of 141.5% (District 2) to a low of -29.3% (District 4).

Gross Income, Expenses, and Net Margin by Acreage

Total gross income, expenses, and net margin by acreage for 2020, 2019, and 2018 are presented in Table Six, and selected statistics for 2020 are provided below.

	10 Acres or Less	11 to 50 Acres	51 Acres or More
2020			
Total Income, Expenses, & Net Margins			
Total Gross Income	\$2,505,029	\$14,276,769	\$24,487,893
Total Expenses	\$3,693,244	\$11,259,797	\$25,143,221
Total Net Margin	-\$1,188,215	\$3,016,972	-\$655,328
Expenses & Net Margin Ratios			
Total Expenses as % of Gross Income	147.4%	78.9%	102.7%
Net Margin as % of Gross Income	-47.4%	21.1%	-2.7%
Avg. per Bearing Acre			
Avg. Gross Income per Bearing Acre	\$8,042	\$9,407	\$8,449
Avg. Total Expenses per Bearing Acre	\$11,857	\$7,419	\$8,675
Avg. Net Margin per Bearing Acre	-\$3,815	\$1,988	-\$226
Avg. per Pound			
Avg. Gross Income per Pound	\$1.04	\$0.99	\$1.22
Avg. Total Expenses per Pound	\$1.53	\$0.78	\$1.25
Avg. Net Margin per Pound	-\$0.49	\$0.21	-\$0.03
In Relation to Crop Value			
Avg. Gross Income per \$ of Crop Value	\$1.04	\$0.94	\$1.13
Avg. Total Exp. per \$ of Crop Value	\$1.54	\$0.74	\$1.16
Avg. Net Margin per \$ of Crop Value	-\$0.50	\$0.20	-\$0.03

As would be expected due to size differences, total gross income in 2020 ranged from a high of nearly \$24.5 million (51 acres or more) to a low of more than \$2.5 million (10 acres or less). The average gross income per respondent in 2020 ranged from a high of nearly \$1.1 million (51 acres or more) to a low of \$38,539 (10 acres or less). Respondents with 10 acres or less, 11 to 50 acres, and 51 acres or more had annual growth rates in total gross income from 2018 through 2020 of 4.6%, 3.5%, and 3.8% respectively.

Total expenses in 2020 ranged from a high of more than \$25.1 million (51 acres or more) to a low of nearly \$3.7 million (10 acres or less). The average total expenses ranged from a high of nearly \$1.1 million (51 acres or more) to a low of \$56,819 (10 or less acres). Respondents with 10 acres or less, 11 to 50 acres, and 51 acres or more had growth rates of total expenses from 2018 through 2020 of 20.5%, 0.6%, and 6.9% respectively.

As a result of these incomes and expenses, total net margin in 2020 ranged from a high of more than \$3.0 million (11 to 50 acres) to a low of nearly -\$1.2 million (10 acres or less). Average net margin ranged from a high of \$47,140 (11 to 50 acres) to a low of -\$28,493 (51 acres or more). Only one acreage category (11 to 50 acres) showed a positive net margin in 2020. Respondents with 10 acres or less, and with 11 to 50 acres had average growth rates in net margin from 2018 through 2020 of 112.0%, and 16.2% respectively. The growth rate in total net margin for respondents with 51 acres or more could not be calculated because of the negative number.

Total expenses as a percent of gross income in 2020 ranged from a high 147.4% (10 acres or less) to a low of 78.9% (11 to 50 acres). Net margin as a percent of gross income ranged from a high of 26.8% (11 to 50 acres) to a low of -32.2% (10 acres or less).

Gross income per bearing acre in 2020 ranged from a high of \$9,407 (11 to 50 acres) to a low of \$8,042 (10 acres or less). Total expenses per bearing acre in 2020 ranged from a high of \$11,857 (10 acres or less) to a low of \$7,419 (11 to 50 acres). Net margin per bearing acre in 2020 ranged from a high of \$1,988 (11 to 50 acres) to a low of -\$3,815 (10 acres or less).

Annual growth rates in average gross income per bearing acre from 2018 through 2020 ranged from a high of 2.8% (10 acres or less) to a low of 1.5% (11 to 50 acres). Annual growth rates in average total expenses per bearing acre from 2018 through 2020 ranged from a high of 18.3% (10 acres or less) to a low of -1.3% (11 to 50 acres). Annual growth rates in average net margin per bearing acre from 2018 through 2020 ranged from a high of 111.6% (10 acres or less) to a low of 14.8% (11 to 50 acres).

Gross income per pound harvested in 2020 ranged from a high of \$1.22 (51 acres or more) to a low of \$0.99 (11 to 50 acres). Total expenses per pound harvested in 2020 ranged from a high of \$1.53 (10 acres or less) to a low of \$0.78 (11 to 50 acres). Net margin per pound harvested in 2020 ranged from a high of \$0.21 (11 to 50 acres) to a low of -\$0.49 (10 acres or less).

Annual growth rates in average gross income per pound harvested from 2018 through 2020 ranged from a high of 0.0% (11 to 50 acres) to a low of -5.3% (10 acres or less). Annual growth rates in average total expenses per pound harvested from 2018 through 2020 ranged from a high of 8.9% (10 acres or less) to a low of -3.1% (11 to 50 acres). Annual growth rates in average net margin per pound harvested from 2018 through 2020 ranged from a high of 94.1% (10 acres or less) to a low of 14.6% (11 to 50 acres).

Gross income per dollar of crop value in 2020 ranged from a high of \$1.13 (51 acres or more) to a low of \$0.94 (11 to 50 acres). Total expenses per dollar of crop value in 2020 ranged from a high of \$1.54 (10 acres or less) to a low of \$0.74 (11 to 50 acres). Net margin per dollar of crop value in 2020 ranged from a high of \$0.20 (11 to 50 acres) to a low of -\$0.50 (10 acres or less).

Annual growth rates in average gross income per dollar of crop value from 2018 through 2020 ranged from a high of 2.8% (51 acres or more) to a low of -3.2% (10 acres or less). Annual growth rates in average total expenses per dollar of crop value from 2018 through 2020 ranged from a high of 11.9% (10 acres or less) to a low of -3.8% (11 to 50 acres). Annual growth rates in average net margin per dollar of crop value from 2018 through 2020 ranged from a high of 104.1% (10 acres or less) to a low of -11.8% (11 to 50 acres).

Sources of Water

Growers were asked to identify where they obtained water for irrigation for their avocado farming operations in 2020, 2019, and 2018. As previously indicated, they were provided three choices: wells and/or surface water on property, mutual water company, and water agency. Growers could

use any one or combination of these sources for their avocado irrigation needs. Water sources by year are presented in Table Seven.

Overall Sources of Water

Respondents were asked for their sources of water for growing avocados in 2020, 2019, and 2018. Their responses are shown below.

	2020	2019	2018
Wells and/or Surface Water on Property	25.0%	25.1%	25.3%
Mutual Water Company	23.2%	24.0%	24.1%
Water Agency	34.5%	34.1%	33.7%
Wells/Surface & Mutual Water Company	6.5%	6.0%	6.0%
Wells/Surface & Water Agency	10.1%	10.2%	10.2%
Mutual Water Company & Water Agency	0.0%	0.0%	0.0%
Wells/Surface, Mutual Water, & Water Agency	0.6%	0.6%	0.6%

The single most common source of water was a water agency, with about one-third of the respondents (34.5%) indicating that source for each year. One-fourth of the respondents (25.0%) said they either had wells or surface water on their property, and nearly one-fourth of the respondents (23.2%) used a mutual water company. Very few respondents indicated they changed water sources between these three years.

Sources of Water by District

The sources of water by district in 2020 are presented in Table Seven and summarized below. As indicated above, these sources did not change appreciably from 2018 through 2020.

	District 1	District 2	District 3	District 4	District 5
2020					
Wells and/or Surface Water on Property	14.3%	9.3%	29.6%	23.3%	52.8%
Mutual Water Company	23.8%	25.9%	25.9%	40.0%	2.8%
Water Agency	47.6%	59.3%	22.2%	10.0%	19.4%
Wells/Surface & Mutual Water Company	0.0%	0.0%	7.4%	16.7%	11.1%
Wells/Surface & Water Agency	14.3%	5.6%	14.8%	6.7%	13.9%
Mutual Water Company & Water Agency	0.0%	0.0%	0.0%	0.0%	0.0%
Wells/Surface, Mutual Water, & Water Agency	0.0%	0.0%	0.0%	3.3%	0.0%

In District 1, the most common sources of water were water agencies (47.6%) and mutual water companies (23.8%). These two accounted for 71.4% of the water sources in the district.

In District 2, the most common sources of water were water agencies (59.3%) and mutual water companies (25.9%). These two accounted for 85.2% of the water sources in the district.

In District 3, the most common sources of water were wells/surface water on the property (29.6%) and mutual water companies (25.9%). These two accounted for 55.5% of the water sources in the district.

In District 4, the most common sources of water were mutual water companies (40.0%) and wells/surface water on the property (23.3%) These two accounted for 63.3% of the water sources in the district.

And, in District 5, the most common sources of water were wells/surface water on the property (52.8%) and water agencies (19.4%). These two accounted for 72.2% of the water sources in the district.

Sources of Water by Acreage

Sources of water by acreage in 2020 are presented in Table Seven and summarized below. As indicated above, these sources did not change appreciably from 2018 through 2020.

	10 Acres or Less	11 to 50 Acres	51 Acres or More
2020			
Wells and/or Surface Water on Property	18.6%	33.3%	16.7%
Mutual Water Company	25.7%	25.0%	12.5%
Water Agency	48.6%	26.4%	16.7%
Wells/Surface & Mutual Water Company	2.9%	9.7%	8.3%
Wells/Surface & Water Agency	4.3%	5.6%	41.7%
Mutual Water Company & Water Agency	0.0%	0.0%	0.0%
Wells/Surface, Mutual Water, & Water Agency	0.0%	0.0%	4.2%

Among respondents who have 10 acres or less, the most common sources of water were water agencies (48.6%) and mutual water companies (25.7%). These two accounted for 74.3% of the water sources for those within this acreage category.

Among respondents who have 11 to 50 acres, the most common sources of water were wells/surface water on the property (33.3%) and water agencies (26.4%). These two accounted for 59.7% of the water sources for those within this acreage category.

Among respondents who have 51 acres or more, the most common sources of water were wells/surface water on the property and water agencies (41.7%), wells/surface water on the property (16.7%), and water agencies (16.7%). These three accounted for 75.1% of the water sources for those within this acreage category.

Irrigation Costs

Growers were asked to provide their total irrigation costs for 2020, 2019, and 2018. Irrigation costs were defined to include both water and utility charges to convey water throughout their groves. Respondent cost figures are presented by year and water source in Table Eight, by water district in Table Nine, and by acreage in Table Ten.

Irrigation Costs by Year and Source of Water

Average irrigation costs by year are presented in Table Eight and summarized below.

	2020	2019	2018	Growth Rate 2018-2020
Avg. Irrigation Costs per Year	\$309,639	\$321,375	\$363,611	-7.7%
Avg. Irrigation Costs per Acre	\$1,094	\$1,227	\$1,367	-10.5%
Avg. Irrigation Costs per Pound	\$0.17	\$0.27	\$0.21	-10.0%
Irrigation Costs as % of Total Crop Value	15.9%	17.2%	18.9%	-8.3%
Irrigation Costs as % of Gross Income	15.1%	16.5%	18.7%	-10.1%
Irrigation Costs as % of Total Expenses	15.3%	18.4%	20.2%	-12.9%

Overall, the average irrigation cost per year declined from \$363,611 in 2018 to \$309,639 in 2020. This represents an annual decline of -7.7%. Irrigation costs per acre also declined over these years, going from \$1,367 per acre in 2018 to \$1,094 per acre in 2020. This represents a decline of -10.5% per year. Irrigation cost per pound harvested was \$0.21 in 2018, rose in 2019 (\$0.27), and then declined to a low of \$0.17 in 2020. Therefore, the cost per pound declined -10.0% annually over this time.

Irrigation costs as a percent of crop value declined steadily from 18.9% in 2018 to 15.9% in 2020. This is an annual decline of -8.3%.

Finally, irrigation costs consumed about 18.7% of gross income in 2018, and that declined to 15.1% in 2020. This represents a decline of -10.1% per year over this period. Similarly, irrigation costs as a percent of total expenses dropped from 20.2% in 2018 to 15.3% in 2020, a -12.9% rate of decline.

Irrigation Costs by Source of Water

Average irrigation costs in 2020 by source of water are presented in Table Eight and summarized below.

	Wells/ Surface	Mutual	Agency	Wells/ Mutual	Wells/ Agency
Avg. Irrigation Costs per Year	\$34,714	\$43,156	\$217,024	\$40,613	\$95,486
Avg. Irrigation Costs per Acre	\$753	\$1,389	\$1,157	\$555	\$698
Avg. Irrigation Costs per Pound	\$0.08	\$0.19	\$0.21	\$0.07	\$0.14
Irrigation Costs as % of Total Crop Value	8.0%	17.9%	19.4%	7.0%	12.3%
Irrigation Costs as % of Gross Income	7.3%	18.3%	17.9%	6.8%	11.1%
Irrigation Costs as % of Total Expenses	9.0%	19.5%	17.3%	7.0%	11.5%

The average cost of irrigation per year by source of water in 2020 ranged from a high of \$217,024 (water agency) to a low of \$34,714 (wells/surface water on the property). These averages are highly dependent on the number of acres, so the average total dollar values may not be relevant.

Irrigation costs per acre in 2020 ranged from a high of \$1,389 (mutual water companies) to a low of \$555 per acre (combination of wells/surface water on the property and mutual water companies). The growth rates in irrigation costs per acre from 2018 through 2020 ranged from a high of 9.6% (well/surface water on the property) to a low of -22.4% (combination of wells/surface water on the

property and water agencies). Only wells/surface water on the property had a positive growth rate in irrigation costs per acre.

Irrigation costs per pound harvested in 2020 ranged from a high of \$0.21 per pound (water agencies) to a low of \$0.07 (combination of wells/surface water on the property and mutual water companies). The growth rates in irrigation costs per pound from 2018 through 2020 ranged from a high of 15.5% (wells/surface water on the property) to a low of -28.0% (combination of wells/surface water on the property and water agencies).

Irrigation costs as a percent of crop value in 2020 ranged from a high of 19.4% (water agencies) to a low of 7.0% (combination of wells/surface water on the property and mutual water companies). The growth rates for irrigation costs as a percent of crop value from 2018 through 2020 ranged from a high of 21.5% (wells/surface water on the property) to a low of -27.0% (combination of wells/surface water on the property and water agencies).

In terms of irrigation costs as a percent of gross income in 2020 ranged from a high of 18.3% (mutual water companies) to a low of 6.8% (combination of wells/surface water on the property and mutual water companies). The annual growth rates for irrigation costs as a percent of gross income from 2018 through 2020 ranged from a high of 23.3% (wells/surface water on the property) to a low of -31.4% (combination of wells/surface water on the property and water agencies).

Finally, irrigation costs as a percent of total expenses in 2020 ranged from a high of 19.5% (mutual water companies) to a low of 7.0% (combination of wells/surface water on the property and mutual water companies). The annual growth rates for irrigation costs as a percent of total expenses from 2018 through 2020 ranged from a high of 14.7% (wells/surface water on the property) to a low of -26.3% (combination of wells/surface water on the property and water agencies).

Irrigation Costs by District

Average irrigation costs in 2020 by district are presented in Table Nine and summarized below.

	District 1	District 2	District 3	District 4	District 5
Avg. Irrigation Costs per Year	\$93,552	\$110,808	\$32,548	\$45,866	\$47,072
Avg. Irrigation Costs per Acre	\$1,776	\$1,996	\$606	\$777	\$570
Avg. Irrigation Costs per Pound	\$0.41	\$0.46	\$0.10	\$0.12	\$0.06
Irrigation Costs as % of Total Crop Value	32.9%	40.7%	8.5%	10.9%	6.0%
Irrigation Costs as % of Gross Income	33.7%	40.4%	8.1%	9.3%	5.3%
Irrigation Costs as % of Total Expenses	23.7%	39.1%	9.7%	8.2%	6.8%

The average cost of irrigation per year by district in 2020 ranged from a high of \$110,808 (District 2) to a low of \$32,548 (District 3). As was noted previously, these averages are highly dependent on the number of acres, so the average total dollar values may not be relevant.

Irrigation costs per acre in 2020 ranged from a high of \$1,996 per acre (District 2) to a low of \$570 per acre (District 5). The growth rates in irrigation costs per acre from 2018 through 2020 were negative in each district. The rates of decline ranged from a high of -73.3% (District 1) to a low of -2.3 (District 5).

Irrigation costs per pound harvested in 2020 ranged from a high of \$0.46 per pound (District 2) to a low of \$0.06 per pound (District 5). The growth rates in irrigation costs per pound from 2018 through 2020 also were negative in each district. The annual growth rates ranged from a high of -16.0% (District 4) to a low of -1.2% (District 1). Only District 3 had a positive growth rate.

Irrigation costs as a percent of crop value in 2020 ranged from a high of 40.7% (District 2) to a low of 6.0% (District 5). The growth rates for irrigation costs as a percent of crop value from 2018 through 2020 ranged from a high of 0.9% (District 3) to a low of -16.7% (District 4). Only District 3 had a positive growth rate.

Irrigation costs as a percent of gross income in 2020 ranged from a high of 40.4% (District 2) to a low of 5.3% (District 5). The annual growth rates for irrigation costs as a percent of gross income from 2018 through 2020 ranged from a high of 6.2% (District 3) to a low of -18.4% (District 4). Only District 3 had a positive growth rate.

Lastly, irrigation costs as a percent of total expenses in 2020 ranged from a high of 39.1% (District 2) to a low of 6.8% (District 5). The annual growth rates for irrigation costs as a percent of total expenses from 2018 through 2020 were negative in all districts. The growth rates ranged from a high of -25.8% (District 1) to a low of -2.2% (District 3).

Irrigation Costs by Acreage

Average irrigation costs in 2020 by acreage are presented in Table Ten and summarized below.

	10 Acres or Less	11 to 50 Acres	51 Acres or More
Avg. Irrigation Costs per Year	\$54,630	\$125,950	\$162,300
Avg. Irrigation Costs per Acre	\$2,785	\$1,307	\$852
Avg. Irrigation Costs per Pound	\$0.38	\$0.14	\$0.16
Irrigation Costs as % of Total Crop Value	37.9%	13.8%	17.8%
Irrigation Costs as % of Gross Income	37.4%	15.0%	13.2%
Irrigation Costs as % of Total Expenses	25.4%	18.1%	12.8%

As would be expected due to size differences, the average cost of irrigation per year by acreage in 2020 ranged from a high of \$162,300 (51 acres or more) to a low of \$54,630 (10 acres or less). As was noted previously, these averages are highly dependent on the number of acres, so the average total dollar values may not be especially relevant.

Irrigation costs per acre in 2020 ranged from a high of \$2,785 per acre (10 acres or less) to a low of \$852 per acre (51 acres or more). The growth rates in irrigation costs per acre from 2018 through 2020 ranged from a high of 3.3% (10 acres or less) to a low of -17.3 (51 acres or more).

Irrigation costs per pound harvested in 2020 ranged from a high of \$0.38 per pound (10 acres or less) to a low of \$0.14 per pound (11 to 50 acres). The growth rates in irrigation costs per pound from 2018 through 2020 ranged from a high of 0.0% (11 to 50 acres) to a low of -18.4% (51 acres or more).

Irrigation costs as a percent of crop value in 2020 ranged from a high of 37.9% (10 acres or less) to a low of 13.8% (11 to 50 acres). The growth rates for irrigation costs as a percent of crop value from 2018 through 2020 ranged from a high of 0.9% (11 to 50 acres) to a low of -6.9% (51 acres or more).

Irrigation costs as a percent of gross income in 2020 ranged from a high of 37.4% (10 acres or less) to a low of 13.2% (51 acres or more). The annual growth rates for irrigation costs as a percent of gross income from 2018 through 2020 ranged from a high of 0.1% (11 to 50 acres) to a low of -16.8% (51 acres or more).

Finally, irrigation costs as a percent of total expenses in 2020 ranged from a high of 25.4% (10 acres or less) to a low of 12.8% (51 acres or more). The annual growth rates for irrigation costs as a percent of total expenses from 2018 through 2020 ranged from a high of 0.3% (11 to 50 acres) to a low of -19.2% (51 acres or more).

Three-Year Averages

The three-year averages for operating characteristics, income and expenses, and irrigation costs are presented in Table Eleven. To the extent possible, these were computed in total, by district, and by acreage. Because some respondents did not provide complete data, some average computations could not be made.

Over the three-year period from 2018 through 2020, the number of acres devoted to avocados averaged 34.6 acres, with 28.2 acres being bearing acres (81.3%). The average number of pounds harvested was 217,059, having a crop value of \$262,085. The number of pounds per bearing acre averaged 6,707 pounds, and the average crop value per bearing acre was \$8,098. Crop value per pound harvested averaged \$1.21. Averages for each district and by acreage category are presented in Table Eleven.

Gross income over the three years averaged \$266,197, and total expenses averaged \$249,453. The result was a net margin average of \$16,744. Total expenses averaged 93.7% of gross income, and the net margin averaged 6.3% of gross income.

Gross income per acre averaged \$6,965, and total expenses averaged \$6,527 per acre. This left a net margin of \$438 per acre. Gross income per bearing acre averaged \$8,564, expenses averaged \$8,025, and net margin averaged \$539 per bearing acre.

Gross income per pound harvested over the three years averaged \$1.28, with total expenses averaging \$1.20 per pound. This resulted in a net margin of \$0.08 per pound. Gross income per dollar of crop value averaged \$1.06, and total expenses averaged \$0.99. This left a net margin per dollar of crop value of \$0.07. Averages by district and acreage category were not computed to preserve respondent confidentiality.

Total irrigation costs averaged \$44,821 per farm over the three-year period. The average irrigation cost per acre was \$1,180. Irrigation costs per pound harvested averaged \$0.22, and accounted for

17.9% of crop value. Irrigation costs consumed 17.0% of gross income and accounted for 18.1% of total expenses from 2018 through 2020.

Perceived Threats to Future Profitability

Avocado growers were given a list of cost and other factors and asked to rate how serious a threat they would expect each to be to their farm’s profitability over the next three years. Their responses are presented in Table Twelve.

Overall Perceptions

Respondent perceptions of how serious a threat various cost and other factors are to their profitability are summarized below. They are presented from most serious to least serious based on mean ratings, with 5.00 being very serious and 1.00 being not at all serious.

	Very/Somewhat Serious	No Opinion	Not Very/Not at All Serious	Mean Rating
Cost Factors				
Water costs	93.4%	1.2%	5.4%	4.62
Cost of complying with govt. regulations	74.7%	14.2%	11.1%	4.02
Cost of labor	79.1%	9.2%	11.7%	4.00
Fertilizer and other crop input expenses	77.2%	5.6%	17.3%	3.75
Cost of mandated benefits for workers	56.1%	28.0%	15.9%	3.59
Conservation expenses	35.5%	31.0%	33.5%	2.99
Car, truck, and fuel expenses	41.9%	15.6%	42.5%	2.96
Interest rates	16.6%	33.8%	49.7%	2.44
Other Factors				
Availability of water	91.5%	3.7%	4.9%	4.57
Imported avocados	80.2%	12.3%	7.4%	4.23
Environmental regulations	79.2%	13.8%	6.9%	4.15
Availability of labor for harvesting	80.0%	4.4%	15.6%	3.96
Ability to export avocados at reasonable prices	52.6%	32.7%	14.7%	3.51
Tariffs placed on CA avocados by other countries	44.5%	38.1%	17.4%	3.43
Availability of skilled labor	50.3%	16.1%	33.5%	3.23
Availability of land to expand	17.2%	45.2%	37.6%	2.61

The most serious threats based on mean rating were thought to be water costs (4.62), cost of complying with government regulations (4.02), and the cost of labor (4.00). To a somewhat lesser extent, growers felt that fertilizer and other crop input expenses (3.75) and costs of mandated benefits for workers (3.59) were serious threats. All of these cost factors were identified as very or somewhat serious by a majority of respondents.

Other factors considered to be serious threats based on mean rating included the availability of water (4.57), imported avocados (4.23), and environmental regulations (4.15), and the availability of labor for harvesting (3.96). All of these cost factors were identified as very or somewhat serious by the majority of respondents.

Perceptions by District

Respondent perceptions of how serious a threat various cost and other factors are to their profitability by district are summarized below. The full set of results are presented in Table Eleven, and only those considered most serious (i.e., with a mean rating of at least 4.00) are presented below. As noted above, the mean ratings are based on 5.00 being very serious and 1.00 being not at all serious.

	District 1	District 2	District 3	District 4	District 5
Cost Factors					
Cost of labor	4.50	4.00	3.92	3.90	3.83
Cost of mandated benefits for workers	4.23	3.49	3.64	3.39	3.45
Water costs	4.73	4.87	4.59	4.48	4.29
Fertilizer and other crop input expenses	3.91	3.67	3.38	4.10	3.76
Cost of complying with government regulations	4.45	3.90	4.04	3.93	3.97
Other Factors					
Availability of labor for harvesting	4.59	4.06	3.46	4.11	3.65
Availability of water	4.77	4.59	4.70	4.31	4.51
Environmental regulations	4.45	4.12	3.84	4.21	4.18
Imported avocados	4.32	4.08	4.33	4.00	4.49

In District 1, the most serious cost factors were the water costs (4.73), cost of labor (4.50), and cost of complying with government regulations (4.45). Among the other factors, the most serious threats were thought to be the availability of water (4.77), availability of labor for harvesting (4.59), and environmental regulations (4.45).

In District 2, the most serious cost factors were the water costs (4.87) and the cost of labor (4.00). Among the other factors, the most serious threats were thought to be the availability of water (4.59) and environmental regulations (4.12).

In District 3, the most serious cost factors were the water costs (4.59) and cost of complying with government regulations (4.04). Among the other factors, the most serious threats were thought to be the availability of water (4.70) and imported avocados (4.33).

In District 4, the most serious cost factors were the water costs (4.48), and fertilizer and other crop input expenses (4.10). Among the other factors, the most serious threats were thought to be the availability of water (4.31) and environmental regulations (4.21).

In District 5, the most serious cost factor was the water costs (4.29). Among the other factors, the most serious threats were thought to be the availability of water (4.51) and imported avocados (4.49).

Perceptions by Acreage

Respondent perceptions of how serious a threat various cost and other factors are to their profitability by acreage are summarized below. The full set of results are presented in Table Eleven, and only those considered most serious based on mean rating (i.e., with a mean rating of

at least 4.00) are presented below. As noted above, the mean ratings are based on 5.00 being very serious and 1.00 being not at all serious.

	10 Acres or Less	11 to 50 Acres	51 Acres or More
Cost Factors			
Cost of labor	3.84	4.10	4.08
Water costs	4.68	4.51	4.75
Fertilizer and other crop input expenses	3.58	3.79	4.08
Cost of complying with govt. regulations	3.91	4.10	4.13
Other Factors			
Availability of labor for harvesting	4.02	3.78	4.25
Availability of water	4.60	4.51	4.63
Environmental regulations	4.12	4.07	4.46
Imported avocados	4.47	4.07	4.04

Among respondents with 10 acres or less, the most serious cost factor was the water costs (4.68). Of the other factors, the most serious threats were thought to be the availability of water (4.60) and imported avocados (4.47).

Among respondents with 11 to 50 acres, the most serious cost factors were the water costs (4.51), the cost of labor (4.10), and costs of complying with government regulations (4.10). Of the other factors, the most serious threats were thought to be the availability of water (4.51), environmental regulations (4.07), and imported avocados (4.07).

Among respondents with 51 acres or more, the most serious cost factors were the water costs (4.75) and the costs of complying with government regulations. Of the other factors, the most serious threats were thought to be the availability of water (4.63) and environmental regulations (4.46).

SUMMARY AND CONCLUSIONS

Based on the findings of this study, and subject to the Caveats expressed in the Methodology, the following summary comments appear warranted for the Avocado State-of-the-Industry Survey. They are provided in bullet format for emphasis:

Farm Acreage

- Across all districts, the average number of bearing and non-bearing acres was 39.1 acres and 7.8 acres respectively. Districts with the largest average number of total acres (i.e., bearing and non-bearing acres) were District 1 (54.8 acres) and District 3 (43.4 acres). The smallest average number of total acres were in District 2 (20.1 acres) and District 4 (36.4 acres).
- The average number of bearing acres were highest in Districts 1 (41.9 acres) and 3 (40.1 acres), and smallest were in District 2 (14.8 acres) and District 4 (27.2 acres). Overall, bearing acres comprised about 80.0% of the total acres across all districts, and the ratio of bearing to total acres were highest in District 3 (92.4%) and District 5 (79.7%), and lowest in District 2 (73.5%) and District 4 (74.7%).
- Among the three acreage categories in 2020, the average number of acres per farm for those with 10 acres or less was 5.5 total acres, with 4.9 of those were bearing acres (89.1% of total acres). For those in the 11 to 50 acre category, the average number of total acres was 26.7 acres, with 22.7 of those were bearing acres (85.0% of total acres). For those in the 51 acres or more category, the average number of total acres was 158.8 acres, with 120.8 of those were bearing acres (76.1% of total acres).

Pounds Harvested and Crop Values by District and Acreage

- The average number of pounds harvested per acre in 2020, 2019, and 2018 were 7,556, 4,882, and 7,935 respectively. From 2018 through 2020, the average number of pounds harvested per bearing acre declined at a rate of -2.4% per year. The largest number of pounds harvested per bearing acre in 2020 were in District 5 (12,359) and District 4 (8,090), and the smallest number of pounds harvested per bearing acre were in District 2 (5,098) and District 1 (6,109).
- The average crop value per acre in 2020, 2019, and 2018 were \$6,410, \$6,406, and \$6,577 respectively. From 2018 through 2020, the average crop value per bearing acre rose at a rate of 0.8% per year. The highest crop values per bearing acre in 2020 were in District 5 (\$12,158) and District 4 (\$8,933), and the lowest crop values per bearing acre were in District 2 (\$5,781) and District 1 (\$6,422).
- The average number of pounds harvested per bearing acre in 2020 was highest in farms with 11 to 50 acres (9,521 pounds), and lowest in farms with 51 acres or more (6,924 pounds).

pounds). Those with 10 acres or less averaged 7,094 pounds per bearing acre. Annual growth rates in numbers of pounds harvested per bearing acre from 2018 through 2020 were 8.1% for farms with 10 acres or less, 1.6% for those with 11 to 50 acres, and 2.6% for those with 51 acres or more.

- The average crop value per bearing acre in 2020 was highest in farms with 11 to 50 acres (\$9,969), and lowest in farms with 10 acres or less (\$7,155) and 51 acres or more (\$7,391). Annual growth rates in crop values per bearing acre from 2018 through 2020 were 6.7% for farms with 10 acres or less, 2.3% for those with 11 to 50 acres, and -1.4% for those with 51 acres or more.

Overall Farm Income, Expenses, and Net Margin

- Total gross income grew at a rate of 4.4% per year from 2018 through 2020, while total expenses rose at an annual rate of 6.1%. This resulted in the total net margin declining at a rate of -27.2% per year over these three years.
- Total expenses as a percent of gross income in 2020, 2019, and 2018 were 96.5%, 91.1%, and 93.4% respectively. This provided net margins of 3.5%, 8.9%, and 6.6% in 2020, 2019, and 2018 respectively.
- Average gross income was \$274,463 in 2020, \$265,440 in 2019, and \$259,459 in 2018. The growth rate in gross income over these years was 2.7% per year. Because total expenses grew at an annual rate of 4.4%, the net margin fell from \$17,090 in 2018 to \$9,622 in 2020. This represents a rate of decline of -25.0% per year.
- Average gross income per bearing acre rose from \$8,794 in 2018 to \$9,260 in 2020. This represents a growth rate of 2.6% per year. Total expenses per acre rose from \$8,211 in 2018 to \$8,934 in 2020, representing a 4.3% annual growth rate. As a result, net margin per acre declined from \$583 in 2018 to \$326 in 2020, declining -25.3% per year.
- Average gross income per pound harvested rose from \$1.17 in 2018 to \$1.18 in 2020. This represents a growth rate of 0.4% per year. Total expenses per pound rose from \$1.09 in 2018 to \$1.14 in 2020, representing a 2.0% annual growth rate. As a result, net margin per pound harvested declined from \$0.08 in 2018 to \$0.04 in 2020, declining -26.9% per year.
- Average gross income per dollar of crop value rose from \$1.06 in 2018 to \$1.11 in 2020. This represents a growth rate of 2.6% per year. Total expenses per dollar of crop value rose from \$0.99 in 2018 to \$1.08 in 2020, representing a 4.3% annual growth rate. As a result, net margin per dollar of crop value declined from \$0.07 in 2018 to \$0.04 in 2020, declining -25.3% per year.
- The three-year average for total expenses as a percent of gross income was 93.7%, resulting in an average net margin of 6.3%. Net margin per acre and per bearing acre averaged \$438 and \$539 respectively. Net margin per pound averaged \$0.08, and net margin per dollar of crop value averaged \$0.07.

Farm Income, Expenses, and Net Margin by District

- Districts with the highest ratio of total expenses to gross income (i.e., total expenses divided by gross income) were District 1 (130.7%) and District 4 (114.8%). Districts with the lowest ratio of total expenses to gross income were District 5 (75.5%) and District 3 (83.6%).
- Average gross income per bearing acre were highest in District 5 (\$13,791) and District 4 (\$10,549), and lowest in District 1 (\$6,333) and District 2 (\$6,423). Average total expenses per bearing acre were highest in District 4 (\$12,111) and District 5 (\$10,336), and lower in District 3 (\$6,127) and District 2 (\$6,817).
- Average gross income per pound harvested were highest in District 4 (\$1.34) and District 2 (\$1.23), and lowest in District 1 (\$1.05) and District 5 (\$1.08). Average total expenses per pound harvested were highest in District 4 (\$1.54) and District 1 (\$1.49), and lower in District 5 (\$0.81) and District 3 (\$0.92).
- Average gross income per dollar of crop value were highest in District 4 (\$1.23) and District 5 (\$1.11), and lowest in District 2 (\$0.81) and District 3 (\$0.97). Average total expenses per dollar of crop value were highest in District 4 (\$1.41) and District 1 (\$1.40), and lower in District 3 (\$0.80) and District 5 (\$0.83).

Farm Income, Expenses, and Net Margin by Acreage

- The highest ratio of total expenses to gross income (i.e., total expenses divided by gross income) were in farms with 10 or less acres (147.4%) and 51 acres or more (102.7%). Farms with 11 to 50 acres had the lowest average total expense to gross income ratio of 78.9%.
- Average gross income per bearing acre were highest in farms with 11 to 50 acres (\$9,407 per bearing acre). Farms with 10 acres or less and farms with 51 acres or more had similar gross incomes (\$8,042 per bearing acre and \$8,449 per bearing acre respectively). Total expenses per bearing acre was highest in farms with 10 acres or less (\$11,857), and lower in farms with 11 to 50 acres (\$7,419) and 51 acres or more (\$8,675).
- Average gross income per pound harvested was highest in farms with 51 acres or more (\$1.22), and lower in farms with 10 acres or less (\$1.04) and 11 to 50 acres (\$0.99). Total expenses per pound harvested was highest in farms with 10 acres or less (\$1.53) and lower in farms with 11 to 50 acres (\$0.78) and 51 acres or more (\$1.25).
- Average gross income per dollar of crop value were highest in farms with 51 acres or more (\$1.13), and lower in farms with 10 acres or less (\$1.04) and 11 to 50 acres (\$0.94). Average total expenses per dollar of crop value were highest in farms with 10 acres or less (\$1.54) and lower in farms with 11 to 50 acres (\$0.74) and 51 acres or more (\$1.16).

Water Sources

- Respondents did not appear to change their sources of water much over the three years from 2018 through 2020. The most commonly used water sources in 2020 were water agencies (34.5%), wells/surface water on the property (25.0%), and mutual water companies (23.2%). These three water sources accounted for 82.7% of the sources used in 2020. Combinations of these three water sources were used by 17.3% of the respondents to this survey.
- In 2020, the most commonly used water source in District 1 was water agencies (47.6%), in District 2 it was water agencies (59.3%), in District 3 it was wells/surface water on the property (29.6%), in District 4 it was mutual water companies (40.0%), and in District 5 it was wells/surface water on the property (52.8%).

Overall Irrigation Costs

- The average irrigation cost per acre was \$1,094 in 2020, \$1,227 in 2019, and \$1,367 in 2018. This resulted in a declining growth rate of -10.5% in irrigation costs per acre. Average irrigation costs per pound harvested dropped from \$0.21 in 2018 to \$0.17 in 2020, a -10.0% decline per year. Irrigation costs per dollar of crop value dropped from 18.9% in 2018 to 15.9% in 2020, an -8.3% decline per year.
- Irrigation costs as a percent of gross income dropped from 18.7% in 2018 to 15.1% in 2020, a -10.1% decline per year. Irrigation costs as a percent of total expenses dropped from 20.2% in 2018 to 15.3% in 2020, a -12.9% decline per year.

Irrigation Costs by Source of Water

- The average irrigation cost per acre in 2020 was highest with mutual water companies (\$1,389 per acre) and water agencies (\$1,157 per acre), and lowest with a combination of wells/surface water on the property and mutual water companies (\$555 per acre) and wells/surface water on the property and water agencies (\$698 per acre).
- The average irrigation cost per pound harvested in 2020 was highest with water agencies (\$0.21 per pound) and mutual water companies (\$0.19 per pound), and lowest with a combination of wells/surface water on the property and mutual water companies (\$0.07 per pound) and wells/surface water on the property (\$0.08 per pound).
- Average irrigation cost per dollar of crop value in 2020 was highest with water agencies (19.4%) and mutual water companies (17.9%), and lowest with a combination of wells/surface water on the property and mutual water companies (7.0%) and wells/surface water on the property (8.0%).
- Average irrigation cost as a percent of gross income in 2020 was highest with mutual water companies (18.3%) and water agencies (17.9%), and lowest with a combination of

wells/surface water on the property and mutual water companies (16.8%) and wells/surface water on the property (7.3%).

- Average irrigation cost as a percent of total expenses in 2020 was highest with mutual water companies (19.5%) and water agencies (17.3%), and lowest with wells/surface water on the property (7.4%) and a combination of wells/surface water on the property and mutual water companies (7.0%).

Irrigation Costs by District

- The highest irrigation costs per acre in 2020 were in District 2 (\$1,996) and District 1 (\$1,776), and the lowest costs per acre were in District 5 (\$570) and District 3 (\$606). The highest irrigation costs per pound harvested were in District 2 (\$0.46 per pound) and District 1 (\$0.41 per pound), and the lowest irrigation costs per pound were in District 5 (\$0.06 per pound) and District 3 (\$0.10 per pound). The highest irrigation costs as a percent of crop value were in District 2 (40.7%) and District 1 (32.9%), and the lowest costs as a percent of crop value were in District 5 (6.0%) and District 3 (8.5%).
- Average irrigation cost as a percent of gross income in 2020 was highest in District 2 (40.4%) and District 1 (33.7%), and lowest in District 5 (5.3%) and District 3 (8.1%).
- Average irrigation cost as a percent of total expenses in 2020 was highest in District 2 (39.1%) and District 1 (23.7%), and lowest in District 5 (6.8%) and District 4 (8.2%).

Irrigation Costs by Acreage

- The highest irrigation costs per acre in 2020 were in farms with 10 acres or less (\$2,785 per acre) and 11 to 50 acres (\$1,307), and the lowest costs per acre was in farms with 51 acres or more (\$852 per acre). The highest irrigation costs per pound harvested was in farms with 10 acres or less (\$0.38 per pound), and the lowest irrigation costs per pound were in farms with 11 to 50 acres (\$0.14 per pound) and farms with 51 or more acres (\$0.16 per pound). The highest irrigation cost as a percent of crop value was in farms with 10 acres or less (37.9%), and the lowest costs as a percent of crop value were in farms with 11 to 50 acres (13.8%) and farms with 51 acres or more (17.8%).
- Average irrigation cost as a percent of gross income in 2020 was highest in farms with 10 acres or more (37.4%), and lowest in farms with 11 to 50 acres (15.0%) and farms with 51 or more acres (13.2%).
- Average irrigation cost as a percent of total expenses in 2020 was highest in farms with 10 acres or less (25.4%) and 11 acres or more (18.1%), and lowest in farms with 51 acres or more (12.8%).

Perceived Potential Threats to Future Profitability

- Cost factors considered to be the most serious threats to future profitability based on mean ratings, with 5.00 being very serious and 1.00 being not at all serious, were water costs (4.62), costs of complying with government regulations (4.02), and the costs of labor (4.00). These were reasonably consistent across districts and acreage categories.
- Other factors identified as being the most serious threats to future profitability based on mean ratings, with 5.00 being very serious and 1.00 being not at all serious, were the availability of water (4.57), imported avocados (4.23) and environmental regulations (4.15). These, too, were reasonably consistent across districts and acreage categories.

TABLE ONE: RESPONDENT CHARACTERISTICS¹

Year				Growth Rate	Growth Rate
	2020	2019	2018	2019-2020	2018-2020
Acres					
Total Bearing Acres	4,771	4,770	4,600	0.0%	1.8%
Total Non-Bearing Acres	1,233	1,046	968	17.9%	12.9%
Total Acres	6,004	5,816	5,568	3.2%	3.8%
Pounds					
Total Pounds	37,122,887	23,788,484	33,943,485	56.1%	4.6%
Crop Value					
Total Crop Value	\$39,463,338	\$37,773,140	\$37,294,707	4.5%	2.9%

District	2020	2020	2019	2019	2018	2018
	Number	Percent	Number	Percent	Number	Percent
District 1	22	12.8%	22	12.9%	22	13.2%
District 2	56	32.6%	56	32.9%	56	33.5%
District 3	27	15.7%	27	15.9%	25	15.0%
District 4	31	18.0%	30	17.6%	29	17.4%
District 5	36	20.9%	35	20.6%	35	21.0%
Total	172	100.0%	170	100.0%	167	100.0%
Multiple Districts						

Acreage	2020	2020	2019	2019	2018	2018
	Number	Percent	Number	Percent	Number	Percent
10 acres or less	73	42.9%	73	43.5%	75	45.5%
11 to 50 acres	73	42.9%	72	42.9%	68	41.2%
51 acres or more	24	14.1%	23	13.7%	22	13.3%
Total	170	100.0%	168	100.0%	165	100.0%

¹ Includes all responses. Some respondents did not provide information for each question, so individual breakdowns may not equal these totals.

TABLE TWO: OPERATING CHARACTERISTICS BY DISTRICT¹

Operating Characteristics

	District 1	District 2	District 3	District 4	District 5	Total
2020						
Acres						
Total Bearing Acres	879.80	825.83	1,083.58	841.90	1,140.00	4,771.11
Avg. Bearing Acres	41.90	14.75	40.13	27.16	32.57	31.30
Total Non-Bearing Acres	271.65	297.36	88.60	285.00	290.75	1,233.36
Avg. Non-Bearing Acres	12.94	5.31	3.28	9.19	8.31	7.81
Total Acres	1,151.45	1,123.19	1,172.18	1,126.90	1,430.75	6,004.47
Avg. Total Acres	54.83	20.06	43.41	36.35	40.88	39.11
Pounds						
Total Pounds	5,374,387	4,209,890	6,638,457	6,810,565	14,089,588	37,122,887
Avg. Pounds per Respondent	268,719	87,706	288,629	283,774	414,400	268,645
Avg. Pounds per Bearing Acre	6,109	5,098	6,126	8,090	12,359	7,556
Crop Value						
Total Crop Value	\$5,649,930	\$4,774,222	\$7,658,273	\$7,520,876	\$13,860,037	\$39,463,338
Avg. Crop Value per Respondent	\$282,497	\$99,463	\$332,968	\$313,370	\$407,648	\$287,189
Avg. Crop Value per Bearing Acre	\$6,422	\$5,781	\$7,068	\$8,933	\$12,158	\$8,072
Avg. Crop Value per Total Acre	\$4,907	\$4,251	\$6,533	\$6,674	\$9,687	\$6,410
Avg. Crop Value per Pound	\$1.05	\$1.13	\$1.15	\$1.10	\$0.98	\$1.09
	District 1	District 2	District 3	District 4	District 5	Total
2019						
Acres						
Total Bearing Acres	892.30	833.23	1,088.53	841.40	1,114.20	4,769.66
Avg. Bearing Acres	42.49	14.88	40.32	28.05	32.77	31.70
Total Non-Bearing Acres	260.90	280.36	86.65	130.00	289.05	1,046.96
Avg. Non-Bearing Acres	12.42	5.01	3.17	4.33	8.50	6.69
Total Acres	1,153.20	1,113.59	1,175.18	971.40	1,403.25	5,816.62
Avg. Total Acres	54.91	19.89	43.49	32.38	41.27	38.39
Pounds						
Total Pounds	5,458,215	3,346,633	7,517,292	2,304,527	5,161,817	23,788,484
Avg. Pounds per Respondent	272,911	71,205	341,695	96,022	161,307	188,628
Avg. Pounds per Bearing Acre	6,117	4,016	6,906	2,739	4,633	4,882
Crop Value						
Total Crop Value	\$8,803,425	\$5,174,774	\$11,698,743	\$3,708,722	\$8,387,476	\$37,773,140
Avg. Crop Value per Respondent	\$440,171	\$110,102	\$531,761	\$154,530	\$262,109	\$299,735
Avg. Crop Value per Bearing Acre	\$9,866	\$6,210	\$10,747	\$4,408	\$7,528	\$7,752
Avg. Crop Value per Total Acre	\$7,634	\$4,647	\$9,955	\$3,818	\$5,977	\$6,406
Avg. Crop Value per Pound	\$1.61	\$1.55	\$1.56	\$1.61	\$1.62	\$1.59

¹ Only includes respondents who provided their district, acres, pounds, and crop values.

	District 1	District 2	District 3	District 4	District 5	Total
2018						
Acres						
Total Bearing Acres	851.70	850.03	1,023.78	814.90	1,059.80	4,600.21
Avg. Bearing Acres	40.56	15.18	40.95	29.10	31.17	31.39
Total Non-Bearing Acres	256.50	252.06	23.10	92.50	343.45	967.61
Avg. Non-Bearing Acres	12.21	4.50	0.92	3.30	10.10	6.21
Total Acres	1,108.20	1,102.09	1,046.88	907.40	1,403.25	5,567.82
Avg. Total Acres	52.77	19.68	41.88	32.41	41.27	37.60
Pounds						
Total Pounds	9,184,188	4,424,851	7,501,069	4,996,444	10,836,933	36,943,485
Avg. Pounds per Respondent	309,209	94,146	340,958	217,237	349,578	262,226
Avg. Pounds per Bearing Acre	10,783	5,206	7,327	6,131	10,225	7,935
Crop Value						
Total Crop Value	\$6,816,712	\$5,120,010	\$7,891,728	\$5,397,436	\$12,068,821	\$37,294,707
Avg. Crop Value per Respondent	\$340,836	\$108,936	\$358,715	\$234,671	\$389,317	\$286,495
Avg. Crop Value per Bearing Acre	\$8,004	\$6,023	\$7,708	\$6,623	\$11,388	\$7,949
Avg. Crop Value per Total Acre	\$6,151	\$4,646	\$7,538	\$5,948	\$8,601	\$6,577
Avg. Crop Value per Pound	\$0.74	\$1.16	\$1.05	\$1.08	\$1.11	\$1.03

Annual Growth Rates

	District 1	District 2	District 3	District 4	District 5	Total
2019 to 2020						
Acres						
Total Bearing Acres	-1.4%	-0.9%	-0.5%	0.1%	2.3%	0.0%
Avg. Bearing Acres	-1.4%	-0.9%	-0.5%	-3.2%	-0.6%	-1.3%
Total Non-Bearing Acres	4.1%	6.1%	2.3%	119.2%	0.6%	17.8%
Avg. Non-Bearing Acres	4.1%	6.1%	3.4%	112.1%	-2.3%	16.7%
Total Acres	-0.2%	0.9%	-0.3%	16.0%	2.0%	3.2%
Avg. Total Acres	-0.2%	0.9%	-0.2%	12.3%	-1.0%	1.9%
Pounds						
Total Pounds	-1.5%	25.8%	-11.7%	195.5%	173.0%	56.1%
Avg. Pounds per Respondent	-1.5%	23.2%	-15.5%	195.5%	156.9%	42.4%
Avg. Pounds per Bearing Acre	-0.1%	26.9%	-11.3%	195.4%	166.8%	54.8%
Crop Value						
Total Crop Value	-35.8%	-7.7%	-34.5%	102.8%	65.2%	4.5%
Avg. Crop Value per Respondent	-35.8%	-9.7%	-37.4%	102.8%	55.5%	-4.2%
Avg. Crop Value per Bearing Acre	-34.9%	-6.9%	-34.2%	102.7%	61.5%	4.1%
Avg. Crop Value per Total Acre	-35.7%	-8.5%	-34.4%	74.8%	62.1%	0.1%
Avg. Crop Value per Pound	-34.8%	-26.7%	-25.9%	-31.4%	-39.5%	-31.7%

2018 to 2020

	District 1	District 2	District 3	District 4	District 5	Total
Acres						
Total Bearing Acres	1.6%	-1.4%	2.9%	1.6%	3.7%	1.8%
Avg. Bearing Acres	1.6%	-1.4%	-1.0%	-3.4%	2.2%	-0.1%
Total Non-Bearing Acres	2.9%	8.6%	95.8%	75.5%	-8.0%	12.9%
Avg. Non-Bearing Acres	2.9%	8.6%	88.4%	66.8%	-9.3%	12.1%
Total Acres	1.9%	1.0%	5.8%	11.4%	1.0%	3.8%
Avg. Total Acres	1.9%	1.0%	1.8%	5.9%	-0.5%	2.0%
Pounds						
Total Pounds	-23.5%	-2.5%	-5.9%	16.8%	14.0%	0.2%
Avg. Pounds per Respondent	-6.8%	-3.5%	-8.0%	14.3%	8.9%	1.2%
Avg. Pounds per Bearing Acre	-24.7%	-1.0%	-8.6%	14.9%	9.9%	-2.4%
Crop Value						
Total Crop Value	-9.0%	-3.4%	-1.5%	18.0%	7.2%	2.9%
Avg. Crop Value per Respondent	-9.0%	-4.4%	-3.7%	15.6%	2.3%	0.1%
Avg. Crop Value per Bearing Acre	-10.4%	-2.0%	-4.2%	16.1%	3.3%	0.8%
Avg. Crop Value per Total Acre	-10.7%	-4.3%	-6.9%	5.9%	6.1%	-1.3%
Avg. Crop Value per Pound	19.0%	-1.0%	4.7%	1.1%	-6.0%	2.7%

TABLE THREE: OPERATING CHARACTERICS BY ACREAGE¹

Operating Characteristics

	10 Acres or Less	11 to 50 Acres	51 Acres or More
2020			
Acres			
Total Bearing Acres	355	1,518	2,898
Avg. Bearing Acres	4.9	22.7	120.8
Total Non-Bearing Acres	47	273	914
Avg. Non-Bearing Acres	0.6	4.1	38.1
Total Acres	402	1,790	3,812
Avg. Total Acres	5.5	26.7	158.8
Pounds			
Total Pounds	2,518,262	14,450,449	20,068,203
Avg. Pounds per Respondent	40,617	229,372	872,531
Avg. Pounds per Bearing Acre	7,094	9,521	6,924
Crop Value			
Total Crop Value	\$2,540,079	\$15,130,241	\$21,422,439
Avg. Crop Value per Respondent	\$40,969	\$240,163	\$931,410
Avg. Crop Value per Bearing Acre	\$7,155	\$9,969	\$7,391
Avg. Crop Value per Total Acre	\$6,316	\$8,451	\$5,620
Avg. Crop Value per Pound	\$1.01	\$1.05	\$1.07
	10 Acres or Less	11 to 50 Acres	51 Acres or More
2019			
Acres			
Total Bearing Acres	353	1,512	2,905
Avg. Bearing Acres	4.9	21.0	121.0
Total Non-Bearing Acres	46	241	759
Avg. Non-Bearing Acres	0.6	3.4	31.6
Total Acres	399	1,753	3,664
Avg. Total Acres	5.5	24.3	152.6
Pounds			
Total Pounds	1,995,117	7,496,082	14,297,285
Avg. Pounds per Respondent	32,707	122,887	621,621
Avg. Pounds per Bearing Acre	5,651	4,959	4,922
Crop Value			
Total Crop Value	\$2,600,648	\$11,881,761	\$23,290,731
Avg. Crop Value per Respondent	\$42,634	\$194,783	\$1,012,640
Avg. Crop Value per Bearing Acre	\$7,366	\$7,860	\$8,017
Avg. Crop Value per Total Acre	\$6,515	\$6,778	\$6,358
Avg. Crop Value per Pound	\$1.30	\$1.59	\$1.63

¹ Only includes respondents who provided their acreage, acres, pounds, and crop values.

	10 Acres or Less	11 to 50 Acres	51 Acres or More
2018			
Acres			
Total Bearing Acres	351	1,459	2,790
Avg. Bearing Acres	4.9	20.8	121.3
Total Non-Bearing Acres	41	224	703
Avg. Non-Bearing Acres	0.6	3.2	30.6
Total Acres	392	1,683	3,493
Avg. Total Acres	5.5	24.0	151.9
Pounds			
Total Pounds	2,130,685	13,445,832	18,366,968
Avg. Pounds per Respondent	35,511	224,097	798,564
Avg. Pounds per Bearing Acre	6,069	9,215	6,583
Crop Value			
Total Crop Value	\$2,207,197	\$13,896,421	\$21,191,089
Avg. Crop Value per Respondent	\$36,786.62	\$231,607.02	\$921,351.70
Avg. Crop Value per Bearing Acre	\$6,287	\$9,524	\$7,595
Avg. Crop Value per Total Acre	\$5,628	\$8,257	\$6,067
Avg. Crop Value per Pound	\$1.04	\$1.03	\$1.15

Annual Growth Rates

	10 Acres or Less	11 to 50 Acres	51 Acres or More
2019 to 2020			
Acres			
Total Bearing Acres	0.6%	0.4%	-0.2%
Avg. Bearing Acres	-0.8%	7.9%	-0.2%
Total Non-Bearing Acres	2.3%	13.0%	20.4%
Avg. Non-Bearing Acres	0.9%	21.4%	20.4%
Total Acres	0.8%	2.1%	4.1%
Avg. Total Acres	-0.6%	9.8%	4.1%
Pounds			
Total Pounds	26.2%	92.8%	40.4%
Avg. Pounds per Respondent	24.2%	86.7%	40.4%
Avg. Pounds per Bearing Acre	25.5%	92.0%	40.7%
Crop Value			
Total Crop Value	-2.3%	27.3%	-8.0%
Avg. Crop Value per Respondent	-3.9%	23.3%	-8.0%
Avg. Crop Value per Bearing Acre	-2.9%	26.8%	-7.8%
Avg. Crop Value per Total Acre	-3.1%	24.7%	-11.6%
Avg. Crop Value per Pound	-22.6%	-33.9%	-34.5%

2018 to 2020**Acres**

	10 Acres or Less	11 to 50 Acres	51 Acres or More
Total Bearing Acres	0.6%	2.0%	1.9%
Avg. Bearing Acres	-0.8%	4.2%	-0.2%
Total Non-Bearing Acres	7.2%	10.4%	14.0%
Avg. Non-Bearing Acres	5.7%	12.8%	11.6%
Total Acres	1.3%	3.1%	4.5%
Avg. Total Acres	-0.1%	5.4%	2.3%

Pounds

Total Pounds	8.7%	3.7%	4.5%
Avg. Pounds per Respondent	6.9%	1.2%	4.5%
Avg. Pounds per Bearing Acre	8.1%	1.6%	2.6%

Crop Value

Total Crop Value	7.3%	4.3%	0.5%
Avg. Crop Value per Respondent	5.5%	1.8%	0.5%
Avg. Crop Value per Bearing Acre	6.7%	2.3%	-1.4%
Avg. Crop Value per Total Acre	5.9%	1.2%	-3.8%
Avg. Crop Value per Pound	-1.3%	0.7%	-3.8%

TABLE FOUR: GROSS INCOME, EXPENSES, AND NET MARGIN¹

	2020	2019	2018	Growth Rate 2019-2020	Growth Rate 2018-2020
Total Income, Expenses, & Net Margins					
Total Gross Income	\$42,113,270	\$40,346,948	\$38,659,419	4.4%	4.4%
Total Expenses	\$40,631,536	\$36,773,638	\$36,095,913	10.5%	6.1%
Total Net Margin	\$1,481,734	\$3,573,310	\$2,563,506	-58.5%	-24.0%
Expenses & Net Margin Ratios					
Total Expenses as % of Gross Income	96.5%	91.1%	93.4%	5.9%	1.7%
Net Margin as % of Gross Income	3.5%	8.9%	6.6%	-60.3%	-27.2%
Net Margin as % of Total Expenses	3.6%	9.7%	7.1%	-62.5%	-28.3%
Avg. per Respondent					
Avg. Gross Income per Respondent	\$273,463	\$265,440	\$259,459	3.0%	2.7%
Avg. Total Expenses per Respondent	\$263,841	\$241,932	\$242,254	9.1%	4.4%
Avg. Net Margin per Respondent	\$9,622	\$23,355	\$17,090	-58.8%	-25.0%
Avg. per Total Acres					
Avg. Gross Income per Acre (total)	\$7,429	\$7,385	\$7,308	0.6%	0.8%
Avg. Total Expenses per Acre (total)	\$7,167	\$6,731	\$6,824	6.5%	2.5%
Avg. Net Margin per Acre (total)	\$261	\$654	\$485	-60.0%	-26.6%
Avg. per Bearing Acre					
Avg. Gross Income per Bearing Acre	\$9,260	\$8,923	\$8,794	3.8%	2.6%
Avg. Total Expenses per Bearing Acre	\$8,934	\$8,133	\$8,211	9.8%	4.3%
Avg. Net Margin per Bearing Acre	\$326	\$790	\$583	-58.8%	-25.3%
Avg. per Pound					
Avg. Gross Income per Pound	\$1.18	\$1.73	\$1.17	-31.9%	0.4%
Avg. Total Expenses per Pound	\$1.14	\$1.58	\$1.09	-27.9%	2.0%
Avg. Net Margin per Pound	\$0.04	\$0.15	\$0.08	-72.9%	-26.9%
In Relation to Crop Value					
Avg. Gross Income per \$ of Crop Value	\$1.11	\$1.09	\$1.06	2.7%	2.6%
Avg. Total Exp. per \$ of Crop Value	\$1.08	\$0.99	\$0.99	8.7%	4.3%
Avg. Net Margin per \$ of Crop Value	\$0.04	\$0.10	\$0.07	-59.2%	-25.3%

¹ Only includes respondents who provided their revenues and expenses, acres, pounds, and crop values.

TABLE FIVE: GROSS INCOME, EXPENSES, AND NET MARGIN BY DISTRICT¹

By Year

	District 1	District 2	District 3	District 4	District 5
2020					
Total Income, Expenses, & Net Margins					
Total Gross Income	\$6,297,447	\$5,095,916	\$7,492,063	\$8,110,817	\$15,117,027
Total Expenses	\$8,230,001	\$5,408,523	\$6,265,369	\$9,312,307	\$11,415,336
Total Net Margin	-\$1,932,554	-\$312,607	\$1,226,694	-\$1,201,490	\$3,701,691
Expenses & Net Margin Ratios					
Total Expenses as % of Gross Income	130.7%	106.1%	83.6%	114.8%	75.5%
Net Margin as % of Gross Income	-30.7%	-6.1%	16.4%	-14.8%	24.5%
Net Margin as % of Total Expenses	-23.5%	-5.8%	19.6%	-12.9%	32.4%
Avg. per Respondent					
Avg. Gross Income per Respondent	\$299,878	\$101,918	\$325,742	\$300,401	\$458,092
Avg. Total Expenses per Respondent	\$391,905	\$108,170	\$272,407	\$344,900	\$345,919
Avg. Net Margin per Respondent	-\$92,026	-\$6,252	\$53,335	-\$44,500	\$112,172
Avg. per Total Acres					
Avg. Gross Income per Acre (total)	\$4,865	\$4,742	\$6,898	\$8,181	\$10,893
Avg. Total Expenses per Acre (total)	\$6,899	\$5,033	\$5,768	\$9,393	\$8,164
Avg. Net Margin per Acre (total)	-\$2,034	-\$291	\$1,129	-\$1,212	\$2,730
Avg. per Bearing Acre					
Avg. Gross Income per Bearing Acre	\$6,333	\$6,423	\$7,327	\$10,549	\$13,791
Avg. Total Expenses per Bearing Acre	\$8,981	\$6,817	\$6,127	\$12,111	\$10,336
Avg. Net Margin per Bearing Acre	-\$2,648	-\$394	\$1,200	-\$1,563	\$3,456
Avg. per Pound					
Avg. Gross Income per Pound	\$1.05	\$1.23	\$1.12	\$1.34	\$1.08
Avg. Total Expenses per Pound	\$1.49	\$1.30	\$0.92	\$1.54	\$0.81
Avg. Net Margin per Pound	-\$0.44	-\$0.07	\$0.20	-\$0.20	\$0.27
In Relation to Crop Value					
Avg. Gross Income per \$ of Crop Value	\$0.99	\$0.81	\$0.97	\$1.23	\$1.11
Avg. Total Exp. per \$ of Crop Value	\$1.40	\$1.16	\$0.80	\$1.41	\$0.83
Avg. Net Margin per \$ of Crop Value	-\$0.41	-\$0.35	\$0.17	-\$0.18	\$0.28

¹ Only includes respondents who provided their revenues and expenses, district, acres, pounds, and crop values.

	District 1	District 2	District 3	District 4	District 5
2019					
Total Income, Expenses, & Net Margins					
Total Gross Income	\$9,012,840	\$5,455,506	\$4,659,331	\$5,231,275	\$9,149,459
Total Expenses	\$6,534,393	\$5,435,972	\$3,234,752	\$6,896,639	\$10,709,240
Total Net Margin	\$2,478,447	\$19,534	\$1,424,579	-\$1,665,364	-\$1,559,781
Expenses & Net Margin Ratios					
Total Expenses as % of Gross Income	72.5%	99.6%	69.4%	131.8%	117.0%
Net Margin as % of Gross Income	27.5%	0.4%	30.6%	-31.8%	-17.0%
Net Margin as % of Total Expenses	37.9%	0.4%	44.0%	-24.1%	-14.6%
Avg. per Respondent					
Avg. Gross Income per Respondent	\$429,183	\$106,971	\$11,497,868	\$201,203	\$295,144
Avg. Total Expenses per Respondent	\$311,162	\$106,588	\$7,197,394	\$265,255	\$345,459
Avg. Net Margin per Respondent	\$118,021	\$383	\$4,300,474	-\$64,052	-\$50,316
Avg. per Total Acres					
Avg. Gross Income per Acre (total)	\$7,709	\$5,108	\$10,566	\$6,148	\$7,022
Avg. Total Expenses per Acre (total)	\$5,552	\$5,089	\$6,614	\$8,105	\$9,181
Avg. Net Margin per Acre (total)	\$2,157	\$18	\$3,952	-\$1,957	-\$2,159
Avg. per Bearing Acre					
Avg. Gross Income per Bearing Acre	\$9,908	\$6,779	\$11,190	\$6,808	\$8,790
Avg. Total Expenses per Bearing Acre	\$7,135	\$6,755	\$7,005	\$8,975	\$10,142
Avg. Net Margin per Bearing Acre	\$2,773	\$24	\$4,185	-\$2,167	-\$1,351
Avg. per Pound					
Avg. Gross Income per Pound	\$1.61	\$1.51	\$0.98	\$2.47	\$1.79
Avg. Total Expenses per Pound	\$1.16	\$1.44	\$0.81	\$3.26	\$2.06
Avg. Net Margin per Pound	\$0.45	\$0.07	\$0.17	-\$0.79	-\$0.27
In Relation to Crop Value					
Avg. Gross Income per \$ of Crop Value	\$1.00	\$0.98	\$0.63	\$1.52	\$1.09
Avg. Total Exp. per \$ of Crop Value	\$0.72	\$0.93	\$0.52	\$2.01	\$1.26
Avg. Net Margin per \$ of Crop Value	\$0.28	\$0.05	\$0.11	-\$0.49	-\$0.17

	District 1	District 2	District 3	District 4	District 5
2018					
Total Income, Expenses, & Net Margins					
Total Gross Income	\$7,153,901	\$5,249,623	\$8,638,593	\$5,918,939	\$11,698,363
Total Expenses	\$6,306,745	\$5,805,136	\$6,127,076	\$7,738,549	\$10,118,407
Total Net Margin	\$847,156	-\$555,513	\$2,511,517	-\$1,819,610	\$1,579,956
Expenses & Net Margin Ratios					
Total Expenses as % of Gross Income	88.2%	110.6%	70.9%	130.7%	86.5%
Net Margin as % of Gross Income	11.8%	-10.6%	29.1%	-30.7%	13.5%
Net Margin as % of Total Expenses	13.4%	-9.6%	41.0%	-23.5%	15.6%
Avg. per Respondent					
Avg. Gross Income per Respondent	\$340,662	\$104,992	\$392,663	\$236,758	\$377,367
Avg. Total Expenses per Respondent	\$300,321	\$116,103	\$278,503	\$309,542	\$326,400
Avg. Net Margin per Respondent	\$40,341	-\$11,110	\$114,160	-\$72,784	\$50,966
Avg. per Total Acres					
Avg. Gross Income per Acre (total)	\$8,027	\$4,987	\$8,789	\$7,022	\$8,844
Avg. Total Expenses per Acre (total)	\$5,780	\$5,515	\$6,234	\$9,181	\$7,543
Avg. Net Margin per Acre (total)	\$2,246	-\$528	\$2,555	-\$2,159	\$1,301
Avg. per Bearing Acre					
Avg. Gross Income per Bearing Acre	\$10,385	\$6,406	\$8,871	\$7,678	\$11,811
Avg. Total Expenses per Bearing Acre	\$7,479	\$7,083	\$6,292	\$10,038	\$10,074
Avg. Net Margin per Bearing Acre	\$2,906	-\$678	\$2,579	-\$2,360	\$1,738
Avg. per Pound					
Avg. Gross Income per Pound	\$0.90	\$0.98	\$0.98	\$1.29	\$1.09
Avg. Total Expenses per Pound	\$1.28	\$1.04	\$0.81	\$1.69	\$0.93
Avg. Net Margin per Pound	-\$0.38	-\$0.06	\$0.17	-\$0.40	\$0.16
In Relation to Crop Value					
Avg. Gross Income per \$ of Crop Value	\$0.81	\$0.96	\$0.94	\$1.18	\$0.97
Avg. Total Exp. per \$ of Crop Value	\$1.16	\$1.02	\$0.77	\$1.54	\$0.83
Avg. Net Margin per \$ of Crop Value	-\$0.35	-\$0.06	\$0.17	-\$0.36	\$0.14

Annual Growth Rates¹

	District 1	District 2	District 3	District 4	District 5
2019 to 2020					
Total Income, Expenses, & Net Margins					
Total Gross Income	-30.1%	-6.6%	60.8%	55.0%	65.2%
Total Expenses	25.9%	-0.5%	93.7%	35.0%	6.6%
Total Net Margin	N/C	N/C	-13.9%	-27.9%	N/C
Expenses & Net Margin Ratios					
Total Expenses as % of Gross Income	80.3%	6.5%	20.5%	-12.9%	-35.5%
Net Margin as % of Gross Income	N/C	N/C	-46.4%	-53.5%	N/C
Net Margin as % of Total Expenses	N/C	N/C	-55.5%	-46.6%	N/C
Avg. per Respondent					
Avg. Gross Income per Respondent	-30.1%	-4.7%	-97.2%	49.3%	55.2%
Avg. Total Expenses per Respondent	25.9%	1.5%	-96.2%	30.0%	0.1%
Avg. Net Margin per Respondent	N/C	N/C	-98.8%	-30.5%	N/C
Avg. per Total Acres					
Avg. Gross Income per Acre (total)	-36.9%	-7.2%	-34.7%	33.1%	55.1%
Avg. Total Expenses per Acre (total)	24.3%	-1.1%	-12.8%	15.9%	-11.1%
Avg. Net Margin per Acre (total)	N/C	N/C	-71.4%	-38.1%	N/C
Avg. per Bearing Acre					
Avg. Gross Income per Bearing Acre	-36.1%	-5.2%	-34.5%	54.9%	56.9%
Avg. Total Expenses per Bearing Acre	25.9%	0.9%	-12.5%	34.9%	1.9%
Avg. Net Margin per Bearing Acre	N/C	N/C	-71.3%	-27.9%	N/C
Avg. per Pound					
Avg. Gross Income per Pound	-34.8%	-18.5%	14.3%	-45.7%	-39.7%
Avg. Total Expenses per Pound	28.4%	-9.7%	13.6%	-52.8%	-60.7%
Avg. Net Margin per Pound	N/C	N/C	17.6%	-74.7%	N/C
In Relation to Crop Value					
Avg. Gross Income per \$ of Crop Value	-1.0%	-17.3%	54.0%	-19.1%	1.8%
Avg. Total Exp. per \$ of Crop Value	94.4%	24.7%	53.8%	-29.9%	-34.1%
Avg. Net Margin per \$ of Crop Value	N/C	N/C	54.5%	-63.3%	N/C

¹ "N/C" means that the computation was not possible due to either a "0" or negative number.

	District 1	District 2	District 3	District 4	District 5
2018 to 2020					
Total Income, Expenses, & Net Margins					
Total Gross Income	-6.2%	-1.5%	-6.9%	17.1%	13.7%
Total Expenses	14.2%	-3.5%	1.1%	9.7%	6.2%
Total Net Margin	N/C	-25.0%	-30.1%	-18.7%	53.1%
Expenses & Net Margin Ratios					
Total Expenses as % of Gross Income	21.8%	-2.0%	8.6%	-6.3%	-6.6%
Net Margin as % of Gross Income	N/C	-23.9%	-25.0%	-30.6%	34.7%
Net Margin as % of Total Expenses	N/C	-22.3%	-30.9%	-25.9%	44.1%
Avg. per Respondent					
Avg. Gross Income per Respondent	-6.2%	-1.5%	-8.9%	12.6%	10.2%
Avg. Total Expenses per Respondent	14.2%	-3.5%	-1.1%	5.6%	2.9%
Avg. Net Margin per Respondent	N/C	-25.0%	-31.6%	-21.8%	48.4%
Avg. per Total Acres					
Avg. Gross Income per Acre (total)	-22.1%	-2.5%	-11.4%	7.9%	11.0%
Avg. Total Expenses per Acre (total)	9.3%	-4.5%	-3.8%	1.1%	4.0%
Avg. Net Margin per Acre (total)	N/C	-25.8%	-33.5%	-25.1%	44.8%
Avg. per Bearing Acre					
Avg. Gross Income per Bearing Acre	-21.9%	0.1%	-9.1%	17.2%	8.1%
Avg. Total Expenses per Bearing Acre	9.6%	-1.9%	-1.3%	9.8%	1.3%
Avg. Net Margin per Bearing Acre	N/C	-23.8%	-31.8%	-18.6%	41.0%
Avg. per Pound					
Avg. Gross Income per Pound	8.0%	12.0%	6.9%	1.9%	-0.5%
Avg. Total Expenses per Pound	7.9%	11.8%	6.6%	-4.5%	-6.7%
Avg. Net Margin per Pound	7.6%	8.0%	8.5%	-29.3%	29.9%
In Relation to Crop Value					
Avg. Gross Income per \$ of Crop Value	10.6%	-8.1%	1.6%	2.1%	7.0%
Avg. Total Exp. per \$ of Crop Value	9.9%	6.6%	1.9%	-4.3%	0.0%
Avg. Net Margin per \$ of Crop Value	8.2%	141.5%	0.0%	-29.3%	41.4%

TABLE SIX: GROSS INCOME, EXPENSES, AND NET MARGIN BY ACREAGE¹

By Year

	10 Acres or Less	11 to 50 Acres	51 Acres or More
2020			
Total Income, Expenses, & Net Margins			
Total Gross Income	\$2,505,029	\$14,276,769	\$24,487,893
Total Expenses	\$3,693,244	\$11,259,797	\$25,143,221
Total Net Margin	-\$1,188,215	\$3,016,972	-\$655,328
Expenses & Net Margin Ratios			
Total Expenses as % of Gross Income	147.4%	78.9%	102.7%
Net Margin as % of Gross Income	-47.4%	21.1%	-2.7%
Net Margin as % of Total Expenses	-32.2%	26.8%	-2.6%
Avg. per Respondent			
Avg. Gross Income per Respondent	\$38,539	\$223,075	\$1,064,691
Avg. Total Expenses per Respondent	\$56,819	\$175,934	\$1,093,184
Avg. Net Margin per Respondent	-\$18,280	\$47,140	-\$28,493
Avg. per Total Acres			
Avg. Gross Income per Acre (total)	\$7,063	\$7,975	\$6,424
Avg. Total Expenses per Acre (total)	\$10,413	\$6,289	\$6,596
Avg. Net Margin per Acre (total)	-\$3,350	\$1,685	-\$172
Avg. per Bearing Acre			
Avg. Gross Income per Bearing Acre	\$8,042	\$9,407	\$8,449
Avg. Total Expenses per Bearing Acre	\$11,857	\$7,419	\$8,675
Avg. Net Margin per Bearing Acre	-\$3,815	\$1,988	-\$226
Avg. per Pound			
Avg. Gross Income per Pound	\$1.04	\$0.99	\$1.22
Avg. Total Expenses per Pound	\$1.53	\$0.78	\$1.25
Avg. Net Margin per Pound	-\$0.49	\$0.21	-\$0.03
In Relation to Crop Value			
Avg. Gross Income per \$ of Crop Value	\$1.04	\$0.94	\$1.13
Avg. Total Exp. per \$ of Crop Value	\$1.54	\$0.74	\$1.16
Avg. Net Margin per \$ of Crop Value	-\$0.50	\$0.20	-\$0.03

¹ Only includes respondents who provided their revenues and expenses, acres, pounds, and crop values.

	10 Acres or Less	11 to 50 Acres	51 Acres or More
2019			
Total Income, Expenses, & Net Margins			
Total Gross Income	\$2,538,623	\$13,170,528	\$24,350,940
Total Expenses	\$2,548,330	\$11,001,744	\$22,802,155
Total Net Margin	-\$9,707	\$2,168,784	\$1,548,785
Expenses & Net Margin Ratios			
Total Expenses as % of Gross Income	100.4%	83.5%	93.6%
Net Margin as % of Gross Income	-0.4%	16.5%	6.4%
Net Margin as % of Total Expenses	-0.4%	19.7%	6.8%
Avg. per Respondent			
Avg. Gross Income per Respondent	\$39,666	\$209,056	\$1,058,737
Avg. Total Expenses per Respondent	\$39,818	\$174,631	\$991,398
Avg. Net Margin per Respondent	-\$149	\$34,425	\$67,338
Avg. per Total Acres			
Avg. Gross Income per Acre (total)	\$7,333	\$7,513	\$6,647
Avg. Total Expenses per Acre (total)	\$7,361	\$6,276	\$6,224
Avg. Net Margin per Acre (total)	-\$28	\$1,237	\$423
Avg. per Bearing Acre			
Avg. Gross Income per Bearing Acre	\$8,336	\$8,713	\$8,382
Avg. Total Expenses per Bearing Acre	\$8,368	\$7,278	\$7,849
Avg. Net Margin per Bearing Acre	-\$32	\$1,435	\$533
Avg. per Pound			
Avg. Gross Income per Pound	\$1.33	\$1.76	\$1.70
Avg. Total Expenses per Pound	\$1.33	\$1.47	\$1.59
Avg. Net Margin per Pound	\$0.00	\$0.29	\$0.11
In Relation to Crop Value			
Avg. Gross Income per \$ of Crop Value	\$1.00	\$1.11	\$1.05
Avg. Total Exp. per \$ of Crop Value	\$1.01	\$0.93	\$0.98
Avg. Net Margin per \$ of Crop Value	-\$0.01	\$0.18	\$0.07

	10 Acres or Less	11 to 50 Acres	51 Acres or More
2018			
Total Income, Expenses, & Net Margins			
Total Gross Income	\$2,288,746	\$13,316,885	\$22,717,650
Total Expenses	\$2,544,938	\$11,116,287	\$21,997,049
Total Net Margin	-\$256,192	\$2,200,598	\$720,601
Expenses & Net Margin Ratios			
Total Expenses as % of Gross Income	111.2%	83.5%	96.8%
Net Margin as % of Gross Income	-11.2%	16.5%	3.2%
Net Margin as % of Total Expenses	-10.1%	19.8%	3.3%
Avg. per Respondent			
Avg. Gross Income per Respondent	\$36,915	\$211,379	\$1,032,620
Avg. Total Expenses per Respondent	\$41,047	\$176,449	\$999,866
Avg. Net Margin per Respondent	-\$4,067	\$34,930	\$32,755
Avg. per Total Acres			
Avg. Gross Income per Acre (total)	\$6,828	\$7,913	\$6,504
Avg. Total Expenses per Acre (total)	\$7,593	\$6,605	\$6,298
Avg. Net Margin per Acre (total)	-\$764	\$1,308	\$206
Avg. per Bearing Acre			
Avg. Gross Income per Bearing Acre	\$7,614	\$9,127	\$8,143
Avg. Total Expenses per Bearing Acre	\$8,466	\$7,618	\$7,884
Avg. Net Margin per Bearing Acre	-\$852	\$1,508	\$258
Avg. per Pound			
Avg. Gross Income per Pound	\$1.16	\$0.99	\$1.24
Avg. Total Expenses per Pound	\$1.29	\$0.83	\$1.20
Avg. Net Margin per Pound	-\$0.13	\$0.16	\$0.04
In Relation to Crop Value			
Avg. Gross Income per \$ of Crop Value	\$1.11	\$0.96	\$1.07
Avg. Total Exp. per \$ of Crop Value	\$1.23	\$0.80	\$1.04
Avg. Net Margin per \$ of Crop Value	-\$0.12	\$0.16	\$0.03

Annual Growth Rates¹

	10 Acres or Less	11 to 50 Acres	51 Acres or More
2019 to 2020			
Total Income, Expenses, & Net Margins			
Total Gross Income	-1.3%	8.4%	0.6%
Total Expenses	44.9%	2.3%	10.3%
Total Net Margin	12140.8%	39.1%	N/C
Expenses & Net Margin Ratios			
Total Expenses as % of Gross Income	46.9%	-5.6%	9.7%
Net Margin as % of Gross Income	12305.0%	28.3%	N/C
Net Margin as % of Total Expenses	8346.1%	35.9%	N/C
Avg. per Respondent			
Avg. Gross Income per Respondent	-2.8%	6.7%	0.6%
Avg. Total Expenses per Respondent	42.7%	0.7%	10.3%
Avg. Net Margin per Respondent	12140.7%	36.9%	N/C
Avg. per Total Acres			
Avg. Gross Income per Acre (total)	-3.7%	6.1%	-3.4%
Avg. Total Expenses per Acre (total)	41.5%	0.2%	6.0%
Avg. Net Margin per Acre (total)	11847.3%	36.2%	N/C
Avg. per Bearing Acre			
Avg. Gross Income per Bearing Acre	-3.5%	8.0%	0.8%
Avg. Total Expenses per Bearing Acre	41.7%	1.9%	10.5%
Avg. Net Margin per Bearing Acre	11869.3%	38.5%	N/C
Avg. per Pound			
Avg. Gross Income per Pound	-21.8%	-43.8%	-28.2%
Avg. Total Expenses per Pound	15.0%	-46.9%	-21.4%
Avg. Net Margin per Pound	N/C	-27.6%	N/C
In Relation to Crop Value			
Avg. Gross Income per \$ of Crop Value	4.0%	-15.3%	7.6%
Avg. Total Exp. per \$ of Crop Value	52.5%	-20.4%	18.4%
Avg. Net Margin per \$ of Crop Value	4900.0%	11.1%	N/C

¹ "N/C" means that the computation was not possible due to either a "0" or negative number.

	10 Acres or Less	11 to 50 Acres	51 Acres or More
2018 to 2020			
Total Income, Expenses, & Net Margins			
Total Gross Income	4.6%	3.5%	3.8%
Total Expenses	20.5%	0.6%	6.9%
Total Net Margin	115.4%	17.1%	N/C
Expenses & Net Margin Ratios			
Total Expenses as % of Gross Income	15.1%	-2.8%	3.0%
Net Margin as % of Gross Income	105.9%	13.1%	N/C
Net Margin as % of Total Expenses	78.8%	16.3%	N/C
Avg. per Respondent			
Avg. Gross Income per Respondent	2.2%	2.7%	1.5%
Avg. Total Expenses per Respondent	17.7%	-0.1%	4.6%
Avg. Net Margin per Respondent	112.0%	16.2%	N/C
Avg. per Total Acres			
Avg. Gross Income per Acre (total)	1.7%	0.4%	-0.6%
Avg. Total Expenses per Acre (total)	17.1%	-2.4%	2.3%
Avg. Net Margin per Acre (total)	N/C	168.2%	539.9%
Avg. per Bearing Acre			
Avg. Gross Income per Bearing Acre	2.8%	1.5%	1.9%
Avg. Total Expenses per Bearing Acre	18.3%	-1.3%	4.9%
Avg. Net Margin per Bearing Acre	111.6%	14.8%	N/C
Avg. per Pound			
Avg. Gross Income per Pound	-5.3%	0.0%	-0.8%
Avg. Total Expenses per Pound	8.9%	-3.1%	2.1%
Avg. Net Margin per Pound	94.1%	14.6%	N/C
In Relation to Crop Value			
Avg. Gross Income per \$ of Crop Value	-3.2%	-1.0%	2.8%
Avg. Total Exp. per \$ of Crop Value	11.9%	-3.8%	5.6%
Avg. Net Margin per \$ of Crop Value	104.1%	11.8%	N/C

TABLE SEVEN: WATER SOURCES BY YEAR, DISTRICT, AND ACREAGE¹

By Year

	2020	2019	2018
Wells and/or Surface Water on Property	25.0%	25.1%	25.3%
Mutual Water Company	23.2%	24.0%	24.1%
Water Agency	34.5%	34.1%	33.7%
Wells/Surface & Mutual Water Company	6.5%	6.0%	6.0%
Wells/Surface & Water Agency	10.1%	10.2%	10.2%
Mutual Water Company & Water Agency	0.0%	0.0%	0.0%
Wells/Surface, Mutual Water, & Water Agency	0.6%	0.6%	0.6%

By District

Water Sources by District--2020

	District 1	District 2	District 3	District 4	District 5
Wells and/or Surface Water on Property	14.3%	9.3%	29.6%	23.3%	52.8%
Mutual Water Company	23.8%	25.9%	25.9%	40.0%	2.8%
Water Agency	47.6%	59.3%	22.2%	10.0%	19.4%
Wells/Surface & Mutual Water Company	0.0%	0.0%	7.4%	16.7%	11.1%
Wells/Surface & Water Agency	14.3%	5.6%	14.8%	6.7%	13.9%
Mutual Water Company & Water Agency	0.0%	0.0%	0.0%	0.0%	0.0%
Wells/Surface, Mutual Water, & Water Agency	0.0%	0.0%	0.0%	3.3%	0.0%

Water Sources by District--2019

	District 1	District 2	District 3	District 4	District 5
Wells and/or Surface Water on Property	14.3%	9.3%	29.6%	24.1%	51.4%
Mutual Water Company	23.8%	25.9%	25.9%	44.8%	2.9%
Water Agency	47.6%	59.3%	22.2%	6.9%	20.0%
Wells/Surface & Mutual Water Company	0.0%	0.0%	7.4%	13.8%	11.4%
Wells/Surface & Water Agency	14.3%	5.6%	14.8%	6.9%	14.3%
Mutual Water Company & Water Agency	0.0%	0.0%	0.0%	0.0%	0.0%
Wells/Surface, Mutual Water, & Water Agency	0.0%	0.0%	0.0%	3.4%	0.0%

Water Sources by District--2018

	District 1	District 2	District 3	District 4	District 5
Wells and/or Surface Water on Property	14.3%	9.3%	32.0%	24.1%	51.4%
Mutual Water Company	23.8%	25.9%	28.0%	44.8%	2.9%
Water Agency	47.6%	59.3%	24.0%	3.4%	20.0%
Wells/Surface & Mutual Water Company	0.0%	0.0%	4.0%	13.8%	11.4%
Wells/Surface & Water Agency	14.3%	5.6%	12.0%	10.3%	14.3%
Mutual Water Company & Water Agency	0.0%	0.0%	0.0%	0.0%	0.0%
Wells/Surface, Mutual Water, & Water Agency	0.0%	0.0%	0.0%	3.4%	0.0%

¹ For Year includes all respondents. Others only include respondents who provided their district and/or acreage.

By Acreage

Water Sources by Acres--2020

	10 Acres or Less	11 to 50 Acres	51 Acres or More
Wells and/or Surface Water on Property	18.6%	33.3%	16.7%
Mutual Water Company	25.7%	25.0%	12.5%
Water Agency	48.6%	26.4%	16.7%
Wells/Surface & Mutual Water Company	2.9%	9.7%	8.3%
Wells/Surface & Water Agency	4.3%	5.6%	41.7%
Mutual Water Company & Water Agency	0.0%	0.0%	0.0%
Wells/Surface, Mutual Water, & Water Agency	0.0%	0.0%	4.2%

Water Sources by Acres--2019

	10 Acres or Less	11 to 50 Acres	51 Acres or More
Wells and/or Surface Water on Property	18.6%	32.4%	17.4%
Mutual Water Company	25.7%	28.2%	8.7%
Water Agency	48.6%	25.4%	17.4%
Wells/Surface & Mutual Water Company	2.9%	8.5%	8.7%
Wells/Surface & Water Agency	4.3%	5.6%	43.5%
Mutual Water Company & Water Agency	0.0%	0.0%	0.0%
Wells/Surface, Mutual Water, & Water Agency	0.0%	0.0%	4.3%

Water Sources by Acres--2018

	10 Acres or Less	11 to 50 Acres	51 Acres or More
Wells and/or Surface Water on Property	20.5%	31.3%	18.2%
Mutual Water Company	24.7%	29.9%	9.1%
Water Agency	47.9%	23.9%	18.2%
Wells/Surface & Mutual Water Company	2.7%	7.5%	9.1%
Wells/Surface & Water Agency	4.1%	7.5%	40.9%
Mutual Water Company & Water Agency	0.0%	0.0%	0.0%
Wells/Surface, Mutual Water, & Water Agency	0.0%	0.0%	4.5%

TABLE EIGHT: IRRIGATION COSTS BY YEAR AND SOURCE OF WATER¹

By Year

	2020	2019	2018	Growth Rate 2019-2020	Growth Rate 2018-2020
Avg. Irrigation Costs per Year	\$309,639	\$321,375	\$363,611	-3.7%	-7.7%
Avg. Irrigation Costs per Acre	\$1,094.28	\$1,226.54	\$1,367.07	-10.8%	-10.5%
Avg. Irrigation Costs per Pound	\$0.17	\$0.27	\$0.21	-37.0%	-10.0%
Irrigation Costs as % of Total Crop Value	15.9%	17.2%	18.9%	-7.6%	-8.3%
Irrigation Costs as % of Gross Income	15.1%	16.5%	18.7%	-8.7%	-10.1%
Irrigation Costs as % of Total Expenses	15.3%	18.4%	20.2%	-17.0%	-12.9%

By Source of Water

2020

	Wells/Surface	Mutual	Agency	Wells/Mutual	Wells/Agency
Avg. Irrigation Costs per Year	\$34,714	\$43,156	\$217,024	\$40,613	\$95,486
Avg. Irrigation Costs per Acre	\$752.87	\$1,389.05	\$1,156.58	\$554.92	\$698.33
Avg. Irrigation Costs per Pound	\$0.08	\$0.19	\$0.21	\$0.07	\$0.14
Irrigation Costs as % of Total Crop Value	8.0%	17.9%	19.4%	7.0%	12.3%
Irrigation Costs as % of Gross Income	7.3%	18.3%	17.9%	6.8%	11.1%
Irrigation Costs as % of Total Expenses	9.0%	19.5%	17.3%	7.0%	11.5%

2019

	Wells/Surface	Mutual	Agency	Wells/Mutual	Wells/Agency
Avg. Irrigation Costs per Year	\$60,376	\$39,306	\$244,550	\$96,700	\$107,688
Avg. Irrigation Costs per Acre	\$657.84	\$1,293.89	\$1,352.62	\$1,307.86	\$836.89
Avg. Irrigation Costs per Pound	\$0.10	\$0.27	\$0.35	\$0.17	\$0.28
Irrigation Costs as % of Total Crop Value	6.1%	17.6%	21.7%	11.2%	17.4%
Irrigation Costs as % of Gross Income	5.2%	16.7%	21.4%	11.2%	16.8%
Irrigation Costs as % of Total Expenses	7.4%	19.0%	22.1%	13.9%	15.7%

2018

	Wells/Surface	Mutual	Agency	Wells/Mutual	Wells/Agency
Avg. Irrigation Costs per Year	\$28,825	\$42,789	\$303,595	\$50,038	\$161,866
Avg. Irrigation Costs per Acre	\$626.52	\$1,454.14	\$1,575.85	\$693.17	\$1,158.29
Avg. Irrigation Costs per Pound	\$0.06	\$0.16	\$0.29	\$0.08	\$0.27
Irrigation Costs as % of Total Crop Value	5.4%	16.4%	26.6%	7.4%	23.2%
Irrigation Costs as % of Gross Income	4.8%	16.1%	26.7%	7.5%	23.6%
Irrigation Costs as % of Total Expenses	6.8%	18.6%	25.4%	8.7%	21.3%

¹ For Year includes all respondents. Others only include respondents who provided their district, acreage, pounds, crop value, and/or income and expenses.

Annual Growth Rates by Source of Water

2019 to 2020

	Wells/Surface	Mutual	Agency	Wells/Mutual	Wells/Agency
Avg. Irrigation Costs per Year	-42.5%	9.8%	-11.3%	-58.0%	-11.3%
Avg. Irrigation Costs per Acre	14.4%	7.4%	-14.5%	-57.6%	-16.6%
Avg. Irrigation Costs per Pound	-20.0%	-29.6%	-40.0%	-58.8%	-50.0%
Irrigation Costs as % of Total Crop Value	30.2%	1.8%	-10.9%	-37.3%	-28.9%
Irrigation Costs as % of Gross Income	41.4%	9.1%	-16.4%	-38.9%	-33.8%
Irrigation Costs as % of Total Expenses	21.8%	2.5%	-21.9%	-49.9%	-26.3%

2018 to 2020

	Wells/Surface	Mutual	Agency	Wells/Mutual	Wells/Agency
Avg. Irrigation Costs per Year	9.7%	0.4%	-15.5%	-9.9%	-23.2%
Avg. Irrigation Costs per Acre	9.6%	-2.3%	-14.3%	-10.5%	-22.4%
Avg. Irrigation Costs per Pound	15.5%	9.0%	-14.9%	-6.5%	-28.0%
Irrigation Costs as % of Total Crop Value	21.5%	4.5%	-14.6%	-2.8%	-27.0%
Irrigation Costs as % of Gross Income	23.3%	6.6%	-18.1%	-4.7%	-31.4%
Irrigation Costs as % of Total Expenses	14.7%	2.5%	-17.6%	-10.6%	-26.3%

TABLE NINE: IRRIGATION COSTS BY DISTRICT¹

By Year

Irrigation Costs by District--2020

	District 1	District 2	District 3	District 4	District 5
Avg. Irrigation Costs per Year	\$93,552	\$110,808	\$32,548	\$45,866	\$47,072
Avg. Irrigation Costs per Acre	\$1,776	\$1,996	\$606	\$777	\$570
Avg. Irrigation Costs per Pound	\$0.41	\$0.46	\$0.10	\$0.12	\$0.06
Irrigation Costs as % of Total Crop Value	32.9%	40.7%	8.5%	10.9%	6.0%
Irrigation Costs as % of Gross Income	33.7%	40.4%	8.1%	9.3%	5.3%
Irrigation Costs as % of Total Expenses	23.7%	39.1%	9.7%	8.2%	6.8%

Irrigation Costs by District--2019

	District 1	District 2	District 3	District 4	District 5
Avg. Irrigation Costs per Year	\$96,998	\$113,364	\$48,743	\$40,715	\$49,327
Avg. Irrigation Costs per Acre	\$1,838	\$2,060	\$906	\$812	\$597
Avg. Irrigation Costs per Pound	\$0.37	\$0.59	\$0.13	\$0.29	\$0.16
Irrigation Costs as % of Total Crop Value	21.9%	38.0%	8.3%	17.9%	9.6%
Irrigation Costs as % of Gross Income	22.0%	38.4%	8.2%	12.6%	8.6%
Irrigation Costs as % of Total Expenses	30.5%	40.1%	13.0%	10.0%	7.4%

Irrigation Costs by District--2018

	District 1	District 2	District 3	District 4	District 5
Avg. Irrigation Costs per Year	\$130,950	\$124,025	\$33,897	\$50,577	\$49,283
Avg. Irrigation Costs per Acre	\$24,864	\$2,279	\$661	\$1,034	\$597
Avg. Irrigation Costs per Pound	\$0.42	\$0.49	\$0.09	\$0.17	\$0.07
Irrigation Costs as % of Total Crop Value	38.2%	42.3%	8.3%	15.7%	6.5%
Irrigation Costs as % of Gross Income	38.1%	44.1%	7.2%	14.0%	6.7%
Irrigation Costs as % of Total Expenses	43.2%	41.2%	10.2%	10.9%	7.8%

Annual Growth Rates

2019 to 2020

	District 1	District 2	District 3	District 4	District 5
Avg. Irrigation Costs per Year	-3.6%	-2.3%	-33.2%	12.7%	-4.6%
Avg. Irrigation Costs per Acre	-3.4%	-3.1%	-33.1%	-4.3%	-4.6%
Avg. Irrigation Costs per Pound	10.8%	-22.0%	-23.1%	-58.6%	-62.5%
Irrigation Costs as % of Total Crop Value	50.3%	7.2%	2.2%	-39.1%	-36.9%
Irrigation Costs as % of Gross Income	53.1%	5.0%	-0.2%	-26.1%	-37.6%
Irrigation Costs as % of Total Expenses	-22.3%	-2.4%	-25.3%	-18.3%	-7.5%

¹ For Year includes all respondents. Others only include respondents who provided their district, acreage, pounds, crop value, and/or income and expenses.

2018 to 2020

	District 1	District 2	District 3	District 4	District 5
Avg. Irrigation Costs per Year	-15.5%	-5.5%	-2.0%	-4.8%	-2.3%
Avg. Irrigation Costs per Acre	-73.3%	-6.4%	-4.3%	-13.3%	-2.3%
Avg. Irrigation Costs per Pound	-1.2%	-3.1%	5.4%	-16.0%	-7.4%
Irrigation Costs as % of Total Crop Value	-7.2%	-1.9%	0.9%	-16.7%	-3.9%
Irrigation Costs as % of Gross Income	-5.9%	-4.4%	6.2%	-18.4%	-10.7%
Irrigation Costs as % of Total Expenses	-25.8%	-2.6%	-2.2%	-13.3%	-6.5%

TABLE TEN: IRRIGATION COSTS BY ACREAGE¹

By Year

	10 Acres or Less	11 to 50 Acres	51 Acres or More
Avg. Irrigation Costs per Year	\$54,630	\$125,950	\$162,300
Avg. Irrigation Costs per Acre	\$2,785	\$1,307	\$852
Avg. Irrigation Costs per Pound	\$0.38	\$0.14	\$0.16
Irrigation Costs as % of Total Crop Value	37.9%	13.8%	17.8%
Irrigation Costs as % of Gross Income	37.4%	15.0%	13.2%
Irrigation Costs as % of Total Expenses	25.4%	18.1%	12.8%

Irrigation Costs by Acres--2019

	10 Acres or Less	11 to 50 Acres	51 Acres or More
Avg. Irrigation Costs per Year	\$49,053	\$112,709	\$201,365
Avg. Irrigation Costs per Acre	\$2,521	\$1,177	\$1,099
Avg. Irrigation Costs per Pound	\$0.42	\$0.22	\$0.28
Irrigation Costs as % of Total Crop Value	32.6%	14.0%	17.1%
Irrigation Costs as % of Gross Income	33.2%	13.3%	16.5%
Irrigation Costs as % of Total Expenses	33.1%	16.0%	17.6%

Irrigation Costs by Acres--2018

	10 Acres or Less	11 to 50 Acres	51 Acres or More
Avg. Irrigation Costs per Year	\$50,916	\$126,887	\$228,623
Avg. Irrigation Costs per Acre	\$2,610	\$1,337	\$1,244
Avg. Irrigation Costs per Pound	\$0.40	\$0.14	\$0.24
Irrigation Costs as % of Total Crop Value	38.4%	13.5%	20.5%
Irrigation Costs as % of Gross Income	38.1%	15.0%	19.0%
Irrigation Costs as % of Total Expenses	33.9%	18.0%	19.7%

Annual Growth Rates

2019 to 2020

	10 Acres or Less	11 to 50 Acres	51 Acres or More
Avg. Irrigation Costs per Year	11.4%	11.7%	-19.4%
Avg. Irrigation Costs per Acre	10.5%	11.0%	-22.5%
Avg. Irrigation Costs per Pound	-9.5%	-36.4%	-42.9%
Irrigation Costs as % of Total Crop Value	16.3%	-1.4%	3.7%
Irrigation Costs as % of Gross Income	12.9%	12.7%	-19.9%
Irrigation Costs as % of Total Expenses	-23.2%	13.1%	-27.0%

¹ For Year includes all respondents. Others only include respondents who provided their acreage, pounds, crop value, and/or income and expenses.

2018 to 2020

	10 Acres or Less	11 to 50 Acres	51 Acres or More
Avg. Irrigation Costs per Year	3.6%	-0.4%	-15.7%
Avg. Irrigation Costs per Acre	3.3%	-1.1%	-17.3%
Avg. Irrigation Costs per Pound	-2.5%	0.0%	-18.4%
Irrigation Costs as % of Total Crop Value	-0.7%	0.9%	-6.9%
Irrigation Costs as % of Gross Income	-0.8%	0.1%	-16.8%
Irrigation Costs as % of Total Expenses	-13.4%	0.3%	-19.2%

TABLE ELEVEN: THREE YEAR AVERAGES

Total Operating Characteristics

	Three Year Average
Total	
Bearing Acres	28.17
Non-Bearing Acres	6.47
Total Acres	34.65
Total Pounds Harvested	217,059
Total Crop Value	\$262,085
Pounds per Bearing Acre	6,707
Crop Value per Bearing Acre	\$8,098
Crop Value per Pound	\$1.21

Operating Characteristics By District

	Three Year Average
District 1	
Bearing Acres	41.65
Non-Bearing Acres	12.52
Total Acres	54.17
Total Pounds Harvested	283,613
Total Crop Value	\$354,501
Pounds per Bearing Acre	\$6,486
Crop Value per Bearing Acre	\$8,107
Crop Value per Pound	\$1.25
District 2	
Bearing Acres	14.94
Non-Bearing Acres	4.94
Total Acres	19.87
Total Pounds Harvested	84,376
Total Crop Value	\$106,120
Pounds per Bearing Acre	\$4,775
Crop Value per Bearing Acre	\$6,006
Crop Value per Pound	\$1.26

	Three Year Average
District 3	
Bearing Acres	40.45
Non-Bearing Acres	2.50
Total Acres	42.95
Total Pounds Harvested	323,236
Total Crop Value	\$406,698
Pounds per Bearing Acre	\$6,776
Crop Value per Bearing Acre	\$8,526
Crop Value per Pound	\$1.26

District 4	
Bearing Acres	28.07
Non-Bearing Acres	5.70
Total Acres	33.77
Total Pounds Harvested	198,754
Total Crop Value	\$234,184
Pounds per Bearing Acre	\$5,649
Crop Value per Bearing Acre	\$6,656
Crop Value per Pound	\$1.18

District 5	
Bearing Acres	32.17
Non-Bearing Acres	8.96
Total Acres	41.14
Total Pounds Harvested	310,189
Total Crop Value	\$353,777
Pounds per Bearing Acre	\$9,079
Crop Value per Bearing Acre	\$10,355
Crop Value per Pound	\$1.14

Operating Characteristics By Acreage

	Three Year Average
10 Acres or Less	
Bearing Acres	4.90
Non-Bearing Acres	0.62
Total Acres	5.53
Total Pounds Harvested	36,306
Total Crop Value	\$40,153
Pounds per Bearing Acre	6,273
Crop Value per Bearing Acre	\$6,938
Crop Value per Pound	\$1.11

	Three Year Average
11 to 50 Acres	
Bearing Acres	20.88
Non-Bearing Acres	3.43
Total Acres	12.15
Total Pounds Harvested	192,350
Total Crop Value	\$511,355
Pounds per Bearing Acre	7,885
Crop Value per Bearing Acre	\$9,114
Crop Value per Pound	\$1.16

51 Acres or More	
Bearing Acres	121.03
Non-Bearing Acres	33.45
Total Acres	77.24
Total Pounds Harvested	754,549
Total Crop Value	\$946,783
Pounds per Bearing Acre	6,146
Crop Value per Bearing Acre	\$7,712
Crop Value per Pound	\$1.25

Total Income, Expenses, and Net Margin

	Three Year Average
Total Gross Income	\$266,197
Total Expenses	\$249,453
Total Net Margin	\$16,744
Total Expenses as % of Gross Income	93.71%
Net Margin as % of Gross Income	6.29%
Gross Income per Acre	\$6,965
Total Expenses per Acre	\$6,527
Net Margin per Acre	\$438
Gross Income per Bearing Acre	\$8,564
Total Expenses per Bearing Acre	\$8,025
Net Margin per Bearing Acre	\$539
Gross Income per Pound	\$1.28
Total Expenses per Pound	\$1.20
Net Margin per Pound	\$0.08
Gross Income per \$ of Crop Value	\$1.06
Total Expenses per \$ of Crop Value	\$0.99
Net Margin per \$ of Crop Value	\$0.07

Total Irrigation Costs

	Three Year Average
Total Irrigation Cost	\$44,821
Avg. Irrigation Cost per Acre	\$1,180.46
Avg. Irrigation Cost per Pound	\$0.22
Irrigation Cost as % of Total Crop Value	17.92%
Irrigation Costs as % of Gross Income	16.95%
Irrigation Costs as % of Total Expenses	18.09%

TABLE TWELVE: PERCEPTIONS OF POTENTIAL THREATS TO PROFITABILITY

Overall Perceptions

	Very Serious	Somewhat Serious	No Opinion	Not Very Serious	Not at All Serious	Mean Rating ¹
Cost Factors						
Cost of labor	33.7%	45.4%	9.2%	10.4%	1.2%	4.00
Cost of mandated benefits for workers	24.8%	31.2%	28.0%	10.2%	5.7%	3.59
Water costs	73.7%	19.8%	1.2%	5.4%	0.0%	4.62
Conservation expenses	7.7%	27.7%	31.0%	23.2%	10.3%	2.99
Interest rates	2.5%	14.0%	33.8%	24.2%	25.5%	2.44
Car, truck, and fuel expenses	8.8%	33.1%	15.6%	30.6%	11.9%	2.96
Fertilizer and other crop input expenses	18.5%	58.6%	5.6%	14.2%	3.1%	3.75
Cost of complying with government regulations	40.1%	34.6%	14.2%	9.3%	1.9%	4.02
Other Factors						
Availability of land to expand	8.3%	8.9%	45.2%	10.8%	26.8%	2.61
Availability of skilled labor (e.g., mechanics)	18.1%	32.3%	16.1%	21.9%	11.6%	3.23
Availability of labor for harvesting	33.8%	46.3%	4.4%	13.1%	2.5%	3.96
Availability of water	71.3%	20.1%	3.7%	3.7%	1.2%	4.57
Environmental regulations	45.3%	34.0%	13.8%	4.4%	2.5%	4.15
Imported avocados	51.2%	29.0%	12.3%	6.2%	1.2%	4.23
Ability to export avocados at reasonable prices	20.5%	32.1%	32.7%	7.7%	7.1%	3.51
Tariffs placed on CA avocados by other countries	23.9%	20.6%	38.1%	9.7%	7.7%	3.43

¹ Very Serious = 5; Somewhat Serious = 4; No Opinion = 3, Not Very Serious = 2; Not at all Serious = 1.

Mean Rating by District¹

	District 1	District 2	District 3	District 4	District 5
Cost Factors					
Cost of labor	4.50	4.00	3.92	3.90	3.83
Cost of mandated benefits for workers	4.23	3.49	3.64	3.39	3.45
Water costs	4.73	4.87	4.59	4.48	4.29
Conservation expenses	3.23	3.00	3.24	2.81	2.79
Interest rates	2.95	2.65	2.00	2.36	2.18
Car, truck, and fuel expenses	3.32	2.98	2.77	2.96	2.85
Fertilizer and other crop input expenses	3.91	3.67	3.38	4.10	3.76
Cost of complying with government regulations	4.45	3.90	4.04	3.93	3.97
Other Factors					
Availability of land to expand	3.14	2.41	2.56	2.50	2.70
Availability of skilled labor (e.g., mechanics)	3.91	2.94	3.52	3.44	2.81
Availability of labor for harvesting	4.59	4.06	3.46	4.11	3.65
Availability of water	4.77	4.59	4.70	4.31	4.51
Environmental regulations	4.45	4.12	3.84	4.21	4.18
Imported avocados	4.32	4.08	4.33	4.00	4.49
Ability to export avocados at reasonable prices	3.86	3.65	3.38	3.39	3.26
Tariffs placed on CA avocados by other countries	3.82	3.46	3.28	3.33	3.32

Mean Rating by Acreage²

	10 Acres or Less	11 to 50 Acres	51 Acres or More
Cost Factors			
Cost of labor	3.84	4.10	4.08
Cost of mandated benefits for workers	3.29	3.77	3.96
Water costs	4.68	4.51	4.75
Conservation expenses	2.95	2.91	3.29
Interest rates	2.27	2.38	3.00
Car, truck, and fuel expenses	2.78	2.93	3.58
Fertilizer and other crop input expenses	3.58	3.79	4.08
Cost of complying with government regulations	3.91	4.10	4.13
Other Factors			
Availability of land to expand	2.42	2.65	3.08
Availability of skilled labor (e.g., mechanics)	2.95	3.26	3.83
Availability of labor for harvesting	4.02	3.78	4.25
Availability of water	4.60	4.51	4.63
Environmental regulations	4.12	4.07	4.46
Imported avocados	4.47	4.07	4.04
Ability to export avocados at reasonable prices	3.69	3.34	3.54
Tariffs placed on CA avocados by other countries	3.62	3.25	3.42

¹ Very Serious = 5; Somewhat Serious = 4; No Opinion = 3, Not Very Serious = 2; Not at all Serious = 1.

² Very Serious = 5; Somewhat Serious = 4; No Opinion = 3, Not Very Serious = 2; Not at all Serious = 1.

APPENDIX A: QUESTIONNAIRE

July 28, 2021

Dear Fellow Avocado Grower:

The Mission of the California Avocado Commission (CAC) is “*To maximize grower returns by enhancing premium brand positioning for California avocados and improving grower sustainability.*” In support of this mission, our primary goals at CAC are to strengthen the industry and to help growers improve their profitability.

Among California growers, there is currently a considerable range in the perception of the profitability of growing avocados. Some growers believe most operations are running at a loss or barely surviving, while others believe the industry is thriving. Each perspective is reasonable, principally informed by each grower’s own experience.

As an industry, we pay a lot of attention to avocado pricing, but this is only one of numerous factors that drive an operation’s profitability. As farmers, we know that our profitability is also impacted by our orchard’s yield, the crop’s size curve, the availability and cost of labor, the quality and cost of water, and general expenses such as insurance and overhead. While CAC tracks annual industry acreage, production and pricing, CAC is unable to parse these data to fully understand the spectrum of profitability experienced by our growers.

To this end, CAC is conducting a Grower Profitability Study. The study will be based on a statistical analysis of anonymous individual grower responses. Your participation in completing the enclosed two-page questionnaire is critical for this project to be successful.

While the initial objective of the study is to better understand the current spectrum of profitability, it is just the first step of an initiative to improve on-farm profitability for California growers. If this study is successful, the next step will be to determine the key drivers behind higher returns for some growers and higher costs for others, and the subsequent step will be for CAC to explore the development of programs to improve profitability for all California growers.

CAC has engaged Dr. Dennis Tootelian, an emeritus professor of marketing and a management consultant to numerous agricultural organizations, to design and conduct this study. Please complete the enclosed two-page questionnaire and return it in the postage-paid envelop directly to Dr. Tootelian by August 31, 2021.

Thank you in advance for your participation.

Sincerely,

Rob Grether, Chairman

1. Please identify the CAC district number in which you operate (i.e., 1, 2, 3, 4, and/or 5), and provide the following information by year for that district. If your farm operates in multiple districts, please provide the information for each district on a separate line. A list of zip codes for districts is included for your reference. If you prefer, enter your zip code(s) and it will be converted into the appropriate district(s) for you.

2020				
District Number	Bearing Acres	Non-bearing acres	Total pounds	Total Crop Value
				\$
				\$
				\$

2019				
District Number	Bearing Acres	Non-bearing acres	Total pounds	Total Crop Value
				\$
				\$
				\$

2018				
District Number	Bearing Acres	Non-bearing acres	Total pounds	Total Crop Value
				\$
				\$
				\$

2. Please provide the following information for your **avocado farming operations only** in each of the following years. You can find the information from your IRS Schedule F form (Profit & Loss from Farming). A sample Schedule F is enclosed for your reference. **Responses from individual growers will be grouped into ranges for reporting purposes.**

	2020	2019	2018
Total Gross Income from Avocado Farming Operations: This includes all income associated with avocado farming. This is Line 9 of Schedule F.	\$	\$	\$
Total Expenses for Avocado Farming Operations: This includes all expenses associated with avocado farming, excluding salaries to owners. This is Line 33 of Schedule F.	\$	\$	\$

PLEASE TURN OVER AND COMPLETE THE BACK SIDE

3. We know water is a major issue. Where did you get your water for avocado farming operations **in each** of the following years? Please check all that apply.

	2020	2019	2018
Wells and/or surface water on property			
Mutual Water Company			
Water agency			

4. What was your irrigation cost **in each** of the following years for avocado growing? Please consider irrigation costs to include both water and utility charges to convey water throughout the grove.

2020: \$ _____

2019: \$ _____

2018: \$ _____

5. Please indicate how serious a threat you expect **each** of the following to be to your farm's profitability over the next three years.

	Very Serious	Somewhat Serious	No Opinion	Not Very Serious	Not at All Serious
COST FACTORS:					
Cost of labor (wages and salaries)					
Cost of mandated benefits for farm workers					
Water costs					
Conservation expenses					
Interest rates					
Car, truck, and fuel expenses					
Fertilizer and other crop input expenses					
Cost of complying with government regulations					
OTHER FACTORS:					
Availability of land to expand					
Availability of skilled labor (e.g., mechanics)					
Availability of labor for harvesting					
Availability of water					
Environmental regulations					
Imported avocados					
Ability to export avocados at reasonable prices					
Tariffs placed on CA avocados by other countries					

Thank you for your cooperation. Please complete the enclosed questionnaire and return it in the postage-paid envelop directly to Dr. Tootelian by August 31, 2021.

FOR YOUR REFERENCE: ZIP CODES FOR EACH DISTRICT

Zip Code	District
90265	3
90602	2
90631	2
91320	3
91360	3
91361	3
91711	2
91935	1
92003	2
92019	1
92020	1
92021	1
92024	1
92025	1
92026	1
92027	1
92028	2
92029	1
92040	1
92057	2
92059	1
92061	1
92064	1

Zip Code	District
92065	1
92067	1
92069	1
92078	1
92082	1
92083	2
92084	2
92091	1
92127	1
92128	1
92359	2
92503	2
92504	2
92506	2
92530	2
92557	2
92562	2
92563	2
92590	2
92592	2
92595	2
92720	2
92879	2

Zip Code	District
92881	2
92882	2
92883	2
93001	4
93003	3
93004	3
93010	3
93012	3
93013	5
93015	4
93021	3
93022	4
93023	4
93030	3
93033	3
93036	3
93040	4
93060	4
93065	3
93066	3
93103	5
93105	5
93108	5

Zip Code	District
93109	5
93110	5
93111	5
93117	5
93244	5
93291	5
93401	5
93402	5
93405	5
93420	5
93428	5
93430	5
93436	5
93442	5
93444	5
93445	5
93452	5
93454	5
93465	5
93960	5

SCHEDULE F
(Form 1040)

Department of the Treasury
Internal Revenue Service (99)

Profit or Loss From Farming

▶ Attach to Form 1040, Form 1040-SR, Form 1040-NR, Form 1041, or Form 1065.
▶ Go to www.irs.gov/ScheduleF for instructions and the latest information.

OMB No. 1545-0074

2020
Attachment
Sequence No. **14**

Name of proprietor		Social security number (SSN)	
A Principal crop or activity	B Enter code from Part IV	C Accounting method: <input type="checkbox"/> Cash <input type="checkbox"/> Accrual	D Employer ID number (EIN) (see instr.)
E Did you "materially participate" in the operation of this business during 2020? If "No," see instructions for limit on passive losses		<input type="checkbox"/> Yes <input type="checkbox"/> No	
F Did you make any payments in 2020 that would require you to file Form(s) 1099? See instructions		<input type="checkbox"/> Yes <input type="checkbox"/> No	
G If "Yes," did you or will you file required Form(s) 1099?		<input type="checkbox"/> Yes <input type="checkbox"/> No	

Part I Farm Income—Cash Method. Complete Parts I and II. (Accrual method. Complete Parts II and III, and Part I, line 9.)

1a Sales of livestock and other resale items (see instructions)	1a		
b Cost or other basis of livestock or other items reported on line 1a	1b		
c Subtract line 1b from line 1a			1c
2 Sales of livestock, produce, grains, and other products you raised			2
3a Cooperative distributions (Form(s) 1099-PATR)	3a	3b Taxable amount	3b
4a Agricultural program payments (see instructions)	4a	4b Taxable amount	4b
5a Commodity Credit Corporation (CCC) loans reported under election			5a
b CCC loans forfeited	5b	5c Taxable amount	5c
6 Crop insurance proceeds and federal crop disaster payments (see instructions):			
a Amount received in 2020	6a	6b Taxable amount	6b
c If election to defer to 2021 is attached, check here <input type="checkbox"/>		6d Amount deferred from 2019	6d
7 Custom hire (machine work) income			7
8 Other income, including federal and state gasoline or fuel tax credit or refund (see instructions)			8
9 Gross income. Add amounts in the right column (lines 1c, 2, 3b, 4b, 5a, 5c, 6b, 6d, 7, and 8). If you use the accrual method, enter the amount from Part III, line 50. See instructions			9

Part II Farm Expenses—Cash and Accrual Method. Do not include personal or living expenses. See instructions.

10 Car and truck expenses (see instructions). Also attach Form 4562	10		23 Pension and profit-sharing plans	23
11 Chemicals	11		24 Rent or lease (see instructions):	
12 Conservation expenses (see instructions)	12		a Vehicles, machinery, equipment	24a
13 Custom hire (machine work)	13		b Other (land, animals, etc.)	24b
14 Depreciation and section 179 expense (see instructions)	14		25 Repairs and maintenance	25
15 Employee benefit programs other than on line 23	15		26 Seeds and plants	26
16 Feed	16		27 Storage and warehousing	27
17 Fertilizers and lime	17		28 Supplies	28
18 Freight and trucking	18		29 Taxes	29
19 Gasoline, fuel, and oil	19		30 Utilities	30
20 Insurance (other than health)	20		31 Veterinary, breeding, and medicine	31
21 Interest (see instructions):			32 Other expenses (specify):	
a Mortgage (paid to banks, etc.)	21a		a	32a
b Other	21b		b	32b
22 Labor hired (less employment credits)	22		c	32c
			d	32d
			e	32e
			f	32f
33 Total expenses. Add lines 10 through 32f. If line 32f is negative, see instructions				33
34 Net farm profit or (loss). Subtract line 33 from line 9				34
If a profit, stop here and see instructions for where to report. If a loss, complete lines 35 and 36.				
35 Reserved for future use.				
36 Check the box that describes your investment in this activity and see instructions for where to report your loss:				
a <input type="checkbox"/> All investment is at risk.		b <input type="checkbox"/> Some investment is not at risk.		

For Paperwork Reduction Act Notice, see the separate instructions.

Cat. No. 11346H

Schedule F (Form 1040) 2020