San Diego Agricultural Planning Program

Sustainable Agricultural Lands Conservation Grant (SALC) Program

Trends, Expenses, and Profitability among San Diego County Agricultural Operations

"Market Analysis" under *SALC Grant #21-PG01: Cultivating Solutions: Market Analysis to Inform and Support Economically Sustainable Small Farming in San Diego County*

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Prepared by Agricultural Impact Associates LLC (www.ag-impact.com) on Behalf of the San Diego County Local Agency Formation Commission and the County of San Diego Planning and Development Services Department

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INTRODUCTION

San Diego County has one of the nation's largest and most important agricultural industries. A combination of fertile soils, an ideal Mediterranean climate, and other factors support production of more than 200 commodities worth an estimated $1.6 billion in 2023. The agricultural industry consistently ranks among the nation's top counties for nursery production, organic farming and the number of small farms. But significant challenges threaten long-term viability of local agriculture. The number of farms and agricultural acres have seen steady declines in recent decades.

Any attempts to stem these declines requires good data. Unfortunately, policymakers and others face significant data gaps regarding the economics of farming in San Diego County, especially regarding farm expenses and profitability.

This study fills part of that knowledge gap. It provides quantitative economic analysis of San Diego County farm operations with emphases on operating expenses and profitability and on small farms of ten acres or less. The primary data sources for the analysis were agricultural producers who provided detailed financial data via the 2022 USDA Census of Agriculture, which became publicly available in early 2024 and represent 4,031 San Diego County farms.

KEY FINDINGS

Key findings draw from the study's three primary research questions and 20 sub-questions:

- **Part One | TRENDS: How Many San Diego County Farms and Agricultural Acres Will be Lost if Current Trends Continue Unabated?**

  Topics Explored: The section's 12 research sub-question examine historical trends and projected future changes in the number of farms and agricultural acres in San Diego County, including for small farms.

  Key Finding: ***At current rates, San Diego County is losing 18 acres of farmland per day and an average of one farm every three and a half days, with no sign of letting up.***

- **Part Two | EXPENSES: What are the Costs of Farming in San Diego County?**

  Topics Explored: The section's four research sub-question examine 17 types of operating expenses reported by San Diego County producers, including expenses' prevalence, dollar amounts, and trends.

Key Finding: ***Comprehensive data representing 4,031 San Diego County farms show Taxes (on Property) as the most common expense, Labor (Contracted & Hired) as the biggest cost by far (at an average 2022 cost of $283,334 per farm), and that most farm expenses have risen faster than inflation over the past 20 years, especially Fertilizer, Chemicals, and Labor (Contracted & Hired).***

- **Part Three | PROFITS: How Profitable are San Diego County Farms?**

  Topics Explored: The section's four research sub-question examine historical trends and future projections for operating profit margin (OPM) among San Diego County farms.

  Key Finding: ***Detailed financial data provided by San Diego County agricultural producers show large fluctuations in operating profit in recent decades and a 2022 average operating profit margin of 13%, roughly half the 25% threshold experts recommend for financial health.***

SIGNIFICANCE OF THE STUDY

The study's results shed important new light on the state of San Diego County agriculture and have key implications on three levels:

- **For Agricultural Operators:** San Diego County agricultural operators can use these findings to better understand their own expenses and profitability in a larger context. How do their costs for labor, fertilizer, utilities and other inputs compare to county averages? Are their farms more (or less) profitable than the average operation?

- **For Multiple Public and Private Sector Stakeholders:** Readers of annual *County of San Diego Crop Statistics & Annual Report* – including private sector entities such as agricultural businesses, banking and financial companies, as well as decision-makers from several government agencies – now have an important supplement to financial data found in that report. By design, the annual report published by the Department of Agriculture/Weights & Measures provides insights into one side of the financial story: revenue (sales). This study provides the other half of the story: farm expenses (costs).

  The findings also empower those same stakeholders to **advance the discussion from generalizations to specifics.** Thanks to comprehensive financial data provided by thousands of San Diego County agricultural producers, public and private sector stakeholders can now convert vague assertions and generalizations into specific knowledge. The following statements provide examples of that transformation:

	Sample GENERALIZATIONS (*before* SALC 2.0)	Sample SPECIFIC KNOWLEDGE (*after* SALC 2.0)
Part One: TRENDS	"San Diego County agriculture faces serious challenges."	"San Diego County is losing an average of 18 acres of farmland each day and one farm every three and a half days."
Part Two: EXPENSES	"Farmers face rising costs, especially for labor."	"Farms with labor costs spent an average of $283,334 on it during 2022, and most farm expenses have risen faster than inflation over the past 20 years."
Part Three: PROFITS	"Farming doesn't seem like a very profitable venture."	"San Diego County farms had an average operating profit margin of 13% in 2022, roughly half the 25% threshold experts recommend for financial health."

- **For Future Projects**. The findings offered as part of this report provide an essential foundation for ensuing stages of the SALC 2.0 project and beyond. The next SALC 2.0 stage, "Gap Analysis," goes deeper into profitability at the individual crop and farm level (e.g., for avocado orchards), then creates aggregated cost estimates to fill profitability gaps countywide. The ensuing SALC 2.0 "Strategic Plan" phase will explore potential ways policymakers can help fill those profitability gaps. Combined, the three SALC 2.0 products can play an important role in sustaining one of San Diego County's most important industries, in addition to providing a foundation for future projects. Final reports are available under the SALC 2.0 tab of San Diego LAFCO's website: www.sdlafco.org.

INTRODUCTION

San Diego County has one of the nation's largest and most important agricultural industries. A combination of fertile soils, an ideal Mediterranean climate, and other factors support production of more than 200 commodities worth an estimated $1.6 billion in 2023.[1]

The latest national rankings put San Diego County in the top 1.5% of all U.S. counties for the total dollar value of its agricultural output and the top 1% for crops, in particular. Among crop categories, San Diego County's nursery, greenhouse, and floriculture sector ranks #2 nationwide out of 2,660 counties producing such products, placing it in the top one-tenth of one percent. [2]

WHY THIS MATTERS: 15 COSTS TO SOCIETY OF LOSING AGRICULTURAL LANDS

Although the county boasts one of the nation's most productive agricultural industries, several challenges threaten agriculture's ability to endure. Those challenges have led to significant, ongoing loss of agricultural lands. The decline in agricultural acreage, in turn, impacts San Diego County across three broad categories: economic, environmental, and social. The following list provides 15 specific examples of those potential impacts.

ECONOMIC Impacts of Lost Agricultural Lands

- **1) Decreased Food Production & Higher Food Prices.** Having less land available for farming can strain the economy through increased food prices and a greater reliance on costlier imports.
- **2) Reduced Agricultural Exports**. Reduced export volumes jeopardize significant money brought into San Diego County through agricultural exports to over 45 countries, more than a dozen U.S. states and over two dozen California counties.
- **3) Job Losses in Agriculture.** The reduction in farmland can lead to job losses, adversely affecting local economies that rely on agriculture for income and employment.

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[1] For details about individual commodities, please consult the *2023 County of San Diego Crop Statistics & Annual Report*, available at: https://www.sandiegocounty.gov/content/sdc/awm/crop_statistics.html.

[2] See the *2022 Census of Agriculture, San Diego County Profile*, available at: https://www.nass.usda.gov/Publications/AgCensus/2022/Online_Resources/County_Profiles/California/cp06073.pdf

- **4) Threats to Food Security.** Reduced agricultural output can threaten local food security, particularly in times of crisis or global supply chain disruptions that make imported food less reliable and more expensive.
- **5) Loss of Small Businesses**. The loss of farmland can disproportionately affect small-scale farm enterprises, undermining one of the defining features of San Diego County's agricultural industry.

ENVIRONMENTAL Impacts of Lost Agricultural Lands

- **1) Reduced Carbon Storage & Sequestration.** Farmland, particularly when managed sustainably, plays a role in carbon sequestration by capturing carbon dioxide from the atmosphere and storing it below ground. Conversion of these lands can lead to increased carbon emissions, exacerbating climate change and its associated economic costs.
- **2) Decreased Resilience to Climate Change.** Farmlands can assist in protecting against the effects of climate change by maintaining open spaces, managing water flow and preserving soil health. The loss of agricultural land reduces the resilience of ecosystems and human communities to climate-related events like floods and droughts, potentially leading to higher recovery costs.
- **3) Habitat Loss and Fragmentation.** Conversion of farmland to urban or industrial use leads to the destruction of habitats for various species, resulting in loss of plants, animals, ecosystems and the services they provide to people, including but not limited to pollination.
- **4) Reduced Water Quality & Quantity.** Residential and industrial areas often have high levels of runoff that carries sediment and pollutants like oil, heavy metals, and chemicals into waterways, degrading water quality. Farms prevent this pollution while also promoting water infiltration that lowers flood risk and recharges groundwater.
- **5) Air Quality Deterioration.** The conversion of farmland to urban uses can lead to increased emissions from vehicles, industry, and construction activities, worsening air quality and contributing to respiratory issues in nearby populations.

SOCIAL Impacts of Lost Agricultural Lands

- **1) Increased Urbanization.** The loss of farmland often leads to property development that can strain infrastructure, reduce quality of life, and increase the cost of living in rural areas due to overcrowding and limited resources.
- **2) Loss of Cultural Heritage.** Agricultural lands often hold cultural significance, representing traditional farming practices and rural lifestyles. Loss of these lands can lead to the erosion of community identity, culture, pride, and cohesion.

- **3) Food-Related Health Impacts.** The reduction in farmland and the fresh, affordable, nutritious food it provides to San Diego County residents may lead to increased reliance on processed and imported foods, which can contribute to poor diets and associated health problems such as obesity, diabetes, and heart disease.
- **4) Loss of Open Space and Scenic Landscapes.** Agricultural lands contribute to open spaces and scenic landscapes that provide aesthetic value to San Diego County residents and visitors.
- **5) Reduced Access to Green Spaces.** Farmland often provides open spaces and access to nature for urban and suburban communities. San Diego County's many farm tours, U-picks, and other on-farm activities deliver mental and physical health benefits associated with exposure to green spaces.

PROJECT GOAL & RESEARCH QUESTIONS

Recognizing the problem and its high stakes, policymakers at the federal, state, and local levels have created a wide range of policies, programs and projects to support agriculture. California's Sustainable Agricultural Lands Conservation (SALC) Program stands as a noteworthy example. Created in 2014 as a component of the California Strategic Growth Council, SALC provides grants to support local agricultural land conservation, economic growth, and sustainable development. The **Background** section provides more details, including three SALC grants awarded to San Diego County.

This report is an initial output from the third SALC grant, under "Market Analysis." ***The single overarching goal of this report is to address critical knowledge gaps regarding the economics of agriculture at the farm and county levels.*** Three major research questions support the main goal, along with 20 sub-questions. The report addresses each in turn:

Part One | TRENDS: How Many San Diego County Farms and Agricultural Acres Will be Lost if Current Trends Continue Unabated?

<u>Total Number of Farms</u>:

1. How many farms are in San Diego County?
2. How has the number of farms changed in recent decades?
3. If the current trend continues, then what is the projected number of farms in the future?

<u>Number of Agricultural Acres</u>:

4. How many agricultural acres are in San Diego County?
5. What is the trend in the number of agricultural acres in recent decades?

6. If the current trend continues, then what is the projected number of agricultural acres in the future?

Number of Small Farms:

7. How many agricultural operations in San Diego County are small farms?
8. How has the number of small farms changed in recent decades?
9. If the current trend continues, then what is the projected number of small farms in the future?

Small Farm Acreage:

10. How much small farm acreage exists in San Diego County?
11. What is the trend in small farm acreage in recent decades?
12. If the current trend continues, then what is the projected small farm acreage in the future?

Part Two | EXPENSES: What are the Costs of Farming in San Diego County?

13. [Types] What types of operating expenses do San Diego County farms incur?
14. [Frequency] Which of the 17 expense types are most and common among San Diego County farms?
15. [Amounts] How much do San Diego County farmers spend in each cost category?
16. [Trends] How have farm expenses trended in recent decades? Which expenses have changed the most? The least?

Part Three | PROFITS: How Profitable are San Diego County Farms?

17. [Types] What are the various ways to define and measure farm "profitability"? Which one is most relevant here?
18. [Amount] What is the operating profit margin among San Diego County farms?
19. [Trend] How has farm profitability trended in recent decades?
20. [Forecast] If the current trend continues, then what is the projected operating profit for farms in the future?

ANTICIPATED OUTCOMES

The study's results will shed important new light on the state of agriculture in San Diego County and have key implications on three levels:

- **For Agricultural Operators:** San Diego County agricultural operators can use the findings to better understand their own expenses and profitability in a larger context. How do their costs for labor, fertilizer, utilities and other inputs compare to county averages? Are their farms more (or less) profitable than the average operation?

- **For Multiple Public and Private Sector Stakeholders:** Readers of annual *County of San Diego Crop Statistics & Annual Report* – including private sector entities such as agricultural businesses, banking and financial companies, as well as decision-makers from several government agencies – can access an important supplement to financial data found in that report. By design, the annual report published by the Department of Agriculture/Weights & Measures provides insights into one side of the financial story: revenue (sales). This study will provide the other half of the story: farm expenses (costs).

  The findings will also empower those same stakeholders to **advance the discussion from generalizations to specifics.** Thanks to comprehensive financial data provided by thousands of San Diego County agricultural producers, public and private sector stakeholders will be able to convert vague assertions and generalizations into specific knowledge.

- **For Future Projects**. The findings offered as part of this report will provide an essential foundation for ensuing stages of the SALC 2.0 project and beyond. The next SALC 2.0 stage, "Gap Analysis," goes deeper into profitability at the individual crop and farm level (e.g., for avocado orchards), then creates aggregated cost estimates to fill profitability gaps countywide. The ensuing SALC 2.0 "Strategic Plan" phase will explore potential ways policymakers can help fill those profitability gaps. Combined, the three SALC 2.0 products can play an important role in sustaining one of San Diego County's most important industries, in addition to providing a foundation for future projects. Final reports are available under the SALC 2.0 tab of San Diego LAFCO's website: www.sdlafco.org.

BACKGROUND

Consistent with statewide and national trends, San Diego County's agricultural industry has faced mounting challenges for decades. Thousands of articles, books, government reports and other publications have documented the obstacles facing agriculture in the United States. In response, policymakers across the country have implemented numerous measures designed to support agriculture.

The purpose of this report lies well beyond reviewing the massive literature about agricultural trends and policies. Instead, this section focuses on a recent and unprecedented California initiative to support agriculture: The Sustainable Agricultural Lands Conservation Program ("SALC" for short) and its related efforts in San Diego County.

This section describes California's initiative to help stem the loss of agricultural lands through the SALC Program, and how that effort is playing out in San Diego County. SALC funds have recently been awarded to the County of San Diego's PACE Program which provides direct payments to willing farmers and ranchers to conserve agricultural lands. Meanwhile, the SALC 1.0 and 2.0 projects focus on filling specific knowledge gaps about the economics of San Diego County agriculture, and then using that information to propose new policies and programs designed to benefit the financial health of agricultural operations.

This section covers three topics: 1) a broad overview of SALC, including its support of agricultural conservation easements in San Diego County; 2) a description of San Diego County's SALC "1.0" planning grant; and 3) details about San Diego County's current SALC "2.0" planning grant. Combined, the sections provide important context for a significant San Diego County effort to help sustain local agriculture.

ABOUT THE SALC PROGRAM

Launched in 2014, the Sustainable Agricultural Lands Conservation Program (SALC), a component of the Strategic Growth Council's Affordable Housing and Sustainable Communities (AHSC) Program, administered by the Department of Conservation, supports California's greenhouse gas (GHG) emission reduction goals by making strategic investments to protect agricultural lands from conversion to more GHG-intensive uses. Protecting critical agricultural lands from conversion to urban or rural residential development encourages infill development within existing jurisdictions, ensures open space remains available, and supports a healthy agricultural economy

and resulting food security. A healthy and resilient agricultural sector is a critical part of meeting the challenges occurring and anticipated as a result of climate change.

SALC is part of California Climate Investments, a statewide program that puts billions of Cap-and-Trade dollars to work reducing GHG emissions, strengthening the economy, and improving public health and the environment – particularly in disadvantaged communities. The Cap-and-Trade program also creates a financial incentive for industries to invest in clean technologies and develop innovative ways to reduce pollution. California Climate Investments projects include affordable housing, renewable energy, public transportation, zero-emission vehicles, environmental restoration, more sustainable agriculture, recycling, and much more. At least 35 percent of these investments are located within and benefiting residents of disadvantaged communities, low-income communities, and low-income households across California. For more information, visit the California Climate Investments website at: www.caclimateinvestments.ca.gov.

SALC awards three types of grants to cities, counties, tribes, and various other public sector entities: 1) Agricultural Conservation Acquisition; 2) Capacity and Project Development; and 3) Planning. The first category accounts for the overwhelming majority of grants and funding. Agricultural Conservation Acquisition grants fund conservation easements that landowners voluntarily place on their property to conserve the land's agricultural use in perpetuity. The second grant type, Capacity and Project Development, helps public agencies develop these agricultural conservation easement projects. The SALC program website provides additional details: https://sgc.ca.gov/grant-programs/salc/.

As of 2023, 168 Agricultural Conservation Acquisition grants have been awarded, targeting permanent protection of 194,000 acres of California's at-risk agricultural lands. San Diego County received a $1.4 million grant in 2023 to conserve 450-acres in Pauma Valley through the Purchase of Agricultural Easement (PACE) Program. Interested farmers, ranchers, and others can learn more via the PACE Program administered by the County's Planning & Development Services (PDS) department.

The third category, Planning grants, supports development of local and regional land use policies, economic development strategies, and plans to protect critical agricultural land. Unlike Agricultural Conservation Acquisition grants, these Planning grants do not put money directly into the hands of producers. Instead, Planning grants support creation of conditions that can benefit farmers. In 2020 and 2022, local organizations in San Diego County partnered to receive two Planning grants totaling $700,000. The following sections provide additional details on the tasks funded through these SALC Planning grants.

SAN DIEGO COUNTY'S SALC "1.0" PROJECT

From 2021 to 2023, the SALC 1.0 Planning grant focused on characterizing active agricultural lands within the San Diego region as a step toward determining effective methods to support agriculture. San Diego Local Agency Formation Commission (LAFCO) managed the grant, with project coordination by the Resource Conservation District of Greater San Diego County (RCDGSDC).

The SALC 1.0 project website provides extensive details: https://www.rcdsandiego.org/san-diego-agricultural-planning-program. This paragraph from the final report summarizes the main purpose and approach:

> *"The San Diego Agricultural Planning Program sought to identify, map, and quantify the ownership of active agricultural lands within the San Diego region to determine effective methods to strengthen agricultural production and the growing agricultural economy. To achieve policy reform on gridlocked issues, grant partners sought industry unity through a collaborative approach representing multiple angles of the local agricultural industry. Project methods were informed by the results of previous projects and the needs of the constituents served by the coordinating organizations.*

The grant produced outcomes in three key areas:

- **Mapping** resulted in the production of detailed maps of historical, current, and potential agricultural lands in San Diego County, including their carbon storage and potential carbon sequestration.
- **Outreach** delivered a written summary of priority needs among agricultural producers, based on listening sessions and other interactions with more than 100 producers, with special emphasis on under-represented operations. Producers identified several needs for the long-term viability of agriculture. Top priorities included: 1) water availability and efficiency; 2) land access; and 3) agricultural workforce development.
- **Policy** produced a first-ever comprehensive inventory of local, regional, and state level policies that affect the priority issues identified through the outreach process. It also resulted in a strategic planning effort that led to 10 policy recommendations designed to support agriculture.

SALC 1.0 also highlighted the need for deeper insights into the economics of San Diego County farming. One of the project's 10 priority recommendations was to, "*Inform small farming opportunities through analysis of costs and benefits of small farms.*" This pressing need for quantitative economic data provided a natural starting point for the SALC 2.0 grant application.

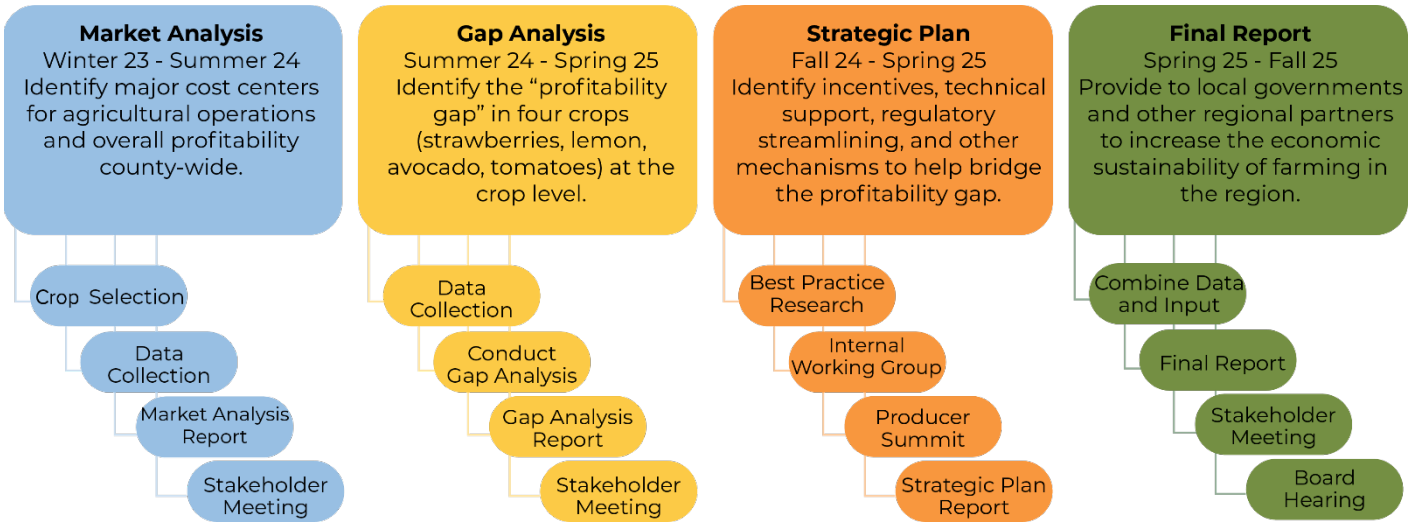
SAN DIEGO COUNTY'S SALC "2.0" PROJECT

Building on momentum from the SALC 1.0 project, San Diego LAFCO and the County of San Diego's Planning & Development Services (PDS) collaborated in submitting a successful follow-up grant application in September 2022. The grant application emphasized the need to support and preserve agriculture in San Diego County, with focus on aiding small-scale farming operations. A $450,000 planning grant was awarded, which is being administered through LAFCO. Work commenced in August 2023 and is expected to be completed in October 2025.

SALC "2.0" consists of four major elements shown in **Figure 1**. The overall goal is to fill specific knowledge gaps regarding financial aspects of San Diego County farms, especially their expenses and profitability, and then develop policy mechanisms designed to support improved financial health for local farms. In short, the goal is to identify and help bridge specific financial gaps so farmers can keep farming.

This report summarizes work under the first item in **Figure 1**: "Market Analysis." The next report will focus on the ensuing phase, "Gap Analysis."

Figure 1. Timeline and Major Activities for the SALC 2.0 Planning Grant 2023-2025



Source: County of San Diego (https://www.sandiegocounty.gov/content/sdc/sustainability/projects/SALC2.html)

METHODS

Any attempt to support improved financial health among San Diego County agricultural operations requires solid financial data. Gathering sensitive financial information from agricultural producers, however, poses many challenges. For starters, it can be difficult to collect financial information from a sample size of producers large enough to meet the goals of this market analysis. Data *quality* also poses challenges.

Given these and other constraints, we opted to use an extensive data source: the U.S. Department of Agriculture (USDA) Census of Agriculture. The following sections explain what the USDA Census of Agriculture entails and how we used the data, as well as key strengths and weaknesses of this approach.

ABOUT THE USDA CENSUS OF AGRICULTURE

Mandated by federal law and conducted for more than two centuries, the USDA Census of Agriculture is a complete count of U.S. farms and ranches and the people who operate them. Once every five years, farmers and ranchers from every county in the nation provide uniform, comprehensive and impartial details about land use and ownership, operator characteristics, production practices, income, and expenditures.

The census offers an opportunity for agricultural producers to have a national voice. Information provided by farmers and ranchers not only shows the value and importance of agriculture but can also influence decisions that will affect them. For details, please consult the USDA Census of Agriculture website: https://www.nass.usda.gov/AgCensus/.

ACCESSING AND ANALYZING USDA CENSUS OF AGRICULTURE DATA

The SALC 2.0 data collection and analysis process consisted of several steps. First, we downloaded all of the San Diego County census data in raw form dating back to 2002. Going back to 2002 offered sufficient years to show trends over 20 years and make realistic forecasts while still being current enough to be relevant. This step resulted in a large Excel file with thousands of bits of data.

Next, we wrote a script (computer code) to extract data relevant to the analysis. The script generated numbers needed for the study – focusing on specific years and topics. We then analyzed and interpreted those data, creating graphs to reveal important past trends and future

forecasts. Where possible and appropriate, we also cross-referenced USDA Census of Agriculture data with numbers from other sources, including but not limited to the *County of San Diego Crop Statistics & Annual Report* for various years. We used the Consumer Price Index (CPI) to adjust figures for inflation, i.e., to convert 'nominal' numbers into 'real' ones. For historical CPI data, please see https://www.bls.gov/cpi/.

In July, we shared preliminary findings with producers during an in-person Open House at the San Diego County Farm Bureau headquarters in Escondido. Roughly two dozen producers attended the Open House. Stations positioned around the room included printed displays showing preliminary findings. Producers provided commentary and feedback on the graphs – including input on how the preliminary findings compared with numbers from their own operations. Some visited a separate table where they could enter their own expenses across various cost categories.

Growers Provided Informal Feedback on Preliminary Findings

At the July 24, 2024, SALC 2.0 Open House held at San Diego County Farm Bureau, growers discussed preliminary findings with agency staff and one of the lead researchers. Growers gathered around the posters shown here, "How Profitable are San Diego County Agricultural Operations?" They compared their own costs, revenues, and profits to countywide numbers.

ADVANTAGES AND DISADVANTAGES OF USDA CENSUS OF AGRICULTURE DATA

Using the USDA Census of Agriculture data for San Diego County offered several advantages and a few disadvantages. This section describes both.

Key Advantages of Using San Diego County USDA Census of Agriculture Data:

- **Extremely Large Sample Size.** As the name suggests, the USDA Census of Agriculture attempts to count every single farmer nationwide. The San Diego County census results reflect data provided by thousands of agricultural producers. This distinguishes it from smaller sample-based data collection efforts. SALC 1.0, for example, gathered information from roughly one hundred producers in the county. Likewise, the annual *County of San Diego Crop Statistics and*

Annual Report relies on data from less than 10% of the county's producers, with supplemental data from other sources.

- **Extensive Amount of Relevant Financial Data**. While completing the 24-page USDA Census of Agriculture survey, producers provided extensive financial information. In Section 32, for example, producers entered production expenses across more than a dozen categories. In Section 33, they noted the market value of their land, buildings, machinery, and equipment. In Section 34, they documented income from farm-related sources beyond the gross value from product sales. These data are highly relevant to any economic analysis of San Diego County agricultural operations.

- **Relatively High Level of Accuracy**. The USDA Census of Agriculture collects data from the most credible source possible: straight from agricultural producers themselves. In addition, the data are likely high quality given that the census is formal, structured, and mandatory. It is likely that producers are able to provide more accurate information than, for example, during an informal conversation with a researcher.

- **Ability to Track Long-Term Trends**. Because San Diego County agricultural producers have participated in the USDA Census of Agriculture for decades, the financial data lend themselves to trend analysis. Even better, long-term trends can be used to project expenses, profitability, and other metrics into the near future using forecast functions and regression analysis.

- **Timeliness.** The data released in February 2024 arrived at an opportune time for the SALC 2.0 project. Data published in 2024 were provided by producers to the USDA in 2023, representing financial results for their 2022 calendar year. The timely publication of data allowed us to take full advantage of this extensive data collection effort.

Key Disadvantages of Using San Diego County USDA Census of Agriculture Data:

- **Rarely Crop-Specific**. Few USDA Census of Agriculture data are available for specific crops. Most data on expenses and related financial topics are lumped into larger categories that limit their utility. This poses particular challenges for the next phase of the SALC 2.0 project, the "Gap Analysis," which examines the costs and returns of farming four specific crops: avocados, lemons, strawberries, and tomatoes.

- **No Explicit Focus on Water**. Producers identified labor as a top concern during the SALC 1.0 project, and the USDA Census of Agriculture provides considerable data on that topic. But

when it comes to another top concern, water costs, census data are not as specific. Producers reported their water costs as part of the larger "Utilities" category.

- **Small Operations are Lumped in with Large Ones**. By design, the SALC 2.0 project has a strong emphasis on small farms, since they comprise the largest group of San Diego farms. USDA Census of Agriculture data, however, combine data from small and large operations, without an option to disaggregate the data.

- **Use of Estimates.** USDA statisticians take the information producers submit, then adjust the data to account for common types of survey error. Common errors include: undercoverage (not all farmers received a census form), nonresponse (not all farmers completed the census), and misclassification (not everyone who got a census form is still a farmer).

Definitions: On the Use of "Farms" and "Producers"

Farmers, ranchers, and their properties go by many different names. The USDA Census of Agriculture and many other sources often use the catchall terms **farm** and **producer**. A **farm** is any property with at least $1,000 of sales of agricultural products. A **producer** is anyone who operates such a property.

For simplicity and consistency, this report uses those same broad terms. Please note, however, that **farm** reflects all agricultural **operations**, including **ranches**. **Producers**, meanwhile, encompasses **farmers**, **growers**, **ranchers** and all other agricultural **operators**.

OTHER DATA COLLECTION SOURCES AND METHODS

Several other data sources supplemented the USDA Census of Agriculture. While this report focuses on "Market Analysis," it overlapped with and benefited from data collection efforts for the ensuing phase, "Gap Analysis." The "Gap Analysis" report details those data collection methods. Relevant examples include:

- **Direct Observations**. Visits to several venues – including five San Diego County farms, a meeting of avocado growers, two farm stands, and a farmers' market – offered opportunities to observe production and retail practices and costs firsthand. Farms visited ranged in size from 2 to 250 acres.

- **Personal Interviews with Producers**. Formal and informal interviews with producers yielded extensive quantitative and qualitative data on production costs and revenues. Interviews mostly took place during farm visits, but also at two grower gatherings, two farm stands, a farmers' market, and by phone.

- **Review of Key Documents**. Producers personally provided key documents not easily accessed through other means. Especially critical were several IRS Schedule F "Profit or Loss from Farming" forms from producers' federal income tax returns. Other producers provided revenue and expense data in formats ranging from handwritten summaries to detailed Excel files that spanned multiple years. Last, the *County of San Diego Crop Statistics and Annual Report* for various years provided supplemental data on acres, yields, prices, and gross revenues.

  In summary, no data collection and analysis effort is perfect, including this one. Nevertheless, we deem the data collected to be of sufficient quantity and quality to answer the three overarching research questions and the 20 sub-questions.

KEY FINDINGS

This section presents key findings for the study's three overarching research questions. **Part One** documents changes in the number of farms and agricultural acres, including how many will be lost by 2027 if current trends continue unabated. **Part Two** details production expenses. **Part Three** reports profitability. Answers to the study's 20 sub-questions appear throughout.

PART 1 | STAKES: How Many San Diego County Farms and Agricultural Acres Will be Lost if Current Trends Continue Unabated?

Total Number of Farms:

1. **How many farms are in San Diego County?** According to the USDA Census of Agriculture, San Diego County had 4,031 farms operating in 2022. Putting those 4,031 farms into larger context, San Diego County was home to about one out of every 16 California farms in 2022, or 6.4% of the 63,134 statewide total. Of those operations, 3,152 were crop farms and 879 were ranches and other operations.

   The fact that San Diego County has so many farms comes as no surprise. The large number of farms is consistent with previous censuses and represents a hallmark of the county's agricultural industry.

2. **How has the number of farms changed in recent decades?** The number of San Diego County farms declined by 1,224 (23%) in the 20-year period from 2002 to 2022. **Figure 2** shows this ongoing decline, including a temporary increase to 6,687 operations in 2007. The proportion of crop farms has remained steady at about 80% of all operations during this period.

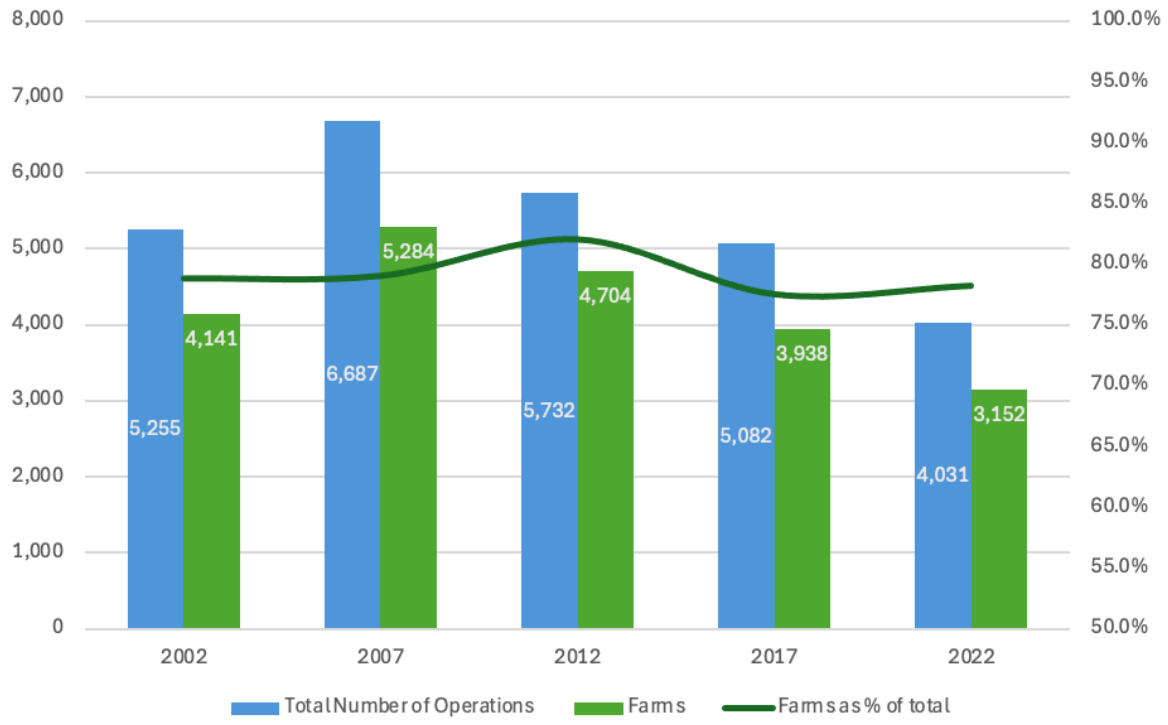
   Similarly, the State of California experienced a 21% decline in the same 20-year period, from 79,631 farms in 2002 down to 63,134 by 2022. Nationwide, the United States lost 228,495 farms, an 11% drop.

   We tested the idea that the decline in farms was due to small farms being combined into larger operations, as has happened in many parts of California and across the country. This 'farm consolidation' scenario was not confirmed. A key piece of evidence, detailed in the next section, is the fact that total agricultural acreage has declined at an even steeper rate (56%)

than the number of farms (21%). Also, the 42.7% drop in average farm size in San Diego County from 2002 to 2022 (see **Figure 9** and associated text) runs counter to California's overall trend toward larger average farm sizes. If big farms were gobbling up small farms in San Diego County, then total farm acreage and average farm size would have remained more stable than what the data show.

Clearly, the story of ongoing decline did not change. Consistent with California and national trends, the number of farms in San Diego County continued to drop.

Figure 2. Change in the Total Number of San Diego County Farms 2002 to 2022



3. **If the current trend continues, then what is the projected number of farms in the future?** If the pattern in **Figure 2** continues, then the number of farms would drop by another 259 in the coming years (6.4%), down to 3,772 farms by 2027.

   San Diego County farmers provided important feedback regarding this finding. At the July 24, 2024, SALC 2.0 Open House event, several producers commented on the poster-size representation of the trend in **Figure 2**. They made two key points: 1) the loss of farms by

2027 will likely be worse than what the forecast suggests; and 2) a more accurate trend line would start at the 2007 peak rather than go all the way back to 2002.

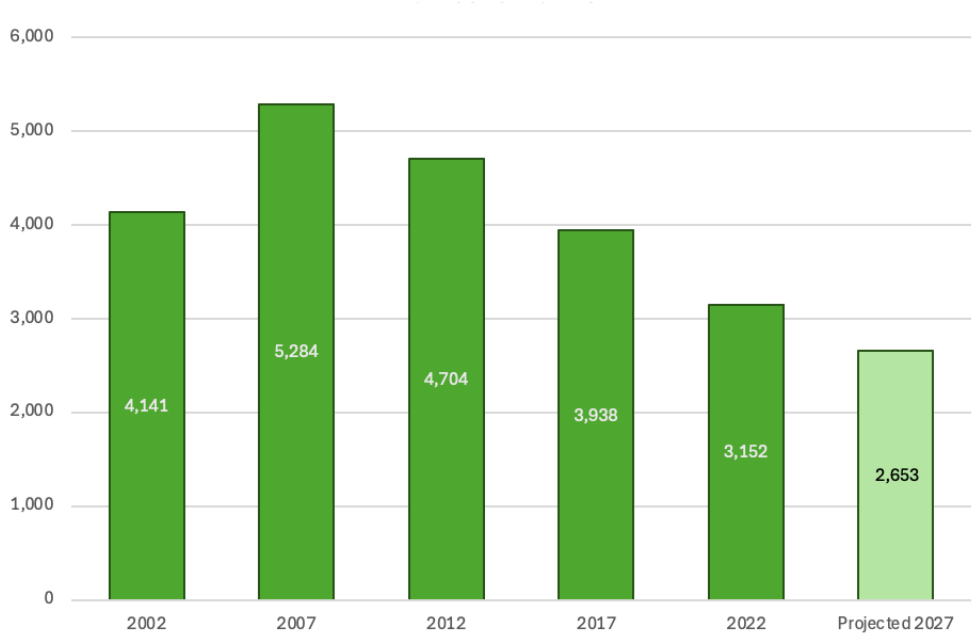
Basing the forecast from 2007 forward rather than 2002 makes sense on many levels. For example, 2007 marked the peak value across the entire two-decade period and the year when a consistent, long-term decline began. Second, the global economic crisis that began in December 2007—the worst one to hit the U.S. since the Great Depression of the 1930s—fundamentally changed land economics in San Diego County and beyond.

We redid the analysis as producers suggested (**Figure 3**). Based on a trendline starting in 2007 rather than 2002, the forecasted loss of (crop) farms through 2027 more than doubled.

The revised estimated number of San Diego County farms in 2027 will be 2,653 (instead of 2,944 as a projection starting in 2002 would indicate). This represents a loss of 499 (crop) farms between 2022 and 2027 rather than 208. It marks a total five-year decline of 15.8% rather than 6.6%. **This translates to losing one farm every three and a half days (3.6 days, to be exact).**

Regardless which scenario one uses, the projected loss of additional farms through 2027 underscores the dire situation farmers face and the pressing need for action.

Figure 3. Forecasted Number of San Diego County (Crop) Farms in 2027 Based on a Trendline Starting in 2007 Rather than in 2002



Number of Agricultural Acres:

4. **How many agricultural acres are in San Diego County?** USDA Census of Agriculture data indicate there were 179,330 agricultural acres in 2022.

   Putting the 179,330 acres into larger context, San Diego County had just under 1.0% of California's statewide total of 24,190,604 farm acres (0.74%, to be exact), despite having 6.4% of the total number of farms in the state.

   While USDA Census of Agriculture data are thought to be comprehensive, it is difficult to capture the true extent of agricultural lands in San Diego County. For comparison, the *2022 County of San Diego Crop Statistics & Annual Report* put the total number of acres at 214,438.

   The most ambitious attempt to count agricultural acres occurred during the SALC 1.0 project. The Resource Conservation District of Greater San Diego County (RCDGSDC) worked with graduate students and faculty from the School of Public Affairs at San Diego State University to map the historical, current, and potential extent of agricultural lands. Based on combined data from multiple sources, the team estimated 276,877 acres of agricultural lands in production in 2021. A majority of these lands (164,000 acres) were rangeland.

   While estimates vary, wide agreement exists that the number of agricultural acres continues to decline. The next section quantifies that decline.

5. **What is the trend in the number of agricultural acres in recent decades?** USDA Census of Agriculture data from 2002 to 2022 show an ongoing 20-year decline in the number of agricultural acres. The 2022 total of 179,330 acres represented a 56% drop from the 2002 figure of 408,003 acres, a loss of 228,673 acres.

   For the same period, the *County of San Diego Crop Statistics & Annual Report* reported a significantly smaller decline. Total acres declined by 12,227 acres, from 226,665 in 2002 down to 214,438 acres for 2022, a drop of 5.4%.

   As with the decline in the number of farms, ongoing loss of agricultural acres was expected. What came as a surprise, though, was the rate. The 56% loss of agricultural acres is more than double the 23% loss of individual San Diego County farms.

   The 56% loss of San Diego County agricultural acres from 2002 to 2022 was also steeper than the rate for California as a whole. California lost 3,398,423 agricultural acres during that

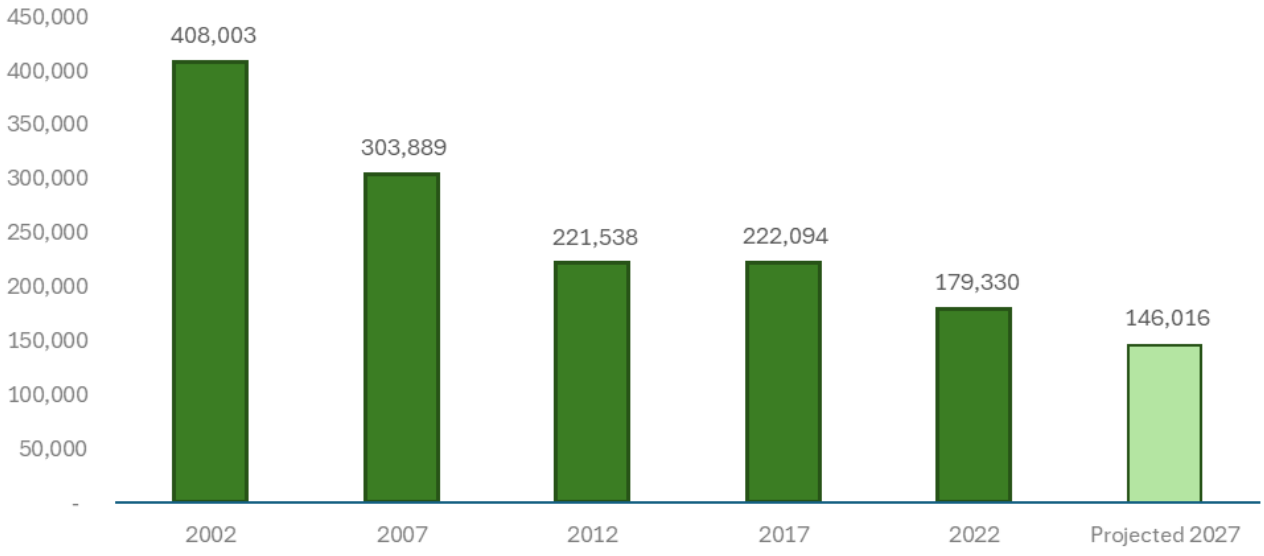
period, representing a 12.3% decrease. Meanwhile, the United States lost 6.2% of its agricultural acres over the same period.

Results from the SALC 1.0 project put the loss of acres in even starker context. As noted earlier, the SALC 1.0 project included an ambitious effort to count agricultural lands both past and present. The authors estimated that San Diego County once boasted more than 630,000 agricultural acres. The most reliable historical estimate, from 1986, indicated 371,592 acres. The 2022 census estimate of 179,330 acres marks a 51.7% decline from that 1986 figure.

6. **If that trend continues, then what is the projected number of agricultural acres in the future?** If the current trend continues, San Diego County is expected to lose an additional 33,314 acres (18.6%), reducing the total from 179,330 acres in 2022 to 146,016 acres by 2027 (**Figure 4**).

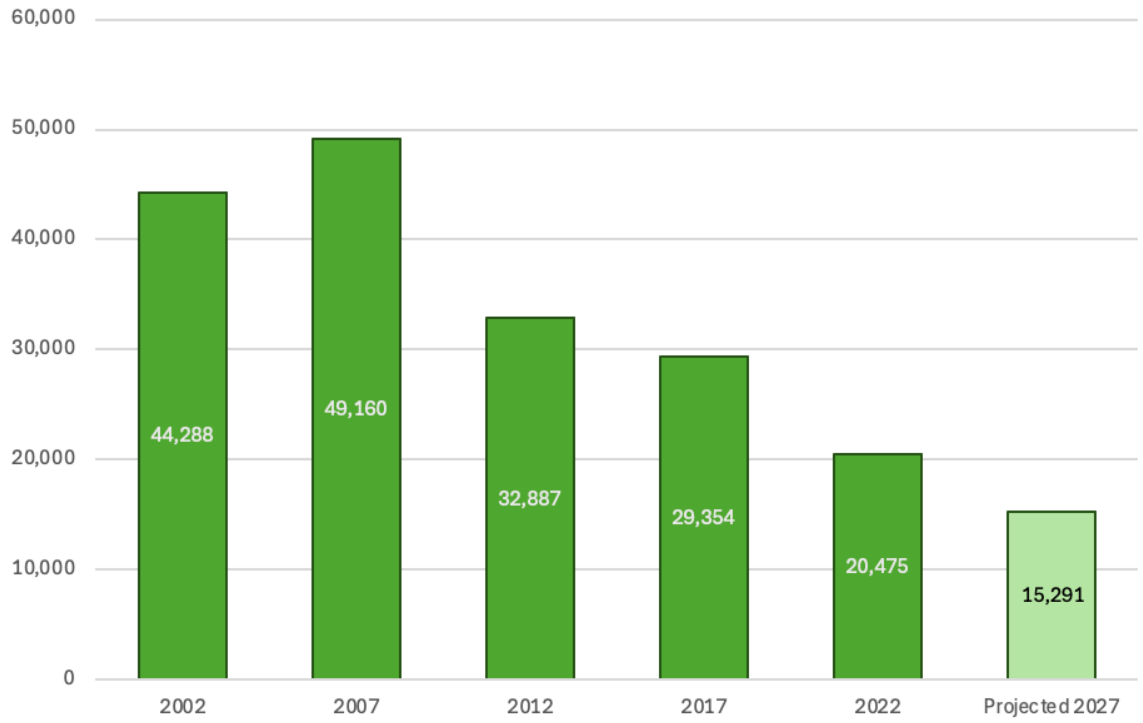
   For context, losing 33,314 acres between 2022 and 2027 translates to ***an average loss of 18.3 acres per day, or three-fourths of an acre every hour.***

Figure 4. Change in Total Number of Agricultural Acres in San Diego County 2002-2022



For additional details, **Figure 5** shows the acreage of crop farms between 2002 and 2022. From a peak of 49,160 acres in 2007, the number of acres in crop farms declined to 20,475 (or about 58% reduction) in 2022. The estimate for 2027 is 15,291 acres, which represents a decline of 25% in that five-year period.

Figure 5. Change in Number of Acres in Crop Farms in San Diego County 2002-2022



Losing an acre of agricultural land impacts society on many levels, including the environmental, economic, and social impacts briefly mentioned in the **Introduction**. Especially relevant to the SALC program, loss of agricultural lands has significant greenhouse gas emission implications. The SALC 1.0 project, for example, included a comprehensive assessment of the amount of carbon stored on San Diego County's existing agricultural lands.

The average acre of San Diego County agricultural land stores 26.4 metric tons of carbon. Thus, losing 33,314 agricultural acres during the five-year period from 2022 to 2027 potentially releases an estimated 879,490 metric tons of stored carbon. The exact tonnage depends on the original land cover, completeness of conversion, ensuing land use and myriad other factors.

Number of Small Farms:

7. **How many agricultural operations in San Diego County are small farms?** Small farms are common in San Diego County and a topic of special interest. No single definition of "small" farm exists. One definition characterizes them financially: any operation with under $1,000 in

gross annual revenue. For the purposes of this report—and consistent with SALC's focus on preserving agricultural acres—we define small farms as operations with 10 or fewer acres.

2022 USDA Census of Agriculture data indicate 2,760 small farms in San Diego County. This represented 68.5% of the 4,031 total number of farms in San Diego County. The average size of small farms was 3.4 acres, compared to an average of 44.5 acres for all San Diego County farms.

Small farms are the subject of an extensive body of literature beyond the scope of this study. Given the SALC 2.0 focus on small farms, however, we offer the following advantages and disadvantages of small farms:

Selected Advantages of Small Farms:

- ✓ **Local Economic Support:** Small farms tend to sell their products locally, including at San Diego County's many farmers' markets. This keeps money within the community, supports local businesses, and creates jobs.

- ✓ **Food Security & Public Health:** Small farms contribute to food security and public health by providing fresh, nutritious food to local consumers. This reduces reliance on long supply chains vulnerable to disruptions by wars, pandemics, and other events. Abundant local food, in turn, contributes to the county's flagship "Live Well San Diego" vision and related quality-of-life initiatives (See: https://www.livewellsd.org/home).

- ✓ **Environmental Stewardship:** Many small farmers use organic farming and other sustainable practices that are more environmentally friendly than industrial-scale farming. They often practice diverse crop rotation and integrate livestock, which can enhance soil health and reduce pests without using potentially harmful chemicals.

- ✓ **Cultural Preservation:** Small farms help preserve what remains of San Diego County's agrarian culture and heritage. They maintain traditional farming practices and certain heritage crops, helping to preserve agricultural diversity and cultural heritage.

- ✓ **Community Engagement:** They are often more connected to their communities, fostering stronger relationships between producers and consumers and encouraging local involvement in food production. This includes San Diego County's many farmers' markets, Community Supported Agriculture (CSA) operations, farm tours, workshops, and U-picks.

- ✓ **Innovation and Flexibility:** Small farms tend to be adaptable and innovative, quickly responding to market changes, experimenting with new crops, or adopting new practices. Dragon fruit production in San Diego County offers a recent example.

Selected Disadvantages of Small Farms:

- ✓ **Economies of Scale:** Larger farms benefit from economies of scale, reducing the cost per unit of production. Small farms often have higher per-unit production costs, making it harder to compete on price. The small production scale also prevents small farms from influencing commodity prices unless they become part of larger action groups such as cooperatives.

- ✓ **Limited Access to Technology:** Small farms may have less access to advanced agricultural technologies, such as precision farming tools, which can improve efficiency and yield.

- ✓ **Capital Constraints:** Small farmers often have less access to capital, making it difficult to invest in equipment, infrastructure, or expansion, which can limit productivity. Higher interest rates and leasing charges discourage new farmers and limit the expansion of existing operations.

- ✓ **Labor Intensity:** Small farms are typically more labor-intensive, requiring more hands-on work without the benefit of large-scale mechanization, which can increase costs and physical demands on farmers.

- ✓ **Market Access:** It can be challenging for small farms to access larger markets or negotiate favorable contracts with distributors, leading to dependence on smaller, local markets with fluctuating demand.

- ✓ **Vulnerability to Economic Pressures:** Small farms are more vulnerable to economic pressures such as fluctuating commodity prices, high input costs, or unexpected events like natural disasters, which can threaten their financial stability. Related, small farms face ongoing additional pressure to convert to land uses that generate higher profits.

- ✓ **Lower Yields:** Due to limited resources, small farms may produce lower yields compared to large farms, making it harder to meet the food demand or achieve the same level of output efficiency.

8. **How has the number of small farms changed in recent decades?** USDA Census of Agriculture data reveal a decline of 567 small farms (17%) over the past 20 years, from 3,327 small farms in 2002 to 2,760 in 2022 (**Figure 6**).

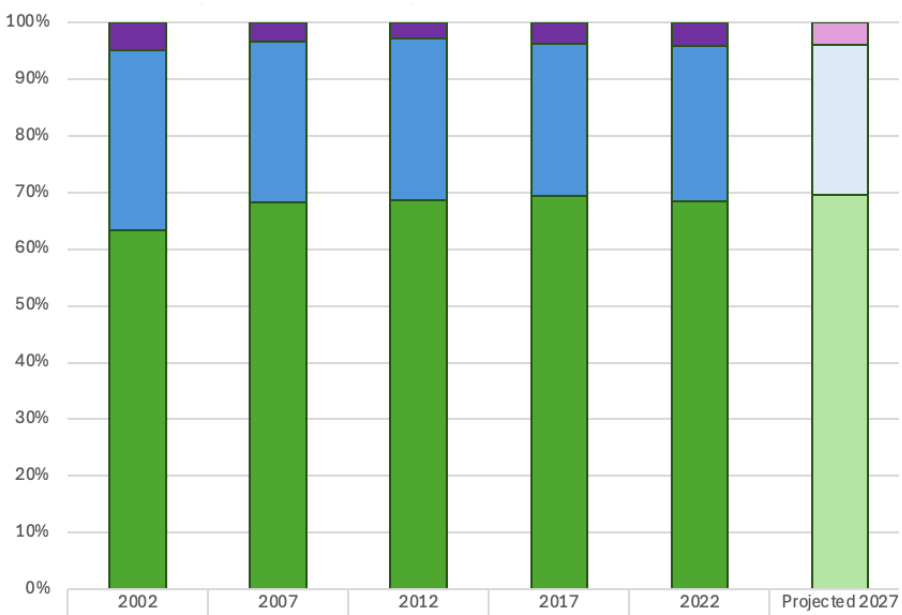
   For context, those 567 small farms represented 46% of the total 1,224 farms lost during that period. The 17% rate of loss among small farms was slightly lower than the county's overall 23% decline noted earlier.

Figure 6. Past and Projected Future Changes in the Number of San Diego County Farms with 10 or Fewer Acres

Figure 7 shows the percentage of small farms in relation to other farm sizes, and how that figure has changed over time. The proportion of small farms remained steady for the 20-year period, with a low of 63.3% in 2022 and a high of 69.4% in 2017.

As noted earlier, the 2,760 small farms in 2022 accounted for 68.5% of the county's 4,031 total farms. Farms between 10 and 180 acres accounted for 27.5% of the 2022 total and farmers larger than 180 acres represented 4.0%.

Figure 7. Proportion of San Diego County Farms by Size Category 2002 to 2022



	2002	2007	2012	2017	2022	Projected 2027
Farms larger than 180 acres	251	227	162	189	162	145
Farms between 10 and 180 acres	1677	1898	1638	1365	1109	1,000
Farms smaller than 10 acres	3327	4562	3932	3528	2760	2,634

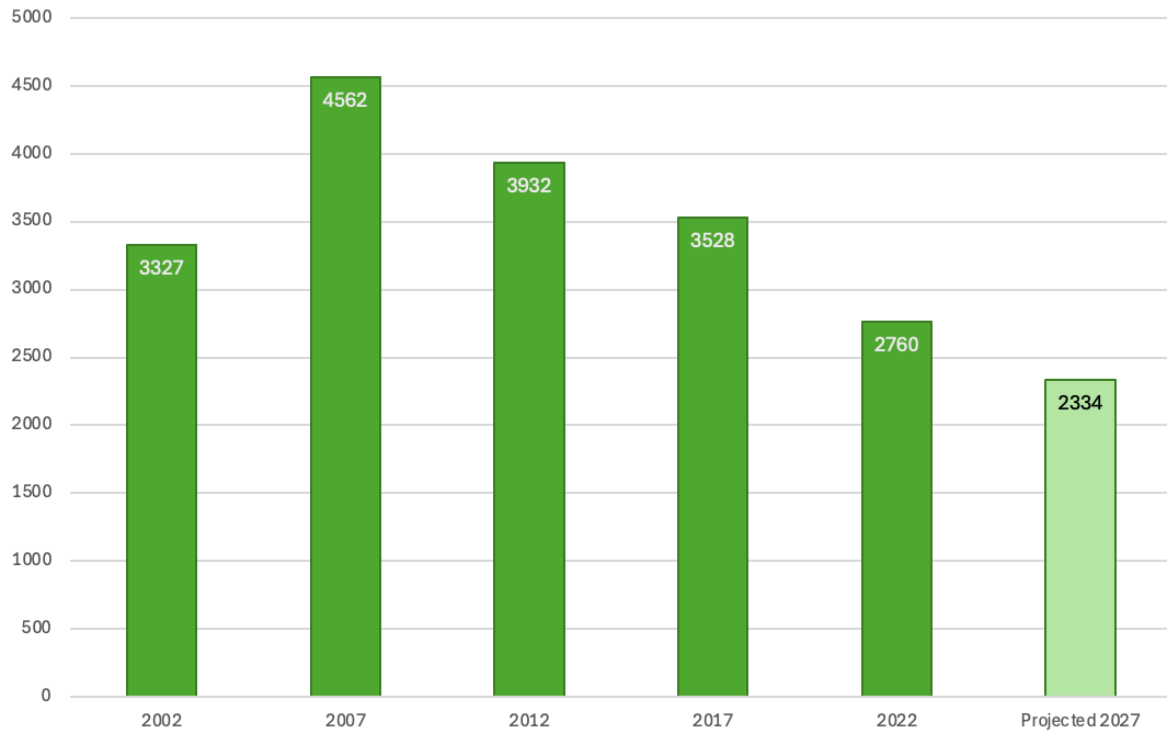
9. **If the current trend continues, then what is the projected number of small farms in the future?** If the current trend continues, then the number of small farms would drop by another 126 (4.6%) in the coming years, from 2,760 in 2022 down to 2,634 by 2027 (**Figure 6**).

   As we did for the projected number of all San Diego County farms, we also ran the analysis based on a trendline starting at the 2007 peak rather than going all the way back to 2002. This adjustment, based on grower's feedback, made the forecasted loss of small farms through 2027 much worse.

   The revised estimated number of San Diego County small farms in 2027 is 2,334 instead of 2,634 (**Figure 8**). This represents a loss of 426 small farms between 2022 and 2027 rather than 259. It marks a total five-year decline of 15.4% rather than 4.6%.

   At the projected rate of loss, San Diego County would lose an average of 1.6 small farms per week during the five-year period from 2022 to 2027, equal to losing one small farm roughly every four days *(4.3 days, to be exact).*

Figure 8. Projected Number of San Diego County Farms with 10 or Fewer Acres Based on 2007 Starting Point



Number of Small Farm Acres:

10. **How much small farm acreage exists in San Diego County?** As of 2022, San Diego County had an estimated 9,252 acres in small farms. They accounted for 5.2% of all San Diego County agricultural lands, or roughly one out of every 20 acres. The average small farm size was 3.4 acres, compared to an average of 44.5 acres for all farms.

11. **What is the trend in small farm acreage in recent decades? Figure 9** shows changes in the number of small farm acres over a 20-year period. Total small farm acreage dropped by 2,080 acres (18.4%), from 11,332 acres in 2002 down to 9,252 in 2022.

    The rate of loss among small farm acres (18.4%) was significantly less than the 56% overall rate of loss for all San Diego County agricultural lands noted earlier.

    Figure 9 also shows the average size of small farms over 20 years. The average size of small farms remained steady for the entire period, between 3.2 and 3.5 acres.

For perspective, the average size of all San Diego County farms dropped by 42.7% during the 20-year period, from 77.6 acres in 2002 down to 44.5 acres in 2022. Meanwhile, the average size for all California farms rose 10.7%, from 346 acres to 383. The cause of California's increased average farm size is unknown, but the farm consolidation mentioned earlier could be a factor.

Median small farm sizes would be useful to know but are not possible to calculate from USDA Census of Agriculture data.

Figure 9. Past and Projected Future Changes in the Number of San Diego County Small Farms and Their Average Sizes 2002 to 2027

	2002	2007	2012	2017	2022	Projected 2027
Farms smaller than 10 acres	3327	4562	3932	3528	2760	2,634
Avrg small farm size	3.41	3.28	3.24	3.53	3.35	3.34

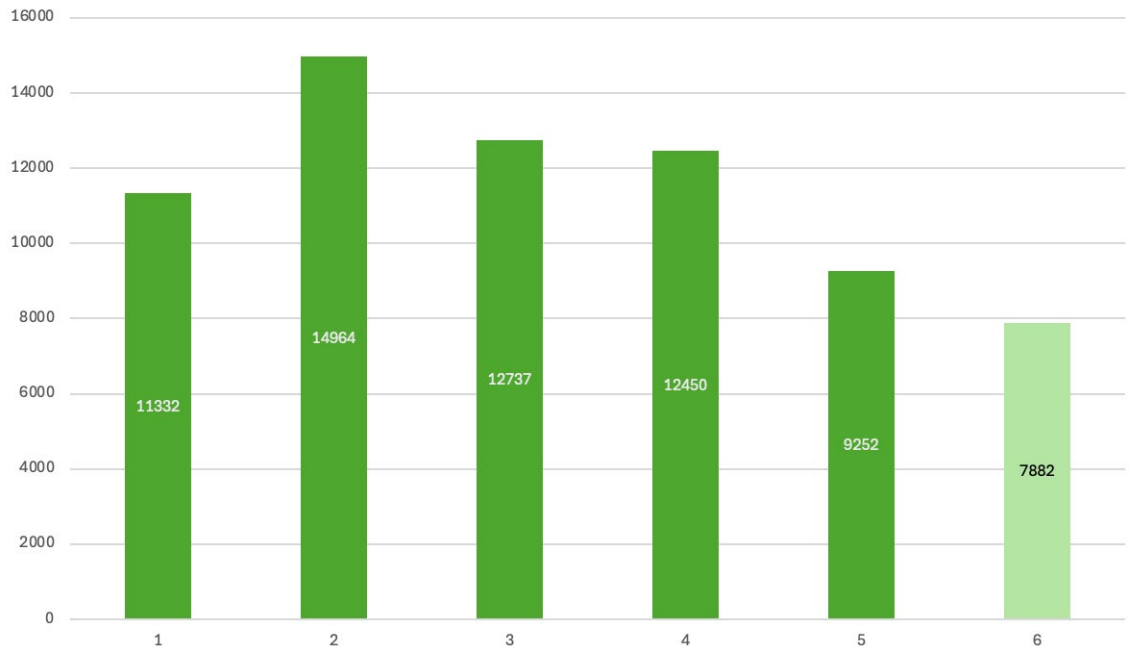
12. **If the current trend continues, then what is the projected small farm acreage in the future?**
    If the current trend continues, then the number of small farm acres would drop by another 457 (4.9%) in the coming years, from 9,252 in 2022 down to 8,795 by 2027.

    Based on feedback from producers at the SALC 2.0 Open House (see earlier), we redid the forecast using 2007 as the starting point rather than 2002. Doing this was especially appropriate given that many attendees at the Open House had small farms.

Using a trendline that starts in 2007 rather than 2002, the estimated amount of San Diego County small farm acreage in 2027 will be 7,882 (**Figure 10**). This represents loss of 1,370 small farm acres over the five-year period between 2022 and 2027 rather than the original prediction of 457. The projected rate of loss of small farm acreage would be 14.8% over the five-year period, compared to the original prediction of 4.9%.

For context, losing 1,370 acres between 2022 and 2027 translates to an average of just over five acres lost by small farms per week (5.4 acres, to be exact).

Figure 10. Projected Acreage in 2027 among San Diego County Farms with 10 or Fewer Acres Based on a Trendline Starting in 2007 Rather Than 2002



These findings shed important light on the state of small farms in San Diego County. Farms with fewer than 10 acres still comprise most of the county's farms (68%), but only 6.3% of total agricultural acres. Decline in the number of small farms has occurred at a slightly lower rate than for the county in general. Meanwhile, loss of small farm acreage has occurred at roughly one-third the rate for the county on the whole. Declines are expected to continue into the future.

Overall, **Part One** results have helped clarify the trends. We not only have specific numbers showing the ongoing decline of farms and farm acres, including among small

farms, but also projected losses through 2027 if current trends continue unabated. The next two sections detail the financial factors driving those declines.

> ***Key Finding from Part One**: **The High Stakes of Inaction.** The findings confirm and quantify the ongoing decline in the number of agricultural operations and acres. At current rates, San Diego County is losing an average of 18 acres of farmland each day and one farm every three and a half days, with no sign of letting up.*

PART 2 | EXPENSES: What are the Costs of Farming in San Diego County?

13. **What types of operating expenses do San Diego County farms incur?** A key first step in any attempt to support financial health among agricultural operators is to understand their specific costs. For the 2022 USDA Census of Agriculture, San Diego County farmers and ranchers documented their expenses in the following 17 categories:

- **Animals:** Breeding livestock purchased or leased, dairy cattle, and all other livestock and poultry purchased or leased. Includes stocker and feeder cattle, calves, sheep, lambs, feeder pigs, chicks, pullets, poults, horses, fish, goats, and bee colonies, etc.
- **Chemicals:** Insecticides, herbicides, fungicides, pesticides, and other chemicals purchased, including the cost of custom application.
- **Custom Hire of Agricultural Services:** Custom work and custom hauling, including planting and harvesting, as well as custom hauling of grain, livestock, milk, manure, etc.
- **Depreciation:** An accounting practice used to spread the cost of farm buildings, fuel tanks, tools, equipment, irrigation systems and other farm assets over their useful life.
- **Feed:** Includes grain, hay, silage, mixed feeds, concentrates, supplements, premixes and other feed purchased for livestock and poultry.
- **Fertilizer:** Includes fertilizers, lime, rock phosphate, gypsum, manure purchased, potting soil, growing media and related materials, as well as the cost of any custom application.
- **Fuel:** Gasoline, diesel, natural gas, LP gas and related items purchased for the farm business, including lubricants such as motor oil and grease.
- **Interest:** Combines interest paid on debts that are secured by real estate (e.g., mortgages) and ones not secured by real estate.
- **Labor:** Costs for hired farm and ranch labor, including employer's cost for social security, worker's compensation, health and life insurance premiums, pension plans, etc. Also includes expenses for contract labor such as harvesting of fruit, vegetables, berries, etc. performed on a contract basis by a contractor, crew leader, etc.

- **Rent or Lease of Machinery, Equipment & Vehicles**: Rent and lease expenses for machinery, equipment, and farm share of vehicles. Excludes custom hire.
- **Rent for Land & Buildings:** Cash rent paid for land and buildings, including any grazing fees.
- **Seeds & Plants:** Purchases of seeds, plants, vines, trees, etc. for the purpose of additional growth.
- **Supplies & Repair:** Maintenance costs, repairs, and supplies for the farm business.
- **Taxes:** Property taxes not paid by an operation's landlord, as well as any taxes on machinery, livestock, etc. for the farm business.
- **Utilities:** Electricity, water, farm share of telephone and other utilities.
- **Veterinary Services & Medical Supplies:** Medical supplies, veterinary, and custom services for animals, including artificial insemination, branding, breeding fees, caponizing, carcass removal, custom feed processing, pregnancy testing, etc. Excludes manure disposal.
- **Other:** Additional production expenses such as insurance, vehicle registration fees, marketing, storage and warehousing. Excludes health insurance premiums and payroll taxes.

USDA analysts combined and renamed census data from certain categories. For example, **Utilities** and **Other** were reported in a larger **Agricultural Services** category that also included **Rent or Lease of Machinery, Equipment & Vehicles** and **Custom Hire of Agricultural Services**. Of these, we pulled **Utilities** data back out into its own separate category, then renamed the remaining ones **Agricultural Services (Misc.)**.

We also expanded certain names for clarity, based on their definitions. For example, **Labor** became **Labor (Hired & Contracted)**. **Rent** became **Rent (for Land & Buildings**).

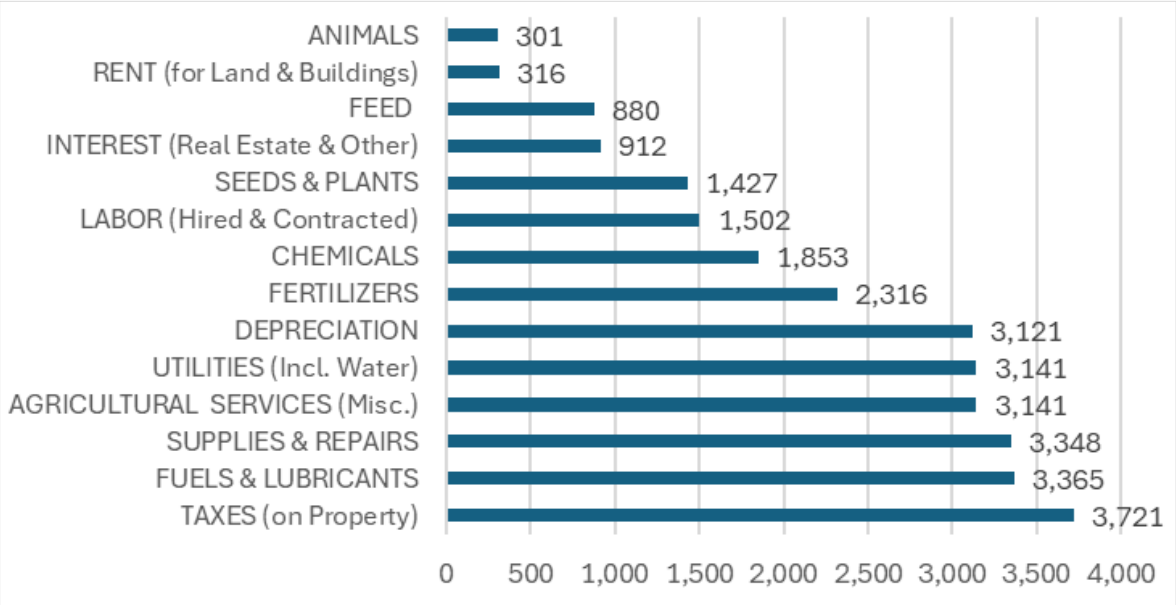
In some cases, analytical rigor and available data required excluding three categories where expense data from large ranching properties could skew the results: **Animals**, **Feed** and **Veterinary Services & Medical Supplies**. The effect was small, however, given that ranches accounted for 18% to 25% of the county's agricultural operations between 2002 to 2022.

During the SALC 1.0 and earlier projects, producers highlighted challenges around costs for labor, water, and land. Owners of small farms have mentioned expenses associated with marketing, pest management, and regulatory compliance. Fortunately, 2022 USDA Census of Agriculture data reflect these expenses and many more. This positions SALC 2.0 to go beyond SALC 1.0's small sample size and qualitative data. SALC 2.0 can draw from quantitative expense data provided by an extremely large set of producers, as outlined in the following sections.

Now that we know ***what*** San Diego County farmers spend money on, ***how common*** is each expense and ***how much*** do farmers spend on them?

14. **Which of the 17 expense types are most and least common among San Diego County farms?** **Figure 11** shows the number of San Diego County agricultural operations with various expense types in 2022. Among 4,031 farms, **Taxes (on Property)** were the most common expense, representing 3,721 (92%) of all operations. After **Taxes (on Property),** a cluster of five expenses followed, representing 3,365 to 3,121 farms: **Fuels & Lubricants** (83% of all farms), **Supplies & Repairs** (83%), **Agricultural Services (Misc**.) (78%), **Utilities (Incl. Water)** (78%), and **Depreciation** (77%). **Animals** were least common, with only 301 operations (7%) having that expense.

Figure 11. Number of San Diego County Farms with Specific Expense Types in 2022

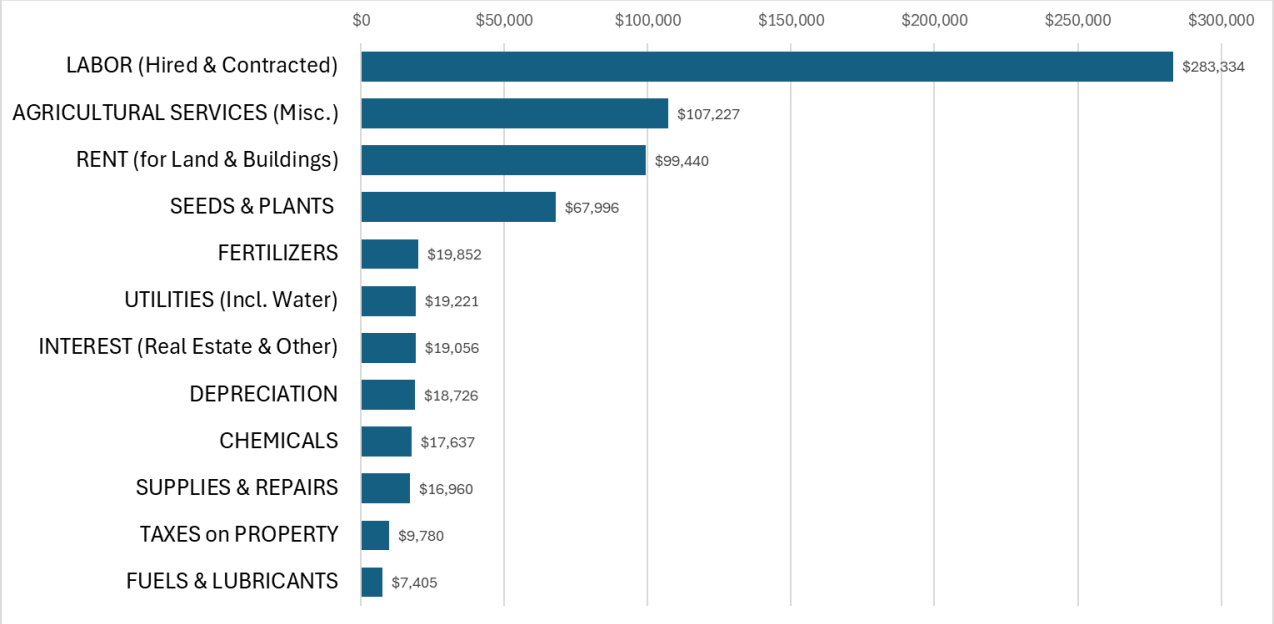


15. **How much do San Diego County farmers spend in each cost category? Which are their biggest expenses? Their smallest?** Detailed per-farm expense information for 2022 appears in **Figure 12**. By far, farmers reported **Labor (Hired & Contracted)** as their biggest operating expense at an average cost of $283,334 per farm. **Agricultural Services (Misc.)** ranked second at $107,227 per farm and included three of the categories defined above: 1) **Rent or Lease of Machinery, Equipment & Vehicles**; 2) **Custom Hire of Agricultural Services**; and 3) **Other**.

    Rent (for Land & Buildings) ranked a close third with an average cost of $99,440 per farm. **Seeds & Plants** followed at $67,996. A large gap occurred between the top four expenses and the remaining eight, all of which averaged under $20,000 per year.

Figure 12 results should be interpreted in light of **Figure 11**. For example, **Labor (Hired & Contracted)** ranks as the biggest average cost by far, but only 1,502 (37%) of San Diego County's 4,031 farms had Labor **(Hired & Contracted)** as an expense. **Rent (for Land & Buildings)** is the third-highest average cost, but only 316 (8%) of farms paid it.

Figure 12. Average Per-Farm Expenses Reported by San Diego County Producers for 2022



The results confirm and build upon the SALC 1.0 finding about labor being a priority concern. Now we know two key specifics about labor: 1) among farms that incur labor costs, it is the biggest expense by far, at more than double the cost of second largest expense; and 2) those San Diego County farms with labor as an expense spent an average of $283,334 on it in 2022.

A DEEPER DIVE INTO LABOR

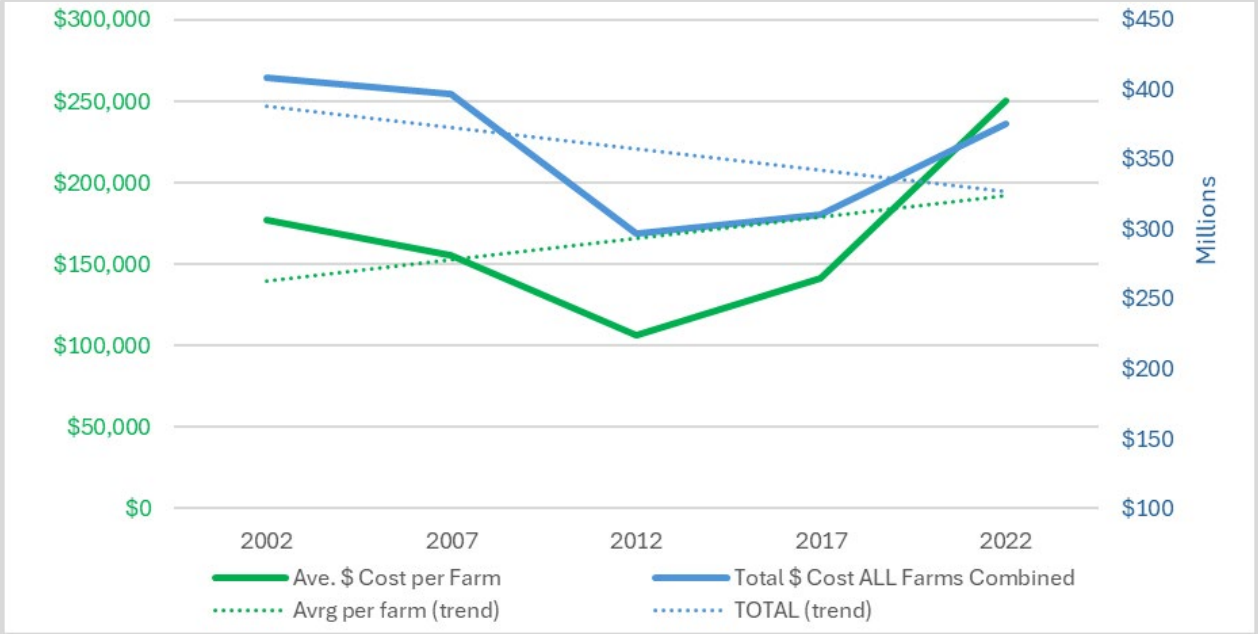
Labor warrants in-depth analysis given its steep cost. **Figure 13** shows how labor costs changed over 20 years. The green line and axis show labor costs for the average San Diego County farm that had labor as an expense. The blue line and axis show total labor costs for all of county's farms combined.

Adjusted for inflation, the average annual labor expense per farm increased 41.4% from 2002 to 2022, an average increase of 1.75% per year. Average Labor cost started at $177,013 per farm in 2002, dropped to a low of $106,411 in 2012, then recovered to $250,292 by 2022.

The total labor bill for all San Diego County farms combined tells a different story. In real terms (adjusted for inflation), countywide labor costs started at $408,545,096 in 2002 and dropped during the ensuing two decades to $375,939,000 in 2022.

Why the drop in total labor costs over 20 years? To answer this question, we analyzed the number of workers hired during that period. The next section provides details.

Figure 13. Trends in Total and Per-Farm Labor Expenses Reported by San Diego County Producers 2002 to 2022 (Inflation-Adjusted)



CHANGES IN THE NUMBER OF WORKERS HIRED

Figure 14 shows changes in the number of hired farm workers from 2002 to 2022.

Solid lines in **Figure 14** show the total number of hired workers countywide, combined across all farms. For example, the solid blue line shows the decline in laborers who worked 149 or fewer days per year (who we call Part Time Workers, for lack of a better term), from 11,107 in 2022 to 4,311 in 2022. The solid orange line shows the decline in laborers who worked 150 or more days per year (who we call Longer Term Workers for convenience) from 12,255 in 2002 to 8,636 in 2022. The total number of hired workers dropped from 23,362 in 2002 to 12,947 in 2022.

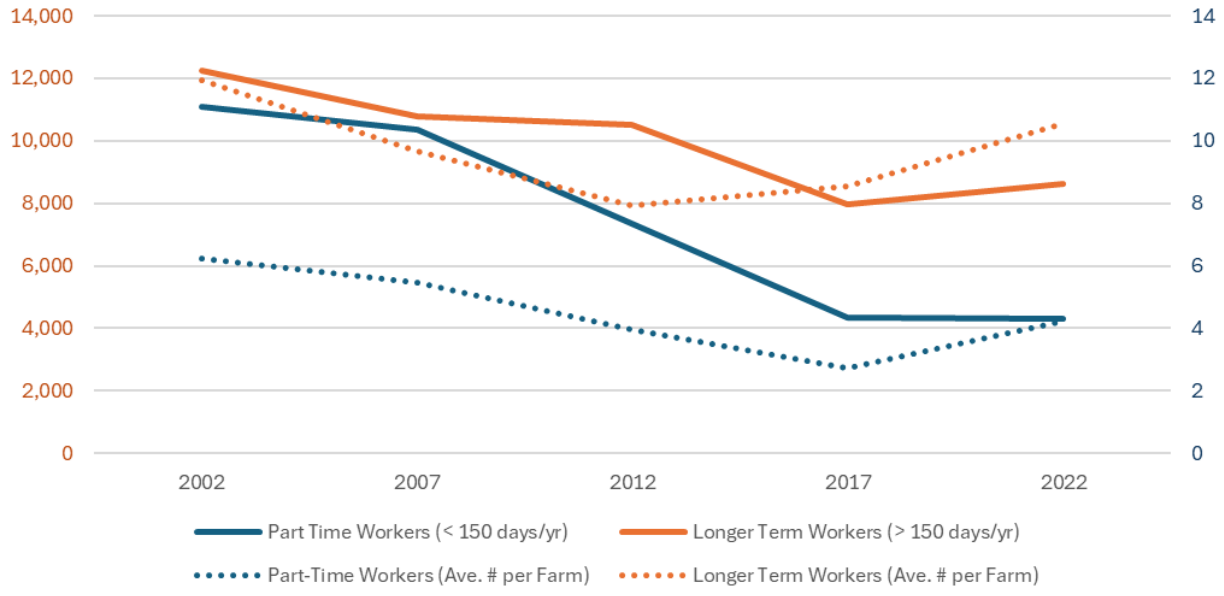
Dotted lines in **Figure 14** show trends in the average number of hired workers per farm. For Part Time Workers, the dotted blue line shows a decline from 6.2 in 2022 to 4.2 in 2022. For Longer Term Workers, the dotted orange line shows the slight change from an average of 11.9 per farm in 2002 to 10.6 in 2022.

The decline in the number of hired workers explains the drop in Labor expenses noted earlier. One possible explanation for the decline in the number of hired workers was the loss of farms and farm acres detailed in **Part One**.

Two other possible explanations for the decline in hired workers include: 1) increased use of farm mechanization and technology; and 2) a trend toward farmers outsourcing more of their work, especially planting, harvesting, and other labor-intensive tasks. For example, San Diego County producers spent $8,890,000 on custom hire of machine operators in 2022, more than twice their $4,180,000 total cost in 2007.

Recent upward trends in **Figure 14** are a positive sign. The average number of Part Time Workers per farm has increased since 2017. For Longer Term Workers, the increase began in 2012. These trends suggest agriculture has somewhat recovered its ability to create jobs in the county.

Figure 14. Total Number of Part Time & Longer Term Hired Farm Workers Countywide and Average Number of Hired Workers Per Farm, 2002 to 2022



Labor data highlight an important limitation of the analysis. Producers likely only reported the money spent for paid laborers such as employees and farm labor contractors. What's missing is the value of unpaid labor provided by farmers and, in many cases, their family members. **Part Three** discusses this topic further.

Last, while the high cost of **Labor (Hired & Contracted)** was expected, the low ranking of **Utilities (Incl. Water)** came as a surprise. Producers highlighted the cost of water during the SALC 1.0 Producer Needs Assessment and continue to raise the concern often. The ensuing SALC 2.0 "Gap Analysis" will analyze water costs in-depth, especially for specific crops such as avocados (available at www.sdlafco.org). For now, the key point is that water is nowhere near the most pressing cost on a countywide scale even if it a critical cost and concern for producers of certain crops in specific locations. The future cost and availability of water in the region is largely unknown, and this uncertainty is a likely cause for concern among growers.

Now that we know *what* farmers spend money on, and *how much* they spend, the next section examines how *costs have changed over time*, not just for hired Labor, but for all expenses.

16. **How have these expenses trended in recent decades? Which expenses have changed the most? The least?** The figures below display the average per-farm expenses by category, for the period from 2002 to 2022. All values are in 2022 constant dollars, with the adjustment based on the Consumer Price Index. The adjustment removes the effect of inflation and is a common practice in economic analysis.

AVERAGE EXPENSES PER FARM

Table 1 shows changes in average annual expenses **per San Diego County farm**. The last column shows the total net change in cost of each item between 2002 and 2022. For example, the average annual cost of **Fertilizers** per farm increased from $8,149 in 2002 to $19,852 in 2022, for an inflation-adjusted increase of 144%. **Chemicals** (+72%) and **Labor (Hired & Contracted)** (+41%) had the next highest increases.

Conversely, the average expenditure per farm on **Interest (Real Estate & Other)** declined from $37,545 in 2002 to $19,056 in 2022, an inflation-adjusted drop of 49%.

Note that values in **Table 1** have been averaged over all operations that reported expenses in a given category for the corresponding census year. Not all operations incurred all types of expenses. For example, only 3,468 of the county's 6,687 operations reported Fertilizers as an expense in 2007. This explains why columns do not add exactly to totals in the final row.

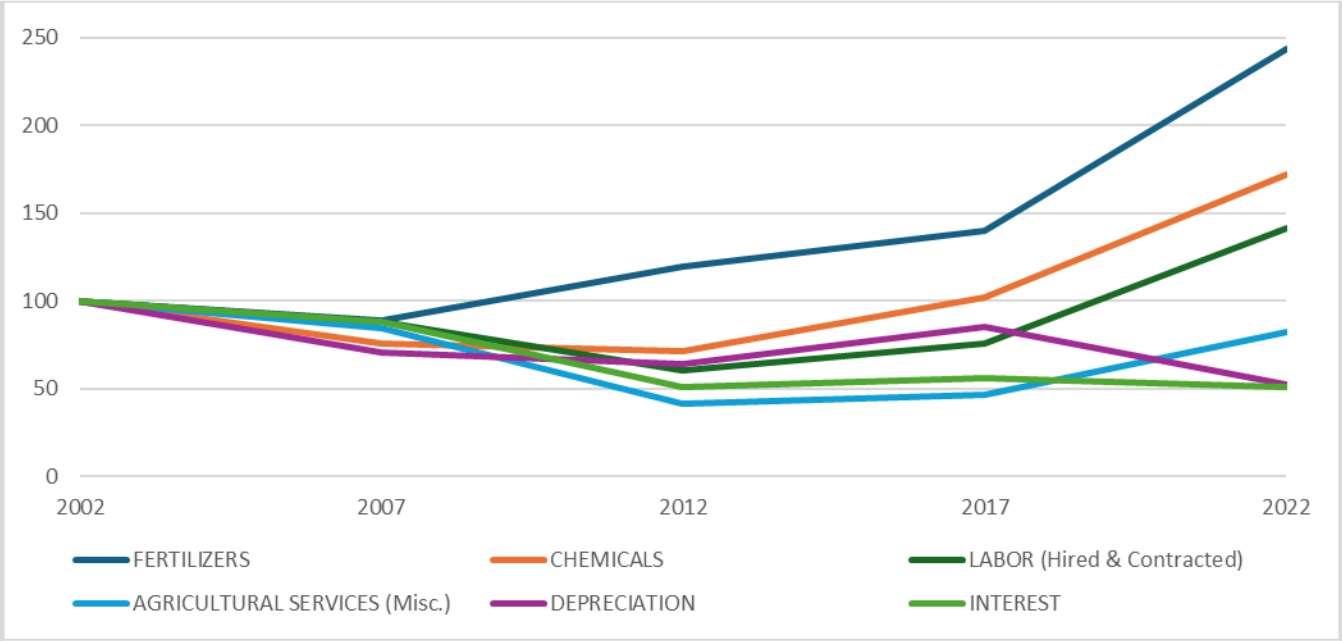
For analytical purposes, the table necessarily includes data from ranch operations such as **Animals** and **Feed**. A third expense common among ranches, **Veterinary Services & Medical Supplies**, is captured within **Agricultural Services (Misc.)**.

Table 1. Average Annual Expenses per Farm in San Diego County 2002-2022 (Inflation Adjusted)

	2002	2007	2012	2017	2022	CHANGE 2002-2022
FERTILIZERS	$8,149	$7,240	$9,709	$11,387	$19,852	**143.6%**
CHEMICALS	$10,245	$7,769	$7,315	$10,442	$17,637	**72.1%**
LABOR (Hired & Contracted)	$177,013	$155,785	$106,411	$133,654	$250,292	**41.4%**
SEEDS & PLANTS	$50,612	$76,711	$52,728	$48,174	$67,996	**34.3%**
TAXES (on Property)	$7,648	$6,714	$6,607	$9,507	$9,780	**27.9%**
RENT (for Land & Buildings)	$78,069	$69,790	$46,600	$65,947	$99,440	**27.4%**
UTILITIES (Incl. Water)	$16,662	$19,379	$19,217	$19,340	$19,221	**15.4%**
FUELS & LUBRICANTS	$6,531	$6,576	$6,297	$6,400	$7,405	**13.4%**
SUPPLIES & REPAIRS	$19,293	$15,571	$10,535	$10,063	$16,960	**-12.1%**
AGRICULTURAL SERVICES (Misc.)	$38,599	$32,609	$16,100	$17,963	$31,873	**-17.4%**
ANIMALS	$75,054	$23,161	$11,868	$10,642	$60,748	**-19.1%**
FEED	$60,931	$46,438	$61,743	$30,639	$38,407	**-37.0%**
DEPRECIATION	$35,558	$25,026	$22,708	$30,361	$18,726	**-47.3%**
INTEREST (Real Estate & Other)	$37,545	$32,976	$19,171	$21,046	$19,056	**-49.2%**
AVE. TOTAL EXPENSES PER FARM:	**$223,473**	**$186,062**	**$151,722**	**$164,126**	**$245,483**	**9.8%**

Figure 15 shares the same results, but in a simpler, visual format. The chart shows the three items with the highest change from 2002 to 2022 (**Fertilizer**, **Chemicals**, and **Labor**), and the three items with the smallest changes: **Depreciation**, **Interest**, and **Agricultural Services (Misc.)**. The vertical axis is an inflation adjusted index. Any lines above the base "100" index line represent those expenses that increased since 2002, and those below the line indicate expenses that declined since 2002, in real terms—that is adjusted for inflation.

Figure 15. Relative Changes in Average Annual Expenses per San Diego County Farm 2002 to 2022 (Selected Items)



What is driving the changes in various expenses? Several factors are at play. In the case of **Fertilizers** and **Chemicals**, the two farm expenses that increased the most, the cost of oil and its derivatives likely played a role. **Fuels & Lubricants**, however, only increased by 13%. **Labor (Hired & Contracted)** is the item with the third-highest increase in cost at over 41%. As **Figure 15** shows, a sharp increase in average per-farm labor cost began in 2012 and accelerated from 2017 onward. The global pandemic of 2020-2021 might explain part of that recent increase. Agricultural labor is more mobile than labor in other industries (perhaps with the exception of construction) and the restriction in domestic and international travel due to the pandemic had an adverse effect in the availability of labor, driving its cost upward.

Per farm expenditures on **Interest (Real Estate & Other)** were lower than for any other category. One possible explanation is that U.S. monetary policies that followed the financial crisis of 2008 kept interest rates at or near zero up until the global pandemic of 2020, when the disruption in supply chains triggered a global inflationary wave, forcing central banks around the world to increase interest rates. The low-interest period positively impacted not just interest payments, but also farm depreciation.

The high cost of **Labor (Hired & Contracted)** came as no surprise, but the relatively low cost of **Utilities (Incl. Water)** was unexpected. As noted earlier, producers emphasized water costs during and after the SALC 1.0 project. They also focused on water costs at the SALC 2.0 Open

House event in July 2024, and during various interviews and farm visits. But the cost of water, even when combined with electricity and other utilities, ranked 7th among all per-farm expenses.

This result underscores the importance of crop type and farm location as drivers of costs, including water. For example, a March 2024 report commissioned by the Avocado Commission of California indicated that water costs ranged from less than 10% of total expenses on avocado farms to more than 60% of total expenses, depending on the location within San Diego County. [3]

Water costs for avocados and other crops will receive in-depth coverage in the ensuing SALC 2.0 "Gap Analysis" report. That project phase includes an Excel-based tool for calculating profitability based on adjustments to water costs, yields, prices, and other factors.

Unlike previous sections that focused on the number of farms and acres, we did not project expense trends into the future. The results would be less accurate than others due to the unpredictable and dynamic nature of the U.S. economy, fiscal policy, geopolitics, and other factors that affect farm expenses.

This section has broken important new ground regarding farm economics. Now we know not just *what* San Diego County farmers spend money on, but also *how much* they spend on specific items and how those costs have *changed over time*. We are halfway to quantifying farm profitability. The next section covers the remaining distance.

***Key Findings from Part Two**: Comprehensive data representing 4,031 San Diego County farms show Taxes (on Property) as the most common expense, Labor (Contracted & Hired) as the biggest cost by far at an average 2022 cost of $283,334 per farm, and that most farm expenses have risen faster than inflation over the past twenty years, especially Fertilizer, Chemicals, and Labor (Hired & Contracted).*

[3] See ERA Economics, March 2024: "Economic Contribution and Ecosystem Service Value of Avocados in the Escondido Area," by ERA Economics under contract to the California Avocado Commission.

PART 3 | PROFITS. How Profitable are San Diego County Farms?

17. **What are the various ways to define and measure farm "profitability"? Which metric is most relevant here?** More than 20 financial ratios and indicators exist to measure the financial health of a farm or other enterprise.[4] They assess a farm's liquidity, solvency, repayment capacity, financial efficiency and other aspects. Experts recommend using multiple measures to gauge overall financial health.

    A subset of these common financial metrics focuses on **profitability**: 1) earnings before interest, taxes and amortization (EBITA, or EBITDA when including depreciation); 2) net farm income; 3) rate of return on farm assets; 4) rate of return on farm equity; 5) gross profit margin; and 6) operating profit margin.

    The first two profitability measures listed above, EBITA and net farm income, are important for assessing an individual farm over time. Farm size heavily influences them, however, which limits their utility for comparing across San Diego County farms.

    The next two profitability measures, rate of return on farm assets and farm equity, are especially useful for comparing farm investments to other investments. These offer little use to SALC 2.0 because the project seeks to help farmers preserve farms, not swap them for alternative investments.

    The fifth profitability metric, gross profit margin, is calculated as gross returns (price times yield) minus direct costs of production, i.e. the costs of goods sold. This simple metric, while useful, does not meet the SALC 2.0 project's required level of precision.

    The last metric on the list, **operating profit margin (OPM)**, includes not just direct production costs, but also cash and non-cash overhead expenses. We opted to use OPM for two main reasons. First, OPM provides a fuller picture of farm profitability than gross profit margin. OPM includes not just direct expenses such as fertilizer, fuel, chemicals, and labor, but also indirect "overhead" costs such as taxes and insurance, as well as depreciation. Second, sufficient data were available to calculate OPM with an acceptable level of precision, based

[4] See Kantrovich, 2011: "Financial Ratios: Operating Profit Margin. Michigan State University Extension. Available at: https://www.canr.msu.edu/news/financial_ratios_part_10_of_21_operating_profit_margin/.

on expense data San Diego County farmers submitted through the USDA Census of Agriculture.

This section has discussed various profitability measures with emphasis on operating profit margin. The next section analyzes OPM among San Diego County farms.

18. **What is the OPM among San Diego County farms?** For 2022, San Diego County's agricultural operators reported $1,092,921,000 in total sales revenue against $967,178,000 in cash and non-cash operating costs. This resulted in a combined, countywide operating profit of $125,743,000 for the county's agricultural industry, yielding an OPM of 13%.

    At an individual farm level, dividing this total countywide profit ($125,743,000) by the number of farms in 2022 (4,031) gives an average per-farm operating profit of $31,194, with the same 13% OPM as the county.

HOW MUCH OPERATING PROFIT MARGIN IS ENOUGH?

How 'good' or 'bad' is that 13% OPM? What does the number tell us?

Strict rules do not exist for determining sufficient OPM. Most experts, however, suggest that an OPM of **25% or higher** indicates good financial condition. For example:

- In a large-scale study of financial health among U.S. farms, researchers with the USDA Economic Research Service, categorized farms as "*low risk if they had an [operating profit margin] larger than 25 percent".* [5]
- The Farm Finance Scorecard states, "*. . . a strong operating profit margin ratio is greater than 25% while a ratio less than 15% is a concern and a weakness.*" [6]
- Another expert confirms the 25% cutoff: "*If the operating profit margin is at a level of 25% or higher the business or farm would normally be considered to be in good shape and*

[5] See USDA 2023: Large Family Farms Faced Less Risk in 2021 Based on the Operating Profit Margin Ratio. Economic Research Service, U.S. Department of Agriculture. Available at: https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=106840.

[6] See Wantoch, K.L., and K. Bernhardt, 2022: "Profitability: Seed for a Farm's Future." University of Wisconsin-Madison, Division of Extension. Available at: https://farms.extension.wisc.edu/articles/profitability/.

strong. Anything less than 15% - 20% could be considered weak and vulnerable to negative markets and higher input costs." [7]

Another agricultural economist lowers the acceptable OPM threshold for farms to 20% with the following metaphor: "*Using stoplight terminology, the 'green' region for the operating profit margin ratio is 20% and above, the 'yellow' region applies to a ratio between 10 and 20%, and the 'red' region applies to a ratio below 10%*" (Langemeier, 2020). [8]

These benchmarks put San Diego County agriculture's 13% OPM figure into context. The figure is roughly half the level of what would be considered as healthy financial performance.

IMPORTANT CAVEATS

Several caveats are in order. First, the average per-farm OPM in San Diego County does not reflect results for specific individual farms. Every farm has its own OPM. A farm's ratio depends on crop type, acreage, location, weather, markets, and many other factors.

Second, calculating a median OPM among farms would be illuminating but is not possible given the aggregated nature of USDA Census of Agriculture data.

Third, sales figures from the USDA Census of Agriculture differ from ones in the *County of San Diego Crop 2022 Crop Statistics & Annual Report*. The latter specified $1,776,799,614 in total sales revenue, compared to $1,092,921,000 in the 2022 USDA Census of Agriculture. Discrepancies between the two sources are not uncommon due to different methodologies, as discussed earlier.

Fourth, farms sometimes generate revenue in addition to product sales figures used here. Examples of other farm-related income include but are not limited to: 1) customwork and other agricultural services provided for other farms such as plowing, planting, spraying, and/or preparing products for market; 2) payments received from renting out farmland and/or buildings; and 3) agri-tourism and recreational services such as farm tours, hay rides, hunting, fishing, and similar activities; 4) payments from government agricultural programs;

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[7] See Kantrovich, 2011: "Financial Ratios: Operating Profit Margin. Michigan State University Extension. Available at: https://www.canr.msu.edu/news/financial_ratios_part_10_of_21_operating_profit_margin/.

[8] See Langemeier, M. 2020: "Measuring Farm Profitability." College of Agriculture, Purdue University. Available at: https://ag.purdue.edu/commercialag/home/wp-content/uploads/2017/10/202009_Langemeier_MeasuringFarmProfitability.pdf

and 5) insurance payments. We did not include these additional revenues sources because not all farms use them and preliminary analysis indicated they were insufficient to affect profitability on a meaningful scale.

Fifth, and especially important, the results do *not* include data from the estimated 1,051 farms that ceased operations between 2017 and 2022 (see **Figure 1**). It is reasonable to assume that many of those farms faced poor financial health, or worse. Thus, the 13% OPM among San Diego County farms reflects what statisticians call a "survivor bias." We should avoid mistaking the subgroup of surviving farms for the entire group, due to the invisibility of defunct farms.

Last, producers likely underreported the value of unpaid family labor, or did not report it at all. Labor already rates as the biggest average expense San Diego County farmers face, by far (**Figure 12**), but that figure only included paid labor. Many farms, especially small ones, have no formal employees and depend primarily on unpaid family labor. Given the large number of small farms in San Diego County, accounting for significant levels of unpaid labor would certainly reduce the average gross profitability margin to a level far below 13%.

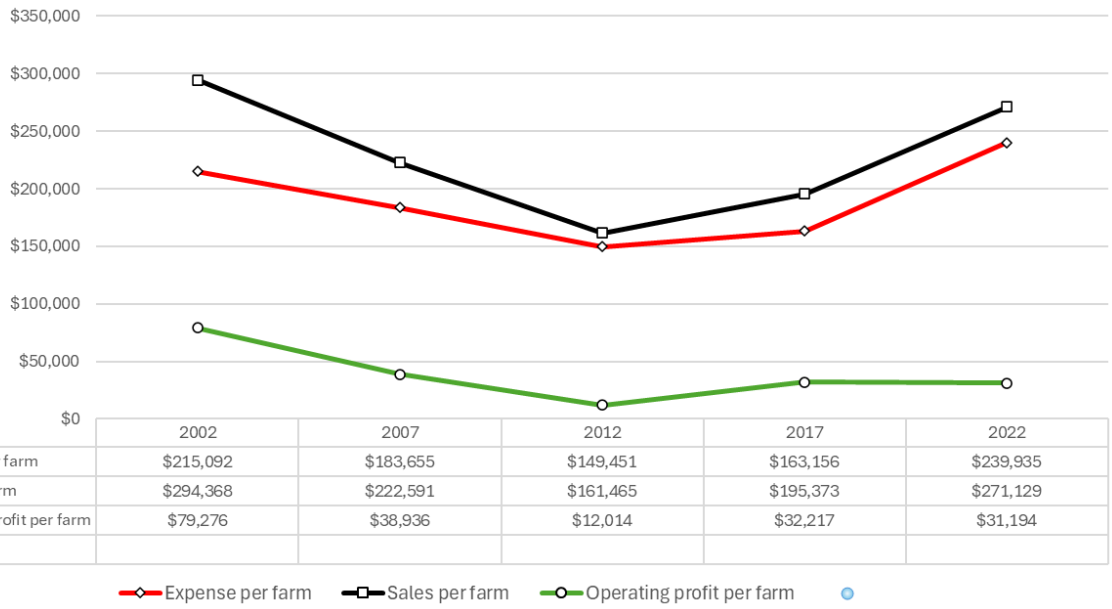
19. **How has farm profitability trended in recent decades?** Financial indicators for farms fluctuate from year to year. Changes in prices, yields, costs, regulations, pests, diseases, weather, and other factors affect short-term financial performance. For this reason, experts recommend applying financial benchmarks to long-run performance, not individual years. This section does that by calculating San Diego County agriculture's operating profit margin over a 20-year period.

    Figure 16 shows average per-farm operating profits from 2002 to 2022. The figures have been adjusted for inflation. Average operating profit among individual operations ranged from a low of $12,014 in 2012 (OPM of 8.0%) to a high of $79,276 in 2002 (OPM of 37.0%). The combined 20-year average was $38,727 (OPM of 19.8%).

    Zooming out to the county level, the combined operating profit for San Diego County's entire agricultural industry ranged from a low of $68,866,089 in 2012 to a high of $416,595,566 in 2002. The 20-year average was $207,058,954. OPM percentages were identical to the per-farm averages mentioned in the previous paragraph.

    As expected, operating profits fluctuated. A noteworthy decline occurred from 2002 to 2012. A partial recovery ensued by 2017 and continued into 2022. Average inflation-adjusted sales (revenue) per farm, for example, dropped from $294,368 in 2002 to $161,465 in 2012, then rose to $271,129 by 2022. For the entire 20-year period, the net inflation-adjusted decline in sales was 7.9%. Meanwhile, costs (expenses) rose by 11.6%

Figure 16. Average Annual Sales, Expenses and Operating Profit for San Diego County Farms 2002 to 2022 (Inflation-Adjusted)



	2002	2007	2012	2017	2022
Expense per farm	$215,092	$183,655	$149,451	$163,156	$239,935
Sales per farm	$294,368	$222,591	$161,465	$195,373	$271,129
Operating profit per farm	$79,276	$38,936	$12,014	$32,217	$31,194

20. **If the current trend continues, then what is the projected operating profit for farms in the future?** The volatility evident in **Figure 16** makes forecasting difficult. The following projections should be treated as tentative at best.

    If the current 20-year trend continues, then operating profits will likely continue their decline. Average per-farm operating profit would drop by $6,488 (20.8%) from its 2022 level of $31,1942, down to $24,706 by 2027, not adjusted for inflation.

    Caveats noted earlier apply here, as well. Future profitability of San Diego County farms might be worse than predicted due to the underreporting of family labor expenses, a survivorship bias in the data and other factors.

***Key Findings from Part Three**: Detailed financial data provided by San Diego County agricultural producers show large fluctuations in operating profit in recent decades and a 2022 operating profit margin of 13%, roughly half the 25% threshold experts recommend for financial health.*

CONCLUSION

This report has provided in-depth economic analysis of San Diego County farms and farming. Three major research questions and 20 sub-questions combine to tell a clear and compelling story about the region's agricultural industry.

At the risk of oversimplifying that story, which is grounded in extensive financial data representing over four thousand San Diego County farms across two decades, we offer the following single-sentence overall finding: ***San Diego County agriculture faces ongoing loss of agricultural operations and acres, farm expenses rising faster than inflation, and an average farm operating profit margin that is half the level considered necessary for financial health.***

The following five points add detail, nuance, and context to that overall finding. In particular:

#1. The Results Provided a Much Clearer Picture of San Diego County Farm Economics. The analysis accomplished the study's overarching goal to shed light on economics at the farm level. Three major research questions and 20 sub-questions support the following key findings:

- Key Finding from Part One: TRENDS. The findings confirm and quantify the ongoing decline in the number of agricultural operations and acres. At current rates, San Diego County is losing an average of 18 acres of farmland each day and one farm every three and a half days, with no sign of letting up.

- Key Finding from Part Two: EXPENSES. Comprehensive data representing 4,031 San Diego County farms show Taxes (on Property) as the most common expense, Labor (Hired & Contracted) as the biggest cost by far at an average 2020 cost of $283,334 per farm, and that most farm expenses have risen faster than inflation over the past 20 years, especially Fertilizer, Chemicals, and Labor (Hired & Contracted).

- Key Finding from Part Three: PROFITS. Detailed financial data provided by San Diego County agricultural producers show large fluctuations in operating profit in recent decades and a 2022 operating profit margin of 13%, which is roughly half the 25% threshold experts recommend for financial health.

#2. The Findings Help Advance the Discussion from Generalizations to Specifics. Limited economic data available from the SALC 1.0 project, the annual *County of San Diego Crop Statistics & Annual Report*, and other sources has long led to vague statements about agriculture. Public

and private sector stakeholders all have a sense that farms are struggling financially, *but how bad is it, really*?

Thanks to comprehensive financial data provided by thousands of San Diego County agricultural producers, we can now convert those vague assertions into specific knowledge. **Table 2** provides examples of statements that depict this transformation.

Table 2. Examples of SALC 2.0 Transforming Generalizations into Specific Knowledge

	Sample GENERALIZATIONS (*before* SALC 2.0)	Sample SPECIFIC KNOWLEDGE (*after* SALC 2.0)
Part One: TRENDS	"San Diego county agriculture faces serious challenges."	"San Diego County is losing an average of 18 acres of farmland each day and one farm every three and a half days."
Part Two: EXPENSES	"Farmers face rising costs, especially for labor."	"Farms with labor costs spent an average of $283,334 on it during 2022, and most farm expenses have risen faster than inflation over the past 20 years."
Part Three: PROFITS	"Farming doesn't seem like a very profitable venture."	"San Diego County farms had an average operating profit margin of 13% in 2022, roughly half the 25% threshold experts recommend for financial health."

#3. Surprises Emerged around Trendlines, Expenses and Profitability. The analysis led to a few unexpected results. Here are three examples, one from each part:

- Part One | TRENDS. Conventional research practice entails basing trendlines on the longest historical timeline possible. The longer the better. But to our surprise, it made sense to vary from standard practice. Producers correctly suggested that trendlines used to project future losses of farms and farm acres should begin in 2007 rather than 2002, as detailed in Part One.
- Part Two | EXPENSES. We knew from SALC 1.0 that Labor (Contracted & Hired) was a major concern but did not expect to see the story the data told. Labor (Contracted & Hired) emerged as the biggest expense by far at $283,334 per farm, albeit only among the 37% of farms that reported it as a cost. Utilities (Incl. Water) were much lower than expected, averaging $19,221 per farm in 2022.
- Part Three | PROFITS. We knew from the outset that farms were struggling financially. But with an average operating profit margin of just 13%, and likely much lower, farms were in a much worse financial situation than anticipated.

#4. Like All Studies, This One Has Limitations. No study is perfect, and this one certainly has shortcomings. In particular, reliance on USDA Census of Agriculture data posed several advantages and disadvantages described in the **Methods** section.

Fortunately, SALC 2.0 ensuing "Gap Analysis" phase should overcome key limitations of this study. That phase uses crop-specific data rather than rely on aggregated financial information from all types and sizes of agricultural operations. Likewise, the "Gap Analysis" examines farm expenses in more detail than was possible here. **Water** costs, for example, are separated from the larger **Utilities** category.

#5. The Stage is Set for SALC 2.0's Next Phase. The study provides a solid jumping off point for SALC 2.0's next task, as shown in **Figure 1**. "Gap Analysis" will not only overcome certain shortcomings of this study but will also complement this study's breadth with added depth.

For example, the "Gap Analysis" will examine avocados and three other focal crops in-depth, rather than attempt to analyze all of San Diego County's agricultural products.

The "Gap Analysis" will also explore profitability in much greater detail than was possible in this study. This will include, for example, producing an Excel-based financial tool that empowers users to calculate profitability based on various scenarios. Users will be able to adjust assumptions about avocado yields and prices, as well as the cost of key inputs such as water. This same tool can be used in ensuing "Strategic Plan" phase to model the effects of potential policy interventions designed to increase profitability among producers of the specific crops. The final "Gap Analysis" report can be found under the SALC 2.0 tab of San Diego LAFCO's website: www.sdlafco.org.

ACKNOWLEDGMENTS

This study was made possible by the generosity of San Diego County agricultural producers. We thank farmers and ranchers for taking time out of their busy schedules to help support a thriving agricultural industry in San Diego County. In particular, agricultural producers did the following five important things: 1) provided critical financial information via the USDA Census of Agriculture; 2) submitted additional information via the annual survey for the *County of San Diego Crop Statistics & Annual Report* published by the Department of Agricultural Weights & Measures; 3) participated in various forums during Fall 2024 to refine the study's scope and direction; 4) offered vital feedback on preliminary findings at the July 2024 Open House; and 5) provided extensive financial information through phone calls, emails, face-to-face meetings and several farm visits during summer 2024. We are grateful for your time, input and expertise. We also thank industry organizations that supported this project, especially the San Diego County Farm Bureau.

Among public agencies, we thank staff at the USDA National Agricultural Statistics Service for answering our specific questions about the Census of Agricultural data. On the state level, we thank the State of California Department of Conservation and the California Strategic Growth Council for providing and administering the funding, as detailed in the Background section. Several local agencies supported the project, especially the Local Agency Formation Commission (LAFCO) and Planning & Development Services. Staff from the Department of Agricultural Weights and Measures also contributed directly and indirectly.

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