January 2023

ALAMOSA EMPLOYEE-OWNED MUSHROOM FARM

FEASIBILITY STUDY

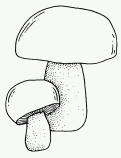
Prepared by:

Rocky Mountain
Employee Ownership Center

RMEOC
Rocky Mountain Employee Ownership Center

The mission of the Rocky Mountain Employee Ownership Center (RMEOC) is to build a more just and sustainable economy through employee ownership.

We believe that a just economy is one that works for everyone, that is built upon inclusive and sustainable systems, and that provides equitable opportunity to build wealth.



We thank the nearly 100 Alamosa's mushroom farm workers who gave their time and insights to complete a survey and participated in interviews and focus groups to inform this study.

We are energized by the hopes of the hundreds of farm workers who have given so much to their farm and their community over the years, and who are now resolutely hopeful that their farm might survive.

We thank the Gates Family Foundation and the AJL Foundation, whose generous financial support makes our outreach to Colorado's rural communities possible.

Feasibility Study Research Team

- Minsun Ji (Ph.D.), Executive Director, RMEOC
- Tony Robinson (Ph.D.), Associate Professor, CU Denver
- Erika Iacono, Research Associate, RMEOC

Contact

Rocky Mountain Employee Ownership Center
3000 Lawrence Street, #21
Denver, CO 80205
303-351-2003
https://www.rmeoc.org/
minsun@rmeoc.org

A LETTER FROM THE EXECUTIVE DIRECTOR

A few colleagues working in nonprofits recently approached RMEOC to talk about the situation facing mushroom farm workers in Alamosa. The Colorado Mushroom Farm (CMF) has long provided jobs for hundreds of farm workers and has been one of the largest employers in Alamosa, Colorado—a small rural town of about 10,000 people. Unfortunately, the mushroom farm had closed its doors in September 2022 due to high debt and loss of sales. A bankruptcy filing followed in December 2022.

Facing this crisis, conversations started percolating in the nonprofit community. An idea began to emerge: perhaps the failing CMF could be converted into an employee-owned business. As conversations became more serious, and state officials and larger funders voiced interest, RMEOC was requested to produce a feasibility study, examining whether there is a viable option for farm workers to take over the CMF and turn it into an employee-owned business.

Rocky Mountain Employee Ownership Center (RMEOC) promotes a more fair and just economy through employee ownership. Since its founding in 2012, RMEOC has worked on cooperative conversion for existing companies and cooperative incubation for marginalized communities. Feasibility studies are one of the technical assistance programs that RMEOC provides, so were excited to take on this important task and hopeful that it might prove helpful to the Alamosa community.

This feasibility study could not have been accomplished without substantial support from government officials, community organizations, community foundations, and farm workers. First of all, my sincere thanks go to the farm workers who met me for in-depth interviews and showed up at a community meeting during my Alamosa visit. A former head mushroom grower, Esteban Francisco, led an informative company tour for me. A social worker, Mattias Francisco from the San Luis Valley Area Health Education Center (SLV AHEC), spent many hours with me, arranging interviews and interpreting since many workers speak the Mayan Guatemalan language, Q'anjob'al.

Colorado Employee Ownership Office leaders such as Nikki Maloney and Matt Licina introduced us to meet many stakeholders. The Gates Family Foundation provided RMEOC with a grant to support various rural Colorado projects. The AJL Foundation Co-Executive Directors, Kristi Petrie and Alece Montez, introduced me to many community stakeholders in the SLV and invited many other CO foundation leaders to join in, such as Philanthropy Colorado's Amy Swiatek. The Executive Director of the San Luis Valley Community Foundation, Mike Roque, provided me with free housing while visiting Alamosa for various interviews.

Alamosa community organizations were critical in organizing various meetings with workers and helping to collect surveys from mushroom farm workers. Flora Archuleta and Angelica Raya, at the San Luis Valley Immigrant Resource Center (SLVIRC), Lisa Lucero and Mattias Francisco at the San Luis Valley Area Health Education Center (SLV AHEC), and Zoila Gomez at Project Protect Food Systems, were important community partners. Ronni Wisdom (Alamosa County Commissioner), Sarah Stoeber (Deputy Director of San Luis Valley Development Resources Group), Tom Lipetzky (Colorado Department of Agriculture) and Kent Curtis (First Southwest Bank) were important government and financial officers who helped deepen my knowledge about the situation with CMF, Michael Brownrigg and Natalie Edwards (leaders with the innovative Apis and Heritage private equity firm that converts companies into ESOPs) participated in several meetings with me help assess the situation of the farm.

Lastly, my sincere thanks go to our research team members, Dr. Tony Robinson in the Political Science Department at the University of Colorado Denver and Erika Iacono, Research Associate at RMEOC. Thanks to their tireless efforts, this feasibility study could be completed in a timely manner.

My hope is that this feasibility study helps community stakeholders and farm workers to better understand the situation of the mushroom farm and come up with a solution that can improve the life of farm workers and Alamosa's economy. The unfortunate closure of the Colorado Mushroom Farm provides us with an opportunity to imagine how an employee-owned mushroom farm in Alamosa, Colorado can be an important economic development strategy. This Alamosa opportunity may serve as an inspiration for all farm workers in Alamosa and other rural communities across America.

In gratitude.

Minsun Ji
Executive Director
RMEOC

ALAMOSA EMPLOYEE-OWNED MUSHROOM FARM

FEASIBILITY STUDY

EXECUTIVE SUMMARY

When the 40-year-old Colorado Mushroom Farm (CMF) in Alamosa closed its doors and declared bankruptcy at the end of 2022, the Rocky Mountain Employee Ownership Center was asked to complete a feasibility study evaluating the possibly of converting the failed farm into employee ownership. This feasibility study finds that employee-owned conversion is operationally, technologically, and financially feasible. Conditions to support feasibility include sale of the farm to a worker cooperative, installation of "Dutch" growing system equipment, and the ability to access approximately $10-$12 million in financing for farm purchase, facilities remediation, and startup capital.

CMF: BACKGROUND

The CMF operated for about 40 years before 2022 bankruptcy. The Alamosa community is well aware of the many community benefits of the farm. The farm provided hundreds of jobs, catalyzed regional economic activity, paid state and local taxes, and contributed to the well-being of immigrant farm workers.

The farm's failure was fostered by several interrelated factors: outdated equipment, a Pandemic-related sales decline, scarce labor in the Pandemic, poor management leading to persistent legal troubles, and excessively high debt.

The failure of the farm left hundreds of workers in economic crisis. A worker survey revealed that many had long experience working at the farm and the strong majority of them wanted to come back--especially if the farm were a worker-owned enterprise.

INDUSTRY ANALYSIS

The mushroom industry is predicted to grow substantially due to changes in consumer tastes such as a growing number of vegans and eco-sensitive consumers. Industry constraints include high technology costs.

MARKET ANALYSIS

The top mushroom market (95% of sold mushrooms) is for button, cremini, and portobello, which are all grown by CMF. Mushrooms are prized for freshness and have a short shelf-life, so quick delivery is vital. There are no mushroom farm competitors within 500 miles of CMF, so it will have competitive advantages in delivery to a regional market within a 300-500 radius of Alamosa.

ORGANIZATIONAL FEASIBILITY

There are different employee-ownership models. An Employee Stock Ownership Plans (ESOPs) may not work well for a converted CMF, as it has no stock to issue. An immigrant worker community may also benefit more from options that define them as "owners" and not "employees." Under-documented persons can own and operate a business without submitting employment verification.

Worker ownership models include coops, which are proven to be economically resilient--often posting higher survival rates than traditionally-owned businesses. Surveyed CMF workers are excited about a worker owned cooperative possibility.

TECHNICAL FEASIBILITY

The current CMF growing facilities are older, but are adequate to relaunch operations. Some building & equipment upgrades will be necessary. Two key upgrades will be to install modern "Dutch" growing system technology and to remediate long-standing public drinking water supply problems

FINANCIAL FEASIBILITY

Several financial models demonstrate that an Alamosa worker coop mushroom farm is financially feasible. Financial models included here account for a full range of expenses, based on a review of past farm performance. Models assume several million must be spent to install Dutch growing equipment and to remediate some deteriorated farm conditions. Models also assume $4 million in start-up capital will be necessary to sustain farm operations through several months of early operations with no revenues at all.

Total investment to relaunch the farm will likely be $8-$15 million, with the amount determined by farm purchase price and the assumed price of sold mushrooms. Finance capital from social impact investors, and possibly from grants and government support, will be necessary.

With necessary financing, all models here predict substantial equity by years 4-5, available for business reserves or patronage dividends to worker-owners.

COMMUNITY RESPONSE TO CRISIS

The San Luis Valley is a resilient community, with a network available to help support a coop. The State of CO is a noted leader in the employee-ownership movement. Innovative funders are investing in the movement. Now is an opportune moment to launch a worker coop and provide a national model of how a community can come together to help lift up distressed workers and develop local economic power.

TABLE OF CONTENTS

Section 4. Alamosa-Based Mushroom Farm: Market Analysis

Section 5. Organizational Feasibility

Section 6. Technical Feasibility

Section 7. Financial Feasibility

Section 8. Alamosa Mushroom Farm: A Social Enterprise Solution for a Resilient Community

APPENDICES

FIGURES AND TABLES

FIGURES

TABLES

Appendix Materials

1

The Colorado Mushroom Farm: From Bankruptcy to Employee-Owned Business?

1.1 Overview

This report examines the feasibility of converting a bankrupt mushroom farm in Alamosa, CO into an employee-owned business. The Colorado Mushroom Farm (CMF) has operated in Alamosa for about 40 years, employing hundreds of workers and contributing to the local economy. Financial challenges led the farm to closure and declaration of bankruptcy in 2022, displacing hundreds of workers. In response, a variety of state agencies, philanthropic organizations, and financial institutions began discussing the possibility of transforming the farm into a re-launched employee-owned business. The Rocky Mountain Employee Ownership Center (RMEOC) was invited to help facilitate discussions around this possibility, and to create a feasibility study.

To help determine if a relaunch of an employee-owned Alamosa mushroom farm might be feasible, this report is broken down into the following sections.

- *CMF History.* What role does the CMF play in the Alamosa area and why did it fail?
- *Mushroom Industry Analysis.* Does the overall industry look to be growing, and are there opportunities for re-entry into the industry?
- *Regional Market Analysis.* What does the Rocky Mountain West mushroom market look like and is there room for an Alamosa-based mushroom farm to capture the requisite market share?
- *Operational, Technical, and Financial Feasibility Analysis.* Could an employee-owned mushroom farm have the organizational foundation, management prowess, technical prerequisites, and necessary cash flow to succeed?
- *Report Conclusions.* Can the San Luis Valley community offer the right coop-growth ecosystem to support an employee-owned mushroom farm?

1.2 The Colorado Mushroom Farm: Importance to Local Community

Fig. 1.1 Benefits of CO Mushroom Farm

The Colorado Mushroom Farm (CMF) was the only commercial mushroom company in Colorado, providing fresh mushrooms to regional locations like Denver and Albuquerque, and offering local residents a stable job for decades. The CMF became a dominant provider of fresh Agaricus mushrooms (common white mushrooms, cremini, and portobello) throughout the Rocky Mountain West, as the nearest mushroom farm competitor was in Utah (Fillmore), more than 500 miles away.

The CMF began as the Rakhra Mushroom Farm, established in 1981. After this initial farming effort closed down, the Colorado Mushroom Farm (CMF) was established in 1985, using the same land and facilities as the previous Rakhra Farm.

While mushrooms are assumed to grow best in damp and humid conditions–like Washington, Pennsylvania, or California–the CMF built climate-controlled indoor growing facilities to replicate optimal growing conditions. At its peak, the CMF harvested about 15 million pounds of mushrooms every year, making it the largest mushroom farm in the Rocky Mountains. Growing this many mushrooms is labor-intensive, CMF became one of the largest private employers in the Alamosa area, hiring 250-270 farm workers by the 2000s [1] and providing numerous benefits to the San Luis Valley.

[1] Colleen O'connor, "Alamosa mushroom farm's financial struggles trickle down to Maya employees," *The Denver Post,* May 2, 2016, https://www.denverpost.com/2012/04/14/alamosa-mushroom-farms-financial-struggles-trickle-down-to-maya-employees/; "Rakhra Mushroom Farm," *Food Chain Magazine,* accessed December 29, 2022, https://foodchainmagazine.com/news/rakhra-mushroom-farm/.

- *Hundreds of Stable Jobs.* CMF commonly employed over 250 persons in sparsely populated Alamosa county, which has about 10,000 jobs across the entire county. These 250 jobs would be the equivalent of providing 14,000 jobs in a more highly populated city like Denver.[2] Many of these jobs were full-time positions, in an area where about 25% of residents live in poverty,[3] and immigrant workers struggle to find stable employment.

- *Linkages to Other Local Economic Activity.* The economic activity at CMF has both "*backward*" and "*forward*" linkages with other local enterprises, meaning that additional jobs and economic activity throughout the San Luis Valley are fostered by the jobs and economic activity of the mushroom farm. Agricultural production at CMF depends upon the goods and services of suppliers from other enterprises (such as compost material suppliers or local tools suppliers) (i.e., *backward linkages*), while wages earned by CMF employees are spent in other economic sectors, such as by buying clothes and groceries (i.e., *forward linkages*). The Economic Policy Institute estimates that every 100 direct jobs in the agricultural sector support 228 additional jobs through backward and forward linkages. This means that a loss of 250 direct agricultural jobs at CMF would entail a negative impact on 570 additional indirect jobs, many of them local.[4]

- *Local Recirculation of Wages.* Another way to measure the broader economic impact of CMF activity is by considering the "Local Multiplier Effect," which measures the number of times local dollars (such as earned wages) recirculate within a local economy before leaving through purchases of "outside" goods or services. Though difficult to precisely measure, one Agricultural Economics professor (Terry Crawford) estimates the Local Income Multiplier Effect at about 1.4,[5] meaning each $1.00 in local wages would generate a final local economic impact of $1.40, due to recirculation of those wages in the local economy. The CMF typically paid just over $3 million in local wages each year, which would equate to approximately $4.4 million in annual local economic impact from wage re-circulation every year.

---

[2] Lauren Krizansky, "Mushroom Farm Back in Business," *Valley Coiurier,* October 28, 2014, https://www.slvdrg.org/wp-content/uploads/2017/05/Mushroom-farm-back-in-business-Valley-Courier.pdf

[3] "Alamosa, Colorado Population 2022," *World Population Review,* accessed December 15, 2022, https://worldpopulationreview.com/us-cities/alamosa-co-population; "Alamosa, CO," *Data USA,* accessed December 15, 2022, https://datausa.io/profile/geo/alamosa-co/; Yossarian and Capital Partners, "San Luis Valley Opportunity Zone Prospectus," *San Luis Valley Development Prospectus Group,* April, 2019, https://www.slvdrg.org/wp-content/uploads/2019/05/San-Luis-Valley-Opportunity-Zone-Prospectus_FINAL.pdf.

[4] Josh Bives, "Updated employment multipliers for the U.S. economy," *Economic Policy Institute,* January 23, 2019, https://www.epi.org/publication/updated-employment-multipliers-for-the-u-s-economy/ ; see also Enrico Moretti, "Local Multipliers," *American Economic Review: Papers & Proceedings* 100 (May 2010): 1–7, https://eml.berkeley.edu/~moretti/multipliers.pdf.

[5] Terry Crawford, "Income Multipliers in Economic Impact Analysis," *College of Agricultural, Consumer and Environmental Sciences, New Mexico State University,* last modified July, 2011, https://pubs.nmsu.edu/_z/Z108/index.html

Colorado Mushroom Farm: Annual Direct Wages & Indirect Local Recirculation of Wages		
	Direct Wages (Growing, Picking, Packing, Shipping, Sales, Maintenance, etc.)	Local Multiplier Effect from Recirculated Wages
2019	$3,155,754	$4,418,056
2020	$2,792,732	$3,909,825
2021	$3,171,552	$4,440,173

Table 1.1 CMF Annual Direct Wages

Source: CMF Compiled Annual Financial Statements (2019-2021)

- *Enhanced Government Resources.* When stable and flourishing, the CMF paid sizable property and business income taxes to local, state, and federal governments. In the 2019-2021 period, for example, CMF paid average annual state and local property taxes of $82,793.

- *Mayan Immigrant Farm Workers' Well-Being.* CMF provided an opportunity for Mayan immigrants to settle and thrive in Alamosa. These indigenous Mayans came to Alamosa to avoid long civil wars and economic strife in their home country and came to work for the mushroom farm. Over 400 Mayans settled in Alamosa in the late 1980s. Since then, waves of immigrant farmers (mostly from Guatemala) have worked for CMF as growers, pickers, and supervisors—some of them have worked at the farm for more than a decade. Having a stable job with CMF helped the Mayan community in Alamosa to provide for their families, while maintaining their community's culture by living and working together in one place. As over 90% of all Mayan immigrants in the San Luis Valley have had an experience of working for CMF, the well-being and integrity of the Mayan community were substantially impacted by the mushroom farm.

1.3. Closure of the Colorado Mushroom Farm & Community Response

The Colorado Mushroom Farm was forced into closure in September 2022, with a subsequent bankruptcy filing in December 2022. The farm had been facing challenges of outdated equipment and frequent breakdowns for years before 2020, but the COVID pandemic beginning in 2020 was the precipitating event that pushed CMF into financial collapse. The majority of CMF mushroom sales went to restaurants across the Rocky Mountains, and when COVID lockdowns hit in the spring of 2020, most of those sales collapsed.[6] The chronic challenge of outdated equipment and declining sales suddenly blossomed into an acute crisis.

[6] Don Clair (controller), interview by Minsun Ji, Colorado Mushroom Farm, December 4, 2022.

"Equipment Breakdowns affected production, but only for a 10% reduction in production; but COVID brought production down to zero."
Don Clair
Controller, CO Mushroom Farm

The closure of CMF had an immediate, negative impact on the broader community. Workers were not able to pay for housing, gasoline, food, and all other necessary expenses to survive. Leaders in local government and Colorado's philanthropic sector grew concerned with the loss of so many jobs in the already lower-income San Luis Valley. Some financial institutions expressed interest in perhaps supporting such an initiative. In the late fall of 2022, discussions emerged over whether this failed farm could be converted into an employee-owned business and relaunched, joining the growing employee ownership movement in Colorado and elsewhere.

The Rocky Mountain Employee Ownership Center (RMEOC) was brought in amidst the community crisis to provide a feasibility study to inform this growing discussion. RMEOC was asked by a variety of local stakeholders to evaluate whether there might be worker interest and financial/technical/operational possibility to relaunch the farm as an employee-owned business. If possible, such a conversion would save hundreds of local jobs while showcasing a model of how employee ownership might offer a realistic path to high-quality, sustainable jobs and long-term wealth building for worker-owners.

1.4 Alamosa Worker-Owned Mushroom Farm: The Feasibility Study

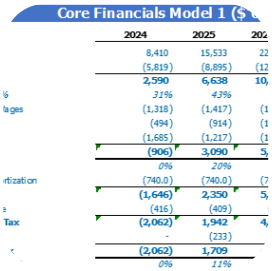
RMEOC has conducted a feasibility study to examine the possibility of converting the bankrupt CMF into an employee-owned mushroom farm in Alamosa, Colorado. This feasibility study is based on multiple data sources, including:

- Market research into the recent and projected dynamics shaping the national mushroom industry and the regional market for fresh Agaricus mushrooms.
- A review of legal filings, financial statements, and limited tax returns provided by the now-bankrupt Colorado Mushroom Farm and its owner, Mr. Baljit Nanda.
- Consultation with key sources, including the CMF owner, the CMF controller, Alamosa non-profit leaders, government and foundation officials, and stakeholders in the financial industry interested in supporting a relaunch of the farm as a worker coop.
- An in-person visit to the Alamosa mushroom farm, including a survey of 82 mushroom farm workers, a focus group discussion with 60 workers, and interviews with 8 workers.

Key Report Highlights

A detailed history of the failed Colorado Mushroom Farm, including analysis of why the farm fell into bankruptcy.

Examination of external and internal factors influencing possible success of a relaunched mushroom farm. External factors are evaluated through an *industry analysis* of nation-wide dynamics shaping the mushroom industry, including projections of future growth. Other external factors are evaluated through a regional *market analysis*, including evaluation of local market demand, consumer trends, and possible competitors. Internal factors are evaluated through an analysis of the operational and technical feasibility of launching and sustaining a worker-owned mushroom farm.


Core Financials Model 1 ($

	2024	2025	202
	8,410	15,533	22
	(5,819)	(8,895)	(12
	2,590	6,638	10,
	31%	43%	
	(1,318)	(1,417)	(1
	(494)	(914)	(1
	(1,685)	(1,217)	(1
	(906)	3,090	5,
	0%	20%	
	(740.0)	(740.0)	(7
	(1,646)	2,350	5,
	(416)	(409)	
Tax	(2,062)	1,942	4,
	-	(233)	
	(2,062)	1,709	
	0%	11%	

The presentation of several financial models projecting the likely success of a relaunched mushroom farm, based on differing assumptions (such as various sales prices of mushrooms). These financial models take into account a full range of typical expenses of a mushroom farm, assume slow growth towards to maximum harvests, and include factors such as maintenance costs, depreciation, taxes, legal costs, and inflation.

Presentation of conclusions. The most important of these conclusions are that industry and market conditions are favorable to a regional mushroom farm, such that a worker-owned mushroom farm in Alamosa is indeed feasible, under certain important conditions detailed in this study.

Key Conditions for Coop Mushroom Farm Success

Farm Purchase from Current Owner

This study is based on assumptions that the existing land, facilities and equipment can be purchased from its owner. Financial models project several possible price points. One model projects a price point of $5.5 million, reflecting the estimated value of the current fixed assets of the now-shuttered farm. One model projects a low purchase price of $2.5 million, reflecting the fact that the farm is out of operation, has no cash flow, and has lost all market share. Facilities will need work to restore to operating status. There are public health problems with the drinking water supply that must be remediated. A high price point of $9 million reflects an appraised farm value in 2018.

Facilities Rehabilitation + Drinking Water Remediation

Substantial start-up funds will be spent to refurbish some of the existing growing facilities that are now shuttered, and to remediate long-standing public health problems with CMF drinking water supply. Existing farm equipment has suffered many breakdowns and the farm is under a Colorado health authority order to remedy its dangerous water conditions. The financial models project $1.5 million for initial rehabilitation costs.

Dutch Growing System Installed

Advanced, state-of-the-art mushroom growing equipment (i.e., "The Dutch growing system") will be installed to improve growing efficiency and increase yields at harvest. This equipment was previously purchased by CMF, but is not yet fully delivered or installed. The financial models project an additional $2 million to finish installation of this equipment.

Skilled and Interested Labor Pool

Alamosa has a sizable community of experienced mushroom farmers. Many of them worked at the Colorado Mushroom Farm for a decade or more. In surveys and focus groups, these workers have expressed a strong desire to return to mushroom farming and a serious interest in pursuing the idea of worker ownership of the farm.

Working Capital	Beyond costs to purchase the farm, remediate facilities, and install the Dutch Growing Sytem, approximately $4 million will be needed in working capital to sustain the farm in its early operations, especially in its first months when no harvest revenues at all are available.
Grants and Government Support	A mixture of philanthropic grants and government support of at least $2 million may provide working capital and reduce the initial debt burden required to relaunch the farm. The more philanthropic support that can be gathered, the lower the business debt will be, and the better the chance of success. Financial models show that a relaunched farm can succeed as an employee-owned business even without any grant support. But the initial debt load and subsequent company challenges will be much greater if the farm labors under a heavier debt load to improve harvests and grow market share.
Professional Management and Growers	Experienced head growers and other key farm administrators (such as a director of sales, a financial controller, a head of maintenance, etc.) will be hired at competitive salaries, so the farm is professionally managed from the start. Financial models project 14 separate managerial staff to direct departments.
Mushroom Prices	Mushroom prices will be at least $1.70 a pound over the five-year modeled period. If mushroom prices drop much below this level, especially in early years of low production levels, additional financing or grant support would likely be necessary to sustain the company as it moves towards full capacity harvests.
A Coop Support Eco-System	A robust and growing coop-support eco-system is available nationally, state-wide, and locally to support farm success. This eco-system includes social impact funders, government agencies and programs dedicated to growing employee ownership, and non-profit partners committed to worker empowerment and expanding innovative small businesses.

2

History and Current Situation: The Colorado Mushroom Farm & Farm Workers

2.1 A Short History from Start to Closure: CO Mushroom Farm, LLC

According to a U.S. District Court filing, Alamosa's Colorado Mushroom Farm, LLC (also under the name Rakhra Mushroom Farm) went out of business on September 7, 2022.[1] The farm subsequently filed for bankruptcy (Chapter 11) on December 20, 2022.[2] The Colorado Mushroom Farm has been one of the top producers of Agaricus mushrooms in the Rocky Mountain West for over forty years, but is currently shuttered and hundreds of former workers have lost their jobs.

The Colorado Mushroom farm (CMF) started in 1981, but quickly fell into the hands of creditors after experiencing multi-million dollar losses.[3] In 1984, Baljit Nanda purchased the farm, together with a group of associates with expertise in agricultural, structural, heating, and cooling engineering.[4] This team improved operations and dramatically grew sales in the region.

- Considering the highly controlled environment necessary for mushroom production, the group of engineers redesigned the indoor growing facility and series of tunnels and bunkers to grow mushrooms while controlling Colorado's climate, which is not ideal for mushroom cultivation. The indoor, climate-controlled conditions allowed CMF to create the kind of hot, humid, dark conditions favorable to robust mushroom growth.[5]

- As the only commercial mushroom facility in the area,[6] the farm sold almost all of its produce within a 500-mile radius: 40% of its mushrooms were sold to grocery stores, 40% to food distributors, and 20% to small produce companies.[7]

- The new engineering of tunnels and bunkers for growing compost led to a major boost of production in 2004, and by 2008 the farm achieved a high productivity

[1] Owen Woods, "Colorado Mushroom Farm goes out of business," *Alamosa Citizen,* last modified September 29, 2022, https://www.alamosacitizen.com/colorado-mushroom-farm-goes-out-business/.
[2] Colorado Mushroom Farm, LLC, Case:22-14958-MER, 2022, Colorado Bankruptcy Court.
[3] Food Chain Magazine, "Rakhra Mushroom Farm."
[4] Food Chain Magazine, "Rakhra Mushroom Farm."
[5] Food Chain Magazine, "Rakhra Mushroom Farm"; Baljit Nanda, interview by Minsun Ji, November 14, 2022.
[6] The closest large mushroom farm growing Agaricus mushrooms is Mountain View Mushrooms in Fillmore, Utah, more than 500 miles away.
[7] Food Chain Magazine, "Rakhra Mushroom Farm."

rate of six pounds of mushrooms per square foot (per harvest), producing 15 million pounds of mushrooms annually.[8]

However, the company was in turmoil among nine owners with differing visions, causing one of the owners, Baljit Nanda, to leave the company in 2009. Continued conflicts among multiple owners and related mismanagement of the company led to bankruptcy in 2013, displacing 270 employees.[9]

One of the previous owners, Nanda, returned to purchase the struggling farm again in 2014 after getting various loans, including a CDBG loan of $1 million from the San Luis Valley Development Resources Group (DRG). In 2016, Nanda also used Colorado's State Small Business Credit Initiative Cash Collateral Support program to secure $1 million in private financing and managed to rehire 140 workers by 2016.[10] Many workers describe this period as the most stable time in their company's history as more workers came back to pick mushrooms and the company seemed headed for a more prosperous future.

Unfortunately, by 2020, the farm was consistently experiencing negative cash flows and was unable to keep up with its debt payments. In October 2020, the IRS placed an $824,518 federal lien against the farm for failure to pay taxes in 2017 and 2018.[11] Throughout 2021-2022 multiple legal actions were filed against the farm for breach of contract for not paying its debts. Bleeding cash and facing mounting legal actions, the farm's owner shuttered operations in September 2022, and declared bankruptcy in December 2022.

2.2. CMF: Why Did it Fail?

Though the Colorado Mushroom Farm in Alamosa operated in often successful conditions for about forty years, several challenges came in together between 2018-2022 that led to the current closure and bankruptcy of the farm. The interrelated challenges below are elaborated on in the pages that follow.

[8] Food Chain Magazine, "Rakhra Mushroom Farm."
[9] "Colorado Mushroom Farm," *CHFA,* last modified 2017, https://www.chfainfo.com/about-chfa/customer-partner-stories/colorado-mushroom-farm#
[10] CHFA, "Colorado Mushroom Farm."
[11] Morning AgClips, "USDA grant."

- *Outdated Technology.* Starting in 2018, CMF began to experience a substantial rise in equipment breakdowns which caused declining mushroom production and sales. CMF had been operating for almost forty years, and much of the equipment was old and frangible. Declining yields due to this outdated equipment made it challenging to keep up with competitors and maximize market share in the Rocky Mountain Region.

Old Wooden Grow Racks at CMF

CMF was facing the reality that state-of-the-art mushroom growing technology (often referred to as the "Dutch growing system") is increasingly necessary for a mushroom farm to keep up with market competition. Modern, computerized, and automated equipment facilitates the preparation of compost, mushroom growing, and mushroom harvesting. This modern equipment saves money on energy and labor costs. It also facilitates higher yields by packing more growing space into vertically stacked long rows of aluminum growing beds and by allowing computerized management of the environmental conditions in which the mushrooms are growing.

Facing continuous breakdown of old equipment and anemic yields in their old growing racks, CMF refinanced its debt in 2018 and acquired over $8 million dollars in new loans from Rabo Bank, a Dutch multinational financial company. This new capital was meant to support an upgrade in farm technology, by allowing the purchase and installation of a state-of-the-art "Dutch growing system," resulting in substantial improvements in labor and energy costs to grow the mushrooms, together with higher yields per square foot of growing space.

However, after the new equipment was engineered to match CMF facilities, shipment of some of the new equipment from Europe was halted in March 2020, when the COVID pandemic hit. Only a small part of the equipment was shipped to Alamosa before the COVID lockdowns, and engineers could not arrive to help install the equipment due to travel bans. Therefore, the Dutch growing system was never installed as intended.

The result was that debt to acquire new growing equipment was taken on, but the revenue benefits from installing and utilizing the equipment never materialized. CMF's monthly cash flow throughout 2020 and beyond went into the red.

- *Pandemic-Related Sudden Decline in Mushroom Sales.* The COVID-19 pandemic severely affected the finances of the farm, partly due to restaurant closures.[12] Nationwide, over 22 million people lost their job from January to April 2020, with April 2020 marking the highest number of job losses (20.8 million) with the onset of the COVID pandemic. In Colorado, "8,659 businesses dissolved in the second quarter of 2020 alone,"[13] according to a report by the CO Secretary of State. Restaurants were particularly hard hit by the lockdowns. According to the National Restaurant Association, 17% of all US restaurants (about 100,000 restaurants) closed permanently in 2020.[14] In Colorado, over 40 restaurants closed down during March.

  As CMF relied on selling 70% of their mushrooms to restaurants, the sudden closure of restaurants during the onset of the COVID pandemic was very detrimental. Sold crops declined from 135,000 pounds of mushrooms per week to just 39,000 pounds of mushrooms a week. Consequently, the farm didn't achieve its production goal of 52 batches of crops per year, producing only 20 butches in 2020.[15] Though the farm tried to keep all their employees on staff, a persistent decline of sales by about 60% dropped the farm below the break-even point, incurring substantial cash-flow deficits.

- *An Inadequate Labor Force.* The mushroom industry nationwide has experienced a recent labor shortage that has made it difficult to harvest all mushrooms before spoilage. Because mushrooms are susceptible to bruising, they have to be hand-picked in tight time windows, which requires intensive labor processes. Recruiting and retaining these workers can be challenging, partly because U.S. immigration policy has made it very difficult to secure work-related visas for adequate mushroom growers and pickers who are needed year-round. Even before the pandemic and continuing today, the lack of adequate mushroom growers and pickers has been identified as the greatest challenge that the US mushroom industry has experienced in recent years.[16]

---

[12] Zack Newman and Jeremy Jojola, "At least 161 tax delinquent businesses, individuals got PPP loans in Colorado," *9News,* November 16, 2021, https://www.9news.com/article/news/investigations/ppp-loans-colorado-tax-delinquents/73-97c62384-6392-458a-bd1d-5152226458d6

[13] "Secretary of State Business Filings Q2 2020 Data Analysis Summary," *Colorado Secretary of State,* last modified 2020, https://www.sos.state.co.us/pubs/business/quarterlyReports/2020/2020-Q2SOSIndicatorsReport.pdf

[14] Avery Hartmans, "Roughly 17% of US restaurants have permanently shut down since the start of the pandemic as industry leaders warn of an 'unprecedented economic decline'," *Insider,* December 7, 2022, https://www.businessinsider.com/thousands-us-restaurants-closed-coronavirus-pandemic-2020-12

[15] Baljit Nanda, interview with Minsun Ji, December 5, 2022.

[16] "USDA grant supports …," *Morning AgClips,* September 30, 2021, https://www.morningagclips.com/usda-grant-supports-penn-state-research-on-mushroom-industry-automation/

The challenges of inadequate labor at CMF were exacerbated by the pandemic, which made some workers ill and caused others to leave work due to health concerns. Scarce labor undermined the capacity of the Alamosa mushroom farm to harvest all the mushrooms it might have been able to sell in its regional market, which hurt cash flow. In order to save 200 farm jobs even while facing declining sales, CMF secured two loans of $1.7 million, including a Paycheck Protection Program loan offered by the federal government to help businesses keep their workers on the payroll.[17] Unfortunately, workers were hard to get during the pandemic. Between 2020 and 2021, two COVID-19 outbreaks inside CMF facility affected 33 workers and even more workers hesitated to come back to work as they were afraid of catching the virus. Even with incentives that the company tried to provide local workers for picking mushrooms, local residents were also hesitant to work at CMF.

In March 2022, the number of CMF workers (which once reached over 200) declined to just 70-80 workers, which was less than 50% of the farm's capacity, making it impossible for CMF to harvest all the mushrooms it could grow. Only twenty-something workers remained at CMF by the summer of 2022, and the farm completely shut down in early September 2022.

- *Lack of Consistent, Professional Management, resulting in Persistent Legal, Financial, and Public Health Disputes.* CMF was managed professionally enough to profitably grow mushrooms for several years, but it lacked the consistent professional management necessary to survive recent challenges. Problems included:

    - An off-site general manager who did not live in Alamosa.

    - Missed opportunities such as not converting to the Dutch growing system after the 2014 bankruptcy, leading to declining sales and market share after 2018.

    - Persistent legal and financial disputes with industry suppliers, employees, tax authorities, the USDA, and the Colorado Department of Public Health and Environment (CDPHE).

Regarding persistent legal disputes, in the years preceding bankruptcy, the farm experienced disputes with the USDA due to the non-submittal of required annual fees and production reports. Several industry suppliers filed suits for breach of contract and non-payment of services. Several workers filed disputes over worker compensation issues. CMF also experienced ongoing legal actions by the Colorado Department of Public Health and Environment (CDPHE) in the 2018-2022 period, who

[17] Morning AgClips, "USDA grant."

found that CMF had been operating an unsafe public water drinking system since at least 2011. Though CMF faced several enforcement orders to remedy the problem, the CDPHE demonstrated that CMF did not comply with these orders, did not monitor its drinking water for safety issues, and refused to "submit the data, plans, reports, or information to the Department required by the 2020 enforcement order."[18]

These dynamics suggest an ongoing problem with professional management and leadership in the organization that likely contributed to farm failure.

- *High Liabilities Burden.* In their December 2022 bankruptcy filing, CMF lists total liabilities of $20.5 million dollars. These debts and other obligations include:

  - Unpaid state and federal taxes: $1.3 million
  - Two secured loans: $8 million
  - Multiple unsecured creditors (89 total): $11.2 million

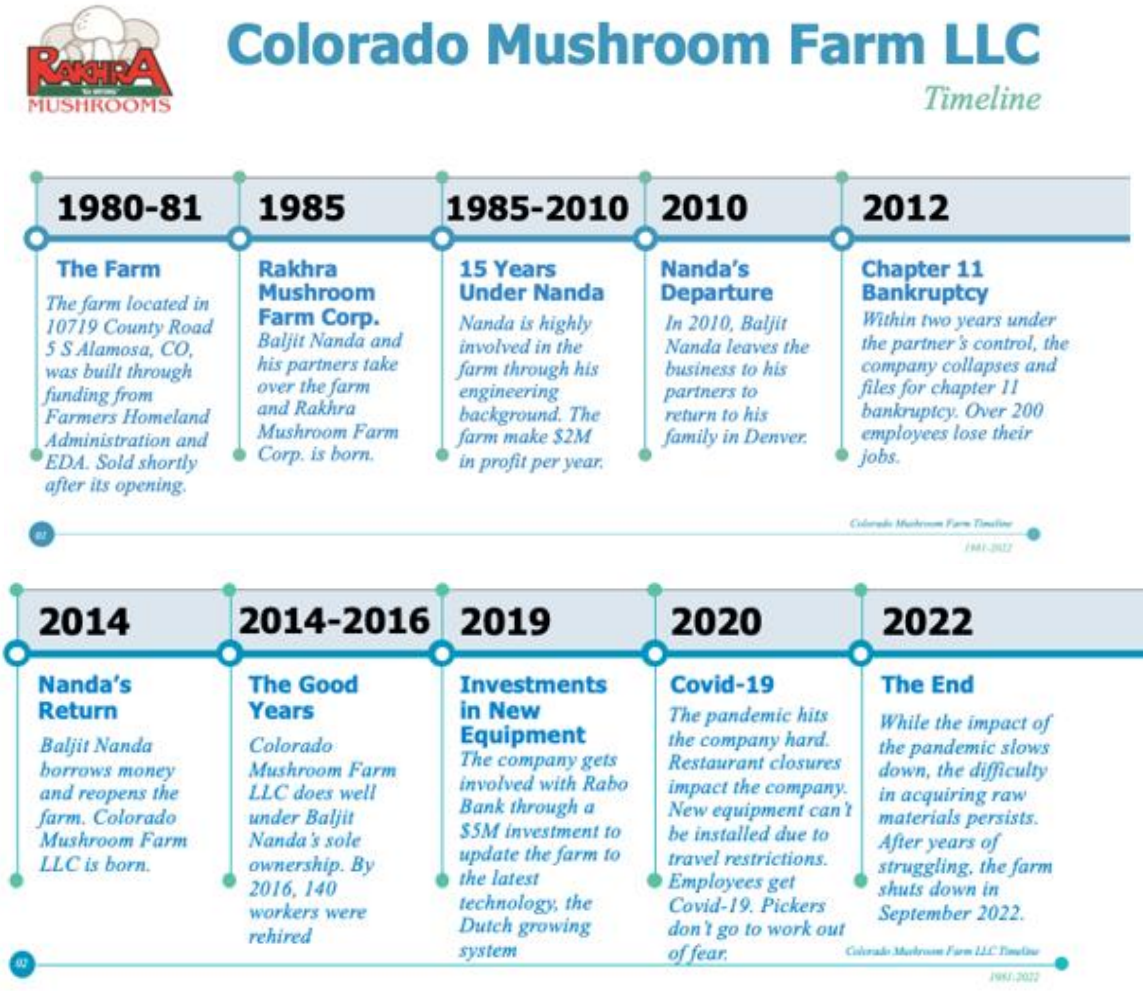
  The unsecured creditors include a long list of trade vendors, farm suppliers, equipment providers, and financial/legal service providers. The largest unsecured creditor is Rabo Agro-Finance which provided CMF with a line of credit on which $7.8 million is owed. Much of this line of credit was used to purchase new "Dutch growing system" technology which has not yet been fully delivered or installed.[19] In addition to these unsecured debts and obligations, CMF has an $8 million secured debt (a non-purchase money security) owed to Plexus Capital.

  With cash flow problems exacerbated by outdated equipment, pandemic-related sales declines, and an inadequate labor force, CMF was unable to meet these substantial liability obligations over the last few years, leading to a liquidity crisis and bankruptcy filing at year's-end 2022. Although CMF is now bankrupt and has a long list of creditors owed more than $20 million, the farm reports assets of only $500,000 with which to pay its obligations. These assets are two pieces of farm equipment (a bunker filler and a composting line (together worth $500,000 if liquidated) and an older automobile worth just $2,500. All other land, buildings, and equipment associated with CMF (LLC) are not owned by the farm itself but are leased from a separate LLC (A&M Capital Management). This separate LLC is primarily owned by the same person who owns CMF (Mr. Baljit Nanda), but its substantial assets (the buildings and farm equipment leased by CMF) are protected from current bankruptcy proceedings.

[18] Colorado Dept. of Public Health and Environment v. Colorado Mushroom Farm, LLC (Case No. 2020V30039.
[19] The pandemic prevented full delivery of equipment from Europe and forestalled the manufacturer from traveling from the Netherlands to Colorado to set up the new equipment

Key Takeaway: *CMF failed due to interrelated factors. Outdated and rundown equipment was increasingly breaking down. Substantial new debt taken on to acquire "Dutch growing system" technology exacerbated the farm's dire financial situation when pandemic lockdowns prevented delivery and installation of this equipment. Other pandemic-related problems were the sudden decline in mushroom sales through much of 2020 and the difficulties of maintaining an adequate labor force in the face of illness and workers' health-related decisions to avoid the farm. The farm's growing record of legal disputes with industry partners and government officials, together with non-responsiveness to drinking water health concerns, suggest management and leadership failures. Together with the farm's very high debt burdens, and history of unpaid taxes and other obligations, these factors led to financial collapse in 2022.*

Fig. 2.1 Colorado Mushroom Farm Timeline



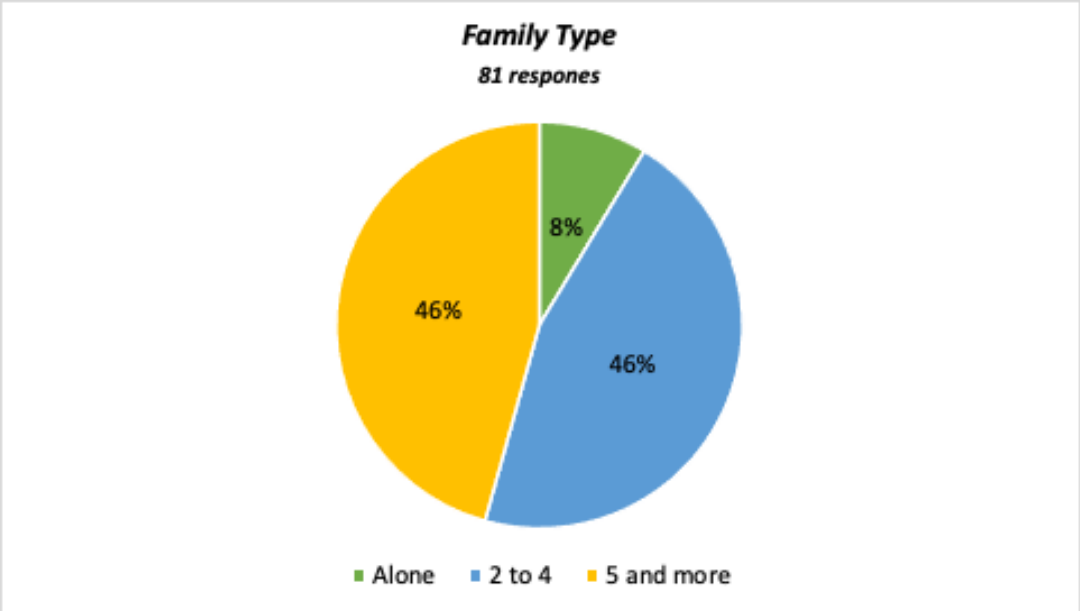
2.3 Mushroom Farm Workers

2.3.1 Farm Worker Demographics

About 90% of farm workers who worked at CMF at the time of its closing were Guatemalan immigrants who are descendants of Mayan and speak Mayan Indian language (Q'anjob'al). The first immigrants from Guatemala came to Alamosa in 1987,[20] in order to avoid long years of civil war that destroyed Mayan communities. After first settling in the 1980s, more Guatemalans began to settle in the San Luis Valley, and currently, there are about 400-500 Guatemalans living in Alamosa.[21] Approximately 80-90% of all Mayan immigrants in the Alamosa area have experience working at CMF (either for short stints or long periods).[22]

To better understand the demographics of these workers, and their working conditions at the Alamosa Mushroom Farm (CMF), RMEOC conducted an in-person survey of 82 mushroom farm workers in December of 2022. The majority of those surveyed had children, and 46% percent of surveyed farm workers had a large family of five or more members. Also, 80% of people surveyed were Guatemalan immigrants without U.S. citizenship, which shows that a high percentage of farm workers at CMF were immigrants who have not yet naturalized.

Fig. 2.2. CMF Farm Workers: Family Type



[20] An interview with Matias Francisco-Matias, Dec. 5, 2022.
[21] Sarah Tory, "Estranged in America," *The Colorado Independent,* September 9, 2018, https://www.coloradoindependent.com/2018/09/09/colorado-immigration-daca-trump/
[22] An interview with Matias Francisco-Matias. Dec. 5, 2022.

Fig. 2.3 CMF Farm Workers: Children's Age

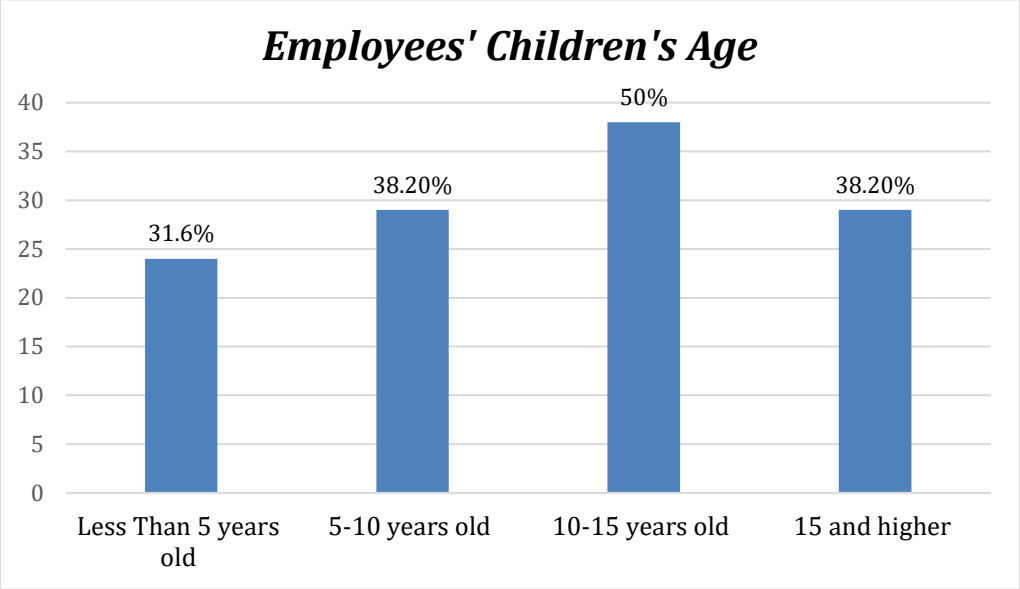
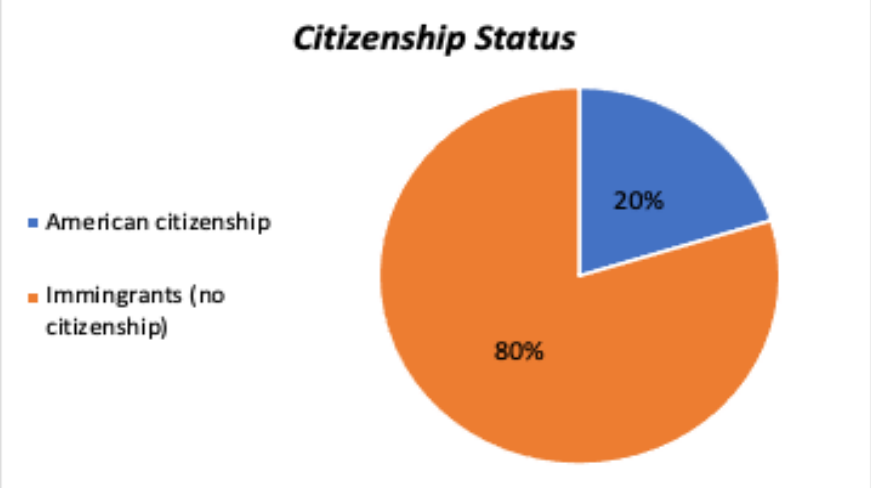


Fig. 2.4 CMF Farm Workers: Citizenship Status



These immigrant workers have long relied upon the Colorado Mushroom Farm to help them provide for their children and families. The RMEOC survey showed that 54% of all Guatemalan mushroom farmers in Alamosa have worked for CMF for more than 10 years. Of the remaining workers, 16% worked at the farm for 1-3 years, 27% worked for 3-10 years, and just 2.5% worked there for less than a year. Surveyed workers were evenly distributed among different age groups, showing that young and old alike worked for the farm.

Fig. 2.5 CMF Farm Workers: Years Working at Farm

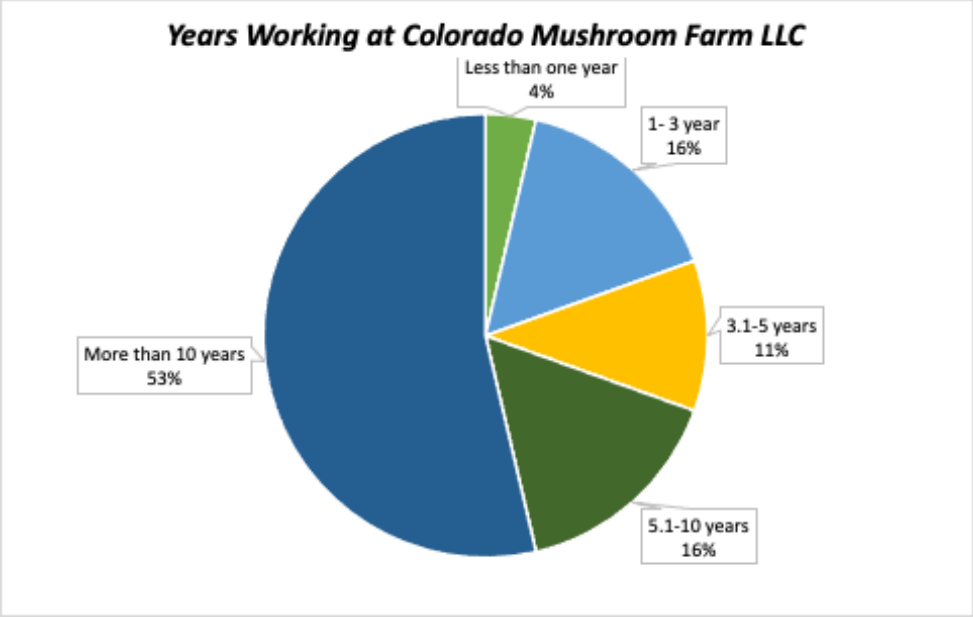
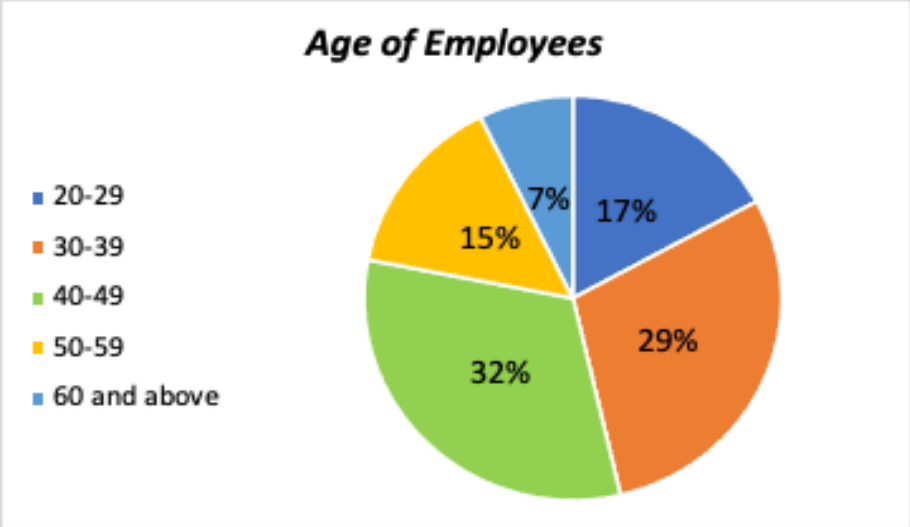


Fig. 2.6 CMF Farm Workers: Age of Employees



Key Takeaway. *Over long years, Guatemalan mushroom farm workers became critical in sustaining the CMF, as well as contributing substantially to the San Luis Valley economy through their paid labor. Over decades of farming, these workers have demonstrated the commitment and unique skill set necessary to keep a mushroom farm in operation—and they have come to rely on this farm-work to meet the needs of their local families.*

2.3.2 Wages and Work Hours of Farm Workers

Though many long-time immigrant workers at CMF have worked in various farming departments over the years, becoming highly knowledgeable about the diverse operations of mushroom farming, most immigrants worked as pickers, harvesting the crops that are constantly coming into maturity. When CMF was at full capacity, it had a capacity to grow 300,000 pounds of mushrooms every week, which would require 140-150 pickers to harvest.[23] These mushroom pickers would pick 70-90 pounds of mushrooms every hour.[24] The harvesting pace at CMF was demanding and work-shifts were long. For example, the RMEOC survey showed that about 60% of CMF workers in recent years averaged 30-50 hours every week, with another 24% typically working more than 50 hours a week. All told, 84% of all CMF workers were typically working 40 or more hours every week. By the time farm workers finished a grueling shift (sometimes lasting 10-12 hours) the majority of workers would have filled 100-150 boxes of mushrooms.[25]

Maintaining this harvesting pace over long hours is physically demanding, which explains why immigrant workers, eager for jobs and unable to secure better employment, became a big part of CMF workforce. According to the past operation manager (Ravi Singh), most non-immigrant residents of the area were simply not willing to take on mushroom-picking work. "Local people don't want the job," Ravi reports. "Guatemalans were the only ones who wanted to do it."[26]

The wages for this demanding labor have never been high. Back in 1986, mushroom pickers used to get paid "only 36 cents a box. That amounts to 12 cents a pound for the 3-pound boxes."[27] Under the traditional per-box/per-pound payment system, pickers would often end up earning less than minimum wage. For example, in the RMEOC survey, about 50% of workers reported earning just $1000-$2000 a month when the farm closed in 2022, while 17% earned less than $1000 a month. Another 25.6% earned $2000-$3000 a month. Assuming the respondents who worked over 50 hours a week (23.5% of respondents) were the same ones earning the highest income of $2000-$3000 a month (25.6% of respondents), the result is *an hourly wage of about $11.00 an hour for a 55-hour workweek*. For those working about 40 hours a week (60% of respondents), *monthly earnings decline to about $1500, or $9.00 an hour*.

[23] Esteban Lucas, interview by Minsun Ji, December 2, 2022.
[24] Farm Worker, interview by Minsun Ji, December 3, 2022.
[25] Farm Worker, December 3, 2022.
[26] Ravi Singh, interview by Minsun Ji, December 18, 2022.
[27] Erin Smith, "Alamosa mushroom workers seeking respect," *The Pueblo Chieftain,* last modified February 9, 2005, https://www.chieftain.com/story/news/2005/02/10/alamosa-mushroom-workers-seeking-respect/8567716007/.

Fig. 2.7 CMF Farm Workers: Hours Worked Per Week

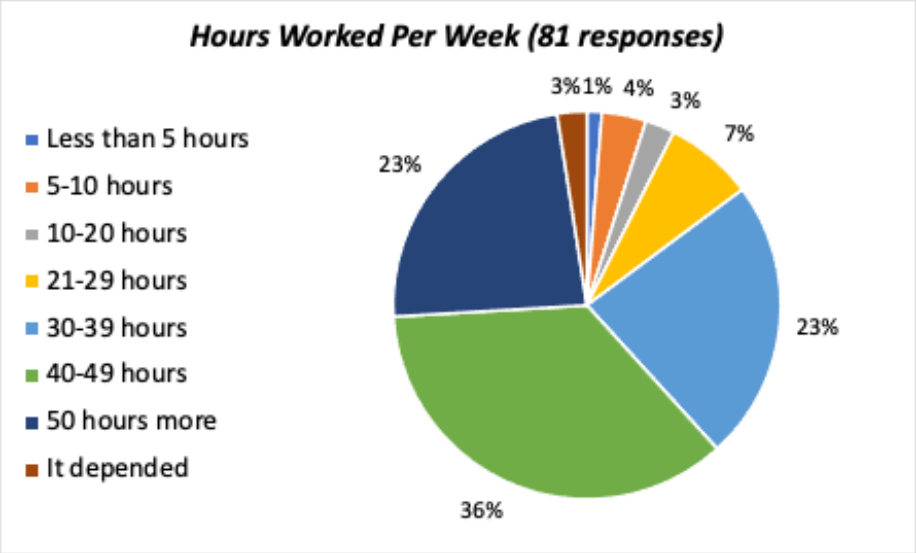
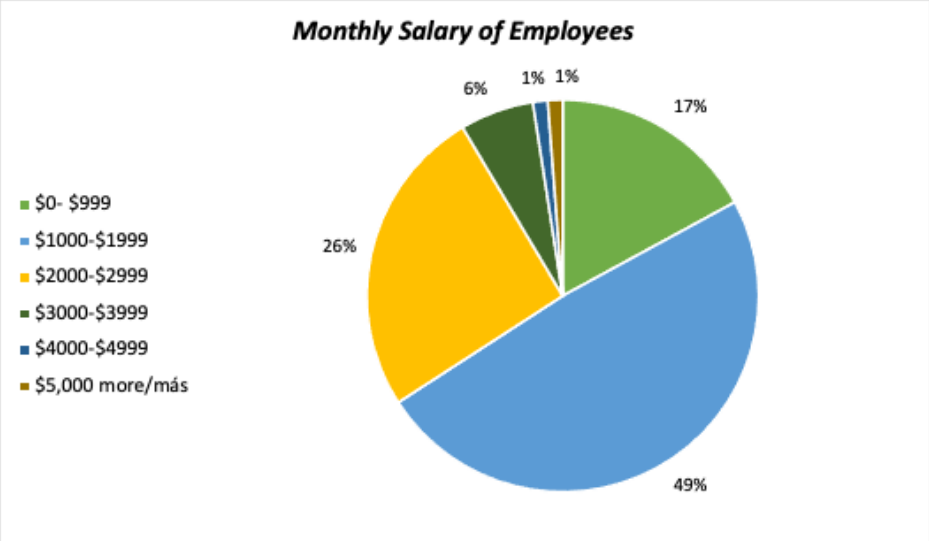


Fig. 2.8 CMF Farm Workers: Monthly Salary



These wages were less than Colorado's 2020 minimum wage of $12.00 an hour, though farm labor like this has long been paid on a "per pound harvested" basis and has traditionally been exempt from normal minimum wage expectations. However, this long-existing system of per-pound payment (with possible subminimum wages) is undergoing important changes, due to a 2021 change to Colorado's minimum wage law. Under this new law, effective Jan 2021, all agriculture workers (including migratory laborer or field labor contractors) must be paid at least the equivalent of Colorado's minimum wage. Effective Jan 1, 2022, the minimum wage for

agricultural workers, became $12.56.[28] Though mushroom farmers, like many other agricultural workers, are typically paid according to the pounds they pick or harvest (and not by the hour), this new law means that the per-pound payment rate for pickers must never result in wages being paid that are below the minimum wage. In addition, Colorado enacted a new overtime pay rule (effective Jan. 1, 2022) that requires agricultural companies to pay overtime for those who work more than 60 hours a week.

Key Takeaway. *Immigrant mushroom farmers, mostly from Guatemala, have been an important part of the Alamosa economy for decades. These farmers, especially the pickers, take on physically demanding labor over long hours. Often this work has been poorly paid. Changes in Colorado minimum wage should improve the wages paid to many of these workers going forward. Though CMF did not have to meet Colorado's new wage expectations through most of its operating years, any relaunch of an Alamosa mushroom farm must produce financial projections that account for an expectation of decent pay for all its farm workers.*

2.3.3 Non-Payment of Wage Problems

CMF has a history of wage disputes with farm workers due to alleged non-payment of wages. Even before the final closure of the farm, many workers reported instances of bounced checks or unpaid wages that significantly impacted their finances, thus preventing them from paying their bills and forcing them to face late fees. These allegations can be found in an anonymous comment by a farm worker in the Better Business Bureau file about the company.[29] Recent reporting in both *The Colorado Sun* and *The Denver Post* also unearthed numerous allegations of unpaid wages at the CMF.[30] Also, the Executive Director of the SLV Immigration Resource Center (SLVIRC) (Flora Archuleta) recently reported that one worker is owed as much as $10,000 in unpaid wages. Furthermore, many employees claim they are owed vacation days. Currently,

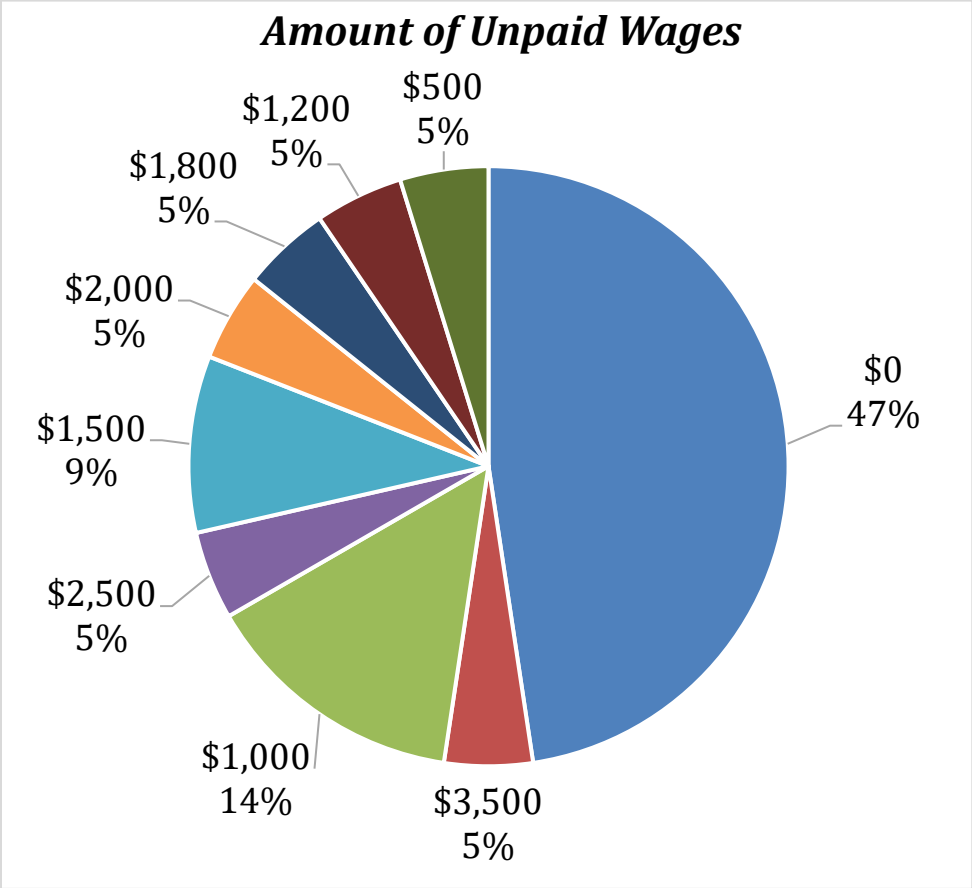
[28] Margaret Jackson, "New State Law for Agriculture Pay," *Colorado Biz,* last modified July 1, 2022, https://www.cobizmag.com/new-state-law-for-agriculture-pay/.
[29] "Colorado Mushroom Farm," *Better Business Bureau,* accessed December 29, 2022, https://www.bbb.org/us/co/alamosa/profile/mushrooms/colorado-mushroom-farm-0785-50001881.
[30] Shannon Najmabadhi, "Unpaid wages, injuries: The dark side of a celebrated Colorado mushroom farm known for helping migrants. *The Colorado Sun*. January 8, 2023. https://coloradosun.com/2023/01/08/colorado-mushroom-farm-unpaid-workers-unsafe-work-conditions/; Bruce Finley, "Colorado mushroom megafarm closes, disrupting supplies for restaurants and grocers, leaving Guatemalan workers without pay." The Denver Post. January 11, 2023. https://www.denverpost.com/2023/01/11/colorado-mushroom-farm-shutdown-covid-economy/.

some workers are working with Colorado Legal Services on their wage claim cases, hoping to recuperate unpaid wages.[31]

The December 2022 RMEOC survey found wage-claim allegations voiced with some frequency. According to the RMEOC survey, 47.5% of workers (a total of 38) reported no wage issues, while 53.5% of workers (a total of 44) responded "YES" to having non-payment problems with the company. Most of these workers alleged unpaid wages of $1000-$2999, but 12% of workers said they were owed $3000-$4,999 in unpaid wages. A few respondents claimed they were owed over $5,000 and there is one case of alleged non-payment ranging between $8,000-$9999.

According to these survey results, the total non-payment of wages for 44 CMF workers (53.5% of all workers surveyed) ranges from a minimum of $81,100 to $169,460 maximum. Some surveyed workers also expressed a strong desire not to work again with the old farm management, due to the continuing complaints over non-payment of wages.

Fig. 2.9 CMF Farm Workers: Unpaid Wage Claims



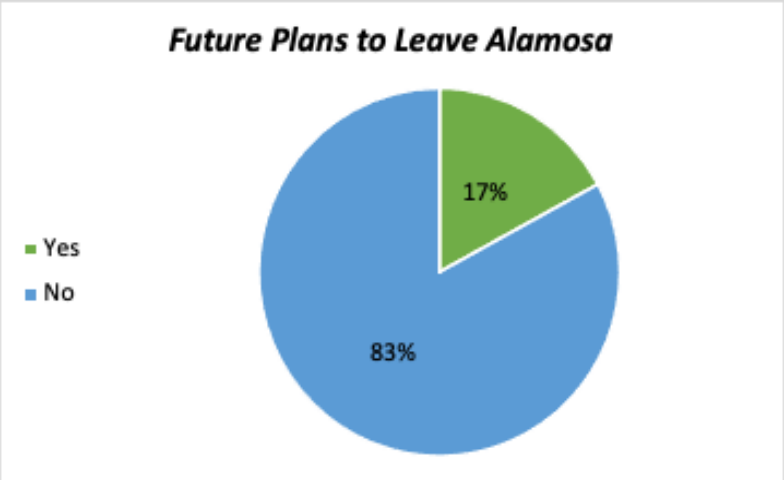
[31] Woods, "Colorado Mushroom."

2.3.4 Workers would like to Return to Mushroom Farming

CMF Workers have been in a desperate situation after the closure of the company. Some workers have moved onto other jobs permanently, while 45.1% of surveyed workers (37 workers) reported no job in December of 2022. Some of the workers who have moved on to different full-time jobs have work authorization, so they can apply for new jobs such as work at a local warehouse or potato farm, which require all employees to have work permits. Some of the displaced mushroom farmers who have no replacement jobs are likely to be undocumented immigrants, who are desperately seeking new work to survive.

Although workers struggle to survive, the majority of surveyed workers (83%) have no plan to leave Alamosa soon, and most would like to return to work on an Alamosa mushroom farm.

Fig. 2.10 CMF Farm Workers: Plans to Leave Alamosa



Although more than 50% of surveyed workers reported an issue of non-payment of wages, 46% expressed overall satisfaction with the company. The reason for their overall satisfaction comes from the fact that the company was very close to their home, they worked indoors, and that they appreciated receiving a regular check for steady hours of work, instead of working a few hours at a time as casual laborers.

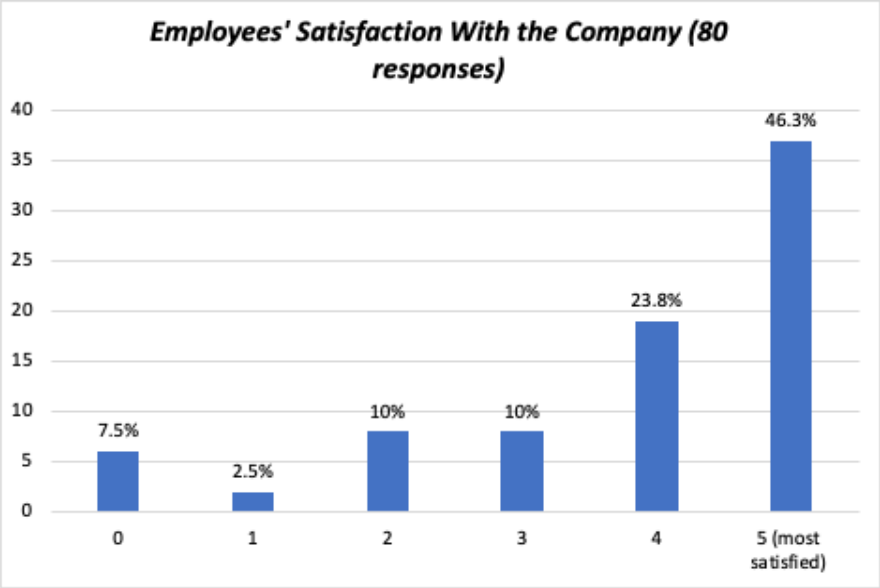
"This farm was better for us because it was close to my home, and we worked indoors, which was nice for us not to get impacted by cold or hot weather."

-- CMF Farm Worker, Dec. 2022

"Although we worked long hours, we had more time taking care of our kids because we worked very early in the morning and left early so that we could take care of kids. The farm was very close to my home."

-- CMF Farm Worker, Dec. 2022

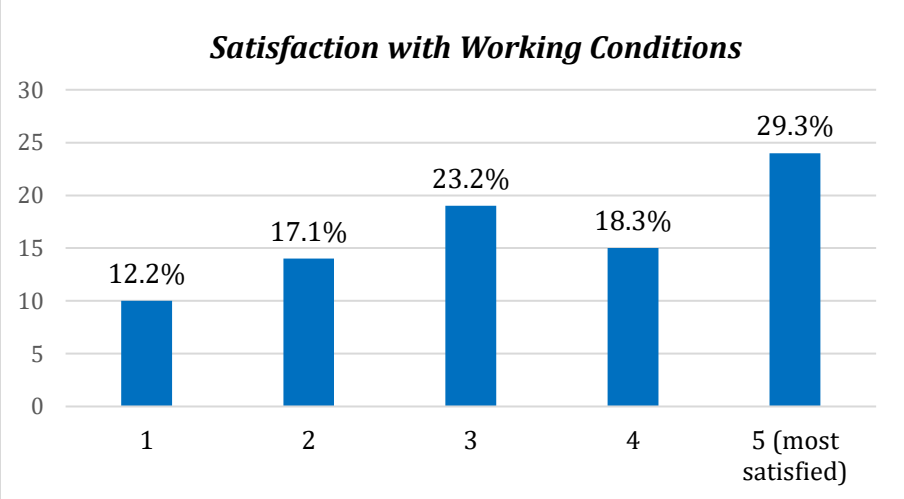
Fig. 2.11 CMF Farm Workers: Satisfaction with the Company



1 = Very Dissatisfied; 5 = Very Satisfied

On the other hand, workers did express some concerns with their working conditions. In the RMEOC survey, only 29% (24 persons) expressed the highest satisfaction, while 23% percent (19 persons) shared a more neutral position, and 29% (24 persons) were mostly dissatisfied with their working conditions. During a focus group, several workers also expressed concerns about their dangerous, dark working environment. ***But as a bottom line, no matter what their working conditions or perspectives were, 87% of workers expressed a desire to return to the farm.***

Fig. 2.12 CMF Farm Workers: Satisfaction with Working Conditions



1 = Very Dissatisfied; 5 = Very Satisfied

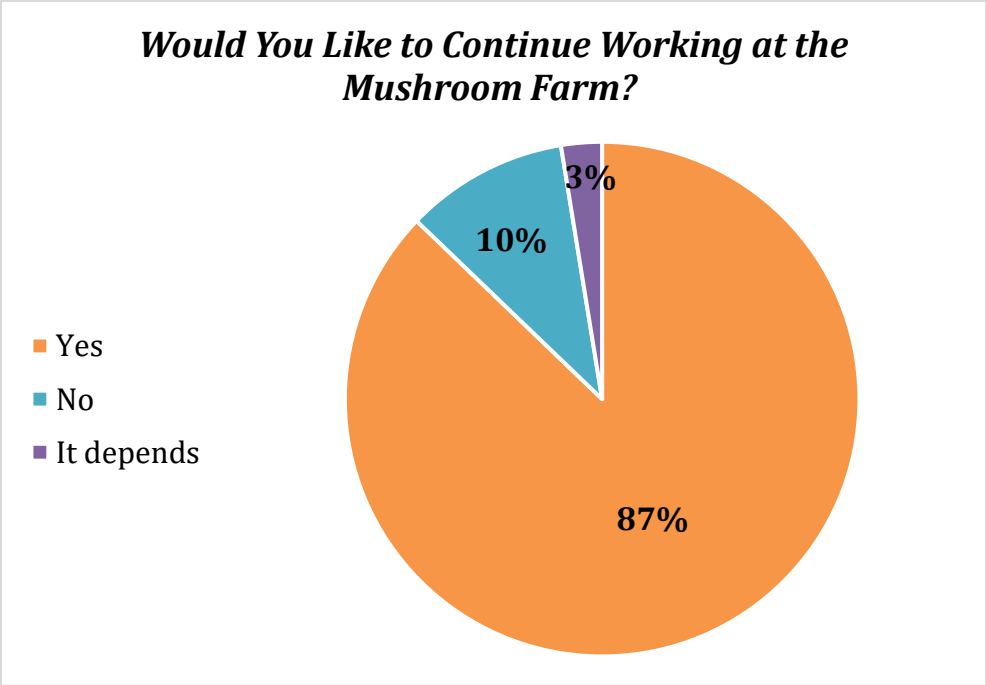
"The company gave us a life. We were undocumented, but [the farm] gave us a chance to live. My father could buy a house in Alamosa. That is why I hope it is reopened again in the future."

-- CMF Farm Worker, Dec. 2022

"We know how to operate the mushroom farm because we worked there for long years. This is what we were good at: growing and picking mushrooms."

-- CMF Farm Worker, Dec. 2022

Fig. 2.13 CMF Farm Workers: Would You Like to Continue Working at CMF?



Key Takeaway: *CMF was an important company that gave immigrant farm workers an opportunity to work and build a life in Alamosa. Although workers faced challenges at the company—such as wage disputes and difficult working conditions—the overall satisfaction level among farm workers was high. A key reason for this satisfaction is that CMF was one of the very few options that many of these immigrants had for work in this area. Although working conditions at the farm could have been better, the majority workers expressed their strong desire to return to work again at an Alamosa mushroom farm.*

3

Mushroom Farming: Industry Analysis

3.1 Overview: Opportunities and Constraints

Drivers of Growth. The United States mushroom industry is robust and forecast to grow substantially in coming years. Consistently rising mushroom sales are driven by growing consumer interest in fresh and healthy food, together with increased consumer awareness of the health benefits of mushrooms, which are fat and cholesterol free while having minimal sodium or gluten. Mushrooms are also a high-protein, high-fiber, affordable alternative to meat, suitable in a wide range of meals, making them increasingly popular among the growing organic, vegetarian, and vegan market.

Catering to evolving customer tastes, a growing number of restaurants feature mushroom dishes and companies are expanding their production of dried mushrooms for use in instant foods, soups, and sauces. The growth of e-commerce portals and mushroom farm websites allowing for home delivery of fresh mushrooms is predicted to support an expanding direct-to-consumer market, especially popular among younger consumers. Specialty mushrooms are increasingly showing up in infused beverages and teas, in moisturizing and anti-aging cosmetics, and in mushroom extract powders meant to improve health, immunity, and brain function. Other factors driving sectoral growth are technological advances in mushroom production (e.g., "The Dutch growing method") and in extending the shelf-life of mushrooms through better refrigeration and modified atmosphere packaging.

Driven by such dynamics, the robust North American mushroom industry (accounting for $1.85 billion in sales in 2018) is forecast to grow at a Compound Annual Growth Rate (CAGR) of 7.7% between 2019-2027 (rising to $3.51 billion in sales).[1] This North American growth rate parallels global trends, as the global mushroom market is expected to post an average CAGR of 9.5%, doubling in total value between 2020-2028.[2] The U.S. Mushroom Council in 2020 reported that mushrooms were one of the fastest growing items in the produce category and reported that "with over 96% confidence the industry should expect demand for fresh mushrooms to continue to drive shipments and value into the foreseeable future."[3]

---

[1] "North America Mushroom Market to 2027- Regional Analysis and Forecast by Type; Form; Application," *Research and Markets,* last modified July, 2019. https://www.researchandmarkets.com/reports/4825286/north-america-mushroom-market-to-2027-regional.

[2] GrandView Research, "Mushroom Market Size, Share & Trends Analysis Report by Product (Button, Shiitake, Oyster), By Form, By Distribution Channel, By Application (Food, Pharmaceuticals, Cosmetics), By Region, And Segment Forecasts, 2022 – 2030," https://www.grandviewresearch.com/industry-analysis/mushroom-market.

[3] The Mushroom Council, *2020 Annual Report*, 2020, https://www.mushroomcouncil.org/wp-content/uploads/2021/06/2020-Mushroom-Council-Annual-Report-web.pdf.

Industry Constraints. Though there are substantial drivers of future growth, the mushroom industry also faces restraining factors. Key growth constraints on the industry include: the high cost of mushroom growing technology, skilled labor shortages of growers and pickers (a problem exacerbated by very short harvest windows), established large farms that dominate the industry, and market price levels consistently below the rate of inflation, making profits hard to sustain.

Key Takeaway. *Mushroom farming is an attractive and growing industry, with room for new entrants. Successful entry into the industry will benefit from growing consumer demand but will depend upon the utilization of high-cost technology to improve yields, a business model allowing for early months of no revenue at all, a strategy to attract a skilled labor force, and an ability to deliver price-competitive mushrooms to regional markets that may be under-served in their access to fresh-picked mushrooms, which have notoriously short shelf-lives.*

Fig. 3.1 Mushroom Industry: Growth Drivers, Constraints, and Forecasts

Table 3.1 North American Mushroom Market Growth Forecasts

North American Mushroom Market Growth Forecasts		
Grandview Research	*Market Data Forecast*	*Research & Markets*
100% Growth	*75% Growth*	*CAGR 7.7%*
2017-2030	*2019-2026*	*2019-2027*

3.2 Mushroom Farming: Industry Background

3.2.1 Fresh Agaricus Mushrooms Dominate Market. Most of the mushroom industry consists of fresh mushroom sales to grocery stores, supermarkets, and restaurateurs, as fresh mushroom sales consistently account for over 90% of all industry. Much smaller sales occur in categories of preserved mushrooms (dried or canned), powdered mushrooms added to beverages or health supplements, and cosmetic products containing mushrooms (primarily skin care products). Mushrooms used as powders in health supplements or in cosmetics are typically specialized varietals such as reishi, shiitake, chaga, or lion's mane, while the substantial bulk of fresh mushrooms sold for consumption are of the Agaricus species (e.g., white button, cremini, and portobello mushrooms, which are all the same mushroom at different stages of maturity).

The Common Agaricus Mushroom

All told, Agaricus mushrooms account for over 95% of all U.S. sales. Specialty mushrooms, like shiitake or oyster, are growing in popularity but remain a tiny portion of the U.S. market. Growing different strains of mushrooms can require different substrates and growing conditions, so different kinds of environments must be maintained by farmers who seek to grow multiple species of mushrooms. Therefore, some farms focus only on one species of mushroom, to reduce fixed costs and complexity of maintaining separate facilities.

Fig. 3.2 Sales of Specialty Mushrooms vs. Agaricus Mushrooms

3.2.2 Stages of Mushroom Cultivation. Growing fresh Agaricus mushrooms for large-scale market distribution is a sophisticated operation, requiring indoor facilities, advanced technology, and skilled labor for harvesting and properly transporting the fragile fungi. The mushroom growing operation can be broken down into several distinct stages.

COMPOSTING. Prepare substrate of straw, sawdust, soy hulls, or other organic material upon which the mushrooms are later cultivated. Quality substrate requires composters to carefully regulate water, ammonia and fertilizer levels.

STERILIZATION. Composters apply heat to the compost to remove undesirable ammonia and microorganisms that can consume the energy and nutrition of a substrate that mushrooms need to grow. This is often done in tunnels.

SPAWNING. Careful temperature controls helps produce mycelium, a white webbed material that grows across the substrate, breaking it down for later mushroom growth.

CASING. The spawn is moved to an indoor facility, where farmers add casing soil made with peat. Mushrooms contain no chlorophyll and require no sunlight to grow and must be in dim places for optimal growth and to form stalks and caps—the mushroom fruiting body. Agaricus cultivation depends on carefully maintained humidity, temperature, and C02 levels—thus necessitating climate-controlled, indoor farms.

PINNING. Farmers continue to regulate temperature, humidity, and CO2 levels so that the mycelium begins to knot together into tiny thin "pins" that grow into spore-producing fruiting bodies—the stalks and caps of the mushroom.

PICKING. In this final stage, mature mushrooms are hand-picked to ensure minimal damage to the fragile fungi. They are then moved into cooling rooms to be packaged and wrapped for distribution to food distributors, grocery stores, and restaurants.

3.2.3 Technology Catalyzes High Yields

Because of high fixed costs to build and maintain sophisticated mushroom-growing facilities, combined with per pound sales prices that haven't kept pace with inflation, strategies to improve yield per square foot of substrate are key to mushroom farming success. To increase yield, many successful farms have adopted expensive new technologies often termed the "Dutch growing system," in reference to the fact that many of these technologies were pioneered in the Netherlands, a tiny country that has become the 4th biggest producer of mushrooms worldwide, after China, Poland and the USA.[4]

3.2.4 The Importance of Quick, Fresh Delivery

Once grown to optimal state, mushrooms must be immediately and delicately hand-picked (before they quickly begin to deteriorate). The fresh mushrooms are then moved to a room to cool, then placed into large trays and moved to refrigerated trucks for delivery to buyers (most typically grocery stores, supermarkets, or regional food distributors).

Picked mushrooms are highly perishable and subject to rapid post-harvest deterioration, due to their lack of a protective cuticle (a protective, waxy barrier on the surface of many plants), high respiratory rates, and high water content. Fresh mushrooms have a typical shelf-life of just 1-7 days, depending on refrigeration, packaging, and varietal.[5] Therefore mushrooms meant for fresh distribution must be delivered to grocers and other outlets quickly following their harvest, highlighting an advantage to locally based farmers selling in their region. Though canning, drying, or freezing mushrooms can extend their shelf-life, consumers strongly prefer fresh mushrooms, which make up about 93% of all mushroom sales.

Because quick delivery of fresh mushrooms is so important, the mushroom industry is moderately fragmented, with different large and moderate sized companies dominating their regional markets. The dominant distribution channel is to sell to grocery stores, supermarkets, hypermarkets (e.g., Walmart, Costco), multi-unit restaurants, and local distributors within a one- or two-day drive from the farm. This means that some farms based in Washington (like Ostrom) mostly deliver on the Northwest coast, Pennsylvania-based farms mostly deliver east of the Mississippi, and nationwide farms like Monterey Mushrooms serve regional markets across the country by strategically locating different farms in different regions.

There is also continued growth in direct-to-consumer sales of fresh mushrooms, through on-line portals where customers can order fresh mushrooms for home delivery. Many mushroom farms offer their own web-based home delivery platform, and large portals like Amazon promise fresh mushroom delivery within hours. But these home-delivery mushroom markets remain small, as

[4] Kekkilä-BVB, "Futuristic fungiculture in the Netherlands," last modified February 17, 2022, https://www.kekkila-bvb.com/article/futuristic-fungiculture-in-the-netherlands/

[5] Katy Castellanos-Reyes, Ricardo Villalobos-Carvajal, and Tatiana Beldarrain-Iznaga, "Fresh Mushroom Preservation Techniques," *Foods* 10, no. 9, (2021): 2126, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8465629/.

about 93% of fresh mushrooms are bought at a store, and only 7% were delivered to homes in 2022.[6]

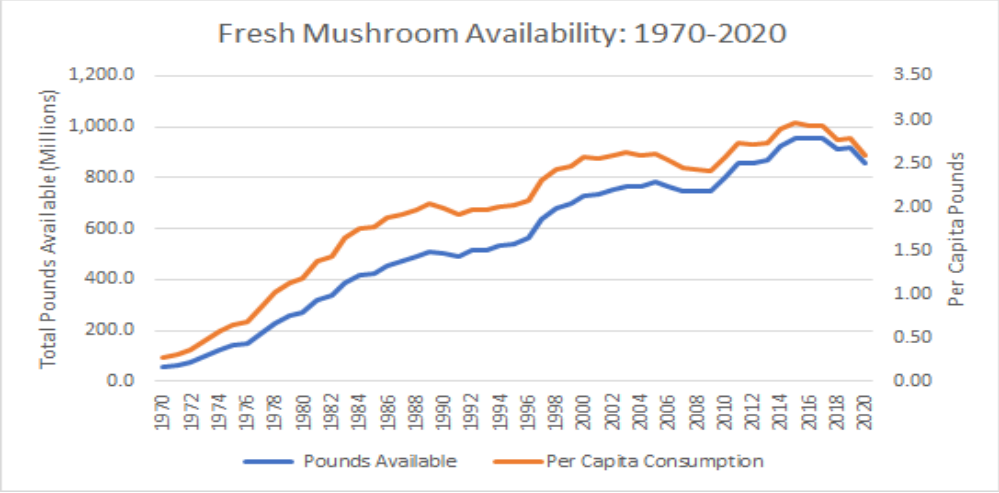
Key Takeaway. *Mushroom farming is a sophisticated business that requires specialized knowledge, skilled management of timely cultivation by large growing/picking teams, and mastery of technological equipment. Proficient growers and pickers must be recruited and retained. Costly equipment must be acquired and maintained. A local market within reach of quick delivery must be available. There is room and opportunity for new farms in this growing industry, especially in areas most distant from existing farms, if these conditions can be met.*

3.3 Industry Analysis: Opportunities

3.3.1 Mushrooms are A High Growth Sector

Past Growth. The long-term growth prospects for the fresh mushroom market in the United States is strong. From 1970 to 2019, total U.S. domestic consumption of fresh mushrooms (over 90% of which are Agaricus) grew almost 16X, with a per capita consumption increase of 889%. In more recent trends, total consumption has grown 83% since 1990 (a per capita increase of 41%) and 26% since 2000 (a per capita growth of 9%).

Fig. 3.3 Fresh Mushroom Production and Consumption: 1970-2020



Source: USDA, *Vegetables and Pulses Yearbook Tables*

[6] The Mushroom Council, "Fresh Mushroom Sales Review: 11/6/22," *The Mushroom Council*, last modified 6 November, 2022, https://www.mushroomcouncil.org/industrystaff/research-reports/retail-tracker/#:~:text=11/06/2022-,Sales%20Review,-Performance%20PPT

Future Growth Forecast. Almost all industry analysts expect the global and U.S. mushroom market to continue to grow substantially in coming years, due to consumers' growing appetite for healthy, organic mushrooms, together with the continued low price of mushrooms, compared to high-cost protein alternatives like meat. For example, mushroom prices in 2021 increased just 1.9%, coming in significantly below the changing average price per pound of fresh meat (7.7%), all produce (+7.1%), and of all vegetables (+4.6%).[7] Technical advances in growing techniques also promise larger, more efficiently harvested yields, which should help sustain low prices and high consumer demand.

Due to such dynamics, GrandView Research forecasts a doubling of the North American market for fresh mushrooms over the 2017-2030 period,[8] while the Market Data Forecast company predicts that the North American edible mushroom market size will grow 75% percent between 2019-2026 (a CAGR of 9.48%).[9] A bit more conservatively, the Research and Markets staff forecast that the North American mushroom market will grow at a CAGR of 7.7% over the 2019-2027 period.[10]

Similarly, market analysts predict the global mushroom market will also grow dramatically in the next several years. Grandview Research predicts a global CAGR of 9.7% from 2022-2030, while Fortune Business Insights predicts a global CAGR of 6.7% between 2021-2028.[11]

3.3.2 Downward Trends: Pandemic Fallout and Rising Imports

Though the growth forecasts are strong, recent economic trends in the American mushroom industry have tilted downwards. In terms of domestic Agaricus farming, the U.S. Department of Agriculture reported steady growth in production from 2009 to 2018 (with farm sales reaching a record high of $1.23 billion), but a more recent decline in total pounds of domestic farmed Agaricus mushrooms in the 2018-2022 period. Total sales of U.S. farmed Agaricus mushrooms declined by 24% (in pounds sold) between 2018-2022.

---

[7] See, for example, "Meats priced at $20 in 2020, $21.53 in 2021." Meats Price Inflation. Accessed January 9, 2023, https://www.in2013dollars.com/Meats/price-inflation.

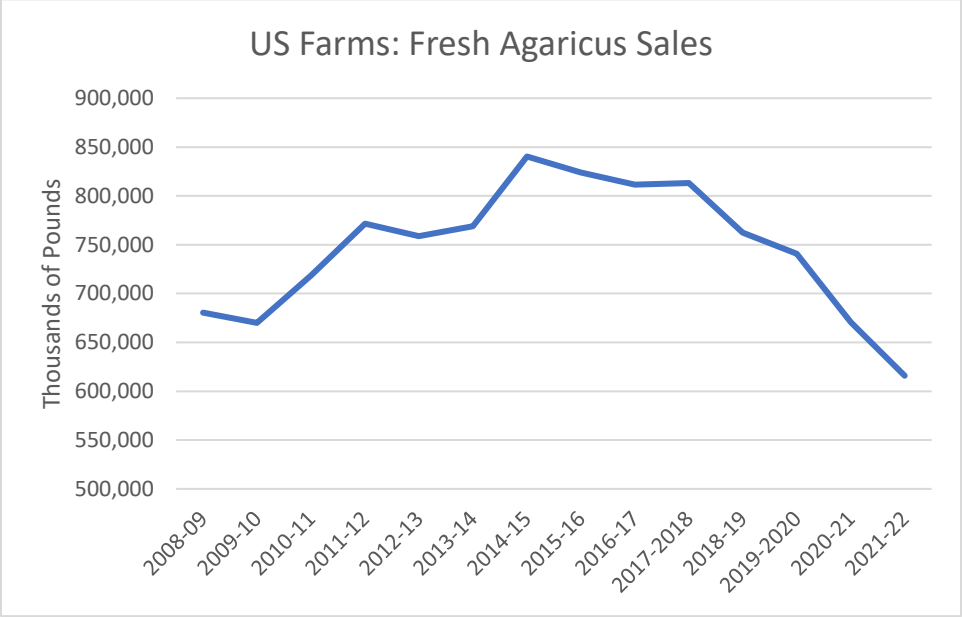
[8] Grandview Research, "North America Edible Mushroom Market by Type (Button, Shiitake, And Oyster), By Application (Fresh Mushrooms And Processed Mushrooms (Dried, Frozen, And Canned)), And By Region - Industry Analysis, Size, Share, Growth, Trends, And Forecasts 2022 to 2027," *Market Data Forecast,* last modified January, 2022, https://www.marketdataforecast.com/market-reports/na-edible-mushroom-market.

[9] Ibid.

[10] "North America Mushroom Market Report 2019-2027," *PR News,* September 26, 2019, https://www.prnewswire.com/news-releases/north-america-mushroom-market-report-2019-2027-300926291.html

[11] Grandview Research, "Mushroom Market Size;" "Mushroom Market Size Share & COVID-19 Impact Analysis, By Type (Button, Shiitake, Oyster, and Others), By Form (Fresh, Frozen, dried, and Canned), and Regional Forecast, 2021-2028," *Fortune Business Insights,* last modified April 2022, https://www.fortunebusinessinsights.com/industry-reports/mushroom-market-100197

Fig. 3.4 U.S. Farms: Fresh Agaricus Sales



Source: USDA, National Agricultural Statistics Service (NASS), *Annual Mushrooms Reports*

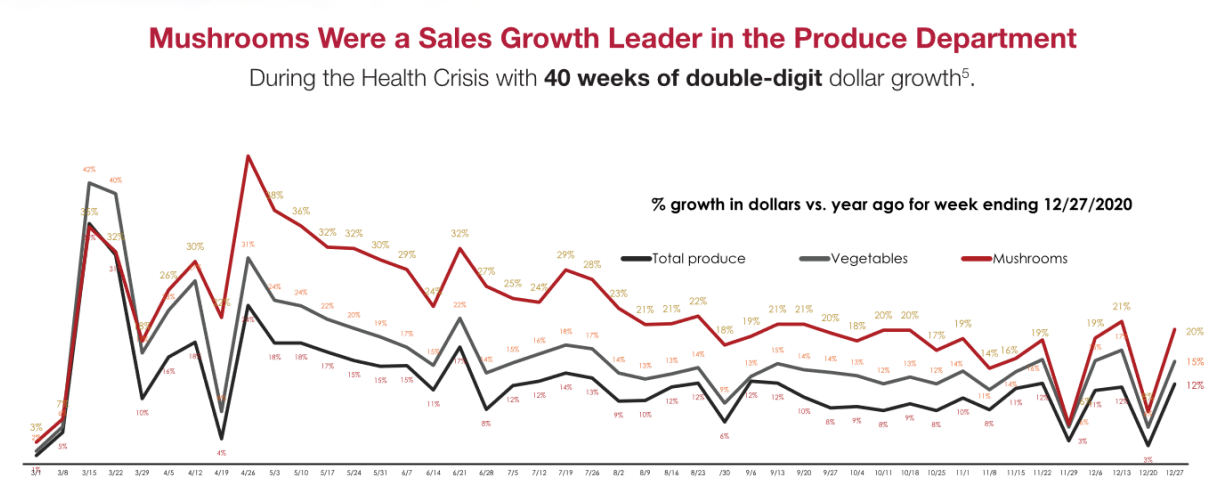
Pandemic Fallout. The American Mushroom Institute argues that one reason for the downturn in domestic fresh mushroom production (and a smaller downturn in total consumption) relates to COVID pandemic slowdowns of 2020-2021, which negatively impacted production capacity due to labor shortages and facility shutdowns, and undermined restaurant mushroom consumption as well.[12] During initial months of the pandemic, restaurant closures and changed shopping habits resulted in revenue declines of 50%-80% for some mushroom farms, and several farms across the nation were driven to closure (especially in California and Pennsylvania, the nation's two largest sources of mushrooms).[13]

Rising Imports. But pandemic-related consumption declines don't tell the whole story. ***In fact, U.S. domestic consumption has continued to be high and growing, even as domestic production of mushrooms has fallen.*** For example, the Mushroom Council reports that mushrooms were both a volume and a sales growth leader following pandemic lockdowns in March 2020, as the produce department recovered. Mushroom sales grew 8% faster than total produce sales and 5% faster than total vegetables throughout the recovery year of 2020—with growth measured against the March 2020 COVID lockdown low point.

[12] Tom Karst, "Supply chain, labor and pandemic issues hurt mushroom production," *The Packer,* September 2, 2021,https://www.thepacker.com/news/produce-crops/supply-chain-labor-and-pandemic-issues-hurt-mushroom-production

[13] Fortune Business, "Mushroom Market Size."

Fig. 3.5 Mushrooms a Produce Sales Growth Leader, Post-Pandemic Lockdowns



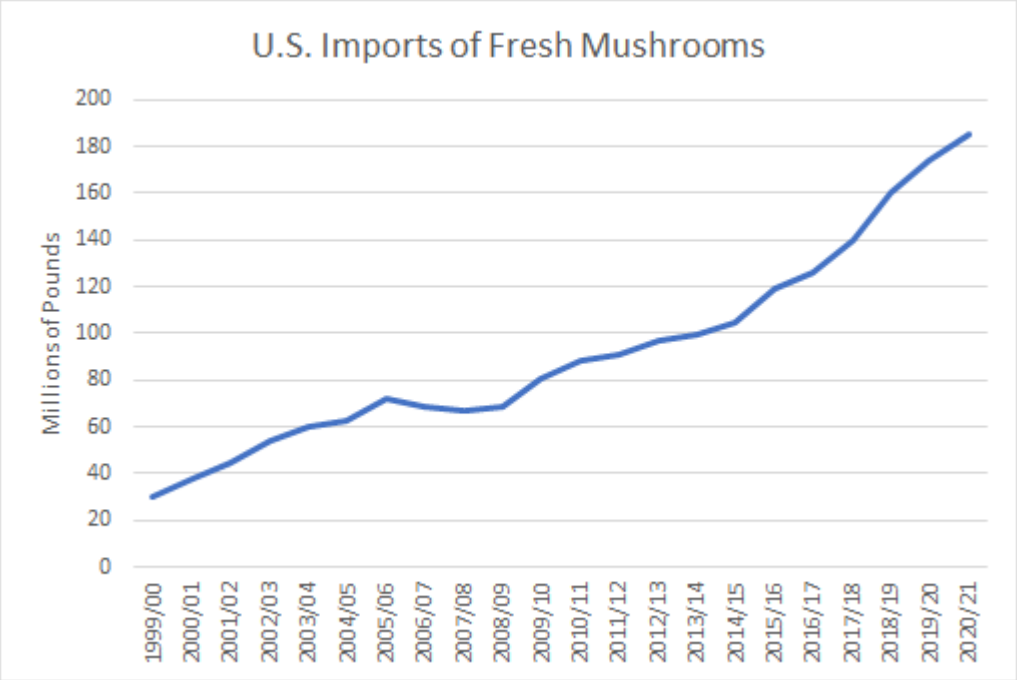
Source: Reproduced from Mushroom Council, *2020 Annual Report*, p. 7

Yet, even with strong recovery from the March 2020 downturn, total pounds of U.S. mushrooms farmed continue to lag well behind its 2017-2018 highs. For the four weeks ending October 2, 2022, for example, total pounds of domestic fresh mushrooms sold were ***down 5.4%*** from their 2019 numbers and ***down 11.3%*** from their 2021 numbers. Though specialty mushrooms like shiitake and oyster grew 3.9% in U.S. farm sales over this period, and brown Agaricus mushroom sales (cremini and portobello) grew 7.8%, these numbers couldn't balance the 12.8% decline in white Agaricus domestic farm production, which account for the substantial majority of all fresh mushroom sales. [14]

One reason for recently declining domestic farm production, even while U.S. consumption continues to be strong, is that imports of fresh mushrooms (mostly from Canada) have risen more than 600% since 1999, accounting for 21% of the U.S. mushroom market in 2021.

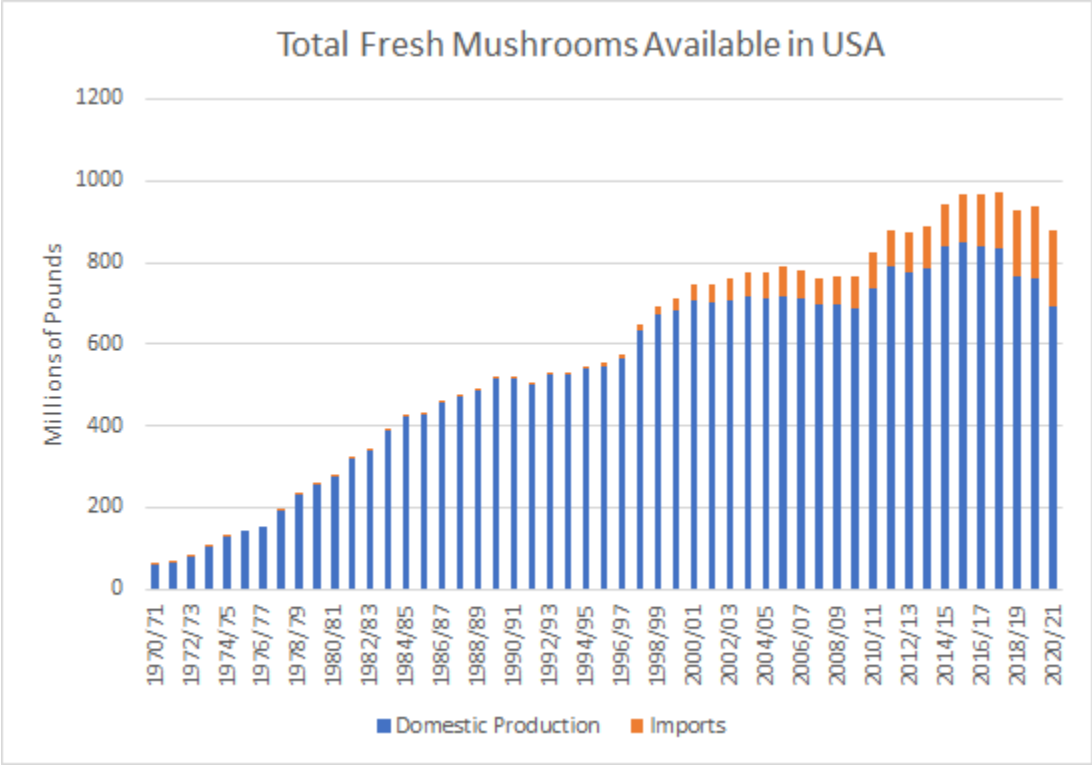
[14] The Mushroom Council, "Fresh Mushroom Sales Review; YTD and 4 weeks ending 11.06.2022," *The Mushroom Council,* last modified October 2, 2022, https://www.mushroomcouncil.org/industrystaff/research-reports/retail-tracker/#:~:text=10/2/2022-,Sales%20Review,-Performance%20PPT

Fig. 3.6 U.S. Imports of Fresh Mushrooms



Source: USDA, *Vegetables and Pulses Yearbook Tables*

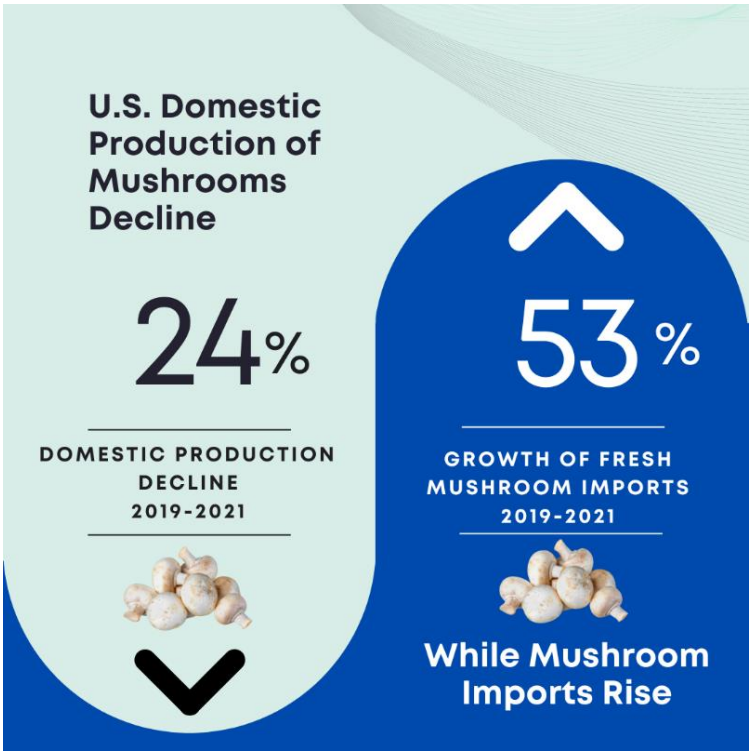
Fig. 3.7 Total Fresh Mushrooms Available in USA: Domestic and Imorted



Source: USDA, *Vegetables and Pulses Yearbook Tables*

Key Takeaway. The U.S. mushroom industry has steadily grown for years and is likely to continue growing into the future, as the industry recovers from COVID. Domestic consumption of mushrooms is predicted to keep growing, but foreign farms are increasingly meeting the demand. New domestic farms can expect price pressures from foreign exporters (primarily Canada) and will have to maximize efficient domestic production at high yields in order to compete.

Fig. 3.8 Trends in U.S. Mushroom Domestic Production vs. Imports



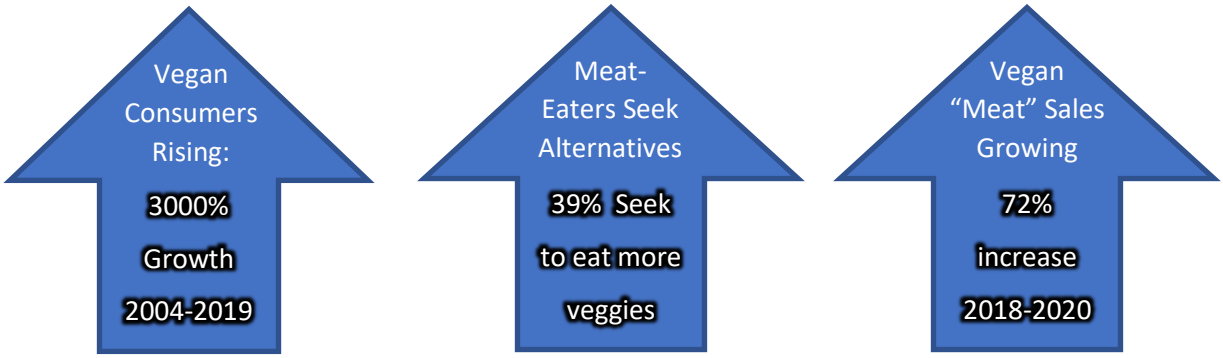
3.3.3 Consumer Trends Are Favorable to Mushroom Industry Growth

Several dynamics are driving increased consumer interest in mushroom consumption.

- The growth of health conscious and vegetarian/vegan lifestyles
- The growing interest in animal-friendly, environmentally sensitive consumption
- The rise in new ways to present mushrooms to consumers, such as the appearance of mushrooms in a growing range of restaurant options, dried sauce and soup mixes, mushroom-infused beverages, and powdered health supplements.

Health-Conscious Consumers Growing. Mushrooms are protein-rich, offering about 3.3g of protein per 100g of serving. They are also low in fat and cholesterol, with minimum sodium or

gluten, and come loaded with important nutrients, vitamins, and minerals. These qualities make mushrooms popular among health-conscious consumers who increasingly seek fresh, organic, plant-based foods like mushrooms, which are well suited to being baked, grilled, roasted, stewed, or eaten raw. Though the overall number of American vegetarians is small (about 5% of the population),[15] consumer desires for meat-alternatives as a health strategy (e.g., by reducing cholesterol and fat intake) is dramatically rising.[16]



In response to these changing consumer preferences (and helping to drive these preferences), there has been a significant expansion of meat-alternative approaches in advertising and restaurant menus.[17]

[15] Zach Hrynowski, "What Percentage of Americans Are Vegetarian?," *Gallup,* accessed December 15, 2022, https://news.gallup.com/poll/267074/percentage-americans-vegetarian.aspx

[16] Sources for the arrow graphics below: The Number Of Vegans In The U.S. Has Jumped 3000% In 15 Years," *Livekindly,* accessed December 15, 2022, https://www.livekindly.com/number-vegans-us-jumped-3000/; Grace Garwood, "No Cap in Sight for Booming Mushroom Market," *The Food Institute,* April 6, 2022, https://foodinstitute.com/focus/no-cap-in-sight-for-booming-mushroom-market/; Chermaine Chee," Veganism Statistics USA 2022 – How Many Vegans Are There In America?" *Truly,* October 2, 2022, https://trulyexperiences.com/blog/veganism-statistics-usa/.

[17] For sources for information in circle graphics below, see Grandview Research, op. cit.; PR Newswire, "Meat Substitute Market to Hit $234.7 Billion by 2030," 8 August 2022, https://www.prnewswire.com/news-releases/meat-substitute-market-to-hit-234-7-billion-by-2030---grand-view-research-inc-301604947.html.

Those consumers who do begin cooking with mushrooms are likely to continue. Dr. Mark Lang (a University of Tampa food retailing professor) cites 2020 survey data showing that "97% of people who are cooking with mushrooms at home this year plan to continue the same or even more…a sentiment that has increased by 9 points over the prior year."[18]

Based on these kinds of dynamics, Grandview Research estimates that the meat-substitute market will grow at a CAGR of 42.1% from 2022 to 2030, reaching $234.7 billion in total value. In this meat-substitute market, mushroom based alternatives (e.g., mycoproteins) are expected to experience the fastest growth of all, due to their ease of blending with other foods and their low prices (partly sustained by increasingly efficient farming techniques).[19]

Eco-Conscious Consumers on the Rise. Mushrooms have the benefit of delivering protein without requiring the high levels of agricultural land, water, and pesticides required for farming livestock or most other vegetables. Mushroom farming also emits far lower levels of greenhouse gasses than farming of other plants and animals. As ecologically sensitive consumers continue to grow and seek environmentally friendly products, mushrooms are well positioned for rising popularity.

The United Nations Food and Agriculture Organization defines sustainable diets as those with "low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations […]"[20] There is substantial evidence that consumers are increasingly seeking out such a "sustainable diet," or at least ways to become more eco-friendly in what they buy and eat. A growing literature on the subject is appearing in both scholarly and popular journals.[21] Multiple global surveys show that a significant and growing number of consumers say they want to behave and eat in more eco-friendly ways and are seeking out strategies to reduce their carbon footprint.[22] In America, the massive demographic of millennials

[18] The Mushroom Council, *2021 Annual Repor*t, 2021, https://www.mushroomcouncil.org/wp-content/uploads/2022/07/2021-Mushroom-Council-Annual-Report-web.pdf

[19] "Meat Substitute Market to Hit $234.7 Billion by 2030 - Grand View Research, Inc.," *PR News,* August 15, 2022, https://www.prnewswire.com/news-releases/meat-substitute-market-to-hit-234-7-billion-by-2030---grand-view-research-inc-301604947.html ; Garwood, "No Cap in Sight."

[20] Food and Agriculture Organization of the United Nations (FAO). Definition of Sustainable Diets. In: *International Scientific Symposium Biodiversity and Sustainable Diets: United against Hunger Rome*. Rome, Italy: FAO (2010). p. 27.

[21] See, for example, Lucía Aguirre Sánchez et al., "What Influences the Sustainable Food Consumption Behaviours of University Students? A Systematic Review," *International Journal of Public Health* 66: 2021, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8454891/; Iris Veirmer et al., "Environmentally Sustainable Food Consumption: A Review and Research Agenda from a Goal-Directed Perspective," *Front. Psychol*, 10 July 2020, https://doi.org/10.3389/fpsyg.2020.01603; "Sustainability," *Harvard T.H. Chan School of Public Health,* accessed December 15, 2022, https://www.hsph.harvard.edu/nutritionsource/sustainability/; Gayathri Vaidyanathan, "What humanity should eat to stay healthy and save the planet," *Nature,* December 1, 2021, https://www.nature.com/articles/d41586-021-03565-5

[22] See, for example, "Consumers respond to waves of disruption: June 2022 Global Consumer Insights Pulse Survey," *PWC,* accessed December 15, 2022, https://www.pwc.com/gx/en/industries/consumer-

in particular, together with other younger consumers, have shown themselves "more willing to adopt changes in their eating behaviours, and are more environmentally conscious than older generations."[23]

Mushrooms have many characteristics that make them a well-suited match to these evolving consumer sensitivities. For one thing, mushrooms are a meat alternative whose cultivation involves far fewer greenhouse gas emissions than does raising livestock. Also, mushroom cultivation avoids the kinds of animal abuse common in livestock farming and becoming increasingly unpopular among a growing vegan and vegetarian population.[24]

> *"Mushroom growers in the United States are known as the 'ultimate recyclers' for their ability to convert byproducts and waste from other sectors of agriculture into the compost or medium used to grow mushrooms. Because of this recycling of other agricultural crops and byproducts, mushroom farms have a smaller environmental footprint than almost any other farms."*
>
> *--American Mushroom*

Other aspects of the ecologically friendly impact of mushroom farming covered in the *American Mushroom*[25] include the following:

- Mushroom farming uses less than 2 gallons of water to produce one pound of button mushrooms, compared with an average of 50 gallons of water per pound of other fresh produce items.
- On average, one square foot of mushroom bed space produces about 6.5 pounds of mushrooms and just one acre of land can produce 1 million pounds of mushrooms a year.
- Producing one pound of button mushrooms requires just 1.0 kilowatt hour (kwh) of electricity, about the same amount of energy to run a coffeepot for an hour.

---

markets/consumer-insights-survey.html?utm_campaign=sbpwc&utm_medium=site&utm_source=articletext; Rebecca Swift, "Sustainability is Not Going Away This Time," *CreativeInsights,* October 9, 2020, https://creativeinsights.gettyimages.com/en/trends/sustainability/sustainability-is-not-going-away-this-time

[23] Aguirre Sánchez Lucía et al., "What Influences."

[24] For quote in textbox below, see "Sustainability," *American Mushroom,* accessed December 15, 2022, https://www.americanmushroom.org/main/sustainability/

[25] Ibid.

- Growing and transporting one pound of mushrooms generates just 0.7 pounds of CO_2 equivalents. In comparison, producing and using just one gallon of gasoline in the U.S. emits nearly 20 pounds of CO_2.
- Mushrooms produce 0.5 Kilograms (kg) of CO2 per pound of food consumed. In comparison, chicken has 3.1 kg CO2 per pound consumed, pork has 5.5 kg CO2 per pound, Salmon has 5.4 kg CO2 per pound, Cheese is at 6.1 kg CO2 per pound, Eggs are at 2.2 kg CO2 per pound, Broccoli is at 0.9 kg CO2 per pound, and Tofu is at 0.9 kg CO2 per pound consumed. Among commonly consumed vegetables, only lentils have a lower per pound CO2 emission level than mushrooms.

"As consumers look to make food decisions that take environmental impacts and carbon footprint into account, mushrooms are a choice that everyone can feel good about."

-- The American Mushroom Institute

"The versatile vegetable is rich in antioxidants, vitamins and minerals, and can easily elevate everyday recipes with its warm umami flavor. Consumers should expect to see mushrooms play a starring role in a variety of new products in 2021, including blended plant-based proteins, condiments, spices, seasonings and more."

-- Kroger Foods

Mushrooms named top-trending **"superfood"** and **"Ingredient of the Year, 2022".**

The NYT even predicted that "mushroom fibers will start to proliferate as a cheap, compostable medium for packaging."

There have been many other observers with similar conclusions about the favorable prospects of the future mushrooms market. Other notable forecasters predicting robust growth in consumer mushroom interest include: *Specialty Food Magazine*, Whole Foods Market, Real

Simple, TODAY, Organic Authority, the Kitchen, CNN, MSNBC, Delish, and Mashed.[26] Grandview Research offers the same conclusion, projecting that a growing environmentally-sensitive consumer class—especially in developed countries like the USA—will drive rising mushroom sales over the next decade.[27]

Functional Mushrooms: Mushroom-Infused Drinks and Supplements. A small but growing part of the mushroom market are mushroom-infused beverages and powdered health supplements like adaptogen powders, designed to be calming stress reducers. This is referred to as the "functional mushroom" market, which offers products to improve the health and functioning of consumers.[28] Though studies are limited and the FDA does not define mushroom products as a medicinal drug, mushrooms have been used medicinally for thousands of years and there are some clinical trials validating various health effects of different mushroom products.

There is growing interest in the use of functional mushroom products to improve physical and mental health. In 1995, there were just 144 peer-reviewed journal publications on the potential health benefits of mushroom "nutraceuticals," while there were 1,889 such publications in 2022—a 1300% increase. Relatedly, numerous industry forecasters predict robust growth in the global functional mushroom market in years to come.

- Grandview Research predicts a CAGR of 10.8% from 2022 to 2030.[29]
- Mordor Intelligence predicts a CAGR of 8.0% from 2022 to 2027.[30]
- Both Verified Market Research and Future Market Insights predicts a CAGR of 9.1% from 2022 to 2030/2032.[31]
- Allied Market Research predicts a CAGR of 9.3% from 2020-2030.[32]

---

[26] For summaries of these journalistic reports, see "Mushrooms Continue To Trend As Ingredient Of The Year," *Agritecture,* accessed December 15, 2022, https://www.agritecture.com/blog/2022/3/18/mushrooms-continue-to-trend-as-ingredient-of-the-year; *Food Service New, "Slideshow: The Shroom Boom," April 28, 2021,* https://www.foodbusinessnews.net/articles/18485-slideshow-the-shroom-boom

[27] Grandview Research, "Mushroom Market Size."

[28] Teresa Carr, "Mushroom magic: why the latest health fad might be on to something," *The Guardian,* January 16, 2019, https://www.theguardian.com/society/2019/jan/16/mud-wtr-mushroom-water-coffee-health-benefits

[29] "Functional Mushroom Market Size, Share & Trends Analysis Report By Product Type (Reishi, Shiitake), By Application (Food & Beverage, Pharmaceutical), By Region (EU, APAC, North America), And Segment Forecasts, 2022 – 2030," *Grandview Research,* last modified 2020, https://www.grandviewresearch.com/industry-analysis/functional-mushroom-market-report

[30] "Functional Mushroom Market - Growth, Trends, Covid-19 Impact, And Forecasts (2022 – 2027)," *Mordor Intelligence,* last modified 2021, https://www.mordorintelligence.com/industry-reports/functional-mushroom-market

[31] "Global Functional Mushroom Market Size By Product (Reishi, Cordyceps, Lion's Mane), By Application (Food Service, Personal Care, Pharmaceutical), By Geographic Scope And Forecast," *Verified Market Research,* last modified 2021, https://www.verifiedmarketresearch.com/product/functional-mushroom-market/ ; "Functional Mushroom Market," *Future Market Insights,* last modified March 2022, https://www.futuremarketinsights.com/reports/functional-mushroom-market

[32] Raju K and Rochan D, "Functional Mushroom Market by Product Types (Reishi, Cordycepts. Lion's Mane, and Others), Application (and Beverage, pharmaceutical, nutraceutical & dietary supplements, and personal care & cosmetics), and Distribution Channel (Supermarket/Hypermarket, Online Stores, Specialty Stores, and Convenience

Admittedly, the varietals of mushrooms most popular for such health supplements are not the common Agaricus mushrooms that are grown at the Colorado Mushroom Farm, but are more specialized varietals like reishi, shiitake, lion's mane, or Cordyceps Sinensis. Still, the growing popularity of all varietals of mushrooms, and the way the fungi are increased feted in both popular journalism and scientific literature, augurs well for the general industry.

Key Takeaway. *Mushroom consumption has grown steadily in the U.S. for decades. Underlying dynamics in changing consumer preferences suggest continued strong growth in fresh mushroom demand in coming years. By 2018, American per capita consumption of mushrooms had quadrupled since 1970 and tripled since 1980, rising to about 3 pounds per person, per year. But Canadians and Europeans consume 2-3 times this level of mushrooms, at 6-9 pounds per capita for most countries (Italians consumer about 11 pounds per capita every year, and the Dutch consume 33 pounds per capita), which suggests the U.S. market has plenty of room to continue growing.[1] To accommodate this forecast strong growth, new U.S. mushroom farms must be opened, existing farms must be expanded, or imports must increase.*

3.3.4 Technological Innovation Promises Higher Yields

Mushroom farming is an expensive operation with high fixed costs embedded in the indoor, climate-controlled facilities to grow the fungi and the high-tech climate control and growing equipment to keep them healthy. Facing high fixed costs, U.S. mushroom farmers have little ability to raise prices as they exist in a hyper-competitive environment where large supermarkets and product distributors can force multiple farms to bid against each other for sales of a product that must be picked precisely on time, and that spoils within days of harvest. *In this environment, a proven strategy to grow revenues is not through price increases but by increasing the yield—growing more mushrooms per square foot, which can dilute fixed costs and increase profits.*[33]

For the last ten years, industry average yields have ranged from 5.6 to 6.8 pounds per square foot (psf), with an average of 6.25 pounds psf. Considering these enduring industry averages, a successful moderately-sized farm likely must achieve a yield of around 6 pounds psf as a break-even point and would need to be closer to 6.5 psf foot to turn substantial profits.

Stores): Global Opportunity Analysis and Industry Forecast, 2021-2030," *Allied Market Research,* accessed December 15, 2022, https://www.alliedmarketresearch.com/functional-mushroom-market-A14273

[33] "Comparison Of Dutch and Us Mushroom Growing Strategies," *Mushroom Business,* July 15, 2021, https://mushroombusiness.com/news/comparison-of-dutch-and-us-mushroom-growing-strategies/

Table 3.2 Agaricus Farm Average Yields

Agaricus Farm Average Mushroom Yields (Pounds per Square Foot)	
2011-2012	6.33
2012-2013	6.22
2013-2014	6.55
2014-2015	6.33
2015-2016	6.47
2016-2017	6.32
2017-2018	6.34
2018-2019	6.82
2019-2020	5.90
2020-2021	5.63
2021-2022	5.8

Source: USDA, National Agricultural Statistics Service (NASS), *Annual Mushrooms Reports*

Facing the importance of increasing yields, one of the key strategies of successful mushroom farms has been to adopt sophisticated and pricey technologies, the most popular of which is known as the "Dutch growing system" of computerized and automated technologies for precisely controlling growing room climates and monitoring mushroom growth. This system, which requires a multi-million-dollar investment in new technology and equipment, results in a growing environment of lengthy, high-tech, climate-controlled aluminum growing racks, stacked closely on top of each other.[34] The whole system is carefully monitored and regulated by computer algorithms (and sometimes cameras) to keep perfect levels of humidity, CO2, temperature, and light, based on the growing stage of the mushrooms. The use of aluminum beds (compared to conventional wooden beds) lowers the risk of pathogens and makes cleaning easier. Picking lorries can be designed to match these aluminum racks perfectly (and can even be automated to raise or lower to different levels of picking), making picking much more efficient and reducing worker injuries. At its most advanced, these systems can feature robotic machines to move and clean racks and even to harvest the mushrooms, though mushroom picking is a notoriously delicate operation that is still mostly done by hand.[35]

[34] See, for example, "Growing Racks," *Dutch Mushroom Project,* accessed December 15, 2022, https://dutchmushroom.nl/growing-racks/.

[35] Kekkilä-BVB, "Futuristic fungiculture;" Mushroom Business, "Comparison Of Dutch."

Modernized, Hygienic Dutch Growing System Produces Higher Yields

In addition to increasing yields, adopting such technologies can result in less breakdown of old equipment, operational labor cost savings, cost-saving from reducing the use of forklifts to move racks, reduction of human error in climate control, energy savings through efficient climate management, reduced picking costs and worker injuries, reduced water usage through computer regulated efficiencies, and minimized potential for diseases due to usage of aluminum trays.[36]

In California, one mushroom farm (Premier Mushrooms) adopted such a "Dutch" growing system, expanding their growing beds 4-fold and experiencing production growth from 70,000 to 300,000 pounds each week. The farm's sustainability coordinator reports a more efficient use of water, less risk of pathogens, and improved food safety due to the adoption of the sophisticated closed-loop system of automated climate control and loading/unloading equipment.[37]

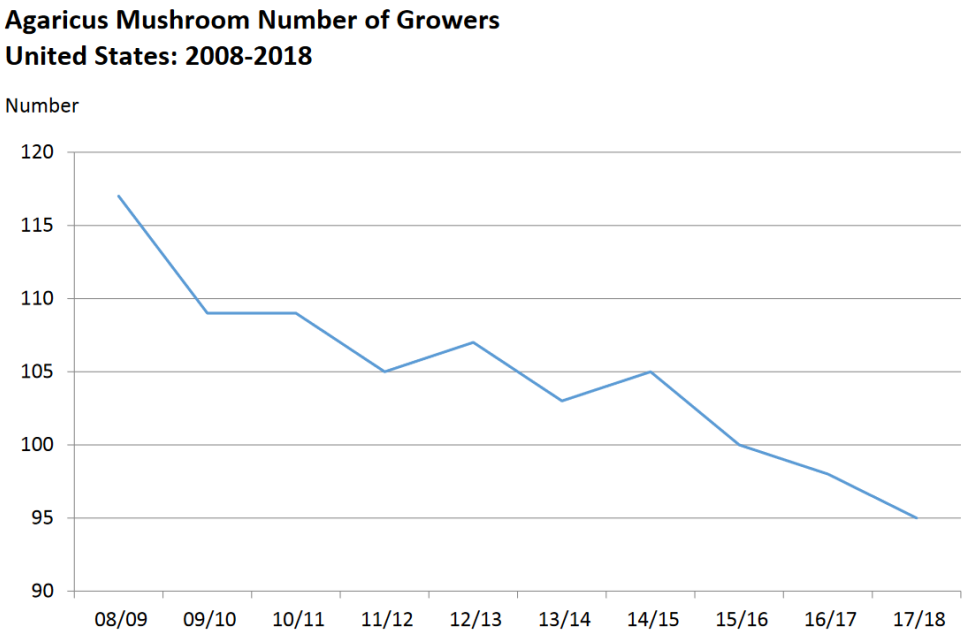
Key Takeaway. *The availability of advanced "Dutch" system technology that can substantially increase yields, while improving energy and water efficiencies, reducing diseases, and improving harvest quality, will continue to be an industry growth driver among those farms able to adopt the expensive new technologies.*

[36] Douglas K. Hodge, "Appraisal Report Of: Colorado Mushroom Farm, LLC 10719 S. County Road 5 Alamosa County Alamosa, Colorado 81101," Farmers National Company, 2018.
[37] Susan Botich, "California Mushroom Startup Utilizes Closed-Loop Dutch Technology System," *Seedstock,* July 19, 2014,https://seedstock.com/2014/06/19/california-mushroom-startup-utilizes-closed-loop-dutch-technology-system/; "Premier Sold to Farmer's Fresh," *Mushroom Business,* February 13, 2020, mushroombusiness.com/news/premier-sold-to-farmers-fresh.

3.3.5 Regional Growth Opportunity in A Fragmented Industry

The U.S. used to feature hundreds of small to medium-sized farms, growing almost all of the mushrooms consumed domestically. In 1985, there were at least 425 commercial mushroom farms in the United States, but today there are fewer than half that many. In a more recent measure of industry consolidation, between 2008 and 2018, the USDA reports that Agaricus mushroom growers declined from 116 farms to 95.

Fig. 3.9 Agaricus Mushroom Number of U.S. Growers, 2008-2018



Source: USDA, National Agricultural Statistics Service (NASS), *Annual Mushrooms Reports*

While some mushroom farms grew so large as to drive others out of business (for example, Canada's large Farmer's Fresh operation recently bought out California's Premier Mushrooms farm), many U.S. farms closed simply because owners did not wish (or could not afford) to invest in expensive new technology to keep up with the market and/or were able to profitably sell their agricultural land to other users. Most of the remaining U.S. farms—and all the largest ones—are in Pennsylvania or California, such as Monterey Mushrooms Inc., Oakshire Mushroom Farm, or Phillips Mushroom Farm.[38] More than 75% of all mushrooms grown in the United States come from these two states, with Pennsylvania farms accounting for 66% of all U.S. mushroom production and California growing 11%. Adding the production of five other top mushroom farming states to these two states accounts for over 97% of all U.S. mushroom production.

[38] "111411 - Mushroom Production," *NAICS Association,* accessed December 15, 2022, https://www.naics.com/naics-code-description/?v=2022&code=111411.

Table 3.3 States that Produce the most Mushrooms

States that Produce the Most Mushrooms (2022)			
United States Total Pounds: 679,887,701			
Rank	State	Pounds	% of U.S. Production
1	Pennsylvania	446,585,765	65.7%
2	California	73,780,193	10.9%
3	Texas	41,781,853	6.2%
4	Maryland	41,082,370	6.0%
5	Oklahoma	25,793,520	3.8%
6	Tennessee	21,068,000	3.1%
7	Florida	11,593,000	1.7%
Total of Top 7 States		661,684,701	97.4%

Source: USDA, National Agricultural Statistics Service (NASS), *Annual Mushrooms Reports*

This geography of mostly coastal mushroom production means that most of the East and West regions of the U.S. have sizable mushroom farms able to deliver product by truck within a day of harvest. The Central/Midwestern states have some sizable farms in Oklahoma and Illinois to rely upon, while the Southern region features sizable farms in Tennessee, Florida, and Texas. But the entire Rocky Mountain West (excluding the West Coast) has no substantial mushroom farms.

Although the entire area west of the Mississippi (not including the West Coast) consumes about 300 million pounds of mushrooms a year, farms in that region (with the biggest ones in Oklahoma and Texas) grow only about 80-90 million pounds a year for regional distribution. That means that about 200 million pounds of mushrooms every year must be shipped into the Western U.S. (excluding the West Coast), mostly from other regions of the country or from Canada. This deficit in local mushroom production is especially stark for states like Colorado, Nebraska, New Mexico or Wyoming, which have no commercial Agaricus mushroom growers anywhere close by.

Key Takeaway. *The mushroom farming landscape means that the Rocky Mountain West has substantial opportunity for mushroom farming success. Mushrooms are a delicate, short shelf-life product that consumers wish to buy as fresh as possible. Though advances in refrigeration and delivery logistics mean mushrooms can be quickly shipped to destinations across the country (even from CA or PA), the reality remains that mushrooms could be shipped much faster—even within hours of harvest—if a farm is headquartered nearby. The ability to deliver mushrooms to area stores and restaurants within hours of harvest, without major local competition, and with lower transportation costs than out-of-region rivals, would be a competitive advantage for any farm located in the Rocky Mountain West.*

3.4 Industry Constraints

3.4.1 High-Technology costs

As discussed in the previous section, the availability of yield-enhancing new technology is a growth driver in the mushroom industry. But it is also a constraint for any individual business insofar as the costs for this technology are substantial. It can cost several million dollars to retrofit an existing farm with "Dutch growth system" technology (and to retrain workers), or to build and launch a new operation from scratch. The high price of acquiring and mastering this technology has been known to push some companies into bankruptcy, as happened to Ostrom Mushroom farm in Washington, an early adopter of the Dutch growing system in the 1970s (though the company survived bankruptcy and later used a mastery of high yield "Dutch" growing techniques to become the largest grower in Washington State).[39]

3.4.2 Long Revenue Horizons

While initial farming startup or retrofit costs can be substantial, the turnaround time to realize any business revenues following these expenses can be about four months from spawning of first crops (in addition to time spent to outfit and launch a growing facility, as well as to recruit and train workers). Because Agaricus crop cycles are 12 weeks and crops are staggered in perhaps three batches (each one a week apart), it can take about 15 weeks from initial spawning to harvest and delivery of a full crop. Payment on delivered product can take 30 more days. All told, it can be four-five months from spawning to realized revenue, on top of whatever additional time it may take to outfit a growing facility and recruit a labor force. [40]

> *"For several months without revenues you have to keep paying all the bills. You have to pay employees. You have to pay for the crop. You have to pay for the energy. You have to pay the insurance and everything."*
>
> *--Owner of Colorado Mushroom Farm, 2022*

[39] "How They Do It: Ostrom's Has Been Cultivating Nutritious, Delicious Mushrooms Since 1928," *Thurston Talk,* January 5, 2012, https://www.thurstontalk.com/2012/06/05/how-they-do-it-ostrom%E2%80%99s-has-been-cultivating-nutritious-delicious-mushrooms-since-1928/

[40] Baljit Nanda, interview, November 14, 2022.

3.4.3 Constraints of Labor and Other Factors of Production

Mushroom Picker Labor Shortages. The much-discussed "Great Resignation" of workers during the pandemic era hit the mushroom industry hard. The industry has always faced unique labor challenge. There must be specialized, skilled workers for the unusually delicate demands of mushroom farming, and these workers have very tight timeframes in which to harvest mushrooms before they begin to deteriorate. Even minor delays or mistakes in harvesting can have seriously negative consequences on company sales. In an already tight and specialized mushroom farming market, the pandemic only exacerbated these challenges as thousands of workers fell sick, while others choose this time of disruption to leave their mushroom farming jobs altogether. The growing mushroom farm labor shortage in recent years has been hard to address because American workers have not flocked to mushroom picking jobs, and strict immigration laws have made it hard to find new recruits to fill vacant positions.[41]

As a result, by 2022, many mushroom farms were operating with only 75% of the workforce needed to reap crops. Growing rooms were not being utilized to full capacity, and when smaller crops did come in, large farms like Monterey Mushrooms reported that 10-20% of the product was left unharvested.[42] Farms in Kennett Square, Pennsylvania (which produce over 65% of all U.S. mushrooms) reported 20% vacancies on their workforce in 2021, with a result that more than a million pounds of quality mushrooms every week were ruined due to inability to harvest them in time.[43] One farm in Pennsylvania reported losses of $40,000 a week due to inability to find enough harvesters. Another reported loss of $250,000 half-way into the year. All told, mushroom farmers in Chester County (PA), lost $168 million in 2020 due to spoiled mushroom harvests.[44]

In such a situation, it may not help that a farm has installed an advanced "Dutch growing system." High yields don't mean anything if there aren't enough pickers to harvest the crop. Ostrom Farms in Washington has faced this very problem. Ostrom has an advanced growing system with state-of-the-art technology capable of managing 48 growing rooms. At full capacity, the system can produce about 14 million pounds of mushrooms a year. But in the last few years, Ostrom has faced a worker shortage (party due to worker covid illnesses), has not been able to fill all its growing rooms, and is only harvesting 8-9 million pounds a year—about 60% of capacity.[45]

---

[41]Abby Narishkin, Steve Cameron, Victoria Barranco, Yin Liao , and Grant Tyler, "Why 1 million mushrooms are getting destroyed every week," *Insider,* November 8, 2021, https://www.businessinsider.com/mushrooms-getting-destroyed-pennsylvania-farms-labor-farms-2021-11

[42] Rachel Roberts, "State of the (mushroom) Industry," *The Packer,* January 6, 2022, https://www.thepacker.com/opinion/state-mushroom-industry

[43] Abby Narishkin et al., "Why 1 million."

[44] Abby Narishkin et al., "Why 1 million;" see also Breanna Bradham, "Labor Shortage Forces Pennsylvania Mushroom Farms to Dump Crops," *Bloomberg,* June 25, 2021, https://www.bloomberg.com/news/newsletters/2021-06-25/labor-shortage-forces-pennsylvania-mushroom-farms-to-dump-crops.

[45] Joel Donofrio, "State-of-the-art mushroom facility in Sunnyside helps meet soaring demand," *Yakima Herald-Republic,* January 30, 2022, https://www.yakimaherald.com/news/local/state-of-the-art-mushroom-facility-in-

Mushroom farming is especially susceptible to such labor shortages because the mushrooms must be picked immediately upon optimal maturity and a delay of even one day can substantially reduce their value. Delivering the mushrooms across a region by truck also must be done quickly, so trucking labor shortages only add to the challenges.

Scarce labor may be an industry constraint for some time to come, especially in less populated areas like the Rocky Mountain West which was earlier identified as a region in need of a local mushroom farm. Even though some farm owners speak of a national labor market and the possibility of recruiting workers from more populated states (e.g., California) to places like rural Colorado, there will remain enduring problems of workers not being able to afford such a move or to afford housing costs in a new locale based on farming wages that cannot keep pace with many local housing costs.[46]

There have been some national efforts to address the problem with reformed immigration rules. The Farm Workforce Modernization Act is currently sitting before Congress, and it would expand the number of worker visas available to immigrants willing to work on U.S. farms facing labor shortages. However, as it currently stands, the mushroom industry doesn't qualify for the H-2A temporary worker program, because mushrooms are a year-round crop that doesn't qualify for seasonal immigrant workers with a H-2A visa. Though efforts have been made to include the mushroom industry in amendments to the currently considered Farm Workforce Modernization Act, that has not happened yet. In any case, the entire act has been stalled in a divided Congress for more than a year, and with recent Republican control of the House (and their agenda of restricting immigration) it is unlikely this bill will pass anytime soon.

Scarcity and High Prices of Material Factors of Production. Labor is just one factor of production in short supply for mushroom farmers. Some critical raw materials for growing mushrooms have also been increasingly scarce and pricey. For example, a primary ingredient of mushroom compost (substrate) is wheat straw, but this simple material has been in short supply due to enduring drought across the West. Without dependable supplies of straw, some farmers have been forced to alter compost recipes, but this has resulted in greater threats to crop health, increased diseases, and lower yield. Relatedly, the "casing layer" of peat moss that is placed on compost after it is inoculated with mushroom spawn has also been scarce. In recent years, peat moss shortages have increased in price in some markets by up to 80%.[47] There is also the

sunnyside-helps-meet-soaring-demand/article_ab87df25-221c-56d1-9416-5e2e523a81dd.html#:~:text=Ostrom%20moved%20from%20Olympia%20to,at%20Midvale%20and%20Duffy%20roads)

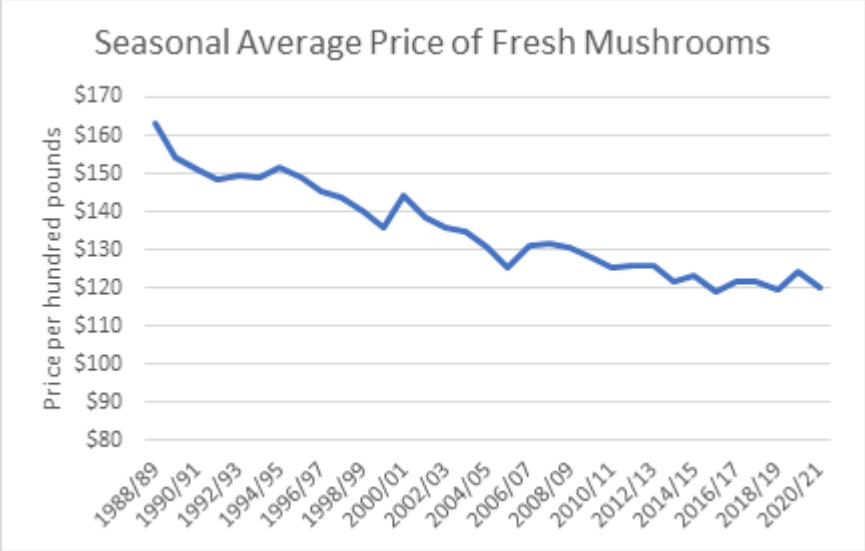
[46] Baljit Nanda, interview, November 14, 2022.

[47] Jordan Montgomery, "Mushroom Farmers Across America Face Extraordinary Supply Shortages," *Ambrook Research,* April 29, 2022, https://ambrook.com/research/mushroom-farmers-across-america-face-extraordinary-supply-shortages.

problem of increased transportation and delivery costs due to oil and gas price increases which have affected broad sectors of the U.S. economy.

Declining and Flat Mushroom Prices. Scarce labor and increased prices for transportation and raw materials suggest a need for higher mushroom prices to sustain profits, but the historical trajectory of mushroom prices has been declining or flat for years. Even in recent years, as mushroom farming costs of factors of production have substantially increased, the price per pound of mushrooms has not increased, making margins exceptionally tight in this industry.[48]

Fig. 3.10 Seasonal Average Price of Fresh Mushrooms



Source: USDA, Economic Research Service

"Global supply chains shortages, transportation availability constraints, a drastically reduced farm labor market, and seasonal threats of crop disease have all impacted mushroom businesses. Because the mushroom growing process integrates many other industries products into the growing medium for mushrooms, when availability for any single ingredient is compromised, it impacts growers' ability to mitigate crop threats and to maximize yields…Our members are telling us that this is the toughest time mushroom farmers have faced in more than 30 years."

--President, American Mushroom Council, 2022

[48] For source data on these concerns and quote below, see The Mushroom Council, *2021 Annual Report*; "Post Pandemic Conditions Impact Mushroom Growers As Consumer Interest Continues To Grow," *American Mushroom Institute*, last modified August 31, 2022, https://www.americanmushroom.org/clientuploads/Press_Room/Press-Releases/2022/083122_NASS_Final.pdf

3.5 Conclusion

The mushroom industry faces a mix of both drivers and constraints on growth and new market entry. Primary growth drivers are:

- Growing consumer demand for healthy mushrooms, based on changes in consumer lifestyles, such as a growing vegetarian market and increased environmental sensitivities. The mushroom market is expected to grow about 9% a year for the next decade.
- Increasingly sophisticated technologies such as the "Dutch" growing system. These technologies facilitate higher yields, more efficient use of energy and water, fewer mistakes by workers, and disease resistant growing facilities.
- A paucity of local mushroom farms in some regions. Broad areas of the Rocky Mountain West have no sizable mushroom farm within a day's drive, which indicates a substantial market opportunity for local harvesting and delivery of a product prized for its freshness and just-harvested taste.
- Increased use of processed mushrooms in soup mixes, processed meals, powders, and the functional mushroom market of infused beverages and health supplements.

Serious constraints on the mushroom industry include the high costs of technology adoption, long-time horizons for realizing revenues even after substantial capital investments, labor scarcity, and scarcity-driven high costs for other factors of production such as transportation, straw, and peat-moss. These constraints have been so serious in the last few years that companies have been forced to operate substantially below capacity and to destroy millions of pounds of quality mushroom crops, losing significant potential revenues in the process.

Key Takeaway. *To deal with industry constraints (such as expensive growing materials and flat mushroom prices), any new entry into the mushroom farming business must:*

- *Install state-of-the-art, sophisticated growing technologies*
- *Have enough working capital to carry sizable capital expenses for a startup period of several months of no realized revenue*
- *Be able to attract and retain a skilled labor force*

Constraints on industry growth (labor scarcity, high costs of straw and peat) are likely temporary and resolvable, while the predicted long-term growth of consumer demand for mushrooms should be more long-lasting. Furthermore, the absence of a substantial mushroom farming operation in the Rocky Mountain West points to unique growth opportunities that may outweigh industry constraints.. A new farm, coordinated with skilled management, ready to adopt new technologies, able to deliver to an underserved market, and capable of retaining a motivated workforce, can thrive in current industry conditions.

4

Alamosa-Based Mushroom Farm: Market Analysis

4.1 Target Market

4.1.1 Agaricus Mushrooms, Sold to Restaurants & Grocers, with a Regional Focus

Fresh Agaricus Mushrooms. The most promising segment of the mushroom market for a moderate- to large-sized commercial mushroom grower to target is the fresh, Agaricus mushroom market (white button, cremini, and portobello mushrooms).

- Over 90% of all value in the national mushroom sales market is fresh mushrooms (versus canned, powdered or otherwise processed).[1]

- Though specialty mushrooms like shiitake and oyster are growing in popularity, they constitute a very small share of the mushroom market.

- Specialty mushrooms account for just 3% of the total volume of pounds sold and 9% of the dollar value of total mushroom sales in 2022.[2]

- Agaricus mushrooms consistently account for 97% of the fresh mushroom market.

Some farms grow substantial volumes of both Agaricus and specialty mushrooms (e.g., shiitake, oyster, etc.), but specialty mushrooms require unique growing conditions such that farms capable of growing both Agaricus and specialty mushrooms must invest substantial capital in different types of equipment, facilities, and specialized training for growing very different kinds of crops. Any relaunched Alamosa mushroom farm may benefit from focusing on just a single type of mushroom (e.g., Agaricus) to take advantage of less capital investment, more focused effort, and economies of scale.

Delivery to Smaller Groceries and Restaurants, through Sysco Partnership. The main outlets purchasing fresh Agaricus mushrooms from an Alamosa farm will be grocery stores, supermarkets (including hypermarkets like Costco or Walmart), and restaurants. In the years before its recent closure, the Alamosa Mushroom farm estimated that about 70% of its product was distributed to restaurants in nearby markets like Denver or Albuquerque.[3] Many of these product sales, whether to restaurants or grocers, will occur through a partnership with a distributor like Sysco, the world's global foodservice leader which has strong produce-delivery

[1] Fortune Business, "Mushroom Market Size."
[2] USDA, National Agricultural Statistics Service (NASS), *Annual Mushrooms Report,* 2022, https://www.nass.usda.gov/Publications/Todays_Reports/reports/mush0822.pdf
[3] Baljit Nanda, interview, November 14, 2022.

relationships with restaurants and grocers throughout the Rocky Mountains. Because some of the larger supermarkets (e.g., King Soopers and Safeway) have well-established relations with national-distribution growers,[4] and because these large retailers don't prize maximal freshness as much as smaller, quality-focused purchasers do, the most immediate market-entry opportunities for a new grower may be to focus on sales to restaurants (including multi-unit restaurants) and smaller groceries more concerned with fresh, organic produce, such as Whole Foods, Sprouts, or Trader Joe's.

A Regional Focus. Because mushrooms are a delicate product, prized for freshness, any new or relaunched entry to the industry should focus on local/regional distribution, exploiting an ability to deliver fresh product within a few hours or a single day of harvest. Trucking transit times of even just a day or more can be disadvantageous, both because mushroom shelf-life is so short (7-9 days) and because driving mushrooms causes vibrations and other disturbances which can damage their fragile structure, causing brown or mushy spots to begin to grow. If a mushroom arrives at the point of distribution after a day or more journey, it only has 5-6 days of shelf-life remaining, meaning retailers must sell them within 2-3 days, allowing customers a few days of refrigeration time at home. Restaurants also value mushrooms delivered shortly after harvest, so they can prepare the most flavorful meals. Mushrooms not retailed and prepared in this brief time frame become far less appealing and are typically thrown away. An additional benefit of quick delivery to a regional market is that customers can change orders on short notice, as the farm is just hours away from its target market.

In addition to these hard spoilage limits, customers prefer mushrooms to be as fresh as possible for maximal flavor, so retailers have advantages in marketing mushrooms that are picked close to the point of sale. New farmers (or a relaunched Alamosa farm) will not be well connected to national distribution networks (which are already dominated by the largest farms in Pennsylvania, California, and Canada), so a successful model must be built on the ability to define competitive advantage (freshness) and to thrive in a regional market.

Key Takeaway. *A new or relaunched mushroom farm will find the greatest initial market opportunities in the ability to deliver maximally fresh, Agaricus mushrooms to restaurants and smaller grocers within close regional proximity to the farm. The Colorado Front Range and Albuquerque/Santa Fe markets will be key.*

[4] For example, (e.g., Monterey Mushrooms out of California or Phillips Mushrooms out of Pennsylvania, or even growers from Canada)

4.1.2 Possible Target Market Geographies

Target Market C: All Western States. For an Alamosa-based grower, the regional market can be defined most broadly as all states West of the Mississippi River, not including the West Coast states (West Coast states are a long distance from Alamosa and are already well-serviced by several West Coast growers). Because this target market is quite large, spreading from southern Texas to northwest Idaho, it can require up to two days of trucking to deliver to all points in this market from Alamosa. Furthermore, this region includes other large Agaricus growers (e.g., in Texas and in Utah), making this market a *possible* (but not optimal) target market for an Alamosa-based farm. Therefore, we label this broad, sub-optimal regional market as ***"Target Market C".*** An Alamosa-based farm can possibly compete for fresh mushroom sales across this region, but a better return on effort may result from a more precisely targeted approach to dominate a smaller market (Target Markets B and A, below).

Target Market B: 500-Mile Radius. The broad region of Target Market C (all states West of the Mississippi, minus the West Coast) can be reduced to areas within a 500-mile radius of Alamosa. This reduced market area can be reached within a single day of trucking delivery from Alamosa. As the 500-mile radius map shows below, this 500-mile radius includes large population centers like Phoenix, Salt Lake City, El Paso, and Denver. The region has a population of more than 25 million people and a robust 10-year population growth rate of over 10%.[5]

Fig. 4.1 Target Market B: 500-Mile Radius around Alamosa, CO

Largest Counties by Population in 2021

County (Metro/City)	Size
Maricopa, AZ (Phoenix-Mesa-Scottsdale)	4,496,588
Salt Lake, UT (Salt Lake City)	1,186,421
Pima, AZ (Tucson)	1,052,030
El Paso, TX (El Paso)	867,947
Oklahoma, OK (Oklahoma City)	798,575
El Paso, CO (Colorado Springs)	737,867
Denver, CO (Denver-Aurora-Lakewood)	711,463
Utah, UT (Provo-Orem)	684,986
Bernalillo, NM (Albuquerque)	674,393
Arapahoe, CO (Denver-Aurora-Lakewood)	654,900

500-Mile Radius Report for Alamosa city, Colorado

[5] "Big Radius Tool," *U.S. Economic Development Administration*, accessed December 30, 2022. https://www.statsamerica.org/radius/big.aspx

Though the sizable population of ***"Target Market B"*** makes it an attractive market for an Alamosa farm, the most far-flung areas of the market (e.g., Phoenix) would require a full day's drive (10 hours), reducing the competitive advantage of maximum freshness and increasing chances of mushroom damage during transit. Also, there are sizable growers in both Utah (Mountainview Mushrooms, Fillmore UT) and Texas (Kitchen Pride, Gonzales TX) that would directly compete for sales in much of this target market. Utah's Mountainview Mushrooms, especially, is more closely located to highly populated and important areas of this ***"Target Market B,"*** namely Phoenix and Las Vegas. For these reasons, a relaunch of the Alamosa Mushroom Farm will find challenges in maximizing market share across this Target Market.

Target Market A: 300 Mile Radius. To fully exploit the competitive advantages of a Southern Colorado location, the most precisely defined market would be a 300-mile radius from Alamosa. This radius would include large markets like the Colorado Springs/Denver/Fort Collins/Cheyenne corridor, as well as Albuquerque/Santa Fe and small areas of TX, NE, and OK. The area has a population of 8.4 million and a 10-year population growth rate of 9.2%.[6] This entire area could be reached in just a few hours of truck delivery following harvest. ***Very importantly, there is no other sizable competing Agaricus mushroom farm in the four states anchoring this market (CO, NE, NM, and WY).***[7] The closest significant Agaricus mushroom competitor is Mountainview Mushroom farm in Fillmore, Utah—507 miles and 9 hours driving-time away.

Fig. 4.2 Target Market A: 300-Mile Radius around Alamosa, CO

Population in 2021: **8,378,556**

10-Year Growth: **9.2%**

Largest Counties by Population in 2021

County (Metro/City)	Size
El Paso, CO (Colorado Springs)	737,867
Denver, CO (Denver-Aurora-Lakewood)	711,463
Bernalillo, NM (Albuquerque)	674,393
Arapahoe, CO (Denver-Aurora-Lakewood)	654,900
Jefferson, CO (Denver-Aurora-Lakewood)	579,581
Adams, CO (Denver-Aurora-Lakewood)	522,140
Douglas, CO (Denver-Aurora-Lakewood)	368,990
Larimer, CO (Fort Collins)	362,533
Weld, CO (Greeley)	340,036
Boulder, CO (Boulder)	329,543

300-Mile Radius Report for Alamosa city, Colorado

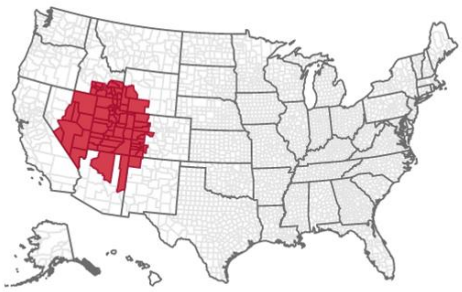
[6] U.S. Economic Development Administration, "Big Radius Tool."

[7] Shosoni Eco-Farm Mushrooms operates sporadically in central Wyoming and produces Agaricus mushrooms. But this farm is very small and does not have much reach beyond its area. The company maintains no website and has little visibility. In the last decade, Shosoni farm has closed twice and struggled to maintain production. It is not a serious competitor to a proposed moderate-sized mushroom farm like the Alamosa Mushroom Farm.

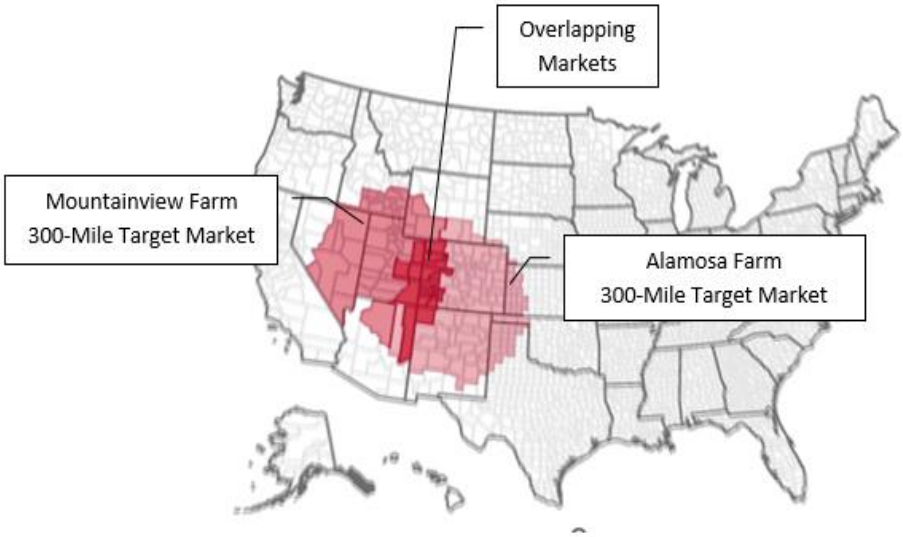
For an Alamosa-based mushroom farm, it is additionally beneficial that a comparison of 300-mile radius maps for a possibly relaunched Alamosa farm and the existing Mountainview farm in Utah (the main regional competitor in the Rocky Mountain West) shows that 300-mile target markets for both farms would hardly overlap at all.[8]

Fig. 4.3 Comparison of 300-Mile Radius around Alamosa and Mountainview Farms

300-Mile Radius around Alamosa Mushroom Farm (Alamosa, CO)



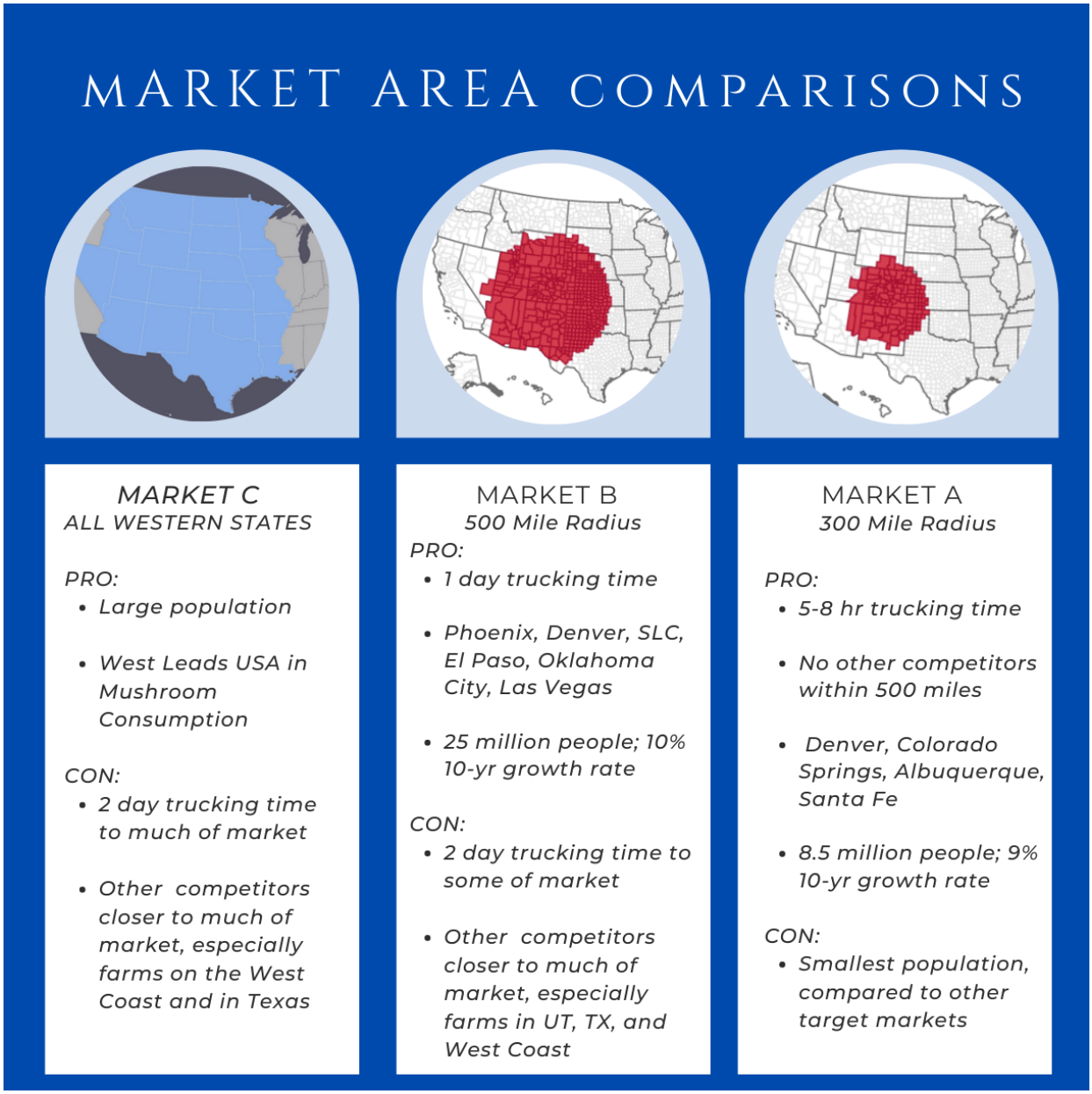
300-Mile Radius around Mountainview Mushroom Farm (Fillmore, UT)



Key Takeaway. *The dynamic of a sizable and growing fresh mushroom market around the Alamosa area (anchored by Albuquerque to the south and Denver to the north), with no local competitors, suggests that there is substantial opportunity for growth in the 300-mile radius around Alamosa, which is labeled here as* ***"Target Market A".***

[8] U.S. Economic Development Administration, "Big Radius Tool."

Fig. 4.4 Target Market A, B, C Comparisons



4.2 Regional Mushroom Demand: Strong and Growing

4.2.1 National Demand Strong and Growing

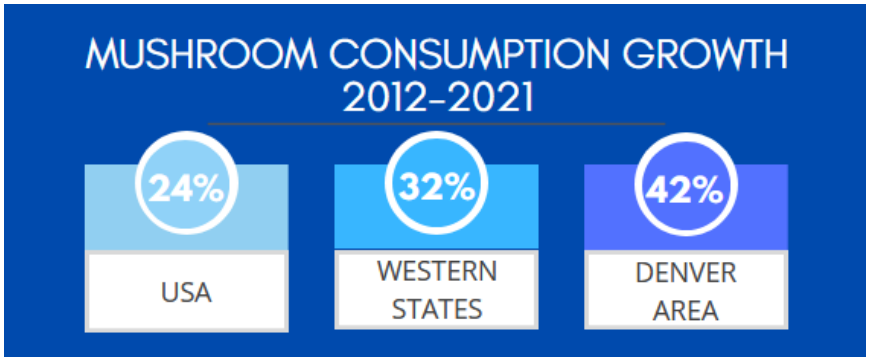
Consumer demand for mushrooms is strong and predicted to keep growing across the USA. Driving factors of demand include: growing vegan consumers, growing consumer interest in healthy and organic food, a growing desire to buy local and connect to area farmers, the increasing popularity of plant-based meat alternatives, and the more frequent appearance of mushroom options on restaurant menus.

About 40% of all consumers said they purchased fresh mushrooms in 2021-2022, a dramatic increase from ten years ago. The same percentage of consumers also say that they have become increasingly attracted to the flavor, versatility, and health benefits of mushrooms over the preceding years.[9] The organic-certified mushroom market is especially strong, posting double-digit annual growth rates for several years running. In 2020, organic mushroom sales posted a 17% growth rate in total pounds sold over the previous year, and in 2022 organic mushroom sales were up again by 19%, with 82% of those sales being Agaricus mushrooms.[10]

4.2.2 Mountain West Regional Mushroom Demand Stronger than National Average

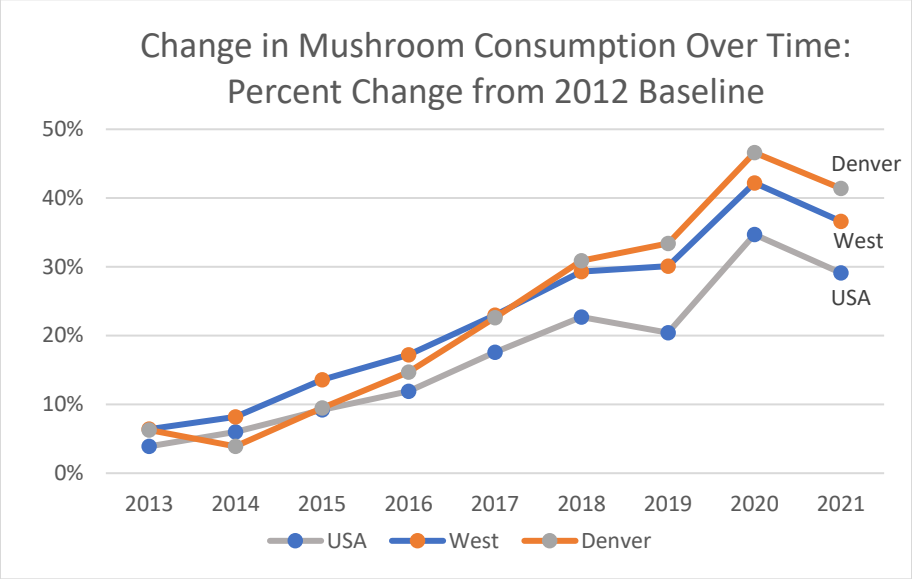
For decades, per capita mushroom consumption has been greatest in the Western U.S.[11] By region, 41% of Western and Northeast consumers reported that they buy fresh mushrooms, compared to 37% of consumers in the south and 34% of consumers in the Midwest.[12] Mushroom consumption in the West and Denver area in specific is growing faster than the national average.

Fig. 4.5 Mushroom Consumption Growth: USA, Western USA & Denver



[9] Mushroom Council Consumer Research, "Fresh Mushroom Attitudes and Behaviors During COVID-19." April 29, 2020. https://www.mushroomcompany.com/resources/statistics/MushroomCOVID19ConsumerPulseSurvey.pdf
[10] USDA, *Annual Mushrooms Report, 2022;* "Organic Mushrooms Registering Solid Sales Gains," *Organic Produce Network, https://www.organicproducenetwork.com/article/1252/organic-mushrooms-registering-solid-sales-gains;* King Whetstone, "Mushroom Sales Down; Specialty, Organic Sales Up," *Lancaster Farming, https://www.lancasterfarming.com/farming-news/ag-business/mushroom-sales-down-specialty-organic-sales-up/article_0d1b5c16-3461-5c6f-bd61-02ebf5fb4cd3.html*
[11] Gary Lucier, Jane E. Allshouse, and Biing-Hwan Lin, "Factors Affecting U.S. Mushroom Consumption," *USDA,* last modified March, 2003, https://www.ers.usda.gov/publications/pub-details/?pubid=39490
[12] The Packer, *Fresh Trends 2022*. http://digitaledition.qwinc.com/publication/?m=40749&i=741354&p=4&ver=html5

Fig. 4.6 Year-by-Year Change in Mushroom Consumption: West, USA & Denver



Source: Mushroom Council Regional Tracker, *Annual Reports*

The Denver area is one of America's leading areas of per capita mushroom consumption. This area is also the foundation of **Target Market A**: a 300-mile radius around Alamosa. As shown in the equation below, the total fresh mushrooms consumed across this area each year can be calculated from USDA data regarding per capita mushroom consumption.[13]

This equation provides a rough accounting of the high volume of mushrooms consumed each year within 300 miles of Alamosa. More than 90% of these mushrooms are Agaricus–the button, cremini, and portobello mushrooms specialized in by the Colorado Mushroom Farm.

Total population in 300-mile radius around Alamosa:	8,378,566
Multiplied by per capita mushroom consumption:	X 2.88 (five-year 2016-2020 avg)
Total Pounds of Mushrooms consumed each year in Target Market A:	**24.1 million pounds**

[13] USDA Economic Research Service and USDA National Agricultural Statistics Service, *Vegetables and Pulses Yearbook Data*, September 15, 2022, https://www.ers.usda.gov/data-products/vegetables-and-pulses-data/vegetables-and-pulses-yearbook-tables/.

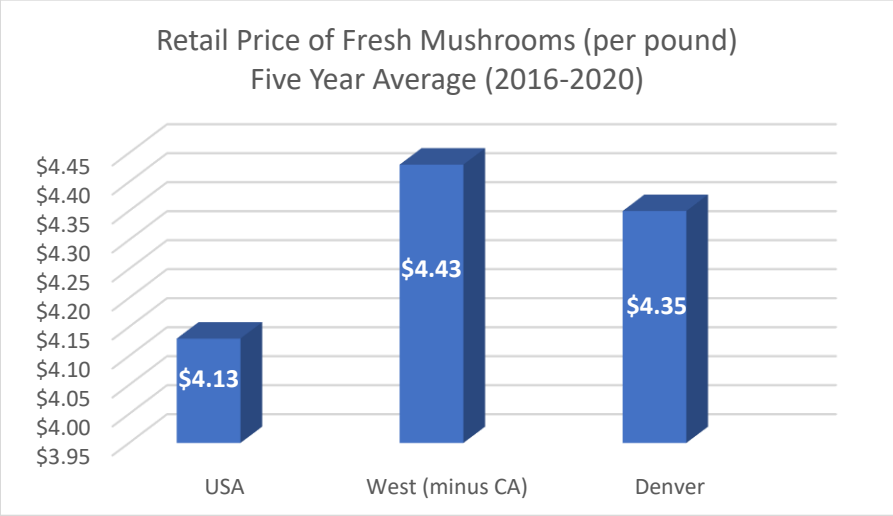
This consumption estimate of ***Target Market A*** is likely low, considering the following factors.

- Mushroom consumption is higher in the Rocky Mountain West than the national average. But the per capita consumption estimate used in the equation above is based on national average mushroom consumption, since the USDA does not report data for per capita mushroom consumption in just the West.

- Mushroom consumption is growing faster in the West than the national average.

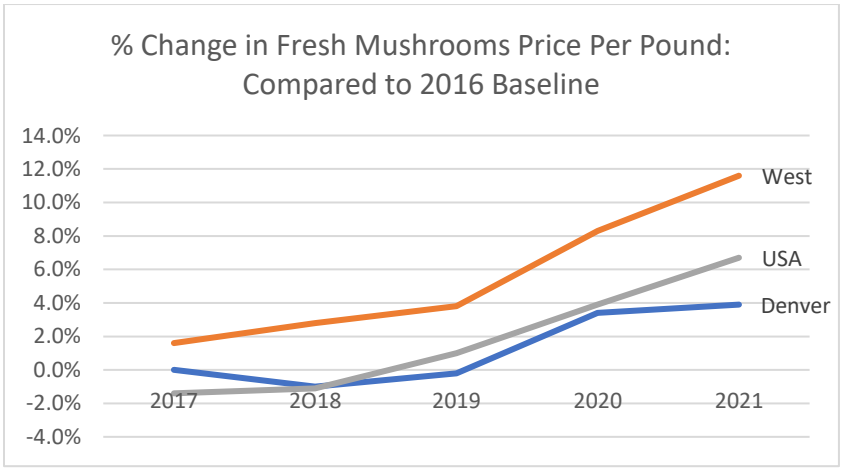
In addition to strong mushroom demand, The Rocky Mountain West also posts mushroom prices that are both higher and growing faster than the national average.

Fig. 4.7 Retail Price of Mushrooms: USA, West & Denver



Source: Mushroom Council Regional Tracker, *Annual Reports*

Fig. 4.8 Percent Change in Mushroom Price Per Pound: West, USA & Denver



Source: Mushroom Council Regional Tracker, *Annual Reports*

4.2.3 Employee-Ownership Attractive to Values-Conscious Consumers

An important market for an employee-owned mushroom farm will be values-driven consumers. With the steady growth of consumers favoring ethical consumption (even when more expensive), there is good evidence that a values-driven business like an employee-owned farm will have competitive advantages. If a relaunched employee-owned farm focuses on public education and branding around its socially conscious model, growth opportunities should emerge from the kind of numbers listed below.[14]

- **78% of all consumers say they are more likely to purchase goods or services from a cooperative business**
- **73% support the general concept of converting businesses to employee ownership. A majority support a rule that owners who close a business must offer their employees a chance to purchase it for employee ownership or a worker cooperative.**
- **66% support public funding of employee ownership**
- **75% of Millennials and Gen Z consumers say sustainability is important to their purchases.**
- **90% of Millennials and Gen Z say they are willing to spend 10% more on sustainable, environmentally-sensitive products.**
- **90% of Millennials and Gen Z say they search for locally sourced products.**

Key Takeaway. *Strong regional consumer demand and mushroom prices above the national average indicate opportunities for growth in the target market of an Alamosa mushroom farm. Values-sensitive consumers are rising nationwide which provides another market growth opportunity.*

[14] For sources on the statistics cited here, see: https://www.forrester.com/blogs/the-power-of-the-values-based-consumer-and-of-authentic-brand-values/;https://geo.coop/story/new-survey-reveals-perceptions-and-myths-about-co-ops;https://www.filesforprogress.org/datasets/2021/8/dfp_worker_cooperative_toplines.pdf; https://www.retailtouchpoints.com/resources/83-of-millennials-engage-in-values-based-shopping

4.3 Regional Mushroom Supply: Limited Competitors

There is substantial room for growth for a proposed mushroom farm in Alamosa, since there is only a single other sizable grower of Agaricus mushrooms in the region, and that grower is 9 hours away (Mountainview Mushrooms, in Fillmore Utah). Beyond Mountainview, there are no other commercial Agaricus growers with more than 20 employees in the entire Rocky Mountain West. Gold Country Mushrooms in Clancy, Montana is a small Agaricus grower, but they only produce about 75,000 pounds per year, far shy of the 8-15 million pound target production of the Alamosa Mushroom farm. Shoshoni Eco-Farm in central Wyoming reported as many as 50 employees in previous years, but this farm has been in and out of operation, maintains no website, and seems to have only limited and irregular distribution in its own vicinity

By far, most fresh Agaricus mushroom growers are currently located in Pennsylvania (more than half of all growers) while another 15 are located along the West Coast. A few are in the Midwest (e.g., Illinois) and several are in the South (e.g., Tennessee, Florida, or Texas). Every major region of the country (West Coast, South, Midwest, and East) has several sizable growers, except the vast and sprawling Mountain West region, which features just a single significant Agaricus grower, located in Utah. For a listing of sample Agaricus mushroom growers, including a listing of small, specialty mushroom (e.g., shiitake, oyster) growers in Colorado, see Appendix E.

In terms of overall consumption, the entire Western region (not counting the West Coast) consumes about 300 million pounds of fresh mushrooms a year, but the region only produces 80-90 million pounds a year by local growers (mostly from farms in TX or UT). ***These facts mean that there is a supply-demand imbalance in terms of the availability of locally grown, fresh mushrooms in the Rocky Mountain West. Regional demand is strong and growing, but local Agaricus farmers are shrinking and almost non-existent.*** During some of its best years before closing in 2022, the Alamosa farm produced 7-8 million pounds a year for regional distribution, mostly in the Denver/Colorado Springs or Albuquerque/Santa Fe areas. But now that the farm is closed, and there are no other Agaricus farms nearby, these millions of pounds of lost local production must be shipped into the previous Alamosa Farm-dominated market from growers located outside the region.

Key Takeaway. *Because mushrooms are prized for freshness and do best with limited transportation jostling, a local farm with very few regional competitors and the ability to deliver to sizable Western markets within hours of harvest will have significant market advantages in helping to fill a regional deficit in fresh mushroom supply.*

5

Organizational Feasibility

5.1 Overview

Good Management and other aspects of operational feasibility are key factors in generating sustainable profits for a company. This section analyzes the organizational/operational feasibility of a relaunched Alamosa mushroom farm, examining whether a possible farm might have the right organizational model, the proper "management expertise/prowess," [1] and broader community support necessary for success.

5.2 CMF Previous Management Record

The Mushroom industry is a complex business that requires deep experience and professional management. To maximize operational efficiency and profitability, most commercial mushroom farms have a general manager, a quality control manager, a controller, and supervisors of growing, harvesting, shipping and maintenance teams. These managers must have the critical analytical skills to make good decisions, while supervisors of growing and harvesting teams must have substantial experience in the business to properly oversee their teams.

In the case of CMF, it is managed as a Limited Liability Company (LLC). This LLC manages all farming operations, but does not own the land, plant, or farm equipment. The parent organization (holding company) of CMF is A & M Capital, LLC which acquired the land and equipment of the previous farm (Rakhra Mushroom Farm) out of bankruptcy in 2013. A&M Capital (owned by Baljit Nanda) owns the current farm's land and equipment and leases these items from $60,000 a month to the CMF (which is also owned by Nanda).[2]

It is common for an LLC to set up a closely related holding company in this way to protect assets from liabilities, such as claims of creditors during bankruptcies. Under the LLC structure, decision-making can be very hierarchical and linear. CMF is an LLC that gives unlimited power to the sole owner in making all decisions related to the company. Because CMF is governed by sole ownership, final decisions can be made by the owner alone, which can impose weaknesses in terms of growing a company by gaining broader insights or buy-in from employees or other stakeholders. In fact, the assessment of several parties interviewed for this report (and of a 2018 farm appraisal report) was that overall "knowledge, skill, and management ability" at the farm

[1] Berry and Shabana, "Adding a Strategic Lens," 71.

[2] In recent years, CMF has not been able to pay its full yearly rent of $720,000 every year, due to accumulating debts at CMF.

had been an ongoing weakness.[3] Some of the concerns with CMF's past management are detailed below.

- *Lack of Consistent Professional Management.* The owner of CMF was involved in the business for many years, developing deep expertise in the mushroom industry. When Baljit Nanda opened the farm back in 1985, he served as the general manager who directed the farm until his exit in 2010. As an engineer himself, Nanda was a mushroom industry expert in Colorado with deep knowledge of mushroom production. When he left the farm in 2010, a group of co-owners tried to co-manage the farm, but this team faced internal divisions and ultimately the farm went bankrupt in 2012.[4] When Nanda reacquired and reopened the farm in 2014, he again acted as the farm's general manager. However, Nanda did not live in Alamosa and did not have a day-to-day presence at the farm. Thus, the farm's controller came to play a de facto role as general manager on many occasions while working as a controller as well. This kind of situation led multiple workers and several local government officials interviewed for this study to voice concerns about the ongoing professional management at CMF.

- *Detailed Management System but Missed Opportunities*. CMF had a management system, with supervisors of various departments: growing, harvesting, packing, training, sales, maintenance, and a Safe Quality Food (SQF) officer.[5] The growing department featured a professional head grower, two day-shift growing supervisors, and one night-shift supervisor.[6] The picking department had dozens of workers overseen by experienced supervisors.[7] Some of these supervisors began as entry-level workers who emerged as supervisors due to long years of dedicated experience in growing mushrooms. As for the SQF department, CMF spent about a half million dollars every year on compliance with food safety codes. *This same level of supervisory detail must be replicated in a relaunched farm, and the financial models presented in this report project hiring experienced department supervisors along the same lines as CMF.*

  Though CMF had a well-developed departmental management system (excepting the irregular presence of the general manager), there were some missed opportunities by the management team. For example, when the farm emerged from bankruptcy in 2014, the moment was ripe to recognize market pressures for increased production and convert to a Dutch growing system with updated technology. However, the conversion to a Dutch system was not pursued until 2019 (and then was unfortunately stalled due to the pandemic), which several interviewed sources now say was a management mistake that likely led the farm into renewed bankruptcy in 2022. Also, several interviewees expressed

[3] 2018 Appraisal Report, p. 33.
[4] Baljit Nanda, interview by Minsun Ji, November 14, 2022.
[5] Clair (controller), interview, December 3, 2022.
[6] Farm Worker, interview by Minsun Ji, December 30, 2022
[7] Ravi Singh, interview by Minsun Ji, December 15, 2022.

a view that the Sales and Marketing department demonstrated lackluster performance since 2018, as the farm experienced declining sales from the volumes of 2015-2017.

- *Persistent Legal, Financial, and Public Health Disputes.* Over the years, CMF built mutually supportive relations with other commercial mushroom growers. When one company needed additional mushrooms to meet a sales opportunity, CMF would sell some of their mushrooms to other commercial companies, who would then resell them to their own customers. CMF would also buy and resell mushrooms from other commercial farms, particularly specialty mushrooms like oyster or shiitake. Unfortunately, CMF developed a shaky record of managing these industry partnerships which led them into various legal troubles with vendors, other commercial farms, and financial institutions over the years.

  For example, CMF was sued by the USDA in 2020 for repeated failure to report its annual mushroom production or to pay its required farming fees to the U.S. Mushroom Council. The court found 28 occasions from 2017-2019 when the farm did not remit its monthly production reports nor its farming fees (as required by law), nor did management respond to frequent correspondence, emails or phone calls from the Mushroom Council about this issue. As a result, CMF was ordered to pay $95,000 in assessments, late fees, and fines.[8] CMF's 2022 bankruptcy filing indicates this same negligence pattern in the 2020-2022 period, as the farm now owes $125,718 in unpaid assessments to the Mushroom Council.

  A different case, *Phillips Mushroom Farms, L.P. v. Colorado Mushroom Farm, LLC, et al*., involved a dispute with another mushroom farm, when CMF failed to make payments to the supplier in a timely manner. Between 1991 and 2022, CMF and its previous company (Rakhra Mushroom) experienced at least 18 legal suits involving wage disputes, nonpayment of suppliers and other commercial farms, missed payments to lenders, disputes with employees, and public health violations. One of these cases involved the death of a worker in 1991, and a workplace discrimination case was brought in 2011. In CMF's 2022 bankruptcy filing, 7 legal actions against CMF in the preceding year were listed: 1 public health violation, 2 workers' compensation claims, and 4 unpaid creditors.

  Since 2011 (and substantially escalating since 2018), CMF also compiled a record of non-compliance with Colorado health regulations for public drinking water safety, leading to serious public health risks and legal troubles with the Colorado Department of Public Health and Environment (CDPHE). This important public health matter must be remediated by any relaunched farm. [9]

[8] United States Department of Agriculture Before The Secretary Of Agriculture, in re: Colorado Mushroom Farm, Decision And Order Without Hearing by Reason of Default, September 1, 2020, https://www.usda.gov/sites/default/files/documents/200901_DD_MPRCIA_20-J-0133%20-%20Colorado%20Mushroom%20Farm.pdf

[9] CO Dept. of Public Health and Environment v. Colorado Mushroom Farm, LLC (Case No.: 2020CV30039).

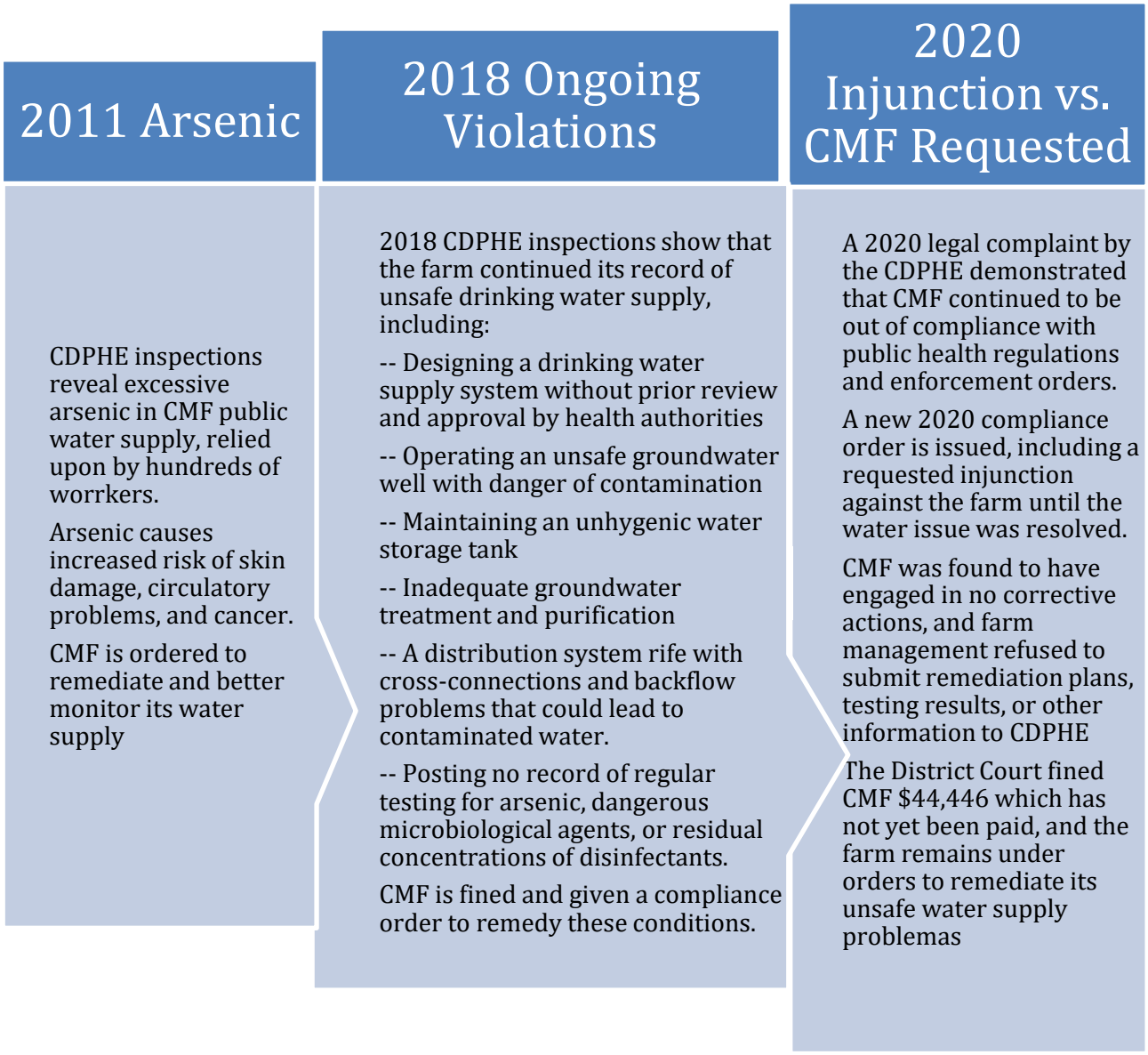


Fig. 5.1 Public Health Violations and Legal Actions involving the CMF

"The CMF continues operating a public drinking water system [that] endangers its employees…CMF did not submit the data, plans, reports, or information to the Department required by the 2020 enforcement order…Corrective actions to address ongoing violations were nonexistent or slow to come."

--Colorado Department of Public Health and Environment, Complaint and Request for Injunction Case No2020CV30039.

5.3. An Alternative, Employee-Owned Business Model

CMF was managed professionally enough to profitably grow mushrooms for several years, but it lacked the strong and consistent professional management necessary to survive recent market challenges. Problems included an off-site general manager, missed opportunities such as a timely conversion to the Dutch growing system, and persistent legal, financial, and public health disputes with industry partners, employees, and state authorities.

The management of an employee-owned business can be quite different from how CMF was operated in the past. The biggest difference lies in enhanced "democracy" and "transparency" in running a company, as workers at an employee-owned business are more engaged in establishing the company's vision and in vital decision-making. Well-established cooperative principles of social mission and concern for the community also make it more likely that an employee-owned business will experience fewer legal conflicts with employees and be less likely to ignore public health concerns on its site. This section will summarize different legal models of employee-owned businesses and will address some issues to consider in relation to Alamosa mushroom farm workers possibly embracing a worker cooperative model.

There are different models of employee-owned businesses, such as Employee Stock Ownership Plans (ESOPs) or worker cooperatives. Each option comes with strengths and weaknesses, and the question of how to include immigrant farm workers (some of whom may be undocumented) is important to answer. **This study suggests that the best legal model for a relaunched employee-owned Alamosa mushroom farm is likely to be a worker cooperative, structured either as an *"LLC taxed as C Corporation"* or a *"Limited Cooperative Association" (LCA).*** In the end, the best model should be decided among employee-owners through consultation with an attorney and in consideration of membership composition.

5.4 The Employee Stock Ownership Plan

There are currently over 6500 Employee Stock Ownership Plan (ESOP) companies in the United States, with 12 million ESOP Fund participants. ESOP is a plan under which employees own shares of their own company. ESOPS are "defined contribution plans" through which a defined number of company stock shares are placed in an employee's account based on a workplace-specific formula, and the benefit of those shares varies based on the market performance of the company. This business model has become an important tool to build retirement wealth for millions of employees in the U.S. since the 1980s.

Adoption of an ESOP does not necessarily result in much change in a company management system, since employees become passive stock share owners, but do not typically participate in company management or decision-making. As for the ESOP fund, normally an ESOP trust is established and is managed by a professional ESOP trustee who is fiduciarily responsible for managing the Fund.

ESOPs can provide wealth-building possibilities and better retirement benefits for employees. Employees can "cash out" their stock shares when they leave the company, or when they retire, at which point the ESOP fund is required to repurchase the employee's shares at market value.

There are a few factors to consider in relation to possibly adopting an ESOP model for a relaunched Alamosa mushroom farm.

- The normal standard is that a company has to be a corporation with stock shares in order to convert to an ESOP company. If an existing company is an LLC without stock shares (as the current mushroom farm is), then the LLC company first has to be converted to a C corporation, or the LLC has to agree to be taxed as a C corporation, so that it may issue stock shares to employees.[10] If it is a start-up company, the company has to be a C corporation before converting into an ESOP.

- Normally, an LLC doesn't have stock shares to distribute, thus an LLC can't easily become an ESOP. However, if an LLC is taxed as an S corporation, then it can sponsor an ESOP. This S Corporation must be structured to benefit a wide range of employees (not just a few well-paid company employees) and has tax benefits in that any profits attributable to the ESOP's ownership of stock in an S corporation are not subject to federal or state income tax.[11]

- An ESOP structure is best suited for a profitable business with steady performance and predictable cash flow. Workers are typically not much involved in rethinking or helping to restructure company operations in an ESOP conversion, so this kind of conversion works best when the company is already stable and profitable. Additionally, the ESOP transition can be very complicated and often "involves additional financing, so companies with lower debt may be in a better position to implement the ESOP."[12]

- An ESOP is subject to extensive federal laws and regulations, and compliance is essential. For example, the ESOP will need to engage a professional third party to administer the ESOP trust, similar to the process with a 401(k) plan.[13]

- Independent contractors are typically excluded from allowed participation in an ESOP as they are not considered employees of the business. ESOP plans are for employees who fill out a W-2 form, thus they exclude independent contractors or business owners who are " not defined as employees and whose remuneration is reported on an IRS Form 1099-

[10] "Can an LLC Adopt an Employee Stock Ownership Plan (ESOP)?" *Warner Norcross + Judd,* October 17, 2015, https://www.wnj.com/updates/can-an-llc-adopt-an-employee-stock-ownership-plan-esop/
[11] "Start Here: Limited Liability Companies (LLCs) and Employee Ownership," National Center for Employee Ownership, January 18, 2019, https://www.nceo.org/article/start-here-limited-liability-companies-llcs-and-employee-ownership; "ESOPs in S Corporations," National Center for Employee Ownership, September 7, 2018, https://www.nceo.org/articles/esops-s-corporations. https://www.nceo.org/articles/esops-s-corporations
[12] Jennifer V. Doran and Libbie Howley O'Keeffe, "Is an Employee Stock Ownership Plan (ESOP) the Right Succession Tool for You?" *Hinckley Allen,* April 19, 2022, https://www.hinckleyallen.com/publications/is-an-employee-stock-ownership-plan-esop-the-right-succession-tool-for-you/
[13] Doran and O'Keeffe, "Is an Employee?"

MISC, not an IRS Form W-2."[14] There is also a challenge of including undocumented or under-documented workers in an ESOP. Although federal laws like ERISA (the Employee Retirement and Income Security Act) do not exclude workers who are not legally authorized to work in the U.S. from retirement plan participation, it remains legally murky how such workers might be able to receive distributions from such plans without full legal documentation.[15] Since the majority of farm workers at CMF are classified as migrant laborers, many of whom are likely undocumented and have often been categorized as "independent contractors," [16] it would likely be very complicated to convert the farm to an ESOP that would benefit these workers.

5.5 A Workers Cooperative

The worker cooperative movement has been growing rapidly in the US since the economic crisis of 2008 and the legal forms available for forming a worker cooperative have also diversified over the years. For example, a mushroom farm worker cooperative could be formed as a *Cooperative Corporation*, an *LLC*, an *LLC taxed as C Corporation*, or as a L*imited Cooperative Association*.

5.5.1 Cooperative Corporation

Colorado's cooperative law is often regarded as "the Delaware of cooperative law"[17] due to its flexible nature. For example, Colorado is one of just several states that allow cooperatives to form a corporation that allows outside investors (e.g., non-worker members) to have limited voting power under the "Colorado Uniform Limited Cooperative Association Act" (Colorado ULCAA). Whereas a traditional cooperative may only raise capital (cooperative equity) from coop worker-owners, Colorado's Limited Cooperative Association Act (LCA) opens a new opportunity for third-party investors to become members of cooperative corporations, receiving equity shares and limited voting rights.[18]

One important benefit of such cooperative corporations is that they can accrue equity in a permanent business capital account, saving cash for business expansion, major equipment purchases, or as a reserve fund against an economic downturn. This can be a major advantage for a capital-intensive business like mushroom farming, which has regular need of expensive equipment repairs and purchases. Mushroom farming is also extremely vulnerable to unpredictable mushroom price swings, so building business reserves in a permanent capital account can be very beneficial.

---

[14] Aaron Juckett, "Your Ultimate Guide to ESOP Eligibility: Who's In & Who's Out?" *ESOP Partners,* last modified May 17, 2022, https://www.esoppartners.com/blog/esop-eligibility.

[15] https://www.plansponsor.com/in-depth/undocumented-workers-become-missing-participant-problem/

[16] "Colorado - Workers' Rights," *Farm Worker Justice,* accessed January 2, 2023, https://www.farmworkerjustice.org/colorado/.

[17] Jason Weiner and Linda Phillips, "Colorado—'The Delaware of Cooperative Law." May 29, 2018. *FiftybyFifty*. https://www.fiftybyfifty.org/2018/05/colorado%E2%80%8A-%E2%80%8Athe-delaware-of-cooperative-law/.

[18] James B. Dean, "The Colorado Uniform Limited Cooperative Association Act (ULCAA)," accessed January 5, 2023, https://www.sos.state.co.us/pubs/business/news/2012/20120402_ULCAA_Dean.html.

Another important benefit is that the federal law regarding "Cooperative Corporations" allows these Colorado cooperatives to gain tax benefits under Subchapter T, which allows a cooperative corporation (operated with democratic control of worker-members) to deduct from its gross taxable income the amount it pays out in patronage dividends. This allows a coop and its members to avoid double taxation of income as both company income and as individual patronage income.[19]

An important consideration in relation to Alamosa's mushroom farm workers is that workers at a cooperative corporation are assumed to be "employees" (not owners) which means that a cooperative corporation has to comply with all aspects of employment law: "payment of minimum wage, deduction of payroll taxes, provision of workers' compensation insurance and payment of overtime."[20] The assumption that cooperative corporation members are regarded as employees also implies that all members should have "legal authorization to work in the U.S."[21]

5.5.2 LLC Cooperative

A Limited Liability Company (LLC) is a flexible form of business that allows workers to form and own their own business, rather than being treated as employees of a business. The LLC model allows for sole ownership or for ownership by multiple members/partners. Multiple workers can come together to form a cooperative LLC, simply by agreeing to operate a business based on cooperative principles, and by laying down key principles in the LLC operating agreement. Because they are owners rather than employees of their business, the LLC model offers opportunity to undocumented immigrant workers and gives the worker-owners the ability to flex their own wages and benefits to meet economic conditions.

Key Takeaway: *In the case of Alamosa mushroom farm workers, almost all are immigrant workers and a portion of them may be undocumented without work authorization. A cooperative corporation model might not be the most optimal legal form in this situation. Also, since workers are legally considered "employees" rather than "owners" of a cooperative corporation, the coop corporation has less flexibility.*

[19] "Tax Considerations for Worker Cooperatives," *Co-op Law,* accessed January 6, 2023, https://www.co-oplaw.org/knowledge-base/worker-cooperatives-and-tax/.
[20] Janelle Orsi, Lisa William, and Jacob Sushil, "Legal Guide to Cooperative Conversions," *Sustainable Economies Law Center,* accessed January 5, 2023, https://institute.coop/sites/default/files/resources/SELC%20et%20al%20-%20Legal%20Guide%20to%20Cooperative%20Conversions.pdf
[21] Ibid.

Table 5.1 Key Characteristics of the LLC Cooperative Model

KEY CHARACTERISTICS OF THE LLC COOPERATIVE MODEL	
Members are Owners, Not Employees	• LLC coop owners have the ability to define their own working conditions and to flex wages and hours with changing economic circumstances. • They may choose to reduce income and hours equitably among owners, to avoid lay-offs during economic downturns. • Though worker-owners might reduce their own weekly incomes during a crisis, if their business survives and earns profits, these profits are distributed to worker-owners as annual patronage dividends.
Business Owners do not have Verify Employment Eligibility	• Immigrant workers are allowed to form LLCs, even if they are not permanent or documented residents of the U.S. • LLC worker-owners don't have to submit employment verification (I-9 form). • An LLC can provide its owners with health benefits, disability insurance, general liability insurance, and credibility in applying for financing, which can be beneficial in a community of immigrant workers.
Ownership Separated from Personal Liability	• Members of an LLC are not personally liable for the debts of a company, thus protecting personal assets from lawsuits and bankruptcies.
LLC Cannot Maintain a Permanent Capital Account	• Because an LLC is considered a pass-through entity and has no existence outside of its member-owners, 100% of all net business income must be distributed to individual owners as patronage. • The LLC cannot retain any net income in a company capital account, and so cannot build permanent business capital for expansion, new equipment purchases, or company reserves.
Individual Capital Accounts Can Allow the Coop Flexible Access to Capital, but All Retained Earnings in these Accounts Must be Paid to Workers in the End.	• To mitigate the problem of no permanent capital account, LLC owners can establish a personal "saving account" of retained earnings in their company, leaving a portion of their annual earned patronage for temporary use by the company itself. These are called *Individual Capital Accounts (ICA).* • While *individual capital accounts* remain with the business, the coop can access funds in these accounts for business expenses (borrowing the funds at low interest). The company must keep track of these retained earnings, as workers have the right to withdraw the money from their individual capital account upon leaving the coop, or after a defined time of leaving their funds in the account.

There are different ways that worker-owners can receive income through an LLC. The LLC can be organized to pay workers regular wages each pay period and to distribute any remaining profits to workers as patronage dividends at the end of the year. Alternatively, the LLC can choose to have no employees at all (only owners) and can regularly distribute all its net income as profits to its worker-owners, rather than paying wages. There are different tax consequences to these choices, which those forming an LLC should carefully consider and make the right choice for their situation. It is also important to note that the LLC does NOT pay income taxes for its owners, nor does it match owners' Social Security or Medicare taxes. All net income earned by the LLC must be passed through to worker-owners or investors in the form of wages or profits, and these individuals are responsible for paying taxes on these wages or profits.

Key Takeaway: *An LLC business model may work well for immigrant workers seeking to form a cooperative. A 2022 RMEOC survey showed that over 80% of CMF workers are immigrants without U.S. citizenship, and it is likely that some of these workers are undocumented. An LLC legal form will allow a cooperative to offer member ownership to all these workers, without requirements of employment verification. One weakness of this model is that an LLC cannot have a* ***permanent capital account*** *to support business health and expansion. However, worker-owners are allowed to "lend" their business capital by establishing an* ***individual capital account*** *in the business that temporarily retains a portion of their annual patronage distributions.*

5.5.3 LLC Taxed as a C Corporation

A Limited Liability Company (LLC) is not a corporation, which means that all net income earned from the LLC must directly pass through to the LLC owners (i.e., no income can be retained for a permanent business capital account). Additionally, individual owners must pay taxes on their income or their patronage distributions and there is no additional taxation of the (non-existent) corporate structure. These rules may have short-term income advantages for worker-owners, but they also make it difficult to plan for the long-term health of the LLC cooperative through the use of a permanent capital account (that is, an account that stays with the business and that can finance unusual business expenses and expansion opportunities). LLCs are simply forbidden from retaining a permanent capital account for such purposes.

But the IRS tax code allows a cooperative to address these problems by allowing LLCs to choose to be taxed as a "C" or "S" corporation and to thereby be allowed some features of these corporations, such as the ability to create a permanent capital account in their business. The "LLC taxed as a C corporation" has advantages and disadvantages. One of the largest disadvantages is the effect of this classification on taxation. Under a traditional LLC structure, all profits made by the business are passed through to owners, who pay taxes on this income. In this model, the LLC

itself does not pay any corporate income taxes. This pass-through of all profits avoids the double-taxation problem of a business paying corporate taxes on profits, and then individuals also paying income or dividend taxes when these profits are passed through to them.

Taxing an LLC as a C corporation cannot avoid this double taxation problem. In this case, the LLC cooperative pays corporate income tax on its net income prior to distributions to members, and then members *also* face taxation on the dividends once they are received as personal income.

Fig. 5.2 Double Taxation of the LLC Taxed as C Corporation

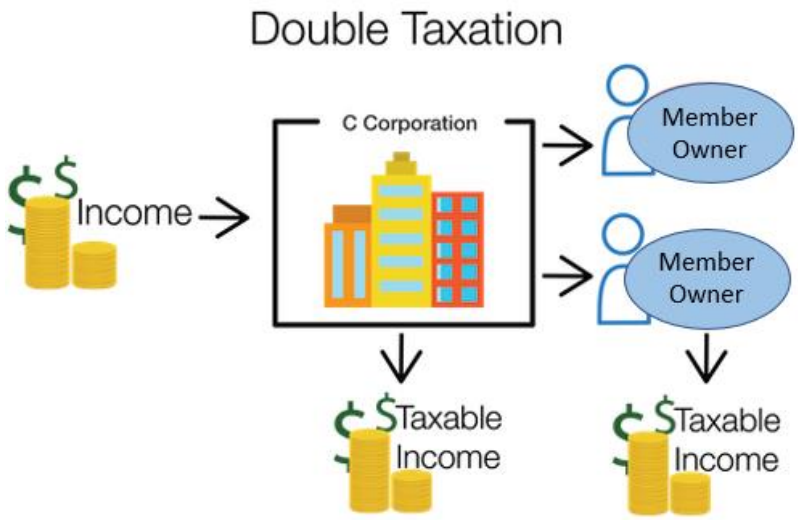


Figure Adapted From: "The Ascent, A Motley Fool Service"
https://www.fool.com/the-ascent/small-business/articles/double-taxation/

Still, there are benefits to taxing a cooperative LLC as a C Corporation. *One key benefit is that treating the LLC as a C corporation establishes the business as a separate entity that can maintain a permanent capital account that stays with the cooperative for the long term, and which can grow over time.* Under this model, a portion of a company's annual net earnings (after all business expenses are accounted for) are dedicated to a permanent business capital account that can be used to cover unusual and unpredicted business expenses in the future. This permanent capital account makes a business more resilient in economic downturns and can help the business take advantage of unpredicted expansion opportunities. After distributions to a permanent capital account, the remainder of business net earnings are distributed to individual coop owners as annual patronage dividends.

Realizing the weakness of the traditional LLC structure under which cooperatives must distribute *all* equity to members within a relatively short time frame, some cooperatives have opted for C-corporation taxation, with the goal to grow their permanent business capital. For example, TeamWorks (a California green cleaning cooperative) and the StartZone microenterprise

development program in Des Moines, WA (which incubates worker cooperatives,) have both utilized the "LLC treated as a C corporation" strategy to build their permanent capital accounts.

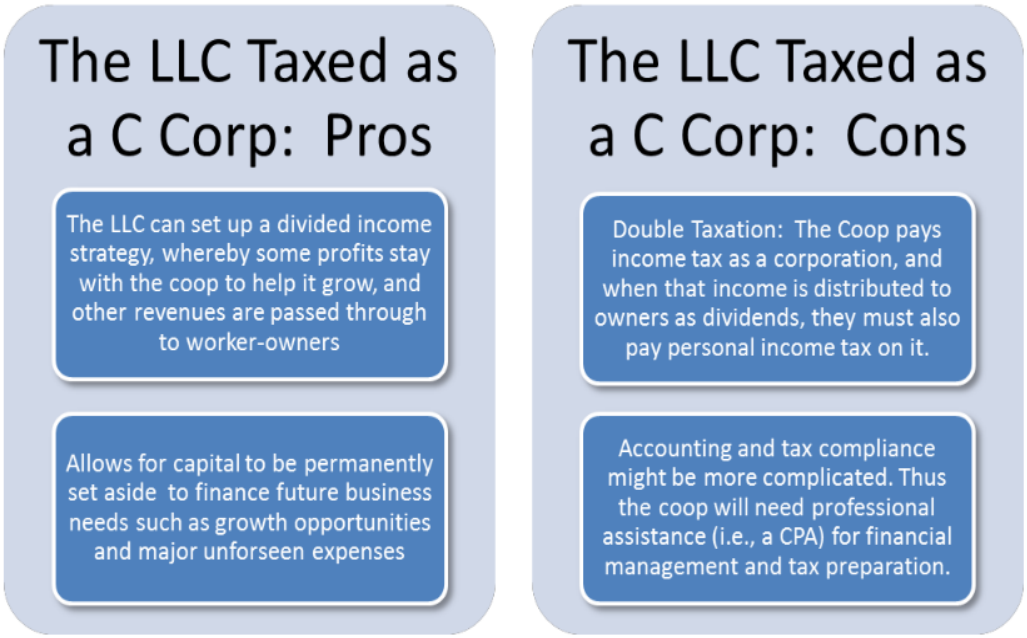


Fig. 5.3 The LLC Taxed as a C Corp: Pros and Cons

Key Takeaway: *Although the "LLC taxed as a C Corporation" model entails double taxation of income (which is taxed both as company income and as individual income), there are substantial benefits to a model which allows an LLC to form a permanent capital account. Although setting up a permanent capital account may not make a large difference in the short run, as the percentage of permanent capital set aside is typically low--ranging between 1% and 5% of business income—dedication to a more sustainable cooperative model, with long-term financing capacity, may work very well in a capital-intensive business such as mushroom farming with predictable needs to upgrade farm equipment regularly or to survive market downturns through robust capital reserves.*

5.5.4 Limited Cooperative Associations (LCAs)

Though cooperative associations traditionally only involve member-owners and do not permit outside investment from persons, a Limited Cooperative Association (LCA) is a relatively new and unique form of cooperative organization that allows outside investors to be admitted as members of the organization.[22]

Colorado adopted the Colorado Limited Cooperative Association Act ("LCA" Title 7, Article 58) in 2010 which allows outside investors to become members of an LCA, "with limited voting rights and participation in the financial gains or losses from the operation of a cooperative."[23] A key advantage of an LCA is that it allows cooperatives to raise capital through the equity buy-in of outside investors.[24] An LCA model uses a "revenue-based financing" mechanism to offer investors a fixed share of the businesses income until a predetermined amount has been paid (typically 3-5 times the original amount invested).[25] An additional benefit is that this model allows the cooperative business to set aside reserves in a permanent capital account if it chooses to be taxed as a Subchapter T entity.[26] A growing number of groups are choosing to form an LCA. While there were 54 LCAs in Colorado in 2018,[27] the number increased to 231 LCAs in 2021.[28] This model could be an excellent way for a cooperative mushroom farm to raise outside capital, if the farm can market itself to values-conscious investors as a way to earn reasonable returns while supporting an enterprise with a social mission of lifting up vulnerable immigrant workers.

Key Takeaway: *An LCA has one similar core advantage of the "LLC Taxed as a C Corporation": it can dedicate a portion of net business income to a permanent capital account in the business rather than passing all net income on through to its member owners. The LCA model also allows outside investors to support and become members of the company. This legal model can be an effective way to raise capital on favorable terms, especially if a cooperative can market itself to the growing pool of social investors.*

---

[22] Dean, "The Colorado Uniform."
[23] Dean, "The Colorado Uniform."
[24] Lyn Pitman, "Limited Cooperative Association Statutes: An Update," *University of Wisconsin,* no.7 (2008), https://resources.uwcc.wisc.edu/Legal/LimitedCoopAssoc.pdf.
[25] Adam Hayes, "Revenue-Based Financing: Definition, How It Works, and Example," Investopedia; Jason Wiener, "Limited Cooperative Associations And Early Stage Financing," *Jason Wiener P.C,* last modified June 8, 2018, https://jrwiener.com/limited-cooperative-associations-and-early-stage-financing/
[26] "Creative Use Of The Cooperative Business Model," *COBAR,* accessed January 5, 2023, https://www.cobar.org/Portals/COBAR/Repository/Sections/business/Cooperative%20Biz%20Model_BusinessNewsletter_October2019.pdf.
[27] Wiener and Philipps, "Colorado —"
[28] "Business Entities in Colorado," *Colorado Information Marketplace,* last modified January 5, 2022, https://data.colorado.gov/Business/Business-Entities-in-Colorado/4ykn-tg5h/data.

5.6 A Cooperative Mushroom Farm can be a Resilient, Professionally Managed, and Productive Work Environment

5.6.1 Coop Advantages in Resilience and Productivity

A popular misunderstanding is that worker cooperatives are an inferior business model, more prone to mismanagement, inefficiency, and failure. But this common view is not true. Virginie Pérotin of Leeds University Business School has synthesized worldwide research on worker-managed companies (including in the U.S.), which increasingly demonstrates that worker coops are a resilient and successful business model: "aside from the holistic social benefits of worker autonomy, giving workers a direct stake in managing production enables a business to operate more effectively."[29] Worker cooperatives are found to be especially resilient in tight-knit communities facing economic crises and among marginalized worker communities that have inadequate avenues for traditional economic advancement—exactly the kind of community found among immigrant mushroom farm workers in Alamosa.

> *"Worker Cooperative are an effective tool for creating and maintaining sustainable, dignified jobs; generating wealth; improving the quality of life of workers; and promoting community and local economic development, particularly for people who lack access to business ownership or even sustainable work options."*
>
> *--Democracy at Work Institute, 2023*

There are numerous reasons for the increasingly well-understood management prowess and resilience of worker cooperatives.

- *Worker Cooperatives are more resilient and flexible when responding to economic crises.* Evidence shows that during economic downturns, cooperatives are more likely to collectively reduce hours and wages or redistribute business funds and salaries equitably, so as to avoid laying off workers permanently. This strategy means that cooperatives laid off a lower percentage of their workforce than traditional businesses did following the

[29] Michelle Chen, "Worker Cooperatives Are More Productive Than Normal Companies," *The Nation,* March 28, 2016, https://www.thenation.com/article/archive/worker-cooperatives-are-more-productive-than-normal-companies/. See also Virginie Pérotin, *What do we really know about worker co-operatives?,* last modified November 6, 2020, https://www.uk.coop/resources/what-do-we-really-know-about-worker-co-operatives; "Worker Cooperatives: Performance and Success Factors," *Co-op Law,* accessed January 6, 2023, https://www.co-oplaw.org/knowledge-base/worker-cooperatives-performance-and-success-factors/.

economic downturn of 2008, and a greater percentage of cooperatives survived the challenges of the COVID pandemic as compared to traditional businesses.[30]

- *Worker-owners are more committed to their workplaces than employees of traditional businesses.*[31] The *Harvard Business Review* has published research showing how "The biggest difference [with a cooperative] is that workers have an important say in who manages them and how profits align with values. This results in inclusive workplaces that, again, often perform better, especially during recessions or slowdowns."[32] The *Review* found that worker cooperatives are especially suited to turning around struggling businesses where workers have found few traditional avenues for advancement—a situation that applies to the Colorado Mushroom Farm. "Particularly in mismanaged industries where workers' professional ambitions are unfulfilled, employees are increasingly motivated to pioneer new worker- and stakeholder-owned business models," the *Review* notes.[33]
- *Worker coops have a productivity advantage over traditional businesses.* A Rutgers University study found that converting to employee ownership boosts profits by as much as 14%--with benefits especially likely during economic downturns.[34]

WORKER COOPS: A Proven Model

- 2019 UK research shows that 80% of co-operative businesses survive their first five years, compared to 44% of conventionally-owned businesses. Research in Portugal, France, Belgium, Italy, Uruguay, and Canada replicates these results.
- Cooperatives in British Columbia between 2000 and 2010 had a five-year survival rate of 66.6%, compared to conventional Canadian businesses that had a 43% and 39% 5-year survival rate in 1984 and 1993, respectively.
- Alberta cooperatives created in 2005 and 2006 had a three-year survival rate of 81.5% compared to 48% for conventional businesses in that province.
- A 2008 study in Quebec showed that co-ops had a five-year survival rate of 62% and ten-year survival rate of 44%, compared to 35% and 20%, respectively, for other Quebec businesses.
- In 2005, 1% of German businesses were declared insolvent; the statistic for cooperatives was less than 0.1%.

Sources: See footnotes 32-35

[30] Mo Manklang, Zen Trenholm, Olga Prushinskaya, "Worker Co-ops: Weathering the Storm of COVID-19," *Democracy at Work Institute,* January 29, 2021, https://www.santaclaraca.gov/home/showpublisheddocument/71612/637472765353200000
[31] Co-op Law*,* "Worker Cooperatives: Performance and Success Factors."
[32] Peter Walsh, Michael Peck, and Ibon Zugasti, "Why the U.S. Needs More Worker-Owned Companies," *Harvard Business Review,* August 08, 2018, https://hbr.org/2018/08/why-the-u-s-needs-more-worker-owned-companies;.
[33] Ibid.
[34] Ibid.

These advantages of the cooperative model have led to a growing record of on-the-ground success by worker cooperatives, especially when compared to traditional companies. Although many businesses—including coops—fail in their first few years, substantial research shows that coop survival rates meet and often exceed the survival rate of conventionally-owned companies.[35]

5.6.2 A Coop can Benefit from National and Regional Coop-Support Eco-Systems

The Democracy at Work Institute has documented an expanding "Cooperative Growth Ecosystem" across the nation, in which government agencies, policy-makers, innovative funders, and non-profits are coming together to support cooperative growth as a strategy to "maximize broad-based community benefit in real and sustainable ways."[36] If an Alamosa mushroom farm cooperative is launched, its operational effectiveness will likely be enhanced by the resources, expertise, and support of this national and regional coop-support eco-system.

There are many elements to this growing coop support eco-system, including:

- *An expanding array of innovative coop financing strategies, capital partners, and community development financial institutions.*[37] The nationwide State Small Business Credit Initiative (SSBCI)—created in 2021 to increase access to capital for small businesses—is an example of the growing attention being paid to cooperative funding. In U.S. Congress floor dialogue about this initiative, Congress specifically directed the Treasury Department and State governments to provide more loan support and technical assistance for employee-ownership transitions.[38]

  There are growing private funders as well. Capital Impact has worked since 1982 to expand the power of the cooperative model, lending about $10 million every year.[39] In addition, "new funds have been recently launched that combine technical assistance and financing to be competitive in the market and help the cooperative sector overcome some

[35]Cooperatives UK, "Cooperative Business Survival." *Cooperatives UK Research Report 2019.* https://www.uk.coop/sites/default/files/2020-10/co-operative_survival_1.pdf; Erik K. Olsen, "The Relative Survival of Worker Cooperatives and Barriers to Their Creation," *Sharing Ownership, Profits, and Decision-Making in the 21st Century* 85 (vol. 14, Dec. 2013), https://institute.coop/sites/default/files/resources/070%202013_Olsen_The%20Relative%20Survival%20of%20Worker%20Cooperatives%20and%20Barriers%20to%20Their%20Creation.pdf.

[36] Melissa Hoover & Hilary Abell, *The Cooperative Growth Ecosystem,* Project Equity and the Democracy at Work Institute, 2016, https://institute.coop/sites/default/files/resources/Ecosystem%20Report.pdf.

[37] See, for example, "What Does the CDFI Fund Do?" *U.S Department of Treasury,* accessed January 6, 2023, https://www.cdfifund.gov/

[38] "Federal Legislation on ESOPs," *National Center for Employee Ownership,* September 2022, https://www.nceo.org/article/federal-legislation-esops.

[39] Alison Powers, "Employee Ownership: The Power of the Cooperative Model to Build Opportunity and Wealth for Worker-Owners and Their Communities," *Capital Impact,* June 3, 2021, https://www.capitalimpact.org/employee-ownership-cooperative-model-build-wealth-opportunity/.

historical financial barriers to expansion. Apis & Heritage and Accelerate Employee Ownership are two examples."[40]

- *Growing Technical Assistance Networks.* There are numerous cooperative start-up and development centers, economic development nonprofits, and Small Business Development Centers that are increasingly focused on supporting cooperative growth. These networks feature national networks like the U.S. Federation of Worker Cooperatives, the Democracy at Work Institute, and the National Cooperative Business Association (NCBA CLUSA) as well as regional organizations like the Rocky Mountain Employee Ownership Center, the Rocky Mountain Farmers Union, and the Cooperative Development Institute (CDI).

- *Expanding coop-support partnerships between government officials, local non-profits, and social movement actors.* Colorado, in specific, has become a national leader in building community networks to advance employee ownership. In 2019, Governor Polis established the Colorado Employee Ownership Commission, consisting of experts committed to making the state a leader in advancing employee ownership. The Colorado Employee Ownership Office under the Office of Economic Development and International Trade (OEDIT) also works to establish "a network of technical support and service providers for businesses considering employee ownership structures."[41]

> *"Hands down, Colorado has become the most employee ownership-friendly state in the country. With an existing state-funded outreach program that helps companies convert to employee ownership and one of the most active and effective nonprofit state employee ownership centers (The Rocky Mountain Employee Ownership Center or RMEOC), Colorado has created a national model for how states can help move employee ownership forward."*
>
> *--National Center on Employee Ownership, 2021*

In this kind of environment, an Alamosa mushroom farm should find strong support for its launch and continued growth. Even before the recent focus on possible worker ownership, CMF enjoyed support from various governmental and community organizations. When it was relaunched in 2014, former Governor Hickenlooper visited

[40] Ibid.

[41] "Colorado Employee Ownership Office," *Colorado Office of Economic Development & International Trade,* accessed January 6, 2023, https://oedit.colorado.gov/colorado-employee-ownership-office. For more details, and the source of the quote below, see: "Colorado Takes the Lead on EO," *National Center for Employee Ownership,* August 2021, https://www.nceo.org/article/colorado-takes-lead-eo.

the farm for the commencement event and celebrated the farm's role in the Alamosa community. The San Luis Valley Resource Development Group (SLVRDG) has also worked to support the farm, providing it with a discounted financial loan (which is currently in default). An Alamosa County Commissioner contacted during this study also expressed strong support for continuing the mushroom farm in some form, due to its important role as a large employer in the community.

- *Growing community support for values-driven businesses and strategies to address economic marginalization.* With proper consumer education and marketing about the nature of an Alamosa mushroom farm cooperative, community support should expand. A 2015 survey found that "78 percent of consumers are more likely to purchase goods or services from a business that they know is a cooperative. Once people grasp the definition — that a co-op is owned and democratically controlled by its members — they prefer co-ops to conventional businesses, even across all income levels and professions."[42]

5.7 Willing Worker-Owners and A Professional Management Plan

Willing Worker-Owners. Forming a worker cooperative begins with a quality pool of workers, capable of carrying out the company's business and interested in the cooperative model. The labor pool quality for a relaunched Alamosa mushroom farm is high due to the fact that the Alamosa community has a large number of immigrant workers (mostly from Guatemala) who have lengthy experience working for the previous CMF. These workers maintain networks with immigrant farmers across the United States and with their Guatemalan community of origin, which is a likely source of additional workers through future years. For decades at the CMF, these immigrant farm workers have proven their skill and interest in the demanding work of mushroom farming, and it should be no different for a relaunched mushroom farm.

Many of these potential workers say they are even more interested in continued mushroom farming under an employee-owned business model. In the RMEOC December 2022 survey of 82 former mushroom farm workers in Alamosa, workers universally expressed excitement with the idea of forming a worker cooperative to relaunch the closed mushroom farm. Most of these same workers were skeptical of the current farm's management, claiming they had wage claim issues, workplace safety issues (e.g., drinking water quality), and concerns with the consistent quality of management. Many of these workers have worked for years in mushroom farming and have become experts in the trade. The potential of becoming co-owners of a democratically owned business, with the potential for personal wealth-building should the farm prove profitable, was

[42] Caitlin Quigley, "New Survey Reveals Perceptions and Myths about Co-ops," *Grassroot Economic Organizing,* June 8, 2015, https://geo.coop/story/new-survey-reveals-perceptions-and-myths-about-co-ops

highly attractive. Workers expressed an eager willingness to participate in coop education training and workshops in preparation for such a transition.

A Professional Management Plan. Mushroom farming is a sophisticated operation requiring professional management. This feasibility study proposes that any viable mushroom farm cooperative must have more than a pool of interested entry-level or line workers. It must also commit to hiring an experienced, professional team of managers to oversee the operations of the farm. The financial models presented earlier in this study propose a management team of approximately fourteen members, each paid a competitive salary, including: a General Manager, an independent Controller, two Sales Managers, an Operations Manager, a Head Grower and three Grower Supervisors, a Maintenance Supervisor, a Picking Supervisor, a Shipping Supervisor, and an Office Manager. Though a much larger network of workers will actually own the farm (benefitting from patronage distributions and voting on major company decisions), all day-to-day operations of the farm will be managed by this professional team of salaried employees.

Key Takeaway: *The Coop LLC Model is proven to be operationally feasible, with demonstrated productivity and resilience advantages over conventionally owned businesses. There is a growing national coop-support eco-system that can provide financing, technical assistance, advocacy networks, and community support to a possible Alamosa mushroom farm cooperative. That support network is especially robust in Colorado. A professionally managed mushroom farming cooperative in Alamosa will likely find substantial community support.*

6

Technical Feasibility

6.1 Overview

Today's Agaricus mushroom farming is a sophisticated operation, requiring climate-controlled indoor facilities, advanced technology, and precise management of a multi-stage growing process. The existing Colorado Mushroom Farm already has many of these facilities (such as tunnels for making compost and indoor growing rooms), but some of these facilities & equipment are in poor condition and will need restoration or replacement. A particular issue is the drinking water supply problem at the farm. Hundreds of workers rely upon this drinking water, but the Colorado Department of Public Health and Environment has found serious deficiencies in CMF water supply safety that must be remedied in any relaunch of the farm.

Also, it has become increasingly necessary in the Agaricus mushroom industry to utilize advanced techniques of the "Dutch growing system"—which has become widely recognized as the superior system for growing white and brown mushrooms of higher quality and larger yields. Although the current CMF started the process of converting to a Dutch growing system several years ago, pandemic-related delays forestalled the conversion. A relaunched Alamosa mushroom farm will need to plan for full conversion to a Dutch growing system.

> *"Mushroom growing is one of the most technologically advanced and sophisticated agricultural industries in the world. Commercial mushroom production costs are high and require extensive capital investment."*
>
> *--Dave Marock, Agri4Africa*

6.2 Assessment of Current CMF Site, Facilities and Technology

The assessment of the current condition of the CMF site, facilities and technology is based on four sources: 1) A 2018 Appraisal Report of the CMF, prepared for Rabo Agrifinance; 2) A site-visit to the farm in December of 2022, guided by a former head of growers; 3) review of recent court filings and actions related to the drinking water supply at CMF;[1] 4) Conversations with the farm owner (Mr. Baljit Nanda) and Controller (Mr. Don Clair); and 5) numerous interviews with long-time farm growers and pickers during a December 2022 focus group meeting in Alamosa.

[1] COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT v. COLORADO MUSHROOM FARM, LLC (Case No.: 2020CV30039).

6.2.1 Adequate Site Location, Water Rights, and Utility Services

The CMF is located approximately three miles northeast of the city of Alamosa, Colorado, on 177.37 acres of space. Forty years of farming operations indicate that the site is appropriate for mushroom farming purposes. There is adequate access to the property by a paved county-maintained road (County Road 5 South), and a second County Road (County Road 110.5 South) also connects to the site. A 2018 property appraisal prepared for Rabo Agrifinance lending considerations found that the site topography is level, drainage is adequate, the property is not in a flood zone, and there are adequate electrical services and water rights for mushroom farming operations. Sanitary sewage facilities are on site and were also found to be adequate for farming operations.

6.2.2 Current Buildings and Structures in Older, but Fair Condition.

Though most of the facilities at CMF remain functional, some of them are quite old (40+ years), and all of them have lain dormant since the farm closed in September of 2022. Costs to clean and restore the buildings to growing readiness should be planned for a relaunched farm.

Facilities of the Colorado Mushroom Farm

- **Mushroom Growing Facility**. The current mushroom-growing facility was built in 1981 and has had periodic maintenance and renovations since that time. The entire space has lighting, heating, and cooling. It was appraised in "average" condition in 2018, with an effective age of 25 years old. The 2018 Appraisal report determined this space to be functional as a mushroom-growing facility with indeterminate years of functional use remaining.

  The space has 227,596 square feet of growing area, with an attached 5.040 thousand square feet of shop area. The facility is sturdy, with 6-inch reinforced concrete floors, and 2-inch interior and exterior concrete walls that sandwich 4 inches of styrofoam insulation between concrete panels. Walls range from 16 to 22 feet in height.

The facility includes room for several individual offices and a lobby, which are finished as typical office space with carpeted floors, acoustical tile ceiling, and two restrooms. There is also an employee locker room, break room, and bathrooms.

The facility includes a dry storage area of concrete construction, with a loading dock and dock leveler for receiving. There is also a slicing room, a basket sanitation line with a basket sanitizer, and a control room with temperature gauges for different growing rooms.

One portion of the facility is utilized as a sealed, temperature-controlled spawn area, where trays are filled and mixed before transfer into the actual growing area. The growing area consists of 20 separate growing rooms, which are temperature and humidity controlled and have limited lighting appropriate for mushroom growing.

The facility features three boilers to provide steam to the facility, mostly to the growing area to provide a proper temperature.

Growing Room at the CMF

There are packing areas and finished product storage areas. These areas feature a pre-pack cold storage area for harvested mushrooms before they enter the packing room, which features a 12-station packing line and vacuum cooler. These areas feature three 4-fan cooling units and an insulated load-out door with a load leveler.

A 5,040-square-foot shop is attached to this growing facility, of steel frame construction and exterior. This space has been appraised as adequate for conducting repairs and maintenance on the mushroom farm equipment.

- **Composting Tunnels.** The composting tunnels were built in 2003-2004 and remain in good condition, and functional for their purpose. The tunnel building (29,460 square feet) is of metal frame and metal panels on the exterior, with a concrete floor and foundation. There are ten tunnels in this building, together with tunnel equipment and a work area.

  The tunnels are used to pasteurize the compost prior to it being seeded with spawn. The tunnels are fully aerated and climate controlled. Compost can be laid on a mesh covering the concrete slatted floor, underneath which is a plenum through which conditioned air is blown up and through the compost. This heated air keeps the compost at the proper

temperature to eliminate harmful bacteria and microbes before seeding with spawn. Composting in tunnels like this consistently produces quicker and higher-quality compost than other methods.

- **Compost Bunkers.** The compost bunkers were constructed with the tunnels in 2003-2004 and were appraised (2018) in good condition with a remaining economic life of 40 years. The bunker building has 29,460 square feet and features a 3,000-square-foot temperature and air control system for the six compost bins located in the bunker. The bunker structure is of concrete construction, with 20-foot-tall concrete walls. There is PVC ductwork installed throughout the floor to provide aeration to increase the efficiency and quality of compost production. Concrete pads and a compost filler are available near the bins to facilitate the moving and mixing of the compost.

Compost Sterilization Tunnel and Facility at CMF

- **Surface Runoff Storage.** The farm features a slurry storage structure, which is fused with glass and metal on a concrete foundation. The structure has a capacity of about 50,000 gallons and includes a system to pump surface runoff into the slurrystore for storage and later disposal. The structure was appraised (2018) in good condition with 20 years of remaining economic life.

Key Takeaway: *The current mushroom farm growing space has all the key facilities to support a relaunch of farming operations. Although this large growing facility was appraised as adequate to farming operations in 2018, four years have passed since that time so structures and equipment will have depreciated since that time. Furthermore, the farm closed in September 2022 and has been lying dormant for months. Relaunch of mushroom farming operations should plan for substantial maintenance and restoration costs to return the growing facility to efficient operations.*

6.2.3 Unsafe Public Drinking Water Supply Problems

As detailed in a previous section (section 5.2) The Colorado Department of Public Health and Environment has found that the CMF has operated an unsafe public drinking water supply since at least 2011. The farm has been under both a 2018 and 2022 enforcement order to remedy its unsafe groundwater well, its unhygienic water storage tank, its insufficient groundwater treatment processes, its poorly designed water distribution system (which has many cross-connection and cross-contamination points), and its lack of regular monitoring and testing of the drinking water system. All of these problematic systems were previously designed and installed by CMF without review or approval by public health authorities (in violation of health regulations). Any relaunch of the mushroom farm must entail planning for remediation of these engineering and technological public health deficiencies. The financial models presented later in this report project that $1 million will be needed for necessary public health improvements and other building upgrades to restore the shuttered farm facilities to healthy, productive status.

6.2.4 Outdated Technology and Equipment

Though CMF has all the foundational facilities and equipment to relaunch operations, some of this equipment is old and it has become subject to frequent breakdowns in recent years. Furthermore, the existing farm was based around an increasingly outdated system of wooden growing trays and labor-intensive dump lines and spawn-casing lines (through which workers fill wood trays with spawn and then case them and move them to growing rooms). This old system is increasingly recognized as inferior to a more modern "Dutch growing system" that uses longer aluminum growing trays. These growing trays can remain in the growing room while they are filled with spawn and casing through a tray-filling conveyor system. This system saves labor required to operate dump and spawn-casing lines and to pick the mushrooms, saves on equipment necessary to move trays from one facility to the growing room, and results in expanded growing space due to longer, vertically stacked aluminum growing trays. The current CMF does not have this advanced Dutch growing system yet installed and still relies on wooden growing beds.

In terms of old and frangible equipment, the CMF was originally established in 1981, and has operated increasingly dated equipment over the years. Although CMF was able to produce mushrooms at almost full capacity in 2009, hiring up to 270 farmers, CMF's machines began to increasingly break down in the 2010s. The facilities continued to function, but consistent breakdowns increasingly undermined capacity. In fact, although the CMF re-opened in 2014 after undergoing bankruptcy, the farm had consistent financial struggles after that point. Year after year, the farm would lose $1 million dollars or more. The CMF Controller estimates that part of the problem was simply equipment malfunction, as production was undermined about 10% a year due to breakdown of older equipment.

It was also expensive to repair all this increasingly frangible equipment. In 2019, the farm's income statement listed 44 major maintenance and repair projects, costing $429,300 in supplies and labor. In 2020, repairs and maintenance projects cost $484,241. And in 2021, repair costs rose to $624,499 in supplies and labor. These repair/maintenance costs equated to 6.4% of all CMF expenditures in 2021. That figure is 28% higher than the U.S. average for annual farm maintenance/repair costs, which the USDA reports to be 5% of all farm expenditures over the 2016-2020 period.[2] Upon reflection in 2022, the owner of the farm regretted not doing a major upgrade and installing modern "Dutch" growing equipment in 2014 ,when he reopened CMF.

Old Equipment, Boiler, and Wooden Growing Racks at CMF

The financial models presented in a later section of this report project that $1 million in initial costs will be needed for necessary building and equipment upgrades to restore the shuttered farm facilities to healthy, productive status (not counting additional costs for installing the Dutch growing system equipment). The models also project $600,000 a year in annual maintenance., repair, and upgrading costs for a relaunched farm (including labor and supplies), which aligns with the previous costs of the CMF.

Key Takeaway. *Much of the equipment at CMF is outdated and prone to breakdown. Financial projections for a relaunched farm must account for expensive maintenance and repairs. The existing drinking water system is a health risk to employees and must be upgraded to be in compliance with Colorado health regulations. In addition, many mushroom farm competitors are adopting more modern "Dutch growing system" technology, which facilitates more efficient use of energy, equipment, and labor while resulting in higher quality, more robust yields at harvest. To keep up with the market, a major technology upgrade is needed at CMF.*

[2] USDA, *Farm Production Expenditures 2020 Summary*, July, 2021, https://www.nass.usda.gov/Publications/Todays_Reports/reports/fpex0721.pdf.

6.3 The Dutch Growing System: A Necessary Upgrade

The US mushroom growing system has been very different from that of Europe as Europeans have more readily used more advanced technology in their mushroom farming. While the US, historically has enjoyed ample farming room and not faced space constraints, Europeans with smaller lands had to be more cautious about how to maximize space to maximize the production of food. For instance, the tiny Netherlands is the fourth largest producer of mushrooms in the world after China, Poland, and the USA, due to the fact that they use advanced technology to produce approximately 300,000 tons of mushrooms a year, in very little space.[3]

With advanced technology, Dutch farms pioneered a system of climate-controlled, aluminum growing shelves that were stacked on top of each other to produce fungi. Through automated technology to stack and rotate these shelves for maximal growing and harvesting conditions, the Dutch growing system allowed mushrooms to be grown in less space (e.g., shelves are stacked, and different rooms are not needed for spawning, casing, and growing), with less human labor, and with more robust yields due to computerized assistance in climate-control, etc. The Dutch system also facilitates more efficient picking through modern (and sometimes powered) lorries attached to the aluminum racks. Moreover, by using an automated climate control system, easy-to-clean aluminum beds, automated loading/unloading equipment, and ergonomically designed picking lorries, the system lowers "the risk of pathogens compared with conventional wooden beds," improving harvest yields, worker safety, and final food quality.[4]

"Dutch" Aluminum Rack Growing System

6.3.1 Who Uses the Dutch Growing System in the US?

The first time that the Dutch system was adopted in the US was in the late 1970s and 1980s. The technology spread slowly through the industry since that time, and only really began to take off in the last twenty years. The main reason for hesitation by commercial mushroom companies in adopting the Dutch system has to do with the high cost of installation. However, the proven results of the system and market pressures have led more commercial mushroom companies to switch to the Dutch growing system since the 1990s.

[3] Kekkilä-BVB, "Futuristic fungiculture."
[4] Botich, "California Mushroom."

Premier Mushrooms, located in Colusa County (CA), adopted the Dutch system in 2014, increasing production from 70,000 to 300,000 pounds a week, with growing the number of beds from 16 to 64.[5] Ostrom Mushroom Farm, located in Washington, has used the Dutch system for years, and profitably operates 48 growing rooms, producing 8-9 million mushrooms per year. The company is growing towards a capacity of 14 million pounds a year.[6] One of America's largest commercial mushroom farms, Phillips Mushroom Farms in Kennett Square (PA), has used the Dutch growing system since 2007.[7] With the implementation of the Dutch system, Phillips Mushroom Farms grew rapidly, becoming the largest mushroom-producing company in the US. Another company, J-M mushroom farm (which has similarly sized growing facilities as CMF), implemented the Dutch system in 1991,[8] increasing its production capacity by 600%, producing 25-28 million mushrooms per year. The rapid growth and profitability of these mushroom farms was made possible due to the Dutch system technology upgrade.

6.3.2 Benefits of Adopting the Dutch System

- *Better Yields.* Dutch growing systems are proven to provide higher yields, more efficient harvesting, better control over all stages of mushrooms growth, reduced mechanical/system failure rates, and fewer injuries to workers.[9] Historically, CMF has grown about 5.5 pounds/sf (per harvest) but it is expected to harvest about 7 pounds per square foot, once a more efficient Dutch growing system is installed.[10] The percent of harvest spoilage should also be reduced, as the Dutch system partially automates and speeds up the picking process. Installation of new equipment on the 40-year-old CMF would also result in fewer breakdowns and more efficient growing and harvesting. Once the Dutch equipment is fully installed and operational, CMF has a capacity to grow to 14 million pounds of harvested mushrooms every year, which would double the 2016-2018 production levels of about 6.5 million pounds a year.[11]
- *More Efficient and Safe Labor.* The Dutch growing system allows mushrooms to be spawned and cased in the same room they are grown, saving labor time in moving mushrooms from one room to another, and saving on the heavy equipment costs needed to move heavy mushroom growing trays from one room to another.

---

[5] Botich, "California Mushroom;" Mushroom Business, "Premier Sold."
[6] Ted Escobar, "Sunnyside mushroom farm secures $45 million in financing," *Tri-Cities Area Journal of Business,* July, 2018, https://www.tricitiesbusinessnews.com/2018/07/ostrom-mushroom/
[7] The Legacy Continues," *Phillips Mushroom Farm,* last modified 2018, https://www.phillipsmushroomfarms.com/the-legacy-continues
[8] "Our Story," *JM Farms,* accessed December 20, 2022, https://www.jmfarms.com/story
[9] "Mushroom farm equipment - why can only well-invested farms bring satisfactory profits?" *SN2 World,* January 22, 2021, https://www.sn2world.com/business/15241-mushroom-farm-equipment-why-can-only-well-invested-farms-bring-satisfactory-profits.html.
[10] Nanda, interview, November 14, 2022.
[11] Hodge, "Appraisal Report," pg. 57.

In addition, the use of long aluminum growing racks, stacked efficiently on top of each other, provides the option of picking mushrooms using modern picking lorries, instead of heavy, manually moved, and less safe picking platforms. These mushroom-picking lorries can be manually or electrically operated and can include ergonomically designed picking carts for the lowest beds.

Manual Operated Mushroom Picking Trolley

Electrically Operated Mushroom Picking Lorry

Button Mushroom Picking Cart for the lowest beds

Source: https://www.mushroomshelves.com/picking-lorry/

As described by one industry supplier,[12] these picking lorries provide several benefits in terms of labor efficiency and safety.

- *Selective Picking.* Automated movement of the lorry platform (up, down, right, and left) can result in up to 5 pounds more mushrooms per 10 square feet of harvest.
- *Higher Harvesting Efficiency.* A well-designed picking lorry, attached to aluminum shelving (and with electrical power for raising and lowering) results in a higher harvesting efficiency per hour.
- *Bottom and Top Shelf Picking Efficiency.* Modern picking lorries improve the ease of picking from all shelves, at different levels.
- *Safe and Ergonomic Operation.* The use of modern lorries designed to attach to aluminum shelves (especially when electrically powered) reduces injury dangers for workers and improves the speed of harvest, with less physical effort.

- *More Durable and Safe Growing Beds.* Traditional mushroom growing racks and beds are wooden. These wooden racks are harder to keep clean, more likely to harbor pathogens and pests, and less durable than aluminum racks. Aluminum is not corrosive and can last a lifetime, whereas wooden beds must be replaced or repaired with some frequency. Aluminum growing racks are easier to clean and keep hygienic while having light-

[12] "Picking Lorry," *Sinomush Industrial Co.,* accessed December 30, 2022, https://www.mushroomshelves.com/picking-lorry/

scattering properties that make the grow rooms more energy efficient in terms of light for growth and picking.[13]

- *Sustainability.* A Dutch growing system, facilitated by automated climate-control management of energy and water usage, is proven to use fewer resources per pound of yield. Therefore, Dutch system mushroom production can save energy costs and be a good candidate for earning a "zero waste certificate" (offered through the US Zero Waste Business Council), as some commercial farms like Premier Mushrooms have done.[14]

6.4 Converting CMF to a Dutch Growing System

The owner of the CMF, Baljit Nanda, has been convinced of the benefits of a Dutch growing system for years and has said that he made a mistake in not adopting the system in 2014 when he led the company through a previous bankruptcy. In more recent years, the reality of outdated equipment and increasingly inefficient production led CMF to consider a major upgrade to its growing system. In 2019, the CMF took out a loan of $8 million dollars from Rabo Bank, in order to purchase and install a modern Dutch equipment system. It took 4-5 months to design and order the new equipment from Europe. CMF contracted with two engineering companies to design the system for CMF, and European suppliers then fabricated the equipment. The first order for the growing equipment was placed in October 2019, and the entire project to install 28 new growing containers for the company was scheduled to be completed by July 31, 2020.[15] CMF spent $3.5 million dollars for the initial installation of the equipment but only four containers arrived in early 2020. Before the remainder of the equipment could arrive, pandemic lockdowns rolled out in the spring of 2020 and further deliveries were halted. In addition, the engineers from Germany could not visit Alamosa to oversee the installation due to the travel ban during the pandemic. As a result, the project was halted. Equipment remains undelivered and uninstalled today. Although CMF recognized that the installation of this modern equipment was critical to its business survival, the timing was bad and the company could not avoid bankruptcy.

Key Takeaway. *Use of advanced equipment and technology on a commercial mushroom farm is a key determinant of viability. Outdated technology was one reason why CMF could not compete with other commercial mushroom companies. Although CMF enjoyed being the only commercial mushroom company in the Rocky Mountain West, too frequent breakdown of equipment resulted in reduced production, which led to negative cash flows in the company. A major technology upgrade, including aluminum growing racks and new picking lorries, will be a necessity if CMF is converted to an employee-owned business.*

[13] https://www.sn2world.com/business/15241-mushroom-farm-equipment-why-can-only-well-invested-farms-bring-satisfactory-profits.html
[14] https://seedstock.com/2014/06/19/california-mushroom-startup-utilizes-closed-loop-dutch-technology-system/
[15] Nanda, interview, December 15, 2022.

7

Financial Feasibility

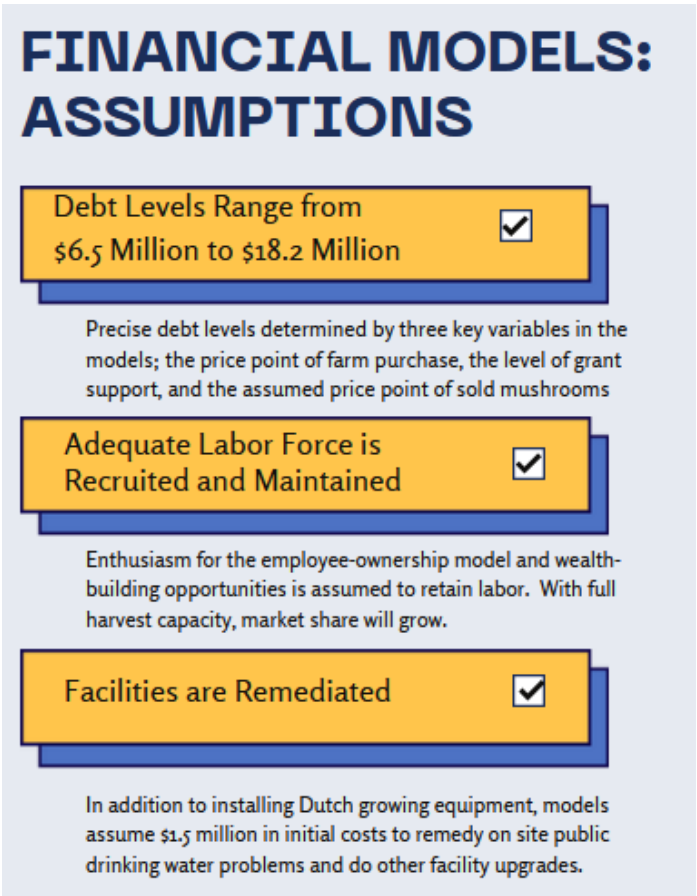
7.1 OVERVIEW

The national mushroom industry is well positioned for future growth due to increasingly strong consumer demand. The regional mushroom market around Alamosa is additionally promising due to consumer demand that is growing faster than national average and the absence of nearby mushroom-growing competitors. In these market conditions, an Alamosa mushroom farm can thrive, and is financially feasible, under the assumptions spelled out in below.

This section presents the core financial projections for several different 5-Year financial models. These financial models are built upon **several assumptions common to each model** and compare the consequences of **changing three key variables between the models**.

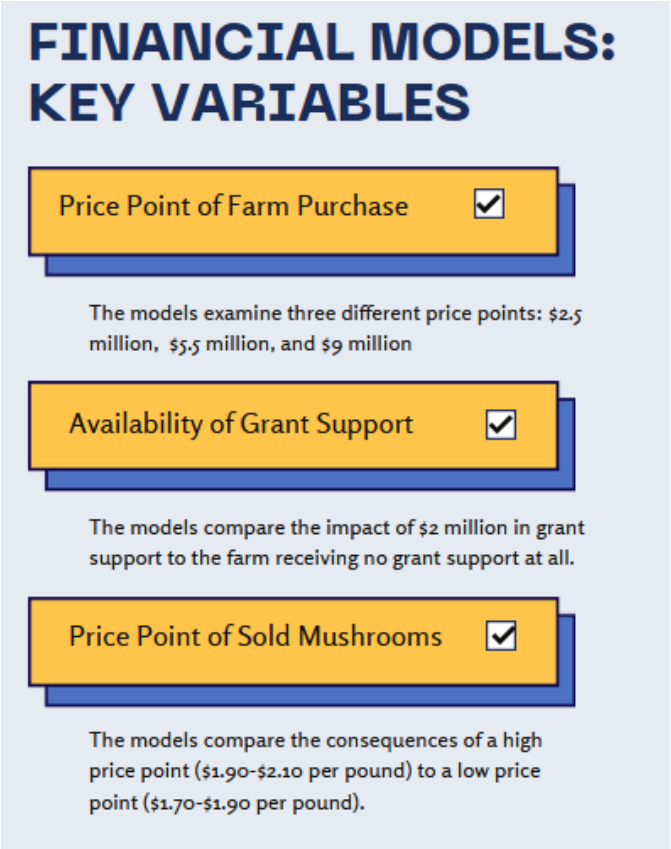
These 5-Year models are built on several key assumptions that are built into each model.

Fig. 7.1 Assumptions of Financial Models



These 5-Year models examine the effects of changing ***three key variables***.

Fig. 7.2 Key Variables in Financial Models



***Each of the models provided here project a financially feasible relaunch of an Alamosa mushroom farm, using the facilities of the now bankrupt Colorado Mushroom Farm*.** Each model compares the consequences of changing variables like farm or mushroom sales prices, and then projects how large of initial loans would be required to make the farm financially feasible under these changing variables. Although each model forecasts many months of initially negative cash flow while first harvests are grown and market share is expanded, each model estimates that if the farm can survive its first several years of start-up challenges, the farm will be able to accrue significant, positive cash balances by years 3-5, making that cash available for business equity, patronage distributions to worker-owners, or early payment of loans by capital providers.

7.2 KEY ASSUMPTIONS OF THE FINANCIAL MODELS

7.2.1 Sale of Farm to a Worker Owned Cooperative.

This feasibility study assumes that the current owner of the recently closed and bankrupt Colorado Mushroom Farm (CMF) sells the farm to a new worker owned cooperative. Though other models may also work (such as the current owner finding a way to restructure unsustainable debt levels and

relaunch the farm), this feasibility study focuses only on the concept of a new worker-owned cooperative purchasing and operating the farm.

The current owner of the shuttered CMF filed for Chapter 11 bankruptcy in late December 2022. With this filing, the owner remains in possession of the farm and assumedly will propose a plan of reorganization and continued operation, which creditors may vote upon, and the court may or not confirm. Assumedly, this reorganization plan will propose borrowing new money so as to relaunch the farm with new technology (installing the Dutch growing system) and generate positive cash flow.

This feasibility study does not evaluate whether a proposed reorganization of the current farm by the current owner might be a feasible path for re-establishing a successful business. Rather, this feasibility study assumes the farm will be sold to a new owner and estimates the effects of three possible different price points for that sale.

There are several reasons to be skeptical of proposals by the current owner to retain the farm, reorganize existing debt, and take on new debt to support a farm re-launch.

- **First,** the farm has experienced at least four years of substantially negative cash flows (2019-2022), with a net income loss of approximately $2.5 million every year.

- **Second,** the farm's current owner has a substantial debt burden—approximately $18 million.

- **Third,** there are substantial unpaid wage claims and a long list of 91 total creditors (89 unsecured creditors and 2 secured creditors) facing bankruptcy losses.

- **Fourth,** there have been multiple legal actions against the farm in the farm in recent years. Perhaps the most important legal troubles involve the public water drinking system on the farm, since farm management has refused to comply with years of public health compliance orders to make the farm water safe for workers.

It is unlikely in this situation that creditors or government officials will wish to extend the additional capital needed to install new technology and re-launch the farm under existing ownership.

However, a re-imagined and re-launched farm based around employee ownership will have several advantages.

- **First,** by selling the farm to a new owner, the existing owner will gain resources to help pay off creditors.

- **Second,** a new farm can be launched free of the massive, unsustainable debt of the current farm, built through several years of negative cash flow. The new farm will also be free of many of the legal troubles of past farm ownership. This new farm can begin with fewer

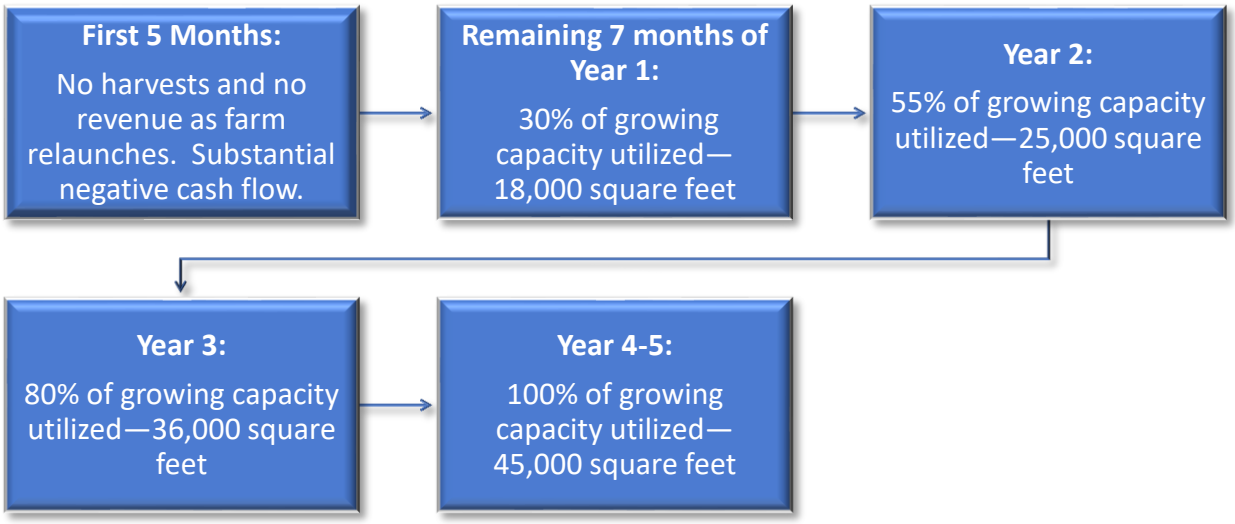
liabilities and with installation of modern growing equipment, making positive cash flows much more likely soon after re-launch.

- **Third,** a farm based around worker-ownership will advance social mission goals that can attract support from philanthropic foundations, government grant programs, and social mission lenders (such as the Worker Ownership Loan Fund of the Shared Capital Cooperative). This social mission aspect may mean that a worker-owned mushroom farm may be able to accumulate more capital under more favorable terms than is possible in a restructured farm under current ownership.

7.2.2 Robust Production Capacity, with Full Capacity Reached in Years 4-5

State-of-the-art growing system equipment and technology (e.g., "The Dutch growing system") must be adopted to ensure industry-standard high yields (approximately 320 pounds annually, per square foot). The growing capacity of the mushroom farm, after Dutch Growing System conversion, is estimated at 45,000 square feet. This figure is as reported in the 2018 appraisal report and aligns with industry standards in implementing a Dutch Growing System in a farm of this size. The models also assume that even after installing the Dutch system, it will take time for a farm to reach full growing capacity. The financial models make the following assumptions.

Figure 7.3 Annual Farm Progress Towards Full Growing Capacity



These numbers estimate that it will take several years to establish full growing capacity and to win market share. They are well aligned with the predictions offered by a recently prepared "Five Year Financial Forecast" of the Colorado Mushroom Farm, based on assumptions that the existing farm might relaunch operations on its own, with a Dutch Growing System.

The annual yield of harvested mushrooms is estimated at 320 pounds per square foot each year, with an assumption of 5-7% crop spoilage per year. This production estimate aligns with normal industry performance for a Dutch growing system. Typical crop spoilage levels are about 5% in the industry, but we assume a 7% spoilage level during the first two years after the new farm's launch, to account for start-up problems. All the non-spoiled, harvested mushrooms are assumed to be sold.

7.2.3 Business Expenses will Generally Align with Previous Farm Operations

This feasibility study estimates mushroom farm revenues and expenses over a five-year period. A full range of business costs and expenses was considered, based on a review of the real costs and expenses incurred by the previous Colorado Mushroom Farm. Variable expenses such as shipping and the direct wages of pickers were formulated with a "per pound of production" ration formula.

Full Expenses — **Full Farm Expenses Average $16.2 Million a Year**

- Direct Costs of Goods Sold (COGS): Direct Wages, Energy, Growing Supplies, etc.
- Fixed Costs beyond COGS: Safey, General Admin, Marketing, Maintenance, etc.
- Admin Salaries $70,000-$150,000: General Manager, Controller, Dept. Supervisors, etc.

Wage Levels — **Assumed $15/hr for Direct Growers, Pickers, Packers**

- Direct farm workers earn at least minimum wage, and can earn equity as company owners

Inflation — **Expenses Assumed to Grow at 4% Annual Inflation**

Variable Costs — **Projected at Per Pound of Production Basis**

- Direct wages of pickers, shipping costs, etc. increase as production capacity grows

Data Available — **Detailed Month-to-Month Expense Calculations**

- Electronic files of full financial models available on request

Table 7.1 Estimated One-Year Expenses Associated with an Alamosa Mushroom Farm

ESTIMATED EXPENSES ASSOCIATED WITH AN ALAMOSA MUSHROOM FARM (One year example; not including costs for interest, taxes, depreciation, and amortization, nor one-time costs for new equipment installation or office set-up)	
Cost Per Year, at Full Growing Capacity (calculated using same ratios of cost per pound of production experienced by previous Colorado Mushroom Farm, with small adjustments to account for Dutch Growing System efficiency gains)	
COST OF GOODS SOLD(COGS)	
Direct Wages of growers, pickers & packers using a high-wages estimate of $18.25/hr	$10,644,094
Direct Wages of growers, pickers, and packers using a low-wages estimate of $14.50/hr	$9,295,213
Energy Costs	$1,650,539
Growing Supplies	$4,615,915
Packing Supplies	$909,195
Traybuilding/Tray Maintenance	$111,901
VARIABLE EXPENSES BEYOND COGS	
Shipping Expenses	$1,678,512
FIXED EXPENSES BEYOND COGS	
Sales and Marketing	$210,575
Maintenance	$280,766
Safety/HACCP	$336,709
General & Administrative (travel, licensing, etc.)	$252,689
Custom Labor (legal, bookkeeping, etc.)	$175,479
Website	$21,057
Worker Recruitment, Training, Leadership Dev	$28,076
Software purchase and licensing	$21,057
Miscellaneous	$42,115
ADMINISTRATIVE SALARIES	
General Manager	$80,000
Controller	$100,000
Office Manager	$50,000
Sales/Marketing Manager	$125,000
Sales Associate	$80,000
Head Grower	$175,000
Growing Supervisor	$125,000
Maintenance Supervisor	$60,000
Picking Supervisor	$60,000
Packing Supervisor	$60,000
Shipping Supervisor	$60,000

The numbers used to determine these costs and expenses were calculated from a review of past Colorado Mushroom Farm performance, as reported in several years of Income/Financial statements (2019-2021), a 2018 Farm Appraisal Report, and tax returns from 2019-2021. The Colorado Mushroom Farm owner provided all these documents to facilitate a transparent and accurate estimate of real revenues and expenses associated with the existing farm.

Based on a review of these records, fixed costs were estimated, as were various ratios such as rations of growing/picking/packing/energy costs per pound of production. These ratios of the previous CMF operations were applied to projected production levels of a new mushroom farm, with slight modifications to account for assumed efficiency gains due to full installation of the Dutch Growing System (e.g., a 10% efficiency gain was projected in growing and picking labor).

These independently calculated numbers and ratios resulted in expense projections that were then compared to the projected expense projections provided in a recently prepared five-year financial forecast of the current farm owner, who has considered his own relaunch of the farm. The results in terms of projected expenses and projected mushroom production levels each year were in close alignment. These aligned results give us confidence that the expense and production level estimates used in the following financial models are reliable.

Table 7.2 Total Farm Expenses and Production Projected: 5-Year Period

Total Expenses Projected (in '000s) (not counting interest and amortization)	
Current Mushroom Farm: 5 Year Financial Projection	RMEOC Feasibility Study: 5 Year Financial Projection
$9,516	**$9,316**
$11,997	**$12,442**
$18,861	**$16,886**
$21,628	**$20,643**
$22,751	**$21,011**

Total Production Projected (in pounds)	
Current Mushroom Farm: 5 Year Financial Projection	RMEOC Feasibility Study: 5 Year Financial Projection
5,297,970	**5,118,422**
7,177,140	**7,258,680**
11,512,590	**10,452,499**
13,157,410	**13,204,620**
13,371,990	**13,204,620**

7.2.4 Debt Levels of $6.5-$18.2 Million and $4 Million in Working Capital

The financial models presented here assume varying starting debt levels, depending on three key variables: 1) farm purchase price, 2) the availability of grant support, and 3) assumed mushroom sales price. For example, if the farm costs $5.5 million to purchase, $2 million in grant support is available, and the mushroom per pound sale price is projected to start at $1.70, then $9.5 million in initial debt must be taken on to make the farm feasible.

Whatever the mix of loans and grants, each model assumes that a farm will need approximately $4 million in start-up working capital (after paying to purchase the farm, remediate health problems on site, and install the Dutch growing system). This working capital will allow for business start-up costs and allow the farm to survive a projected five months with no initial revenues at all.

7.2.5 An Adequate Labor Force is Retained & Market Share Grows Steadily

The assumption in these financials is that adequate labor will be available so that maximal crop yields can be grown, harvested, and delivered to market with spoilage levels of 5-7% throughout the 5-year period. This feasibility study assumes that a motivated labor force can be recruited with the possibility of becoming worker-owners of the mushroom cooperative, including the potential to gain wealth through patronage distributions of profits. To allow for time to recruit this labor force, expand market share, and grow the farm to capacity, the models assume that the farm doesn't produce any harvest at all for five months of start-up. Following that period, the farm produces at 30% of capacity during the remainder of its first year, 55% of capacity in year two, 80% of capacity in year three, and 100% of capacity in years four-five.

7.2.6 Facilities and Water Supply Remediation Required

Many of the facilities and equipment of CMF are dated, some facilities are dangerous, and all have been shuttered for several months. To relaunch farm operations, some restoration and cleaning of facilities will be required.

> *"Federal records show the Alamosa farm's facility left employees at risk of being burned, shocked, electrocuted, or falling, due to the lack of effective guardrails on a mezzanine in a maintenance area, and a corroded and broken ladder…In 2015, the structural integrity of concrete panel walls, a concrete roof and steel beams had not been verified after they'd been damaged, leaving workers vulnerable to being crushed, according to the Occupational Safety and Health Administration. A large hole in the roof leaked water, according to former workers and photos reviewed by The Colorado Sun."*
>
> *--Shannon Najmabadi, The Colorado Sun, January 8, 2023*

One immediate problem is that Colorado health authorities have found that the CMF facility has serious problems with its groundwater well, water storage tank, and drinking water distribution system. In recent years before closure, farm management had taken to offering workers bottled water to drink but has yet to remediate the public drinking water system of the farm, as required by a public health compliance order. These conditions will have to be remediated before the farm can restart operations. The financial models here assume $1 million in facility remediation costs.

7.3 KEY VARIABLES OF THE FINANCIAL MODELS

In addition to the preceding key assumptions that were embedded into each model, our 5-Year projections modeled the effect of changing three key variables: Farm Purchase Price, Grant Availability, and Mushroom Sales Price.

7.3.1 The Price Point of Purchasing the Bankrupt Farm and its Equipment

A key variable is the farm purchase price. These models estimate the effects of three different purchase prices of the farm and its existing (uninstalled) Dutch growing system equipment.

- *Farm Purchase Price of $2.5 Million.* The current mushroom farm is shuttered, with liabilities that outweigh is assets, and negative equity. It is producing no harvest, has no market share, and generates no income. The farm has been in operation since 1981, and much of the equipment is old and outdated. The current central growing facility was rated just average in 2018 (more than four years ago) and will take substantial effort to fully restore and re-launch as a growing facility after months of farm closure. The public drinking water system must be remediated.

  For these reasons, it could be argued that the current farm has very little value, which could be nominally estimated at just $1 million. In addition to this price, the uninstalled Dutch growing equipment, purchased in 2018, can be considered worth $1.5 million.

  Those assumptions lead to low-end possible purchase farm price of $2.5 million.

- *Farm Purchase Price of $5.5 Million.* Under this model, the farm is purchased for the current as-is value of its fixed assets (land, plant, and equipment). This value estimate is derived from the 2019-2021 Balance Sheets of A&M Capital Management, LLC (the parent company of CMF), which reports the as-is value of 2021 fixed assets as follows.

Table 7.3 Values of Fixed Assets of Colorado Mushroom Farm

2021 A&M Capital Management Balance Sheet: Fixed Assets of the CO Mushroom Farm	
Land	$332,500
Equipment, Cost	$3,938,864
Buildings-Horticultural, Cost	$1,542,226
Buildings-Administrative, Cost	$150,000
Less: Accumulated Depreciation	($1,565,140)
Total: Plant, Property and Equip.	**$4,398,450**

More than a year has passed since these 2021 estimates were prepared. Consequently, another year of depreciation should be applied against these value estimates. *Using the CMF's own estimate of 8% depreciation per year (derived by comparing 2019 plant, property, and equipment estimates to 2021 estimates), the current cost-basis value of the CMF plant, property and equipment is estimated at $4,046,574.*

In addition to this current value of the farm's fixed assets, it is also necessary to purchase the uninstalled Dutch growing system equipment which CMF purchased several years ago, but which was never fully delivered nor installed due to pandemic-related delays and later farm closure. This Dutch growing equipment was purchased for approximately $4 million, in 2019. Several years have passed since that purchase. Not all the equipment has yet been delivered. Parts that have been delivered remain in open-air storage at the CMF site. Engineers and technicians have not yet attempted installation, which may likely entail unexpected costs and retrofits. *For all these reasons, this study discounts the purchase price of the four-year old, undelivered, and uninstalled Dutch growing equipment to $1.5 million.*

Adding $1.5 million to the current cost-basis value of the CMF plant, property, and equipment ($4 million) results in a farm purchase price of $5.5 million.

- *Farm Purchase Price of $9 Million*. This purchase price estimate is derived by starting with a 2018 appraisal report, which estimated the CMF's "As Is" valuation at $11,000,000. Applying a 5% plant and equipment depreciation rate over the four years since this appraisal took place results in a current valuation of $8.96 million.

  However, this study considers this a very high estimate of the farm's value, since the 2018 appraisal report was done while the farm was in operation and commanded strong market share. Since that time, the farm has consistently faced substantial equipment breakdowns and has been forced into closure. Any re-launch of the farm will face months of no revenues and negative cash flows and a struggle to re-establish market share. It also faces the environmental and facilities remediation costs discussed above.

  A $9 million farm purchase price is modelled here, though a careful appraisal of the farm's current value may not sustain that price level.

7.3.2 Grant Support

In addition to modelling the financial feasibility of purchasing the farm at different price levels, the models presented here project the consequences of receiving grant support of $2 million (versus receiving no grant support) to support a re-launch of the farm as a worker cooperative. Some models presented here assume at least $2 million in philanthropic support for a mushroom farm worker cooperative, achieved through a mix of support from foundations and governmental agencies supportive of this cooperative venture. This is a reasonable assumption based on preliminary discussions that have already occurred with various Colorado and national foundations and agencies of local and state government. An equity crowdfunding campaign could also play a role in raising this startup capital. Though grant support is deemed likely, some financial models here project the consequences of receiving no start-up grant support.

7.3.3 The Initial Price Per Pound of Sold Mushrooms: $1.70 vs. $1.90

The price per pound of sold mushrooms was estimated at different levels. One model estimates the initial mushroom price conservatively to start in 2024 at $1.70 a pound (growing to $1.90 over the five-year period). This conservative estimate aligns with per pound prices in the $1.60 vicinity that were reported by the previous Colorado Mushroom Farm from 2015-2017 (source: *Historic Income Statements*).

A second model estimates initial mushroom prices more optimistically at $1.90 per pound (growing to $2.05 over the five-year period). The USDA reports that in the 3-year 2019-2022 period, average per pound prices for Agaricus mushrooms across the nation (excluding mushroom-rich Pennsylvania) were $2.00 per pound.[1] In 2022, Denver area mushroom prices reached beyond the $2.00 level, so a price assumption of $1.90 per pound is reasonable.

A re-launched Alamosa mushroom farm is financially feasible at either price point, though higher initial loans (and less business equity over time) are naturally associated with an assumption of lower mushroom prices.

7.4 SIX MUSHROOM FARM MODELS: CORE FINANCIALS

After accounting for careful estimates of farm production, costs of goods sold, administrative wages, and all other expenses, the following models compare the effect of changing three key variables: 1) farm purchase price, 2) grant levels, and 3) mushroom sales prices.

Expectedly, as the purchase price of the farm increases, the required level of loans to make farm conversion feasible also increases. In the same way, the required loan support increases if grants are not received, or if mushroom prices are assumed to be low.

Figure 7.4 on the following page visualizes how these three variables affect the different loan levels that are needed to make an employee-owned mushroom farm feasible.

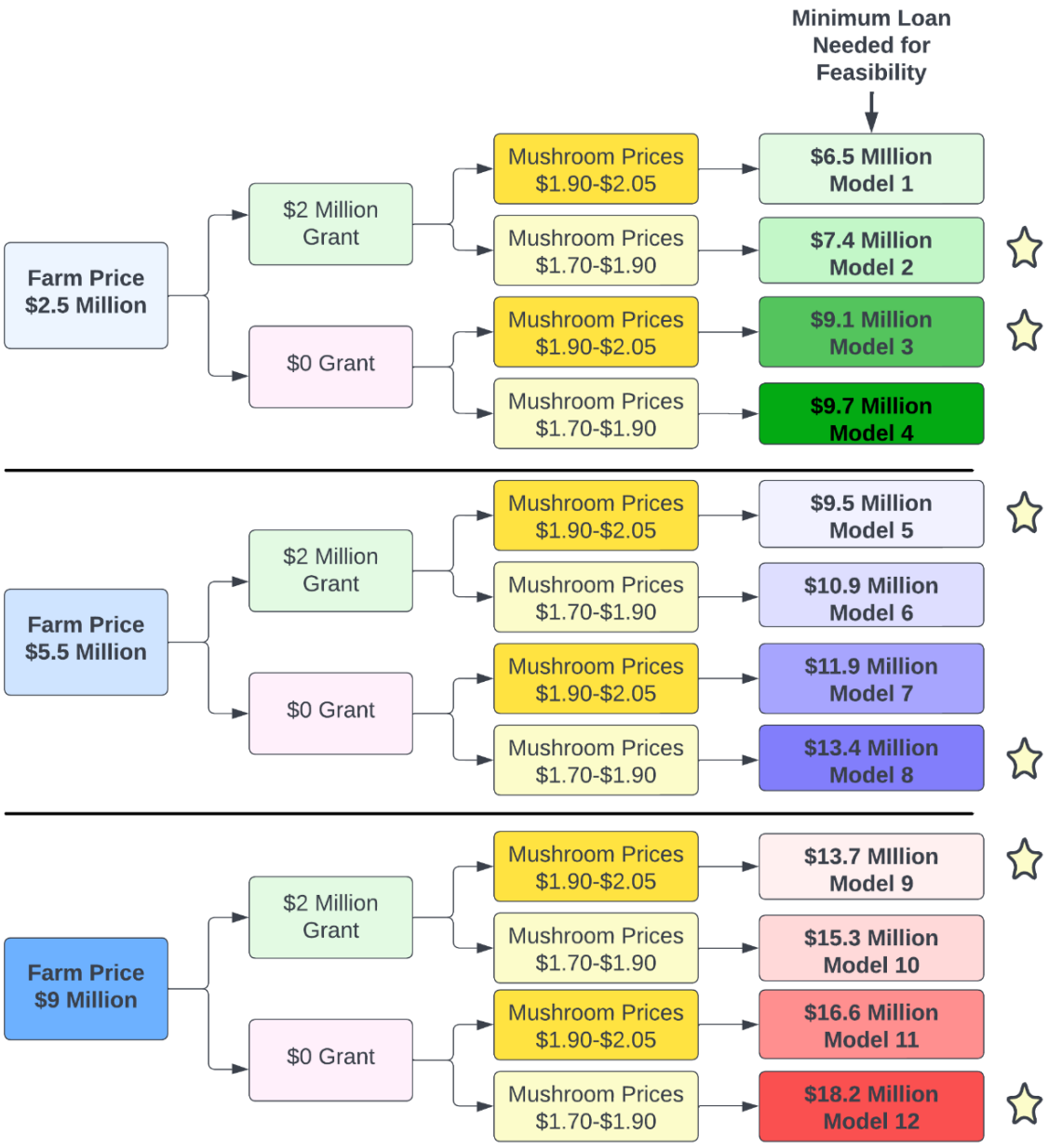
Because our models assume high mushroom production due to installation of advanced growing equipment, each model can be financially feasible in the end, so long as the requisite loan financing is accessed.

To provide further details on these models, Figure 7.4 is followed by core financial documents for six selected models. The general trends in these six selected models hold true in all the other models we tested as well.

The appendix includes a more complete range of financial statements for Model 5. Complete and detailed financial reports for each model, including month by month cash flow forecasts, balance sheets, and line-item expense projections can be provided upon request.

[1] USDA National Agricultural Statistics Service, *Mushroom Report*, August 26 2022. https://www.nass.usda.gov/Publications/Todays_Reports/reports/mush0822.pdf

Fig. 7.4 Financial Models Flow Chart



Core Financial Projections are provided for each of the starred models above in subsequent pages of this report. Appendix B Provides detailed Financials for Model 5

Table 7.4 Financial Models for Farm Purchase Price at $2.5 Million

Financial Models for $2.5 Million Farm Purchase Price

With $2 Million in Grant Support

MODEL 1: $2.5M Purchase Price, $4.0M Capital Loan, $2M Grant (Total Invested $8.5 Million)
Mushroom Prices Assumed High at $1.90-$2.05 Over 5-Year Period

	2024	2025	2026	2027	2028
EBITDA	($2,036,729)	$3,090,472	$5,992,873	$8,642,611	$8,985,387
PROFIT (After-Tax)	($2,869,333)	$1,992,405	$4,580,838	$6,946,928	$7,282,891
Operating Cash Flow	($2,379,333)	$2,482,405	$5,070,838	$7,436,928	$7,772,891
Year-End Cash	$524,833	$2,357,239	$6,778,077	$13,565,005	$20,687,895
Total Equity	($869,333)	$1,123,072	$5,703,910	$12,650,838	$19,933,729

MODEL 2: $2.5M Purchase Price, $4.9M Capital Loan, $2M Grant (Total Invested $9.4 Million)
Mushroom Prices Assumed Low at $1.70-$1.90 Over 5-Year Period

	2024	2025	2026	2027	2028
EBITDA	($2,630,926)	$1,988,293	$4,415,719	$6,676,620	$7,018,316
PROFIT (After-Tax)	($3,560,968)	$937,502	$3,112,709	$5,141,374	$5,481,138
Operating Cash Flow	($3,020,968)	$1,477,502	$3,652,709	$5,681,374	$6,021,138
Year-End Cash	$200,699	$938,201	$3,850,910	$8,792,284	$14,073,422
Total Equity	($1,560,968)	($623,466)	$2,489,243	$7,630,617	$13,111,755

With $0 in Grant Support

MODEL 3: $2.5M Purchase Price, $6.6M Capital Loan, $0M Grant (Total Invested $9.1 Million)
Mushroom Prices Assumed High at $1.90-$2.05 Over 5-Year Period

	2024	2025	2026	2027	2028
EBITDA	($2,036,729)	$3,090,472	$5,992,873	$8,642,611	$8,985,387
PROFIT (After-Tax)	($3,060,162)	$1,808,037	$4,409,319	$6,788,222	$7,136,963
Operating Cash Flow	($2,520,162)	$2,348,037	$4,949,319	$7,328,222	$7,676,963
Year-End Cash	$245,671	$1,683,708	$5,723,026	$12,141,249	$18,908,212
Total Equity	($3,060,162)	($1,252,126)	$3,157,193	$9,945,416	$17,082,379

MODEL 4: $2.5M Purchase Price, $7.2M Capital Loan, $0M Grant (Total Invested $9.7 Million)
Mushroom Prices Assumed Low at $1.70-$1.90 Over 5-Year Period

	2024	2025	2026	2027	2028
EBITDA	($2,630,926)	$1,988,293	$4,415,719	$6,676,620	$7,018,316
PROFIT (After-Tax)	($3,682,197)	$832,760	$3,020,111	$5,060,920	$5,412,828
Operating Cash Flow	($3,142,197)	$1,372,760	$3,560,111	$5,600,920	$5,952,828
Year-End Cash	$168,637	$571,396	$3,161,507	$7,792,427	$12,775,255
Total Equity	($3,682,197)	($2,849,437)	$170,674	$5,231,594	$10,644,422

Table 7.5 Financial Models for Farm Purchase Price at $5.5 Million

	Financial Models for $5.5 Million Farm Purchase Price				
With $2 Million in Grant Support	**MODEL 5: $5.5M Purchase Price, $4.0M Capital Loan, $2M Grant (Total Invested: $11.5 Million)** Mushroom Prices Assumed High at $1.90-$2.05 Over 5-Year				
	2024	**2025**	**2026**	**2027**	**2028**
EBITDA	($2,036,729)	$3,090,472	$5,992,873	$8,642,611	$8,985,387
PROFIT (After-Tax)	($3,221,190)	$1,569,821	$4,173,215	$6,554,230	$6,905,083
Operating Cash Flow	($2,431,190)	$2,359,821	$4,963,215	$7,344,230	$7,695,083
Year-End Cash	$197,977	$1,607,798	$5,621,013	$12,015,243	$18,760,326
Total Equity	($1,221,190)	$348,631	$4,521,846	$11,076,076	$17,981,160
	MODEL 6: $5.5M Purchase Price, $5.4M Capital Loan, $2M Grant (Total Invested: $12.9 Million) Mushroom Prices Assumed Low at $1.70-$1.90 Over 5-Year				
	2024	**2025**	**2026**	**2027**	**2028**
EBITDA	($2,630,926)	$1,988,293	$4,415,719	$6,676,620	$7,018,316
PROFIT (After-Tax)	($4,045,447)	$514,112	$2,707,799	$4,754,944	$5,113,188
Operating Cash Flow	($3,205,447)	$1,354,112	$3,547,799	$5,594,944	$5,953,188
Year-End Cash	$195,387	$459,498	$2,917,297	$7,422,241	$12,285,429
Total Equity	($2,045,447)	($1,531,335)	$1,176,464	$5,931,408	$11,044,596
With $0 in Grant Support	**MODEL 7: $5.5M Purchase Price, $6.4M Capital Loan, $0M Grant (Total Invested $10.9 Million)** Mushroom Prices Assumed High at $1.90-$2.05 Over 5-Year				
	2024	**2025**	**2026**	**2027**	**2028**
EBITDA	($2,036,729)	$3,090,472	$5,992,873	$8,642,611	$8,985,387
PROFIT (After-Tax)	($3,437,155)	$1,460,525	$4,076,591	$6,470,278	$6,833,803
Operating Cash Flow	($2,647,155)	$2,250,525	$4,866,591	$7,260,278	$7,623,803
Year-End Cash	$162,012	$1,222,536	$4,899,127	$10,969,406	$17,403,209
Total Equity	($3,437,155)	($1,976,630)	$2,099,960	$8,570,239	$15,404,042
	MODEL 8: $5.5M Purchase Price, $7.9M Capital Loan, $0M Grant (Total Invested $13.4 Million) Mushroom Prices Assumed Low at $1.70-$1.90 Over 5-Year				
	2024	**2025**	**2026**	**2027**	**2028**
EBITDA	($2,630,926)	$1,988,293	$4,415,719	$6,676,620	$7,018,316
PROFIT (After-Tax)	($4,177,218)	$400,262	$2,607,149	$4,667,494	$5,038,938
Operating Cash Flow	($3,337,218)	$1,240,262	$3,447,149	$5,507,494	$5,878,938
Year-End Cash	$334,449	$234,711	$2,341,860	$6,509,354	$11,048,292
Total Equity	($4,177,218)	($3,776,956)	($1,169,807)	$3,497,687	$8,536,625

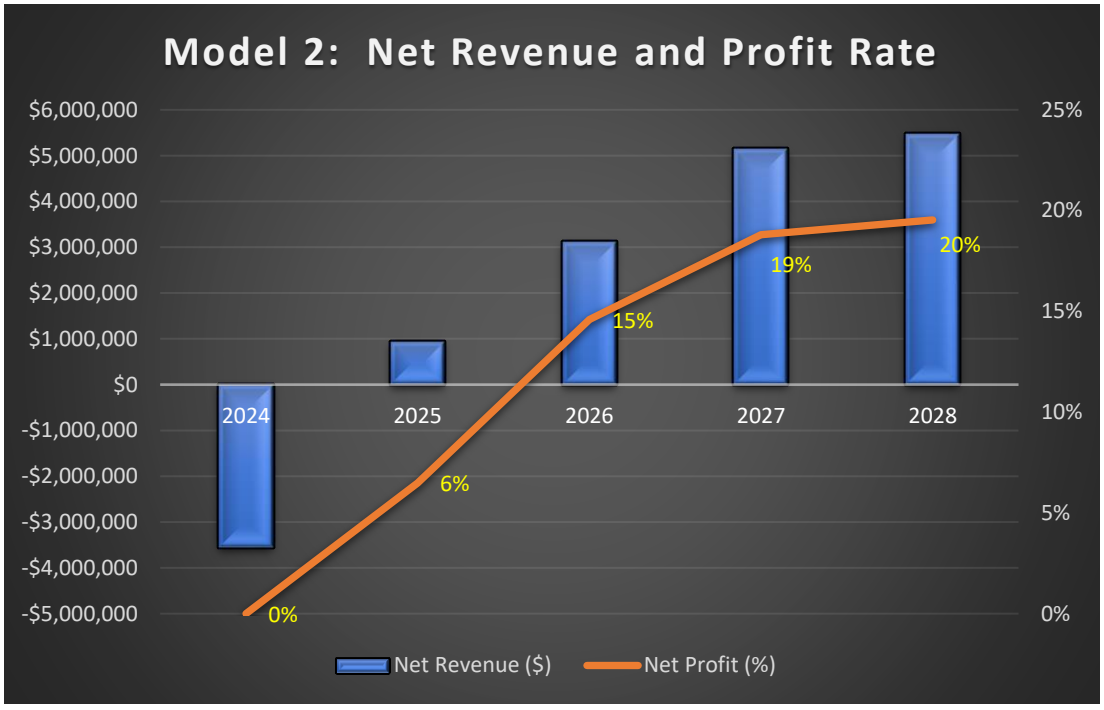
Table 7.6 Financial Models for Farm Purchase Price at $9 Million

	Financial Models for $9 Million Farm Purchase Price				
With $2 Million in Grant Support	**MODEL 9: $9M Purchase Price, $4.7M Capital Loan, $2M Grant (Total Invested $15.7 Million)** Mushroom Prices Assumed High at $1.90-$2.05 Over 5-Year				
	2024	**2025**	**2026**	**2027**	**2028**
EBITDA	($2,036,729)	$3,090,472	$5,992,873	$8,642,611	$8,985,387
PROFIT (After-Tax)	($3,747,487)	$1,366,537	$4,350,140	$7,081,039	$7,504,935
Operating Cash Flow	($2,757,487)	$2,192,553	$4,818,123	$7,221,314	$7,594,343
Year-End Cash	$186,679	$1,009,232	$4,457,355	$10,308,669	$16,533,012
Total Equity	($1,747,487)	($544,935)	$3,283,188	$9,514,503	$16,118,846
	MODEL 10: $9M Purchase Price, $6.3M Capital Loan, $2M Grant (Total Invested $17.3 Million) Mushroom Prices Assumed Low at $1.70-$1.90 Over 5-Year				
	2024	**2025**	**2026**	**2027**	**2028**
EBITDA	($2,630,926)	$1,988,293	$4,415,719	$6,676,620	$7,018,316
PROFIT (After-Tax)	($4,630,709)	$5,736	$2,222,655	$4,293,032	$4,674,508
Operating Cash Flow	($3,440,709)	$1,195,736	$3,412,655	$5,483,032	$5,864,508
Year-End Cash	$456,791	$122,527	$2,005,182	$5,958,213	$10,292,722
Total Equity	($2,630,709)	($2,624,973)	($402,318)	$3,890,713	$8,565,222
With $0 in Grant Support	**MODEL 11: $9M Purchase Price, $7.6M Capital Loan, $0M Grant (Total Invested $16.6 Million)** Mushroom Prices Assumed High at $1.90-$2.05 Over 5-Year				
	2024	**2025**	**2026**	**2027**	**2028**
EBITDA	($2,036,729)	$3,090,472	$5,992,873	$8,642,611	$8,985,387
PROFIT (After-Tax)	($4,105,475)	$894,487	$3,535,369	$5,953,872	$6,342,213
Operating Cash Flow	($2,915,475)	$2,084,487	$4,725,369	$7,143,872	$7,532,213
Year-End Cash	$162,858	$587,345	$3,652,714	$9,136,586	$15,008,800
Total Equity	($4,105,475)	($3,210,988)	$324,381	$6,278,253	$12,620,466
	MODEL 12: $9M Purchase Price, $9.2M Capital Loan, $0M Grant (Total Invested $18.2 Million) Mushroom Prices Assumed Low at $1.70-$1.90 Over 5-Year				
	2024	**2025**	**2026**	**2027**	**2028**
EBITDA	($2,630,926)	$1,988,293	$4,415,719	$6,676,620	$7,018,316
PROFIT (After-Tax)	($4,780,218)	($143,557)	$2,105,901	$4,191,590	$4,588,378
Operating Cash Flow	($3,590,218)	$1,046,443	$3,295,901	$5,381,590	$5,778,378
Year-End Cash	$941,449	$167,892	$1,643,793	$5,205,383	$9,163,761
Total Equity	($4,780,218)	($4,923,775)	($2,817,874)	$1,373,716	$5,962,094

Model 2: $2.5 M Purchase Price; $4.9 M Capital Loan; $2 M Grant
Mushroom Sales $1.70-$1.90 per pound

Core Financials Model 2 ($'000)

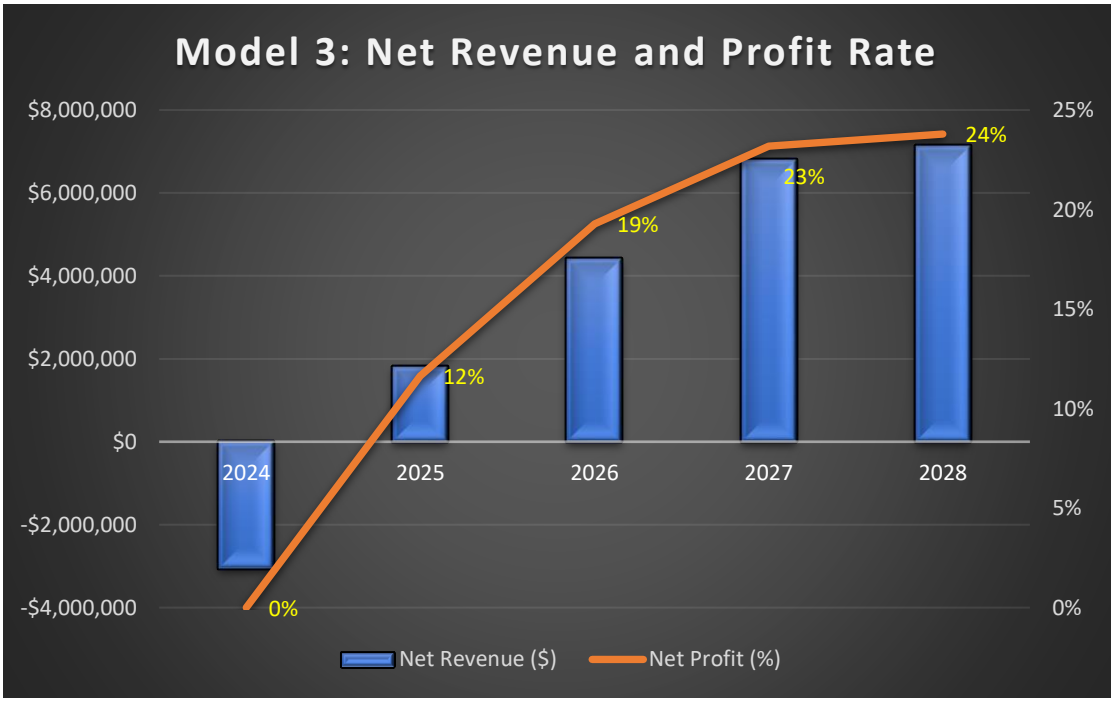
Financial Year	2024	2025	2026	2027	2028
Revenue	5,938	14,456	21,328	27,347	28,058
COGS	(5,581)	(8,895)	(12,845)	(16,179)	(16,450)
GROSS MARGIN	**356**	**5,561**	**8,482**	**11,168**	**11,608**
GROSS MARGIN %	*6%*	*38%*	*40%*	*41%*	*41%*
Admin Salaries & Wages	(1,285)	(1,417)	(1,459)	(1,503)	(1,548)
Variable Expenses	(494)	(914)	(1,316)	(1,645)	(1,645)
Fixed Expenditure	(1,209)	(1,242)	(1,291)	(1,343)	(1,397)
EBITDA	**(2,631)**	**1,988**	**4,416**	**6,677**	**7,018**
EBITDA %	*0%*	*14%*	*21%*	*24%*	*25%*
Depreciation & Amortization	(540.0)	(540.0)	(540.0)	(540.0)	(540.0)
EBIT	**(3,171)**	**1,448**	**3,876**	**6,137**	**6,478**
Net Interest Expense	(390)	(383)	(339)	(294)	(250)
Net Profit Before Tax	**(3,561)**	**1,065**	**3,537**	**5,842**	**6,229**
Tax Expense	-	(128)	(424)	(701)	(747)
Net Profit After Tax	**(3,561)**	**938**	**3,113**	**5,141**	**5,481**
Net Profit After Tax %	*0%*	*6%*	*15%*	*19%*	*20%*
Operating Cash Flows	**(3,021)**	**1,478**	**3,653**	**5,681**	**6,021**
Cash	**201**	**938**	**3,851**	**8,792**	**14,073**



Model 3: $2.5 M Purchase Price; $6.6 M Capital Loan; $0 M Grant
Mushroom Sales $1.90-$2.05 per pound

Core Financials Model 3 ($'000)

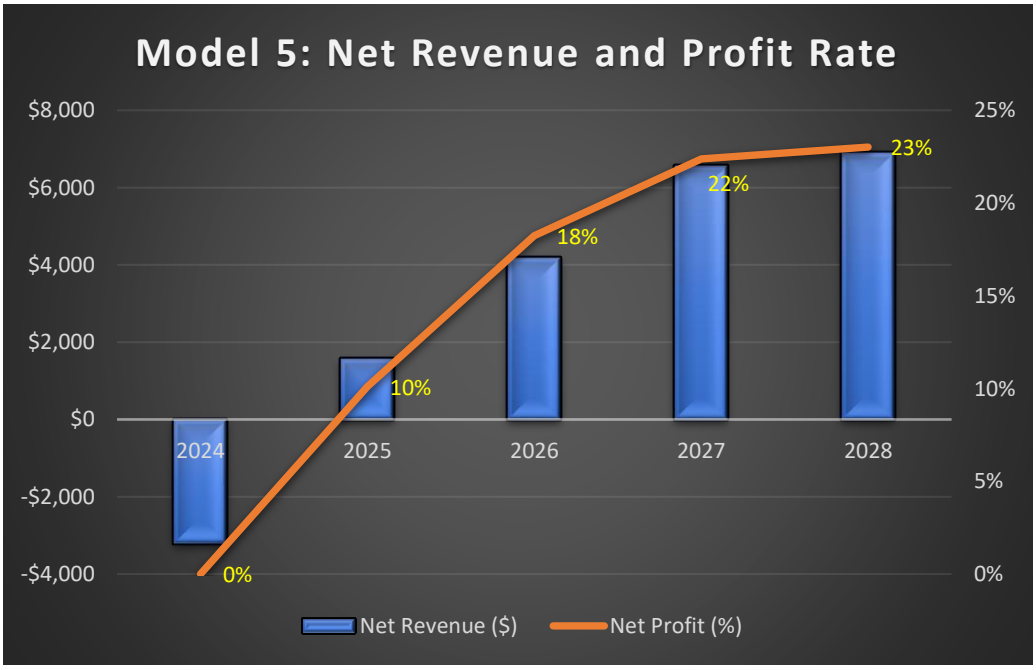
Financial Year	2024	2025	2026	2027	2028
Revenue	6,541	15,533	22,879	29,286	29,997
COGS	(5,581)	(8,895)	(12,845)	(16,179)	(16,450)
GROSS MARGIN	**959**	**6,638**	**10,034**	**13,107**	**13,547**
GROSS MARGIN %	*15%*	*43%*	*44%*	*45%*	*45%*
Admin Salaries & Wages	(1,298)	(1,417)	(1,459)	(1,503)	(1,548)
Variable Expenses	(494)	(914)	(1,316)	(1,645)	(1,645)
Fixed Expenditure	(1,209)	(1,242)	(1,291)	(1,343)	(1,397)
EBITDA	**(2,041)**	**3,066**	**5,967**	**8,616**	**8,957**
EBITDA %	*0%*	*20%*	*26%*	*29%*	*30%*
Depreciation & Amortization	(540.0)	(540.0)	(540.0)	(540.0)	(540.0)
EBIT	**(2,581)**	**2,526**	**5,427**	**8,076**	**8,417**
Net Interest Expense	(480)	(471)	(416)	(362)	(307)
Net Profit Before Tax	**(3,060)**	**2,055**	**5,011**	**7,714**	**8,110**
Tax Expense	-	(247)	(601)	(926)	(973)
Net Profit After Tax	**(3,060)**	**1,808**	**4,409**	**6,788**	**7,137**
Net Profit After Tax %	*0%*	*12%*	*19%*	*23%*	*24%*
Operating Cash Flows	**(2,520)**	**2,348**	**4,949**	**7,328**	**7,677**
Cash	**246**	**1,684**	**5,723**	**12,141**	**18,908**



Model 5: $5.5 M Purchase Price; $4 M Capital Loan; $2 M Grant
Mushroom Sales $1.90-$2.05 per pound

Core Financials Model 5 ($'000)

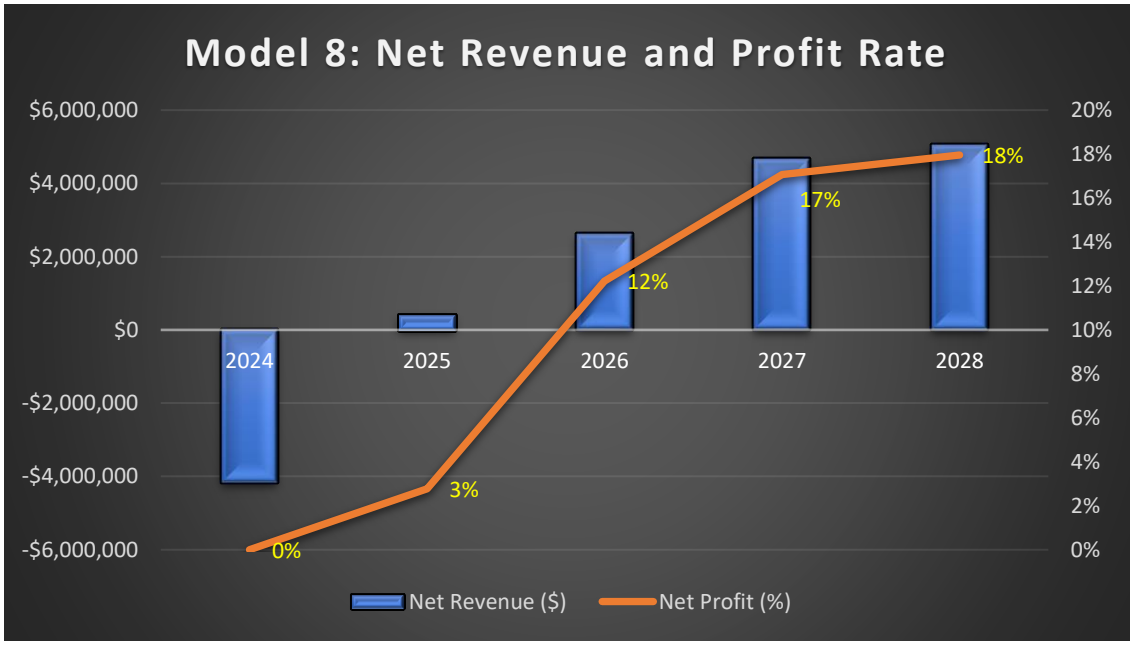
Financial Year	2024	2025	2026	2027	2028
Revenue	6,541	15,533	22,879	29,286	29,997
COGS	(5,576)	(8,895)	(12,845)	(16,179)	(16,450)
GROSS MARGIN	**965**	**6,638**	**10,034**	**13,107**	**13,547**
GROSS MARGIN %	*15%*	*43%*	*44%*	*45%*	*45%*
Admin Salaries & Wages	(1,318)	(1,417)	(1,459)	(1,503)	(1,548)
Variable Expenses	(384)	(914)	(1,316)	(1,645)	(1,645)
Fixed Expenditure	(1,194)	(1,242)	(1,291)	(1,343)	(1,397)
EBITDA	**(1,930)**	**3,066**	**5,967**	**8,616**	**8,957**
EBITDA %	*0%*	*20%*	*26%*	*29%*	*30%*
Depreciation & Amortization	(790.0)	(790.0)	(790.0)	(790.0)	(790.0)
EBIT	**(2,720)**	**2,276**	**5,177**	**7,826**	**8,167**
Net Interest Expense	(501)	(492)	(435)	(378)	(321)
Net Profit Before Tax	**(3,221)**	**1,784**	**4,742**	**7,448**	**7,847**
Tax Expense	-	(214)	(569)	(894)	(942)
Net Profit After Tax	**(3,221)**	**1,570**	**4,173**	**6,554**	**6,905**
Net Profit After Tax %	*0%*	*10%*	*18%*	*22%*	*23%*
Operating Cash Flows	**(2,431)**	**2,360**	**4,963**	**7,344**	**7,695**
Cash	**198**	**1,608**	**5,621**	**12,015**	**18,760**



Model 8: $5.5 M Purchase Price; $7.9 M Capital Loan; $0 M Grant
Mushroom Sales $1.70-$1.90 per pound

Core Financials Model 8($'000)

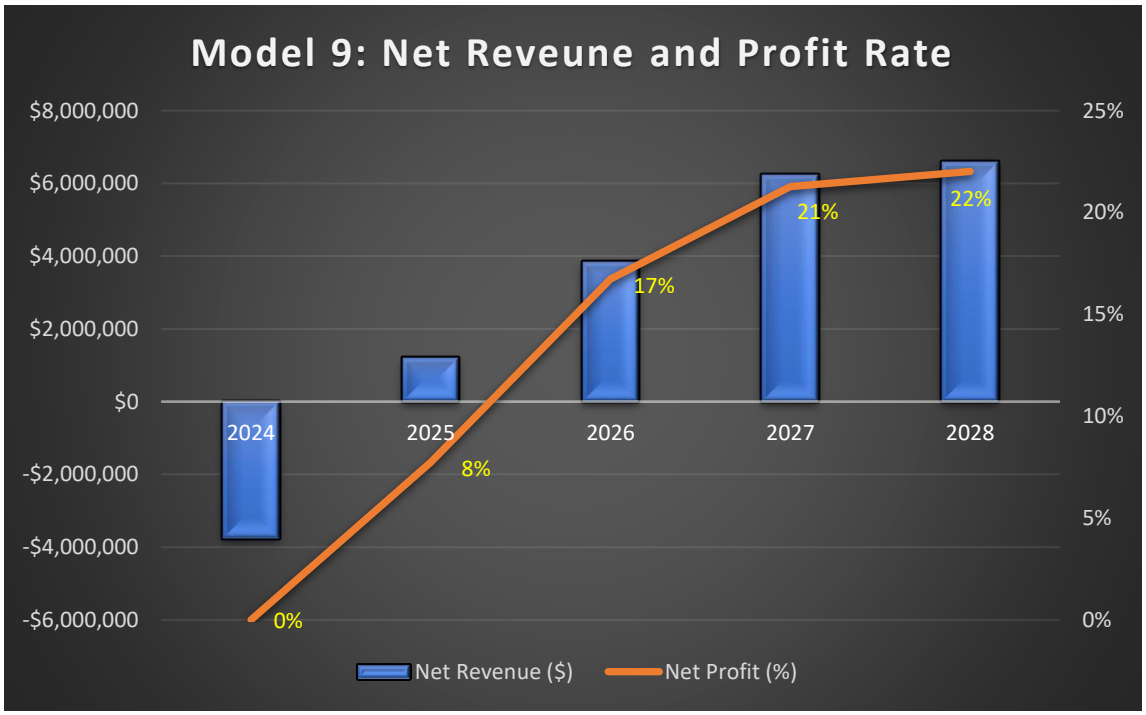
Financial Year	2024	2025	2026	2027	2028
Revenue	5,938	14,456	21,328	27,347	28,058
COGS	(5,581)	(8,895)	(12,845)	(16,179)	(16,450)
GROSS MARGIN	**356**	**5,561**	**8,482**	**11,168**	**11,608**
GROSS MARGIN %	*6%*	*38%*	*40%*	*41%*	*41%*
Admin Salaries & Wages	(1,285)	(1,417)	(1,459)	(1,503)	(1,548)
Variable Expenses	(494)	(914)	(1,316)	(1,645)	(1,645)
Fixed Expenditure	(1,209)	(1,242)	(1,291)	(1,343)	(1,397)
EBITDA	**(2,631)**	**1,988**	**4,416**	**6,677**	**7,018**
EBITDA %	*0%*	*14%*	*21%*	*24%*	*25%*
Depreciation & Amortization	(840.0)	(840.0)	(840.0)	(840.0)	(840.0)
EBIT	**(3,471)**	**1,148**	**3,576**	**5,837**	**6,178**
Net Interest Expense	(706)	(693)	(613)	(533)	(452)
Net Profit Before Tax	**(4,177)**	**455**	**2,963**	**5,304**	**5,726**
Tax Expense	-	(55)	(356)	(636)	(687)
Net Profit After Tax	**(4,177)**	**400**	**2,607**	**4,667**	**5,039**
Net Profit After Tax %	*0%*	*3%*	*12%*	*17%*	*18%*
Operating Cash Flows	**(3,337)**	**1,240**	**3,447**	**5,507**	**5,879**
Cash	**334**	**235**	**2,342**	**6,509**	**11,048**



Model 9: $9 M Purchase Price; $4.7 M Capital Loan; $2 M Grant
Mushroom Sales $1.90-$2.05 per pound

Core Financials Model 9 ($'000)

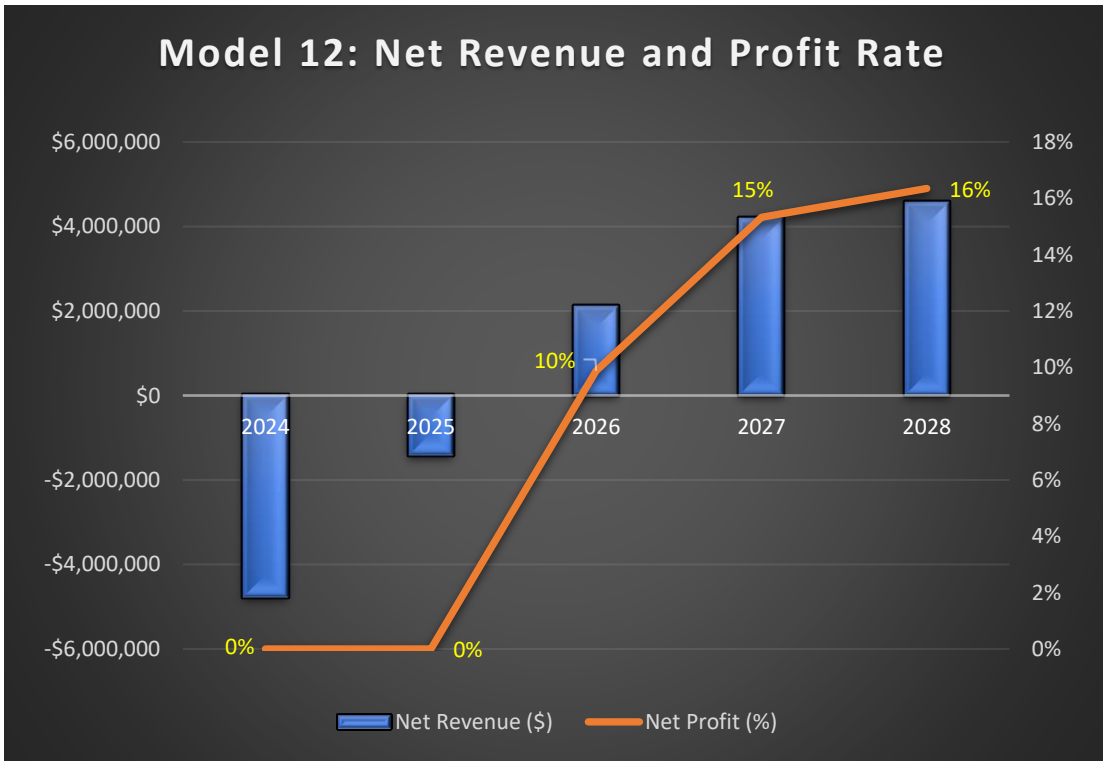
Financial Year	2024	2025	2026	2027	2028
Revenue	6,541	15,533	22,879	29,286	29,997
COGS	(5,581)	(8,895)	(12,845)	(16,179)	(16,450)
GROSS MARGIN	**959**	**6,638**	**10,034**	**13,107**	**13,547**
GROSS MARGIN %	*15%*	*43%*	*44%*	*45%*	*45%*
Admin Salaries & Wages	(1,292)	(1,417)	(1,459)	(1,503)	(1,548)
Variable Expenses	(494)	(914)	(1,316)	(1,645)	(1,645)
Fixed Expenditure	(1,209)	(1,242)	(1,291)	(1,343)	(1,397)
EBITDA	**(2,035)**	**3,066**	**5,967**	**8,616**	**8,957**
EBITDA %	*0%*	*20%*	*26%*	*29%*	*30%*
Depreciation & Amortization	(990.0)	(990.0)	(990.0)	(990.0)	(990.0)
EBIT	**(3,025)**	**2,076**	**4,977**	**7,626**	**7,967**
Net Interest Expense	(722)	(709)	(627)	(545)	(462)
Net Profit Before Tax	**(3,747)**	**1,367**	**4,350**	**7,081**	**7,505**
Tax Expense	-	(164)	(522)	(850)	(901)
Net Profit After Tax	**(3,747)**	**1,203**	**3,828**	**6,231**	**6,604**
Net Profit After Tax %	*0%*	*8%*	*17%*	*21%*	*22%*
Operating Cash Flows	**(2,757)**	**2,193**	**4,818**	**7,221**	**7,594**
Cash	**187**	**1,009**	**4,457**	**10,309**	**16,533**



Model 12: $9 M Purchase Price; $9.2 M Capital Loan; $0 M Grant
Mushroom Sales $1.70-$1.90 per pound

Core Financials Model 12 ($'000)

Financial Year	2024	2025	2026	2027	2028
Revenue	5,938	14,456	21,328	27,347	28,058
COGS	(5,581)	(8,895)	(12,845)	(16,179)	(16,450)
GROSS MARGIN	**356**	**5,561**	**8,482**	**11,168**	**11,608**
GROSS MARGIN %	*6%*	*38%*	*40%*	*41%*	*41%*
Admin Salaries & Wages	(1,285)	(1,417)	(1,459)	(1,503)	(1,548)
Variable Expenses	(494)	(914)	(1,316)	(1,645)	(1,645)
Fixed Expenditure	(1,209)	(1,242)	(1,291)	(1,343)	(1,397)
EBITDA	**(2,631)**	**1,988**	**4,416**	**6,677**	**7,018**
EBITDA %	*0%*	*14%*	*21%*	*24%*	*25%*
Depreciation & Amortization	(1,190.0)	(1,190.0)	(1,190.0)	(1,190.0)	(1,190.0)
EBIT	**(3,821)**	**798**	**3,226**	**5,487**	**5,828**
Net Interest Expense	(959)	(942)	(833)	(723)	(614)
Net Profit Before Tax	**(4,780)**	**(144)**	**2,393**	**4,763**	**5,214**
Tax Expense	-	-	(287)	(572)	(626)
Net Profit After Tax	**(4,780)**	**(144)**	**2,106**	**4,192**	**4,588**
Net Profit After Tax %	*0%*	*0%*	*10%*	*15%*	*16%*
Operating Cash Flows	**(3,590)**	**1,046**	**3,296**	**5,382**	**5,778**
Cash	**941**	**168**	**1,644**	**5,205**	**9,164**



8

Alamosa Cooperative Mushroom Farm: A Social Enterprise Solution for a Resilient Community

A relaunched cooperative Alamosa mushroom farm is feasible and can become a revenue-generating business with a social mission. Certainly, building a successful enterprise owned by workers will be hard work. It will require a commitment on the part of workers and substantial education and training. Cooperatives can fail like any other business—and securing start-up financing can be difficult for innovative concepts like an immigrant worker cooperative farm.

Though these obstacles are real, cooperatives are a proven economic development strategy, and they are rapidly growing across the country. Colorado has become a leader in this employee-ownership movement, with a growing range of support from government agencies, philanthropic foundations, and non-profit partners. The coop-support ecosystem is growing in Colorado, and this is a promising moment to launch a cooperative mushroom farm in Alamosa.

Worker cooperatives have a well-established record of creating opportunities for lower-income workers who may be unemployed or under-employed. They are rooted in local communities and are democratically controlled by their own workforce. The elevating vision behind cooperatives is that workers can come together and pool their resources in a co-owned enterprise that provides a dignified workplace. Worker cooperatives advance values of democratic control of the workplace, worker dignity, educational and financial growth of worker owners, and concern for the social health of their community.

The worker cooperative model can be especially beneficial for immigrant workers, who are a marginalized workforce, often poorly paid and exploited in the traditional workplace. Instead of remaining vulnerable to employers' decisions and control, immigrant workers can take matters into their own hands, form a worker cooperative, and become the owners of their farm.

There is a history of failed businesses being successfully converted to employee-owned enterprises in the US and elsewhere. In Chicago, New Era Window workers took over their failing businesses in 2012, after two previous changes of failed traditional ownership following the 2008 economic crisis. Today, it is a successful worker-run business employing dozens of workers. In the Denver area, Griffin Coffee recently became the first successful coop conversion of the Main Street Phoenix Project, which has a mission to purchase distressed restaurant businesses and turn them into worker cooperatives to save restaurant industry jobs. Dozens more such restaurant conversions are in the pipeline.[1]

[1] Main Street Phoenix Project, "About Us," *The Main Street Phoenix Project,* accessed January 6, 2023, https://www.mainstreet.coop/.

In Argentina, over 300 businesses (that hired 15,000 workers) were taken over by workers following the economic crisis in 2021-2022. Most of these recuperated companies are still in operation today. In Italy, the government enacted the Marcora Law that allows unemployed workers to "cash out" their unemployment payments to start a cooperative with other workers, thus creating more jobs for people. Thanks to the Marcora Law, many risky and distressed businesses were saved by workers.

The closure and bankruptcy of the Colorado Mushroom Farm have been unfortunate, but the moment is opportune to save jobs and build community strength through a relaunched cooperative farm—and the San Luis Valley is a promising location for the effort.

8.1. San Luis Valley (SLV): A Resilient Community

The San Luis Valley (SLV) is a resilient community. Although the SLV is one of the poorest areas of Colorado, the community has always been strong. It is encouraging for a mushroom cooperative concept that there has been strong collaboration among different community organizations and government sectors working together in the SLV to support marginalized communities and sustain community-led projects. Many of these community projects should synergize well with a mushroom farm cooperative: one is a community agricultural park, one is an affordable housing community where many mushroom farm workers live, and several are member-owned cooperatives themselves, which means they follow an organizational principle to support the efforts of other cooperatives. Some of these SLV community initiatives include:

- **The Rio Grande Farm Park:** The Rio Grande Farm Park is a 38-acre multi-use agricultural park located along the Rio Grande across from Cole Park.[2] It was organized as a public farm with a mission to develop "an equitable local food system that restores the health of the people, community, economy, and ecosystem."[3]

  A decade ago, when developers sought to convert the riverfront property into an RV park, The Trust for Public Land purchased the land in 2014, to protect the area for community benefit.[4] Alamosa's robust community of local farmers, many of them immigrants, came to embrace the farm's community mission, participating in its regenerative agriculture workshops and growing or purchasing locally grown, fresh produce from farmers at an on-site Farm Stand.[5] Many partners, such as the local Mayan community, the City and County of Alamosa, and various community groups were critical in winning a collective campaign to establish and grow the farm as a community resource.[6] Currently, the San

[2] U.S. Environmental Protection Agency Project, *Local Foods, Local Places Community Action Plan for Alamosa, Colorado,* December 2017, https://www.ams.usda.gov/sites/default/files/media/LFLPAlamosaCO.pdf.
[3] "About Us,' *Rio Grande Farm Park,* accessed January 6, 2023, https://riograndefarmpark.org/about-us.
[4] "Rio Grande Farm Park," *Trust for Public Land,* https://www.tpl.org/our-work/rio-grande-farm-park.
[5] "Rio Grande Farm Park," *San Luis Valley Local Foods Coalition,* https://slvlocalfoods.org/rgfp/.
[6] *San* Luis Valley Local Foods Coalition, *"Rio Grande."*

Luis Valley Local Foods Coalition is managing the Rio Grande Farm park, which features community gardens, a fruit tree orchard, recreational space, and more.

- **Century Mobile Home Park.** The Century Mobile Home Park was purchased by a community coalition to preserve the mobile home park as a lower-income housing community, heavily populated by CMF mushroom farm workers. When mushroom farm workers lost their jobs with CMF closure in 2022, they also faced a housing crisis, as the mobile home park where many of these families lived was up for sale and redevelopment. Over 60 CMF workers and their families lived at this park and were facing the loss of housing. But a strong local commitment to the welfare of these workers and other low-income residents led the SLV Housing Coalition (SLVHC) to obtain funding commitments to purchase and preserve the mobile home park as a low-income housing community.[7]

- **Community-Led Cooperatives.** The SLV has experience with several community-supported cooperatives.

    - Alamosa is home to the *Valley Food Cooperative*, which was founded in 1980 and now has over 500 members.[8] In 2021, the national Robert Wood Johnson Foundation awarded Alamosa a "Culture of Health Prize" for building a strong coalition to build a healthy and sustainable food hub in Alamosa, through such efforts as the Valley Food Cooperative and the Rio Grande Farm Park.[9]

    - A bookstore that served the Alamosa community for more than 40 years closed down in 2018, but was reopened as a cooperative bookstore, the *Narrow Gauge Book Cooperative*. With the support of a previous owner, John Duffy, the bookstore is now a community-owned bookstore.[10]

    - The *San Luis Valley Language Justice Cooperative* emerged in 2020 with support from the Denver-based Community Language Cooperative, a worker-owned company with six full-time employees, all earning a livable wage (and the largest translation and interpretation company in Colorado). The SLV Language Justice Cooperative is a small, worker-owned translation company that helps give voice to the more than 30% of Valley residents who primarily speak a language other than English (mostly Spanish).[11]

---

[7] Alece Montez, "San Luis Valley Updates: Families impacted by mushroom farm closure," *AJL Foundation,* October 19, 2022, https://www.ajlfoundation.org/article/san-luis-valley-updates-families-impacted-mushroom-farm-closure

[8] U.S. Environmental Protection Agency Project, *Local Foods, Local Places.*

[9] "History," *San Luis Valley Local Foods Coalition,* accessed January 6, 2023, https://slvlocalfoods.org/history//

[10] Narrow Gauge Newsstand (website), Zepol Media Partners, accessed January 6, 2023, https://www.narrowgaugeooks.com/about.

[11] "The San Luis Valley Language Justice Cooperative: Empowering people through language," *Rocky Mountain Employee Ownership Center,* https://www.rmeoc.org/impact-stories/slv-language-justice-coop/; David Portillo,

- The *San Luis Valley Rural Electric Cooperative*, founded in 1937, is the second oldest electric cooperative in Colorado, with more than 7,500 members. The cooperative delivers low-cost electricity across the valley while also contributing to the greater good through green energy transitions and wealth-building opportunities for its members.[12]

8.2. Economic Development Organizations

As further evidence of a growing ecosystem that supports social mission enterprises, the SLV features various economic development organizations that can be critical in providing support for innovations like a mushroom cooperative.

- *Alamosa County Economic Development Corporation.* The Alamosa County Economic Development Corporation (ACEDC) promotes local business development. It is an umbrella organization for the Alamosa County Chamber of Commerce and acts as a host for the SLV Small Business Development Center (SBDC). [13]
- *SLV Development Resources Group (SLVDRG)* This organization promotes economic and community development programs in the SLV. As a gap financier, SLV DRG offers financing for businesses that employ more than 60% of low- to moderate-income people residing in SLV.[14]
- *SLV Small Business Development Center (SBDC).* The SBDC offers consulting and training that "maximizes the economic potential of entrepreneurs within Southern Colorado." The center provides free technical assistance in all aspects of funding and developing small businesses.[15]
- *La Puente Enterprise.* This organization is a network of social enterprise businesses that are committed to supporting social justice causes with their profits. Five SLV businesses make up La Puente's Social Enterprises network, delivering part of their profits to support La Puente Home, Inc (a homeless shelter). As described on their website, "These social enterprises bolster economic activity, create a sense of community, provide meaningful jobs, and offer workforce development opportunities, while communicating the mission of La Puente to residents and visitors alike."[16]

"Community Wealth Building Story: Community Language Cooperative," *The Denver Foundation,* https://denverfoundation.org/2021/04/community-wealth-building-story-community-language-cooperative/.

[12]San Luis Valley Rural Electric Cooperative and Ciello, *Strategic Plan 2022-2027*, 2021, https://www.slvrec.com/sites/default/files/downloads/about-us/2022_Strategic-Plan.pdf

[13] U.S. Environmental Protection Agency Project, *Local Foods, Local Places.*

[14] "San Luis Valley Business Loan Fund," *San Luis Valley Development Resources Group and Council of Government,* accessed January 6, 2023, https://www.slvdrg.org/slv-business-loan-fund/.

[15] "How Do We Help Businesses?" *San Luis Valley SBDC,* accessed January 6, 2023, https://slv-sbdc.com/.

[16] "Community Christmas Party," *La Puente,* last modified December 17, 2022, https://lapuentehome.org/.

- *First Southwest Bank.* As a Community Development Financial Institution (CDFI), First Southwest Bank has been actively supporting small businesses and entrepreneurs with loans and grants in SLV. Recently, First Southwest Bank received an impact fund grant of half a million dollars from the Gates Family Foundation in 2020, to support local businesses impacted by the COVID pandemic.[17]

8.3. Growing Government Support for Employee-Owned Businesses

Government support can be critical in the successful launch of a cooperative mushroom farm. When CMF was reopened in 2014, it did so with strong support from various government offices, including Alamosa County, the SLV Development Resources Group, and the State of Colorado's Office of Economic Development (OED). The OED offered the farm one of the largest loans it had ever made in the state, while the six San Luis Valley counties united to submit a $1 million federal CDBG grant application. Governor John Hickenlooper flew in to join the reopening celebration, remarking that "partnerships like this are what creates economic development."[18]

If this same spirit of partnership and level of government support is provided to a relaunched cooperative mushroom farm, the chances for success will improve substantially. Such government support would fit perfectly with the 2019 initiative of Governor Jared Polis to make Colorado a leading employee ownership state by creating the Employee Ownership Commission and the Colorado Employee Ownership Office within the Office of Economic Development and International Trade (OEDIT).

There is also growing support for cooperatives at the federal level. The federal Main Street Employee Ownership Act passed in 2018, the national State Small Business Credit Initiative (SSBCI) passed in 2021 to expand available capital for small businesses (specifically including cooperatives), and the Worker Ownership, Readiness, and Knowledge Act (WORK) passed in December 2022, which authorizes a $50 million grant program to expand employee ownership centers around the country.[19] In all these ways, the government support system for launching and sustaining employee-owned businesses is growing and the moment is right to launch an Alamosa cooperative farm.

8.4 A Skilled and Ready Labor Force

The SLV has a large and skilled labor force of workers ready to take on the challenges of a cooperative mushroom farm. Agricultural enterprise has long been the backbone of the SLV, and local mushroom workers are familiar with the trade due to long years of work for CMF. Over 50% of the previous CMF workers have been with the mushroom company for more than ten years,

[17] "First Southwest Community Fund," *Gates Family Foundation,* accessed January 6, 2023, https://gatesfamilyfoundation.org/grant/first-southwest-community-fund-2/.
[18] Lauren Krizansky, "Mushroom Farm Back in Business."
[19] Kenny Stancil, Sanders' Bill to Expand Worker Ownership Passes Senate in Omnibus," *Common Dreams,* January 1, 2023, https://www.commondreams.org/news/bernie-sanders-worker-ownership.

and many are skilled laborers, including the head of growers and supervisors of different departments. Moreover, 95% of surveyed workers expressed a strong interest in learning more about employee-owned businesses. These workers are well-equipped to help run and manage a worker-owned business, especially if they follow recommendations in this study that they hire a professional mushroom farming management team to help relaunch their farm.

8.5 Conclusion

The CO Mushroom Farm has played an important role in Alamosa for more than four decades and deserves an opportunity for survival. It is worthwhile to find strategies to save jobs, not only to benefit workers but for the good of the entire community.

This study finds that a relaunched cooperative mushroom farm would experience favorable industry trends, has a regional market without local competitors, and is operationally, technically, and financially feasible. The real challenge is not whether a worker cooperative can be successfully managed so as to thrive long-term; rather the real challenge is whether a community of support can emerge to help those potential worker-owners access the start-up financing and technical assistance necessary to launch this business. If the farm can be acquired and the start-up capital secured, a cooperative Alamosa mushroom farm can thrive and provide a unique community asset while building wealth for hundreds of farm worker-owners.

A community-rooted, worker-led mushroom farm in Alamosa can become a nationwide example of how to open doors to distressed workers through social enterprise. Converting a failing farm into an employee-owned business in Alamosa can be viable when we truly believe in the importance of saving jobs for vulnerable farm workers and see it as a broader community problem to solve. When there is a collective effort among various stakeholders—workers, government offices, foundations, financial institutions, and community non-profits—this kind of struggling company can be saved and revived. The truth is that workers everywhere—and in the Alamosa community in particular—have shown that it can be done throughout history, and it can happen again.

APPENDICES

Appendix A

Alamosa City and County Overview

The following section describes the geography, demographics, and economy of Alamosa County, CO, where the Colorado Mushroom Farm is located.

Geography, Transportation, and Climate

Alamosa County, one of the six counties comprising the San Luis Valley, is in south-central Colorado and covers an area of 722.65 square miles. The San Luis Valley is a flat valley at the headstream of the Rio Grande River, which, together with groundwater, provides the valley with substantial supplies of water.

County and state highways constitute the prime transportation infrastructure in Alamosa County, which lacks interstate highways. Highway 160, which covers the east/west direction of the county, merges into I-25. The San Luis Valley National Airport is located in Alamosa and provides transportation to Denver and Albuquerque, NM.

Located at *10719 S. County Road 5*, the CMF is located just northeast of the City of Alamosa, Colorado, and has well-maintained paved road access to major Colorado thoroughfares.

The San Luis Valley is mostly undeveloped and rural. Wilderness and national parks cover a significant portion of the county, which includes Great Sand Dunes National Park and Preserve, Alamosa National Wildlife Refuge, Monte Vista National Wildlife Refuge, Rio Grande National Forest, San Luis State Park, and the Sangre de Cristo Wilderness area.

Although the altitude and weather of Alamosa might appear unfavorable for mushroom cultivation, the cold and dry climate facilitates the indoor management of temperature, humidity levels, CO2, and oxygen, which are essential elements of the highly controlled environment necessary to produce mushrooms.[1] The cold and snowy winter in the region doesn't hinder mushroom cultivation since it is mostly conducted indoors.[2]

[1] Baljit Nanda, CMF Owner, interview, November 14, 2022.
[2] Nanda, interview, November 14, 2022.

Demographics

According to the 2021 U.S. Census, Alamosa has a population of 16,547.[3] Out of the total population, Hispanic/Latino and White constitute the two main ethnic groups, with 47.6% of the population being Hispanic or Latino and 46.5% identifying as White alone.[4] In Alamosa County, 7.6% of the population is foreign-born, with 41.8% of the foreign population being naturalized U.S. citizens.[5] *Figure A.1* below presents a breakdown of the region of birth of the foreign population, most of whom are from Latin America.[6] The median age in Alamosa County is 32.9.[7] The statistics for the types of languages spoken at home reported that 22.4% speak Spanish, and 8.5% reported not speaking English "very well."[8] These statistics reflect the results of the RMEOC worker's survey, in which 99% of the employees of the farm who participated in the study identified as Hispanic/Latino, most of them being from Guatemala.

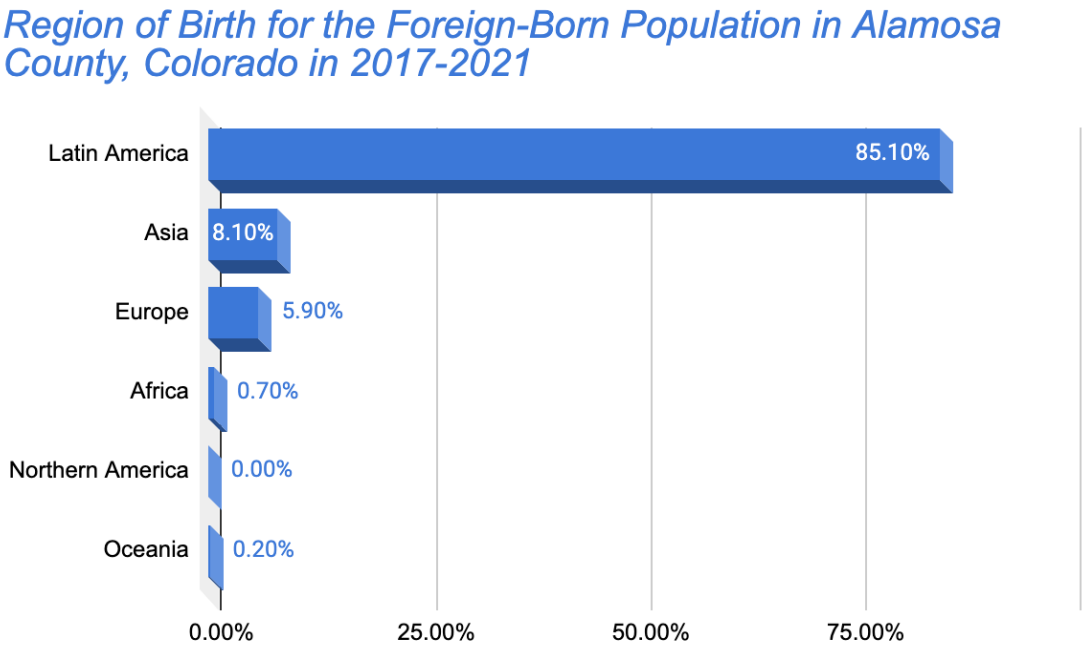


Figure A.1. Region of Birth for Foreign-Born Population in Alamosa
Source: US Census, *2017—2021 ACS 5-Year Narrative Profile Alamosa County, Colorado*

[3] US Census, "Quick Facts: Alamosa County, Colorado," *United States Census Bureau,* last modified 2021, https://www.census.gov/quickfacts/fact/table/alamosacountycolorado/PST045221.
[4]US Census, *2017—2021 ACS 5-Year Narrative Profile Alamosa County, Colorado*, 2021, https://www.census.gov/acs/www/data/data-tables-and-tools/narrative-profiles/2021/report.php?geotype=county&state=08&county=003.
[5] US Census, *2017—2021 ACS.*
[6] US Census, *2017—2021 ACS.*
[7] US Census, *2017—2021 ACS.*
[8] US Census, *2017—2021 ACS.*

Economy

This section focuses on the economy of Alamosa County and Alamosa city, with considerations regarding income, poverty rates, and agriculture to show the impact of CMF on the people of the county.

Income

According to the most recent American Community Survey (2017-2021), the median household income in Alamosa County was $46,217, while median household income in the City of Alamosa was even lower at $43,153 (compared to the median household income in Colorado of $80,184).[9]

Table A.1, below, illustrates the differences in the median household income in 2021 between Alamosa County, Denver County (CO), and the United States, showing significantly lower numbers for Alamosa compared to the other locations examined.[10]

Location	Median Household Income in 2021
Alamosa County	$46,217
Denver County	$78,177
Colorado	$80,184
United States	$69,021

Table A.1 Median Household Income: Alamosa, Denver, Colorado and USA
Source: *US Census, 2017—2021 ACS 5-Year Narrative Profiles*

[9] US Census, *2017—2021 ACS.*
[10] US Census, *2017—2021 ACS;* US Census, *2017—2021 ACS 5-Year Narrative Profile Denver County, Colorado*, 2022, https://www.census.gov/acs/www/data/data-tables-and-tools/narrative-profiles/2021/; US Census, *2017—2021 ACS 5-Year Narrative Profile Colorado*, 2022, https://www.census.gov/acs/www/data/data-tables-and-tools/narrative-profiles/2021/report.php?geotype=state&state=08; US Census, *2017—2021 ACS 5-Year Narrative Profile United States,* 2022, https://www.census.gov/acs/www/data/data-tables-and-tools/narrative-profiles/2021/report.php?geotype=nation&usVal=us.

Table A.2 shows that average weekly wages in the fourth quarter of 2021 are also much lower in Alamosa County compared to Denver County, Colorado, and the United States.[11]

Location	Average Weekly Wage in 2021 (fourth quarter)
Alamosa County	$929
Denver County	$1,814
Colorado	$1,484
United States	$1,418

Table A.2 Average Weekly Wage (2021): Alamosa, Denver, Colorado and USA
Source: *US Bureau of Labor Statistics*

Table A.3 summarizes the differences in per capita personal income between Alamosa County, Denver County, Colorado, and the United States over the 2019-2021 period.[12] Although per-capita personal income has been rising in Alamosa, it is still less than half that of Denver County and is below Colorado and national levels.

Location	Per Capita Personal Income 2019	Per Capita Personal Income 2020	Per Capita Personal Income 2021
Alamosa County	$38,025	$41,152	$44,507
Denver County	$86,539	$89,736	$99,133
Colorado	$62,124	$65,358	$70,706
United States	$56,250	$59,765	$64,143

Table A.3 Per Capita Personal Income (2019-2021)
Alamosa, Denver, Colorado and USA
Source: *US Bureau of Economic Analysis*

[11] US Bureau of Labor Statistics, "County Employment and Wages in Colorado — Fourth Quarter 2021," *US Bureau of Labor Statistics,* last modified June 17, 2022, https://www.bls.gov/regions/mountain-plains/news-release/countyemploymentandwages_colorado.htm

[12] Bureau of Economic Analysis, *Personal Income by County and Metropolitan Area, 2021,* November 16, 2022, https://www.bea.gov/sites/default/files/2022-11/lapi1122.pdf

Considering how income and wages are substantially lower in Alamosa compared to other locations in the state and nationally, it is evident that CMF (once the largest private employer in the San Luis Valley), plays a large role in the livelihood of workers and the local economy by providing numerous well-paying jobs. The mushroom farm has long provided financial stability and a chance to thrive for the local community of immigrant farmers. Furthermore, the recirculation of wages earned at the mushroom farm keeps money inside the community, thus generating wealth and improving the county's finances.

Poverty

Between 2017 and 2021, 16% of Alamosa's population lived in poverty.[13] In the same time period, 25.3% of households received SNAP (the Supplemental Nutrition Assistance Program).[14] The figures below present a breakdown of the percentage of people living below the poverty line in Alamosa County between 2018 and 2021.[15]

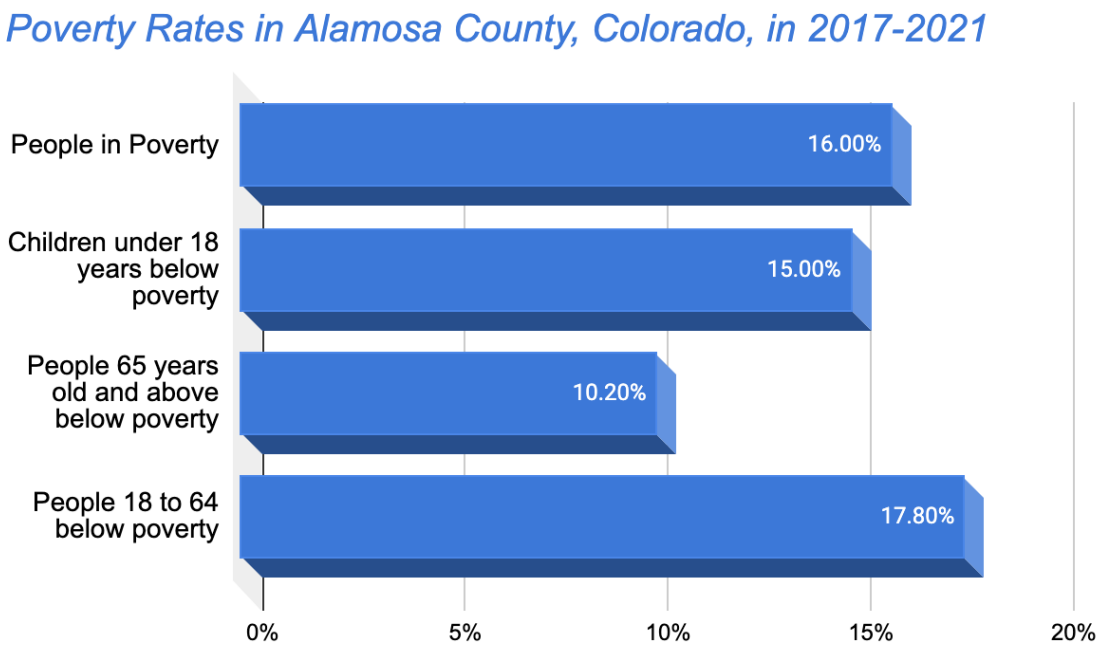


Figure A.2 Poverty Rates in Alamosa County, Colorado
Source: *US Census, 2017—2021 ACS 5-Year Narrative Profiles*

[13]Bureau of Economic Analysis, *Personal Income*; US Census, *2017—2021 ACS.*
[14] US Census, *2017—2021 ACS.*
[15] US Census Bureau, American Community Survey, 2017-2021 ACS 5-Years Estimates, Table S1701 Poverty Status In The Past 12 Months, generated by John Smith, https://data.census.gov/table?q=poverty+in+Alamosa+2021.

Year	% Below poverty level (Alamosa County)
2018	23.7%
2019	23.5%
2020	18.5%
2021	16%

Table A.4 Poverty Rates in Alamosa County, 2018-2021
Source: US Census Bureau, American Community Survey, 2018-2021 ACS Estimates

Although poverty rates are declining in Alamosa, *Table A.5* shows that the percentage of people below the poverty line remains much higher in Alamosa compared to Denver County, Colorado, and the United States.

Percent Living in Poverty, by Area (2018-2021)				
	Alamosa County	Denver County	Colorado	United States
2018	23.7%	11.3%	9.6%	13.1%
2019	23.5%	11.7%	9.3%	12.3%
2020	18.5%	11.9%	9.8%	12.8%
2021	16%	11.6%	9.7%	12.7%

Table A.5 Percent Living in Poverty, by Area, 2018-2021
Source: US Census Bureau, American Community Survey, 2018-2021 ACS Estimates

This same county-wide pattern of a high percentage of residents living in poverty shows up in Alamosa city. Between 2017 and 2021, 19.9% of Alamosa residents were in poverty, with the percentage reaching 25% in 2020.[16]

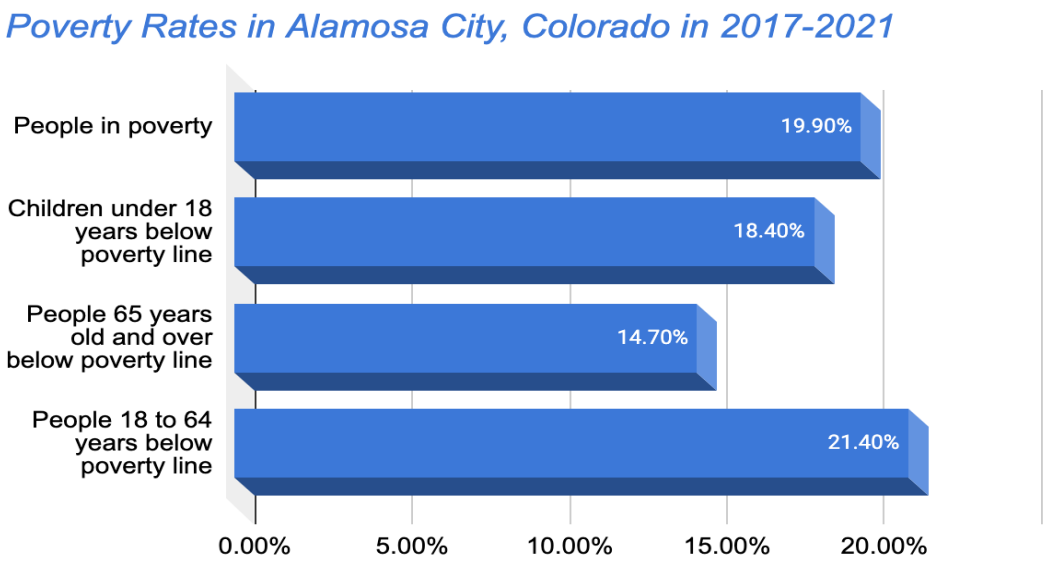


Figure A.3 Poverty Rates in Alamosa City, Colorado, 2017-2021
Source: US Census 2017-2021 ACS 5-Year Narrative Profiles
Alamosa City

Year	% Below Poverty Level
2018	30.7%
2019	31.4%
2020	25%
2021	19.9%

Table A.6 Percent of Alamosa City Residents Living in Poverty, 2018-2021
Source: *US Census Bureau, American Community Survey, 2018-2021 ACS Estimates*

[16] US Census Bureau, *2017—2021 ACS 5-Year Narrative Profile: Alamosa City, Colorado,* 2022, https://www.census.gov/acs/www/data/data-tables-and-tools/narrative-profiles/2021/report.php?geotype=place&state=08&place=01090

The low incomes and high poverty levels of the Alamosa area were seriously exacerbated by the recent closure of the Colorado Mushroom Farm. Workers are currently facing poverty, financial struggles, and immediate need for gas, basic needs and hygiene items, food, rental, mortgage, and utility assistance.[17] On October 20, 2022, local organizations funded the delivery of 125 boxes of dry goods, produce, and protein to support the food needs of 125 families of four for up to two weeks.[18] Many farm worker families narrowly averted a housing crisis when the Century Mobile Home Park where they lived was sold to a developer with plans for eviction and redevelopment. Only a last-minute purchase by a local low-income housing provider in 2022 helped save this housing resource.

The dire situation facing many farmers' families is further aggravated by legal status questions, identification issues, language barriers, transportation challenges, and more, which are preventing the worker's access to replacement jobs, relief programs, and healthy living.[19] Despite the help provided through food deliveries and housing programs, the emergency persists, and more durable and impactful changes are indispensable to guarantee the long-term needs of the community of workers in Alamosa.

Agriculture

Alamosa is a sparsely populated county, with mostly small businesses. The total number of employment establishments in Alamosa County is 494, the majority of which (232) have only five employees.[20]

Though large employers like CMF are rare, agriculture–alongside tourism–is a vital economic force in Alamosa County.[21] According to the 2017 Census of Agriculture, there are 280 farms in Alamosa County and a total of 192,030 acres of land used for farming.[22] The average size of a farm is 686 acres.[23] Of the land used for farming, 42% is cropland, 51% is pastureland, 2% is woodland, and 5% other.[24] Top crops in the area include forage, vegetables, potatoes, barley, and sorghum.[25] The 2017 market value of products sold in the county was $89,334,000, with an average per farm of $319,051.[26] In 2017, total net cash farm income in the county amounted to

[17] Montez, "San Luis Valley Updates."
[18] Montez, "San Luis Valley Updates."
[19] Montez, "San Luis Valley Updates."
[20] US Census Bureau, "Alamosa County, Colorado," last modified 2021, https://data.census.gov/cedsci/profile?g=0500000US08003
[21] Hodge, "Appraisal Report."
[22] US Census of Agriculture, *Alamosa County Colorado,* 2017, https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/Colorado/cp08003.pdf
[23] US Census of Agriculture, *Alamosa County Colorado*
[24] US Census of Agriculture, *Alamosa County Colorado*
[25] US Census of Agriculture, *Alamosa County Colorado*
[26] US Census of Agriculture, *Alamosa County Colorado*

$21,227,000.[27] Most of the grazing and farming concentrates around the town of Alamosa, and the legalization of marijuana has led to the opening of many growing facilities in the area.[28]

Though agriculture is a vital force in the area, most people work in Education/Health Care, Tourism/Recreation, or Retail Trade (See Figure 4). According to the U.S. Census, 29.5% of the Alamosa County population worked in educational services, health care, and social assistance (2017-2021), while just 8.7% were employed in agriculture, forestry, fishing, hunting, and mining.[29] Though this 8.7% figure might seem low, it is much higher than the U.S. average: the agriculture industry is only 5.4% of the overall U.S. economy.[30] The Alamosa County Master Plan declares that "*Agriculture is a way of life in Alamosa County…Agriculture is, has been, and continues to be an important economic driver. Agricultural activities exert powerful and important positive influences on the economy and culture of Alamosa County.*"[31]

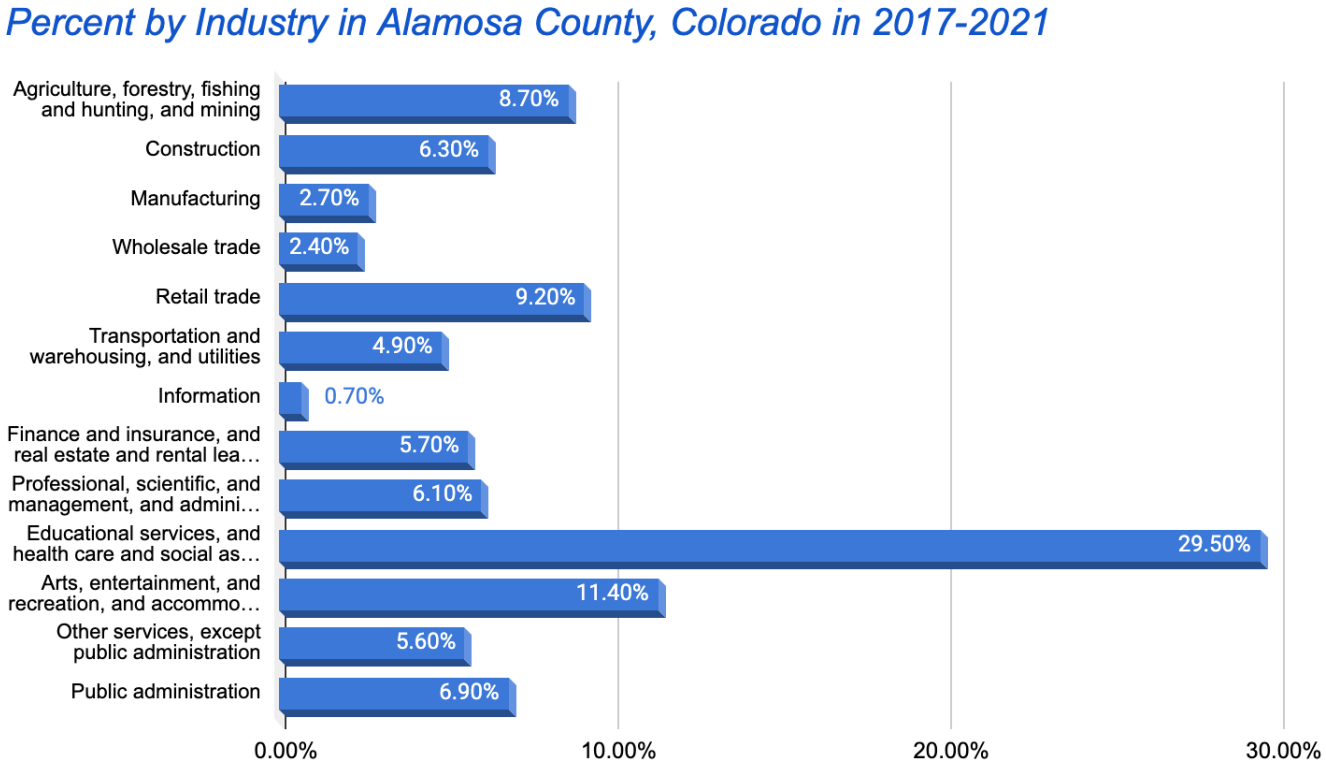


Figure A.4 Percent Employment by Industry in Alamosa County, 2017-2021
Source: *US Census, 2017—2021 ACS 5-Year Narrative Profiles*
Alamosa County

[27] US Census of Agriculture, *Alamosa County Colorado*
[28] Hodge, "Appraisal Report."
[29] US Census, *2017—2021 ACS.*
[30] USDA, "What is Agriculture's Share of the Overall U.S. Economy?" January 6, 2023, https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=58270
[31] Alamosa County Master Plan, 2008, https://alamosacounty.colorado.gov/departments/land-use-and-building/land-use-development.

The top agricultural crop of the San Luis Valley is potatoes. The Valley produces 92% of Colorado's potatoes and is in the top five producers of potatoes in the United States, both for acres planted and production.[32] Over 150 potato growers inhabit the valley.[33] *Martinez Farms LLC* is one of the largest potato farms in Alamosa, producing the highest limited generation certified seed potatoes grown in the highest valley of the country.[34]

However, jobs in potato farms in Alamosa are seasonal positions. As posted on the US Department of Labor website, a job posting from *Martinez Farms LLC* in 2022 reported the company's need for nine seasonal potato workers, working from 6/23/2022 to 10/15/2022, for 35 weekly hours at a $15.58 hourly wage.[35] While potato farming offers many seasonal jobs, mushroom production at CMF used indoor facilities and harvests occurred constantly. Therefore, CMF mushroom farming typically generated year-round positions with more employment stability. As proof of this, the RMEOC workers' survey revealed that 53.7% of respondents have worked at the mushroom farm for more than ten years and most worked year-round. Additionally, while other types of farming in Alamosa take place outdoors, which can be detrimental for the body, the operation of the mushroom farm is conducted indoors, where the employees are protected against the elements. It is because of the indoor setting that many agriculture employees in the area said they preferred working at CMF compared to other farms.[36]

[32] "Agriculture," *Alamosa*, accessed November 25, 2022, https://www.alamosa.org/things-to-do-in-alamosa/alamosa-arts-and-culture/agriculture#:~:text=The%20principal%20crops%20grown%20here,for%20a%20perfect%20growing%20season; Potatoes: America's Favorite Vegetable," *Colorado San Luis Valley Potatoes,* accessed December 30, 2022, https://www.coloradopotato.org/retailers/

[33] *Colorado San Luis Valley Potatoes,* "Potatoes."

[34] "Martinez Farms - Certified Potato Seed," *Martinez Farms,* last modified March 8, 2022, https://web.archive.org/web/20220308175241/http://certseedpotato.com/.

[35] Martinez Farms, "Farmworkers and Laborers, Crop," US Department of Labor, August 31, 2022, https://api.seasonaljobs.dol.gov/job-order/H-300-22101-058800

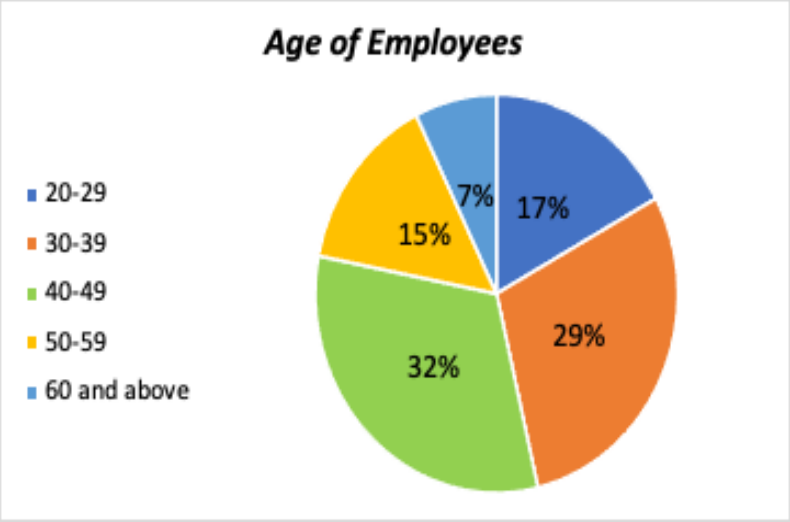
[36] Baljit Nanda, interview, November 14, 2022; RMEOC Worker Survey, December 2022.

Appendix B

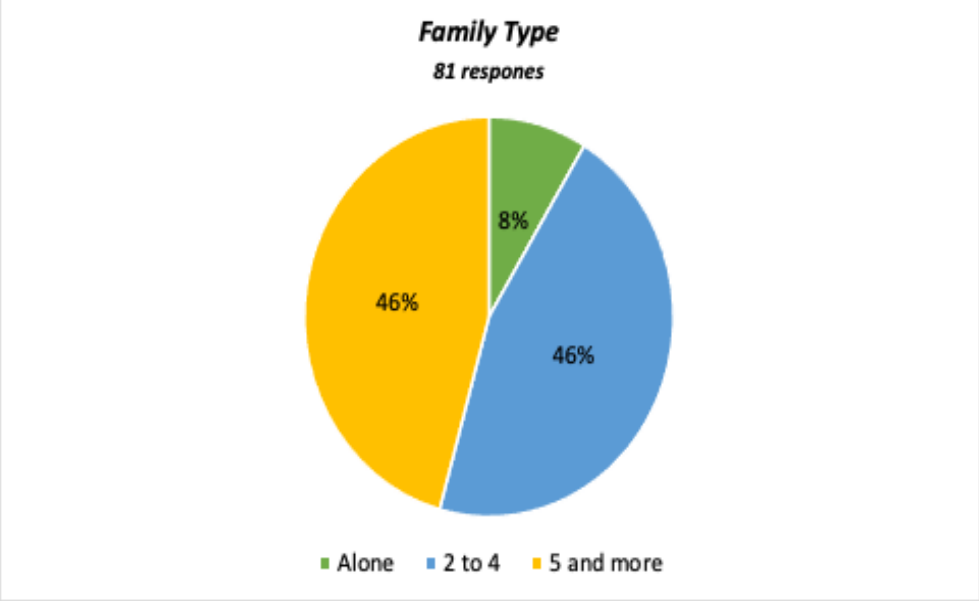
Colorado Mushroom Farm Worker Survey Results

The survey was conducted in December 2022 to learn more about the reality of Alamosa mushroom farm workers. RMEOC collected 82 surveys from former Colorado Mushroom Farm workers.

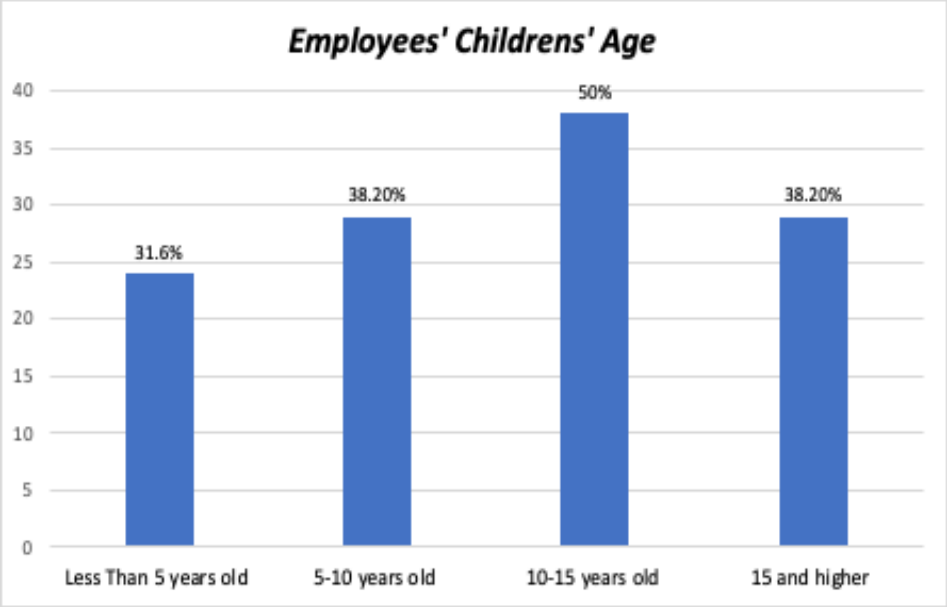
1. Age of Farm Workers



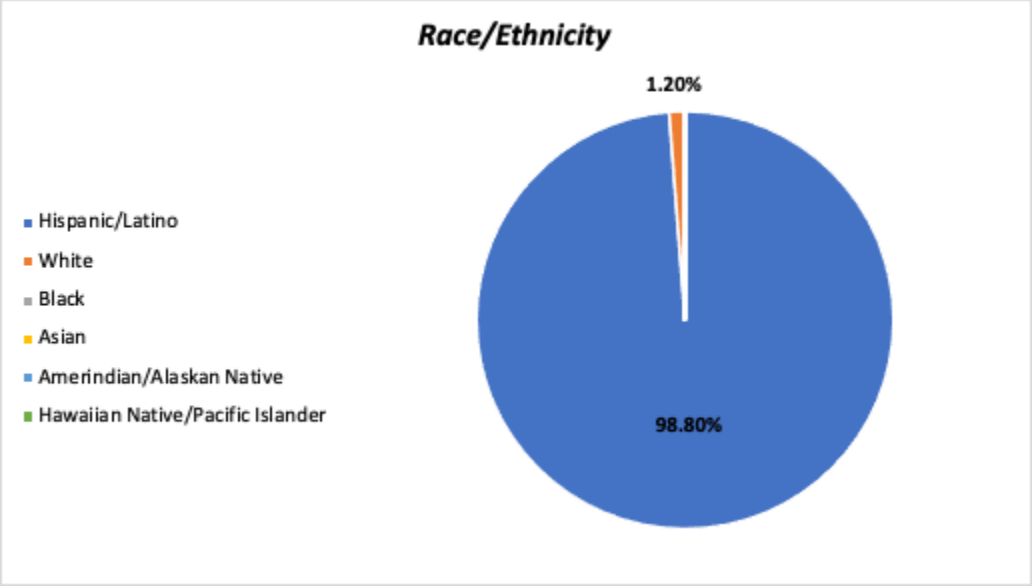
2. Family Type



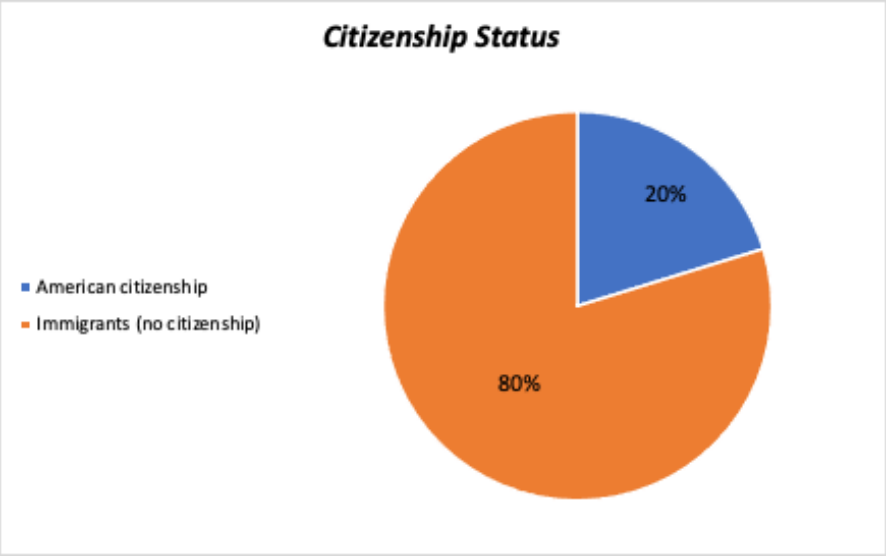
3. Children's Age



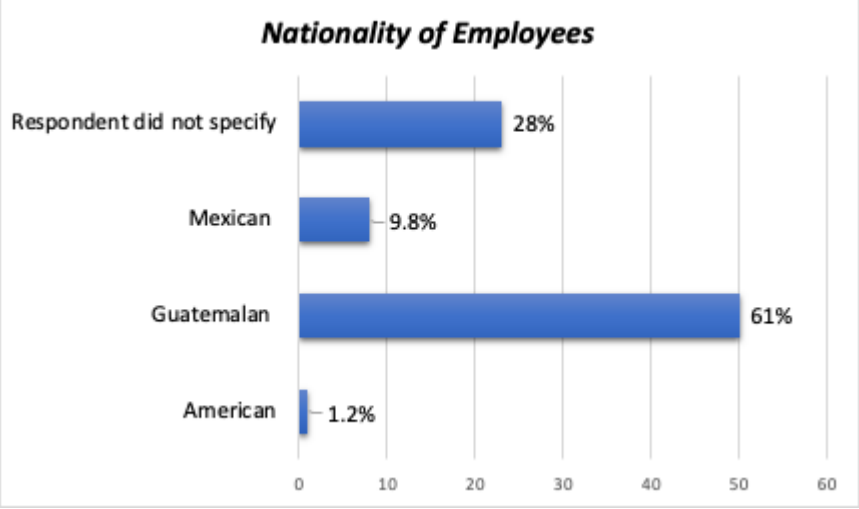
4. Race/Ethnicity



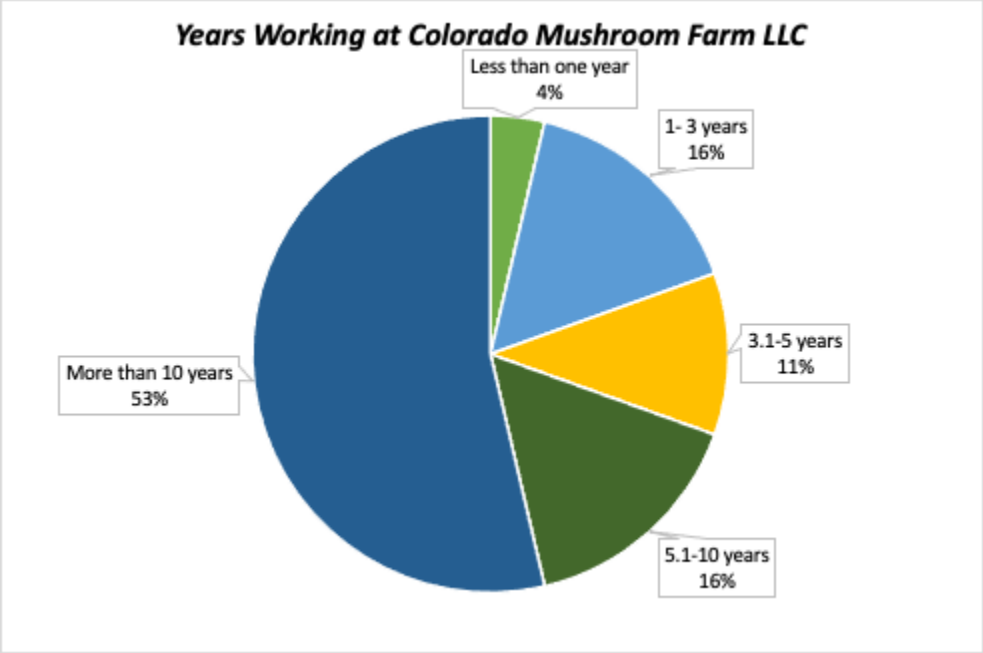
5. Citizenship Status



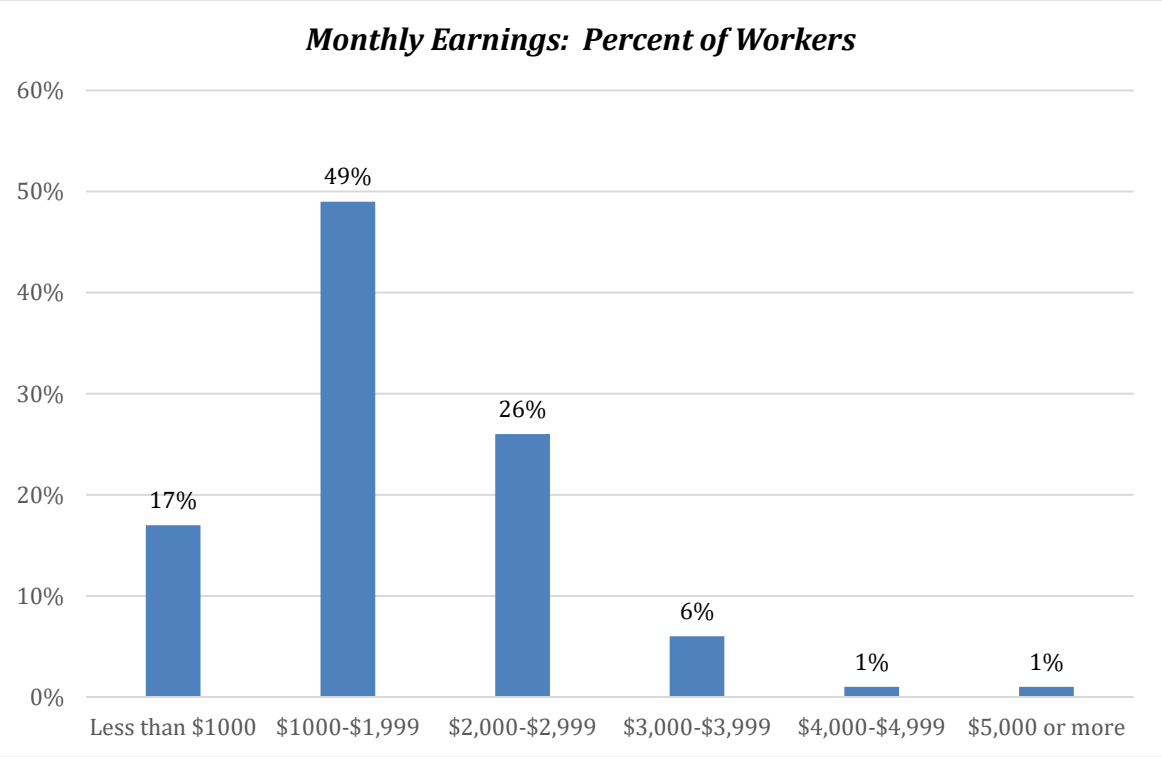
6. Nationality of Employees



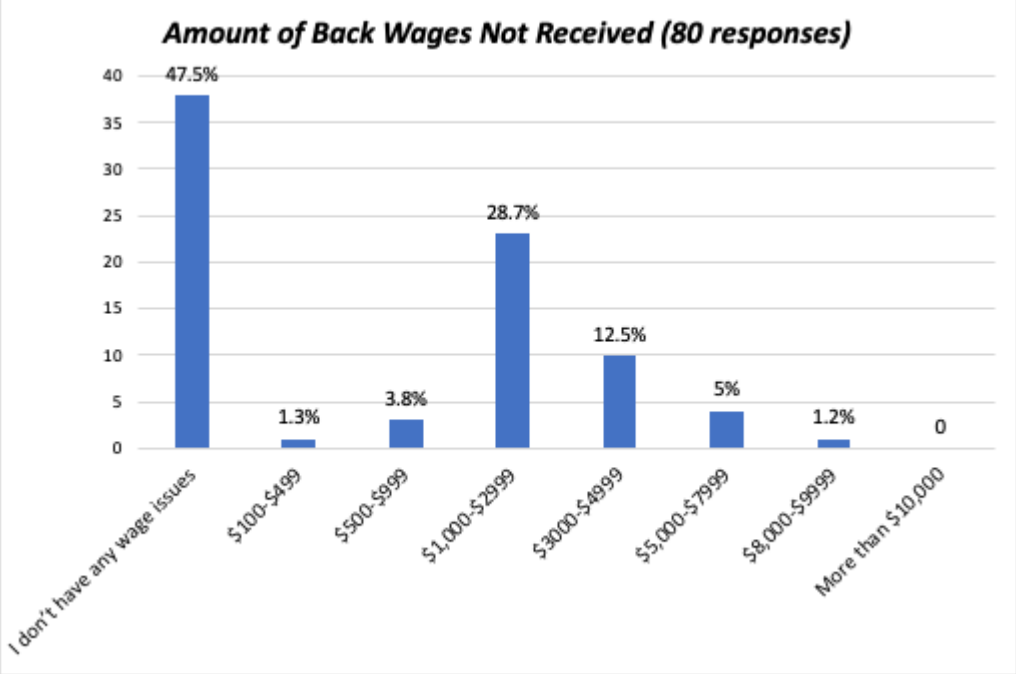
7. Years Working at the Farm



8. Monthly Earnings of Farm Workers



9. Amount of Back Wages Owed (Unpaid Wage Claims)

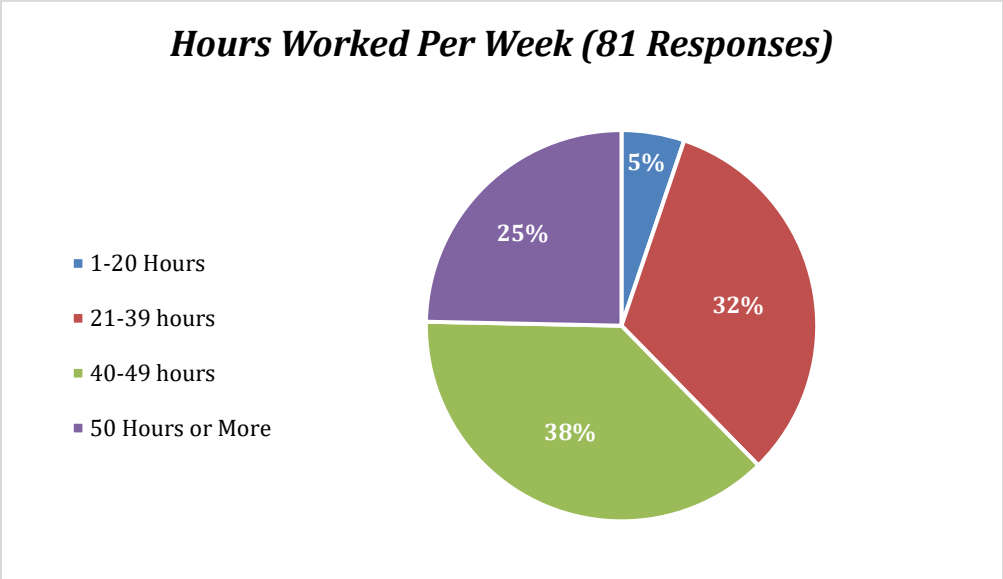


10. Amount of Unreceived Back Wages (21 responses)

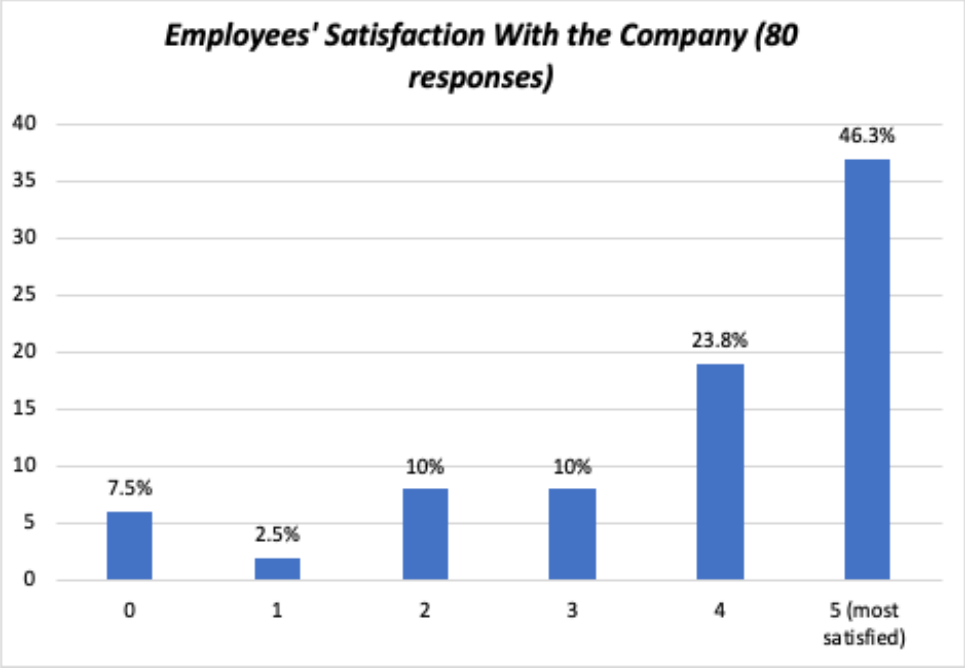
Exact amount of unpaid back wages	# of employees
$0	**10 (47%)**
$500	1 (5%)
$1,000	3 (14%)
$1,200	1 (5%)
$1,500	2 (9%)
$1,800	1 (5%)
$2,000	1 (5%)
$2,500	1 (5%)
$3,500	1 (5%)

11. Hours Worked per Week

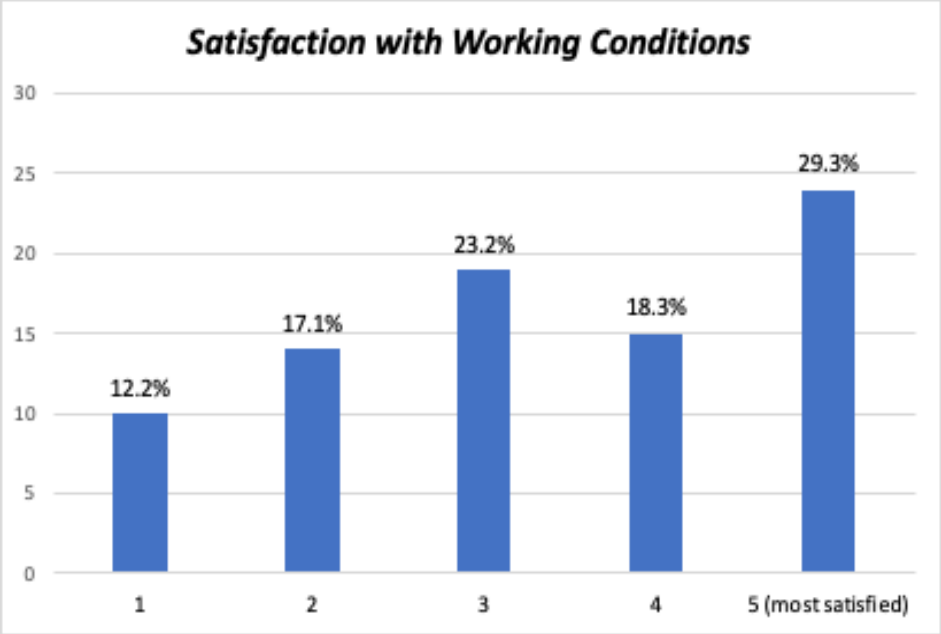
Hours worked per week	# of employees
Less than 5 hours	1
5-10 hours	3
10-20 hours	2
21-29 hours	6
30-39 hours	19
40-49 hours	29
50 hours more	19
It Depends	2



12. Satisfaction with the Company



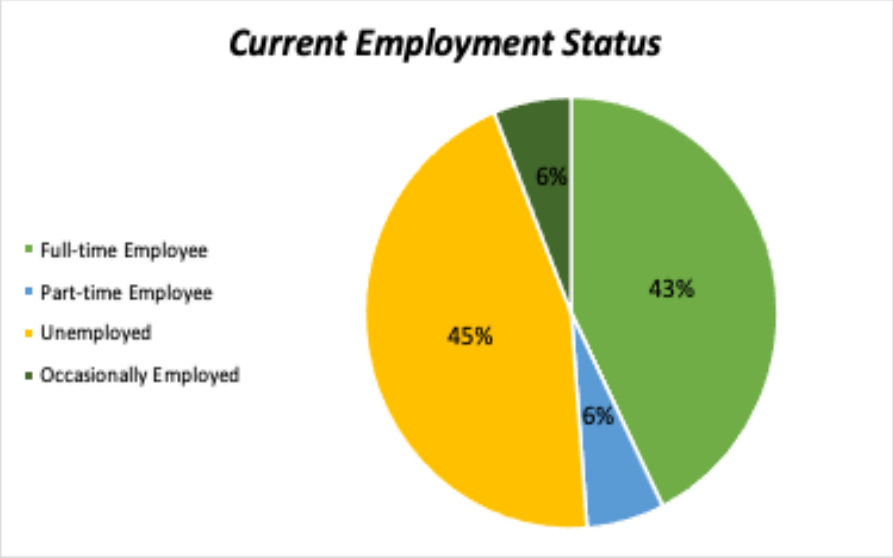
13. Satisfaction with Working Conditions



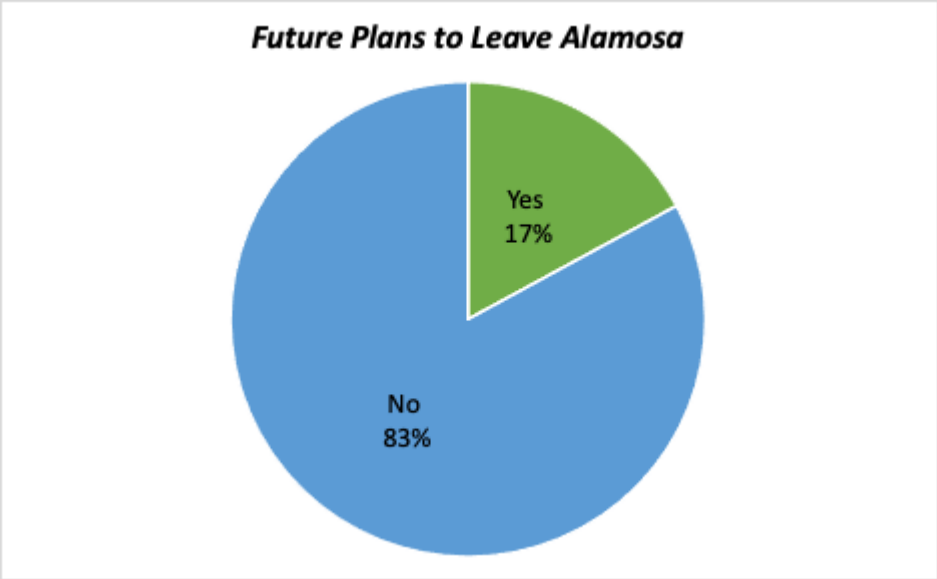
14. Satisfaction with Wages/Salaries

15. Current Employment Status

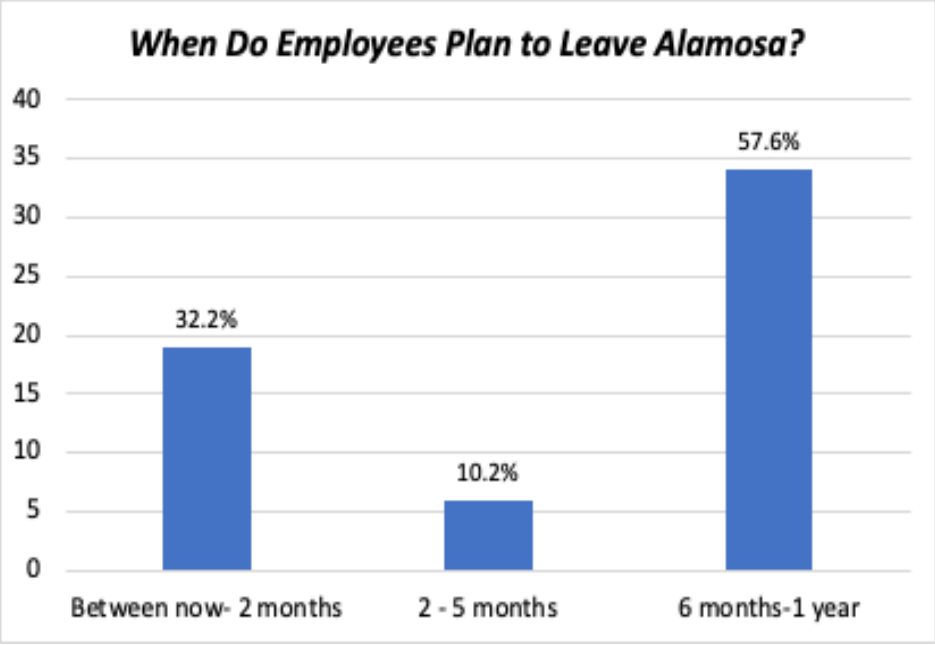
Current Employment Status	# of employees
Full-time Employee	35
Part-time Employee	5
Unemployed	37
Occasionally Employed	5



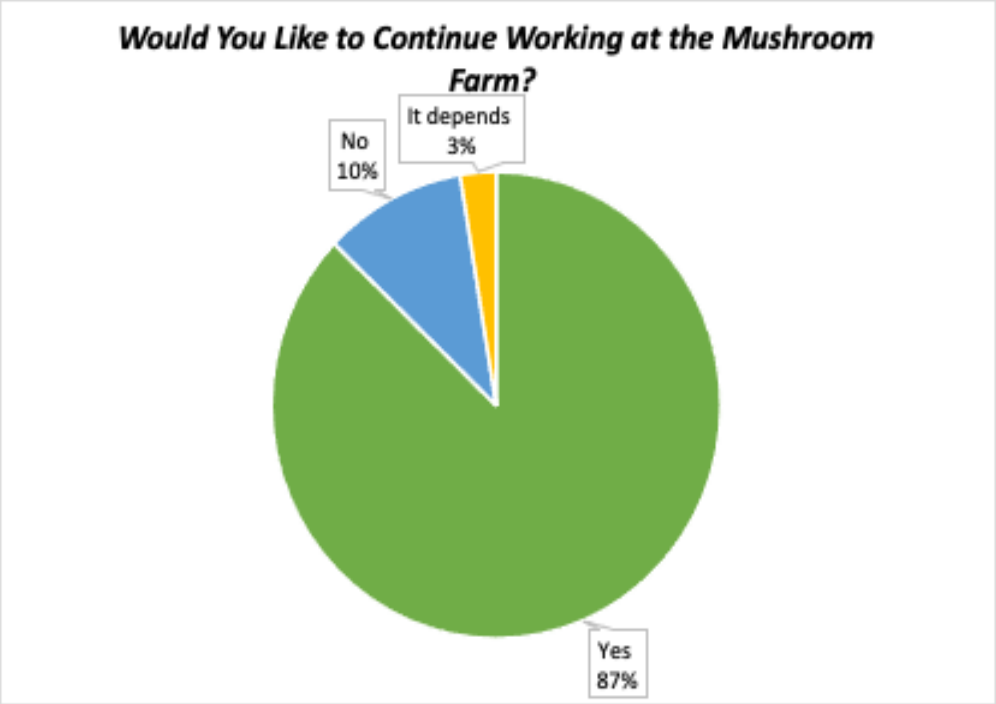
16. Future Plans to Leave Alamosa



17. Future Plans: When do you plan to leave Alamosa?



18. Would you like to continue working at the mushroom farm?

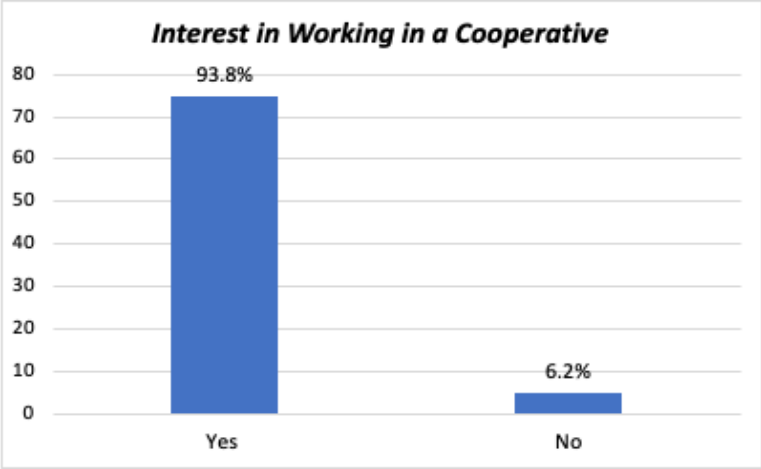


19. Employees' Desire in Coming Back to Work at the CO Mushroom Farm

Employees' Desire in Coming Back to Work at the CMF	# of employees
The company opens with a new owner	18 (82%)
I am fine with the previous owner reopening it	4 (18%)

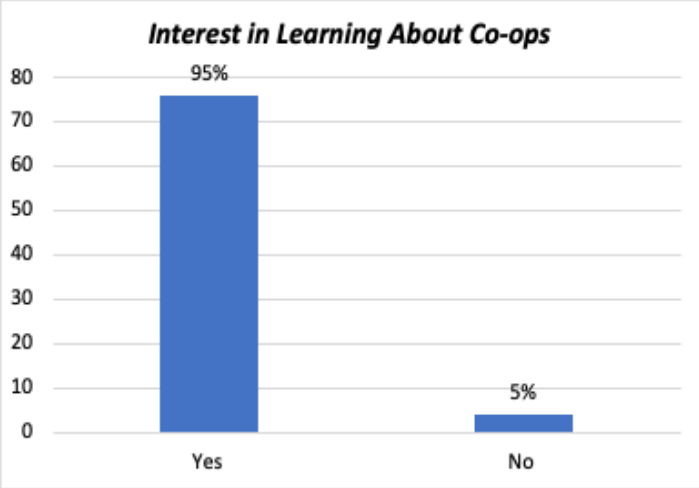
20. Are you interested in working at an employee-owned business?

Interest in Working in a Cooperative?	Number of employees
Yes	75
No	5



21. Are you interested in learning more about cooperatives?

Interest in Learning More about Cooperatives	# of Employees
Yes	76
No	4



Appendix C
Additional Financial Projections for Model 5

$5.5 Million Farm Purchase Price, $4 Million Capital Loan, $2 Million Grant
Mushrooms Per Pound Sales Price: $1.90-$2.05

Income Statement ($'000) - 5 Years to September 2028

Year Ending	2024	2025	2026	2027	2028
Revenue	6,541	15,533	22,879	29,286	29,997
Growth %		*137%*	*47%*	*28%*	*2%*
COGS	(5,576)	(8,895)	(12,845)	(16,179)	(16,450)
% of Revenue	*(85%)*	*(57%)*	*(56%)*	*(55%)*	*(55%)*
GROSS MARGIN	**965**	**6,638**	**10,034**	**13,107**	**13,547**
GROSS MARGIN %	*15%*	*43%*	*44%*	*45%*	*45%*
Variable Expenses	(384)	(914)	(1,316)	(1,645)	(1,645)
% of Revenue	*(6%)*	*(6%)*	*(6%)*	*(6%)*	*(5%)*
Admin Salaries & Wages	(1,318)	(1,417)	(1,459)	(1,503)	(1,548)
% of Revenue	*(20%)*	*(9%)*	*(6%)*	*(5%)*	*(5%)*
Fixed Expenses	(1,194)	(1,242)	(1,291)	(1,343)	(1,397)
% of Revenue	*(18%)*	*(8%)*	*(6%)*	*(5%)*	*(5%)*
EBITDA	**(1,930)**	**3,066**	**5,967**	**8,616**	**8,957**
EBITDA %	*(30%)*	*20%*	*26%*	*29%*	*30%*
Depreciation & Amortization	(790)	(790)	(790)	(790)	(790)
EBIT	**(2,720)**	**2,276**	**5,177**	**7,826**	**8,167**
Net Interest Expense	(501)	(492)	(435)	(378)	(321)
Net Profit Before Tax	**(3,221)**	**1,784**	**4,742**	**7,448**	**7,847**
Tax Expense	-	(214)	(569)	(894)	(942)
Net Profit After Tax	**(3,221)**	**1,570**	**4,173**	**6,554**	**6,905**
Net Profit After Tax %	*(49%)*	*10%*	*18%*	*22%*	*23%*

Cash Flow Statement ($'000) - 5 Years to September 2028

Year Ending	2024	2025	2026	2027	2028
Cash Receipts	6,541	15,533	22,879	29,286	29,997
Cash Payments	(8,471)	(12,467)	(16,912)	(20,670)	(21,040)
Other Operating Cash Flows	(501)	(706)	(1,004)	(1,271)	(1,262)
Operating Cash Flows	**(2,431)**	**2,360**	**4,963**	**7,344**	**7,695**
Capital Expenditure	(8,000)	-	-	-	-
Other Investing Cash Flows	-	-	-	-	-
Investing Cash Flows	**(8,000)**	-	-	-	-
Debt Drawdowns/(Repayments)	8,629	(950)	(950)	(950)	(950)
Equity Raisings/(Buybacks)	2,000	-	-	-	-
Other Financing Cash Flows	-	-	-	-	-
Financing Cash Flows	**10,629**	**(950)**	**(950)**	**(950)**	**(950)**
Change in Cash Held	**198**	**1,410**	**4,013**	**6,394**	**6,745**
Closing Cash	*198*	*1,608*	*5,621*	*12,015*	*18,760*

Balance Sheet ($'000) - 5 Years to September 2028

Year Ending	2024	2025	2026	2027	2028
Current Assets	198	1,608	5,621	12,015	18,760
Non-Current Assets	7,210	6,420	5,630	4,840	4,050
Total Assets	**7,408**	**8,028**	**11,251**	**16,855**	**22,810**
Current Liabilities	-	-	-	-	-
Non-Current Liabilities	8,629	7,679	6,729	5,779	4,829
Total Liabilities	**8,629**	**7,679**	**6,729**	**5,779**	**4,829**
Net Assets	**(1,221)**	**349**	**4,522**	**11,076**	**17,981**
Net Current Assets	*198*	*1,608*	*5,621*	*12,015*	*18,760*
Ordinary Equity	2,000	2,000	2,000	2,000	2,000
Other Equity	(0)	-	-	-	0
Retained Profits	(3,221)	(1,651)	2,522	9,076	15,981
Total Equity	**(1,221)**	**349**	**4,522**	**11,076**	**17,981**

Income Statement (Projections): Alamosa Mushroom Farm					
	2024	2025	2026	2027	2028
REVENUE					
White Mushrooms	4,225,745	10,061,298	14,869,539	18,802,368	19,004,755
Cremini Mushrooms	792,137	1,886,040	2,569,657	3,564,616	3,649,487
Portobello Mushrooms	792,137	1,886,040	2,997,933	3,838,817	4,210,947
Compost Sales	730,800	1,699,400	2,441,800	3,079,800	3,132,000
Total Revenue	**6,540,819**	**15,532,778**	**22,878,929**	**29,285,600**	**29,997,189**
COSTS OF GOODS SOLD					
Direct Salary and Wages	(2,956,794)	(4,926,726)	(7,131,161)	(9,036,129)	(9,307,213)
Energy	(593,170)	(898,742)	(1,294,189)	(1,617,736)	(1,617,736)
Growing Supplies	(1,658,865)	(2,513,432)	(3,619,342)	(4,524,177)	(4,524,177)
Packing Supplies	(326,746)	(495,070)	(712,901)	(891,126)	(891,126)
Traybuilding Supplies	(40,215)	(60,932)	(87,742)	(109,677)	(109,677)
TOTAL COGS	**(5,575,790)**	**(8,894,902)**	**(12,845,334)**	**(16,178,845)**	**(16,449,929)**
GROSS MARGIN	**965,029**	**6,637,876**	**10,033,596**	**13,106,755**	**13,547,260**
Gross Margin (percent)	15%	43%	44%	45%	45%
EXPENSES					
Shipping Expenses	(383,870)	(913,975)	(1,316,124)	(1,645,155)	(1,645,155)
Admin Salary and Wages					
General Manager	(165,000)	(169,950)	(175,049)	(180,300)	(185,709)
Controller	(110,000)	(113,300)	(116,699)	(120,200)	(123,806)
Sales/Marketing Manager	(150,150)	(154,655)	(159,294)	(164,073)	(168,995)
Office Manager	(55,000)	(56,650)	(58,350)	(60,100)	(61,903)
Operations Manager	(99,000)	(101,970)	(105,029)	(108,180)	(111,425)
Sales/Marketing Associate	(92,400)	(95,172)	(98,027)	(100,968)	(103,997)
Head Grower	(154,000)	(158,620)	(163,379)	(168,280)	(173,328)
Growing Supervisors	(211,750)	(237,930)	(245,068)	(252,420)	(259,993)
Maintenance Supervisor	(88,000)	(90,640)	(93,359)	(96,160)	(99,045)
Picking Supervisor	(64,167)	(79,310)	(81,689)	(84,140)	(86,664)
Packing Supervisor	(64,167)	(79,310)	(81,689)	(84,140)	(86,664)
Shipping Supervisor	(64,167)	(79,310)	(81,689)	(84,140)	(86,664)
Total Admin Salary and Wages	**(1,317,800)**	**(1,416,817)**	**(1,459,321)**	**(1,503,101)**	**(1,548,194)**
Fixed Expenses					
Sales and Marketing	(165,000)	(187,200)	(194,688)	(202,476)	(210,575)
Maintenance	(240,000)	(249,600)	(259,584)	(269,967)	(280,766)
Safety/HACCP	(287,820)	(299,333)	(311,306)	(323,758)	(336,709)
G&A (utilities, insurance, travel)	(216,000)	(224,640)	(233,626)	(242,971)	(252,689)
Custom Labor (e.g., legal)	(150,000)	(156,000)	(162,240)	(168,730)	(175,479)
Website	(18,000)	(18,720)	(19,469)	(20,248)	(21,057)
Office Setup	(15,000)	0	0	0	0
Worker Recruitment	(12,000)	(12,480)	(12,979)	(13,498)	(14,038)
Worker Leadership Development	(36,000)	(37,440)	(38,938)	(40,495)	(42,115)
Software purchase and licensing	(18,000)	(18,720)	(19,469)	(20,248)	(21,057)
Miscellaneous	(36,000)	(37,440)	(38,938)	(40,495)	(42,115)
Total Fixed Expenses	**(1,193,820)**	**(1,241,573)**	**(1,291,236)**	**(1,342,885)**	**(1,396,601)**
TOTAL OPERATING EXPENSES	**(2,895,490)**	**(3,572,365)**	**(4,066,681)**	**(4,491,141)**	**(4,589,950)**
EBITDA	**(1,930,460)**	**3,065,512**	**5,966,915**	**8,615,614**	**8,957,310**
DEPRECIATION & AMORTIZATION					
Growing Equipment	(400,000)	(400,000)	(400,000)	(400,000)	(400,000)
Buildings Horticulture	(120,000)	(120,000)	(120,000)	(120,000)	(120,000)
Buildings Admin	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)
Water and Bldg Remediation	(100,000)	(100,000)	(100,000)	(100,000)	(100,000)
Dutch Installation	(150,000)	(150,000)	(150,000)	(150,000)	(150,000)
Total Depreciation	(790,000)	(790,000)	(790,000)	(790,000)	(790,000)
TOTAL DEPREC. AND AMORT.	**(790,000)**	**(790,000)**	**(790,000)**	**(790,000)**	**(790,000)**
EBIT	**(2,720,460)**	**2,275,512**	**5,176,915**	**7,825,614**	**8,167,310**
Interest Expense	(500,729)	(491,625)	(434,625)	(377,625)	(320,625)
NET PROFIT BEFORE TAX	**(3,221,190)**	**1,783,887**	**4,742,290**	**7,447,989**	**7,846,685**
Tax Expense	0	(214,066)	(569,075)	(893,759)	(941,602)
NET PROFIT AFTER TAX	**(3,221,190)**	**1,569,821**	**4,173,215**	**6,554,230**	**6,905,083**

Appendix D

Colorado Mushroom Farm, LLC: Sample Legal Cases: 1991-2022

Year	Case	Nature of Suit	Court	Status
1991	Furuli, et al v. Rakhra Mushroom Farm, et al	350-Motor Vehicle–*Matter of the Estate of Tony Allen Harms, deceased estate of* Tony Allen Harms	New Mexico District Court	Closed on: 03/20/1991
1995	Betancourt v. Rakhra Mushroom	442-Civil Rights: Employment–Americans with disabilities act.	Oregon District Court	Closed on: 12/18/1995
2006	South Mill Mushroom Sales, Inc. v. Rakhra Mushroom Farm Corp. et al	891 Agriculture Acts–Failure to make payments to the supplier.	Oregon District Court	Closed on: 05/18/2006
2008	White et al v. Rakhra Mushroom Farm Corp. et al	710 Labor: Fair Standards–Claim for overtime wages by employees	Oregon District Court	Closed on: 05/20/2010
2011	Gallardo v. Rakhra Mushroom Farm Corp. et al	442 Civil Rights: Jobs–Workplace discrimination	Colorado District Court	Closed on: 12/20/2011
2012	Coosemans Denver, Inc. v. Rakhra Mushroom Farm Corp. et al	891 Agricultural Acts–Failure to pay amounts due, breach of contract, failure to preserve trust assets	Colorado District Court	Closed on: 04/23/2012

2012	Rakhra Mushroom Farm Corporation Chapter 11 Bankruptcy	Chapter 11 Bankruptcy	Colorado Bankruptcy Court	Closed on 03/27/2013
2017	Phillips Mushroom Farms, L.P. v. Colorado Mushroom Farm, LLC et al	891 Agricultural Acts– Failure to make payments to suppliers.	Colorado District Court	Closed on 12/11/2017
2018	CO Dept. of Public Health & Environ. v. Colorado Mushroom Farm LLC	Enforcement Order to remedy arsenic in drinking water, failure to monitor for contaminants, and failure to measure disinfectants in water distribution system	Agency Order under CO Admin. Procedures Act	Fines and Compliance Order issued, but not adhered to
2020	CO Dept. of Public Health & Env v. Colorado Mushroom Farm LLC	Public Health Complaint for operating an unsafe public drinking water system and failure to comply with remediation orders	Colorado District Court	Fines ordered but not paid
2020	Rabo AgriFinance LLC v. Baljit Singh Nanda, Parvez Naxir Malik, et al.	Breach of Contract	Colorado District Court	Active
2021	Armstrong Transport Group v. CO Mushroom Farm, LLC	Breach of Contract	Colorado District Court	Active
2022	Ryder Transportation Services v. CO Mushroom Farm, LLC	Break of Contract	Colorado District Court	Active

2022	USA v. Colorado Mushroom Farm, LLC	890 Other Statutory Actions–Collection of two related debts owed to the US	Colorado District Court	Active
2022	Petrona Mateo Esteban v. CO Mushroom Farm, LLC	Workers' Compensation	CO Office of Admin. Courts	Active
2022	Mariana Rodriguez Lopez v. CO Mushroom Farm, LLC	Workers' Compensation	CO Office of Admin. Courts	Concluded
2022	IFCO Systems US, LLC v. CO Mushroom Farm, LLC	Breach of Contract	Circuit Court of the 9th Judiciary Circuit, FL	Active
2022	Colorado Mushroom Farm, LLC Chapter 11 Bankruptcy	Chapter 11 Bankruptcy	Colorado Bankruptcy Court	Active

Appendix E

Sample Mushroom Growers Across USA, The West, and Colorado

Select Listing of Large U.S. Mushroom Companies			
Company	**Location**	**Products**	**Sales Volume (Annual)**
Monterey Mushroom Inc.	California	White, Brown, Oyster, Specialty, Vitamin D Mushrooms	$706,790,330
Kaoilin Mushrooom Inc.	Pennsylvania	White, Brown, Exotic Mushrooms	$134,901,924
Giorgi Mushroom Co.	Pennsylvania	White, Brown, Exotic, Organic, Dried, Savory Wild, Stuffed, Shredded Portabella	$115,985,999
Sylvan Inc.	Pennsylvania	Strains, Spawn, Supplements	$85,633,658
Phillips Mushrooms	Pennsylvania	White Agaricus, Specialty Mushrooms (e.g., Maitake, Shiitake, Pom Pom)	$49,000,000
Oakshire Mushroom Farm Inc	Pennsylvania	Dole Mushrooms	$21,814,494
Hokto Kinoko Co	California	Specialty Mushrooms	$17,000,000
L F Lambert Spawn Co Inc	Pennsylvania	Agaricus strains, casing inoculum, synthetic inoculum, shiitake logs, oyster spawn, pre-spawned oyster bags, supplements and pesticides	$13,479,971
Sylvan America Inc	Pennsylvania	Strains, Spawn, Supplements	$10,341,431
Gourmet Mushrooms Inc	California	Gourmet Mushrooms	$9,684,794
CF Fresh LLC	Pennsylvania	White, Brown, Exotic, Organic, Dried, Savory Wild, Stuffed, Shredded Portabella	$2,794,929

Mushroom Growers in Rocky Mountain West

Almost all are small, specialty mushroom growers

Arizona			
Company	**Location**	**Size**	**Product**
Aravaipa Creekside Growers	Tucson, AZ	5 acres	small scale; oyster mushrooms
Southwest Mushrooms	Phoenix, AZ		Gourmet mushrooms
Sun Valley Harvest LLC	Glendale, AZ	9,875 Sq. Ft. (including family home)	Dried gourmet and medicinal mushrooms; other mushroom products
Symbiotic Farms	Scottsdale, AZ		Gourmet mushrooms
White Harte Farms	Lake Havasu, AZ	4,172 Sq.Ft.	Exotic mushrooms
YoBro Farms	Phoenix, AZ	0.40 Acres	Gourmet mushrooms

Idaho			
Company	**Location**	**Size**	**Product**
Ferg's Fabulous Fungi	Greenleaf, ID	1.05acre lot	Gourmet and medicinal mushrooms
Gem State Mushrooms	Coeur d'Alene, ID	0.39acre lot	Gourmet mushrooms
Grove Country Mushroom Farm	Parma, ID		fresh mushrooms and capsules of our mushroom powder
Morning Dew Mushrooms	Tetonia, ID	1.9acre lot	Gourmet mushrooms
Purcell Mountain Farms	Moyie Springs, ID	20 Acres	Organic products; Dried gourmet mushrooms; mushroom powders

NEVADA			
Company	**Location**	**Size**	**Product**
Aloha Medicinals	Carson City, NV	3.60 acre	Medicinal mushrooms and other mushrooms derived products
Atomic Mushrooms	Las Vegas, NV	6,534 sqft	Gourmet Mushrooms
Desert Moon Mushrooms	Las Vegas, NV		Gourmet Mushrooms
Sierra Edibles	Wellington, NV		Gourmet Mushrooms

Montana			
Company	**Location**	**Size**	**Product**
Front Street Fungi (Inactive according to MT Secretary of State)	Missoula, MT	7,187 sqft	Seasonal indigenous and gourmet mushrooms
Garden City Fungi	Missoula, MT		Gourmet mushrooms
Gold Country Mushrooms	Clancy, MT	6000 square foot growing building and composting out buildings.	White button mushrooms; crimini; portabella mushrooms; compost.
Mother Fungi	Missoula, MT with a second location in Chicago, IL	5,000 sq. ft.	Gourmet and medicinal mushrooms
SporeAttic Farm	Bozeman, MT	20 acre lot	Gourmet mushrooms
Sun Hands Farm	Kalispell, MT	6 acres	Gourmet mushrooms
Trailhead Mushrooms (Status:Involuntary Dissolution)	Billings, MT	8,145 sq. ft.	gourmet mushrooms
Valley Girl Mushrooms	Kila, MT	17.09acre lot	Gourmet Mushrooms

New Mexico			
Company	**Location**	**Size**	**Product**
Blossom and Spouts Farm	Taos, NM		
Desert Fungi	Penasco, NM		
Exotic Edibles of Edgewood	Edgewood, NM	35.53 acres lot	Oyster Mushrooms
Full Circle Mushrooms	La Mesa, NM		Gourmet mushrooms
Hongos2go	Tierra Amarilla, NM		
Lighting Strikes Mushrooms	Taos, NM		
Matt's Mushroom Farm	Albuquerque, NM	Renovation in progress of old barn	Gourmet and medicinal mushrooms
Southwest Mushrooms	Santa Fe, NM	In home	Gourmet mushrooms; powders and extracts

Wyoming			
Company	**Location**	**Size**	**Product**
Wyoming Mushrooms/Maligaya Development Eco-Farm LLC	Shoshoni, WY	158-acre plot: 89,000 sq.ft. production facility, 4,300 sq.ft. processing facility	crimini, portabellos, and white mushrooms: Irregular Production Gourmet Mushrooms
Uncle Sassy Farms LLC	Lander, WY	0.99 Acres	

Colorado's Leading Speciality Mushroom Growers			
Company	**Location**	**Size**	**Products**
Boomers Farm LLC	Gypsum, CO	3,240 sqft	Gourmet mushroom
Boulder Mushroom	Boulder, CO	3,840 sqft	Oyster, Lion's Mane, Royal Trumpet
Captivate Mushrooms LLC	Denver, CO	N/A	Gourmet mushrooms; Phoenix Oysters, Lion's Mane, King Trumpet, Reishi, Blue Oysters and Turkey Tail
Denver Mushroom Co	Denver, CO	Urban: 1,050 sqft	Oyster; Cremini
Elevated Mushrooms	Englewood, CO	In home: 954 sqft	Gourmet mushrooms
Eukaya Farm	Fort Lupton, CO	86 acres	Gourmet Mushrooms
Fallen Log Farm LLC	Golden, CO	N/A	Shiitake, varieties of oyster, Pioppino, Lion's mane, chestnut; beech
Ferris Mushroom	Grand Junction, CO	Urban: 1,264 sqft	Gourmet mushroom
Fiber of Life Mushrooms	Kiowa, CO		Specialty Mushroom
Fox Fungi	Denver, CO	small; urban	Varieties of oyster; specialty mushroom
Foxfire Mushrooms	Longmont, CO (DELINQUENT)	1,680 sqft	Gourmet and medicinal mushroom
Fresh From the Farm Fungi	Denver,CO and new location in Sedalia, CO	In home: 2,525 sqft	Specialty Mushroom
Fungolia Farms (DELINQUENT AS OF 2019)	Fountain, CO	In home: 1,000 sqft	
Fungus Farm Colorado	Colorado Springs, CO	N/A	Lion's Mane; Shitake, varieties of oyster, pioppini, king trumpets
Furst Class Fungi	Denver, CO	In home: 2,339 sqft	Lion's Mane, Oyster, King Trumpet, Pioppino, Black Pearl, Chestnut, Reishi
Hazel Dell, CO	Fort Collins, CO	1,272 sqft	shiitake; oyster; lion's mane; cinnamon cap; button; royal trumpet; portabella. Compost
High Balsam Farm	Lakewood, CO	1-acre (urban)	Varieties of oyster, like yellows, blues, and phoenix; lion's mane, chestnuts, shiitake.
Innovative Ag CO (Delinquent)	Steamboat Springs, CO	41,382 Sq. Ft.	Fresh greens and gourmet mushroom
Leafcutter Farm LLC	Durango, CO	9 acres	Gourmet mushrooms
Microva	Colorado Springs, CO	2,000 sq.ft.	Gourmet and Medicinal Mushrooms
Mile High Fungi	Conifer, CO	2,400 sq. ft	Varieties of oyster; shiitake; pioppini; chestnuts; king trumpets; lion's mane; maitake; beech; nebrodini; chanterelle; morel; porcini; chicken of the woods; lobster.
Mycenae Mushrooms	Boulder, CO		King trumpets; Black Pearl Oyster; Chestnut
MycoCosm	Broomfield, CO	2091 sq. ft.	Gourmet and Exotic Mushroom
MyCOLove Farm	Fort Lupton, Co	N/A	Lion's Mane, Black King Trumpet, and Chestnut Mushrooms; medicinal mushroom
Mystic Mountain Mushroom	Rocky Mountain National Park; Grand Lake, CO	2,452 sqft	Gourmet Mushrooms
Ollin Farms	Longmont, CO	2,522sqft	Fresh Produce; Shiitake Mushrooms
Shining Mountains Farm	Snowmass, CO	38.53 acre lot	Oyster Mushrooms
Sugar Moon Mushrooms	Bennett, CO	Urban farm	Gourmet Mushroom
The Growhaus	Denver, CO		Sugar Moon Mushrooms
Willow Creek Mushrooms	Eaton, CO	135 Acres	Gourmet mushrooms

RMEOC

Rocky Mountain Employee Ownership Center

January 2023