**ENVIRONMENTAL FARMING ACT SCIENCE ADVISORY PANEL (EFA SAP)**
**CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE**

# MEETING AGENDA
**May 18, 2017**

**Public Meeting**
**9:30 AM to 4 PM**
**California Department of Food and Agriculture**
**Main Auditorium**
**1220 N Street, Sacramento, CA 95814**
**916-654-0433**

## REMOTE ACCESS
Webinar information
Registration URL: https://attendee.gotowebinar.com/register/8146426068745583361
Webinar ID: 908-183-867
Please note the webinar is on listen-only mode. For verbal questions and comments, please attend the meeting in person. An opportunity to provide written comments following the meeting will be provided.

Presentation materials will be posted at the following link prior to the meeting:
https://www.cdfa.ca.gov/EnvironmentalStewardship/Meetings_Presentations.html

## EFA SAP MEMBERSHIP
https://www.cdfa.ca.gov/oefi/efasap/
Don Cameron, Terranova Ranch, Member and Chair

| | |
|---|---|
| David Bunn, PhD, Resources Agency, DOC, Member | Jocelyn Bridson, MSc, Rio Farms, Member and Co-Chair |
| Emily Wimberger, CalEPA, ARB, Member | Jeff Dlott, PhD, SureHarvest, Member |
| Vicky Dawley, Tehama RCD, Member | Judith Redmond, Full Belly Farm, Member |
| Scott Couch, CalEPA, State Water Board, Member | Julie Alvis, Resources Agency, Member |

Luana Kiger, MSc, Subject Matter Expert
Doug Parker, PhD, Subject Matter Expert

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|---|---|
| 1. Introductions | Chair Cameron |
| 2. Minutes from previous meeting | Chair Cameron |
| 3. Healthy Soils Program (HSP) | |
| • Summary of public comments to-date | Geetika Joshi, PhD (CDFA) |
| • Detailed presentation of programmatic framework | Geetika Joshi, PhD and Guihua Chen, PhD (CDFA) |
| • ARB quantification methodologies for the CDFA HSP | ARB staff |
| 4. Public comment | Chair Cameron |
| 5. EFA SAP Recommendations for the CDFA HSP | Chair Cameron |
| 6. Next meeting and location | Chair Cameron |

Amrith (Ami) Gunasekara, PhD, CDFA Liaison to the Science Panel
All meeting facilities are accessible to persons with disabilities. If you require reasonable accommodation as defined by the American with Disabilities Act, or if you have questions regarding this public meeting, please contact Amrith Gunasekara at (916) 654-0433.
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**CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE (CDFA)**
**ENVIRONMENTAL FARMING ACT SCIENCE ADVISORY PANEL**

CDFA Auditorium
1220 N Street
Sacramento, CA

March 16, 2017
9:30 A.M. – 4:00 P.M.

**MEETING MINUTES**

**Panel Members**

Don Cameron (Chair and Member)
Jocelyn Bridson, MSc. (Member and Co-Chair)
Vicky Dawley (Member)
Jeff Dlott, PhD. (Member)
Judith Redmond (Member)
Julie Alvis, Natural Resources Agency (Member)
David Bunn, PhD., Natural Resources Agency (Member)
Scott Couch, State Water Resources Control Board (Member)
Emily Wimberger, PhD., Air Resources Board (Member)
Luana Kiger, USDA NRCS (Subject Matter Expert)

**State Agency Staff and Presenters**

Bonnie Soriano, MSc. Air Resources Board
Benjamin Nicholson, Air Resources Board
Matthew Harrison, Air Resources Board
Amrith Gunasekara, PhD. CDFA
Geetika Joshi, PhD. CDFA
Carolyn Cook, MSc. CDFA
Scott Weeks, CDFA
Ravneet Behla, PhD. CDFA
Adam Chambers, PhD. USDA NRCS
Olivier Jerphagnon, PhD. PowWow Energy

AGENDA ITEM 1 - Introductions

The meeting was called to order at 9:34 AM by the Chair, Mr. Don Cameron. Introductions were made. Present at the meeting were all the members noted above under “Panel Members”. A quorum was established. This was the second meeting with the new and existing members following the expansion of the Science Panel as memorialized in SB 859 (2016) from five to nine members.

AGENDA ITEM 2 – Minutes from Previous Meeting and Bylaws

Chair Cameron introduced the minutes from the January 19, 2017 meeting. A motion was made by Ms. Bridson to accept the minutes as presented by CDFA staff and the motion was seconded by Dr. Bunn. The motion was moved by all members present and accepted without further changes.

Dr. Gunasekara noted to Chair Cameron that given the recent changes to panel in membership as required by SB 859, the Bylaws had to be updated. He noted that CDFA Legal Office had been consulted in updating and reviewing the bylaws. They were presented to the panel members for consideration. The minimum number of members required to establish quorum, according to the Bylaws, was a majority plus one member (six of the nine members).

The Bylaws called for the election of a “Vice Chairperson”. Dr. Dlott nominated Ms. Bridson as Vice Chair. The motion was seconded by Dr. Wimberger and moved forward by all panel members.

AGENDA ITEM 5 – Healthy Soils Program

Given the importance of implementing the Healthy Soils Program, it was recommended by the Panel to move agenda items 5, 6 and 7 before Agenda items 3 and 4 to facilitate public comment in a timely manner.

Dr. Joshi updated the panel on the Healthy Soils Program (HSP), including noting the objectives and funding sources. The Healthy Soils Program will be designed to provide incentives to farms and ranchers to build carbon and reduce greenhouse gases on agricultural lands. The program will include a list of USDA NRCS practices that have quantified greenhouse gas reductions so growers could choose which practice to implement and obtain financial incentives for its implementation through the CDFA Healthy Soils Program. Dr. Joshi proposed that HSP awardees for the incentive program of the HSP must maintain the project for a minimum of three years. Technical CDFA staff recommended incentivizing the first two growing seasons while the third season of the management practice to be funded through cost-share funds by the applicant. Each incentive program applicant was allowed up to $50,000. Each demonstration project was proposed to be allowed a maximum applicant amount of $ 200,000. Dr. Joshi also discussed tentative timelines and milestones achieved.

Questions were entertained by CDFA staff from Panel members. Panel members Bridson, Dawley and Redmond noted that the non-competitive, first come first serve process, may lead to funded projects with less effective/efficient efforts. Ms. Dawley further noted that applicants may rush to file an application before scrutinizing all aspects of the application and requirements. Dr. Gunasekara noted that the review process will ensure the required minimum quality of an application will be met through an administrative and technical review component. Mr. Cameron asked about the ranking process of the applications once received. Dr. Gunasekara noted that there is no mandate for ranking per the legislative language for the HSP. Mr. Cameron asked if a farmer can apply in partnership with universities or resource conservation districts. Dr. Joshi noted that such partnerships are eligible to apply. Dr. Gunasekara noted that Panel member comments will be taken into consideration prior to updating the HSP for the May 18, 2017 meeting.

AGENDA ITEM 6 – ARB Quantification Methodologies for the CDFA HSP

Mr. Harrison from the Air Resources Board presented information and facilitated questions on the Quantification Methodology. He updated the Panel members that ARB staff is working to draft a more finalized list of eligible conservation management practices for HSP. He provided a comparison of USDA-DNDC and Comet Planner management practice results by evaluating several scenarios and conducting technical and functional assessments. In the assessments, ARB staff found that both tools (USDA-DNDC and Comet Planner) are equally effective. Comet Planner is more conservative, in terms of

greenhouse gas (GHG) reductions, on cropland to herbaceous systems whereas DNDC is more conservative at estimating cropland to woody systems. USDA-DNDC is more suitable for compost applications and GHG estimation whereas Comet Planner is user friendly. ARB recommended using both quantification tools depending upon the practices.

AGENDA ITEM 7 – USDA NRCS Comet-Planner Update 2.0

Dr. Chambers provided an update to Comet-Planner. Dr. Chambers noted the importance of soil conservation and history of Comet-Planner. He updated the Panel members on the development of the web-based Comet Planner 2.0 and that it is designed to align GHG reduction estimates with Comet-Farm tool. Dr. Chambers noted that USDA staff is working on documentation and a technical report to support Comet-Planner.

A public comment period on any of the presented HSP information was facilitated by CDFA staff and extended through March 1, 2017.

AGENDA ITEM 3 - SWEEP (State Water Efficiency and Enhancement Program)

Mr. Weeks from CDFA provided updates on the SWEEP program. Mr. Weeks noted that Assembly Bill 1613 allocated $7.5 million for SWEEP program for FY 2017-18. CDFA released request of applications on February 1, 2017. CDFA is currently accepting grant applications for 2017. The maximum award per project is $100,000. He also noted the tentative timeline for SWEEP. Mr. Weeks further provided information on workshops that were conducted by CDFA and technical assistance workshops provided by third party entities.

Mr. Weeks noted that the three year auditing is in progress for 2015 and 2016 funding cycles. Mr. Cameron requested information about how many applications were submitted for the most recent solicitation. Dr. Gunasekara noted that approximately 300 applications were submitted. Other questions by Panel members were solicited.

AGENDA ITEM 4 – Post-project SWEEP Quantification of GHGs and Water Savings – PowWow Energy

Dr. Jerphagnon of PowWow Energy presented on a web-based program with a mobile application for energy monitoring of water pumps. He provided the background on the concept and technology and noted a recent grant award from CDFA to assist in the required validation and quantification of GHG reductions and water savings for SWEEP funded projects in 2016. Questions and comments were facilitated.

AGENDA ITEM 8 and 9 – Public Comment and future meetings

Public comment was facilitated followed by discussion. The date and location of the next meeting is May 18, 2017, and will be in Sacramento, California. The meeting was adjourned at 1:41 pm.

Respectfully submitted by:

_____ _____

Amrith Gunasekara, Ph.D. Date

# HEALTHY SOILS PROGRAM

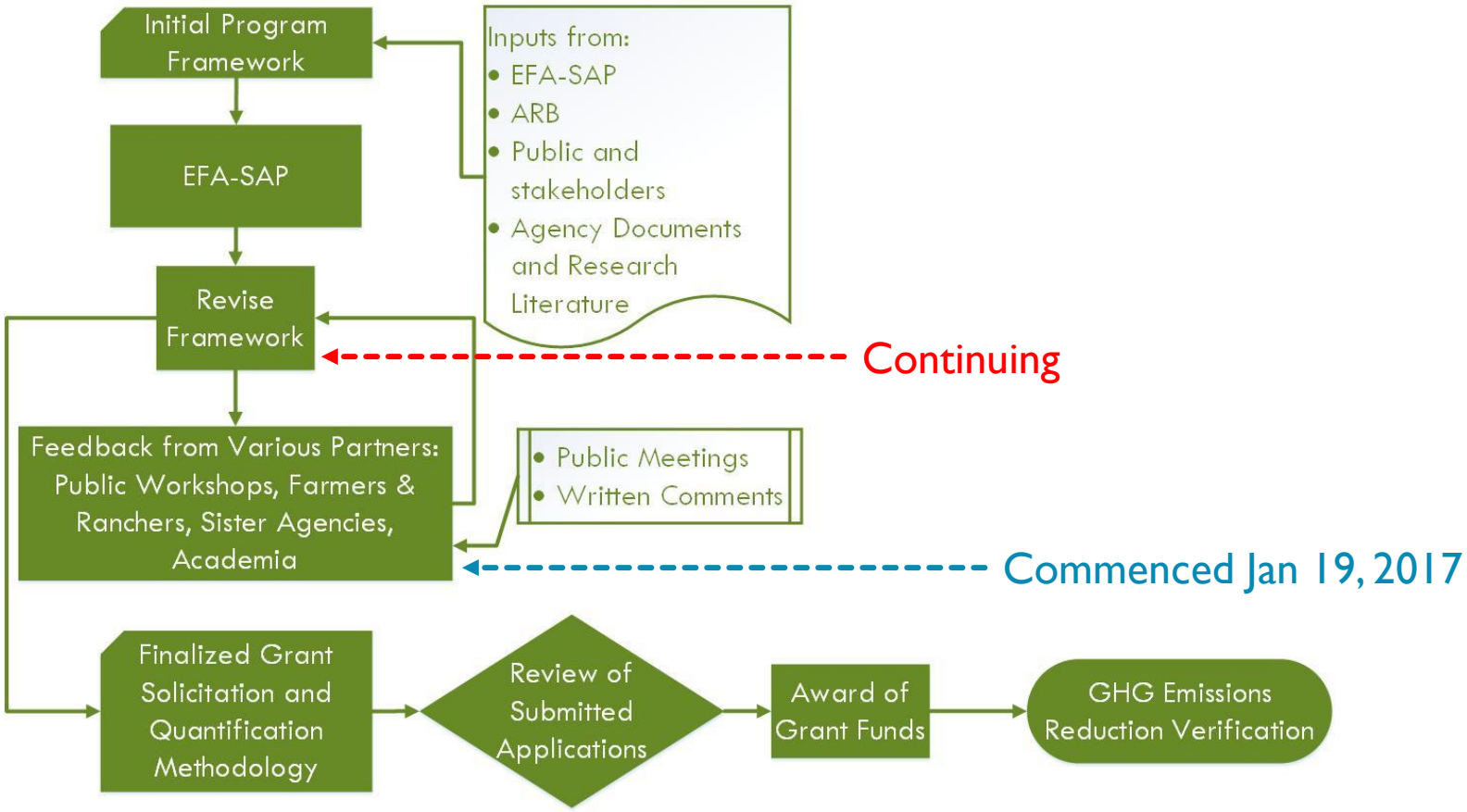
ENVIRONMENTAL FARMING ACT
SCIENCE ADVISORY PANEL
MAY 18, 2017
SACRAMENTO, CALIFORNIA

Geetika Joshi, PhD. Senior Environmental Supervisor
Guihua (Grace) Chen, PhD. Senior Environmental Scientist

# PROGRAM BACKGROUND: OBJECTIVE AND FUNDING

- Objective: To build soil carbon and reduce agricultural GHG emissions through incentives.
- CDFA appropriated $7.5 million in FY 2016-17 to develop and administer a new incentive and demonstration program on the CA Healthy Soils Initiative from the Greenhouse Gas Reduction Fund.
- Funds must be encumbered by June 30, 2018 and expended/liquidated by June 30, 2020 (AB 1613, Section 13).
- Funds allocation:
  - Incentive projects (50%; $3.75M)
  - Demonstration projects (40%; $3M).
  - Administrative cost (up to 10%; $0.75M)

# PROGRAM DEVELOPMENT PROCESS



# OUTLINE

- Public Comments:
  - Summary
  - Responses
    - Q&A – EFA-SAP Members
- Incentives Program Framework
  - Evaluation of New Practices for consideration – mechanism
    - Q&A – EFA-SAP Members
- Demonstration Program Framework
    - Q&A – EFA-SAP Members
- Public Comments

# OUTLINE

- Public Comments:
  - Summary (slides # 6 -14)
  - Responses
    - Q&A – EFA-SAP Members
- Incentives Program Framework
  - Evaluation of New Practices for consideration – mechanism
    - Q&A – EFA-SAP Members
- Demonstration Program Framework
    - Q&A – EFA-SAP Members
- Public Comments

# PUBLIC COMMENTS RECEIVED: JANUARY – APRIL, 2017

Total 37 emails & letters, divided into five subject areas:

- Funding: 12 submissions
- Incentive Projects: 14 submissions
- Compost Application: 11 submissions
- Demonstration Projects: 10 submissions
- Other: 18 submissions

# COMMENT SUMMARY: FUNDING

1. Increase funding cap to $50,000 for large scale implementation.
2. Suggest tiered funding by practices, for example, $25,000/practice, $35,000/2 practices, etc.
3. Provide guidance on range of project costs that are eligible for support.
4. Full cost of each practice to reflect CA production costs:
   a. Growers' work be included in the budget.
   b. Set practice costs and determine percent of cost to be covered in advance.

# COMMENT SUMMARY: FUNDING (CONT'D)

5. Suggested matching funds:
   a. Grower's in-field work.
   b. For demonstration program, partners' projects can be matching funds.
6. Suggestion for compensation:
   a. Compensation to growers for possible economic loss from some practices.
   b. Predetermined payback by growers from practice gain to extend the program.

# COMMENT SUMMARY: INCENTIVES PROGRAM

7. GHG Emissions quantification, baseline data and application assistance:
    a. Make requirements simple and straightforward.
    b. Provide application workshops and technical assistance.
8. Management practices supported by incentives:
    a. Include all NRCS practices in COMET-Planner.
    b. Selection of practices should be localized and crop specific.
    c. Provide literature to justify inclusion of practices.
    d. Develop a process or technical review committee for adding new eligible practices.

# COMMENT SUMMARY: INCENTIVES PROGRAM (CONT'D)

9. Scoring Criteria:
    a. Score practices based on GHG reductions or literature review.
    b. Prioritize stacked practices and whole-farm conservation plans.
    c. Provide applicants directions on key considerations.
    d. Acreage: will larger acreage receive more points?
    e. Establish technical review committee and make review scoring criteria transparent.
10. Project Eligibility:
    a. Are public lands, leased lands and conventional farmlands eligible?
    b. Suggest including cannabis farms.
    c. Farms that received EQIP funding should be eligible.

# COMMENT SUMMARY: COMPOST APPLICATION

11. Define compost(s) eligible for incentives support.

    Consider including biochar, field waste, in-field compost, and compost from small scale cooperative compost making facilities.

12. Concerns about sources and quality of compost (e.g. plastic or glass in compost).

13. CDFA should release to the public total compost use incentivized through program.

14. Limit compost application to degraded grasslands.

# COMMENT SUMMARY: DEMONSTRATION PROGRAM

15. Selection of projects and farms:
    a. Competitive selection of projects rather than "first come first serve".
    b. Include projects from 12 distinct regions in the state.
    c. Select farms that have necessary equipment/shelters for outreach.
    d. Prioritize a project on its potential of significant impacts at regional scale.
    e. Clarify eligible project categories.
    f. Are research farms and state agencies eligible?

# COMMENT SUMMARY: DEMONSTRATION PROGRAM (CONT'D)

16. Applicants should conduct an economic analysis of operational cost of proposed project.
17. Realistic time frame for farmers to see returns should be considered.
18. Provide specific details on project goals and intended outcomes that support innovation in producers' participation, practice and scale adoption, and overcoming current barriers.
19. Support whole-farm approach, long-term outreach, and education strategy (e.g., curriculum for FFA/4-H).
20. Describe reimbursable costs for outreach, education & research.

# OTHER COMMENTS

21. Partnership and technical assistance:
    a. Define more clearly roles of non-profits, NRCS, RCDs, UCCE , etc.
    b. Leverage NRCS, state and local resources to help create long-term funding.
22. Provide technical assistance and consider co-benefits for disadvantaged communities.
23. Project monitoring and long-term goals:
    a. Use Net GHG reduction as a metric of project success.
    b. Take measures on soil health and carbon sequestration.
    c. Provide guidance/requirements for project monitoring and verification (types and duration).
    d. Establish plans for future tracking /reporting post project implementation.
    e. Build plans in the incentive program to maintain C-storage in the long-term.
24. Focus on CA-specific perennial and specialty crops.

# OUTLINE

- Public Comments:
  - Summary
  - Responses (slides # 16 -26)
    - Q&A – EFA-SAP Members
- Incentives Program Framework
  - Evaluation of New Practices for consideration – mechanism
    - Q&A – EFA-SAP Members
- Demonstration Program Framework
    - Q&A – EFA-SAP Members
- Public Comments

# RESPONSES TO COMMENTS ON FUNDING

1. Increase funding cap to $50,000 for large scale implementation.
   Addressed in the program framework.

2. Suggest tiered funding by practices, for example, $25,000/practice, $35,000/2 practices, etc.
   Each project can request up to a $50,000 maximum award and employ multiple practices based on the standard payment rate per practice, as outlined in project budget.

3. Provide guidance on range of project costs that are eligible for support.
   Addressed in the program framework.

4. Full cost of each practice to reflect CA production costs.
   a. Growers' work be included in the budget.
   b. Set practice costs and determine percent of cost to be covered in advance.

   Addressed in the program framework.

# RESPONSES TO COMMENTS FOR FUNDING (CONT'D)

5. Suggested match funds:
   a. Grower's in-field work.
   b. For demonstration projects, partners' projects can be matching funds.

   Addressed in the program framework.

6. Suggestion for compensation:
   a. Compensation to growers for possible economic loss for some practices.
   b. Predetermined payback by growers from practice gain to extend the program.

   California Climate Investments (CCI ) funds can only be used for quantifiable greenhouse gas reductions. This program is based on a voluntary, competitive grant-incentives based approach to promote adoption of practices that build soil organic matter.

# RESPONSES TO COMMENTS FOR INCENTIVES PROGRAM

7. GHG Emissions quantification, baseline data and application assistance:

   a. Make requirements simple and straightforward.

   CDFA is working closely with ARB to help develop a user-friendly GHG reduction quantification methodology and tool.

   Baseline data requirement will be addressed in program framework.

   b. Provide application workshops and technical assistance.

   Application workshops and technical assistance will be provided.

# RESPONSES TO COMMENTS FOR INCENTIVES PROGRAM

8. Management practices supported by incentives:
   a. Include all NRCS practices in the COMET-Planner.
      Not all practices are suitable for implementation in California. Timeline for evaluation of new practices will be provided.
   b. Selection of practices should be localized and crop specific.
      COMET-Planner takes into account location (county-level) when calculating GHG emission reduction associated with various practices.
   c. Provide literature to justify inclusion of practices.
      Detailed scientific literature to support COMET-Planner is available at: *http://comet-planner.nrel.colostate.edu/COMET-Planner_Report_Final.pdf*
   d. Develop a process or technical review committee for adding new eligible practices.
      Addressed in the program framework.

# RESPONSES TO COMMENTS FOR INCENTIVES PROGRAM (CONT'D)

9. Scoring Criteria:
   a. Score practices based on GHG reductions or literature review.

      Consideration on GHG reduction will be given at per acre basis.

   b. Prioritize stacked practices and whole-farm conservation plans.

      Addressed in the program framework.

   c. Provide applicants directions on key considerations.

      Addressed in program framework.

   d. Acreage: will larger acreage receive more points?

      The HSP will provide equal opportunity for farms of all sizes. GHG benefits will be calculated on per acre basis.

   e. Establish a technical review committee and make review scoring criteria transparent.

      Addressed in the program framework.

# RESPONSES TO COMMENTS FOR INCENTIVES PROGRAM (CONT'D)

10. Project eligibility:

    a Are public lands, leased lands, conventional farmlands eligible?

    California farmlands and rangelands are eligible.

    b. Suggest including cannabis farmers.

    Cannabis farmers must be in compliance and licensed with state, county and local ordinances to be eligible for the program.

    c. Farms that received EQIP funding should be eligible.

    EQIP funds are allowable as matching funds.

# RESPONSES TO COMMENTS FOR COMPOST APPLICATION

11. Define compost(s) eligible for incentives support.
    Definition of compost eligible for support under this program is included in the "Compost Application Rates for California Croplands and Rangelands for a CDFA Healthy Soils Incentives Program" available at *https://www.cdfa.ca.gov/oefi/efasap/docs/CompostApplicationRate_WhitePaper.pdf*
12. Concerns about sources & quality of compost.
    Finished compost from certified compost facilities must meet the state-required minimum standards, including two pathogens, nine heavy metals, and 2018 onward, percent glass and plastic.
13. CDFA should release to the public total compost use through program.
    Total tonnage of compost applied to land through this program will be released as public information.
14. Limit compost application to degraded grasslands.
    Rangeland compost application will be incentivized in accordance with guidelines outlined in the CDFA **Compost Application Rate White Paper** (pages 10-15)

# RESPONSES TO COMMENTS FOR DEMONSTRATION PROGRAM

15. Selection of projects /farms:
    a. Competitive selection of projects rather than "first come first serve".
    b. Include projects from 12 distinct regions in the state.
    c. Select farms that have necessary equipment & shelters for outreach events.
    d. Prioritize a project on its potential of significant impacts at regional scale.
    e. Clarify eligible project categories.
    f. Are research farms and state agencies eligible?

    Addressed in the program framework. State agencies are not eligible for the program.

16. Applicants should conduct an economic analysis of operational cost of proposed project.

    Addressed in the program framework.

17. Realistic time frame for farmers to see returns should be considered.

    Time-frame for project implementation corresponds to legislative deadlines relating to encumbrance and liquidation of available funds.

# RESPONSES TO COMMENTS FOR DEMONSTRATION PROGRAM (CONT'D)

18. Provide specific details on project goals and intended outcomes that support innovation in producers' participation, practice adoption and scale adoption, and overcoming current barriers.

    Addressed in the program framework.

19. Support whole-farm approach, long-term outreach, and education strategy (e.g., curriculum for FFA/4-H community level)

    Whole-farm strategies will be considered in the future when baseline GHG quantification strategies have been established for all incentive programs. CDFA is funding research and development of tools to assist whole-farm GHG accounting (Comet-Farm). Strategies for long-term outreach and education using matching funds will be considered for additional points during review. CCI funds can only be used for quantifiable GHG emission reductions.

20. Describe reimbursable costs for outreach, education & research.

    Addressed in the program framework.

# RESPONSES TO OTHER COMMENTS

21. Partnership and technical assistance:

    a. Define clearly the roles of non-profits, NRCS, RCDs, UCCE , etc.

    Non-profits, RCDs and universities are eligible applicants for demonstration program. CDFA consults with USDA-NRCS on program development.

    b. Leverage NRCS, state and local resources and help create long-term funding.

    Addressed in the program framework.

22. Provide technical assistance and consider co-benefits for disadvantaged communities.

    Technical assistance to applicants will be provided. Disadvantaged communities will be given additional consideration when selecting projects consistent with ARB funding guidelines.

# RESPONSES TO OTHER COMMENTS (CONT'D)

23. Project monitoring and long-term goals:
    a. Provide guidance/requirements for project monitoring & verification (types & duration).
    b. Measurements on soil health and carbon sequestration should be conducted.
    c. Net GHG reduction should be used as a metric of project success.
    d. Establish plans for future tracking /reporting post project-implementation.
    e. Build into the incentives program, plans to maintain C storage in long-term.

    Addressed in program framework.

24. Focus on CA specified perennial and specialty crops.

    Healthy Soils Program focuses on management practices rather than crop-types and therefore applicable to many cropping systems in CA

# Q&A – EFA-SAP MEMBERS

# OUTLINE

- Public Comments:
  - Summary (slides # 5-12)
  - Responses (slides # 15-22)
    - Q&A – EFA-SAP Members
- Incentives Program Framework (slides # 29 – 47)
  - Evaluation of New Practices for consideration – mechanism
    - Q&A – EFA-SAP Members
- Demonstration Program Framework
    - Q&A – EFA-SAP Members
- Public Comments

# INCENTIVE PROGRAM FRAMEWORK

- Eligibility
- Management Practices
- Introducing New Management Practices for Inclusion in the Program
- Program Requirements
- Grant Amount & Funding Criteria
- Technical Review Committee
- Scoring Criteria
- Project Verification & Monitoring
- Timeline

24 public comments addressed in the program framework.

# ELIGIBILITY

- Eligibility: California farmers and ranchers. Projects must be located in CA and result in GHG reductions from agricultural practices for a specified time period, quantifiable using a method determined by ARB (comment # 10a, 10b, 10c).
- Projects funded under this solicitation to use one or more of the eligible USDA-NRCS Conservation Practice Standards identified in the grant solicitation, and/or compost application.
- An agricultural operation to only submit one application using a unique tax identification number per round of funding to allow wide distribution of funds.

# MANAGEMENT PRACTICES INCLUDED FOR INCENTIVES

- Cropland and Rangeland Soil Management:
  - Mulching (484)
  - No-till (329)
  - Reduced-till (345)
  - Cover crops (340)
  - Cropland Compost Application (Not a *separate* NRCS Practice)
  - Grassland Compost Application (Not an NRCS Practice)
- Herbaceous Cover (not alone*):
  - Herbaceous Wind Barriers (603)
  - Vegetative Barriers (601)
  - Riparian Herbaceous Cover (390)
  - Contour Buffer Strips (332)
  - Field Border (386)
  - Filter Strip (393)
- Woody Cover (not alone*):
  - Windbreak/ shelterbelt establishment/renovation (380)
  - Riparian Forest Buffer (391)
  - Hedgerow Planting (422)
  - Silvopasture (381)

*Combine with one or more of the soil management practices (comment # 8b).

# QUANTIFICATION METHODOLOGY FOR GHG EMISSION REDUCTIONS

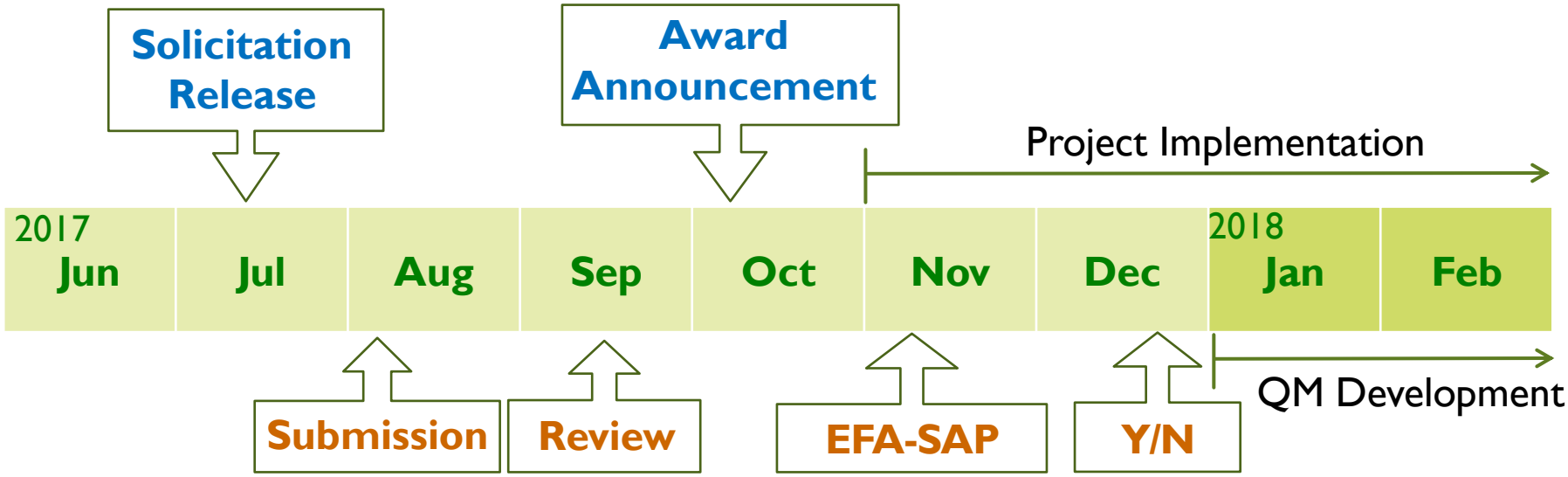
- Per SB 862, the California Air Resources Board (ARB) is required to develop quantification methods (QM) for agencies receiving Greenhouse Gas Reduction Fund (GGRF) appropriations.
- ARB, in collaboration with CDFA, is developing the QM Tool.
  - To be presented next

# EVALUATION OF NEW MANAGEMENT PRACTICES FOR INCENTIVES

- Submission requirements (comment # 8d):
  - No proprietary products/materials.
  - Research literature must be peer-reviewed and publicly available.
  - Field study design and findings must be statistically sound and significant (e.g. randomized design with minimum three replicates).
  - Submissions in PDF format.
- Review Process (comment # 8d):
  - Scientific literature review.
  - Presented to the Environmental Farming Act – Science Advisory Panel at EFA-SAP meetings open to public.
  - Final decision whether practice will be included.
  - Evaluation by ARB Quantification Methodology development team.

# TIMELINE FOR EVALUATION OF ADDITIONAL MANAGEMENT PRACTICES

## Program Implementation (2016-17 funds)




## Evaluation of New Management Practices (future funds)

# PROGRAM REQUIREMENTS

- Applicants shall provide information including but not limited to (comment # 9c):
  - Baseline data (cropping and management history, soil texture and organic matter content) (comment # 7a).
  - Description of the proposed project.
  - Project design and plan including maps and schematics.
- Estimation of GHG emissions reductions according to ARB approved methodologies developed in consultation with CDFA (comment # 9c).
  - Include GHG reduction estimation and supporting documentation.

# PROGRAM REQUIREMENTS (CONT'D)

- Project term (comment # 9c):
  - Project must be implemented and maintained for 3 years.
    - Year 1 and 2 funded by program dollars (matching funds encouraged).
    - Year 3 must be funded by matching funds.
- Expected life of practice (comment # 9c):
  - Three years for soil management practices.
  - Ten years for establishment of woody cover.
- At least one soil management practice (comment # 9c).
- Post-project implementation data of three years consistent with ARB requirements (comment # 9c, 23d, 23e).

# GRANT AMOUNT AND FUNDING CRITERIA

- Proposed award amount: Maximum $50,000 per project (approx. 75 projects supported) (comment # 1).
- A standard cost per acre per practice (payment rate) will be provided for all eligible practices (comment # 2, 3, 4a, 4b).
  - Compost application: $35 per ton per acre.
  - Other practices: NRCS California EQIP conservation practice payment rates.
- Matching funds:
  - Required in the 3rd year of project.
  - Encouraged in the first two years and will be considered in the scoring criteria (comment # 5a).
  - EQIP funds are allowable as match (comment # 21b).

# TECHNICAL REVIEW COMMITTEE

- Academic Researchers and Cooperative Extension Specialists.
- Farm Advisors.
- State and Federal agency experts.
- Committee members will be selected based on qualifications and subject matter expertise.
- All members must complete Conflict of Interest requirements.

(comment # 9e)

# SCORING CRITERIA

| Criteria | Points |
|---|---|
| Project Implementation Plan | 40 |
| GHG Emission Reduction & Soil Health | 20 |
| Environmental Co-Benefits | 10 |
| DAC criteria | 10 |
| Certified Conservation Plan in Place | 10 |
| Budget | 10 |
| **Total** | **100** |

(comment # 9e)

# PROJECT IMPLEMENTATION PLAN (40 POINTS)

- Project plan & feasibility – 30 points (comment #9c):
  - Narrative : Why the proposed project is important and what is expected to change after project implementation? Baseline data (cropping and management history, soil texture and organic matter content).
  - Design: APN-specific detailed schematics (map) of field operations, location of practices and operations.
  - Work plan:
    - Timeline of tasks needed to be undertaken to implement project.
- Plan for three (or more) years of implementation – 10 points (comment #23e):
  - Plan for project evaluation and continued adoption.
  - How will current resources (examples include but not limit to water use) be utilized or adapted to ensure 3-year implementation of project and maintenance for life of practice (3 or 10 years, as applicable)?

# GHG EMISSION REDUCTION AND SOIL HEALTH (20 POINTS)

- COMET-Planner GHG emissions reduction data:
  - Per acre (normalization of farm size) (comment # 9a).
- Utilization of more than one practice – 5 points (comment # 9b).
- Soil health data on each APN (comment # 23b).
  - Soil organic matter content.
  - Soil texture.
  - Others (optional): water holding capacity, aggregate stability, biological properties, etc.
- CDFA will provide resources to applicants for information on standardized soil analysis methods. Recommended that soil tests be conducted at accredited labs, such as those listed in http://ccmg.ucanr.edu/files/51308.pdf

# ENVIRONMENTAL CO-BENEFITS (10 POINTS)

- Air Quality protection – 5 points.
- Water Quality protection – 5 points.
- Application should include:
  - Narrative:  qualitative description of benefits.
  - Examples:
    - Reduction in on-farm fuel use and GHG emissions from changing from conventional to no-till/reduced tillage.
    - Reduced sediment as a result of establishing riparian buffer.

# DISADVANTAGED COMMUNITIES (10 POINTS)

- Consistent with ARB Funding Guidelines for Administering Agencies (Final Supplement – December 2016), priority will be given to those projects that maximize benefits to disadvantaged communities, (DACs) using the following criteria (comment # 22).
- Step 1- Located within: 50%+ of the project is located within one or more DACs and the project significantly reduces exposure to dust and airborne particles for DAC residents, relative to pre-project levels.
- Step 2- Provides benefits to: Project result in at least 25% of project work hours performed by residents of a DAC; or at least 10% of project work hours performed by residents of a DAC participating in job training programs which lead to industry-recognized credentials or certifications.

References:
https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/final_supplemental_ggrf_funding_guidelines_12_30.pdf
For maps of DACs: http://www.calepa.ca.gov/EnvJustice/GHGInvest/

# CONSERVATION PLAN (10 POINTS)

- A conservation plan is a broad environmental/ecological impacts and solutions plan for the whole farm (comment # 9b, 19).
- Requirements for an allowed/qualified conservation plan:
  - Prepared by an NRCS specialist, an NRCS-trained individual or entity, or a professional agronomist.
  - Should include at a minimum:
    - An aerial photo or diagram of project fields;
    - A list of current management decisions;
    - The location of and schedule for applying new conservation practices;
    - A soil map and soil descriptions;
    - Information explaining how to carry out specific management decisions;
    - A plan for operation and maintenance of practices, if needed.

Resources: https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs141p2_018353.pdf
https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/cp/

# PROJECT BUDGET (10 POINTS)

- Submit a budget worksheet including:
  - Proposed practice(s), acreage to be implemented per practice per year.
  - Funds requested from CDFA.
  - Matching funds in Year 1 and 2 (if applicable).
- Up to 10 points can be awarded for providing matching funds in Year 1 and 2 (comment # 4a).
  - Example: 100% match = 10 points, 50% match = 5 points.

# PROJECT VERIFICATION AND MONITORING

- Verification (comment # 23c):
  - By CDFA or local RCDs.
  - During project.
  - Confirm practice(s) is implemented as proposed.
- Ongoing monitoring and reporting (comment # 23b, 23c, 23d):
  - Start one year after project start date, for two more years (total three years)
  - Must include analysis of soil organic matter (required) and any other soil tests or soil health measurements (optional).
- Three years' post-project reporting consistent with ARB requirements (comment # 23d).

# TIMELINE

| ITEM | ESTIMATED DATES |
|---|---|
| Program framework development including Quantification Methodology | Nov 2016 – June 2017 |
| Public Stakeholder Meetings for Program Design Feedback | Jan 2017 – May 2017 |
| Grant solicitation released | Jul 2017 |
| Applications proposals due | Aug 2017 |
| Proposal evaluation (Technical Review) | Aug – Sep 2017 |
| Announce grant awardees | Sep 2017 |
| Project Implementation | Oct 2017 – Nov 2020 |
| Project Verification | May 2020 |
| Post-project Reporting | 2020-2022 |

(comment # 17)

# Q&A – EFA-SAP MEMBERS

# CDFA Healthy Soils Program FY 2016-17

## Quantification Methodology Development Status

May 18, 2017

# Overview of Presentation

- Review CARB's role in CDFA's Healthy Soils Program and quantification methodology (QM) development approach
- Review progress as of March Panel meeting
- Update on progress, focus on quantifying benefits of compost application
- Demonstration of quantification tools

# Review – California Air Resources Board's (CARB) Role in CDFA's Healthy Soils Program

- CARB is required by statute to develop QM for Greenhouse Gas Reduction Fund (GGRF) projects
- QMs provide a mechanism to estimate the net GHG benefits from project implementation
- Net GHG benefits may result from:
  - Soil carbon benefits ($CO_2$) from storage and/or sequestration
  - Nitrous oxide ($N_2O$) emission reductions
  - Methane ($CH_4$) emission reductions
- Rely on best available science and external expertise

# Review – QM Development Principles

- Greenhouse Gas Reduction Fund
  - Applies at the project-level
  - Aligns with the project types proposed for funding
  - Estimates GHG benefits from direct, onsite practices
  - Based on scientifically sound, peer-reviewed methods
- Healthy Soils Program
  - Includes California land use and management practices
  - Aligns with USDA-Natural Resources Conservation Service (USDA-NRCS) conservation management practices (CMPs) and incentives
  - Accessible across California's cropping systems
  - Practices are implemented in accordance with established technical guidance

# Review – Eligible Practices, Year 1

| Cropland Management | Cropland to Herbaceous Cover | Cropland to Woody Cover |
|---|---|---|
| • No-till (329)<br>• Reduced-till (345)<br>• Cover Crops (340)<br>• Mulching (484)<br>• Cropland Compost (CDFA)<br>• Grassland Compost (CDFA) | • Herbaceous Wind Barriers (603)<br>• Vegetative Barriers (601)<br>• Riparian Herbaceous Cover (390)<br>• Contour Buffer Strips (332)<br>• Field Border (386)<br>• Field Strip (393) | • Windbreak/ Shelterbelt Establishment (380)<br>• Riparian Forest Buffer (391)<br>• Hedgerow Planting (422)<br>• Silvopasture (381) |

**Implementation Requirements**

- Cropland to Woody Cover practices – *Minimum density requirements, consistent with USDA Methods Report*
- Compost application practices – *Minimum rates by compost/crop type, consistent with CDFA guidance*
- Tillage practices – *Intensive Till → Reduced Till or No Till*

# Review – QM Development Update March 2017

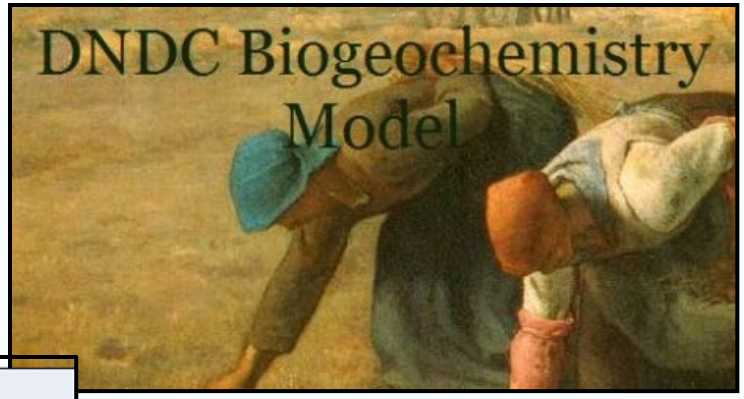
| Status | CARB Task | Outcome |
|---|---|---|
| ✓ | • Identify eligible practices | • *Subset of NRCS Conservation Management Practices (CMPs)*<br>• *Compost application to cropland and rangeland* |
| ✓ | • Evaluate existing and tools and resources to support quantification | • *COMET Planner Update*<br>• *Denitrification-Decomposition (DNDC) model outputs* |
| → | • Identify resource gaps | • *Compost application* |
| → | • Automate QM - develop or adapt as needed an easy to use tool | • *COMET Planner for NRCS Practices*<br>• *ARB Compost Calculator under development* |
| Q1/Q2 2017 | • Develop comprehensive QM | • *Under development* |
| Q1/Q2 2017 | • QM review and public process | |
| Q1/Q2 2017 | • Provide QM resources to applicants | |

# Update – Development Update May 2017

| Status | CARB Task | Outcome |
|---|---|---|
| ✓ | • Identify eligible practices | • *NRCS Conservation Management Practices (CMPs)*<br>• *Compost application to cropland and rangeland* |
| ✓ | • Evaluate existing and tools and resources to support quantification | • *COMET Planner*<br>• *Denitrification-Decomposition (DNDC) model outputs* |
| ✓ | • Identify resource gaps *(compost)* | • *DNDC model outputs (lookup tables)* |
| ✓ | • Automate QM - develop or adapt as needed an easy to use tool | • *COMET Planner for NRCS Practices*<br>• ~~*CARB Compost Calculator under development*~~<br>• *Web –based Compost Planner for CDFA practices* |
| → | • Develop comprehensive QM | • ~~*Under development*~~<br>• *Finalizing draft technical review* |
| Q2 2017 | • QM review and public process | |
| Q2/Q3 2017 | • Provide QM resources to applicants | |

# Update – Quantification Approach for Compost

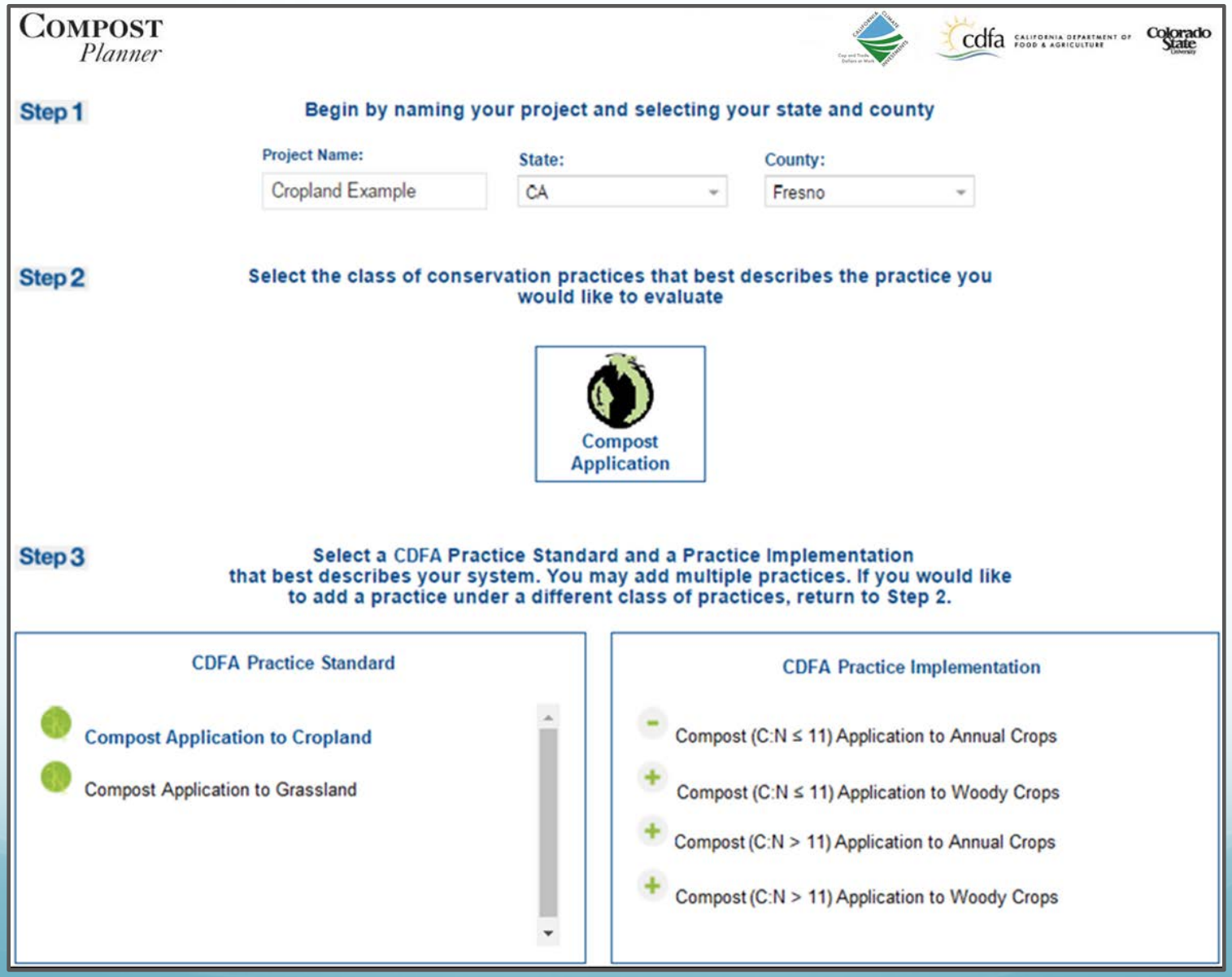
- DNDC Model Outputs account for
  - Land types
  - Management Practices
  - California crops
- Aggregated at the county level




| Compost (C:N ≤ 11) Application to Annual Crops | | | | | |
|---|---|---|---|---|---|
| County | $CO_2$ | $N_2O$ | $C_H4$ | GHG | Units |
| … | … | … | … | … | … |
| Glenn | 0.216 | 0.006 | 0.000 | 0.222 | MT-$CO_2$e/ac/yr |
| Humboldt | 0.199 | -0.034 | 0.000 | 0.166 | MT-$CO_2$e/ac/yr |
| Imperial | 0.206 | 0.038 | 0.000 | 0.244 | MT-$CO_2$e/ac/yr |
| … | … | … | … | … | … |
| **Compost (C:N > 11) Application to Managed Grassland** | | | | | |
| County | $CO_2$ | $N_2O$ | $CH_4$ | GHG | Units |
| … | … | … | … | … | … |
| Glenn | 0.115 | -0.016 | 0.000 | 0.099 | MT-$CO_2$e/ac/yr |
| Humboldt | 0.110 | -0.013 | 0.000 | 0.096 | MT-$CO_2$e/ac/yr |
| Imperial | 0.113 | -0.003 | 0.000 | 0.110 | MT-$CO_2$e/ac/yr |
| … | … | … | … | … | … |

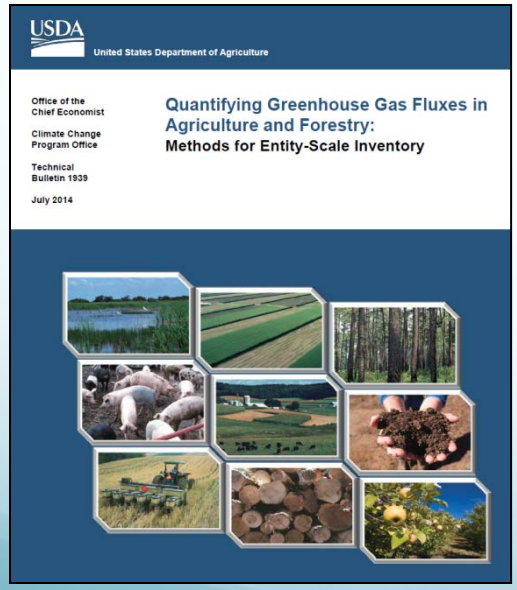
*Example outputs for demonstration purposes only*

# Update – Compost Planner



# Summary of Tools and Methods

- COMET Planner Update for NRCS Conservation Practices
- Compost Planner for CDFA Practices
- Approach aligns with USDA Methods Report
- Balances scientific rigor with ease of use




COMET-PLANNER NRCS USDA Colorado State University
Carbon and greenhouse gas evaluation for NRCS conservation practice planning

COMPOST Planner
California Climate Investments
Cap and Trade Dollars at Work
cdfa California Department of Food & Agriculture
Colorado State University

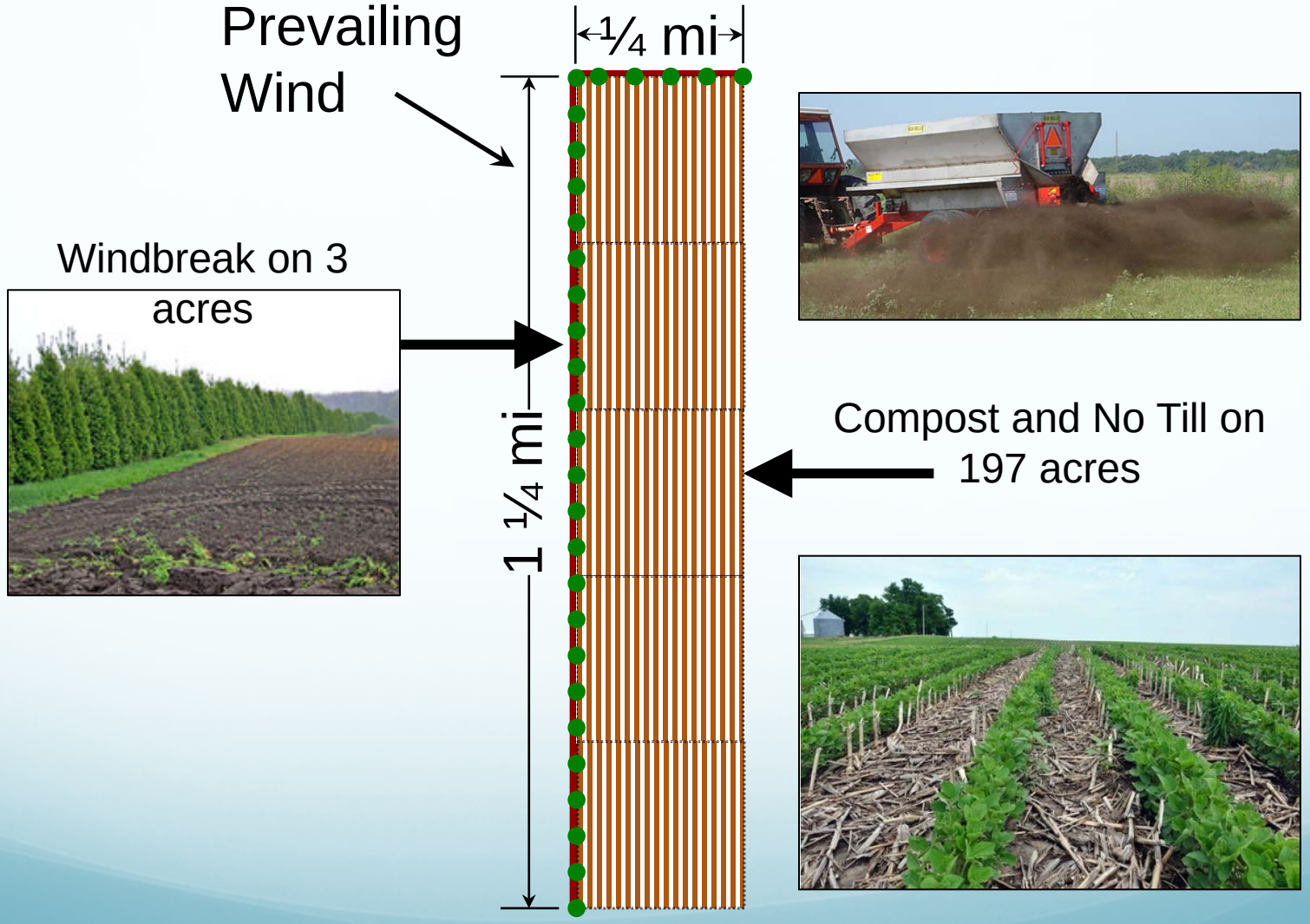
# Cropland Example

Using COMET-Planner
and Compost-Planner

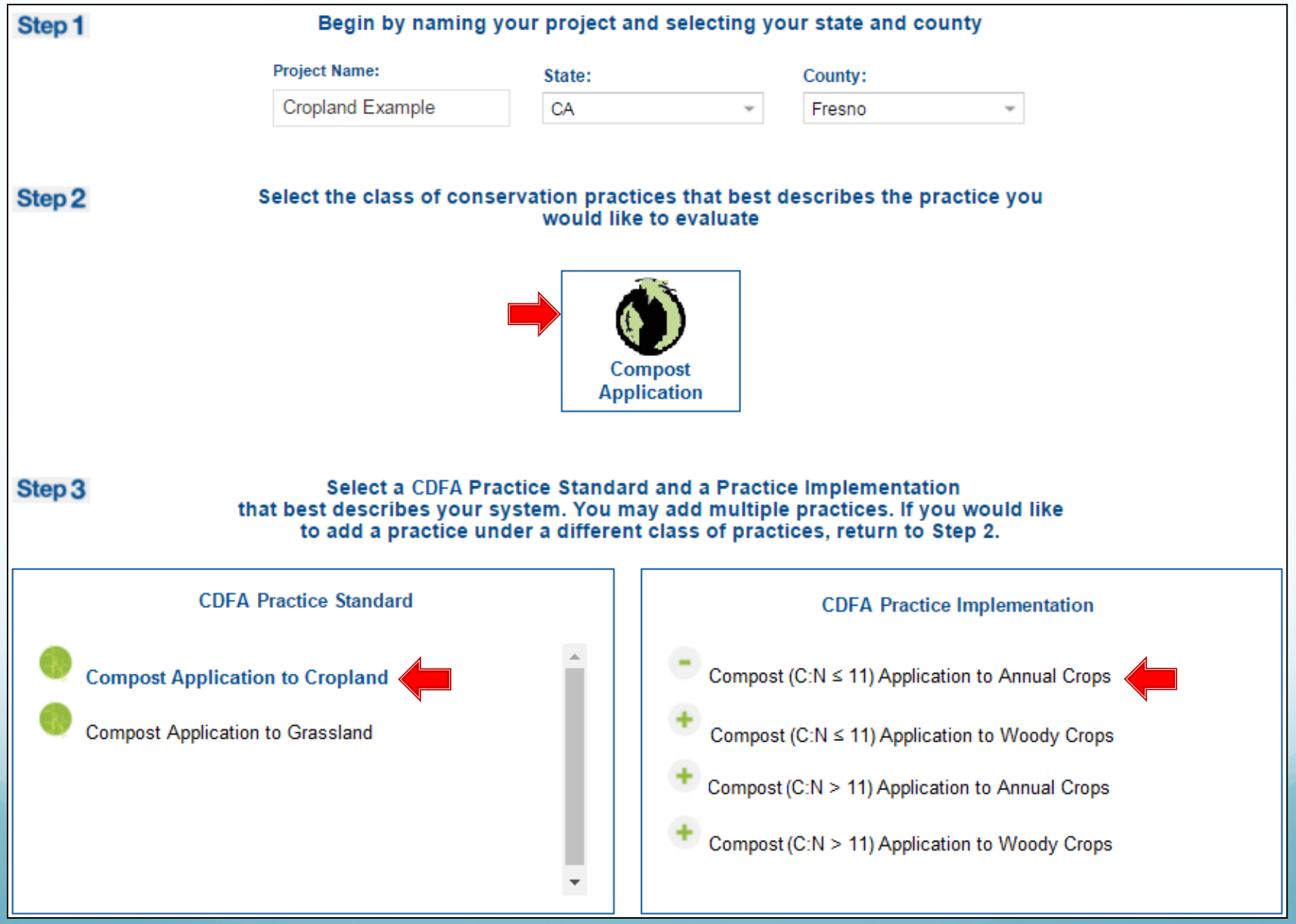
# Cropland Example

- 200 acres of irrigated annual cropland in Fresno County
- **Windbreaks**: Convert 3 acres to 1-row windbreaks along windward edges of farm
- **No Till**: Change tilling practice from Intensive Till to No Till to remaining 197 acres
- **Compost**: Apply a compost with C:N = 10 to remaining 197 acres

# Cropland Example



# Compost-Planner Input



# Compost-Planner Input

**Step 4** Enter the acreage associated with each conservation practice you selected

Approximate Carbon Sequestration and Greenhouse Gas Emission Reductions[1]
(tonnes $CO_2$ equivalent per year)

| CDFA Conservation Practices | Enter Acreage | Carbon Dioxide | Nitrous Oxide | Methane | Total $CO_2$-Equivalent |
|---|---|---|---|---|---|
| Compost Application to Cropland - Compost (C:N > 11) Application to Annual Crops [ delete ] | 197 ac | 39.1 | -0.2 | 0 | 38.9 |
| | Total | **39.1** | **-0.2** | **0** | **38.9** |

[1]Negative values indicate a loss of carbon or increased emissions of greenhouse gases
[2]Values were not estimated due to limited data on reductions of greenhouse gas emissions from this practice

Download and Print Compost-Planner Results

# Compost-Planner Results

## Compost-Planner Carbon Sequestration and Greenhouse Gas Estimation Report

Project Name: Example: Cropland

State: CA

County: Fresno

Date Created: 5/5/2017 11:47:24 AM

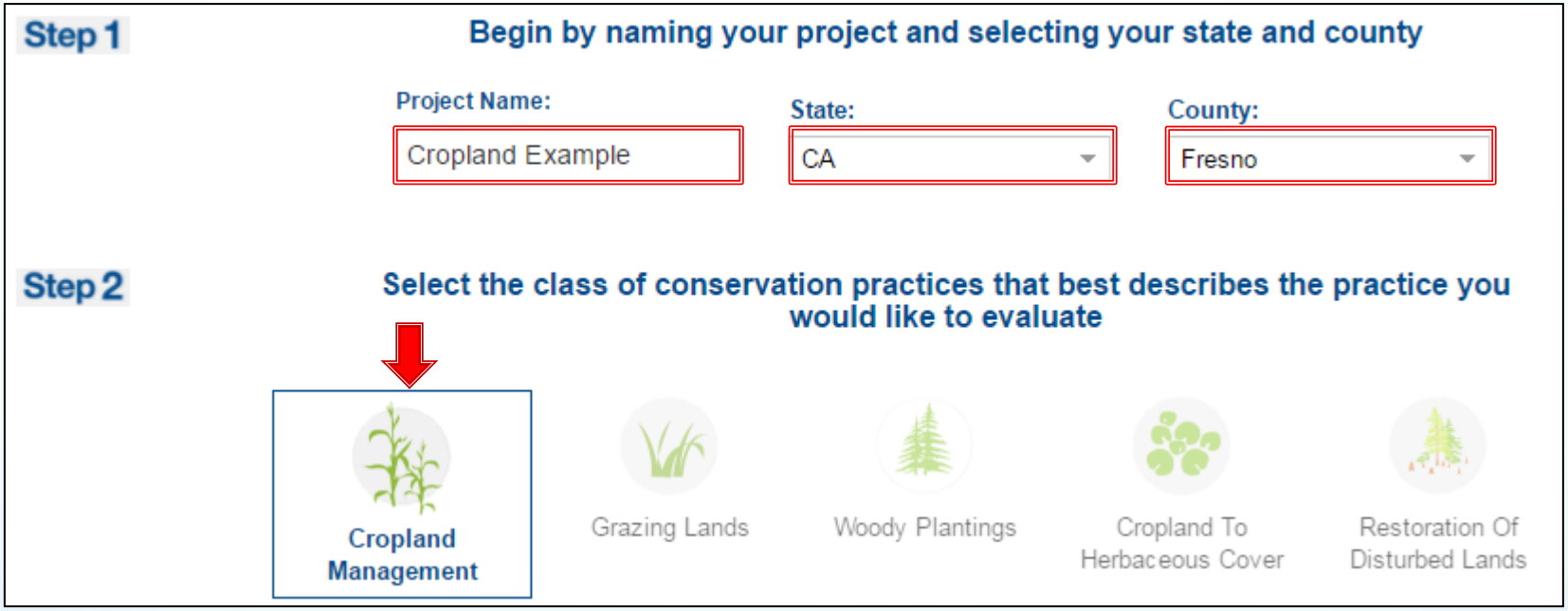
| | Enter Acreage | Carbon Dioxide | Nitrous Oxide | Methane | Total $CO_2$-Equivalent |
|---|---|---|---|---|---|
| **CDFA Practices** | | | | | |
| Compost Application to Cropland - Compost (C:N > 11) Application to Annual Crops | 197 | 39.1 | -0.2 | 0 | 38.9 |
| | Total | 39.1 | -0.2 | 0 | 38.9 |

1Negative values indicate a loss of carbon or increased emissions of greenhouse gases

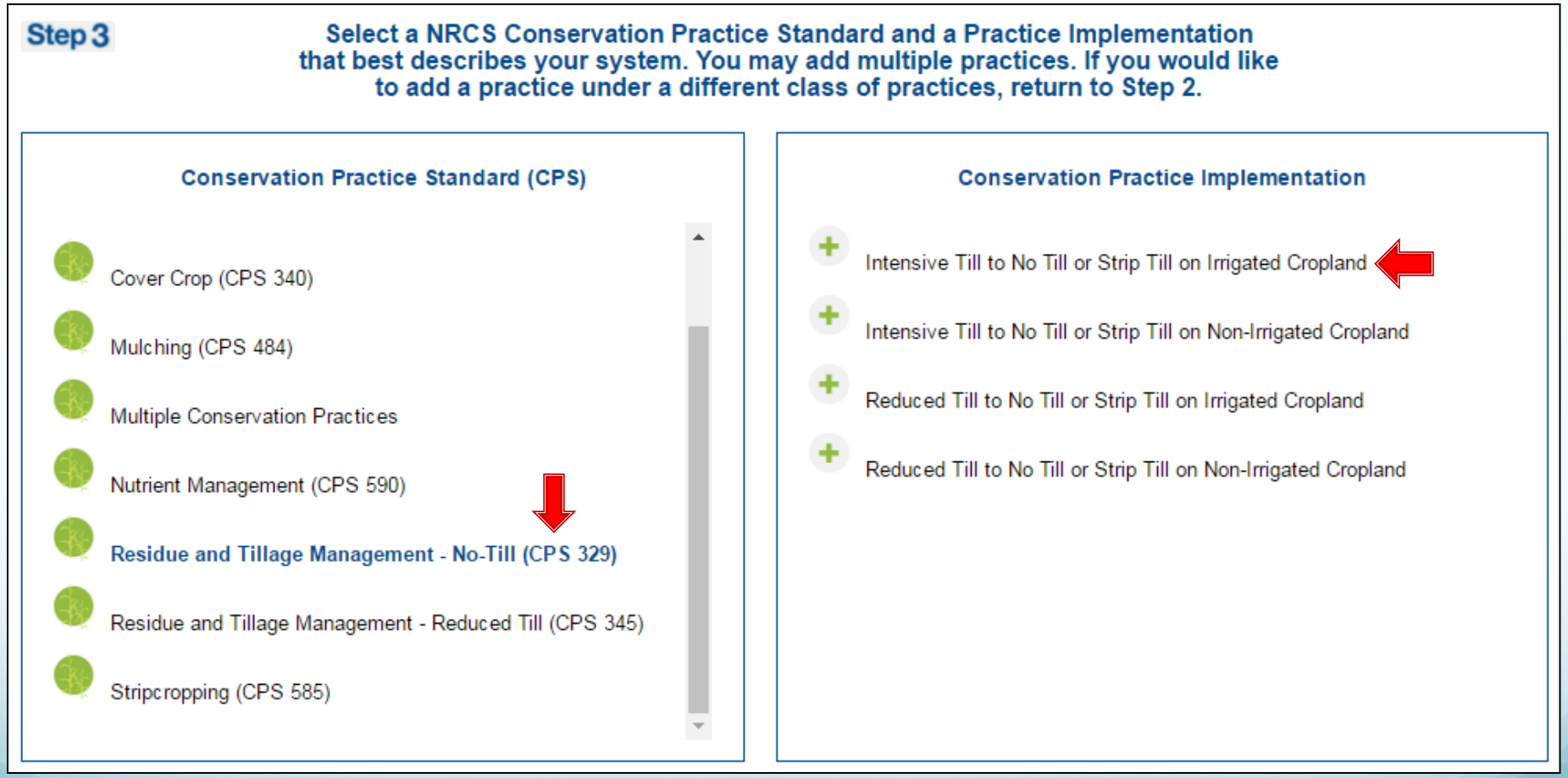
2Values were not estimated due to limited data on reductions of greenhouse gas emissions from this practice

For more information on how these estimates were generated, please visit www.comet-planner.com.

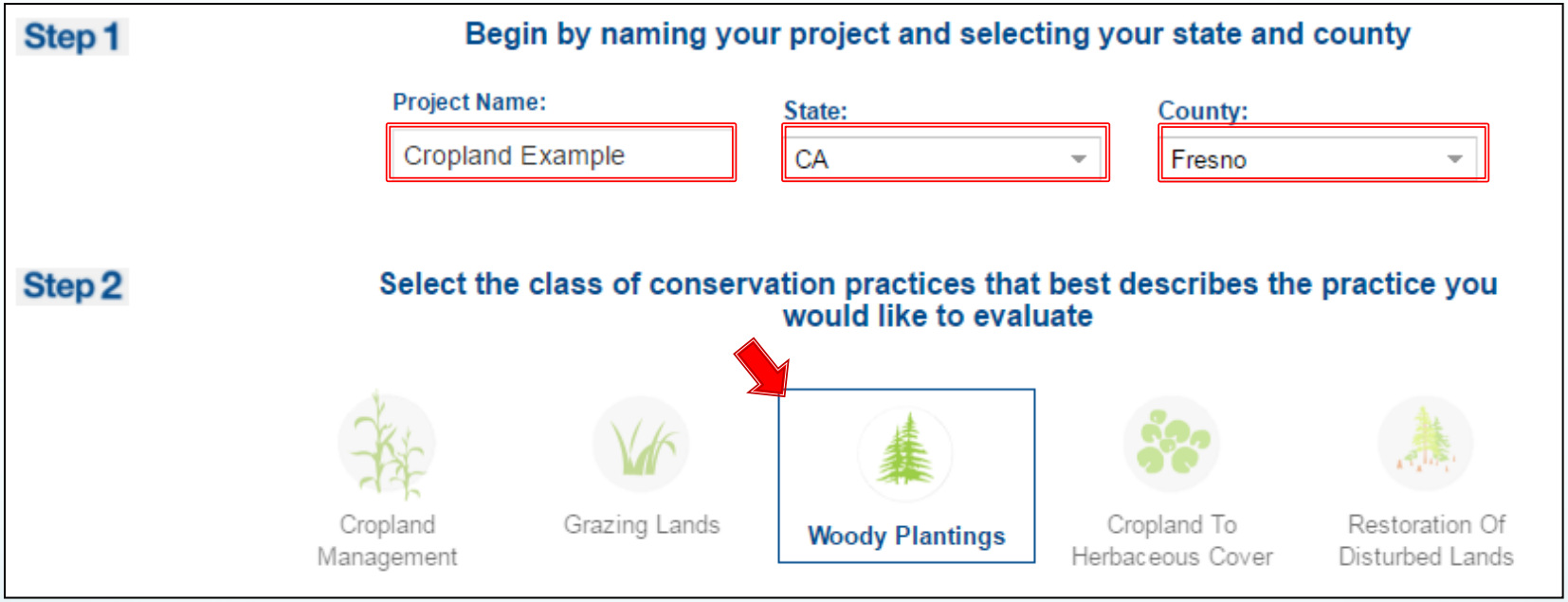
# COMET-Planner Input, No Till



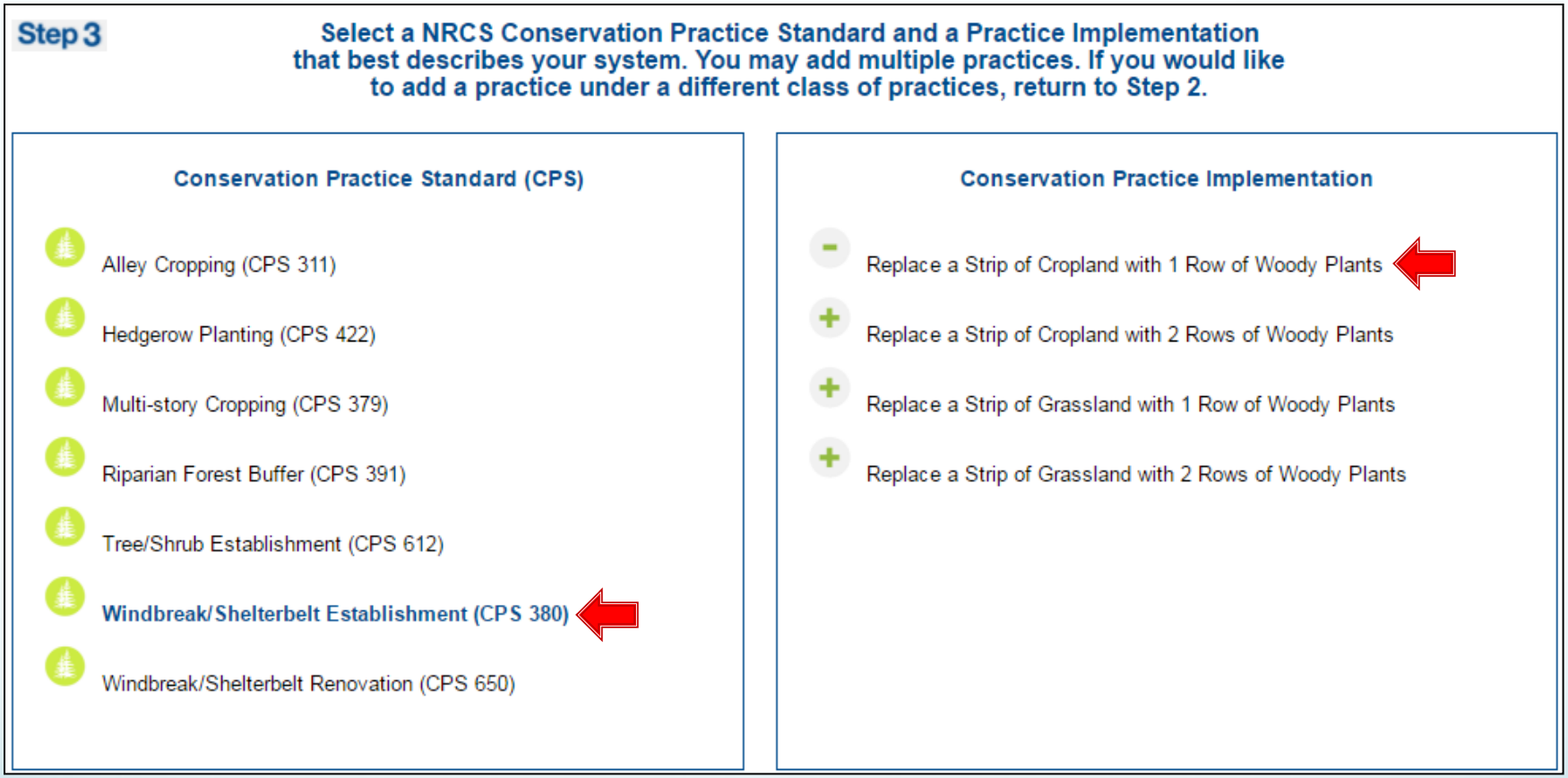
# COMET-Planner Input, No Till



# COMET-Planner Input, Windbreaks



# COMET-Planner Input, Windbreaks



# COMET-Planner Input, Acreage

**Step 4** — **Enter the acreage associated with each conservation practice you selected**

**Approximate Carbon Sequestration and Greenhouse Gas Emission Reductions[1]**
**(tonnes $CO_2$ equivalent per year)**

| NRCS Conservation Practices (Click Practice Name for Documentation) | Enter Acreage | Carbon Dioxide | Nitrous Oxide | Methane | Total $CO_2$-Equivalent |
|---|---|---|---|---|---|
| Residue and Tillage Management - No-Till (CPS 329) - Intensive Till to No Till or Strip Till on Irrigated Cropland [ delete ] | 197 ac | 41 | 2 | 0 | 43 |
| Windbreak/Shelterbelt Establishment (CPS 380) - Replace a Strip of Cropland with 1 Row of Woody Plants [ delete ] | 3 ac | 25 | 0.2 | N.E.[2] | 25 |
| | **Total** | **66** | **2.2** | **0** | **68.2** |

[1]Negative values indicate a loss of carbon or increased emissions of greenhouse gases
[2]Values were not estimated due to limited data on reductions of greenhouse gas emissions from this practice

Download and Print COMET-Planner Results

# COMET-Planner Results

## COMET-Planner Carbon Sequestration and Greenhouse Gas Estimation Report

Project Name: Cropland Example

State: CA

County: Fresno

Date Created: 5/11/2017 7:07:05 PM

| | Enter Acreage | Carbon Dioxide | Nitrous Oxide | Methane | Total $CO_2$-Equivalent |
|---|---|---|---|---|---|
| NRCS Conservation Practices | | | | | |
| Residue and Tillage Management - No-Till (CPS 329) - Intensive Till to No Till or Strip Till on Irrigated Cropland | 197 | 41 | 2 | 0 | 43 |
| Windbreak/Shelterbelt Establishment (CPS 380) - Replace a Strip of Cropland with 1 Row of Woody Plants | 3 | 25 | 0.2 | N.E.2 | 25 |
| | Total | 66 | 2.2 | 0 | 68.2 |

1Negative values indicate a loss of carbon or increased emissions of greenhouse gases

2Values were not estimated due to limited data on reductions of greenhouse gas emissions from this practice

For more information on how these estimates were generated, please visit www.comet-planner.com.

# Next Steps

- Finalize Technical Reviews
  - DNDC Technical Report
  - NRCS Final Report pending
  - Compost Planner dashboard
- Facilitate public review and comment process in coordination with CDFA
  - Address public comments
  - Finalize QM
- Contact us at: GGRFprogram@arb.ca.gov

# OUTLINE

- **Public Comments**:
  - Summary (slides # 5-12)
  - Responses (slides # 15-22)
    - Q&A – EFA-SAP Members
- Incentives Program Framework (slides# 29-47)
  - New practices for consideration – mechanism
    - Q&A – EFA-SAP Members
- Demonstration Program Framework (slide # 50-69)
  - Q&A – EFA-SAP Members
- Public Comments

# DEMONSTRATION PROGRAM FRAMEWORK

- Program Objective
- Eligibility
- Management Practices
- Program Requirements
- Grant Amount & Allowable/Unallowable Costs
- Technical Review Committee
- Scoring Criteria
- Project Reporting Requirements
- Timeline

21 public comments addressed in the program framework.

# PROGRAM OBJECTIVE

- SB 859 (2016) Section 569 (e) (3): "On-farm demonstration projects" means projects that incorporate farm management practices that result in greenhouse gas benefits across all farming types with the intent to establish or promote healthy soils.
- Program Objective: Provide funding for demonstration projects to monitor and demonstrate to the farmers and ranchers in California Agriculture that specific management practices sequester carbon, improve soil health and reduce atmospheric greenhouse gases.
- Request for Grant Applications (RFA; solicitation):
  - Separate from Incentives Program RFA.
  - Released simultaneously with Incentives Program RFA .

# ELIGIBILITY

- Eligible recipients include: Not-for-profit entities, University Cooperative Extension Services, Federal and University Experiment Stations, Growers in partnership with RCDs or one of the aforementioned entities (comment # 15f, 21a).
- Partnership must include an actual farm (privately or university owned) to fulfill demonstration requirement (comment # 15f).
- A single farm may apply for only one project.
- Collaboration with research organizations encouraged.
- A single lead organization/entity may not be principal applicant in more than two projects to allow wide distribution of funds.
  - Lead applicant may be collaborators on other projects.

# MANAGEMENT PRACTICES INCLUDED FOR DEMONSTRATION PROJECTS

- Cropland and Rangeland Soil Management:
  - Mulching (484)
  - No-till (329)
  - Reduced-till (345)
  - Cover crops (340)
  - Cropland Compost Application (Not a *separate* NRCS Practice)
  - Grassland Compost Application (Not an NRCS Practice)
- Herbaceous Cover (not alone*):
  - Herbaceous Wind Barriers (603)
  - Vegetative Barriers (601)
  - Riparian Herbaceous Cover (390)
  - Contour Buffer Strips (332)
  - Field Border (386)
  - Filter Strip (393)
- Woody Cover (not alone*):
  - Windbreak/ shelterbelt establishment/renovation (380)
  - Riparian Forest Buffer (391)
  - Hedgerow Planting (422)
  - Silvopasture (381)

*Combine with one of the soil management practices.

# PROGRAM REQUIREMENTS

- Awarded projects must demonstrate one of the "soil" incentivized practices over two years with a third year as matching funds (i.e. project term: 3 years total).
- Project must:
  - Include at least one of the soil management practices.
  - Have a control treatment (e.g. current management practice as a comparison).
  - Have minimum three replicates.
  - Be conducted in the same field for the 3 years.
- Awarded projects must measure soil organic matter and GHG emissions to quantify benefits over the three years of implementation (comments # 23b).
- Outreach: Awarded projects must invite at least 200 other growers per year to site to showcase and share information on practices (comment # 18).

# GRANT AMOUNT AND MATCHING FUNDS

- Maximum award amount: $250,000/demonstration project (previously proposed: $200,000/project).
  - Approx. 12 projects from $3 million total available funds.
- Matching funds are encouraged for years 1 and 2, required for year 3.
- Examples of activities that qualify as matching funds:
  - Cost of practice implementation, soil analyses and measurement of multiple benefits, labor cost, etc. (comment # 5a, 5b).
  - EQIP funds, and, funds and services provided by collaborators are allowable as match funds (comments # 5b, 21b).
- CDFA will ensure funds distributed in diverse geographic locations in the state dependent on quality of proposals (comment # 15b).

# ALLOWABLE COSTS

- Demonstration (comment # 3, 20)
  Itemize the estimated cost necessary for GHG fluxes and soil sampling and analysis. For example:
  - Supplies
  - Travel necessary for project implementation
  - Sample analysis cost
  - Labor
- Education & Outreach (comment # 3, 20)
  Itemize estimated costs necessary for outreach events, for example:
  - Rental for outreach equipment (e.g. projector).
  - Printing for event invitation, handouts, etc.

# UNALLOWABLE COSTS

- Costs incurred outside of grant agreement term
- Professional certification for project award recipients.
- Costs covered by another State or Federal grant program/match funds
- Pre-development costs, including, but not limited to: project design and any other activities that contributed to a project's readiness.
- Expenditures for purchasing or leasing land or buildings.

(comment # 3)

# TECHNICAL REVIEW COMMITTEE

- Academic researchers and Cooperative Extension specialists.
- Farm Advisors.
- State and Federal agency experts.
- Committee members will be selected based on qualifications and subject matter experience.
- All members must complete Conflict of Interest requirements.

(comment # 9e)

# SCORING CRITERIA

| Criteria | Points |
|---|---|
| Project Merit:<br>1. Demonstration Component<br>2. Outreach Component | 40 |
| Project Timeline and Implementation Plan | 10 |
| Project Team and Qualification | 10 |
| Project Budget | 15 |
| GHG Reductions, Co-Benefits and Post-Project Impacts | 25 |
| Total | 100 |

Regional and Crop Diversity Representation will be taken into consideration.

(comment # 15a, 15d)

# PROJECT MERIT: DEMONSTRATION COMPONENT (20 POINTS)

- Project demonstration objectives:
  - Clearly described, adequate, and appropriate.
  - Include all project components.
- Proposed approach, procedures, or methodologies:
  - Clearly described, suitable, and feasible.
  - Project design with appropriate maps and schematics provided.
- Expected results or outcomes:
  - Clearly stated.
  - Measurable and achievable within the allotted time frame.
- Plan for project evaluation and continued adoption of practices (comment #18).

# PROJECT MERIT: OUTREACH COMPONENT (20 POINTS)

- Proposed outreach objectives:
  - Clearly described, adequate, and appropriate.
  - Measurable, e.g. changes in learning, actions, or conditions in an identified audience or stakeholder group.
- Proposed approach, procedures, or methodologies:
  - Clearly described, suitable, and feasible.
  - Methods of notification of field day, record of attendance, distribution of survey, social media (optional), etc.

# PROJECT MERIT: OUTREACH COMPONENT CONT'D (20 POINTS)

- Expected results or outcomes (comment # 18):
  - Specify indicators that measure both progress and outcome results.
  - Methods to evaluate success of project activities (against baseline data when possible and applicable).
  - Quantify potential impact and short & mid-term outcomes, for example, percent adoption of practices and outreach/ participation by growers .
- Consideration of participation from DACs (comment # 22).

# PROJECT TIMELINE AND IMPLEMENTATION PLAN (10 POINTS)

- Work plan for Demonstration component:
  - Schematics of field operations.
  - Timeline for completing practice implementation tasks and for sampling plan (GHG fluxes and soil health).
- Work plan for outreach component:
  - Tasks (activities) needed to complete project (including methods and tools).
  - Timeline for completing tasks.

# PROJECT TEAM AND QUALIFICATION (10 POINTS)

- Roles of key personnel are clearly defined, key personnel have sufficient expertise to complete the proposed project.
- Support personnel, facilities, and instrumentation are sufficient (comment # 15c).
- CDFA encourages multi-disciplinary expertise in project team to capture greenhouse gas reductions and multiple co-benefits.

# PROJECT BUDGET (15 POINTS)

- The budget will clearly allocate sufficient resources to carry out project activities that will lead to desired outcomes.
- Itemized Budget should be realistic and reasonable.
  - Budget worksheet.
- A concise and proper budget justification is required.

# GHG REDUCTION, CO-BENEFITS AND POST-PROJECT IMPACTS (25 POINTS)

- GHG emissions reduction.
- Environmental impacts and benefits beyond GHG reductions are discussed. Examples include but not limited to nutrient management plan, reduced erosion, etc.
  - Water quality protection
  - Air quality protection
- Economic analysis and economic benefits (e.g. feasibility and profitability, job creation, etc.) (comment # 16).

# REGIONAL AND CROP DIVERSITY REPRESENTATION

- Soil management practices may vary with climatic regions, soil conditions, crop production systems. In order to achieve widespread adoption of the practices, additional consideration may be given to:
  - Selection of projects in diverse regions and/or cropping systems.

(comment # 15b & 15d)

# REPORTING REQUIREMENTS

- Recipients must submit progress and final reports during project term (comment # 23a):
  - Mid-year progress report due every June:
    - Status of project implementation (what has been completed).
    - Plan for next 6 months.
  - Annual progress report due every December:
    - Demonstration: Annual GHG emissions, soil carbon, multiple benefits and economic analysis.
    - Outreach activities and impacts.
    - Demonstration and outreach plan for next year.

# REPORTING REQUIREMENTS (CONT'D)

- Final report due December 2020:
  - Demonstration: Annual GHG emissions, soil carbon, multiple benefits and economic analysis.
  - Outreach activities and impacts.
- Three year post-project reporting (comment # 23b, 23c, 23d):
  - GHG reductions with COMET-Planner and soil organic matter.

# TIMELINE

| ITEM | ESTIMATED DATES |
|---|---|
| Program framework development including Quantification Methodology | Nov 2016 – Jun 2017 |
| Public/stakeholder meetings for program design feedback | Jan 2017 – May 2017 |
| Grant solicitation released | Jul 2017 |
| Applications proposals due | Aug 2017 |
| Proposal evaluation (Technical Review) | Aug – Sep 2017 |
| Announce grant awardees | Sep 2017 |
| Project Implementation | Oct 2017 – Nov 2020 |
| Project Verification | May 2020 |
| Post-project reporting | 2020-2022 |

(comment # 17)

# PROGRAM CONTACTS

Guihua Chen, Ph.D.

Senior Environmental Scientist

Guihua.Chen@cdfa.ca.gov

Geetika Joshi, Ph.D.

Senior Environmental Scientist

Supervisor – Incentive Programs

Geetika.Joshi@cdfa.ca.gov