California Farm to School Incubator Grant Program
2024 Environmental Brief

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Guiding Questions

Over the course of the full evaluation, the following questions will be addressed to determine environmental outcomes associated with the Farm to School Incubator Grant:

1

What climate smart agricultural practices and systems are used on farms and ranches that receive grants? How do these adoption rates compare to typical California farms and ranches, when known? How do key environmental outcomes from these practices and systems compare to those from typical adoption rates on California farms and ranches?

2

What are the major challenges faced by producer grantees, and how do they influence climate smart practice implementation?

3

How does receiving the grant and/or fostering connections with school markets affect the ability of farms or ranches to overcome challenges and thrive, and what are the subsequent impacts on the continuation or expansion of climate smart practices and systems?

4

Beyond agricultural management, are there other environmental benefits associated with the grant and/or farm to school markets, including reduced food waste or changes in vehicle miles traveled (VMT)?

Key questions addressed in brief

The current report is focused on establishing baseline rates of climate smart practices and systems among producer grantees in Cohort 2, as well as understanding challenges faced by producer grantees and the potential for the grant or farm-to-school involvement to address these challenges. Subsequent reports will estimate environmental outcomes associated with key climate smart practices and track changes in adoption and acreages over the course of the grant.

Key early findings

- Producer grantees use a variety of climate smart practices at higher rates than average for California.
- Environmental outcomes, including carbon emissions and air quality, can be estimated from these practices.
- Given the application process's success in selecting producers that incorporate climate smart agriculture into their management, we expect that measures supporting the survival or expansion of these farms will support improved environmental outcomes as compared to the average environmental footprint of food grown in California.
- The grant and its ability to facilitate farm to school involvement directly addresses many of the most pressing challenges faced by producers: market access, infrastructure, labor, and network connections. It can also indirectly address other key challenges, such as dealing with climate/weather.
- The grant and/or farm to school involvement can also exacerbate challenges, such as seasonality of production and administrative complications.
- Regional leads are frequently mentioned as an appreciated support system.

Producer grantees

Data collected from the 49 Cohort 2 producer grantees (Track 4) are analyzed in this section of the report. All but one producer grantee reported using climate smart agricultural practices in the 12 months prior to submitting their grant application, reflecting that the application scoring system prioritized producers already using climate smart practices. Applications from small and midsize producers (defined as average annual gross cash farm income during the previous three-year period of no more than $750,000) were also prioritized, resulting in 94% of grantees representing small to midsize operations (Figure 1). Of the 49 producer grantees, 41 came from organizations that were at least 50% owned by someone who identified as belonging to one or more of the priority groups identified by the CDFA.

Photo courtesy of Lost Sierra Food Project

Figure 1: Producer grantees from small to midsize operations, defined as annual gross cash farm income (GCFI) of $750,000 or less. For reference, the USDA defines small farms as a GCFI of <$350,000, and midsize farms as $350,000 to $1,000,000.

Data sources & Methods

Interviews.

Semi-structured interviews were conducted with 46 of the 49 Cohort 2, Track 4 grantees (all who responded after four contact attempts). Because Track 4 funds were delayed in their distribution, interviews were conducted before grantees had gotten very far in their projects. These interviews therefore focused on farm background (previous involvement with farm to school, typical practices, and main challenges), and current and future plans for grant funds. Interviews lasted 30-40 minutes, and participants were compensated for their participation.

Coding.

Interviews were analyzed through an interactive process of open, axial, and selective coding (Corbin & Strauss, 1990). Data were grouped into the overarching categories of "Challenges," "Grant Impacts," and "Farm to School Impacts," and specific challenges/impacts were identified within each category. Challenges/impacts were identical across the three categories to allow us to match challenges to impacts and vice versa. Each impact/challenge was mentioned in at least 5 individual interviews (10% of producer grantees); all impacts or challenges mentioned less than 5 times were noted in an "Other" category. We also coded for farm and ranch characteristics (e.g. size, land tenure) and attitudes (e.g. education-focused, commitment to land stewardship), as well as environmental outcomes that were called out in the interviews. To determine whether there were significant differences in the challenges faced by different demographic groups, we used a statistical test of the presence/absence of challenges reported in each interview (SIMPER analysis; 999 permutations, Jaccard Index for dissimilarities).

Survey curation.

Data were collected from CDFA-administered surveys of Track 4 grantees. We use data from the first extended quarterly survey given to grantees; three more will be given over the course of the grant, allowing for time-series data in future reports. Here we report baseline data from the 40 operations that had begun using grant funds at the time the first survey was collected (October 2023).

Expanded acreage.

Because we did not explicitly ask farmers about the practices used on newly expanded acres, summaries of practices on expanded acres come from data collected from farm-reported practices on their full farms. We assumed that practices were used on new acres at the same rate that they are used on the full farm; for example, if a farm is 20 acres total and they report cover cropping on 10 acres, we assumed that 50% of their added acreage would be cover cropped, after confirming that those added acres were a crop type that the farmer mentioned using cover crops with. We also assume that all added acres on certified organic farms entered into the farm as non-certified acres with organic practices.

Photo courtesy of McGrath Family Farm

Early findings and outcomes

Current practices.

The proportion of producer grantees using climate smart practices was higher than statewide adoption rates for all practices on which the USDA NASS agricultural census collects state-level data (USDA/NASS, 2022a, 2022b) (Table 1; See Table A1 for baseline rates of all practices included in producer grantee surveys).

Environmental impact of practices used: Crop rotation.

Given the data currently available from surveys, we were able to estimate the amount of carbon sequestered and/or greenhouse gas emission reductions associated with producer grantees implementing conservation crop rotation on land used to grow products intended for farm to school sales. Of the 34 producer grantees with cropland, 21 (62%) reported using conservation crop rotation. These farmers used conservation crop rotation on a total of 207 acres, which saves the equivalent of 52 tonnes of CO2 (51 CO2 + 1 NOX CO2eq) as compared to cropland that does not utilize the practice.

Conservation crop rotation is currently used on 61% of cropland in California, as compared to 62% of grantees. Therefore in this case carbon savings cannot be attributed to producer grantees as compared to products sourced from an "average" set of California farms. We present these estimated savings not to report significant carbon savings—as the difference between statewide adoption of the practice and adoption amongst grantees is negligible—but rather to illustrate how climate outcomes can be estimated. After gathering additional information about practice implementation in upcoming interviews (Fall 2024), we will be able to estimate outcomes from the full suite of practices, most of which show significantly higher usage rates than statewide averages (Table 1).

New practice adoption.

Eight producers report adopting new climate smart practices since the start of the grant, though they did not necessarily attribute adoption directly to receiving the grant. Of these eight, 4 reported new water management (installing water sensors/ meters, or changing irrigation sources), 3 planted non-harvested vegetation (hedgerows, native plants, etc.), and 1 constructed shaded field tunnels.

Practice expansion.

Twelve producers report expanding climate smart practices that were already used on their operations, though they did not necessarily attribute expansion directly to receiving the grant. Of these twelve, four expanded reduced tillage, 4 increased compost or mulch inputs, two increased nutrient testing or water quality monitoring, two increased area planted in non-harvested perennials, and cover crops, crop rotation, crop-livestock integration, integrated pest management, a solar arrays were expanded on one operation each.

Acreage expansion.

Eleven farms reported adding acreage as a direct result of the grant within the first six months of the program, totaling 55 acres. Figure 2 shows an estimated breakdown of the practices used on these added acres.

Compared to the rest of the producer grantees, farmers and ranchers who expanded their operation's acreage as a direct result of the grant had been significantly more likely to report experiencing challenges with production ($p < 0.01$), certification/permitting ($p < 0.04$), and receiving a fair price ($p < 0.04$) in baseline interviews, suggesting that the grant is able to alleviate financial and bureaucratic barriers that otherwise prevent farms from expanding. These same producers were, in fact, significantly more likely to report that getting involved in farm to school programs improved their ability to receive a fair price, indicating that this challenge was directly relieved by farm to school involvement.

Food waste.

Seven producers reported reducing food waste as a direct result of receiving the grant. Food waste was avoided due to more efficient operations and access to markets that were more flexible in terms of accepting (1) large quantities (2) products that may be difficult to sell to other purchasers (e.g. whole wheat berries), and (3) products that are not aesthetically suitable for other markets (e.g. small apples or split squash). As one producer put it, "the fresh market, retail market is not as forgiving as the school kids." Some producers reported an additional synergy that came from different preferences in school markets: "I'm enjoying the fact that we have an outlet for smaller apples that normally we have a hard time selling into the fresh market… All of a sudden, my guys said we were running out of small apples!"

Vehicle miles traveled.

Eleven producers reported changing the distance that they transported their products as a result of the grant. Of these, producers tended to increase (7), rather than decrease (4) their total transport distance. Given that producers are typically adding schools to existing market lists, rather than replacing an existing market with school sales, these additional delivery miles are to be expected. However, producers who were connected to food hubs through the grant have reduced their driving, needing to make only one stop to drop off most or all of their products rather than distributing to multiple buyers. One producer who provides starts to other farms was also able to provide a local option that had not previously existed: "I showed them that we can actually grow what they want when they want it–when they otherwise would have to drive to Northern California and pick them up."

Photo courtesy of ALD&Y

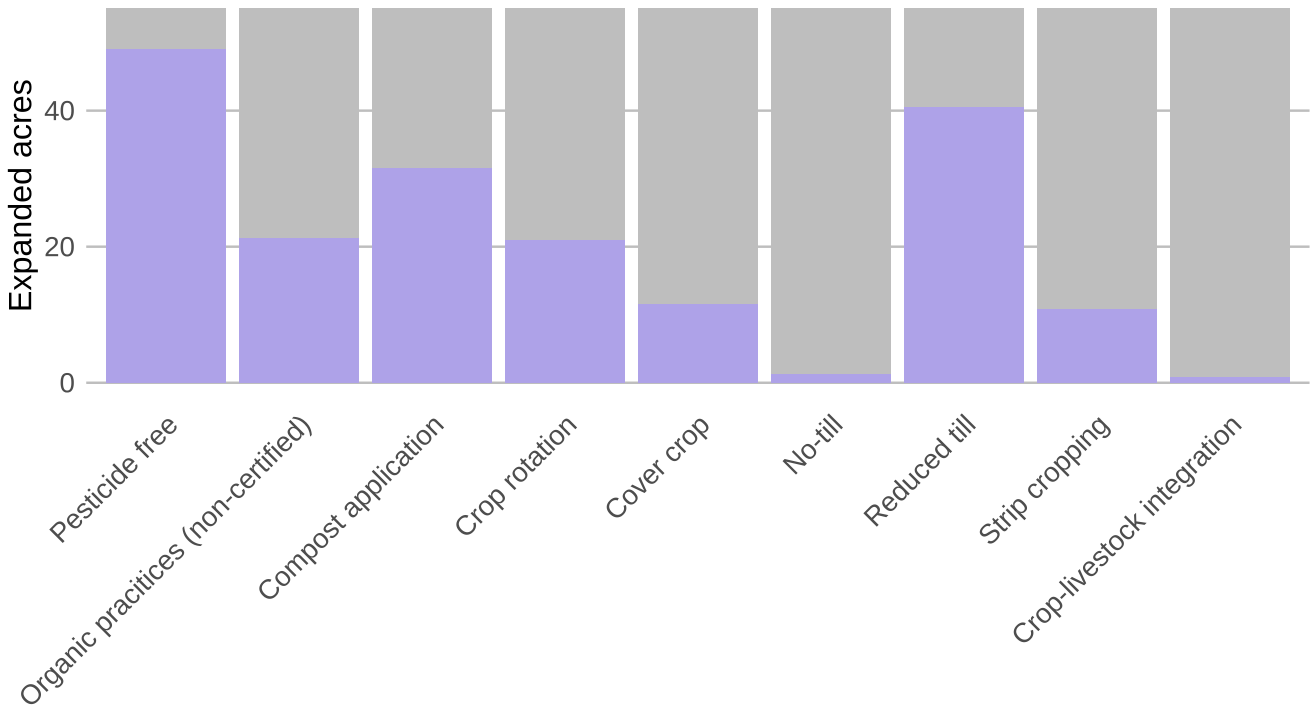

Figure 2: Estimated climate smart agricultural practice use on acres added to farms as a direct result of receiving the grant. Purple bars indicate how many of the 55 newly expanded acres use a given practice; gray bars indicate acres where that practice is not used.

Table 1: Six common soil health practices and their implementation rates among grantees vs statewide adoption. The number of possible producer grantees is calculated based on which operations have relevant production areas for each practice (i.e., cropland, orchard, grazing land). Statewide adoption rates come from the 2022 USDA Census of Agriculture; grantee practice use is self-reported in grant surveys.

Practice	Number of producer grantees using practice (Q2)	Number of producer grantees that could be using practice	Percent possible producer grantees using practice	Statewide adoption (% of farms)
Cover crop	25	38	66%	14%
Conservation crop rotation	21	34	62%	61%
No till	18	38	47%	11%
Reduced tillage	16	38	42%	8%
Certified organic	12	41	29%	7%
Transitioning to organic	4	41	10%	<1%

Challenges

Given that rates of climate smart practice use are higher amongst organizations that were awarded grants as compared to farms/ranches statewide (Table 1), support for these producers also impacts their continued ability to implement these practices and adapt them to their local contexts. In interviews, three farms expressed that they would not have been able to continue farming without receiving a farm to school grant, and all operations expressed significant challenges that were faced in the last five years. After grouping these challenges into themes, the most commonly faced challenge was infrastructure, followed by markets and marketing, and financing (Table 2).

In extreme cases these challenges can lead to farms going out of business, as was nearly the case with three producer grantees. Even when farms remain operational, these challenges can limit everything from production to practice implementation to farm expansion (see 'Expansion' above). Considering their elevated adoption of climate smart practices, any limits to the food produced, practices used, or acres managed by these operations ultimately curtails the environmental benefits that they could otherwise provide. Understanding how to support these operations in overcoming the challenges they face therefore carries real environmental benefit in addition to improving livelihoods on small farms and ranches in the state.

Common challenges

The challenges most commonly faced by producer grantees (Table 2) are all addressed in some capacity by the incubator grant and/or involvement in the farm to school program. Some of these links are direct (e.g. if a farmer is struggling to buy a wash station to prep produce for schools, grant funds can be used to directly buy this infrastructure), while others can be indirect (e.g. a grant cannot change the weather, but it can provide infrastructure in the form of shaded hoop houses to help farms cope with extreme summer heat).

One key challenge, mentioned by 20 producer grantees and perhaps of most importance to both producers and environmental outcomes, is accessing funds to purchase or rent land. Producers sometimes require additional land to successfully add schools to the markets they serve, and the practices they use on the land they steward are often limited by how long they can reasonably expect to stay on the land they do manage. As one producer grantee put it:

> *"For us, we carry that burden as far as wanting to be good stewards of the land, but not knowing how much we can invest in trees and these other permanent-type crops. We always have five-year leases and these kinds of things so just the ground under our feet is never stable. That's a big problem when you're trying to move towards regenerative agriculture. You need long-term stewardship of land."*

A lack of land access therefore limits both the amount of food that can be produced for schools by these operations and also the practicality of implementing the most forward-thinking–and often most environmentally impactful–management practices. Using grant funds to buy or lease land was prohibited in the first cohort of grantees, creating a misconception amongst the second cohort that this use was still prohibited. Outreach efforts to current and future producer grantees could be crucial to clarify this key program update.

Table 2. The ten challenges most commonly faced by producer grantees.

Challenge	Number of producers experiencing challenge (of 46 total)	Illustrative quote from producer grantee
Infrastructure	36	"Where we've been doing all of our packing and stuff is under a tent that flies away in the wind, and that we have to replace constantly, and do maintenance too"
Markets and marketing	34	"The easiest part for us is growing the produce. Then the hardest part is finding where to put the produce."
Financing	31	"We don't really make enough money selling produce because that's not really what the goal is. The goal is to teach the kids to eat healthy and to introduce more fruits and vegetables."
Climate/ weather	31	"The flooding is tough in our soil, especially. We've had some crop loss from that."
Labor	30	"That has been the hardest thing right now, is getting reliable help, because it is part-time. It's not a full-time position, but still, you think that you could get people, but we've just had just trouble with people having reliable transportation, and just getting here. Right now I call it my patchwork quilt of staff. Everybody is just working and filling in on the days."
School capacity	30	"It's more work on their end to work with us than to just get through their normal channels, and for a school to source from a single farm, there's a lot of work. There's a lot of administrative stuff."
Network connections	27	"The small-town politics has been tricky building rapport with the community. I think it's helped all of us be perceived a little bit less as outsiders and more as people who are genuinely here trying to help in a good way because we care for this place."
Product distribution	24	"A lot of times the logistics of delivering one carton to a very distant school, that doesn't make sense for us."
Grant associated	23	"We were economically building around the fact that we would have the money in January or whatever. When we got the reward, I'm like, 'Oh, you're going to have it in January.' We were making shifts in our business strategy, expecting that money would be there then, and then it kept getting pushed back."
Knowledge	21	"It's been a little bit of a learning curve for us to just know how do we do that? Who do we reach out to? How do we fill out applications and things like that? Those have been some of the challenges. I know there are other small farmers around Watsonville that are experiencing some of the same challenges and with that, they also don't speak English. All those little things play into account when looking for resources."

Challenges unlikely to be addressed through grant participation

Some challenges, such as rising input costs, cannot be addressed directly by the grant, but can be ameliorated when operations receive an influx of funding. Others, such as pest outbreaks and quarantines, simply cannot be fixed by funds or farm to school involvement. Finally, some challenges seem to in fact be exacerbated by grant/farm to school involvement. For example, schools require the highest volumes of food in the fall, winter and spring, when farm production tends to be lowest. This therefore creates a seasonality challenge for producers entering school markets and a consequent potential for other public procurement programs (e.g farm to corrections or farm to hospitals) to fill a void in current summer market options created by school schedules.

Grant-related challenges

Producers also reported challenges with the grant itself. Delays in receiving funding (more than three months for some producers) caused financial hardships and an inability to implement grant projects in time for the summer season, thereby impacting production for the rest of the year. Producers also expressed frustration with uncertainty in the granting process, communication from granting authorities, and the amount of bureaucracy required to apply for and receive funds. Some farmers additionally struggled with reporting requirements competing with their desire for privacy. Applications were difficult for some farmers, and many hired an external grant writer to complete the application–something unsuccessful applications may have lacked. Producers also struggled after receiving a grant when there were mismatches with awards to partner schools; if a producer and a school both applied for a grant expecting to sell to/buy from each other, in instances when the school did not receive the grant, the producer was often left without a market to sell to.

These challenges can likely be resolved through changes in grant requirements and administration, and by considering farm to school systems more holistically in the granting process in order to simultaneously expand school capacity alongside producer efforts.

Impacts of involvement in the grant program and Farm to School more broadly

Producers note many existing and potential impacts from the grant on their operations (Table 3), even after a short amount of time since receiving funds. Based on grant spending, top impacts include infrastructure and labor, which are also among the top five challenges faced by producers. Both can also be used to address many of the other challenges mentioned; for example, wash stations (infrastructure) and people to work at them (labor) could be instrumental in accessing new markets that require certain types of food prep, while high tunnels or shaded hoop houses can protect against wind, extreme heat, and other climate/weather-related challenges.

The grant also resulted in impacts beyond direct financial transactions, such as fostering network connections, accessing new markets, and increasing schools' abilities to work with/purchase food from small farms. In interviews these impacts are depicted as vital for producers, enabling them to market their produce at a fair price and receive necessary support to grow and thrive as a business.

Farm to school impacts show the suite of changes that result from producers participating in farm to school activities (Table 4). Whereas we consider *grant impacts* to be the direct result of receiving funds from or participating in the grant program, *farm to school impacts* are the direct result of producers connecting to schools through sales or educational opportunities, whether or not a grant was received. There can of course be overlap between both types of impacts, in which case they were considered both grant and farm to school impacts in interview coding. Farm to school's benefits to producers can be easily seen with the top impact being access to new markets and increased production fourth on the list. However, the need for producers to adapt their operations to accommodate these markets is clear as well from the need to change practices, shift crop mixes, and update infrastructure and distribution, all of which often require additional labor.

Table 3. The ten grant impacts most commonly reported in producer interviews.

Grant impacts	Number of producers experiencing challenge (of 46 total)	Illustrative quote from producer grantee
Network connections	35	"We were able to get most of everything that they wanted and deliver it to them, and that was super awesome to be able to have, not just as a check mark for a grant deliverable but as a foot in the door.""
Infrastructure	32	"We had our parking lot asphalted to be able to run pallet jacks and move things around more easily."
Markets and marketing	29	"Then particularly with this grant, we've noticed this year there's quite an acceleration of interest."
Increased flexibility	23	"This grant just in general, it's enabled us, has and will enable us to do things on the farm that would probably take us a decade to do but we'll be able to do that in one or two seasons. So really moves us forward a lot."
Production	21	"It's just been great to be able to really provide such a diverse amount of produce in a very small area. That is just fascinating for us. We needed an expert. That's not what we went to school to do."
Labor	21	"When we saw this opportunity, we were like, that's a way to at least pay for somebody's time, be able to actually implement more, and not work a full-time other job on top of all of the volunteer work that we're doing."
Changes in practices	18	"Now given that we have this new farm site, we were able to do it on a larger scale and be able to play with it more. Doing like intercropping of beneficial flowers with the main crop."
Education distribution	18	"The grant did also help us get our mobile mill out to a school. We have a traveling mobile mill house. That's a super cool piece of—It's a great pedagogical tool."
School capacity	15	"I'm pretty sure that they have a grant, and that has given her the ability to flex more with us, because other people, if they don't have that built into their job description, basically, then they were like, 'I don't have time for this.'"
Facilitating faster timeline	14	"Having a fully funded project, we can move forward with the planning process, whereas before we would still be fundraising. That's huge, knowing that we have funding to move forward."

Table 4. The nine impacts most commonly reported in producer interviews. Note that these impacts do not necessarily result from the grant, and are rather the result of producer engagement in farm to school; for example, many of these impacts occurred before the grant began on farms that were already involved in farm to school.

Farm to school impacts	Number of producers experiencing challenge (of 46 total)	Illustrative quote from producer grantee
Markets	29	"There's certainly been a lot of interest from food service directors to purchase apples and our biggest account would be [school district name] and they, with some exceptions, will buy 30 bushels a week, which is big in our county."
Network connections	24	"There are schools that have contacted us and just emailed us out of the blue or phoned us out of the blue."
Education	21	"Their kids are getting exposed to new [vegetables] because we have a lot of heirloom varieties and things. They've never seen romanesco. 'Oh my gosh, romanesco.'"
Production	17	"I found a place that will make them for us to individual little two-ounce sticks for the kids. They're like, 'Yes, we can do that,' and so we did our first trial run and they're like, 'We're going to need a lot more. The kids love them.'"
Refining current practices	16	"We grew more strawberries because we identified that as one that kids love, the ones that we're growing with no pesticides or anything that we're putting on them and it matches kind of with their season."
Infrastructure	11	"We had a feedlot built." (same rancher as Production quote above)
Distribution connections	11	"Now we have a person on hand, came on about a month ago, and their job specifically is coordinating and distributing the produce.
Shifting crop mix	10	"She just told us everything that she could use in an order for the following week... We're definitely going to be shaping our next year's planting schedule on those needs."
Labor associated	10	"The distribution tech also spends time on the garden. That means that there is a few more hours a week that there's extra hands-on. That's how we're able to think about expansion."
School capacity	9	"The schools obviously have more purchasing power right now. They have more dollars for local foods, so we've felt that."

Overlap between challenges and impacts.

To better understand the ability of grant and farm to school impacts to address the challenges faced by producers, we examine how often both a challenge and a corresponding impact (grant or farm to school) are mentioned in the same interview (Table 5). For example, challenges with markets and marketing were mentioned in 34 of the 46 interviews. Of those 34 interviews, 21 mentioned markets and marketing as an impact of the grant, while 26 mentioned markets and marketing as a farm to school impact.

For some challenges, these overlaps likely indicate that the challenge has been addressed (e.g. labor challenges are likely to be helped by labor impacts from grants), while other overlaps may be more coincidental (e.g. an interviewee mentions a challenge finding markets for broccoli, and also talks about an impact of having more school markets for strawberry sales). Nevertheless, the analysis highlights three main groups: 1. Challenges that have a good chance of being addressed by either the grant or farm to school programming (e.g. labor), 2. Challenges where either the grant or farm to school is better equipped to address the challenge (e.g. financing), and 3. Challenges that are not currently being addressed by the grant or farm to school (e.g. pests).

Photo courtesy of Keith Martin

Table 5. Each challenge reported by grantees and the number of times the corresponding impact was also reported in the same interview.

*note that the grant could not change the weather; however, infrastructure can be built to mitigate these challenges

Challenge	Number of producers	Number of producers also reporting challenge topic as a grant impact	Number of producers also reporting challenge topic as a farm to school impact
Certification/permitting	19	0	0
Climate/weather	31	0*	0*
Distribution	24	6	6
Financing	31	31	0
Grant-associated	23	0	0
Infrastructure	36	25	10
Input costs	15	0	0
Knowledge	21	10	0
Labor	30	18	10
Land access	20	5	4
Market and marketing	34	21	26
Network connections: farm-farm	8	5	4
Network connections: farm-public	14	6	3
Network connections: farm-school	13	10	7
Pests	14	0	0
Production	20	10	11
Receiving fair price	15	2	4
School capacity	30	11	8
Seasonality	20	3	2

Equity

The application process attracted and awarded grants to producers who both come from and serve underrepresented communities in the state (Figure A1). Producer grantees identify with all of the CDFA-identified priority groups included (Figure A2), and all at higher rates than farmers do statewide. Given the systemic oppression that women and underrepresented racial identities have faced in California agriculture, producer demographics represent a step towards more equitable representation than historic agricultural policy has allowed. However, it is also important to note that Hispanic, Asian, and women farmers and ranchers are still dramatically underrepresented amongst grantees (one half to two thirds of demographic representation in California's population) as compared to the general population.

For each of the CDFA-identified priority groups that had a large enough sample size (women, BIPOC, and limited-resource producers), we explored whether the challenges they faced were different from those of their peers. BIPOC producers were significantly more likely to face challenges with network connections outside the food system (e.g. architects or waste management services; $p < 0.03$). This disparity seems to be addressed in part by the grant and regional leads, with BIPOC producers also being significantly more likely ($p < 0.03$) to report making non-food system connections as grant impacts.

Grantee organizations that were at least 50% owned by women were more likely to experience challenges with acquiring knowledge (61% vs 22%, $p < 0.03$) . The stated lack of knowledge access for women-owned organizations could indicate important equity concerns in systems of information dissemination around agriculture and/or the farm to school program, potentially revealing a bias against sharing relevant information (pertaining to practice implementation, available markets, grant administration, etc.) with women and their operations. Gendered differences in interview styles are unlikely to account for these observed differences, as men were sometimes interviewed to speak on behalf of women-owned organizations and vice versa.

Finally, limited resource producers were less likely to report facing climate and weather-related challenges ($p < 0.008$). These producers were also significantly more likely to report that the grant increased their willingness to take risks, indicating that the grant has been effective in easing constraints on growers that are most financially limited.

Interpretation and next steps

Given high climate smart practice usage as compared to the rest of the state, as well as producers' emphasis on building soil health, biodiversity, and conservation of natural resources in interviews, it seems that the grant application process has been successful at attracting and selecting operations whose baseline practices have unusually high environmental benefits. A key environmental goal of the grant program then becomes to support these farms in their continued existence and expansion. Almost a quarter of producer grantees have already expanded their acreage as a direct result of the grant. Further, involvement in the farm to school program, as well as the grant itself, may have begun to address many–but not all–of the most pressing challenges that producers are facing.

Grant money appears to be straightforward and beneficial to the viability and expansion of agricultural operations, adding essential infrastructure and labor, as well as flexibility to spend money in ways that complement producers' other needs and explore new markets. Producers express appreciation for school markets as they begin or enhance their sales to schools; however, these markets are also described as complicated and burdensome due mainly to a lack of school capacity. Bureaucratic processes from both schools and the grant itself appear to hinder farmers' ability to efficiently manage farm operations; however, CDFA regional leads are frequently mentioned as helpful, supporting producers in navigating the grant and connecting with other entities (schools, distributors, other farms, etc.). As the grant progresses, a key question will be whether producers can transition the support they currently receive from the grant to sustained benefits from access to school markets.

The evaluation team will continue to gather data on what practices producer grantees implement and how they are expanding/changing, with a particular focus on collecting the granular details of practice usage from each producer needed to accurately estimate their carbon and air quality impacts. After collecting these data, we will make estimates and compare them to the environmental outcomes that result from the suite of practices used on a typical California farm. We will also continue to track and quantify the grant and farm to school's ability to support producer grantees, allowing them to continue and expand environmentally beneficial practices.

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Appendix

Table A1. Baseline rates of all practices included in producer grantee surveys. The number of possible farms is calculated based on which operations have relevant production areas for each practice (i.e. cropland, orchard, grazing land).

Practice	Number of farms using (Q2)	Number of possible farms	Percent possible farms using practice
prescribed grazing	5	5	100
organic practices (non-certified)	23	29	79
compost	30	41	73
pesticide-free	28	41	68
cover crop	25	38	66
crop rotation	21	34	62
no till	18	38	47
reduced till	16	38	42
Tree/Shrub Establishment	15	38	39
Hedgerow Planting	16	41	39
Conservation Cover	13	38	34
certified organic	12	41	29
Vegetative Barriers	9	34	26
Windbreak/Shelterbelt Establishment	10	41	24
crop-livestock integration	8	41	20
Riparian Forest Buffer	7	38	18
strip cropping	6	34	18
transitioning organic	4	41	10
nutrient management (15% reduction in fertilizer application)	5	38	13
Riparian Herbaceous Cover	3	34	9
Grassed Waterway	3	34	9
Filter Strip	3	38	8

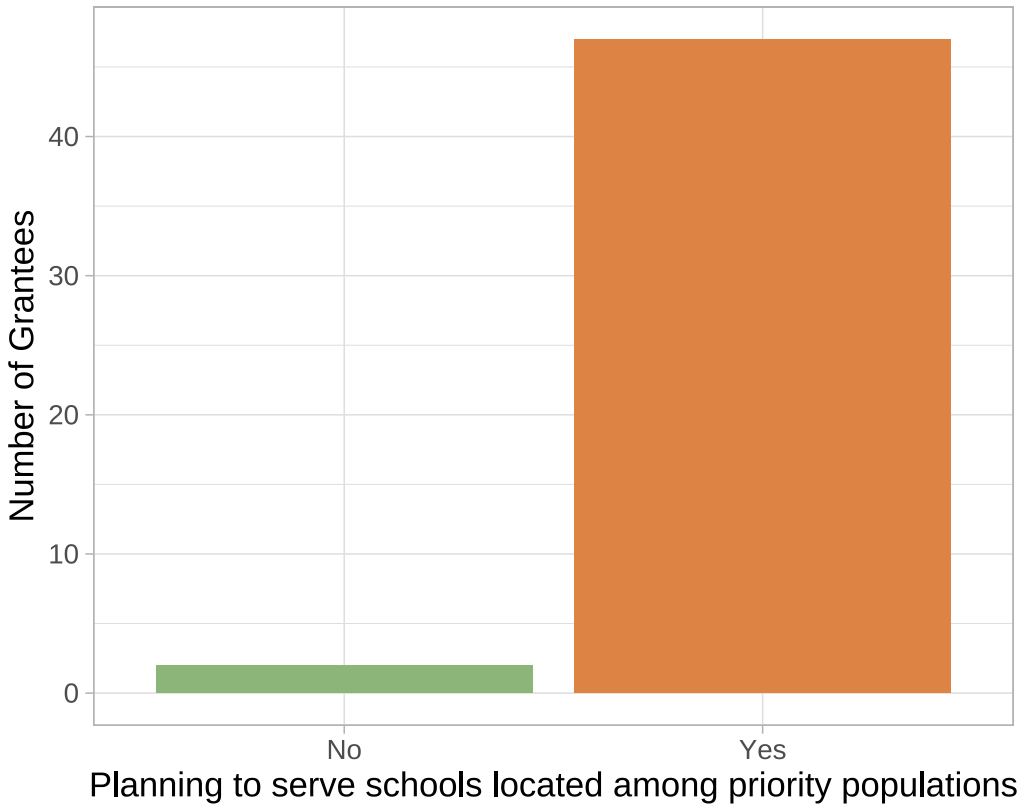

Figure A1: Producer grantees planning to serve schools located among priority populations, of 49 total grantees

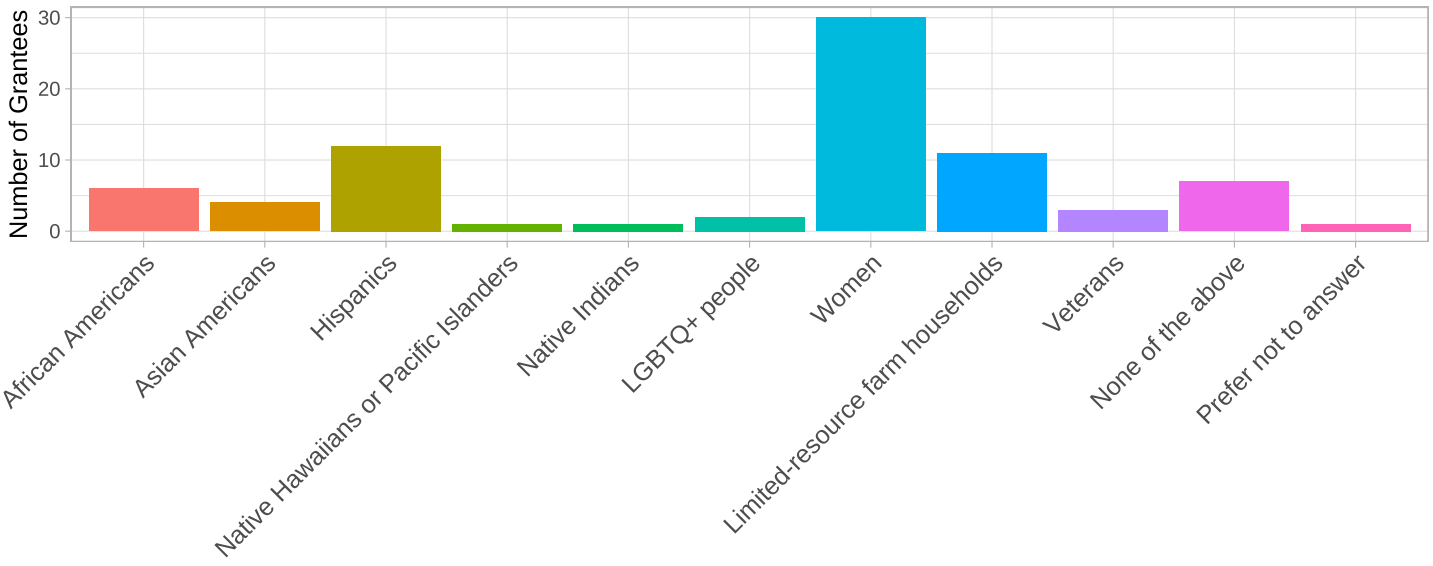

Figure A2: Producer grantee identities of 49 total grantees. Producer organizations that are at least 50% owned by someone who identified as belonging to each of the CDFA-identified priority groups.