The California Farm Demonstration Network

Building California's Sustainable Bioresource Economy

November 1, 2017

Ziggurat Building, West Sacramento, CA

in conjunction with a growing number of prospective partners

Shared common goals

- Achieving healthy soils in California (NRCS)
- Reducing GHG emissions and increasing water use efficiency (CDFA)
- Increasing production efficiencies and improving overall health of California's people and resources (UC ANR), and
- Informing and empowering local community development (CARCD)
- Increasing profitability and heading off regulations (CFBF), and
- Increasing engaged scholarship and research impact (UCD)

In clear and specific ways, we are quite literally "all in this together."

Creation of a specific means to accomplish these joint goals, -

increase the adoption of conservation agriculture, healthy soil and climate-smart systems in California via a statewide network in which local discovery, demonstrations of improved performance systems, learning, and communication are shared,

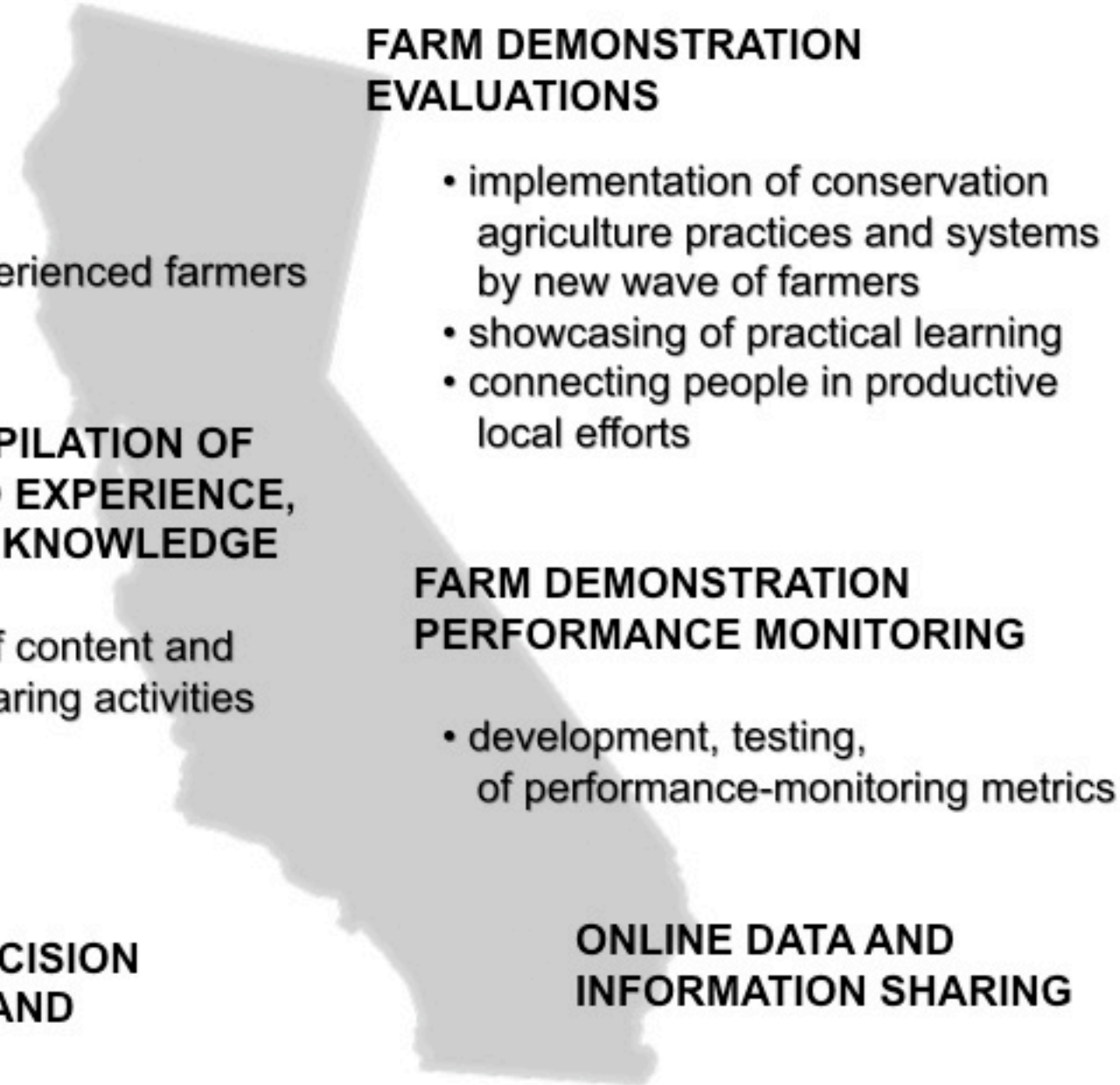
… to connect and expand

Steps in the network development process

- October 14, 2014 exploratory meeting between NRCS and CASI
- Series of conference calls and meetings
- Learning from other similar, successful efforts
- Early grassroots efforts of regional network hubs – Mendocino and Glenn Counties and the East Stanislaus RCD
- Ongoing efforts of CASI-showcased farms and conservation agriculture farmer pioneers

Partners in the process

- Tony Rolfes, Jim Komar, Carol Mandel, Rob Roy, Margaret Smither-Kopperl, Dennis Chessman, Erica Linquist, Joe Williams, Kabir Zahangir, Sid Davis, Robert Vlach, Wendy Krehbiel, Johnnie Siliznoff, Bob Fry, Genet Carstensen, **NRCS**
- Eric Kueneman, Judee Fisher, Ron Harben, Jerry Rossiter, Alan Wilcox, Monte Bottens, **CASI**
- Karen Buhr, Chris Gardener, Kristen Murphy, Jeff Borum, Kandi Manhart, Greg Baker, **CARCD**
- Michelle Leinfelder-Miles, Betsy Karle, Marsha Campbell, Dan Munk, Gene Miyao, Deborah Giraud, Dani Lightle, Will Horwath, Kate Scow, Howard Ferris, Randy Southard, Glenn McGourty, Sat Khalsa, Gary Sposito, Peter Nico, Jeff Mitchell, **UC**
- Jesse Sanchez, Tom Barcellos, Dino Giacomazzi, John Diener, Tom Willey, Alan Sano, Darrell Cordova, Michael Crowell, Steve Samra, Rich Collins, John Teixeira, Scott Park, **Farmers**
- Ami Gunasekara, Karen Ross, Jenny Lester-Moffett, Karen Ross **CDFA**
- Garrett Liles, **CSU Chico**



SHOWCASING OF EXISTING EXPERIENCE

- focused on experienced farmers
- public sharing

EDUCATION, COMPILATION OF KNOWLEDGE AND EXPERIENCE, AND SHARING OF KNOWLEDGE

- development of content and information sharing activities

CLIMATE-SMART AGRICULTURE DECISION TOOL GUIDANCE AND SUPPORT

FARM DEMONSTRATION EVALUATIONS

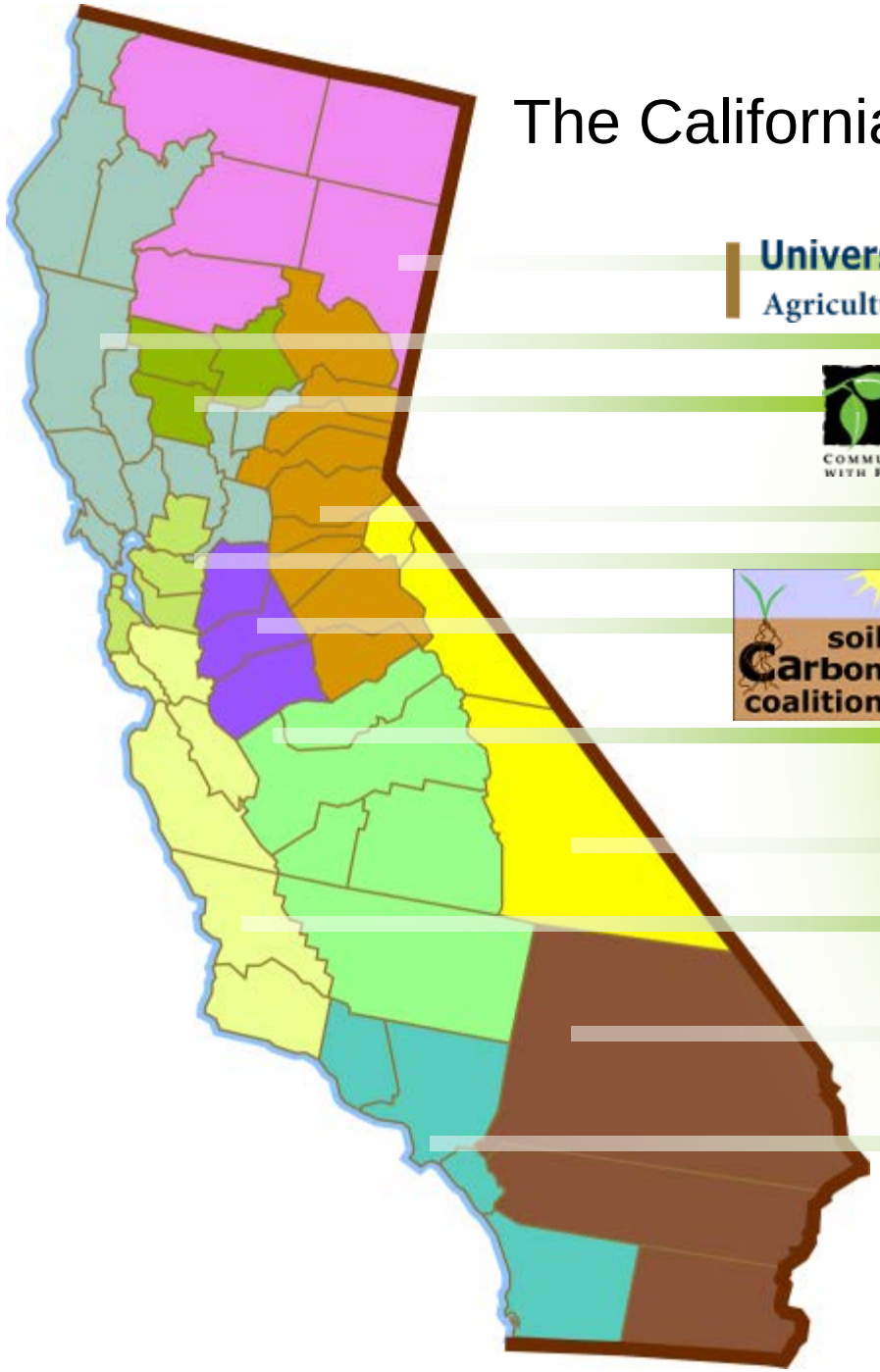
- implementation of conservation agriculture practices and systems by new wave of farmers
- showcasing of practical learning
- connecting people in productive local efforts

FARM DEMONSTRATION PERFORMANCE MONITORING

- development, testing, of performance-monitoring metrics

ONLINE DATA AND INFORMATION SHARING

The California Farm Demonstration Network



University of California
Agriculture & Natural Resources

CAN
CLIMATE ACTION NETWORK

CAFF
COMMUNITY ALLIANCE WITH FAMILY FARMERS

cdfa
CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

CALIFORNIA AG
CAS
SOLUTIONS

soil
Carbon
coalition

Sustainable Conservation

california
almonds
Almonds.com

CALIFORNIA
FARM BUREAU
FEDERATION
www.cfbf.com

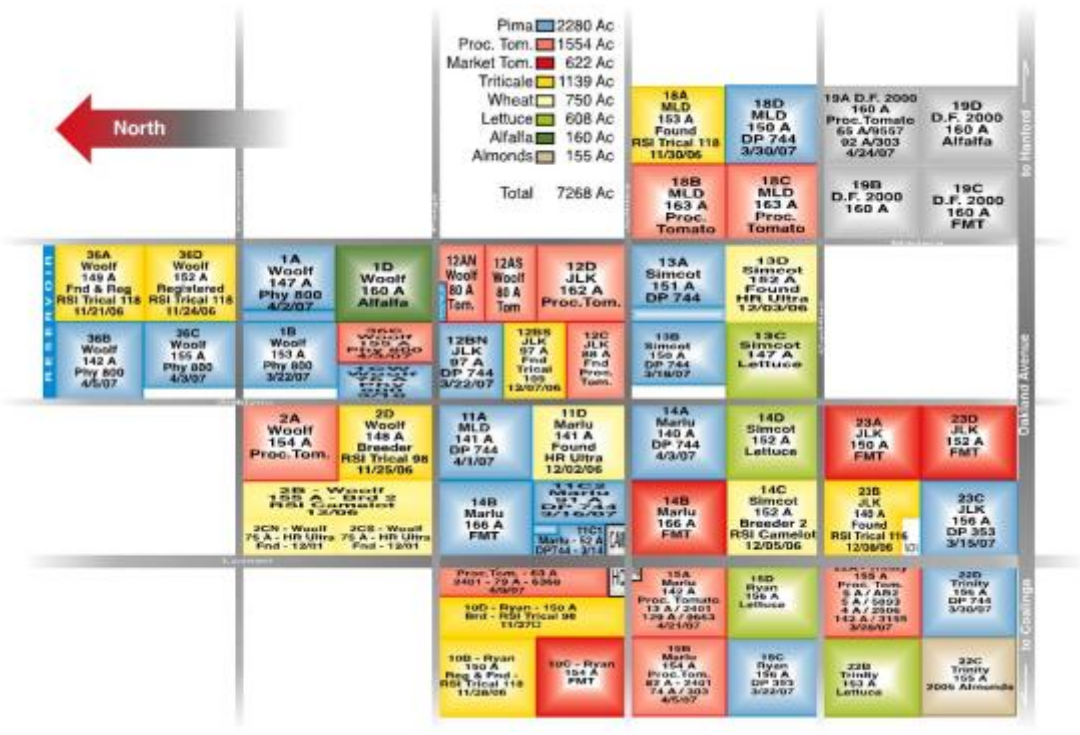
NRCS

WILCOX
AGRI-PRODUCTS

RESOURCE
CONSERVATION DISTRICTS

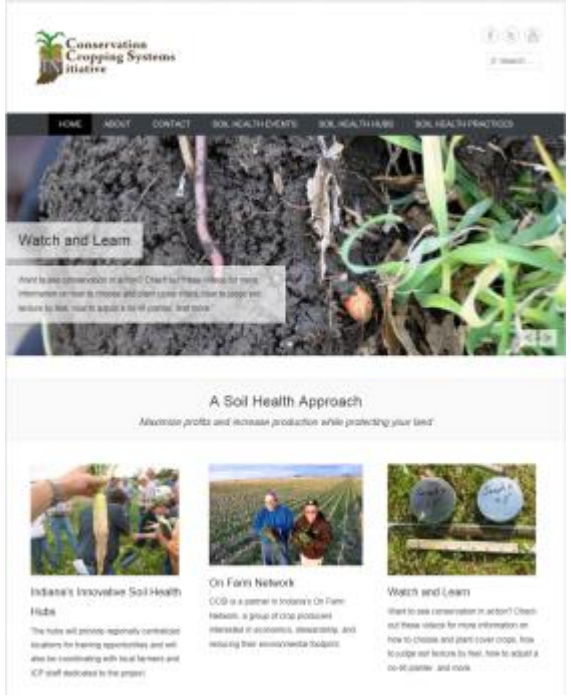
Why this is important

- Farmers and ranchers are often isolated
- There is tremendous diversity
- Conventional educational or information dissemination programs may not provide the relevant learning style that leads to eventual adoption of improved practices, technologies, and systems
- There are other very successful and highly impacting efforts that provide models or opportunities for employing similar techniques or approaches in California

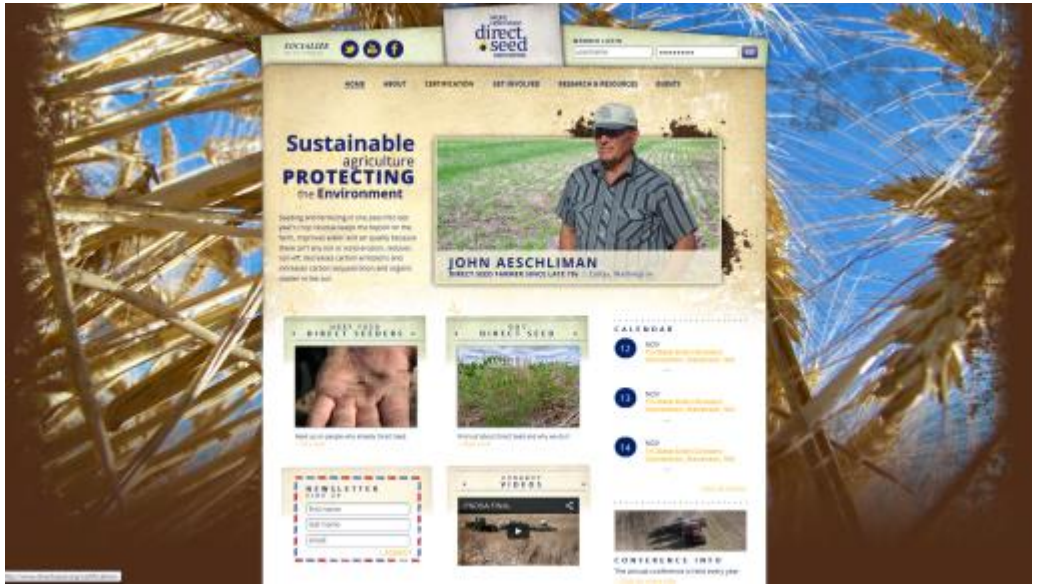


Farmers and ranchers are busy and often report that they do not always have the time or connections to learn about and become familiar with new approaches.

There are examples of very successful efforts in other regions that are already working.



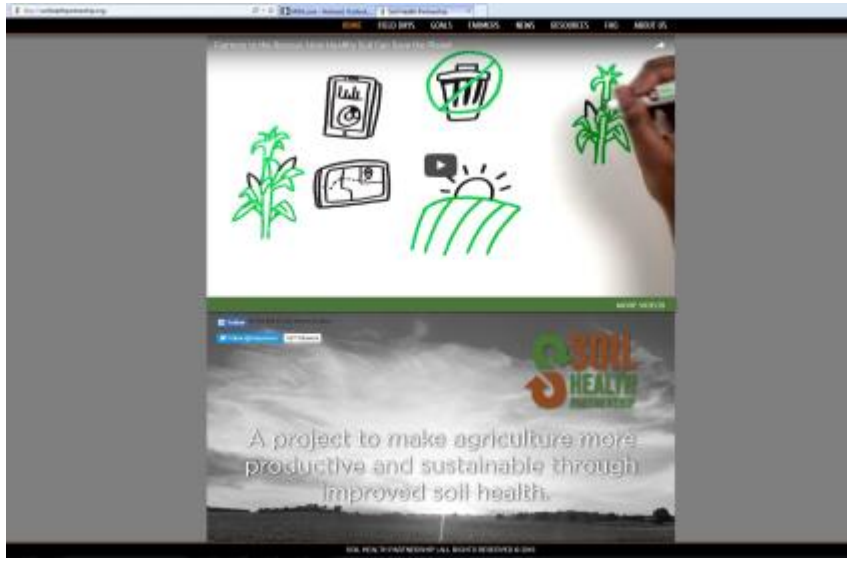
Indiana Conservation Cropping Systems Initiative



Pacific Northwest Direct Seed Association

Georgia Conservation Tillage Alliance

Various farmer-led cooperatives in South America



Soil Health Partnership IA, IL, IN

… and while there are opportunities for learning that already exist,

… there is also growing recognition that our classic, historical concepts of how information diffusion and behavior change take place,

… and how the adoption of improved performance systems actually occurs,

… need to be reconsidered and improved

Mendocino County Soil Health Initiative

A Project of the
Mendocino County Resource Conservation District (MCRCD)
University of California Cooperative Extension (UCCE)
USDA Natural Resources Conservation Service (NRCS)

Representatives from the NRCS Ukiah Field Office, Mendocino County RCD and University of California Cooperative Extension met on August 25, 2014 to discuss common goals and future steps for promoting soil and water conservation. The discussions identified the potential for improved soil management to help deal with current, pressing natural resource issues and to develop a special county-wide initiative to help raise awareness among local farmers.

As a first step, a workshop will be held after harvest to help inform local farmers about connections between healthy soils, water, carbon, and nutrient cycles. The workshop will bring in professionals from outside the County including cropping system specialist, Jeff Mitchell with UC Davis, Dr. Gary Sposito from UC Berkeley and Jeff Creque, Director at the Carbon Cycle Institute. During the workshop, local farmers will be asked for feedback on their priorities and potential pitfalls to new soil management approaches. In the future, field trials and on farm demonstrations of alternative soil management will be conducted.

Why Now? The current severe drought and unpredictable consequences of climate change highlight the need to promote resilient agricultural and natural ecosystems. Soil management that more closely mimics natural systems can improve water and nutrient availability to crops, prevent erosion and water pollution, provide on-farm habitat, reduce

Project Timeframe:
December 2016 – March 2019

Below is a list

For more info

Carol Mandel,
Patricia Hicke
Glenn McGou

COORDINATORS

Patricia Hickey
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Kristin Cooper
Mendocino County RCD
Kristin.cooper@mcrcd.org

PARTNERS

USDA-NRCS

UCCE Hopland Research and Extension Center

Carbon Cycle Institute

California Sustainable Winegrowers Association

Mendocino Winegrowers, Inc.

Santa Rosa Junior College, Shone Farms

Gold Ridge RCD

Mendocino County RCD

Napa County RCD

Sonoma RCD

Climate Beneficial Vineyard Management
CDFA Specialty Crop Block Grant
Science Advisory Group

The Project will support implementation and expansion of California's Soil Health Initiative and Farm Demonstration Network in the North Coast Hub encompassing Mendocino, Sonoma, and Napa counties.

The goal of the project is to increase adoption of climate be
vineyards in the three counties. Practices will be evaluated f
health, vineyard carbon footprints and greenhouse gas emi
provide opportunities for hands-on learning and farmer to f
and mentoring. A North Coast farm demonstration "Hub" w
means of information sharing among organizational partne
stakeholders.

A Science Advisory Group will be established to provide tec
on the following project tasks:

1. Develop and interpret a survey to document current ado
and climate beneficial management practices including bar
the North Coast Hub to assist with targeted outreach effort

2. Design and conduct nine long-term (three to ten year) fie
and three public vineyards using replicated field trials, un-re
and paired sampling to evaluate effectiveness of climate be
including cover crops, reduced tillage, compost, and woody

- Evaluation metrics will include a combination of org
accumulation, nitrogen inputs, infiltration rates, soil
compaction, vine water status, weed control, cover
biomass, crop yield, and any pest or diseases that b
- For the field trials, provide advice on the purpose, e
variables to measure.
- Available greenhouse gas accounting models will b
- Field trial results will be disseminated annually, and
educational and networking field days.

3. Develop a set of 5-6 parameters to characterize soil chem
biological properties likely to be changed by climate benefic
will be used for soil sampling in conjunction with soil health
Area 1 California NRCS Soil Health Quick Card) at thirty (30)

4. Review carbon farm plans developed for eight vineyards.

5. Advise on workshop series design.

To reduce the workload for the Science Advisory Group, committee
one of the three counties where appropriate (for example field trial design and oversight).

For more info, please contact either Patricia Hickey at (707) 462-3666 or Erica Lundquist at (707) 485-3231

GLENN
County Map,California
Tehama
Newville
Orland
Orland Butter
1038 ft
Hamilton
City
Mendocino
National
Forest
Mendocino
162
Fruto
Elk Creek
Ordbend
Artois
Bute
Bayliss
Glenn
Stony
Gorge
Res.
45
WILLOWS
St. John Mtn.
6746 ft.
Sacramento
National
Wildlife refuge
162
Princeton
0 10 Mi
0 10 km
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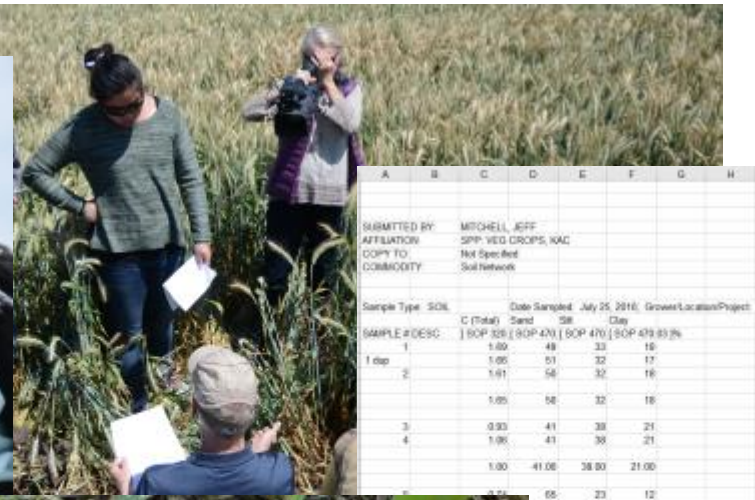
GEHL
353



	A	B	C	D	E	F	G	H	I
1									
2									
3	SUBMITTED BY:	MITCHELL, JEFF							
4	AFFILIATION:	SPP: VEG CROPS, KAC							
5	COPY TO:	Not Specified							
6	COMMODITY:	Soil Network							
7									
8	Sample Type: SOIL			Date Sampled: July 25, 2016			Grower/Location/Project: CU		
9		C (Total)	Sand	Silt	Clay				
10	SAMPLE # DESC	] SOP 326	] SOP 470	] SOP 470	] SOP 470	83.0%			
11	1	1.69	48	33	19				
12	1 dup	1.66	51	32	17				
13	2	1.61	50	32	18				
14		1.65	50	32	18				
15	3	0.93	41	38	21				
16	4	1.06	41	38	21				
17		1.00	41.00	38.00	21.00				
18			65	23	12				
19			67	21	12				
20			66	22	12				
21			25	31	44				
22			23	32	45				
23			24	31.5	44.5				
24			49	20	31				
25			47	22	31				
26				BM	BM				
27			47	22	31				
28			50	25	25				
29			50	22	28				
30				BM	BM				

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Agriculture and Natural Resources

Conservation Agriculture Systems Innovation Center

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UC DAVIS
DEPARTMENT OF PLANT SCIENCES

NRCS

RESOURCE CONSERVATION DISTRICTS

For additional information, please email

Jeff Mitchell
jpmitchell@ucdavis.edu

California Farm Demonstration Network

Upcoming Farm Visits in the San Joaquin Valley Hub

May - June 2016

Focus will be on how long-term goals for soil care and soil health are being achieved at each farm and on performance monitoring at each site.

May 4 WEDNESDAY
John Teixeira
Lone Willow Ranch
11356 Road 5 1/2
Firebaugh 93622

May 10 TUESDAY
Michael Crowell
Bar-Vee Dairy
3031 N. Washington Road
Turlock 95381

June 15 WEDNESDAY
Tom Willey
T&D Willey Farms
13886 Road 20
Madera 93637

June 24 FRIDAY
Alan Sano and **Jesse Sanchez**
Sano Farms
44935-B West Shields Ave
Firebaugh 93622

California Soil Health Assessment Methods Meeting
UC Davis
January 29, 2016

Crops and systems for which conservation agriculture, soil health, and climate-smart approaches exist in California

- grapes
- walnuts
- almonds
- corn
- wheat
- melons
- sorghum
- triticale
- garbanzos
- cotton
- tomatoes
- broccoli

combined cash-receipts value of $16 billion, or 30% of 2014 California agricultural cash receipts

What everyone stands to gain

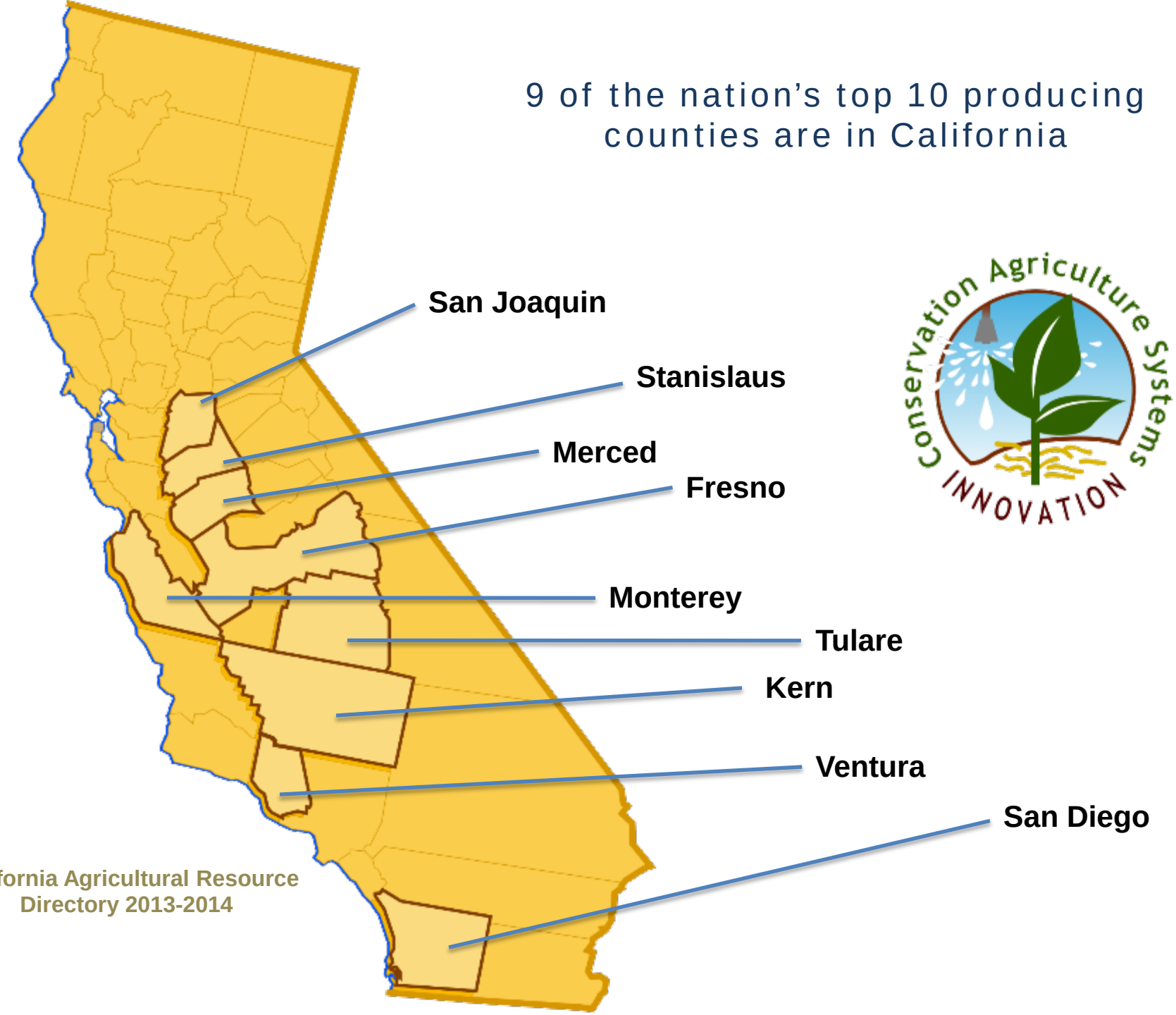
- **Everyone**
  - More adoption and visibility of conservation agriculture, healthy soils, and climate-smart systems in California
- **CARCD**
  - Scaled-up local community development and capacity building
- **CDFA**
  - Added value to your Environmental Farming Act demonstration program
- **NRCS**
  - Added value to your Healthy Soils Campaign and local planner positions
- **CFBF**
  - Sustained profitability while staying ahead of regulation
- **UC ANR**
  - Locally-connected applied research, extension and technology transfer activities
- **UCD**
  - Engaged scholarship and research impact

Welcome
to the
California Farm
Demonstration Network
MOU
SIGNING
CEREMONY!
University of California
Agriculture & Natural Resources
UC DAVIS
cdfa
RESOURCE
NRCS
KAREN
PAUL
RON
GLENDA
CARLOS

California Farm Demonstration Network

Now is the time to make this happen.

9 of the nation's top 10 producing counties are in California



California Agricultural Resource Directory 2013-2014

Crop and Livestock Commodities in which California Leads the Nation

Almonds
Apricots
Artichokes
Asparagus
Avocados
Beans, Dry Lima
Bedding/Garden Plants
Broccoli
Brussels Sprouts
Cabbage, Chinese
Cabbage, F.M.
Carrots
Cauliflower
Celery
Chicory
Cotton, Am. Pima
Daikon
Dates
Eggplant
Escarole/Endive
Figs
Flowers, Bulbs
Flowers, Cut
Flowers, Potted Plants
Garlic
Grapes, Raisins
Grapes, Table
Grapes, Wine
Greens, Mustard
Hay, Alfalfa
Herbs
Kale
Kiwifruit
Kumquats
Lemons
Lettuce, Head
Lettuce, Leaf
Lettuce, Romaine
Limes
Mandarins & Mandarin Hybrids
Melons, Cantaloupe
Melons, Honeydew
Milk
Milk goats
Nectarines
Nursery, Bedding Plants
Nursery, Crops
Olives
Onions, Dry
Onions, Green
Parsley
Peaches, Clingstone
Peaches, Freestone
Pears, Barlett
Peppers, Chile
Peppers, Bell
Persimmons
Pigeons and Squabs
Pistachios
Plums
Plums, Dried
Pluots
Pomegranates
Raspberries
Rice, Sweet
Safflower
Seed, Alfalfa
Seed, Bermuda Grass
Seed, Ladino Clover
Seed, Vegetable and Flower
Spinach
Strawberries
Tomatoes, Processing
Vegetables, Oriental
Walnuts
Wild Rice

RED - >99%

USDA, National Agricultural Statistics Service, California Field Office
California Agricultural Statistics, Crop Year 2016

WELCOME! PLS110C
VIDEO VIEWING
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UC DAVIS
DEPARTMENT of PLANT SCIENCES

THE HOW:

1. Begin With the End in Mind.
2. Know Your Audience.
3. Be Positive and Solutions-Based.
4. How You Say It Matters.
5. Practice, Practice, Practice.

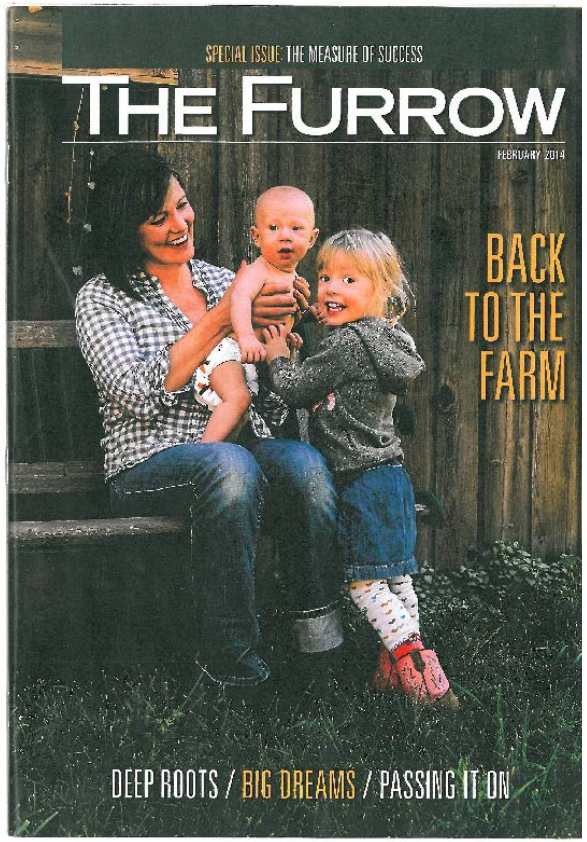
think
positive ly

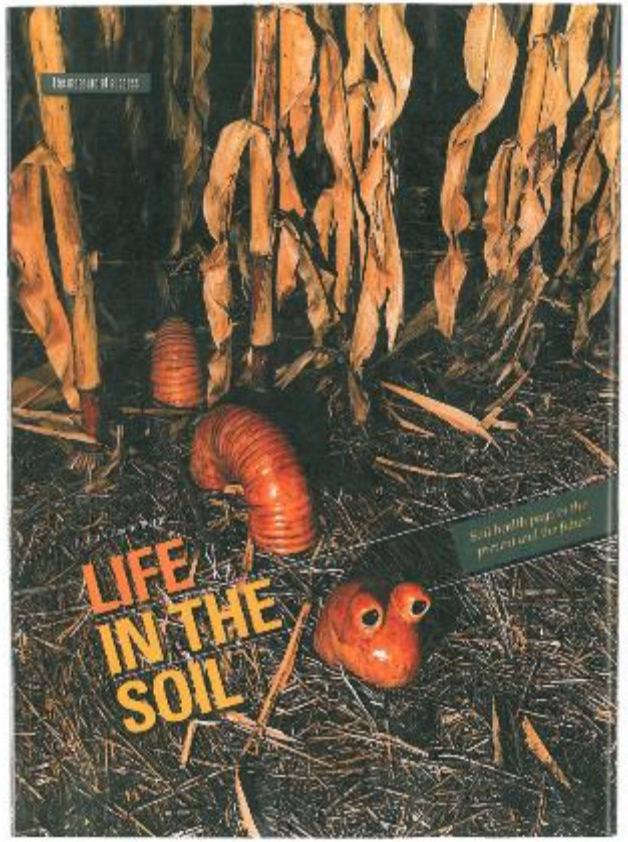
Managing for soil health …

- **Minimizing soil disturbance**
- **Maximizing the diversity of plants in rotation / cover crops**
- **Keeping living roots in the soil as much as possible, and**
- **Keeping the soil covered with plants and plant residues at all times**

Unlock the Secrets in the Soil

http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/soils/health/





"'Soil care' is what we're doing."

Rick Bieber
Trail City, SD
January 28, 2014

FARMERS DO THEIR SHARE
TO CLEAN THE AIR
NRCS
America's Private Lands
Conservation Agency
NO TILL FARMING
WWW.SJCRCD.ORG
RESOURCE

7

Home - Merit or Myth

meritormyth.com

50%

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MERIT myth

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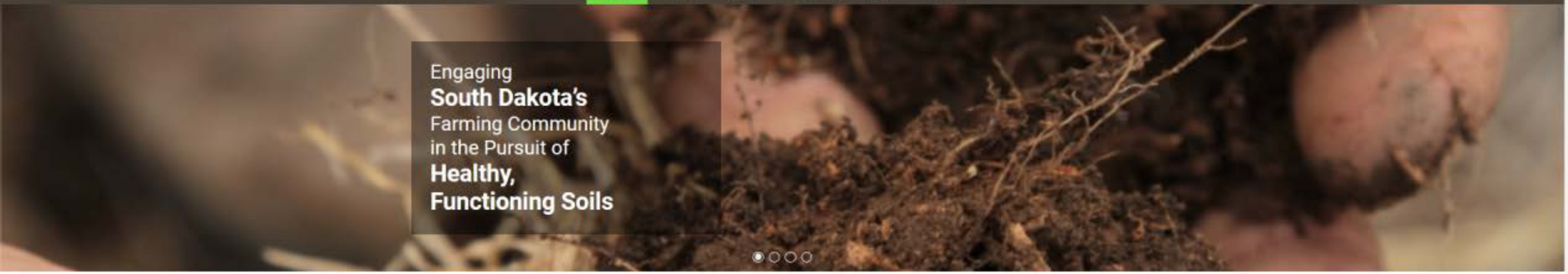


Our Mission

The big-picture idea of healthy, functioning soils is so appealing: more moisture available to the plant, more nutrients recycling, fewer weeds, lower inputs... what's not to like, right? To the busy farmer, are the ideas of healthy functioning soils just that... ideas? Put another way we should ask: "what has merit and what is myth"? At Merit or Myth our mission is, through the social media, to engage with South Dakota-based farmers, researchers and conservationists to gain a better understanding of healthy, functioning soils. We want to engage in the context of the management issues that farmers most care about including residue, soil

Start

11:25 AM
11/1/2017

AMERICAN SOIL SECURITY MARKETING ACT
FACT SHEET & STANDARD OVERVIEW

Legislation: American Soil Security Marketing Act for the 2018 Farm Bill

Description: To reward farmers who adopt existing NRCS soil health conservation practices with a new USDA marketing label.

Purpose of the Legislation:

1. To establish an NRCS "Regenerative Soil Health" program within existing NRCS Conservation Planning, and authorise the issuance of new marketing labels for agricultural products verified by the NRCS as produced in accordance with the new "regenerative soil health" program;
2. To establish national standards governing the marketing of agricultural products produced applying regenerative soil health practices;
3. To assure consumers that agricultural products produced applying regenerative soil health practices meet a consistent standard; and
4. To facilitate interstate commerce in agricultural products produced by producers who are applying regenerative soil health practices.

The labels for both organic and conventional farmers who have verified regenerative soil health practices and outcomes:

Overview:
Regenerative soil health practices: Practices that when applied reduce erosion and result in measurable increases in soil organic matter or maintain high levels of soil organic matter, and shall include but are not limited to no-till or conservation tillage, cover crops, diverse rotations and managed grazing, whenever applicable. *Any additional NRCS soil conservation practices that are applicable are encouraged.*

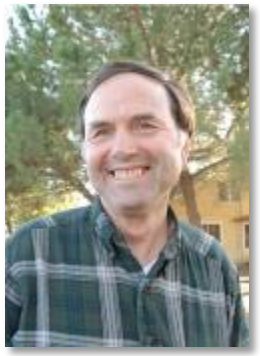
Standard Basics:
In general: The Secretary of Ag shall establish a new marketing label that recognizes producers of agricultural products who apply regenerative soil health practices with a new marketing label.

Certification: The Secretary shall authorize the AMS to issue the labels, upon receiving verification from the NRCS, in accordance with the Act

2005
Bob Prys
Lemoore, CA

2006
Tom Barcellos
Tipton

2007
Jim Couto
Kerman



2007
Tony Turkovich
Winters

2008
Dino Giacomazzi
Hanford

2009
Jesse Sanchez
Firebaugh

2009
Alan Sano
Firebaugh

2010
John Diener
Five Points

2011
Fred Leavitt
Firebaugh

2011
Michael Crowell
Turlock

2012
Gary Martin
Firebaugh

2013
Danny Ramos
Los Banos

2013
Ralph Ceseña, Sr.
Stockton

Conservation Tillage
CT Farmer Innovator Awardees

….. taking a more ambitious approach …..

2014 Winter
Conference of No-till on the Plains
Salina, KS
January 27 – 28, 2014

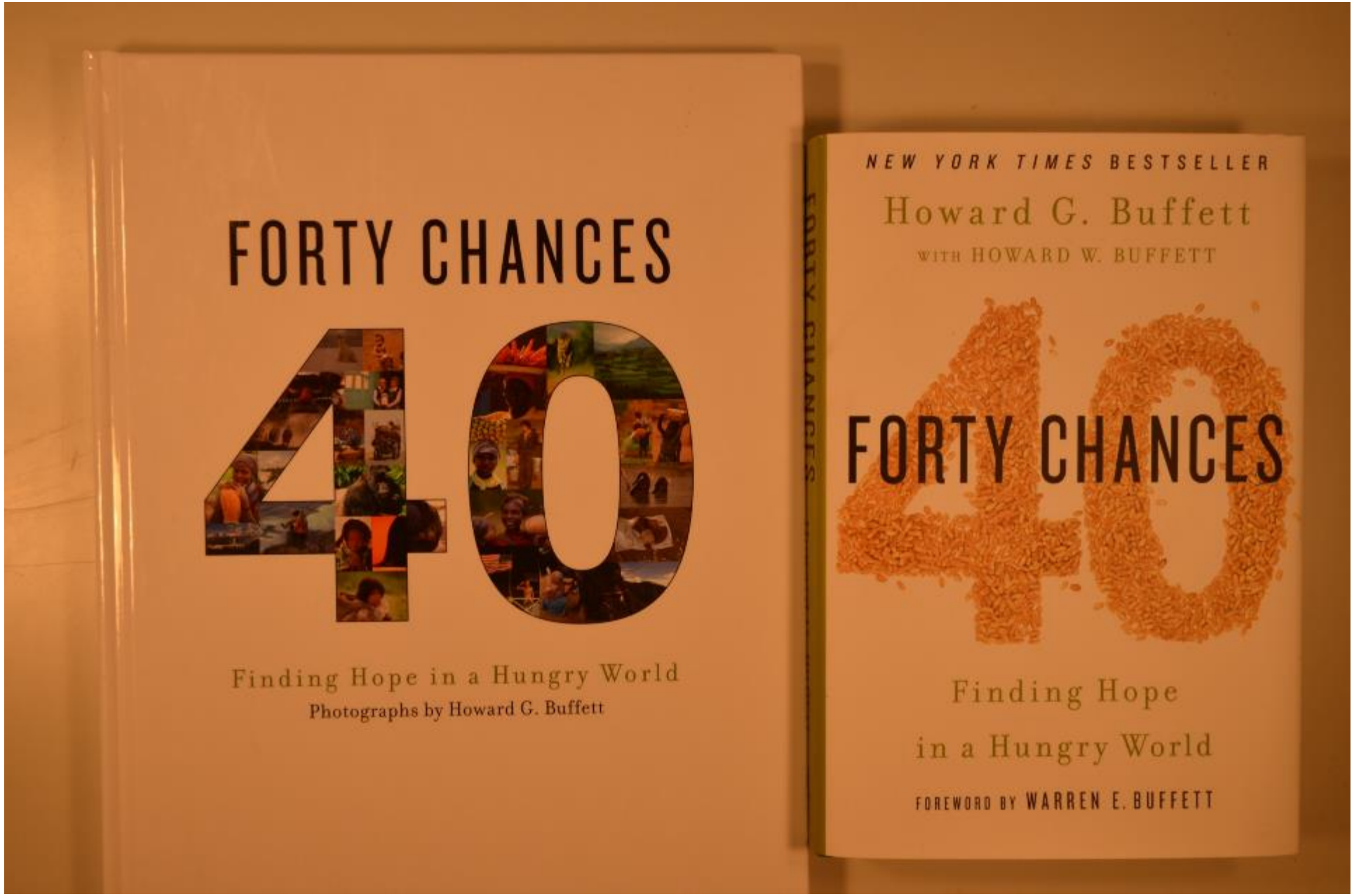
‘Take the hardest crop you have and show that it will work.’

Rick Bieber
Trail City, SD

"The Tillage Lab"

Agricultural
Research Service

"Until *conservation* is conventional..."


FORTY CHANCES
40
Finding Hope in a Hungry World
Photographs by Howard G. Buffett
NEW YORK TIMES BESTSELLER
Howard G. Buffett
WITH HOWARD W. BUFFETT
FORTY CHANCES
40
Finding Hope
in a Hungry World
FOREWORD BY WARREN E. BUFFETT

“Take the ‘E’ out of ‘ET’ and the ‘T’ out of ‘can’t.”

Dwayne Beck

2014

‘Overcome the mindset that it can’t be done.’

Dwayne Beck

2014

RESOURCE
CONSERVATION DISTRICTS

Conservation Agriculture Systems
INNOVATION CENTER

SOUTHERN CALIFORNIA
EDISON
An EDISON INTERNATIONAL Company

SOIL
AND WATER
CONSERVATION
SOCIETY

Sustainable Conservation

NRCS

Thank you.

UC
CE

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AND ENVIRONMENTAL SCIENCES

UCDAVIS
DEPARTMENT OF PLANT SCIENCES

University of California
Agriculture and Natural Resources
Making a Difference for California

Jeff Mitchell

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Parlier, CA 93648
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(559) 303-9689