

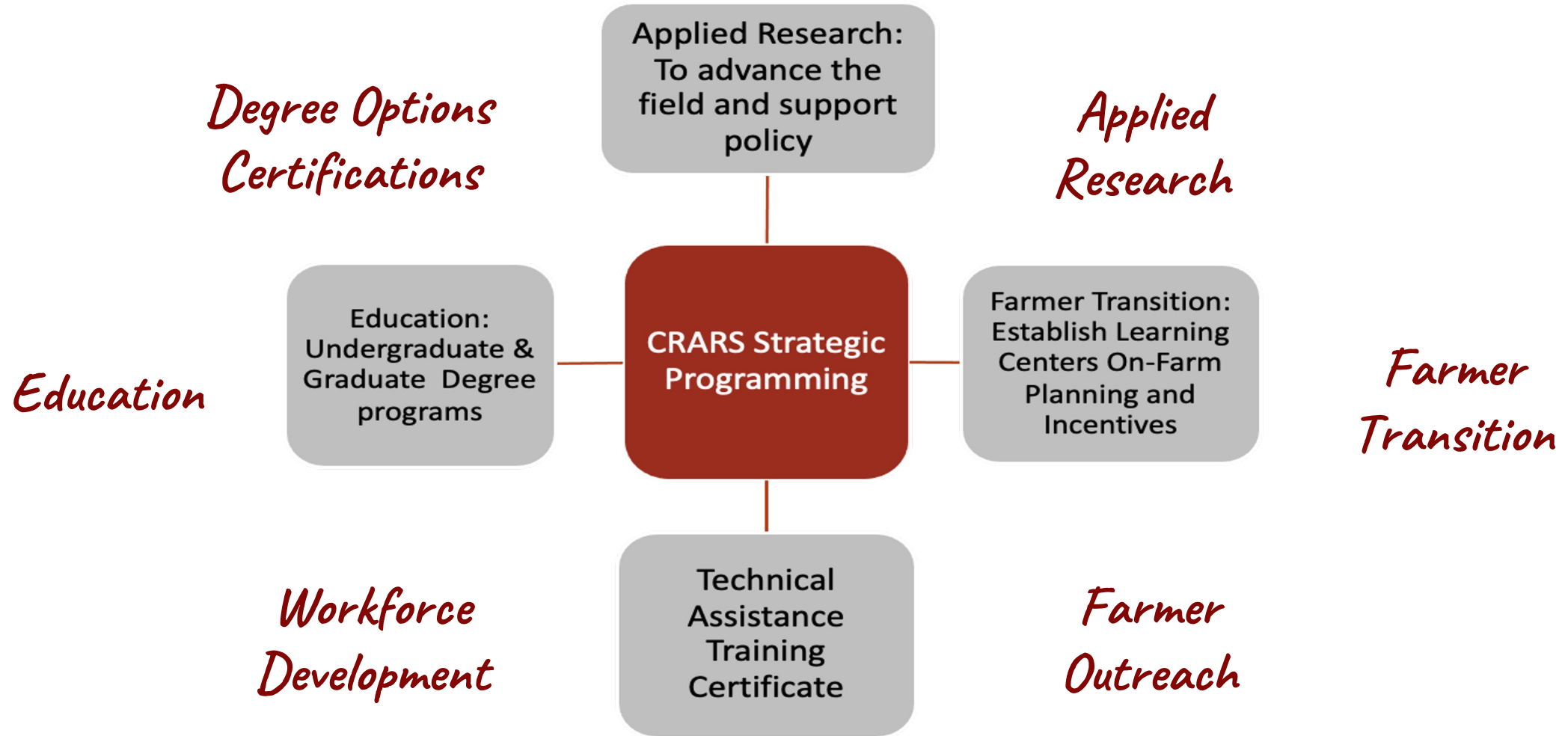


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Center for Regenerative
Agriculture and
Resilient Systems

North Valley Food Hub for Climate Smart Agriculture

Center for **REGENERATIVE AGRICULTURE**
& *Resilient Systems*

Center's Strategic Programming



<https://www.csuchico.edu/regenerativeagriculture/>

USDA Partnership for Climate Smart Commodities Program

North Valley Food Hub for Climate-Smart Agriculture

Project Goals & Objectives:

- **Goal #1:** Establish the *North Valley Food Hub for Climate-Smart Agriculture*
- **Goal #2:** Incentivize underrepresented growers to use climate-smart production practices and participate in the Hub Marketing and distribution
- **Goal #3:** Develop markets/sales for producers participating in the North Valley Food Hub for Climate-Smart Agriculture (CSA)

The Implementation Team



Benjamin Lewis

Benjamin Lewis, CRARS Farmer Relations, has over 15 years experience helping growers understand and implement NOP Organic and Regenerative Organic standards as a consultant and inspector.



Joey Haney

Joey Haney, NVFH Market Manager, has worked in the regional food industry for over a decade. He is eager to build agricultural resiliency by forging new connections between farmers and buyers.



North Valley

FOOD HUB



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Benjamin Lewis

- Implementation and Grower Support
- info@northvalleyfoodhub.org

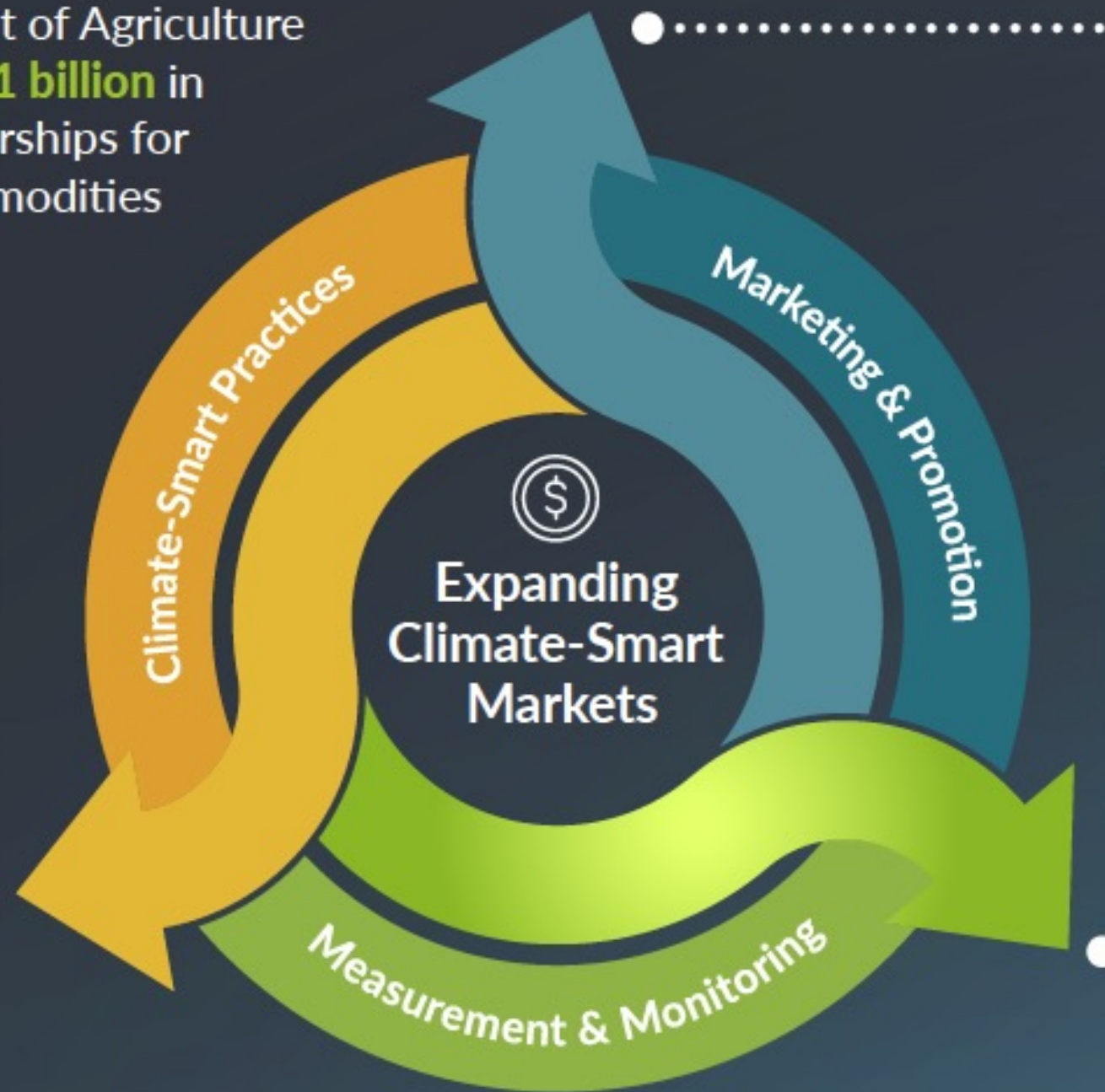


EXPANDING MARKETS FOR CLIMATE-SMART COMMODITIES

The U.S. Department of Agriculture is investing over **\$3.1 billion** in **141 selected** Partnerships for Climate-Smart Commodities projects.

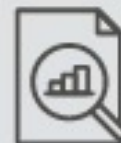


Adoption of climate smart practices allows farmers access to new markets for climate smart commodities. By providing support for climate smart practice implementation, USDA can help farmers absorb risk associated with practices that often have high up front cost.



OPEN

Marketing and promotion activities that will build and expand markets for the commodities being produced using climate-smart practices with premiums going to producers.



Greenhouse Gas Measurement, Monitoring, Reporting and Verification (MMRV) is critical to build consumer trust and build markets. Projects will test innovative MMRV systems for feasibility, affordability and low transaction costs.



More than just a food hub!

- ✓ **Climate Smart Practices**
Direct funding, technical assistance, equipment access
- ✓ **Marketing & Promotion**
North Valley Food Hub marketing and logistical support
- ✓ **Measurement & Monitoring**
Baseline and annual soil testing, COMET – planner



Ways to engage with NVFH

Track 1

Receive incentive funding for implementing practice
(do not have to sell through food hub)

Track 2

Receive funding **AND** sell through the food hub

Track 3

Just sell through the food hub

Buyers

Source local and/or climate smart products

Goals

100 + growers over 5 years

Enroll 25 + growers a year for the next 3 years

Work with 75 growers for at least 3 years

At least 40% underserved (Beginner, BIPOC, Women Farmers)

What we are asking of growers?

- Implement at least one “Climate Smart Agricultural Practice”.
- Provide documentation of implementation
- Participate in baseline, annual, and post-implementation “no-cost” soil testing.

25 Eligible Climate Smart Practices



- **Cropping Systems: field crops and orchard systems**
- **Livestock Systems**
- **On-farm habitat creation & restoration**

Cropping Systems

- Cover cropping
- Crop rotation
- Reduced tillage: minimum or no-till
- Nutrient management planning
- Compost / mulching



Livestock Systems

- Prescribed grazing
- Range planting
- Pasture and hay planting
- Silvopasture



Habitat Creation / Restoration

- Hedgerow planting
- Riparian buffer establishment
- Windbreak establishment
- Tree / shrub planting

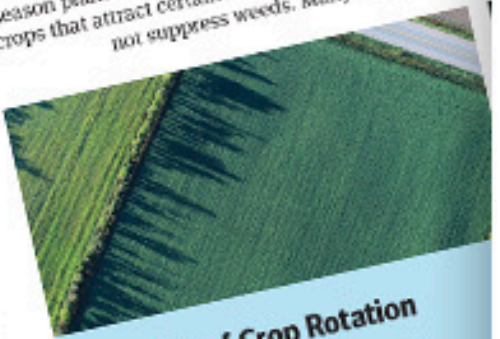


Crop Rotation



Because different crops have different nutritional needs and pests, rotating what crops are grown in a specific location for as much pesticide and fertilizer use. When done correctly, crop rotation increases biodiversity, and improve the quality as well as fertility of the soil. When combined with no-till or low-till practices, this helps with carbon sequestration with positive impacts on reducing soil erosion.

Although the practice of crop rotation varies, the principles are similar. For example, one season you might plant crops that use a lot of nitrogen. You could then plant crops that attract certain insects with those that do not. This helps not suppress weeds. Many farmers rotate crops to improve soil health.



Benefits of Crop Rotation

- Increases soil quality and fertility
- Improves soil microbiology
- Increases soil organic carbon
- Breaks pest cycles



Reduced Tillage

As one of the six soil health principles of Regenerative Agriculture, reduced tillage is the practice of reducing or eliminating the use of tillage equipment and when it's possible to reduce or eliminate tillage. No-till farming tends to infiltrate instead of running off. It is also used with benefits in terms of fungal relationships essential for plant health. Reduced tillage (often referred to as Conservation tillage) includes practices like mulch-till, and vertical/shallow-till. Each has specific benefits for different production systems, including crop yield, soil health, equipment availability, among other factors. They all help to reduce soil erosion and protect soil health.



Benefits

- Greatly reduced soil erosion
- Less disturbance of soil microbiology
- Increased soil organic matter
- Improved water conservation
- Improved wildlife habitat and biodiversity
- Lower production costs through reduced fuel and labor requirements
- Reduction of CO2 emissions
- Improved carbon sequestration when combined with other practices



Multispecies Grazing

In multi-species grazing, two or more species of livestock graze the same pastures, if not at the same time then in close succession in the same grazing season. This is a departure from the norm in the United States, but diversified farming and ranching is actually the most common approach elsewhere in the world. Grazing multiple animals works best with multiple types of forage as different species prefer different vegetation. But these choices combine to improve pasture quality, increase biodiversity and carbon sequestration, while increasing ranch or farm production and profitability.



Benefits

- Ability to raise more meat per acre
- Better weed control
- Better and more even pasture utilization
- Better pasture health
- Can help with parasite control when sheep follow cattle in a rotation
- Diversified income
- Increased biodiversity
- Increased soil carbon sequestration

Potential Considerations

- Adding small ruminants to cattle might require a different type of fencing.
- A separate set of pens might need to be added for sheep and goats.
- Sheep and goats tend to need more care than cattle and, therefore, more labor.
- Guard animals like dogs, llamas or donkeys may be required to protect the smaller animals from predators.



What is Climate Smart Agriculture?

“For the purposes of this funding opportunity, a **climate-smart commodity** is defined as an agricultural commodity that is produced using farming, ranching or forestry practices that reduce greenhouse gas emissions or sequester carbon.” -USDA PCSC

Whole-Farm Systems Level Approach

Change your Ecology!



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6 Core Principles of **REGENERATIVE AGRICULTURE**





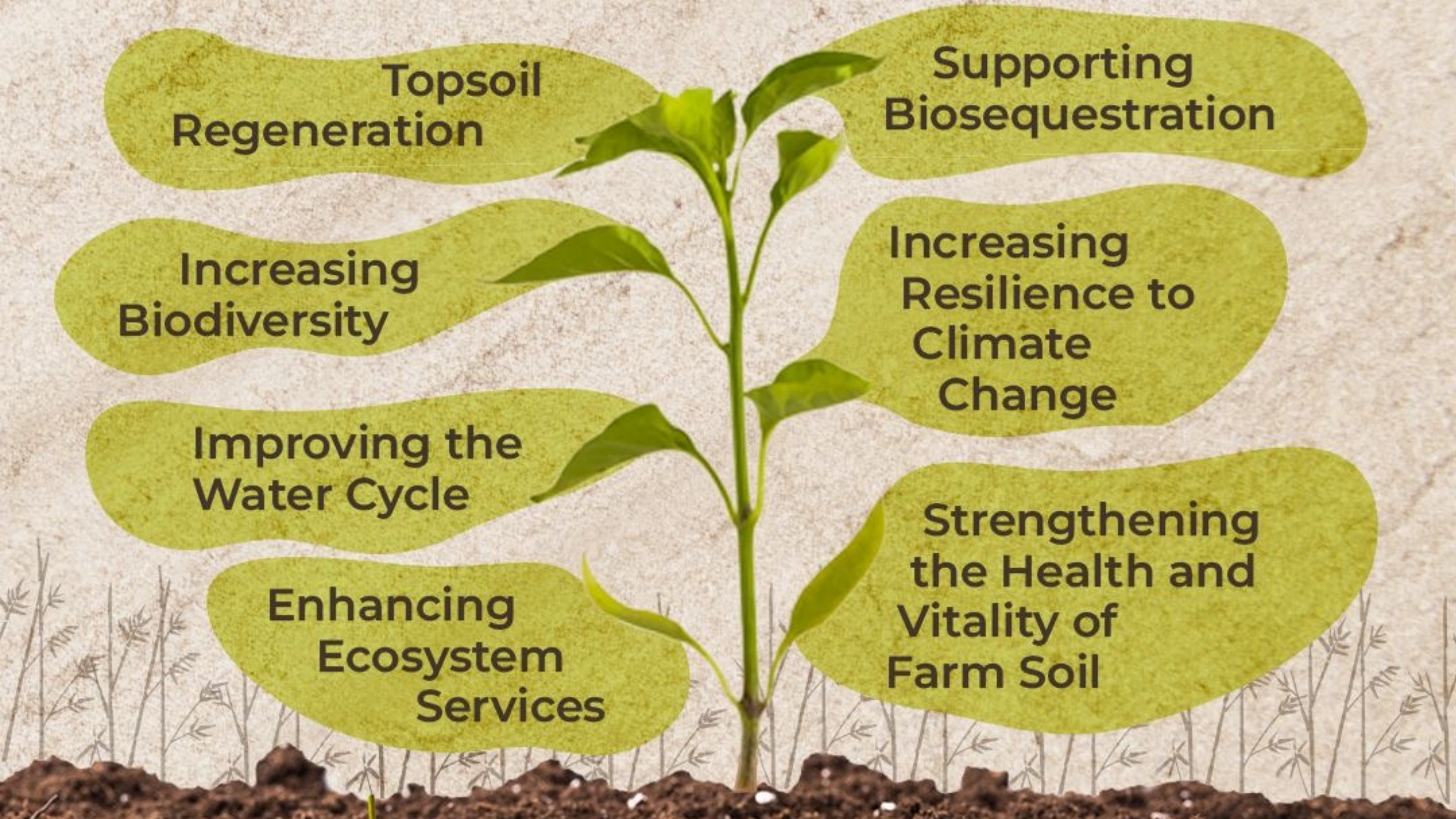
Benefits of Climate Smart Practices

- ✓ Build soil health through increased soil organic matter
- ✓ Increase abundance and diversity of soil micro-biome
- ✓ Enhance plant – microbial interactions to re-establish efficient nutrient cycling and increase stress tolerance
- ✓ Create habitat and restore above and below ground biodiversity



Benefits of Climate Smart Practices

- ✓ Restore water cycling through mitigating compaction
- ✓ Increase soil porosity and water infiltration
- ✓ Increase water holding capacity
- ✓ Decrease run-off, erosion and pollution
- ✓ Create habitat and restore above and below ground biodiversity



**Topsoil
Regeneration**

**Supporting
Biosequestration**

**Increasing
Biodiversity**

**Increasing
Resilience to
Climate
Change**

**Improving the
Water Cycle**

**Strengthening
the Health and
Vitality of
Farm Soil**

**Enhancing
Ecosystem
Services**

Benefits of Climate Smart Practices

Benefits of the SHMS reported by the farmer:



- **IMPROVED SOIL STRUCTURE AND WATER INFILTRATION**
- **REDUCED EROSION**
- **INCREASED SOIL ORGANIC MATTER**
- **REDUCED NITROGEN AND IRRIGATION**
- **LESS INSECT AND DISEASE PRESSURE**

ADDITIONAL INFORMATION ON THE FARM IS AVAILABLE IN A REPORT AND VIDEO PRESENTATION AT WWW.NACDNET.ORG/SOIL-HEALTH-ECONOMICS.

Benefits of Climate Smart Practices

Soil Health Management System Impact on Farm Income

- Reduced expenses were \$425.19/acre greater than additional expenses.
- Reduced expenses were achieved without walnut production decreases.
- **Net farm income increased \$425.19/acre.**

What are we offering growers?



- Up to \$6,000 in direct *incentive* funding for every year of participation
- Free technical assistance in identifying, planning and implementing practices
- TA & planning for other funding opportunities

What are we offering growers?



- Soil Testing
- Equipment Sharing when logistically feasible
- Join CRARS extensive Mentor Farmer network
- Soil Health Field Days and on-line Regenerative Ag seminars

Who is eligible?

- Growers in greater Sacramento Valley (generally)
- Not receiving payment for same practice on same field
- Must be registered with USDA Farm Service Agency (FSA)





How to register with FSA?

Contact your local Farm Service Agency County Office to schedule an appointment. You can find your local county office online at <http://offices.usda.gov>.

During your first visit, be sure to bring:

- Proof of identity (driver's license, social security card, IRS EIN number)
- Proof of Ownership (copy of recorded deed)
- Leases
- Entity Identification Status (articles of incorporation, trust & estate documents, partnership agreement)

How do I Enroll?

1. Fill out the Team Builder

2. Our team will contact you to:
 - a. Verify you are enrolled in FSA and eligible
 - b. Find out more about your operation and goals
 - c. Set up a planning session



What Comes Next?

3. TAP's and Grower identify practice(s) and develop *implementation requirements*.
4. Base-line soil samples.
5. Grower implements practice and provides documentation of implementation.



What Comes Next?

6. Annual / post-implementation soil sampling
7. Grower receives funding.
8. Plan is reviewed and updated for the following year.



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Helping those who
grow & sell our food
in the North Valley



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Growers

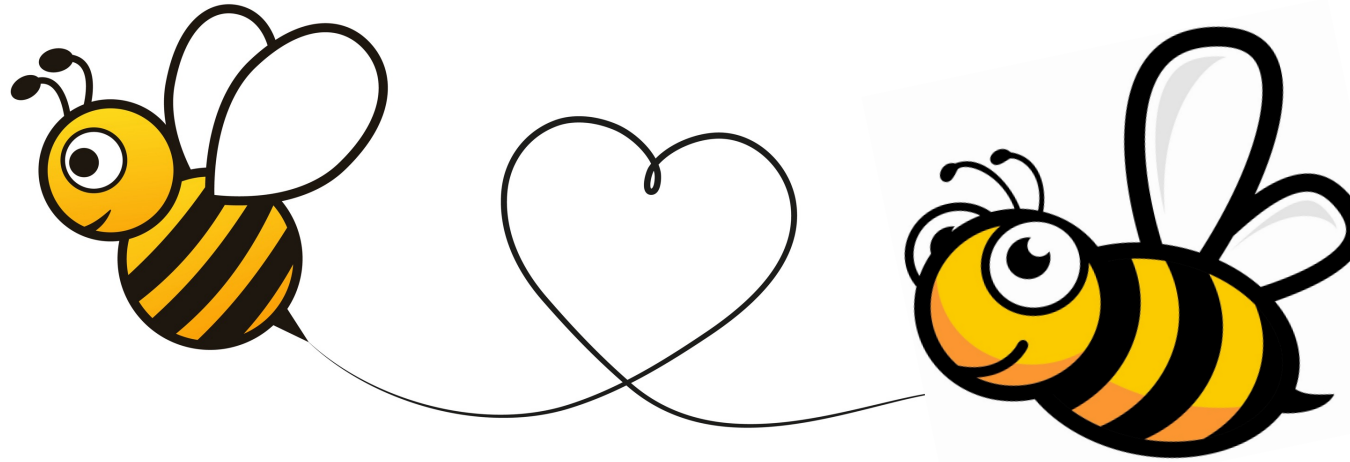
- Farmers will **not** need to be enrolled in a Technical Assistance program to distribute through the Food Hub.
- The Food Hub will offer a convenient online marketplace to sell locally grown produce.
- The Food Hub will have infrastructure and staff to fulfill the transactions made on its marketplace.
- We aim to **grow the local food economy** and support farmers by building new connections between growers and buyers.



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Growers To Buyers



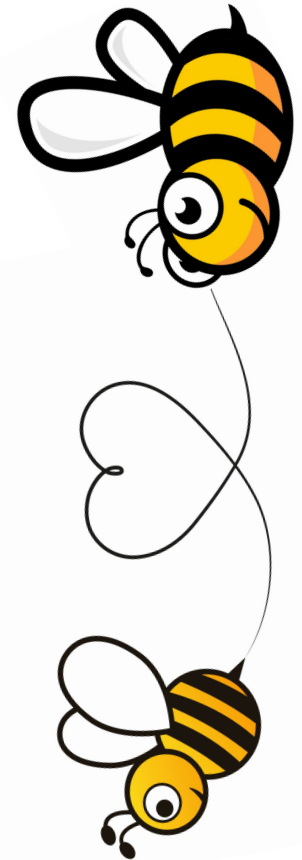
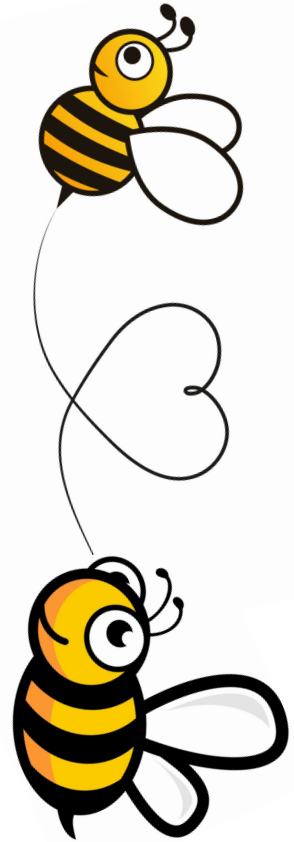
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Buyers

The Food Hub will sell wholesale to organizations such as:

- Grocery Stores
- Restaurants
- Schools
- Dining Halls
- Cafeterias



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Infrastructure

CRARS staff are in the process of securing essential infrastructure including:

- Cold Storage
- Delivery Vehicle
- Online Sales & Marketing Platform



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Online Platform: The Center of the Hub

- Growers set their own wholesale prices.
- Growers list their available inventory.
- Producer Profiles highlight growing practices and tell each farm's story.
- Buyers select the items and quantities they want.
- NVFH processes transactions and ensures farmers are paid.



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Distribution

- The Food Hub will reduce the logistical obstacles hindering growers from conveniently selling their produce to local businesses and institutions.
- Food Hub staff will arrange aggregation of all produce purchased through the online platform.
- The Food Hub will perform last-mile delivery to buyers.
- Food Hub services will be available to both Certified Organic- and non-Certified Organic-growers.
- All the Food Hub's processes are being developed to meet the newly-enacted Strengthening Organic Enforcement rules for produce distribution.



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Planning Ahead

- Over time, the Food Hub's experience working with buyers will allow for forward-looking collaboration with participating growers on seasonal production plans. Local farms will be able to better supply buyers' needs, benefiting all parties involved.
- As the Food Hub grows, additional support can be offered with packaging, food safety, processing, and (of course!) implementing regenerative practices.
- Healthy growth will allow the Food Hub to expand its infrastructure, increase distribution area, and serve more community partners.



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Climate-Smart, Connected, and Resilient

The North Valley Food Hub programs will help build a climate-smart, interconnected, and resilient food system in the North State.

The Technical Assistance program provides funding, expertise, and support for implementing long-term sustainable Climate-Smart practices on farms.

Food Hub distribution opens regional farmers up to an untapped local demand for their produce. Connecting supply and demand can create a virtuous cycle of increasing local production to meet increasing local consumption.



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Thank you!



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