U.S. Department of Agriculture
Natural Resources Conservation Service

NOTICE OF GRANT AND AGREEMENT AWARD

1. Award Identifying Number	2. Amendment Number	3. Award /Project Period	4. Type of award instrument:
NR233A750004G023		Upon final signature - 03/31/2028	Grant Agreement

5. Agency (Name and Address)	6. Recipient Organization (Name and Address)
USDA Partnerships for Climate-Smart Commodities c/o FPAC-BC Grants and Agreements Division 1400 Independence Ave SW, Room 3236 Washington, DC 20250 Direct all correspondence to FPAC.BC.GAD@usda.gov	NATIONAL SORGHUM PRODUCERS ASSOCIATION 4201 N INTERSTATE 27 LUBBOCK TX 79403-7507 UEI Number / DUNS Number: H39MBTRKJVG8 / 127873156 EIN:

7. NRCS Program Contact	8. NRCS Administrative Contact	9. Recipient Program Contact	10. Recipient Administrative Contact
Name: ERIC HANSEN (b)(6)	Name: SUNDII JOHNSON	Name: John Duff	Name: Julie Barclay

11. CFDA	12. Authority	13. Type of Action	14. Program Director
10.937	15 USC 714 et seq	New Agreement	Name: Tim Lust (b)(6)

15. Project Title/ Description: Expand climate-smart sorghum markets in CO, KS, NE, NM. OK, and TX and supports farmer implementation and monitoring of climate-smart practices that reduce greenhouse-gas emissions or sequester carbon

16. Entity Type: N = Nonprofit without 501C3 IRS Status (Other than Institution of Higher Education)

17. Select Funding Type

Select funding type:	☒ Federal	☒ Non-Federal
Original funds total	$64,999,998.40	$284,387,971.15
Additional funds total	$0.00	$0.00
Grand total	$64,999,998.400	$284,387,971.15

18. Approved Budget

Personnel	$7,204,366.45	Fringe Benefits	$1,287,463.88
Travel	$427,982.67	Equipment	$0.00
Supplies	$207,622.40	Contractual	$0.00
Construction	$0.00	Other	$55,872,563.00
Total Direct Cost	$64,176,547.01	Total Indirect Cost	$823,451.39
		Total Non-Federal Funds	$284,387,971.15
		Total Federal Funds Awarded	$64,999,998.40
		Total Approved Budget	$349,387,969.55

This agreement is subject to applicable USDA NRCS statutory provisions and Financial Assistance Regulations. In accepting this award or amendment and any payments made pursuant thereto, the undersigned represents that he or she is duly authorized to act on behalf of the awardee organization, agrees that the award is subject to the applicable provisions of this agreement (and all attachments), and agrees that acceptance of any payments constitutes an agreement by the payee that the amounts, if any, found by NRCS to have been overpaid, will be refunded or credited in full to NRCS.

Name and Title of Authorized Government Representative	Signature	Date
Katina Hanson, Acting Senior Advisor for Climate-Smart Commodities	KATINA HANSON Digitally signed by KATINA HANSON Date: 2023.04.04 10:23:45 -05'00'	
Name and Title of Authorized Recipient Representative Tim Lust CEO	Signature Tim Lust	Date 4-4-2023

NONDISCRIMINATION STATEMENT

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW., Washington, DC 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

PRIVACY ACT STATEMENT

The above statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. Section 522a).

Statement of Work

Purpose

The purpose of this agreement, between the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) and the National Sorghum Producers Association (Recipient), is to build markets for climate-smart commodities and invest in America's climate-smart producers to strengthen U.S. rural and agricultural communities.

Objectives

The objectives of this project are to support the production and marketing of climate-smart commodities by providing voluntary incentives to producers and landowners, including early adopters, to implement climate-smart agricultural production practices, activities, and systems on working lands; measure/quantify, monitor and verify the carbon and greenhouse gas (GHG) benefits associated with those practices; and develop markets and promote the resulting climate-smart commodities.

Budget Narrative

The official budget summarized below and described in the attached Budget Narrative will be considered the total budget as last approved by the Federal awarding agency for this award.

Amounts included in this budget narrative are estimates. Reimbursement or advance liquidations will be based on actual expenditures, not to exceed the amount obligated.

TOTAL BUDGET $ 349,387,969.55

PERSONNEL $6,554,307.95
FRINGE BENEFITS $1,171,380.11
TRAVEL $389,393.75
EQUIPMENT $
SUPPLIES $188,902.20
CONTRACTUAL $
CONSTRUCTION (usually n/a) $
OTHER $55,865,616 (includes PRODUCER INCENTIVES $47,400,525.00)
TOTAL DIRECT COSTS $64,169,600.00
INDIRECT COSTS $830,398.39
Recipient has elected to use the de minimis indirect cost rate (10% of MTDC). The recipient has voluntarily chosen to apply indirect costs to personnel, fringe benefits, travel and supplies and then reduce that amount by $6,947.
TOTAL FEDERAL FUNDS $64,999,998.40

PERSONNEL $0
FRINGE BENEFITS $0
TRAVEL $0
EQUIPMENT $0
SUPPLIES $0
CONTRACTUAL $0
CONSTRUCTION (usually n/a) $0
OTHER $284,387,971.15
PRODUCER INCENTIVES $0
TOTAL DIRECT COSTS $284,387,971.15
INDIRECT COSTS $0
TOTAL NON-FEDERAL FUNDS $284,387,971.15

Responsibilities of the Parties:

If inconsistencies arise between the language in this Statement of Work (SOW) and the General Terms and Conditions attached to the agreement, the language in this SOW takes precedence.

RECIPIENT RESPONSIBILITIES:

Perform the work and produce the deliverables as outlined in this Statement of Work and attachments.

Ensure Paperwork Reduction Act (PRA) clearance is obtained prior to conducting data collection from producers or other project participants, including data collection performed by subrecipients.

Comply with the applicable version of the General Terms and Conditions.

Submit reports and payment requests to the ezFedGrants system as outlined in the applicable version of the General Terms and Conditions. Reporting frequency is as follows:

- Performance Reports: Quarterly
- SF425 Financial Reports: Quarterly
- Detailed Progress Report: Quarterly
  (The detailed progress report is in addition to the performance and financial reports referenced above and described in the general terms and conditions)

Expected Accomplishments and Deliverables

See attached Benchmarks Table and associated Project Narrative.

Resources Required

See the Responsibilities of the Parties section for required resources, if applicable.

Milestones

See attached Benchmarks Table and associated Project Narrative.

GENERAL TERMS AND CONDITIONS

Please reference the below link(s) for the General Terms and Conditions pertaining to this award:
https://www.fpacbc.usda.gov/about/grants-and-agreements/award-terms-and-conditions/index.html

Attachments:
Budget Narrative
Project Narrative
Benchmarks Table
Climate-Smart Practices List and Limitations
Data Dictionary
Climate-Smart Specific Terms and Conditions

Page 006

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National Sorghum Producers
Partnerships for Climate-Smart Commodities
Revised Project Narrative

Executive Summary of Pilot Project

Contact Information: Project Director John Duff (john@sorghumgrowers.com; 806-638-5334)

Sorghum is a versatile commodity grown for consumer food, ethanol production, and livestock feed in the historically at-risk and highly-fragile arid High Plains. With increasingly unpredictable and intense weather owing to anthropogenic climate change, this area will be even more susceptible to environmental disaster in the future. More than 50,000 U.S. farmers and ranchers – predominantly located in Colorado, Kansas, Nebraska, New Mexico, Oklahoma and Texas – produced 448 million bushels of sorghum in 2021 across 7.31 million acres.[1] As such, U.S. sorghum producers are essential contributors to the economic viability of the nation's overall agriculture industry with the U.S. serving as the world's leading producer of grain sorghum.

Sorghum has a long history of growing in harsh environments to provide nourishment to people and livestock. The commodity's survival over 10,000 years of climatic volatility highlights sorghum's resilient nature and has resulted in it being trademarked as The Resource Conserving Crop™. When added to a rotation, sorghum decreases the overall carbon intensity of crop production as a result of its deep carbon-sequestering root system[2] and the cover it creates above ground, which reduces the need for tillage and increases the yields of other crops in rotation with sorghum.[3] The crop uses one-third less water than corn,[4] thus requiring less energy to pump water in irrigated production systems (resulting in fewer GHG emissions) and tolerates heat more effectively.[5] Accordingly, planting sorghum is an option available to farmers seeking positive on-farm conservation and sustainability outcomes.

As sorghum inherently boasts climate-smart attributes, a tremendous opportunity exists to **implement further climate-smart production practices and activities on working lands planted to sorghum to achieve substantial carbon, greenhouse gas, and other associated environmental benefits and market this climate-smart commodity for a higher premium in multiple market channels (project goal).**

Still, the costs to implement these practices; the lack of technical assistance to support sorghum producers in practice implementation; and an inability to comprehensively and independently monitor and verify benefits are **substantial barriers** to U.S. sorghum producers adopting Climate-Smart Agriculture and Forestry practices (CSAF) on their farms. This inhibits the ability for sorghum producers to realize premiums for their commodity, which major purchasers of sorghum have confirmed they will pay if CSAF practices and resulting benefits could be verified.

[1] https://downloads.usda.library.cornell.edu/usda-esmis/files/k3569432s/sn00c1252/g158cj98r/cropan22.pdf

[2] https://onlinelibrary.wiley.com/doi/10.1111/gcbb.12907

[3] https://acsess.onlinelibrary.wiley.com/doi/epdf/10.2134/agronj2016.07.0387

[4] https://acsess.onlinelibrary.wiley.com/doi/abs/10.2134/jnrlse2006.0161

[5] https://www.sciencedirect.com/book/9780128001127/corn-and-grain-sorghum-comparison

As such, **National Sorghum Producers** (NSP), a non-profit commodity organization with direct membership of 5,000 sorghum producers, seeks to leverage an investment of $65 million in U.S. Department of Agriculture funding through the Partnerships for Climate-Smart Commodities program to:

1. Implement climate-smart production practices, activities, and systems on a large-scale **across 1 million acres** of sorghum working lands over five years. In an expansive affirmation of producer support toward this objective, 85 sorghum producer signatories collectively farming 174,665 acres of sorghum alone have expressed a willingness to participate in this project's activities (see Letters of Commitment).
2. Measure, quantify, monitor and verify the carbon and greenhouse gas (GHG) benefits associated with the implementation of these practices on farms producing sorghum with the goal of achieving reductions of **500 million pounds of carbon dioxide equivalent (CO2e) emissions**;
3. Develop markets and promote the resulting sorghum as a climate-smart commodity first to the ethanol industry then to the consumer packaged goods (CPG) and other sectors as they fully mature. Post-project, incremental returns to producers are anticipated **at $115 million annually** (see explanation below).

This project will be implemented in the target **geographic region** of Colorado, Kansas, Nebraska, New Mexico, Oklahoma and Texas as well as on tribal lands. This target region represents 67 percent of the U.S. sorghum industry and overlays the epicenter of the American Dust Bowl. Today, this region continues to be challenged with extreme drought. For example, Lubbock, Texas, this past spring broke a record for the driest January-April on record,[6] and parts of northwest Kansas went without measurable precipitation for more than 400 days earlier in 2022.[7] While rising sea levels are a grave concern in many parts of the U.S., sand dunes overtaking farmland are an equally grave concern on the High Plains. Among other things, this drought is contributing to challenges implementing climate-smart practices that reduce GHG emissions and water scarcity both above and below ground.

To meaningfully **address and reduce the barriers** U.S. sorghum producers face in **implementing CSAF practices**, NSP will provide direct on-farm technical assistance to support producers in evaluating the benefits and feasibility of implementing CSAF practices such as low-till or no-till, nutrient management and reduced irrigation, providing expertise to guide producers in best methods of adoption. Outreach and technical assistance will be enhanced through partnerships with key organizations that have direct relationships with producers in each state where project activities will occur. Collaborations with experienced technical service providers will expand this project's reach beyond NSP's direct relationship with 5,000 sorghum producers.

To **reduce barriers** in **project monitoring and verification**, NSP will collaborate with a number of partners (see list below), including, among others, Sustainable Environmental Consultants (SEC). SEC is the data collection partner for Nestlé and Danone and has an established system for data collection that is easily adapted for both precision agriculture and paper records. The company has a team to manage the data collection process, house the data, and to collaborate with third-party verifiers to provide verification not only for this program, but for climate-smart commodity end-users, as well. This platform will also support transparency through the supply chain, supporting greater marketability options. To **reduce economic barriers** to producers implementing CSAF practices, NSP will create a pathway for all

[6] https://www.fox34.com/2022/04/25/cooler-start-week-still-dry/

[7] https://www.ncei.noaa.gov/access/past-weather/

implemented practices to be quantified, monitored, and verified by third-party technical service providers with the intent to monetize these practices, specifically in terms of a metric tied to carbon savings. Producer incentives,quantified by the suite of practices implemented by acre, will support sorghum producers' ability to implement CSAF practices short-term until market premiums are experienced.

In the medium term (by Year 3 of the grant project period), NSP will collaborate with sorghum producers to take advantage of added value, primarily in the California fuel market with climate-smart sorghum being sold to ethanol companies for use in ethanol production, resulting in low carbon fuel credits for fuel purchasers and an incremental market premium for sorghum producers. This bridge gives this project a significant advantage, allowing for more rapid realization of market-based incentives that are independent of the producer incentives paid through grant funds. This is reasonable and achievable. In addition to its traditional uses as livestock feed in the U.S. and abroad, sorghum is the second-most important ethanol feedstock in the U.S. and the most important locally-grown ethanol feedstock in Kansas and Texas. The Texas and Kansas plants (including 648 million gallons of capacity represented in this project) typically supply a large portion of the California ethanol market. Sorghum producers have been able to capture significant value from ecosystems services markets for more than a decade by marketing their commodity through this channel, which pays well but could pay more with the correct quantification framework to pay for farm-level practices. Similarly, 66[8] countries or blocs have implemented biofuel mandates or targets, including significant U.S. fuel trading partners such as Europe via its Renewable Energy Directive.

These facts mean that many sorghum producers and their partners in the ethanol industry are already well-positioned to meet the needs of other ecosystems services markets and lack only the mechanisms to quantify the impact of practices and monetize them. Accordingly, NSP is approaching this program as a five-year pilot test of monitoring, measurement, reporting, and verification (MMRV) for the fuel and ethanol market. This strategy could therefore be leveraged the very day California, and any of the other 65 countries around the world with clean fuels markets, begins incentivizing farm-level practices for sorghum and any other crop.

In the long-term, market premiums are expected to grow to other buyers of sorghum, including CPG companies that produce food products made with sorghum. This potential is evidenced by the letters from these entities included in this application, expressing desire and interest in future purchases of climate-smart sorghum. Like with fuel markets, the main obstacle to CPG markets and their stakeholders realizing the full benefit of climate-smart agriculture is a lack of data and a framework with which to track information related to climate-smart practices through the supply. Our program will also meet these needs and **enable CPG markets to leverage the gains from our program almost immediately** as these markets can already incentivize farm-level practices with the correct framework.

Thus, a **compelling need** exists to reach sorghum producers with these activities given the tremendous acreage already dedicated to sorghum; if CSAF practices can be implemented even on a small percentage of sorghum acreage nationwide, the climate benefits will be astounding. Initial projections assume that if climate-smart practices are implemented **on 1 million acres of lands planted to sorghum over five years, this would result in more than 500 million pounds of GHG emissions reductions (Merit/Technical Criteria *a.i.*)**. Based on the USDA funds requested, this translates to a **cost of just $0.13**

[8] https://www.sec.gov/Archives/edgar/data/916540/000091654019000019/darlingingredientsbmocon.htm

per pound of GHG emissions reduced, with this project providing an incredibly remarkable return on investment of USDA Partnerships for Climate-Smart Commodities grant funding.

Furthermore, baseline projections estimate this project will result in **annual incremental market returns** to sorghum producers of $115 million per year ($115,000 per participating producer) post-project with continued CSAF practices post-grant, which is a long-term economic benefit for sorghum producers (see *Plan To Develop And Expand Markets For Climate-Smart Commodities As A Result Of Project Activities* for support; ***Merit/Technical Criteria c.i.***). This assumes climate-smart sorghum being sold into the ethanol market at a premium. Including the diversity provided by CPG markets and additional clean fuel markets around the world, this number will be radically higher. This benefit has the potential to **extend to farmers of other field crops**, including those planting cotton, soybean, and corn, among other crops. According to Kansas State University data, the planting of sorghum mitigates nitrate leaching, runoff, and volatilization, generating half the amount of loss as other crops.[9] Therefore, this project can extend to other commodity growers to encourage the planting of sorghum (which is planted annually) in regular rotations and the implementation of CSAF practices on newly planted sorghum acres.

With a **strong existing relationship with sorghum producers** given its membership of 5,000 producers, and vast experience working with both producers and landowners, as well as promoting climate-smart activities and marketing climate-smart commodities, NSP's **organizational capacity** to execute a project of this scale is unmatched (***Merit/Technical Criteria d.iv.)***. The management team has led multiple successful nonprofit and for-profit startups. The organization has also successfully implemented numerous outreach programs for sorghum producers, including state meetings, field days, educational podcasts (which have achieved approximately 10,000 downloads), and educational workshops (with 221 total participants reached in 2020 trainings through USDA Risk Management Agency Risk Management Education Partnerships funding).

NSP has also executed **substantial on-farm conservation efforts** with sorghum producers through a Natural Resources Conservation Service (NRCS) Conservation Collaboration Grant (a project which was a small scale version of this current program) and Regional Conservation Partnership Program to improve water quality conditions within the Milford Lake Watershed. The industry is also currently leading Sorghum for BIRDS (Building Innovative, Resilient, and Diverse Agricultural Systems), a three-year program providing participating landowners with cost-share incentives for the installation of wildlife-friendly conservation practices on land planted to sorghum. This ensures NSP can effectively manage this project and provide the highest level of benefit to sorghum producers, specifically in implementing on-farm CSAF practices.

Further affirming NSP's organizational capacity is the unparalleled collaboration this project will provide, benefitting its partners. This includes **42 project partners committed to or supporting this project** (please see Letters of Commitment attached to this proposal; ***Merit/Technical Criteria d.iii.***). These include:

[9] https://www.researchgate.net/publication/343011060_Dryland_Sorghum_Nitrogen_Management_Implications_for_Utilization_as_Ethanol_Feedstock

- **Organizations representing small and historically underserved producers**: Kansas Black Farmers Association; Peoria Tribe of Indians of Oklahoma; Kansas AgriWomen; and Women Managing the Farm.
- **Sorghum producer organizations**: Colorado Sorghum Association; Kansas Grain Sorghum Producers Association; New Mexico Sorghum Association; Oklahoma Sorghum Association; Texas Grain Sorghum Association; and United Sorghum Checkoff Program.
- **Institutes of Higher Education**: Prairie View A&M University (a Minority Serving Institution (MSI), an institution within the Historically Black Colleges and Universities (HBCU)); Colorado State University; Texas Tech University (an MSI, designated as a Hispanic Serving Institution (HSI) serving as a contractor); Texas A&M University (a Minority Serving Institution (MSI), designated as a Hispanic Serving Institution (HSI) serving as a contractor); Kansas State University (also serving as a project contractor); and Oklahoma State University.
- **Non-profit and governmental entities**: New Mexico Department of Agriculture; Kansas Department of Agriculture; Field to Market; Rural Investment to Protect our Environment (RIPE); Trust in Food™; National Cotton Council; American Coalition for Ethanol; and Kansas Water Office.
- **Project Contractors**: Pheasants Forever & Quail Forever; Salk Institute for Biological Studies; Danforth Center; Northrup.ag; Arable; Argonne National Laboratory; Pinion (formerly K-Coe Isom); Sustainable Environmental Consultants; and ServiTech.
- **Climate-Smart Commodity End-Users and Intermediaries**: Danone; Kashi; Bayer Crop Science; Archer-Daniels-Midland; Conestoga Energy Partners; Kansas Ethanol; Pratt Energy; Western Plains Energy; White Energy; Nu Life Market; CoBank; Galvanize Climate Solutions; and High Plains Farm Credit.

This project has also garnered bicameral, bipartisan support from five members of Congress across multiple states: Jerry Moran (R-KS); Michael Bennet (D-CO); Ben Ray Lujan (D-NM); Frank Lucas (OK-03); Jake LaTurner (KS-02).

To NSP's knowledge, this project is the only application being submitted to this program to exclusively reach and provide benefits to sorghum producers who are integral to the viability of the nation's agriculture industry (***Merit/Technical Criteria e.v.***). Partnering with a number of entities to leverage NSP's expertise and reach to producers **minimizes transaction costs** associated with project activities as there will be no duplication of efforts within the industry and little in the way of start-up time needed by project contractors and personnel (***Merit/Technical Criteria e.ii.***). Furthermore, this project will benefit from an in-kind cost sharing value of at least **$300 million** over five years; **conservatively** assuming the value of the equipment used to implement CSAF practices (see *Budget Narrative*).

Plan To Pilot Climate-Smart Agriculture Practices On A Large Scale

Leveraging its direct relationship with 5,000 sorghum producers across multiple states – as well as key partnerships with other sorghum producer organizations and entities serving small and historically underserved producers – NSP seeks to support 1,000 sorghum producers in adopting CSAF practices on 1 million acres of land currently planted to sorghum (Merit/Technical Criteria ***e.iv)***. This effort would therefore be a **large-scale pilot** that seeks to meaningfully address the U.S. climate crisis on a **substantial scale**.

The acres targeted for CSAF practices through this project represent about 14 percent of the total sorghum acreage planted in 2021 – a substantial, yet reasonable target for this project. As noted above, it is

anticipated this project will result in benefits of more than 500 million pounds of GHG emissions reductions mitigated, the equivalent of taking almost 10,000 cars off the road each year, should this project achieve the objective of producers adopting CSAF practices on 1 million acres of land planted to sorghum over five years. Based on the USDA funds requested, this translates to a **cost of just $0.13 per pound of GHG emissions reduced or $65 per climate-smart acre.** Furthermore, baseline projections estimate annual **incremental market returns** to producers of $115 million should producers continue CSAF practices post-grant and receive a premium on their climate-smart sorghum sold for ethanol production.

Plan To Recruit Producers and Landowners and Outreach Efforts

This project will recruit producers and landowners from a target geography that includes portions of five states: Colorado, Kansas, Nebraska, New Mexico, Oklahoma, and Texas. This region represents 67 percent of the sorghum industry or approximately 4.4 million acres. The area includes approximately 20,000 farmers who are vitally important to U.S. agriculture. NSP will conduct **direct outreach to recruit** sorghum producers in this region to participate in this project's activities, first and foremost leveraging NSP's sophisticated and experienced marketing and communications team, whose primary mission is to directly inform and engage sorghum producers. NSP has the broadest and widest producer reach of any organization in the sorghum industry with 5,000 producer members, a mailing list of more than 50,000 sorghum producers, and 20,000 subscribers to the *Sorghum Grower* magazine, a quarterly publication of NSP. Additionally, NSP personnel have extensive knowledge of the sorghum industry plus experience and skill publicizing local and national programs and opportunities that benefit sorghum producers. This team has been effective in sharing educational opportunities through other NSP efforts supported by USDA grant funds, including educational opportunities through multiple USDA Risk Management Education funding agreements (work which resulted in the creation of three new insurance products), and through a separate USDA NRCS Conservation Collaboration Grant project, which was essentially a smaller version of this prospective CSAF project. Because of their reach, breadth of knowledge, experience, and skill, NSP can offer dynamic, collaborative and effective recruiting efforts.

To recruit producers to specifically participate in this project's activities, messaging and materials will be developed and shared on NSP's own promotional platforms, including NSP's website, podcasts, email communications, social media platforms, and quarterly magazine. In addition, NSP will contract with a marketing firm to create appealing printed and digital materials to support producer recruitment and to oversee an advertising campaign (printed, radio, and digital) to further extend the reach of promotional materials (see *Budget Narrative, Marketing and Promotional Support and Other*). This will be supplemented with direct one-on-one producer outreach on a local level. Four incremental personnel – one in Kansas, one in Texas, one in Oklahoma, and one to serve producers in both Colorado and New Mexico – will conduct personal emails, phone calls, and in-person visits to sorghum producers to share information about project activities; recruit sorghum producers to participate in project activities; and provide follow-up support to ensure practices are well-implemented, documented and monitored (see *Budget Narrative, Outreach and Contract Specialists*). These positions will operate in close collaboration with the Colorado Sorghum Association; Kansas Grain Sorghum Producers Association; New Mexico Sorghum Association; Oklahoma Sorghum Association; and Texas Grain Sorghum Association, providing local connections and support for sorghum producers.

Plan to enroll underserved and small producers

The promotional materials created for this project will be shared with all project partners, many of which have committed to share these materials through their own expansive outreach channels. Among others,

these include **organizations representing small and historically underserved producers,** including the Kansas Black Farmers Association; Peoria Tribe of Indians of Oklahoma; Kansas AgriWomen; and Women Managing the Farm; organizations that all have members within the Sorghum Belt who grow sorghum (***Merit/Technical Criteria c.iii.)***. NSP has established relationships with these groups. Of specific note, NSP enlisted the help of Kansas Black Farmers Association Executive Director and President, Dr. JohnElla Holmes, to inform the education and outreach components of this program and foster multi-channel learning opportunities with resource partners for farmers in both groups. In addition to her role with KBFA, Dr. Holmes is Professor Emeritus, College of Education, Kansas State University. Furthermore, NSP has extensive relationships with many individual Hispanic farmers, and we plan to promote the program to these farmers aggressively on a one-on-one basis.

Each of these **innovative partnerships** ensure appropriate, trusted and culturally relevant outreach to best meet the needs of small and historically underserved producers. NSP anticipates that through these efforts at least 100 small and historically underserved producers will enroll in this project's activities, feasible given the wide reach of partners committed to serving this audience. NSP has committed at least 7.5 percent of this project's budgeted funds for producer incentives ($3.75 million) for small and historically underserved sorghum producers/landowners. Additionally, approximately 10 percent of budgeted funds for technical assistance ($200,000) will serve small and historically underserved sorghum producers (***Merit/Technical Criteria c.ii.)***. Furthermore, an incremental staff position will be hired with the direct purpose of overseeing, ensuring and promoting inclusion and diversity in this project's activities and continued support of small and historically underserved producers once CSAF practices are implemented (totaling $730,006 over five years; see *Budget Narrative, Inclusion and Diversity Director*). Therefore, at a minimum, **more than $4.5 million of this project's grant funding will support small and historically underserved producers**.

As noted in the Executive Summary, sorghum decreases the overall carbon intensity (CI) of crop production. Therefore, outreach can also be extended to other commodity growers – including cotton, soybean, and corn producers – to encourage the planting of sorghum (which is planted annually) in regular rotations among other crops and implementing CSAF practices on newly planted sorghum acres. Partnerships with Colorado State University, Field to Market; Rural Investment to Protect our Environment (RIPE); Trust in Food™; National Cotton Council; Kansas Water Office; CoBank; and High Plains Farm Credit will facilitate outreach to these producers (***Merit/Technical Criteria d.iii.).***

CSAF Practices To Be Deployed and Plan To Provide Financial Assistance To Producers

With technical guidance from Carbon A List; Northrup.ag; Prairie View A&M University; Colorado State University; Texas Tech University; Texas A&M University; Oklahoma State University; and Kansas State University, a menu of CSAF practices – aimed at driving the most effective climate-smart outcomes on working lands planted to sorghum – will be created. The **primary CSAF practices** NSP seeks to deploy on existing working sorghum lands include low-till or no-till; nutrient management; planting for high carbon sequestration rates; and reduced irrigation. All of these practices have proven to provide GHG benefits and carbon sequestration in sorghum, and many have a market premium monetary value already associated with their implementation based on California Low Carbon Fuels Standard credits (LCFS) provided by the California Air Resources Board (CARB) for low carbon intensity fuel, which can be produced with climate-smart sorghum.

The implementation of these practices have **greater environmental co-benefits and climate adaptation benefits**, in addition to GHG reduction benefits (***Merit/Technical Criteria a.iv. and a.v.)***. Due to this

project's target geographic region being the historical site of the Dust Bowl – a region vulnerable to wind erosion – no-till is a vital practice to implement for long-term environmental sustainability. The implementation of nitrogen management practices will mitigate any threats posed by nitrogen runoff given the global warming potential of nitrates is approximately 300 times that of carbon dioxide (in addition to threatening water quality). Finally, the adoption of precision irrigation is greatly needed in light of declining groundwater availability and the positive climate impacts that result from reducing irrigation water consumption, given the energy costs associated with pumping from the Ogallala Aquifer.

Below Table 1 (included from our original submission for reference only) is the list of CSAF practices this project will seek to deploy, along with the applicable NRCS conservation practice standard code(s). This list highlights the cornerstone practices NSP's project targets, which are no till, nitrogen management (such as 4R-based application timing, variable rate application, split applications, fertigation and time release fertilizer products) and precision irrigation (using variable rate technology or simply planting sorghum on a farm number where another crop was historically planted). These CSAF practices are some of the most transformative and beneficial to the drought-stricken Sorghum Belt. Each practice will be accompanied by a voluntary producer incentive value based on the value of the practice in the California fuel market and the impact on GHG emissions. Note that some of the practices will be inapplicable to our program, but we are including them here for reference and transparency. For example, we will not cost-share a new irrigation pipeline (430), but we recognize such new equipment could be part of an overall climate-smart strategy that involves planting sorghum under our program. Accordingly, we are including this code(s) in the interest of being comprehensive.

Table 1. Menu of select climate-smart practices with estimated payments.

Practice	CI Savings (g/bu)[10]	Producer Incentive Payment ($/ac)	Environmental Co-Benefit
No Till	2,152	$40.32	Builds soil to enhance water- and nutrient-holding capacity.
Precision N	2,350	$44.03	
No Till + Precision N	2,904	$54.41	
Reduced Irrigation	2,341	$58.03	Reduces pumping costs by $25-$50 per acre; reduces energy usage.
Reduced Irrigation + No Till	2,895	$71.77	
Reduced Irrigation + Precision N	3,093	$76.67	
Reduced Irrigation + No Till + Precision N	3,647	$90.41	

Here is the full list of CSAF practices this project will seek to deploy, along with the applicable NRCS conservation practice standard code(s):

1. *No-Till*
    a. 329 – Residue and Tillage Management, No-Till
2. *Reduced Till*
    a. 345 – Residue and Tillage Management, Reduced Till
3. *Cover Crops*
    a. 340 – Cover Crops

[10] https://greet.es.anl.gov/index.php?content=registration&from=tool_fd_cic

4. *Precision N (and other VRT fertilizer application)*
    a. 590 – Nutrient Management
    b. 333 – Amending Soil Properties with Gypsum Products using VRT where applicable
5. *Precision Irrigation*
    a. 449 – Irrigation Water Management
    b. 442 – Sprinkler System
    c. 443 – Irrigation System, Surface and Subsurface
    d. 430 – Irrigation Pipeline
    e. 533 – Pumping Plant
    f. 587 – Structure for Water Control
6. *Residue*
    a. 329 – Residue and Tillage Management, No-Till
    b. 345 – Residue and Tillage Management, Reduced Till
7. *Resource Conserving Crop Rotation*
    a. 328 – Conservation Crop Rotation
    b. E328A – Resource Conserving Crop Rotation
8. *Emissions-factor mitigating practices*
    a. 218 – Carbon Sequestration and Greenhouse Gas Mitigation Assessment
    b. 376 – Field Operations Emissions Reduction
9. *Soil Testing*
    a. 216 – Soil Health Testing
    b. 217 – Soil and Source Testing for Nutrient Management
    c. 590 – Nutrient Management
10. *Edge of Field (Perennial Cover)*
    a. 386 – Field Border
    b. 393 – Filter Strip
12. *Contour Farming*
    a. 330 – Contour Farming
    b. 332 – Contour Buffer Strips
13. *Tissue Sampling*
    a. 590 – Nutrient Management
16. *Green Fertilizer*
    a. 808 – Soil Carbon Amendments
17. *Compaction Mitigation*
    a. 334 – Controlled Traffic Farming

The valuation of producer incentives for these practices will be determined at the project commencement with technical guidance from Carbon A List; Northrup.ag; Texas Tech University; and Kansas State University. Any additional practices must meet three criteria: 1) They must be market-driven; 2) They must be producer-driven; and 3) There must be an established climate-smart benefit to each. In addition to this valuation process and the third-party validation services performed in conjunction with the data collection framework we will be developing, we will have a rigorous process led by our measurement and verification director for ensuring implementation of our practices meet NRCS standards. Just as payments to participating farmers will be withheld if third-party verification checks result in failure, **payments will only be made if practices were implemented in a way that meets NRCS standards.** This compliance process will center around a collaboration between our outreach and contract specialists on the ground and

technical support staff overseen by Pheasants Forever, Inc. & Quail Forever (PF&QF). PF&QF staff are U.S. agriculture's foremost experts on NRCS programs, and these staff along with our outreach and contract specialists will collaborate to ensure practices are implemented to meet NRCS's rigorous standards.

Producer incentives will be critical to encouraging adoption of CSAF practices, especially as many CSAF practices may require up-front costs. For example, no till practices typically require increased herbicide costs; planting cover crops requires purchase of cover crop seed; and practices may increase the costs of labor and other inputs. Producer incentives will offset these costs in the short-term until the markets can bear a premium in the long-term. In total, NSP has allocated **$47.4 million in financial assistance** to encourage CSAF adoption by producers, 73 percent of the total grant funds requested (***Merit/Technical Criteria e.i.D.***). This assumes producer incentives will be provided to 1,000 sorghum producers, considering a target objective of CSAF practices being adopted on 1 million acres of sorghum. Based on NSP's extensive knowledge of the sorghum industry and the producers and region targeted, it is assumed producers will receive an average incentive of $40.00-$50.00 per acre, depending on the practices they implement. This recognizes CSAF practices will be assigned different values and multiple practices could be implemented on each acre. As noted above, $3.75 million of this financial assistance in the form of producer incentives will be dedicated to serve **small and historically underserved producers**. Note this did not change from our first submission. The only reductions in farmer payments came from the general pool rather than this small and historically underserved pool. Furthermore, at least $200,000 in technical assistance is anticipated to be provided to serve **small and historically underserved producers.**

Note that **we are not proposing to implement any practices on land that is not currently used for agricultural production.** Furthermore, **none of our practices will involve ground disturbance below the plow zone.** Again, while we included certain codes like subsurface irrigation and irrigation pipeline in the above list that might involve such disturbance, we will not compensate farmers for these activities via cost-share. Rather, we recognize that new irrigation infrastructure already deployed may be part of an overall climate-smart strategy, so we are including these codes for reference and in the interest of transparency. Also note that while **none of our project activities will involve concentrated animal feeding operations**, some participating farmers may use manure.

Technical assistance and training

To ensure the objective of adopting CSAF practices on 1 million acres of planted sorghum is achieved, NSP will provide robust technical assistance, outreach and training support to sorghum producers through the entire project period. Outreach will begin within 60 days of the project start date and will be ongoing. Technical assistance will begin within three months of the project start date and will also be ongoing. Once outreach is made and producers express willingness to enroll in project activities, the first tier of technical assistance provided to sorghum producers will consist of direct on-farm visits to help sorghum producers evaluate the most effective CSAF practices to implement on their farms. A CSAF plan and associated contract will be drafted with producers committing to implement practices and NSP committing to provide producer incentives based on the implementation of these practices. Producers will also be enrolled in Sustainable Environmental Consultants' (SEC) proprietary electronic reporting database EcoPractices platform to ensure accurate reporting and practices monitoring is implemented. This will ensure accurate GHG emission reductions monitoring and reporting. These efforts will all be accomplished by the four NSP outreach positions operating in affiliation with the Colorado Sorghum Association and New Mexico Sorghum Association; Kansas Grain Sorghum Producers Association; Oklahoma Sorghum Association;

and Texas Grain Sorghum Association. These staff will provide the needed administrative technical assistance to document practices to be implemented for each sorghum producer and provide producers needed information to document practices while providing additional technical assistance that is available through this project. These staff will also implement the compliance process, both with regard to third-party verification and when ensuring NRCS's rigorous standards for practices are met. These activities will ensure sorghum producers have a consistent relationship and local support throughout the project period (***Merit/Technical Criteria e.iii.***).

In addition to hiring incremental NSP staff to provide outreach and administrative technical assistance, this project will benefit from the vast expertise and experience of PF&QF. PF&QF have an existing team of more than 220 positions that provide technical assistance to private landowners and has made a conservation impact on more than 20 million acres over its history. PF&QF have previously partnered with the sorghum industry to develop on-farm conservation programs for sorghum growers in the Kansas High Plains region, working directly with NSP's sorghum producers to implement programs to provide participating landowners with cost share incentives for the installation of wildlife-friendly conservation practices. Through this partnership, PF&QF have also worked to gather key sustainability metrics on sorghum acres to assess the impact of on-the-ground conservation programs. As such, providing technical assistance to sorghum producers is a core competency of PF&QF and leverages their existing relationships with sorghum producers. Their experience assisting producers in implementing CSAF practices will be vital to this project, and their structure with biologists in local chapters ensures sorghum producers will have reliable, responsive staff to visit sorghum farms in a timely manner with little travel costs. NSP's team will refer participating producers to PF&QF staff should they need a deeper level of guidance and support to evaluate the most beneficial CSAF practices for implementation. Upon enrollment, producers will also be provided information about assistance provided by PF&QF and direct contact information for the nearest PF&QF staff. PF&QF staff will provide producers practical day-to-day guidance on implementation of practices; will provide options to resolve any potential issues experienced during implementation; and will offer trusted hands-on technical support (***Merit/Technical Criteria e.iii.***). PF&QF staff will also provide support related to NRCS programs. This support will ensure successful leveraging of NRCS programs when and if appropriate as well as compliance with NRCS's rigorous practice standards.This comprehensive approach to outreach and technical assistance – with significant attention to serving the needs of small and historically underserved producers – provides a great level of confidence to this project achieving its goals and objectives.

Measurement/Quantification, Monitoring, Reporting, And Verification Plan

Approach to greenhouse gas benefit quantification

A key strength of this project is the planned **methodology** to quantify GHG benefits of adopted practices. All enrolled producers will document their practices and related acreage in SEC's established and proprietary EcoPractices platform, a platform currently used by Nestlé and Danone to track and monitor climate-smart practices implemented by other commodity farmers in select and limited areas of their supply chains. This platform will need to be adapted to include information relevant to sorghum and certain practices implemented on working lands planted to sorghum. Given the climate-smart practices that will be encouraged and incentivized for adoption by sorghum producers are practices defined by the National Conservation Practice standards, the quantification methodologies are housed in USDA NRCS's COMET-Farm tool. This quantification method is what SEC's platform is built on, resulting in a direct electronic data transfer of the data collected from this project into a COMET-Farm compatible framework, strengthening

connections between the various models currently being used in climate-smart agriculture (***Merit/Technical Criteria e.i.B and e.i.C.***).

Furthermore, GHG benefits beyond the farmgate will be quantified using the Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies (GREET) model, which works hand-in-hand with COMET-Farm, providing the Carbon Intensity (CI) scores associated with fuel production, transportation and distribution as well as other emissions not directly related to agricultural practices to enable low CI fuels to sell at a premium in California. Both models employ similar methodologies for GHG emissions quantification and draw from the same soils database, among others. Notably, a new addition to the suite of tools available to GREET model users is a calculator that allows for direct transposition of GHG emissions values calculated for low carbon fuel markets to formats used by CPG markets. Accordingly, NSP will also quantify emissions using this model and generate reports for each participating producer that include footprint information from both models for maximum value to all applicable marketplaces and maximum information flow between different models (***Merit/Technical Criteria e.i.B and e.i.C.***).

In addition to farm-level monitoring of practices using the EcoPractices platform, NSP will engage Prairie View A&M University, an HBCU; Texas Tech University, an HSI; Texas A&M University, an HSI; and Kansas State University (see *Budget Narrative*) to execute a technical program aimed at quantifying the value of emissions reductions associated with irrigation water use reduction and nitrate leaching, volatilization and runoff mitigation techniques. Texas Tech University will lead the irrigation component, and Prairie View A&M University, Texas A&M University, and Kansas State University – aided by Oklahoma State University – will lead the nitrate mitigation component. This quantification work will be co-located with the Department of Energy's SMARTFARM program and in Texas will directly deploy SMARTFARM equipment. The SMARTFARM program seeks to understand nitrate losses using remote sensing equipment. NSP's data will provide key insights, resulting in significant leverage of an existing $20 million federal effort.

This approach also **reduces transaction costs**. Rather than having multiple platforms, or having the ability to open this project to sorghum producers implementing certain practices, NSP will be able to holistically and comprehensively monitor, track and report GHG emission reductions (***Merit/Technical Criteria e.ii***). Furthermore, the approach can be used in any ecosystem services market – from those dedicated to fuel to those dedicated to CPGs – and with any commodity, ensuring maximum cost effectiveness. This quantification of GHG emissions also provides solid support for the **proposed methodology employed to quantify producer incentives**. Because the most immediate market opportunity for climate-smart sorghum is in the ethanol industry, producer incentives will be calculated based on the reduction in carbon intensity (CI) of ethanol produced from climate-smart sorghum and sold in California. The California LCFS is central to meeting California's ambitious and long-term GHG emission reduction goals and has been paying fuel providers for reductions in CI for more than a decade now. This market has the most rigorous standards for monitoring, measurement, reporting and verification (MMRV), so meeting the needs of California will ensure NSP's program and producers can fulfill the needs of any ecosystem services market, including those centered around CPGs. This project will also serve as a pilot test to pave the way for California to allow farm-level tracking of CI scores, which would result in a higher value for ethanol and thus a higher value for sorghum produced with CSAF practices. We expect the same outcome in CPG markets and will leverage the collaboration with **Danone, Kashi and Nu Life Market** to ensure the value of climate-smart practices can be realized downstream of the farm gate and monetized for producers.

With regard to fuel markets, each unit of fuel (of any kind) sold in California must have an associated CI score, which is measured in grams of carbon dioxide-equivalent emissions per megajoule of energy in the fuel (gCO2e/MJ). When compared to a benchmark fuel with a CI of 100 gCO2e/MJ, each unit of fuel sold either generates credits (when the fuel has a smaller CI than the benchmark) or deficits (when the fuel has a larger CI than the benchmark). The responsibility for meeting CI reduction targets under California law lies with fuel providers, so deficit-generating companies purchase credits from credit-generating companies, thus incentivizing lower CI fuels. The current value for carbon in California is $66 per metric ton[11] (and expected to climb to $200 per metric ton in the next few years), making the California fuel market the highest-paying ecosystem services market in the world. CI scores are based on a lifecycle assessment of the fuel where all emissions associated with production of a fuel are measured and quantified in carbon-equivalent terms. Approximately 30 percent of the emissions associated with the production of ethanol are driven by farming practices,[12] so reducing tillage, nitrogen fertilizer usage, or irrigation directly results in lower carbon-equivalent emissions or a smaller CI. NSP has calculated the emissions reductions associated with these practices and assigned them a value using a carbon price of $140 per metric ton[13] (the medium-term average, which has declined slightly from our original application). Other low carbon fuel standards in the U.S. and abroad (including Europe) have similar methodologies and values. For simplicity, it will be assumed the sorghum produced with CSAF practices is transported to the nearest ethanol plant with the emissions associated with sorghum transportation being calculated based on the distance from the farm. NSP's MMRV Director (see *Budget Narrative, Measurement and Verification Director*) will work with this project's ethanol plant partners to assign a score for all additional emissions that occur from the point the sorghum is unloaded at the facility to provide a full picture of the CI of a gallon of ethanol produced using climate-smart sorghum grown as a part of this project.

In addition to the ethanol industry, support from major food companies who buy sorghum as an ingredient to produce their products demonstrates that, in the future, these major commodity buyers will value lifecycle emissions in a similar format and provide producers an incentive for supplying them with climate-smart sorghum. Given the value-added nature of these markets and the ability (and desire) of consumers to pay for products made with climate-smart practices, the value of the practices could add significant market diversity to go alongside California ethanol as an outlet for producers growing and marketing climate-smart sorghum. NSP believes such diversity is key to producers fully delivering long-term opportunity to provide climate benefits to society, but a mechanism is needed to compensate sorghum producers until all markets can fully develop.

In order to deliver the value of climate-smart practices to CPG and related non-fuel ecosystem services markets, NSP has engaged **Danone, Kashi and Nu Life Market** to collaborate on valuing our climate-smart practices according to their standards (for comparison) and, most importantly, evaluating our framework for tracking practices and ensuring compliance via third-party verification. Specifically, these entities will be engaged at every step in developing and evaluating our processes by working with the measurement and verification director to ensure our framework is viable for their purposes. Our goal is to develop a framework **that can be leveraged in any ecosystem services market – from fuel to CPG and beyond – immediately** and could even be used by farmers to effectively shop their practice information to any interested ecosystem services market and monetize their practices in the market paying the most. This

[11] https://www.ecoengineers.us/

[12] https://www.arb.ca.gov/fuels/lcfs/ca-greet/ca-greet30-corrected.xlsm?_ga=2.242680203.802211573.1651292841-1991034774.1644014559

[13] https://ww2.arb.ca.gov/sites/default/files/2022-04/CreditPriceSeries_Mar2022.xlsx

would ensure maximum climate benefit is delivered to the marketplace and maximum value accrues to the producers. However, this is only possible with a framework that works in CPG markets, as well. Via their partnership and involvement in this program, **Danone, Kashi and Nu Life Market**, will ensure this happens.

Approach to monitoring of practice implementation

As noted above, NSP's objective is to support 1,000 sorghum producers in the implementation of CSAF practices on 1 million acres of lands planted to sorghum over five years. To effectively monitor the progress toward practice implementation, NSP will partner with SEC. Participating producers will be provided access to SEC's proprietary EcoPractices platform upon enrollment into this project, and SEC will use this platform to input individual farm data on CSAF practice implementation, providing a turnkey approach to minimize transaction costs and ease the burden on farmers as much as possible. SEC's EcoPractices platform will capture all aspects of farming to enable the completion of full lifecycle analysis. This includes information on tillage, chemical applications (to capture both energy usage and the CI of each chemical), fertility practices, irrigation practices and water saved if applicable (including lift and acre-inches applied), yield, and other variables. Producers will also input data on acreage and other key growing metrics. All data will be collected annually for all enrolled sorghum fields.

Technical assistance from NSP's outreach team will facilitate collection and data monitoring on practice implementation with this team providing reminders to participating producers to complete their reporting. Additionally, this team will make on-farms visits to assist producers in inputting their farm's data. Furthermore, NSP will add incremental staff to support the overall oversight and implementation needed for data collection, monitoring, and reporting, justified based on the need to accomplish this for 1 million acres of sorghum over five years. This will include a Monitoring and Testing Coordinator; MMRV Director, and subawardee Pinion to serve as a disinterested third party verifier (see *Budget Narrative, Personnel*). NSP's process will serve as this project's field auditing process to ensure the selected practices have been implemented per the contract. Furthermore, this assurance will allow SEC to maintain up-to-date records of practice implementation respecting grower data privacy so payments can be made upon verification.

Approach to reporting, tracking, and verification of greenhouse gas benefits

SEC's EcoPractices platform will capture all needed data to report and track GHG benefits of implemented practices by farm, field, and producer. As described above, SEC's platform is built on the methodology established by USDA NRCS' COMET-Farm tool. As such, this data can be electronically transferred into a COMET-Farm compatible framework, ensuring maximum transparency across models. In addition, the quantification work completed by Prairie View A&M University, an HBCU; Texas Tech University, an HSI; and Kansas State University to report and track the value of emissions reductions associated with irrigation water use reduction and nitrate leaching, volatilization, and runoff mitigation techniques, will be integrated into the EcoPractices platform for participating producers. This is critical because the savings associated with irrigation water usage reduction and nitrate leaching, volatilization, and runoff are significant (particularly in the Sorghum Belt) but not well understood. Recording the values and reporting them into the EcoPractices platform (and doing so in a way that will be valid for the California fuel market and any incremental ecosystem services market like those found in CPG markets) will be an effort of utmost importance given irrigated sorghum production is growing and nitrate emissions make up such a large percentage of the total CI of a farming system. This work will be supplemented by ServiTech, which will conduct soil sampling across the target geography to assist with the project's MMRV goals and provide data for the National Coordinated Soil Moisture Monitoring Network.

Beyond the farmgate, NSP will also calculate and report the GHG benefits associated with these practices through a partnership with Argonne National Laboratory, using the GREET model and a team that has collaborated with GREET architect Dr. Michael Wang to publish extensively on the model. Once these calculations are completed by Argonne, this information will also be housed within EcoPractices, guaranteeing spot-checks or audits will be straightforward and hassle-free for the producer who is already responsible for implementing significant additional practices to produce a climate-smart commodity.

This data will also facilitate the reporting and tracking of the **monetary value of GHG benefits**. With the GHG benefits documented, a CI score will be calculated within EcoPractices based on implemented CSAF practices. NSP will collaborate with ethanol plant partners to calculate the total CI of hypothetical fuel produced from the resulting grain. This information will be permanently housed in the EcoPractices platform. It is anticipated NSP's approach will mitigate emissions totaling **500 million pounds of CO2e emission**, **500,000 pounds per participating farm** or **500 pounds per acre** over the five years of the project (***Merit/Technical Criteria a.ii.***). This represents a 7.4 percent emissions reduction when compared to baseline U.S. sorghum production **not** counting soil carbon sequestration (Merit/Technical Criteria ***a.ii. and d. ii.***) or the value of water savings or any other sustainability metric in which a CPG or other ecosystem services market might be interested. Based on the USDA funds requested, this translates to a **cost of just $0.13 per pound of GHG emissions reduced** with this project providing an incredibly remarkable return on investment of USDA Partnerships for Climate-Smart Commodities grant funding for direct societal benefits towards mitigating the climate crisis (***Merit/Technical Criteria a.ii.***).

To ensure the **sustainability of this project's benefits long-term**, third-party verification of collected on-farm data will be critical. The substantiation of GHG emission reductions will play a crucial role in the adoption of future market incentives for sorghum producers implementing CSAF practices. Climate-smart commodity buyers must have confidence in the generation of GHG benefits to warrant a market premium and to be able to reliably convey to consumers their products are made with climate-smart commodities. As such, NSP will contract with Pinion, a third-party verifier approved by the CARB to verify and validate GHG emission reductions for the California Low Carbon Fuels Standard (LCFS) (***Merit/Technical Criteria e.i.B and e.i.C.***). This approach will serve two functions. First, it will ensure the maximum protection of USDA grant funds and taxpayer dollars and guarantee the benefit of farm practices incentivized as a part of NSP's project do, in fact, accrue to society. Second, it will guarantee NSP's approach to data collection and verification will be sustainable after this program concludes by ensuring benefits associated with the California LCFS are legally able to accrue to producers. This will serve as a future model for CPG companies seeking to buy climate-smart sorghum.

Given all data will be housed in the EcoPractices platform, enrolled producers, NSP's monitoring staff, Pinion and USDA personnel will be able to see this information at any time, allowing data transparency (***Merit/Technical Criteria e.i.A.***). Individual producers will be able to see their own farm information, as well as the aggregated results for all other participating producers (with no personal information disclosed). This promotes confidence in this data at all points in the supply chain, leading to the higher marketability potential for climate-smart sorghum and greater **longevity of GHG benefits** associated with this project. As described in the *Plan To Develop And Expand Markets For Climate-Smart Commodities As A Result Of Project Activities* section, this information will be made available to climate-smart sorghum buyers, like ethanol producers, upon request. Ethanol plants will be able to match the collected information (which is based on field location) to the gallons of ethanol they produce and sell in California (***Merit/Technical***

Criteria e.i.A.) or other fuel markets such as those found in Europe. Any CPG company will be able to do the same if our framework is structured in such a way that enables such matching. Furthermore, collecting precipitation and other weather data will allow NSP to generate information that can be used by the USDA Climate Hubs and the National Coordinated Soil Moisture Monitoring Network to bring even more information on a changing climate to sorghum producers.

Recognizing the ability to leverage this supply-chain transparency for greater marketability of climate-smart sorghum, as part of this project's efforts, NSP's incremental Managing Director (see *Budget Narrative, Personnel*) will partner with National Cotton Council and the U.S. Cotton Trust Protocol in the development and implementation of a farm-level sustainability program for sorghum producers. In accordance with the structure and standards of the Cotton Trust Protocol, a U.S. Sorghum Trust Protocol would collect information on farming and management practices as well as environmental metrics using Field to Market's Fieldprint Calculator. The overarching objective is to give assurances to the CPG supply chain of the sustainability of U.S. sorghum producers.

NSP will further leverage this data to complete two vital studies to ensure the long-term sustainability of this project's approach and model: a Results Analysis for Supply Chain Improvements to ensure GHG emissions reductions are experienced throughout the supply chain and to recommend practices for additional GHG emissions reductions; and an overall Economic Analysis of Project Benefits to verify costs savings and price increases experienced by this project. These reports will be shared with participating producers, participating buyers of climate-smart sorghum and USDA to **inform USDA actions to encourage climate-smart commodities** (***Merit/Technical Criteria b.iii.)***. It is anticipated that some of these findings may be included in future marketing and promotion efforts to encourage the purchase of climate-smart sorghum.

Agreement to participate in the Partnerships Network
NSP will designate John Duff, NSP strategy consultant and Adam York, Sustainability Director, to serve as co-representatives to the USDA Partnerships for Climate Smart-Communities Learning Network.

Plan To Develop & Expand Markets For Climate-Smart Commodities As A Result Of Project Activities

Partnerships designed to market resulting climate-smart commodities
This project benefits from several partnerships that are designed to market climate-smart sorghum for a higher premium both in the medium term and long term with a keen focus on establishing long-term market sustainability post-grant. This project's incremental Managing Director will spend considerable time managing this project's partnerships and securing new partnerships once the project commences to ensure long-term markets for climate-smart sorghum and long-term market premiums for climate-smart sorghum producers. The most significant partnerships secured by NSP are within the sorghum ethanol industry. As documented in the Letters of Commitment submitted with this proposal, NSP has project commitment and support from **Conestoga Energy Partners; Kansas Ethanol; Pratt Energy; Western Plains Energy; and White Energy**. These partners produce 648 million gallons of ethanol and could consume 50 percent or more of the U.S. climate-smart sorghum crop annually. This amount is also 43 percent of the entire California ethanol market.[14] Much of this ethanol is already being marketed in California under the LCFS,

[14] https://ipsr.ku.edu/ksdata/ksah/energy/18ener6a.pdf

but the CI does not reflect the savings (and thus value) associated with farm-level CSAF practices. There are thus opportunities to improve the value of ethanol currently being marketed and create incentives that do not currently exist for adopting even more climate-smart practices. This project's incremental Managing Director will plan and execute an annual in-person meeting with participating ethanol partner CEOs to ensure all project activities are fully aligned with market needs.

All these partners need to transform sorghum—or any other crop suitable for ethanol production—into premier, climate-smart commodities is a formal framework for valuing farming practices and delivering the associated climate benefits to society. This project provides a formal framework for valuing farming practices and monetizing this value in the LCFS with an eye toward additional ecosystem services markets in CPG-based markets in the future. Thus, it is the goal for any end-user to accomplish the same with any commodity in any ecosystem services market with access to such a framework, **promoting project scalability to other commodity sectors** (***Merit/Technical Criteria b.i).*** As described above, recognizing the need for greater marketability of climate-smart sorghum as a result of increased supply-chain transparency, NSP's incremental Managing Director will partner with National Cotton Council and the U.S. Cotton Trust Protocol to develop and implement a U.S. Sorghum Trust Protocol to provide sustainability assurances to the supply chain (particularly CPG supply chains). This will be completed with advice and cooperation of the National Cotton Council, modeled after their U.S. Cotton Trust Protocol. This partnership will be vital to the marketing and promotion strategy for climate-smart sorghum to consumers. Additionally, through this project NSP will partner with the United Sorghum Checkoff Program (USCP), the U.S. sorghum industry's research and promotion board, which has been a catalyst for positive change in the sorghum industry, benefitting producers and consumers through increased shared value.

Furthermore, as documented in the letters of support from **Danone, Kashi, Nu Life Market**, **Bayer Crop Science**, and **Archer-Daniels-Midland**, NSP will vet its approach and its efficacy outside of the ethanol and fuel supply chain to CPG companies where NSP believes it will be essential to expand in order to create diverse and liquid markets for climate-smart sorghum. The sustainability of this project will be driven by the next generation of businesses being willing to pay for climate-smart practices, and enabling these businesses to do so—regardless of the market—will be essential. With the proposed Securities and Exchange Commission climate disclosure requirements, food industry partners, in particular, will have a significant need to highlight climate-smart practices and commodities in their supply chain. Their participation will be mutually beneficial and will lay the groundwork for true monetization of climate-smart practices by those markets in the future. Specifically, **Danone, Kashi, and Nu Life Market** will be intimately involved in all aspects of data collection, valuation of climate-smart practices, and third-party verification to ensure the framework our program develops will translate to ecosystem services markets which CPG companies find valuable.

Plan to track climate-smart commodities through the supply chain

As fully described in the *Measurement/Quantification, Monitoring, Reporting, And Verification Plan* Section of this proposal, SEC will collect field-level data that will allow for the tracking of climate-smart sorghum throughout the supply chain. Included in the data will be tillage practices; chemical applications; fertility practices; irrigation practices, if applicable; yield and other variables. Furthermore, GHG benefits beyond the farmgate will be quantified using the GREET model, which works hand-in-hand with COMET-Farm, providing the CI scores associated with fuel production, transportation and distribution as well as other emissions not directly related to agricultural practices to enable low CI fuels to sell at a premium in California and beyond

As described in the same section, this data will be housed in the EcoPractices platform and readily accessible. As such, commodity buyers would have the opportunity to access this data through SEC during the grant-period. Post-grant, a model is planned for SEC to work directly with the ethanol plants or interested CPG companies to provide this data. These entities will have the ability to match the information in the EcoPractices platform (which is based on the field legal description) to products produced and sold into California or any other ecosystem services market. Ethanol plants, for example, are required to submit a certain amount of data to California with a certain percentage of the data being verified, so having the data in the EcoPractices platform and readily available for verifiers will enable ethanol plants to better value the impact of farm practices on the climate. NSP will design the platform to be compliant with California standards, the highest in the nation. NSP firmly believes California, and likely many other fuel and ethanol markets, will shift to seek this ability to track information on farm-level practices and associated emissions through the fuel supply chain. All that is needed is a framework to enable it, and the same is true in the CPG market, as well.

To ensure an even higher level of transparency throughout the supply chain NSP will conduct a Results Analysis for Supply Chain Improvements to ensure GHG emissions reductions are experienced throughout the supply chain and recommend practices for additional GHG emissions reductions. This will be completed by the **renowned Salk Institute**, a scientific research institute that has completed considerable work on climate-smart agriculture through their Harnessing Plants Initiative in collaboration with the **Danforth Center**. This will include evaluating project data that will assist in **understanding the root structure and carbon sequestration potential of sorghum**. These attributes will be evaluated at the hybrid level, enabling seed and other companies to know which hybrids have the most potential to deliver climate benefits to consumers and farmers. While not the primary focus, this work will have the indirect benefit of leading to development of hybrids for climate-smart markets in the future. It is anticipated all of these efforts will create buyer and consumer confidence in the benefits and higher-value of climate-smart sorghum, fostering greater marketability of the climate-smart crop to bring value both to society and producers.

Estimated economic benefits for participating producers

This project will result in significant economic benefits for participating producers. The immediate benefits provided to producers will come in the form of producer incentives, ranging from $30.00-$80.00 per acre with the average based on NSP's expectation of producers implementing a suite of practices worth an average of $40.00-$50.00 per acre. These incentives are based on NSP projections of the market premiums the California fuel market will bear in the future for sorghum produced with CSAF practices. These projections are informed by conversations with ethanol industry producers and organizations driving policy. The specific incentive value is based on a $140 per metric ton carbon price,[15] which is the medium-term average price of carbon under the California LCFS. However, over the past few years, the price of carbon has been at or near the statutory cap of $200 per metric ton,[16] so as the market's statutorily-mandated, escalating requirements for GHG reductions moves forward, it is likely this price will move back up, creating as much as $70.52 per acre in value for producers growing traditional sorghum without any CSAF practices.

[15] https://ww2.arb.ca.gov/sites/default/files/2022-04/CreditPriceSeries_Mar2022.xlsx

[16] https://ww2.arb.ca.gov/sites/default/files/2022-04/CreditPriceSeries_Mar2022.xlsx

As stated throughout this proposal, NSP is approaching this project as a pilot test for future low carbon fuel markets incentivizing CSAF practices (starting with California, with scalability to other states), so the $40.00-$50.00 per acre weighted average payment NSP will provide to producers through this project will bridge the gap between today's fuel markets and tomorrow's fuel and CPG-based markets. However, given the average value of the practices could likely be much higher, NSP expects the market to pay producers even more than this incentive for implementing CSAF practices. This is a significant competitive advantage given the established nature of the California LCFS. Unlike markets that still have not fully matured, this market can pay as much, if not more than, what NSP plans to pay as a producer incentive. As such, baseline projections estimate annual **incremental market returns** to the 1,000 producers participating in this project of at least $115 million (***Merit/Technical Criteria b.ii and b.iv.)***. This is a **long-term economic benefit** that will be sustained post-grant (***Merit/Technical Criteria b.ii and b.iv.)***.

In addition to the value that comes from the ecosystem services market, CSAF practices come with inherent benefits. For example, eliminating tillage builds soil organic matter that both increases soil water-holding capacity[17] and soil fertility (the fertility benefit is valued at $15.70 for every 1 percent increase in soil organic matter[18]). This practice also saves $13 worth of fuel per acre,[19] on average, which reduces energy usage without reducing yield (thus gaining efficiency and lowering carbon emissions). Reducing irrigation water usage by one-third[20] reduces pumping costs by $25-$50 per acre (***Merit/Technical Criteria a.iv.)***. Furthermore, if farmers were eligible for tax credits for carbon sequestration (for example, section 45Q), even more benefit would accrue beyond the value that comes from the ecosystem services market. These benefits are just for the producers participating in this project's activities. It is highly likely that post-project, with incentives supported by markets, economic benefits could extend to producers beyond those reached through this project.

Post-project potential

This project has significant potential to be sustained post-grant funding. Most importantly, this project is expected to result in long term GHG emission reductions post-project, a critical outcome needed to address the climate crisis. With markets providing incentives for climate-smart sorghum, the case will be built for producers participating in this project to maintain CSAF practices and for new producers to implement CSAF practices. It is highly likely, and well-supported, that market incentives for climate-smart sorghum will continue post-project, as well, encouraging the continuation of CSAF practices on working lands planted to sorghum, and ensuring **longevity of GHG benefits associated with this project** (***Merit/Technical Criteria a.iii.)***.

NSP has prudently designed this project to target the ethanol industry as the primary market for climate-smart sorghum and, specifically, ethanol producers supplying the California fuel markets. The California fuels market is one of the nation's oldest ecosystem services markets and is already providing fair compensation to those employing climate-smart practices through the fuel supply chain. The only thing preventing sorghum producers from taking greater advantage of these markets today is technical

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[17] https://acsess.onlinelibrary.wiley.com/doi/full/10.1002/saj2.20395

[18] https://www.nrcs.usda.gov/wps/portal/nrcs/ia/newsroom/features/NRCSEPRD1356810/

[19] https://www.usda.gov/media/blog/2017/11/30/saving-money-time-and-soil-economics-no-till-farming#:~:text=Justpercent20switchingpercent20frompercent20continuouspercent20conventional,leadpercent20topercent20additionalpercent20economicpercent20benefits.

[20] https://acsess.onlinelibrary.wiley.com/doi/abs/10.2134/jnrlse2006.0161

assistance to support sorghum producers in adopting CSAF practices on a framework for quantifying farm practices and tracking them for this market. This project would accomplish this, removing any barriers post-project for even greater climate benefits to be delivered to society and market premiums for producers. As described in the above section, ongoing annual returns to producers participating in this project post-project are anticipated at $115 million (***Merit/Technical Criteria b.ii and b.iv.***).

Given the trend toward similar low carbon fuel standards in areas such as the Midwest, states such as Oregon, Washington, Colorado and countries including Brazil, Canada, China, Colombia, Japan and Mexico, as well as economic collectives such as the European Union, the market for CI reductions associated with farming practices is massive. Together, with California, these areas, states, countries and economic collectives have aggregate demand for more than 100 billion gallons of fuel with market demand highly likely to be scalable (***Merit/Technical Criteria b.i***). Importantly, the benefits of this project are not isolated to one commodity. Entire rotations that include sorghum will be enhanced through the market valuation of these practices within the context of the U.S. ethanol supply chain. This project will directly enable U.S. farmers—of multiple crops—to take advantage of this historic demand opportunity post-project. Furthermore, because we recognize that the value CPG markets could pay for these practices likely outweighs those paid by California and other fuel markets over the long-term, our focus on building a framework that suits the needs of these markets further drives post-project potential.

Additionally, this program will yield rich and important data aggregates with field-level granularity, which can be harmonized with existing state and federal resources, such as NASA's Earth Science Division and its Science Mission Directorate. This data harmonization can enhance future federal data models to inform producers about global market conditions, groundwater management/evapotranspiration for producers and municipalities, in-season crop conditions, effects of severe weather, and overall sustainability targets.

CASE FOR FUNDING

This project provides direct, meaningful benefits to a strong cross-section of production agriculture. To NSP's knowledge, this project is the only application being submitted to this program to exclusively reach and provide benefits to sorghum producers, an industry that boasts more than 50,000 producers, who produced 448 million bushels of sorghum in 2021 across 7.31 million acres. The climate benefits of this project will be astounding. Initial projections assume more than 500 million pounds of GHG emissions reductions should this project achieve the objective of producers adopting CSAF practices on 1 million acres of land planted to sorghum over five years. Based on the USDA funds requested, this translates to a **cost of just $0.13 per pound of GHG emissions reduced, or $65 per climate-smart acre**. Furthermore, incremental market returns of $115 million are expected to be received by sorghum producers with continued CSAF practices post-grant, a long-term economic benefit. As such, this project presents a **compelling case for an investment of USDA funding** through the Partnerships for Climate-Smart Commodities program, providing the support needed to producers to result in a truly meaningful effort toward addressing the climate crisis, benefitting society as a whole.

National Sorghum Producers
Partnerships for Climate-Smart Commodities
Benchmarks

2023

- **Quarter 1**
  - Number of underserved producers involved: At least **100** via communication through four partner organizations
  - Number of acres involved: At least **15,000** through educational communications designed to encourage enrollment
  - Dollars provided to producers: $0
  - Number of new marketing channels established: 0
  - Number of marketing channels expanded: 0
  - Number of measurement tools utilized: 0
  - Other measurements of work related to marketing of commodities: 0
  - Climate smart technologies employed: 0
- **Quarter 2**
  - Number of underserved producers involved: At least **100** via enrollment and communication through four partner organizations
  - Number of acres involved: At least **15,000** through educational communications designed to encourage enrollment, enrollment and technical support so far
  - Dollars provided to producers: $0
  - Number of new marketing channels established: 0
  - Number of marketing channels expanded: 0
  - Number of measurement tools utilized: 0
  - Other measurements of work related to marketing of commodities: Initiate discussions with at least **two** CPG partners related to validation of our data collection framework.
  - Climate smart technologies employed: 0
- **Quarter 3**
  - Number of underserved producers involved: At least **100** via communication through four partner organizations
  - Number of acres involved: At least **15,000** through educational communications designed to encourage enrollment, enrollment, participation and technical support so far
  - Dollars provided to producers: $0
  - Number of new marketing channels established: 0
  - Number of marketing channels expanded: At least **two**, including low carbon fuel standards and CPG channels via strategy discussion with partners
  - Number of measurement tools utilized: At least **four**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform and SEC remote sensing technology
  - Other measurements of work related to marketing of commodities: Continue discussions with at least **two** CPG partners related to validation of our data collection framework
  - Climate smart technologies employed: At least **six**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform, SEC remote sensing technology, reduced tillage technology and precision irrigation technology

National Sorghum Producers
Partnerships for Climate-Smart Commodities
Benchmarks

- **Quarter 4**
  - Number of underserved producers involved: At least **100** via communication through four partner organizations
  - Number of acres involved: At least **15,000** through educational communications designed to encourage enrollment, enrollment, participation, technical support, data collection and third-party verification so far
  - Dollars provided to producers: At least **$677,150** through incentives to at least **20** contracts (we are conservatively targeting 20 our first year)
  - Number of new marketing channels established: 0
  - Number of marketing channels expanded: At least **two**, including low carbon fuel standards and CPG channels via strategy discussion with partners
  - Number of measurement tools utilized: At least **four**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform and SEC remote sensing technology
  - Other measurements of work related to marketing of commodities: Continue discussions with at least **two** CPG partners related to validation of our data collection framework
  - Climate smart technologies employed: At least **six**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform, SEC remote sensing technology, reduced tillage technology and precision irrigation technology

2024

- **Quarter 1**
  - Number of underserved producers involved: At least **100** via communication through four partner organizations
  - Number of acres involved: At least **15,000** through educational communications designed to encourage enrollment, enrollment, participation, technical support, data collection and third-party verification so far
  - Dollars provided to producers: At least **$677,150** through incentives to at least **20** contracts (we are conservatively targeting 20 our first year)
  - Number of new marketing channels established: 0
  - Number of marketing channels expanded: At least **two**, including low carbon fuel standards and CPG channels via strategy discussion with partners
  - Number of measurement tools utilized: At least **four**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform and SEC remote sensing technology
  - Other measurements of work related to marketing of commodities: Continue discussions with at least **two** CPG partners related to validation of our data collection framework
  - Climate smart technologies employed: At least **six**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform, SEC remote sensing technology, reduced tillage technology and precision irrigation technology
- **Quarter 2**
  - Number of underserved producers involved: At least **100** via enrollment and communication through four partner organizations

- Number of acres involved: At least **273,500** through educational communications designed to encourage enrollment, enrollment, participation, technical support, data collection and third-party verification so far
- Dollars provided to producers: At least **$677,150** through incentives to at least **20** contracts (we are conservatively targeting 20 our first year)
- Number of new marketing channels established: 0
- Number of marketing channels expanded: 0
- Number of measurement tools utilized: At least **four**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform and SEC remote sensing technology
- Other measurements of work related to marketing of commodities: Continue discussions with at least **two** CPG partners related to validation of our data collection framework
- Climate smart technologies employed: At least **six**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform, SEC remote sensing technology, reduced tillage technology and precision irrigation technology

- **Quarter 3**
  - Number of underserved producers involved: At least **100** via communication through four partner organizations
  - Number of acres involved: At least **273,500** through educational communications designed to encourage enrollment, enrollment, participation, technical support, data collection and third-party verification so far
  - Dollars provided to producers: At least **$677,150** through incentives on at least **20** contracts (we are conservatively targeting 20 our first year)
  - Number of new marketing channels established: 0
  - Number of marketing channels expanded: At least **two**, including low carbon fuel standards and CPG channels via strategy discussion with partners
  - Number of measurement tools utilized: At least **four**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform and SEC remote sensing technology
  - Other measurements of work related to marketing of commodities: Continue discussions with at least **two** CPG partners related to validation of our data collection framework
  - Climate smart technologies employed: At least **six**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform, SEC remote sensing technology, reduced tillage technology and precision irrigation technology
- **Quarter 4**
  - Number of underserved producers involved: At least **100** via communication through four partner organizations
  - Number of acres involved: At least **273,500** through educational communications designed to encourage enrollment, enrollment, participation, technical support, data collection and third-party verification so far
  - Dollars provided to producers: At least **$12,357,988** through incentives on at least **270** contracts so far
  - Number of new marketing channels established: 0

- Number of marketing channels expanded: At least **two**, including low carbon fuel standards and CPG channels via strategy discussion with partners
- Number of measurement tools utilized: At least **four**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform and SEC remote sensing technology
- Other measurements of work related to marketing of commodities: Continue discussions with at least **two** CPG partners related to validation of our data collection framework
- Climate smart technologies employed: At least **six**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform, SEC remote sensing technology, reduced tillage technology and precision irrigation technology

2025

- **Quarter 1**
  - Number of underserved producers involved: At least **100** via communication through four partner organizations
  - Number of acres involved: At least **532,500** through educational communications designed to encourage enrollment, enrollment, participation, technical support, data collection and third-party verification so far
  - Dollars provided to producers: At least **$12,357,988** through incentives on at least **270** contracts so far
  - Number of new marketing channels established: 0
  - Number of marketing channels expanded: At least **two**, including low carbon fuel standards and CPG channels via strategy discussion with partners
  - Number of measurement tools utilized: At least **four**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform and SEC remote sensing technology
  - Other measurements of work related to marketing of commodities: Continue discussions with at least **two** CPG partners related to validation of our data collection framework
  - Climate smart technologies employed: At least **six**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform, SEC remote sensing technology, reduced tillage technology and precision irrigation technology
- **Quarter 2**
  - Number of underserved producers involved: At least **100** via enrollment and communication through four partner organizations
  - Number of acres involved: At least **532,500** through educational communications designed to encourage enrollment, enrollment, participation, technical support, data collection and third-party verification so far
  - Dollars provided to producers:At least **$12,357,988** through incentives on at least **270** contracts so far
  - Number of new marketing channels established: 0
  - Number of marketing channels expanded: At least **two**, including low carbon fuel standards and CPG channels via strategy discussion with partners

    - Number of measurement tools utilized: At least **four**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform and SEC remote sensing technology
    - Other measurements of work related to marketing of commodities: Continue discussions with at least **two** CPG partners related to validation of our data collection framework
    - Climate smart technologies employed: At least **six**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform, SEC remote sensing technology, reduced tillage technology and precision irrigation technology
- **Quarter 3**
    - Number of underserved producers involved: At least **100** via communication through four partner organizations
    - Number of acres involved: At least **532,500** through educational communications designed to encourage enrollment, enrollment, participation, technical support, data collection and third-party verification so far
    - Dollars provided to producers: Dollars provided to producers: **$12,357,988** through incentives on at least **270** contracts so far
    - Number of new marketing channels established: 0
    - Number of marketing channels expanded: At least **two**, including low carbon fuel standards and CPG channels via strategy discussion with partners
    - Number of measurement tools utilized: At least **four**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform and SEC remote sensing technology
    - Other measurements of work related to marketing of commodities: Continue discussions with at least **two** CPG partners related to validation of our data collection framework
    - Climate smart technologies employed: At least **six**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform, SEC remote sensing technology, reduced tillage technology and precision irrigation technology
- **Quarter 4**
    - Number of underserved producers involved: At least **100** via communication through four partner organizations
    - Number of acres involved: At least **532,500** through educational communications designed to encourage enrollment, enrollment, participation, technical support, data collection and third-party verification so far
    - Dollars provided to producers: At least **$24,038,825** through incentives on at least **520** contracts so far
    - Number of new marketing channels established: 0
    - Number of marketing channels expanded: At least **two**, including low carbon fuel standards and CPG channels via strategy discussion with partners
    - Number of measurement tools utilized: At least **four**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform and SEC remote sensing technology

- Other measurements of work related to marketing of commodities: Continue discussions with at least **two** CPG partners related to validation of our data collection framework
- Climate smart technologies employed: At least **six**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform, SEC remote sensing technology, reduced tillage technology and precision irrigation technology

2026

- **Quarter 1**
  - Number of underserved producers involved: At least **100** via communication through four partner organizations
  - Number of acres involved: At least **532,500** through educational communications designed to encourage enrollment, enrollment, participation, technical support, data collection and third-party verification so far
  - Dollars provided to producers: At least **$24,038,825** through incentives on at least **520** contracts so far
  - Number of new marketing channels established: 0
  - Number of marketing channels expanded: At least **two**, including low carbon fuel standards and CPG channels via strategy discussion with partners
  - Number of measurement tools utilized: At least **four**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform and SEC remote sensing technology
  - Other measurements of work related to marketing of commodities: Continue discussions with at least **two** CPG partners related to validation of our data collection framework
  - Climate smart technologies employed: At least **six**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform, SEC remote sensing technology, reduced tillage technology and precision irrigation technology
- **Quarter 2**
  - Number of underserved producers involved: At least **100** via enrollment and communication through four partner organizations
  - Number of acres involved: At least **791,250** through educational communications designed to encourage enrollment, enrollment, participation, technical support, data collection and third-party verification so far
  - Dollars provided to producers: At least **$24,038,825** through incentives on at least **520** contracts so far
  - Number of new marketing channels established: 0
  - Number of marketing channels expanded: At least **two**, including low carbon fuel standards and CPG channels via strategy discussion with partners
  - Number of measurement tools utilized: At least **four**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform and SEC remote sensing technology
  - Other measurements of work related to marketing of commodities: Continue discussions with at least **two** CPG partners related to validation of our data collection framework

    - Climate smart technologies employed: At least **six**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform, SEC remote sensing technology, reduced tillage technology and precision irrigation technology
- **Quarter 3**
    - Number of underserved producers involved: At least **100** via communication through four partner organizations
    - Number of acres involved: At least **791,250** through educational communications designed to encourage enrollment, enrollment, participation, technical support, data collection and third-party verification so far
    - Dollars provided to producers:At least **$24,038,825** through incentives on at least **520** contracts so far
    - Number of new marketing channels established: 0
    - Number of marketing channels expanded: At least **two**, including low carbon fuel standards and CPG channels via strategy discussion with partners
    - Number of measurement tools utilized: At least **four**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform and SEC remote sensing technology
    - Other measurements of work related to marketing of commodities: Continue discussions with at least **two** CPG partners related to validation of our data collection framework
    - Climate smart technologies employed: At least **six**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform, SEC remote sensing technology, reduced tillage technology and precision irrigation technology
- **Quarter 4**
    - Number of underserved producers involved: At least **100** via communication through four partner organizations
    - Number of acres involved: At least **791,250** through educational communications designed to encourage enrollment, enrollment, participation, technical support, data collection and third-party verification so far
    - Dollars provided to producers: At least **$35,719,663** through incentives on at least **770** contracts so far
    - Number of new marketing channels established: 0
    - Number of marketing channels expanded: At least **two**, including low carbon fuel standards and CPG channels via strategy discussion with partners
    - Number of measurement tools utilized: At least **four**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform and SEC remote sensing technology
    - Other measurements of work related to marketing of commodities: Continue discussions with at least **two** CPG partners related to validation of our data collection framework
    - Climate smart technologies employed: At least **six**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform, SEC remote sensing technology, reduced tillage technology and precision irrigation technology

National Sorghum Producers
Partnerships for Climate-Smart Commodities
Benchmarks

2027

- **Quarter 1**
  - Number of underserved producers involved: At least **100** via communication through four partner organizations
  - Number of acres involved: At least **791,250** through educational communications designed to encourage enrollment, enrollment, participation, technical support, data collection and third-party verification so far
  - Dollars provided to producers: At least **$35,719,663** through incentives on at least **770** contracts so far
  - Number of new marketing channels established: 0
  - Number of marketing channels expanded: At least **two**, including low carbon fuel standards and CPG channels via strategy discussion with partners
  - Number of measurement tools utilized: At least **four**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform and SEC remote sensing technology
  - Other measurements of work related to marketing of commodities: Continue discussions with at least **two** CPG partners related to validation of our data collection framework
  - Climate smart technologies employed: At least **six**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform, SEC remote sensing technology, reduced tillage technology and precision irrigation technology
- **Quarter 2**
  - Number of underserved producers involved: At least **100** via enrollment and communication through four partner organizations
  - Number of acres involved: At least **1,000,000** through educational communications designed to encourage enrollment, enrollment, participation, technical support, data collection and third-party verification so far
  - Dollars provided to producers: At least **$35,719,663** through incentives on at least **1,000** contracts so far
  - Number of new marketing channels established: 0
  - Number of marketing channels expanded: At least **two**, including low carbon fuel standards and CPG channels via strategy discussion with partners
  - Number of measurement tools utilized: At least **four**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform and SEC remote sensing technology
  - Other measurements of work related to marketing of commodities: Continue discussions with at least **two** CPG partners related to validation of our data collection framework
  - Climate smart technologies employed: At least **six**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform, SEC remote sensing technology, reduced tillage technology and precision irrigation technology
- **Quarter 3**
  - Number of underserved producers involved: At least **100** via communication through four partner organizations

- Number of acres involved: At least **1,000,000** through educational communications designed to encourage enrollment, enrollment, participation, technical support, data collection and third-party verification so far
- Dollars provided to producers: Dollars provided to producers:At least **$35,719,663** through incentives on at least **1,000** contracts so far
- Number of new marketing channels established: 0
- Number of marketing channels expanded: At least **two**, including low carbon fuel standards and CPG channels via strategy discussion with partners
- Number of measurement tools utilized: At least **four**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform and SEC remote sensing technology
- Other measurements of work related to marketing of commodities: Continue discussions with at least **two** CPG partners related to validation of our data collection framework
- Climate smart technologies employed: At least **six**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform, SEC remote sensing technology, reduced tillage technology and precision irrigation technology

- **Quarter 4**
  - Number of underserved producers involved: At least **100** via communication through four partner organizations
  - Number of acres involved: At least **1,000,000** through educational communications designed to encourage enrollment, enrollment, participation, technical support, data collection and third-party verification so far
  - Dollars provided to producers: At least **$47,500,525** through incentives on at least **1,000** contracts so far
  - Number of new marketing channels established: 0
  - Number of marketing channels expanded: At least **two**, including low carbon fuel standards and CPG channels via strategy discussion with partners
  - Number of measurement tools utilized: At least **four**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform and SEC remote sensing technology
  - Other measurements of work related to marketing of commodities: Continue discussions with at least **two** CPG partners related to validation of our data collection framework
  - Climate smart technologies employed: At least **six**, including soil sampling technology, the Arable Mark, the SEC EcoPractices Platform, SEC remote sensing technology, reduced tillage technology and precision irrigation technology

Climate-Smart Practices and Limitations

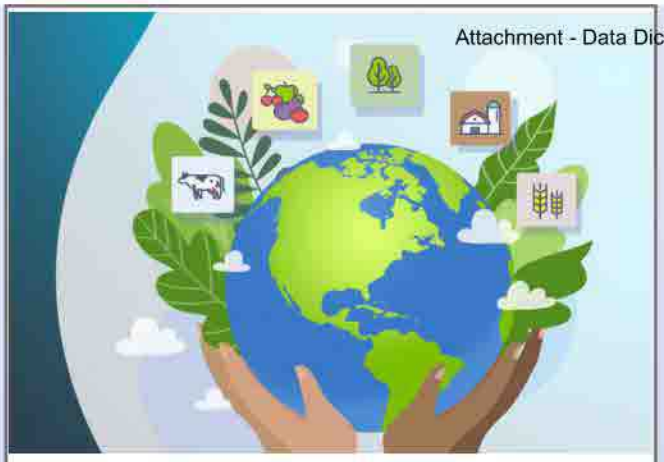
Climate-Smart practices under this grant shall be limited to the following practices:

NRCS Practice Code (if applicable)	Practice Name
216	Soil Health Testing
217	Soil and Source Testing for Nutrient Management
218	Carbon Sequestration and Greenhouse Gas Mitigation Assessment
328	Conservation Crop Rotation
329	Residue and Tillage Management, No-Till
330	Contour Farming
332	Contour Buffer Strips
333	Amending Soil Properties with Gypsum Products using VRT where applicable
334	Controlled Traffic Farming
340	Cover Crops
345	Residue and Tillage Management, Reduced Till
376	Field Operations Emissions Reduction
386	Field Border
393	Filter Strip
442	Sprinkler System[1]
443	Irrigation System, Surface and Subsurface
449	Irrigation Water Management
590	Nutrient Management
808	Soil Carbon Amendments
E328A	Resource Conserving Crop Rotation

All practices applied under this grant will follow NRCS practice standards unless noted below:

Practice Name	Alternative Practice Standards

[1] Only for conversion to a more water and energy efficient irrigation system.



Partnerships for Climate-Smart Commodities Data Dictionary for Recipients

February 2023

Version 1.0

USDA Partnerships for Climate-Smart Commodities Data Dictionary for Recipients
February 2023

Table of Contents

Overview of Reporting Requirements

Grant recipients are required to submit reports to document their performance under the *Partnerships for Climate-Smart Commodity* funding opportunity. These submissions will be required to use the Microsoft Excel workbook templates provided by USDA. The workbooks contain a series of worksheets that collect data in a standardized format to ensure data quality and allow for aggregation and summary of this information. The entire workbook must be submitted quarterly, with updates to all applicable worksheets. This guide is divided into three sections. The *Overview of Reporting Requirements* section summarizes the layout of the reporting workbook and presents the data elements included in each worksheet. It also describes additional documents that must be submitted to supplement the performance reports. The *Data Definitions* section provides descriptions and allowable response options for each data element. The guide also indicates whether each data element is required, applicable at times, or optional; as well as how frequently each data element must be updated. Finally, the *Appendices* contain practice and commodity lists that will be used for these reports. Reporting is necessary for USDA oversight of this effort. The data elements required for inclusion in the quarterly performance reports allow USDA to conduct selected audits to review whether producers are receiving federal funds from multiple sources for the same purpose; to determine whether GHG benefits from implementation of climate-smart agriculture and forestry (CSAF) practices are being estimated accurately; and for other purposes deemed appropriate by USDA.

The reporting worksheets collect information at four levels: project, partner, producer, and field. Descriptions of each level:

> **Project level**: Information about activities and impacts at a whole project/aggregate level (i.e., reflecting all activities under the grant agreement). Some project-level reporting is further subdivided by commodity type or a combination of commodity and CSAF practice(s) (commodity x practice).
> **Partner level:** Information about activities related to a single organization (recipient, subrecipient, contractor, or other partner) within a project.
> **Producer level**: Information about individual producers who have one or more farms enrolled in a project.
> **Field level**: Information about individual fields enrolled in a project.

Certain data elements are required to be reported for each producer and field enrolled in a project. In order to minimize the burden associated with data collection and to enable USDA to match data to existing records, these producer- and field-specific records must use the producer's established FSA Farm, Tract and Field IDs, and report the State and County associated with the Farm ID. Associated data entered in conjunction with these data elements, such as Producer Name, must match the data contained in the customer's Business Partner record, and the Farm Operating Plan in Business File for that Farm ID. Disclosure of this information is protected under Section 1619 of the Food, Conservation, and Energy Act of 2008 (PL 110- 246), 7 U.S.C. 8791. Additionally, Departmental Regulation 4370-001 provides USDA's policies for collecting demographic data, including race, ethnicity and gender. Providing demographic information is voluntary and at the discretion of the customer. Demographic information is used by USDA for statistical purposes only and will not be used to determine an applicant's eligibility for programs or services for which they apply.

Note: For purposes of this guide, "farm" refers to the operation from which climate-smart commodities are produced and may represent farms, ranches, forests or other operations. Similarly, "field" refers to the individual land units at which climate-smart practices are being implemented to produce climate-smart commodities and may represent lots, farmsteads or other units, depending on the type of operation and commodity. The use of "Farm", "Tract" and "Field" align with the FSA definitions; for example, "A field is a part of a farm that is separated from the balance of the farm by a permanent boundary, such as; fences, permanent waterways, woodlands, croplines in cases where farming practices make it probable that this cropline is not subject to change, and other similar features."

The following tables list the data elements included in each reporting worksheet, along with a brief description of each item.

Project Summary

These data will be collected about each project. Cumulative results are reported each quarter. Report last quarter's entry if there has been no change in this quarter.

Table 1. Project Summary elements

Data element name	Description	Frequency
Commodity type	Type of commodity(ies) incentivized by the project	Quarterly
Commodity sales	Indicates sales of the commodity(ies) related to the project occurred this quarter	Quarterly
Farms enrolled	Indicates enrollment activities occurred this quarter	Quarterly
GHG calculation methods	Methods used to calculate greenhouse gas (GHG) benefits	Quarterly
GHG cumulative calculation	Method used to calculate cumulative GHG benefits	Quarterly
Cumulative GHG benefits	Whole project estimate of total GHG (CO2e) emission reductions	Quarterly
Cumulative carbon stock	Whole project estimate of total carbon sequestration	Quarterly
Cumulative CO2 benefit	Whole project estimate of total CO2 emission reductions	Quarterly
Cumulative CH4 benefit	Whole project estimate of total CH4 emission reductions	Quarterly
Cumulative N2O benefit	Whole project estimate of total N2O emission reductions	Quarterly
Offsets produced	Amount of carbon offsets produced by project	Quarterly
Offsets sale	Name of marketplace where carbon offsets were sold	Quarterly
Offsets price	Price of carbon in offset sales	Quarterly
Insets produced	Amount of carbon insets produced by project	Quarterly
Cost of on-farm TA	Cost of on-farm technical assistance (TA) provided to producers	Quarterly
MMRV cost	Cost of measurement, monitoring, reporting, and verification (MMRV) activities	Quarterly
GHG monitoring method	Methods used by project to monitor GHG benefits (up to 5)	Quarterly
GHG reporting method	Methods used by project to report on GHG benefits (up to 5)	Quarterly
GHG verification method	Methods used to verify GHG benefits (up to 5)	Quarterly

Partner Activities

These data will be collected at the project level. Each row in this worksheet will represent one organization involved in the project, including the recipient and all contributing partners. A partner is any organization that is receiving project funds or providing matching contributions (funds or in-kind contributions) to the project. While the recipient must complete one row for their own organization, not all data elements apply to the recipient. These exceptions are noted in the detailed descriptions of the specific elements in the *Data Definitions* section of this guide. Data are reported cumulatively each quarter. Report last quarter's entry if there has been no change in this quarter.

Table 2. Partner Activities elements

Data element name	Description	Frequency
Partner ID	Unique ID for each partner	One-time
Partner name	Name of partner organization	One-time
Partner type	Type of organization	One-time
Partner POC	Partner point of contact name	As applicable
Partner POC email	Partner point of contact email	As applicable
Partnership start date	Start of partnership on project	One-time
Partnership end date	End of partnership on project	As applicable
New partnership	Indicator for partner organizations that have no prior work with the recipient	As applicable
Partner total requested	Total amount requested to date by partner from recipient	Quarterly
Total match contribution	Total amount of match contribution by partner to date	Quarterly
Total match incentives	Total amount of match contribution by partner for incentives	Quarterly
Match type	Top 3 types of match contribution by partner, other than incentives	Quarterly
Match amount	Value of match contributions by type	Quarterly
Training provided	Top 3 types of training provided to the partner through project	Quarterly
Activity by partner	Top 3 types of activities provided by this partner to producers or other partners	Quarterly
Activity cost	Approximate cost per activity type provided by partner to producers or other partners	Quarterly
Products supplied	Names of products supplied to producers as part of project activities or incentives	Quarterly
Product source	Supplier or source of products supplied to producers as part of project activities or incentives	Quarterly

Marketing Activities

These data will be collected at the project level. Each row in this worksheet will correspond to one commodity for which the project enrolls fields and one marketing channel used to sell that commodity by the project or producers enrolled in the project. Data are reported for the current quarter and are not cumulative. If no sales of the commodity were reported during a quarter, do not complete this worksheet for that quarter.

Table 3. Marketing Activities elements

Data element name	Description	Frequency
Commodity type	Type of commodity incentivized by the project	Quarterly
Marketing channel type	Type of marketing channels used	Quarterly
Number of buyers	Number of buyers per marketing channel	Quarterly
Names of buyers	Names of buyers in the marketing channel	Quarterly
Marketing channel geography	Geography of marketing channel	Quarterly
Value sold	Value of commodity sold by marketing channel	Quarterly
Volume sold	Volume of commodity sold by marketing channel	Quarterly
Price premium	Price premium of commodity by marketing channel	Quarterly
Price premium to producer	Percent of price premium that goes to the producer	Quarterly
Product differentiation method	Top 3 types of product differentiation methods used	Quarterly
Marketing method	Top 3 types of marketing methods used	Quarterly
Marketing channel identification method	Top 3 ways marketing channel was identified	Quarterly
Traceability method	Top 3 types of supply chain traceability methods used	Quarterly

Producer Enrollment

These data will be collected at the producer level about each farm enrolled in the project. In this worksheet, each row will correspond to one farm that has at least one field enrolled in the project. Data are reported when a producer first enrolls one or more fields in the project. If a producer is enrolled in the project for multiple years, review the farm characteristics each time a new contract is signed and provide any necessary updates. The quarterly submission should contain information about each farm initially enrolled in the project during that quarter and for updates to farms that have re-enrolled during that quarter, as applicable. If no farms are enrolled during that quarter, do not complete this worksheet for that quarter.

Table 4. Producer Enrollment elements

Data element name	Description	Frequency
Farm ID	Unique Farm ID assigned by FSA	
State or territory	State name (must match FSA farm enrollment data)	
County of residence	County name (must match FSA farm enrollment data)	
Producer data change	Indicator that producer data was updated at re-enrollment	As applicable
Producer start date	Contract start date	Enrollment
Producer name	Name of primary operator	Enrollment
Underserved status	Indicator the primary operator is considered underserved and/or a small producer	Enrollment
Total area	Total area of enrolled operation	Annual
Total crop area	Total crop area in enrolled operation enrolled	Annual
Total livestock area	Total livestock confinement, pasture and rangeland in enrolled operation	Annual
Total forest area	Total forest area in enrolled operation	Annual
Livestock type	Top 3 types of livestock on enrolled operation	Annual
Livestock head	Total livestock currently managed (by type)	Annual
Organic farm	Indicator that part of the farm is certified or transitioning organic	Annual
Organic fields	Indicator that any of the enrolled fields are certified or transitioning organic	Annual
Producer motivation	Motivation for participation	Annual
Producer outreach	Top 3 types of outreach provided to producer	Annual
CSAF experience	Indicator of prior implementation of CSAF practices at this farm	Annual
CSAF federal funds	Indicator of prior receipt of federal funds for CSAF practices	Annual
CSAF state or local funds	Indicator of prior receipt of state funds for CSAF practices	Annual
CSAF nonprofit funds	Indicator of prior receipt of nonprofit funds for CSAF practices	Annual
CSAF market incentives	Indicator of prior receipt of market incentives for CSAF practices	Annual

Field Enrollment

These data will be collected about each field enrolled in the project. In this worksheet, each row corresponds to one field x commodity combination enrolled in the project. Generally, data are reported once for each field, at its initial enrollment. The quarterly submission should contain information about each field initially enrolled in the project during that quarter. If no fields are enrolled during that quarter, do not complete this worksheet for that quarter. If a field is enrolled for multiple years, any relevant changes, such as a new ID number or changes to the commodity or practice combinations should be entered in this worksheet during the quarter it is re-enrolled, or as applicable.

Table 5. Field Enrollment elements

Data element name	Description
Farm ID	Unique Farm ID assigned by FSA
Tract ID	Unique Tract ID assigned by FSA
Field ID	Unique Field ID assigned by FSA
State or territory of field	State name
Physical County of field	Physical county name must match FSA farm records
Prior Field ID	Previous Field ID when reconstitution of farm results in new Field IDs
Field data change	Indicator that field data has changed from initial enrollment
Contract start date	Start date of contract
Total field area	Size of enrolled field
Commodity category	Category of commodity(ies) produced
Commodity type	Type of commodity(ies) produced
Baseline yield	Average yield of commodity in 3 years prior to enrollment
Baseline yield location	Location for which baseline yield is provided
Field land use	Most common land use in field in past 3 years
Field irrigated	Most common irrigation type in field in past 3 years
Field tillage	Most common tillage in field in past 3 years
Practice past extent - farm	Extent of operation that implemented this practice prior to project enrollment
Field any CSAF practice	Indicator for prior CSAF practices in this field in past 3 years
Practice past use - this field	Indicator of prior use of this practice in this field in the past 3 years
Practice type	CSAF practice(s) that will be implemented in enrolled field (up to 7)
Practice standard	Organization that developed CSAF practice standard implemented in field
Planned practice implementation year	Year that practice is planned to be implemented
Practice extent	Area or number of animals for which practice is implemented
Follow-on questions	Follow-on questions by practice type (see Table 11)

Farm Summary

These data will be collected about each farm enrolled in the project. In this worksheet, each row will correspond to one farm that has at least one field enrolled in the project. The quarterly submission should contain updates to any data elements that have changed for each farm enrolled in the project during that quarter. If there are no changes from the previous quarter, do not complete this worksheet for that quarter. Data are not cumulative.

Table 6. Farm Summary elements

Data element name	Description	Frequency
Farm ID	Unique Farm ID assigned by FSA	
State or territory	State name	
County of residence	County name	
Producer TA received	Type of technical assistance provided to producer	Quarterly
Producer incentive amount	Total financial incentive provided to the producer	Quarterly
Incentive reason	Top 4 reason(s) for financial incentives provided to producer	Quarterly
Incentive structure	Top 4 units on which financial incentives are structured	Quarterly
Incentive type	Top 4 type(s) of financial incentives provided to producer	Quarterly
Payment on enrollment	Extent of payment provided to producer upon enrollment	Quarterly
Payment on implementation	Extent of payment provided to producer upon implementation of CSAF practices	Quarterly
Payment on harvest	Extent of payment provided to producer upon harvest or slaughter	Quarterly
Payment on MMRV	Extent of payment provided to producer upon reporting or verification	Quarterly
Payment on sale	Extent of payment provided to producer upon sale of commodity	Quarterly

Field Summary

These data will be collected about each field enrolled in the project for a commodity x practice(s) combination. In this worksheet, each row will correspond to one field x commodity x practice(s) combination enrolled in the project. Data for each field will be reported quarterly and are not cumulative. Report data for any elements that have an update in that quarter. Greenhouse gas benefit estimates must be entered upon practice completion or annually, as appropriate. If there are no changes from the previous quarter, do not complete this worksheet for that quarter. This worksheet includes a section to report the "official" estimate of GHG benefits – amounts of greenhouse gas emissions reduced and carbon sequestered – for the field. These quantities refer to the estimates that are used to calculate the project's aggregate impact (reported in Table 1). Tables 8 and 9 are used to report alternate estimates of the field-level GHG benefits when additional methods are used to model (Table 8) or measure (Table 9) these impacts. Any field that can use COMET-Planner must submit those results, either as the official or alternate model.

Table 7. Field Summary elements

Data element name	Description	Frequency
Farm ID	Unique Farm ID assigned by FSA	
Tract ID	Unique Tract ID assigned by FSA	
Field ID	Unique Field ID assigned by FSA	
State or territory of field	State name	
County of field	County name	
Commodity type	Type of commodity produced from field	Quarterly
Practice type	Type of practice(s) incentivized in field (up to seven)	Quarterly
Date practice complete	Date that practice implementation is certified complete	Quarterly
Contract end date	End date of contract	Quarterly
MMRV assistance provided	Indicator that MMRV assistance is provided to field	Quarterly
Marketing assistance provided	Indicator that marketing assistance provided for commodity from field	Quarterly
Incentive per acre or head	Indicator that a per acre/head incentives is provided for the CSAF practice(s) on this field	Quarterly
Field commodity value	Value of commodity produced from field	Quarterly
Field commodity volume	Volume of commodity produced from field	Quarterly
Cost of implementation	Total cost of practice implementation in field	Quarterly
Cost coverage	Percent of total cost of implementation of practice covered by project incentives	Quarterly
Field GHG monitoring	Methods used to monitor GHG benefits in field (up to 3)	Quarterly
Field GHG reporting	Methods used to report on GHG benefits for field (up to 3)	Quarterly
Field GHG verification	Methods used to verify GHG benefits for field (up to 3)	Quarterly
Field GHG calculations	Methods used to calculate GHG benefits for field	Quarterly
Field official GHG calculation	Method used to calculate official GHG benefits for field	Quarterly
Field official GHG ER	Official estimate of total GHG emission reductions for field	Quarterly
Field official carbon stock	Official estimate of total carbon sequestration for field	Quarterly
Field official CO2 ER	Official estimate of total CO2 emission reductions for field	Quarterly
Field official CH4 ER	Official estimate of total CH4 emission reductions for field	Quarterly
Field official N2O ER	Official estimate of total N2O emission reductions for field	Quarterly
Field offsets produced	Amount of carbon offsets produced in field	Quarterly
Field insets produced	Amount of carbon insets produced in field	Quarterly
Other field measurements	Indicator that field data was collected for reasons other than GHG benefit estimation	Quarterly

GHG Benefits - Alternate Modeled

If greenhouse gas benefits are modeled for the same field using multiple methods, the results for the alternate models are reported in this worksheet. The "alternate" models refer to those model results that were not used in the calculation of the project's aggregate impact (as reported in Table 1). Any field that can use COMET-Planner must submit those results, either as the official or alternate model. These data will be collected about the modeled GHG benefits for each field x commodity x practice(s) combination. In this worksheet, each row will correspond to one field enrolled in the project. Data are not cumulative. Each quarterly submission should include information for all fields that have new modeled data. Greenhouse gas benefit estimates must be entered upon practice completion or annually, as appropriate.

Table 8. GHG Benefits – Alternate Modeled elements

Data element name	Description	Frequency
Farm ID	Unique Farm ID assigned by FSA	
Tract ID	Unique Tract ID assigned by FSA	
Field ID	Unique Field ID assigned by FSA	
State or territory of field	State name	
County of field	County name	
Commodity type	Type of commodity(ies) produced from the field (up to 6)	Annual
Practice type	Type of practice(s) incentivized in field (up to 7)	Annual
GHG model	Model used to calculate GHG benefits	Annual
Model start date	Start date of model run	Annual
Model end date	End date of model run	Annual
Total GHG benefits estimated	Estimate of total GHG benefits for field	Annual
Total carbon stock estimated	Estimate of total change in carbon stock for field	Annual
Total CO2 estimated	Estimate of total CO2 emission reductions for field	Annual
Total CH4 estimated	Estimate of total CH4 emission reductions for field	Annual
Total N2O estimated	Estimate of total N2O emission reductions for field	Annual

GHG Benefits - Measured

Projects must report the results of any carbon stock or greenhouse gas emission measurements in this worksheet. These data will be collected at the field level. Each row will represent a separate measurement method used to calculate GHG benefits for a given field. Data are reported once per year of measurement and are not cumulative. Each quarterly submission should include information for any field for which there are new soil samples or new calculations of annual GHG benefits based on actual measurements.

Table 9. GHG Benefits - Measured data elements

Data element name	Description	Frequency
Farm ID	Unique Farm ID assigned by FSA	
Tract ID	Unique Tract ID assigned by FSA	
Field ID	Unique Field ID assigned by FSA	
State	State name	
County	County name	
GHG measurement method	Method of measurement	Annual
Lab name	Entity that conducted analysis	Annual
Measurement start date	Start date of measurements	Annual
Measurement end date	End date of measurements	Annual
Total CO2 reduction calculated	Calculation of total CO2 reduction	Annual
Total carbon stock change calculated	Calculation of change in carbon stock	Annual
Total CH4 reduction calculated	Calculation of total CH4 reduction	Annual
Total N2O reduction calculated	Calculation of total N2O reduction	Annual
Soil sample result	Numeric result from soil sample	Annual
Measurement type	Type of analysis conducted	Annual

Additional Environmental Benefits

Projects that track additional environmental benefits (e.g., water quality improvements) from enrolled fields report results in this worksheet. These data will be collected about each field. Each row in this worksheet will correspond to an enrolled field. Data are not cumulative. Estimates of environmental benefits must be entered upon practice completion or annually, as appropriate.

Table 10. Additional Environmental Benefits elements

Data element name	Description	Frequency
Farm ID	Unique Farm ID assigned by FSA	
Tract ID	Unique Tract ID assigned by FSA	
Field ID	Unique Field ID assigned by FSA	
State	State name	
County	County name	
Environmental benefits	Indicator that project tracks other environmental benefits	Annual
Reduction in nitrogen loss	Indicator that project tracks reductions in nitrogen loss	Annual
Amount	Amount	Annual
Purpose	Purpose of tracking those co-benefits	Annual
Reduction in phosphorus loss	Indicator that project tracks reductions in phosphorus loss	Annual
Amount	Amount	Annual
Purpose	Purpose of tracking those co-benefits	Annual
Other water quality	Indicator that project tracks other water quality improvements	Annual
Type	Type of water quality metric being tracked	Annual
Amount	Amount	Annual
Purpose	Purpose of tracking those co-benefits	Annual
Water quantity	Indicator that project tracks reduced water use	Annual
Amount	Amount	Annual
Purpose	Purpose of tracking those co-benefits	Annual
Reduced erosion	Indicator that project tracks reductions in soil erosion	Annual
Amount	Amount	Annual
Purpose	Purpose of tracking those co-benefits	Annual
Reduced energy use	Indicator that project tracks reductions in energy use	Annual
Amount	Amount	Annual
Purpose	Purpose of tracking those co-benefits	Annual
Avoided land conversion	Indicator that project tracks reductions in land conversion	Annual
Amount	Amount	Annual
Purpose	Purpose of tracking those co-benefits	Annual
Improved wildlife habitat	Indicator that project tracks improvements in wildlife habitat	Annual
Amount	Amount	Annual
Purpose	Purpose of tracking those co-benefits	Annual

Supplemental Data Submission

Project MMRV Plan

Definition of MMRV elements:

Measurement: Quantification of the greenhouse gas benefits (reduction or capture) using mathematical models and/or direct physical measurements in the field

Monitoring: Ongoing review and confirmation that the climate-smart practice has been implemented according to the agreed upon standard and documentation of any changes in the site, implementation, or GHG emissions impacts over time

Reporting: Documenting and sharing monitoring and measurement results with project partners, the recipient, and any third-party verification organization

Verification: Independent confirmation that measurement, monitoring and reporting information are complete, accurate and reliable.

Projects must submit an MMRV plan that includes details about how each of the following are addressed:

- Quantification approach, including:
  - GHG models used
  - GHG measurement plan (if applicable)
  - Approach to quantifying additional environmental benefits, if applicable (e.g., water quality, habitat)
- Verification approach:
  - Compliance criteria
  - Verification plan/methodology
- Approach to ensuring:
  - Additionality
  - Permanence
  - Leakage
  - Impacts of weather
- Plan for non-compliance

If the project is using a specific MMRV methodology or approach developed by the recipient, a project partner, or an outside organization, the project can submit documentation associated with the methodology as long as the documentation addresses each of the above categories.

If the project is tracking other environmental benefits (as reported in the *Additional Environmental Benefits* worksheet), include a description of the methodology and tools used to track and report on these benefits.

Field modeled GHG benefit reports

Results from any models besides COMET-Planner used to estimate GHG benefits must also be submitted as a separate report. This includes projects running COMET-Farm. The full results of any model can be submitted in the native/standard format generated by the modeling tool and must include the following Unique IDs in the report or in the file name: State, County, Farm ID, Tract ID, Field ID.

Field direct measurement results

For any direct physical measurements in the field, measurement results must be submitted as a separate report and must include the following Unique IDs in the report or in the file name: State, County, Farm ID, Tract ID, Field ID. Measurement results reports must include the name of the equipment used for sampling or data collection, the name of the lab that analyzed the data, and the analytical method used.

Sample report types include soil analysis reports, summarized results of portable emissions analyzers or flux towers, water quality analyses, and plant species counts. These could be collected for the purposes of determining GHG emission reductions or carbon sequestration amounts, for calibration of tools or models, for tracking other environmental benefits, or for other reasons.

Data Descriptions

This section provides descriptions and allowable response options for each data element. The guide also indicates whether each data element is required, applicable at times, or optional; as well as how frequently each data element must be updated.

Unique IDs

Project ID: Unique ID at the project level – "Award Identifying Number" shown on award documentation
Partner ID: Unique ID at the partner level – use EIN; if no EIN, a unique ID will be assigned for use in these reports
State or territory of operation: State or territory name
County of operation: Physical county name
Farm ID: Unique ID at the operation level assigned by Farm Service Agency (FSA)
Tract ID: Unique ID at the tract level assigned by FSA
Field ID: Unique ID at the field level assigned by FSA

Project Summary

Commodity type

Data element name: Commodity type

Reporting question: What climate-smart commodity types are produced by this project?

Description: Type of commodity incentivized by the project. These commodities include those for whom farmers are directly receiving incentives or other types of marketing support. See full list of commodity options in Appendix B. List one commodity per row.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values: FSA commodity list

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Commodity sales

Data element name: Commodity sales

Reporting question: Did project activities result in sales this quarter of the commodity(ies) produced by this project?

Description: Indicator of sales of commodity(ies) related to project activities. If sales are reported, complete the *Marketing Activities* worksheet (Table 3) as part of the quarterly performance report.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Farms enrolled

Data element name: Farms enrolled

Reporting question: Did the project enroll any producers or fields this quarter?

Description: Indicator that the project enrolled producers or fields. If enrollment activities occurred this quarter, complete the *Producer Enrollment* and *Field Enrollment* worksheets (Tables 4 and 5) as part of the quarterly performance report.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

GHG calculation methods

Data element name: GHG calculation methods

Reporting question: What methods is the project using to calculate GHG benefits?

Description: List the way(s) that GHG benefits are being measured and calculated by the project this quarter.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Models
- Direct field measurements
- Both

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

GHG cumulative calculation

Data element name: GHG cumulative calculation

Reporting question: What method(s) was used to calculate the total cumulative GHG benefits reported here?

Description: List the method(s) that was used to calculate the total cumulative GHG benefits reported by the project this quarter.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:
- Models
- Direct field measurements
- Both

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Cumulative GHG benefits

Data element name: Cumulative GHG benefits

Reporting question: What are the project's estimated total GHG emission reductions (CO2eq) to date?

Description: Total cumulative estimated greenhouse gas emission reductions from practice implementation. This is updated quarterly. If there are no changes, enter the same number as the previous quarter.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Cumulative carbon stock

Data element name: Cumulative carbon stock

Reporting question: How much carbon has the project sequestered to date?

Description: Estimated total cumulative change in carbon stock based on practice implementation. This is updated quarterly. If there are no changes, enter the same numbers as the previous quarter. Conversion rate is one ton of carbon = 3.67 tons of CO_2eq.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Cumulative CO2 benefit

Data element name: Cumulative CO2 benefit

Reporting question: What are the project's estimated total cumulative CO2 emission reductions to date?

Description: Estimated total cumulative carbon dioxide emission reductions based on practice implementation. This is updated quarterly. If there are no changes, enter the same number as the previous quarter.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Cumulative CH4 benefit

Data element name: Cumulative CH4 benefit

Reporting question: What are the project's estimated total CH4 emission reductions to date?

Description: Estimated total cumulative methane reduction based on practice implementation. This is updated quarterly. If there are no changes, enter the same numbers as the previous quarter. Conversion rate is one ton of CH_4 = 25 tons of CO_2eq.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CH4 reduced in CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Cumulative N20 benefit

Data element name: Cumulative N2O benefit

Reporting question: What are the project's estimated total N2O emission reductions to date?

Description: Estimated total cumulative nitrous oxide reduction based on practice implementation. This is updated quarterly. If there are no updated numbers enter the same number as the previous quarter. Conversion rate is one ton of N_2O = 298 tons of CO_2eq.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons N2O reduced in CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Offsets produced

Data element name: Offsets produced

Reporting question: How many carbon offsets have been produced in the project?

Description: Total carbon offsets produced by enrolled project fields during the quarter. Offsets are defined as having been verified and certified using an accepted standard and sold into the carbon marketplace.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Offsets sale

Data element name: Offsets sale

Reporting question: To what marketplace(s) were carbon offsets sold?

Description: Marketplaces to which carbon offsets produced by enrolled project fields were sold. Offsets are defined as having been verified and certified using an accepted standard and sold into the carbon marketplace. List each marketplace name. Separate names with commas.

Data type: Text

Select multiple values: NA

Measurement unit: Name

Allowed values: Text

Logic: Respond if >0 to 'Offsets produced'

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Offsets price

Data element name: Offsets price

Reporting question: What was the average price of carbon received for offsets?

Description: Average price per metric ton paid for carbon offsets produced by enrolled project fields. Offsets are defined as having been verified and certified using an accepted standard and sold into the carbon marketplace.

Data type: Decimal

Select multiple values: No

Measurement unit: Dollars per metric ton

Allowed values: 0-500

Logic: Respond if >0 to 'Offsets produced'

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Insets produced

Data element name: Insets produced

Reporting question: How many carbon insets have been produced in the project?

Description: Total carbon insets produced by enrolled fields during the quarter. Insets are defined as having been verified and certified using an accepted standard and accounted for within Scope 3 emissions for a firm.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Cost of on-farm TA

Data element name: Cost of on-farm TA

Reporting question: What is the total amount that has been spent to provide on-farm TA?

Description: Total cost of any field- or practice-specific technical assistance provided by the project (by recipient or partners) to any producers. This is updated quarterly. If there are no changes, enter the same number as the previous quarter.

Data type: Decimal

Select multiple values: No

Measurement unit: Dollars

Allowed values: $0-$50,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

MMRV cost

Data element name: MMRV cost

Reporting question: What is the total amount that has been spent on MMRV activities?

Description: Total cost of all MMRV activities paid for by the project (recipient or partners). MMRV components are defined as measurement (calculations or estimations of GHG emissions), monitoring (ongoing review and confirmation that the climate-smart practices have been implemented according to the agreed upon standard and documentation of any changes in the site, implementation, or GHG emissions impacts over time), reporting (documenting and sharing monitoring and measurement results with project partners, the recipient, and any third-party verification organization), and verification (independent confirmation that measurement, monitoring and reporting information are complete, accurate and reliable). This is updated quarterly. If there are no changes, enter the same number as the previous quarter.

Data type: Decimal

Select multiple values: No

Measurement unit: Dollars

Allowed values: $0-$50,000,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

GHG monitoring method

Data element name: GHG monitoring 1-5

Reporting question: How did the project monitor GHG benefits?

Description: Up to the five most common forms of monitoring GHG benefits used this quarter as part of MMRV requirements. Monitoring is defined as ongoing review and confirmation that the climate-smart practice has been implemented according to the agreed upon standard and documentation of any changes in the site, implementation, or GHG emissions impacts over time. Include up to 5 methods, based on which methods are most commonly used for this project. The worksheet provides five columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 5 GHG monitoring methods are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other GHG monitoring methods as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Drones
- Ground-level photos and videos
- On-farm visit
- Plot-based sampling
- Producer records or attestation
- Satellite monitoring or remote sensing
- Soil metagenomics
- Soil sensors
- Water sensors
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

GHG reporting method

Data element name: GHG reporting 1-5

Reporting question: How did the project track and report implementation of practices to reduce GHG emissions?

Description: Up to the five most common forms of tracking and reporting on practice implementation used this year as part of MMRV requirements. Reporting is defined as documenting and sharing monitoring and measurement results with project partners, the recipient, and any third-party verification organization. Include up to 5 methods, based on which methods are most commonly used for this project. The worksheet provides five columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 5 GHG reporting methods are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other GHG reporting methods as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Automated devices
- Email
- Mobile app
- Paper
- Third-party actors
- Website
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

GHG verification method

Data element name: GHG verification method 1-5

Reporting question: How did the project verify implementation of practices to reduce GHG emissions?

Description: Up to the five most common forms of verifying practice implementation used this year as part of MMRV requirements. Verification is defined as independent confirmation that measurement, monitoring and reporting information are complete, accurate and reliable. Include up to 5 methods, based on which methods are most commonly used for this project. The worksheet provides five columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 5 GHG verification methods are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other GHG verification methods as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Artificial intelligence
- Audit by recipient
- Computer modeling
- Photos
- Record audit
- Satellite imagery
- Site or field visit
- Third-party audit
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Partner Activities

Unique IDs	
Partner ID	Unique Project ID for each partner

Partner name	
Data element name: Name of partner organization	**Reporting question:** What is the official name of the recipient or partner organization?
Description: Legal name of recipient or partner organization	
Data type: Text	**Select multiple values**: NA
Measurement unit: NA	**Allowed values:** Text
Logic: None – all respond	**Required:** Yes
Data collection level: Partner	**Data collection frequency:** Partnership initiation

Partner type	
Data element name: Type of partner organization	**Reporting question:** What type of organization is this?
Description: Legal/financial structure of recipient or partner organization	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Commodity groups (501c5) • For-profit • Individual • Nonprofit • State or local agency • Tribal agency • University
Logic: None – all respond	**Required:** Yes
Data collection level: Partner	**Data collection frequency:** Partnership initiation

Partner POC	
Data element name: Partner POC	**Reporting question:** Who is the point of contact for this project at the recipient or partner organization?
Description: Name of a point of contact for the recipient or partner organization	
Data type: Text	**Select multiple values**: NA
Measurement unit: NA	**Allowed values:** Text
Logic: None – all respond	**Required:** Yes
Data collection level: Partner	**Data collection frequency:** Partnership initiation; update as necessary

Partner POC email	
Data element name: Partner POC email	**Reporting question:** What is the point of contact's email address?
Description: Email of the point of contact for the recipient or partner organization	
Data type: Text	**Select multiple values**: NA
Measurement unit: NA	**Allowed values:** Text
Logic: None – all respond	**Required:** Yes
Data collection level: Partner	**Data collection frequency:** Partnership initiation; update as necessary

Partnership start date

Data element name: Partnership start date
Reporting question: When did the partnership start?
Description: Date that the partner organization and the recipient began formally partnering on the project
Data type: Date
Select multiple values: NA
Measurement unit: MM/DD/YYYY
Allowed values: 01/01/2023 – 12/31/2030
Logic: No response for recipient
Required: Yes
Data collection level: Partner
Data collection frequency: Partnership initiation

Partnership end date

Data element name: Partnership end date
Reporting question: When did the partnership end?
Description: Date that the partner organization and the recipient stopped formally partnering on the project
Data type: Date
Select multiple values: NA
Measurement unit: MM/DD/YYYY
Allowed values: 01/01/2023 – 12/31/2030
Logic: No response for recipient
Required: Yes
Data collection level: Partner
Data collection frequency: Partnership end quarter

New partnership

Data element name: New partnership
Reporting question: Is this a new partnership?
Description: A new partnership means that the recipient and the partner organization have not had a formal working relationship (under contract or on a grant) prior to the start of the project.
Data type: List
Select multiple values: No
Measurement unit: Category
Allowed values:
- Yes
- No
- I don't know

Logic: No response for recipient
Required: Yes
Data collection level: Partner
Data collection frequency: Partnership initiation

Partner total requested

Data element name: Partner total requested
Reporting question: What is the total amount of funding the partner has requested to date from this project?
Description: Cumulative (total) amount of funds that the partner has requested reimbursement for from the recipient from the start of the partnership to the end of the reporting quarter. For each quarter's data entry, the value must be the sum of all previous entries plus the amount of funds requested in the reporting quarter. If there are no changes, report the value from the previous quarter.
Data type: Decimal
Select multiple values: NA
Measurement unit: Dollars
Allowed values: $0-$100,000,000
Logic: No response for recipient
Required: Yes
Data collection level: Partner
Data collection frequency: Quarterly

Total match contribution

Data element name: Total match contribution

Reporting question: What is the total match value the organization has contributed to the project to date?

Description: Cumulative (total) value of funds and in-kind contributions (e.g., staff time, inputs, equipment rental, marketing support) that the partner has provided as a project match contribution from the start of the partnership to the end of the reporting quarter. For each quarter's data entry, the value must be the sum of all previous entries plus match contributions in the reporting quarter. If there are no changes, report the value from the previous quarter.

Data type: Decimal

Select multiple values: NA

Measurement unit: Dollars

Allowed values: $0-$100,000,000

Logic: None – all respond

Required: Yes

Data collection level: Partner

Data collection frequency: Quarterly

Total match incentives

Data element name: Total match incentives

Reporting question: What is the total value of match provided by this organization for producer incentives?

Description: Cumulative (total) value of funds for incentive payments directly to producers that the partner has provided as a project match contribution from the start of the partnership to the end of the reporting quarter. For each quarter's data entry, the value must be the sum of all previous entries plus match incentives in the reporting quarter. If there are no changes, report the value from the previous quarter.

Data type: Decimal

Select multiple values: NA

Measurement unit: Dollars

Allowed values: $0-$100,000,000

Logic: None – all respond

Required: Yes

Data collection level: Partner

Data collection frequency: Quarterly

Match type

Data element name: Match type 1-3

Reporting question: What types of match contributions has the organization provided to the project?

Description: Types of match contributions *other than incentives* provided directly to producers by the organization from the start of the partnership to the end of the reporting quarter. Enter up to the top three (in dollar value) types of match contributions provided. In-kind staff time could be used for technical assistance, marketing assistance, or other support to producers. Production inputs include seed, fertilizer, pesticides, equipment and other inputs for use in the field. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 3 match types are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other match types as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Equipment rental or use
- In-kind staff time
- Production inputs (reduced cost or free)
- Program income
- Software
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Partner

Data collection frequency: Quarterly

Match amount

Data element name: Match amount 1-3

Reporting question: What is the value of the match contributions the organization provided to the project?

Description: Cumulative (total) value of funds for each match type that the organization has provided as a project match contribution from the start of the partnership to the end of the reporting quarter. Enter amounts for up to the top three (in dollar value) match types. The worksheet provides three columns for this data element. Enter one value for each column. If fewer than 3 match types are used, leave unnecessary columns blank.

Data type: Decimal

Select multiple values: NA

Measurement unit: Dollars

Allowed values: $0-$100,000,000

Logic: None – all respond

Required: Yes

Data collection level: Partner

Data collection frequency: Quarterly

Training type provided

Data element name: Training type 1-3 provided

Reporting question: What types of training has the organization provided to project partners?

Description: Types of training provided to the project partner as a result of participating in the project during the past quarter. Training can come from the recipient, a project partner organization (including other divisions of their own organization, or an outside organization. Enter up to the top three (in dollar value) types of partner training provided. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 3 training types are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other training types as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Data collection
- Grant reporting
- Marketing opportunities
- Providing financial assistance
- Providing technical assistance
- Writing producer contracts
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Partner

Data collection frequency: Quarterly

Activity by partner

Data element name: Activity 1-3 by partner

Reporting question: What types of activities has the organization provided to the project?

Description: Types of activities that the recipient or partner organization has provided during the reporting quarter. Enter up to the top three (in dollar value) types of activities undertaken. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 3 activity types are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other activity types as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Marketing support
- MMRV support
- Producer outreach for enrollment
- Technical assistance to producers
- Training to other partner organizations
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Partner

Data collection frequency: Quarterly

Activity cost

Data element name: Activity cost 1-3	**Reporting question:** What is the value of the activities this organization has provided to the project?
Description: Cumulative (total) cost of each activity type that the organization has undertaken or offered from the start of the partnership to the end of the reporting quarter. Enter amounts for up to the top three (in dollar value) activity types. The worksheet provides three columns for this data element. Enter one value for each column. If fewer than 3 activity types are provided, leave unnecessary columns blank.	
Data type: Decimal	**Select multiple values**: NA
Measurement unit: Dollars	**Allowed values:** $0-$100,000,000
Logic: None – all respond	**Required:** Yes
Data collection level: Partner	**Data collection frequency:** Quarterly

Products supplied

Data element name: Products supplied	**Reporting question:** What products or supplies were provided to enrolled fields?
Description: Name(s) of products supplied to enrolled producers as incentives or matching contributions. Enter the name of each product, including its brand. Separate each product name with a comma. If no products or supplies were provided by the organization, leave the column blank.	
Data type: Text	**Select multiple values**: NA
Measurement unit: Name	**Allowed values:** Text
Logic: None – all respond	**Required:** Yes
Data collection level: Partner	**Data collection frequency:** Quarterly

Product source

Data element name: Product source	**Reporting question:** Which companies provided the supplies?
Description: Name of firm or company from which supplies were obtained.	
Data type: Text	**Select multiple values**: NA
Measurement unit: Name	**Allowed values:** Text
Logic: Respond if text entered for 'Products supplied'	**Required:** Yes
Data collection level: Partner	**Data collection frequency:** Quarterly

Marketing Activities

Commodity type

Data element name: Commodity type

Reporting question: What type of commodity is produced by the farmers enrolled in this project?

Description: List a single commodity produced or marketed through incentives from this project. If multiple commodities are produced by the project, use additional rows of the worksheet to report each commodity. Use the FSA commodity list in Appendix B and choose the commodity from the list.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values: FSA commodity list

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Marketing channel type

Data element name: Marketing channel type

Reporting question: What type of marketing channel is used to sell this commodity?

Description: List a single type of marketing channel used to sell the commodity produced by farmers enrolled in the project. If a single commodity is marketed through multiple channels, use additional rows of the worksheet to report each combination of commodity and marketing channel. If "other" is chosen, use the additional column to enter the other marketing channel type(s) as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Agricultural marketing board
- Biorefinery
- Commodity broker
- Direct to consumer
- Direct to institution
- Direct to restaurant
- Distributor (including grain elevators)
- Food hub or cooperative
- Food processor
- Non-food byproducts processor
- Retailer
- USDA
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Number of buyers

Data element name: Number of buyers

Reporting question: How many buyers are there in this marketing channel?

Description: List the number of individual firms or buyers in this marketing channel.

Data type: Integer

Select multiple values: No

Measurement unit: Count

Allowed values: 1-500

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Names of buyers

Data element name: Names of buyers	**Reporting question:** What are the names of all of the buyers in this marketing channel?
Description: Provide the names of all buyers in this marketing channel. Separate each name with a comma.	
Data type: Text	**Select multiple values**: NA
Measurement unit: Name	**Allowed values:** Text
Logic: None – all respond	**Required:** Yes
Data collection level: Project	**Data collection frequency:** Quarterly

Marketing channel geography

Data element name: Marketing channel geography	**Reporting question:** What is the primary geography of the marketing channel?
Description: The primary geography of the type of marketing channel. Primary geography means the scale at which most of the activity of buying and selling happens. Local means within a single state or directly neighboring states. Regional means within a five-to-ten state area. National means across the United States. International means specific locations outside of the United States. Global means across the world or not to a specific international location.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Local • Regional • National • Global
Logic: None – all respond	**Required:** Yes
Data collection level: Project	**Data collection frequency:** Quarterly

Value sold

Data element name: Value sold	**Reporting question:** What is the value of the commodity sold in this marketing channel?
Description: The dollar value of the commodity sold in this marketing channel this quarter (non-cumulative).	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Dollars	**Allowed values:** $1-$100,000,000
Logic: None – all respond	**Required:** Yes
Data collection level: Project	**Data collection frequency:** Quarterly

Volume sold

Data element name: Volume sold	**Reporting question:** What is the volume of the commodity sold in this marketing channel?
Description: The volume of the commodity sold in this marketing channel this quarter (non-cumulative).	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Number	**Allowed values:** 1-100,000,000
Logic: None – all respond	**Required:** Yes
Data collection level: Project	**Data collection frequency:** Quarterly

Volume sold unit

Data element name: Volume sold unit

Reporting question: What is the unit of volume?

Description: The unit associated with the volume of the commodity sold in the marketing channel. If "other" is chosen, use the additional column to enter the appropriate unit as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Bales (500 pounds)
- Bushels
- Carcass pounds
- Gallons
- Kilograms
- Linear board feet
- Liveweight pounds
- Metric tons
- Pounds
- Short tons
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Price premium

Data element name: Price premium

Reporting question: What price premium is received for the commodity sold in this marketing channel?

Description: The price premium received for the commodity sold in this marketing channel this quarter. Price premium is the amount received above a 'business as usual' price.

Data type: Decimal

Select multiple values: No

Measurement unit: Dollars

Allowed values: $0.01-$10,000

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Price premium unit

Data element name: Price premium unit

Reporting question: What is the unit for the price premium?

Description: The unit associated with the price premium for the commodity sold in the marketing channel. If "other" is chosen, use the additional column to enter the appropriate unit as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Per bale (500 pounds)
- Per bushel
- Per carcass pound
- Per gallon
- Per kilogram
- Per linear board foot
- Per live pound
- Per metric ton
- Per ounce
- Per short ton
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Price premium to producer

Data element name: Price premium to producer

Reporting question: What percent of the price premium is provided to the producer for the commodity sold in this marketing channel?

Description: The percent of the price premium provided to the producer for the commodity sold in this marketing channel this quarter. Price premium is the amount received above a 'business as usual' price.

Data type: Decimal

Select multiple values: No

Measurement unit: Percent

Allowed values: 0-100

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Product differentiation method

Data element name: Product differentiation method 1-3

Reporting question: What methods are used to differentiate climate-smart commodities in this marketing channel?

Description: Provide the methods used to differentiate the climate-smart commodity in this market channel. Product differentiation methods are ways to distinguish or differentiate the climate-smart commodity in the marketplace. Include up to 3 methods, based on which methods are most commonly used for this project. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 3 product differentiation methods are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other product differentiation methods as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Certification/verification for internal insetting
- Farm certification
- Label or badge used on packaging or marketing
- Third party certification/verification
- Trademark
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Marketing method

Data element name: Marketing method 1-3

Reporting question: What methods are used to market climate-smart commodities in this marketing channel?

Description: Provide the method(s) used to market this commodity in this market channel. Marketing method is the way that potential buyers of the climate-smart commodity are engaged by the project partners as the sellers or facilitators of sale. Include up to 3 methods, based on which methods are most commonly used for this project. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 3 marketing methods are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other marketing methods as free text

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Label or badge used on packaging or marketing materials
- Marketing partnership (e.g., promotion by buyer)
- Print marketing campaign
- Social media and digital marketing campaign
- Verbal marketing campaign (e.g., radio, word of mouth)
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Marketing channel identification method

Data element name: Marketing channel identification method 1-3

Reporting question: What methods are used to generate interest in climate-smart commodities in this marketing channel?

Description: Provide the marketing channel identification method(s) used for this commodity in this market channel. Market channel identification methods are the ways that producers and project partners generate interest in purchasing the climate-smart commodity. Include up to 3 methods, based on which methods are most commonly used for this project. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 3 marketing channel identification methods are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other marketing channel identification methods as free text

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Educational tours for buyers
- In-person lead generation
- Negotiated contracts with buyers
- Partnership network or project partner
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Traceability method

Data element name: Traceability method 1-3

Reporting question: What traceability methods are used for climate-smart commodities in this channel?

Description: Provide the traceability method(s) used for the climate-smart commodity in this market channel. Traceability methods are ways to trace the climate-smart commodity or the climate-smart claims through the supply chain. Include up to 3 methods, based on which methods are most commonly used for this project. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 3 traceability methods are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other traceability methods as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Barcode or unique ID
- Blockchain
- Book and claim
- Chain of custody
- Mass balance
- Recordkeeping
- Registry with certification
- Segregation
- Supply shed
- Volume proxy
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Project

Data collection frequency: Quarterly

Producer Enrollment

Unique IDs

Farm ID	Unique Farm ID assigned by FSA
State or territory	State name (must match FSA farm enrollment data)
County of residence	County name (must match FSA farm enrollment data)

Producer data change

Data element name: Producer data change

Reporting question: Is there new/updated information for a producer who is re-enrolling in the project?

Description: Indicates that there is new or updated information for a producer who had previously enrolled in the project and is re-enrolling.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:
- Yes
- No

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Re-enrollment

Producer start date

Data element name: Producer start date

Reporting question: When did the producer enroll in the project?

Description: Date that the producer enrolled in the project by signing their first contract.

Data type: Date

Select multiple values: NA

Measurement unit: MM/DD/YYYY

Allowed values: 01/01/2023 – 12/31/2030

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

Producer name

Data element name: Producer name

Reporting question: What is the name of producer enrolled in the project?

Description: Name of the producer enrolled in the project; the name must match the name contained in the customer's Business Partner record and the Farm Operating Plan in FSA Business File for that Farm ID.

Data type: Text

Select multiple values: NA

Measurement unit: NA

Allowed values: Text

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

Underserved status

Data element name: Underserved status

Reporting question: Is this producer considered an underserved and/or a small producer?

Description: Underserved status of the primary operator of the enrolled operation. Underserved producers generally include beginning farmers, socially disadvantaged farmers, veteran farmers, and limited resource farmers; women farmers and producers growing specialty crops are generally also included in these categories. Small farms are generally those with less than $350,000 in annual gross cash farm income. Indicate whether this producer is considered underserved, a small producer, or both underserved and a small producer. Use "I don't know" if the producer declines to answer. Departmental Regulation 4370-001 provides USDA's policies for collecting demographic data, including race, ethnicity and gender. Providing demographic information is voluntary and at the discretion of the customer. Demographic information is used by USDA for statistical purposes only and will not be used to determine an applicant's eligibility for programs or services for which they apply.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes, underserved
- Yes, small producer
- Yes, underserved and small producer
- No
- I don't know

Logic: None – all respond

Required: No

Data collection level: Producer

Data collection frequency: Initial enrollment

Total area

Data element name: Total area

Reporting question: What is the total area of the farm?

Description: Total area of the farm associated with the Farm ID. Report total area of the farm, even if only a portion of the farm is enrolled in the project. If a producer is enrolled in the project for multiple years, review the total area each time a new contract is signed and provide any necessary updates.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Less than 1 acre
- 1 to 9 acres
- 10 to 49 acres
- 50 to 69 acres
- 70 to 99 acres
- 100 to 139 acres
- 140 to 179 acres
- 180 to 219 acres
- 220 to 259 acres
- 260 to 499 acres
- 500 to 999 acres
- 1,000 to 1,999 acres
- 2,000 to 4,999 acres
- 5,000 or more acres

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment and subsequent enrollment(s), if applicable

Total crop area

Data element name: Total crop area	**Reporting question:** What percent of the current operation is cropland?
Description: Area of the total farm that is currently used as cropland. If a producer is enrolled in the project for multiple years, review the total crop area each time a new contract is signed and provide any necessary updates.	
Data type: Integer	**Select multiple values:** No
Measurement unit: Acres	**Allowed values:** 0-100,000
Logic: None – all respond	**Required:** Yes
Data collection level: Producer	**Data collection frequency:** Initial enrollment and subsequent enrollment(s), if applicable

Total livestock area

Data element name: Total livestock area	**Reporting question:** What amount of the current operation is used for livestock (by area)?
Description: Area of the total farm that is currently used for pasture, grazing, rangeland; or animal housing, feeding or milking. If a producer is enrolled in the project for multiple years, review the total livestock area each time a new contract is signed and provide any necessary updates.	
Data type: Integer	**Select multiple values:** No
Measurement unit: Acres	**Allowed values:** 0-100,000
Logic: None – all respond	**Required:** Yes
Data collection level: Producer	**Data collection frequency:** Initial enrollment and subsequent enrollment(s), if applicable

Total forest area

Data element name: Total forest area	**Reporting question:** What amount of the current operation is forested (by area)?
Description: Area of the total farm that is currently considered forest land use. Forest land use means that at least 10% of the land area is covered in trees that will be at least 13 feet tall when mature. If a producer is enrolled in the project for multiple years, review the total forest area each time a new contract is signed and provide any necessary updates.	
Data type: Integer	**Select multiple values:** No
Measurement unit: Acres	**Allowed values:** 0-100,000
Logic: None – all respond	**Required:** Yes
Data collection level: Producer	**Data collection frequency:** Initial enrollment and subsequent enrollment(s), if applicable

Livestock type

Data element name: Livestock type 1-3

Reporting question: What types of livestock are raised on the farm?

Description: Up to top three types of livestock (by head count) on the farm. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If there are fewer than 3 livestock types, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other livestock types as free text. If a producer is enrolled in the project for multiple years, review the livestock type each time a new contract is signed and provide any necessary updates.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Alpacas
- Beef cows
- Beefalo
- Buffalo or bison
- Chickens (broilers)
- Chickens (layers)
- Dairy cows
- Deer
- Ducks
- Elk
- Emus
- Equine
- Geese
- Goats
- Honeybees
- Llamas
- Reindeer
- Sheep
- Swine
- Turkeys
- Other (specify)

Logic: Respond if 'Total livestock area' >0

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment and subsequent enrollment(s), if applicable

Livestock head

Data element name: Livestock head 1-3

Reporting question: How many livestock (by type) are on this operation?

Description: Average annual head count for each type of livestock. Enter amounts for up to the top three livestock types by number. The worksheet provides three columns for this data element. Enter one value for each column. If there are fewer than 3 livestock types, leave unnecessary columns blank. If a producer is enrolled in the project for multiple years, review the average annual head count each time a new contract is signed and provide any necessary updates.

Data type: Integer

Select multiple values: NA

Measurement unit: Head count

Allowed values: 1-10,000,000

Logic: Respond if 'Total livestock area' >0

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment and subsequent enrollment(s), if applicable

Organic farm

Data element name: Organic farm

Reporting question: Is any part of the farm currently USDA-certified organic or transitioning to USDA-certified organic?

Description: USDA-certified organic means that the farm has been certified by an accredited organic certifying agent or is transitioning to USDA-certified organic by not using any of the prohibited substances. Yes means that some or all of the farm is certified organic or transitioning to certified organic. No means that no part of the farm is certified organic or transitioning to certified organic. If a producer is enrolled in the project for multiple years, review the organic certification status of the farm each time a new contract is signed and provide any necessary updates.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: None – all respond

Required: No

Data collection level: Producer

Data collection frequency: Initial enrollment and subsequent enrollment(s), if applicable

Organic fields

Data element name: Organic fields

Reporting question: Are any of the fields enrolled in the project currently USDA-certified organic or transitioning to USDA-certified organic?

Description: USDA-certified organic means that the operation has been certified by an accredited organic certifying agent or is transitioning to USDA-certified organic by not using any of the prohibited substances. Yes means that some or all of the fields enrolled in the project are certified organic or transitioning to certified organic. No means that no part of the fields enrolled in the project are certified organic or transitioning to certified organic. If a producer is enrolled in the project for multiple years, review the organic certification status of the enrolled fields each time a new contract is signed and provide any necessary updates.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: Respond if yes to 'Organic operation'

Required: No

Data collection level: Producer

Data collection frequency: Initial enrollment and subsequent enrollment(s), if applicable

Producer motivation

Data element name: Producer motivation

Reporting question: Which of the following was the primary reason the producer enrolled in this project?

Description: Primary operator's motivation for enrolling in the project.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Financial benefit
- Environmental benefit
- New market opportunity
- Partnerships or networks
- Other

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

Producer outreach

Data element name: Producer outreach 1-3

Reporting question: What types of outreach were provided to producers?

Description: Up to three most common types of outreach provided to producer prior to enrollment. Outreach activities are those focused on identifying and enrolling producers in the project. Outreach can come from the recipient or project partners. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If there are fewer than 3 outreach types, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other outreach types as free text.

Data type: List

Select multiple values: Yes

Measurement unit: Category

Allowed values:

- Commodity organizations
- Conferences
- Cooperative extension
- Digital communications and resources
- Education workshops, field days, and town halls
- Existing partner networks
- Farm visits and one-on-one meetings
- General advertising
- Peer referrals and producer groups
- Phone calls
- Print communications and resources
- Retailers
- State agencies
- Targeted messaging using proprietary data
- Technical service providers
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

CSAF experience

Data element name: CSAF experience

Reporting question: Has the primary operator implemented CSAF practices in the last ten years anywhere on the farm?

Description: Has this farm implemented climate-smart agriculture or forestry (CSAF) practices anywhere on the farm in the past 10 years or since the current primary operator took control (whichever time period is shorter)? CSAF practices are included in a list in Appendix A.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

CSAF federal funds

Data element name: CSAF federal funds

Reporting question: Were prior CSAF practices supported by federal funds?

Description: If this farm (under the primary operator) has implemented CSAF practices in the last ten years, was implementation supported by federal funds? Federal funds are defined as being from programs including, but not limited to, those from the Natural Resources Conservation Service ((NRCS), including through Environmental Quality Incentives Program (EQIP), Conservation Stewardship Program (CSP), Regional Conservation Partnership Program (RCPP), or related programs), the Farm Service Agency Conservation Reserve Program (CRP), as well as funds from other USDA programs or other federal agencies.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don’t know

Logic: Respond if yes to 'CSAF experience'

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

CSAF state or local funds

Data element name: CSAF state or local funds

Reporting question: Were prior CSAF practices supported by state or local funds?

Description: If this farm (under the primary operator) has implemented CSAF practices in the last ten years, was implementation supported by state funds? State or local funds are those from state departments of agriculture or other state agencies, local water quality districts and other local agencies.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don’t know

Logic: Respond if yes to 'CSAF experience'

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

CSAF nonprofit funds

Data element name: CSAF nonprofit funds

Reporting question: Were CSAF practices supported by nonprofit funds?

Description: If this farm (under the primary operator) has implemented CSAF practices in the last ten years, was implementation supported by nonprofit funds? Nonprofit funds are those offered directly from a nonprofit organization to a producer.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don’t know

Logic: Respond if yes to 'CSAF experience'

Required: Yes

Data collection level: Producer

Data collection frequency: Initial enrollment

CSAF market incentives

Data element name: CSAF market incentives	**Reporting question:** Were CSAF practices supported by market incentives?
Description: If this farm (under the primary operator) has implemented CSAF practices in the last ten years, was implementation supported by market incentives? Market incentives include premiums paid by a commodity buyer or by a consumer based on branding or labeling as a climate-smart commodity.	
Data type: List	**Select multiple values:** No
Measurement unit: Category	**Allowed values:** • Yes • No • I don't know
Logic: Respond if yes to 'CSAF experience'	**Required:** Yes
Data collection level: Producer	**Data collection frequency:** Initial enrollment

Field Enrollment

Unique IDs

Farm ID	Unique Farm ID assigned by FSA
Tract ID	Unique Tract ID assigned by FSA
Field ID	Unique Field ID assigned by FSA
State or territory of field	State name (must match FSA farm enrollment data)
County of field	County name (must match FSA farm enrollment data)
Prior Field ID, if applicable	Prior Field ID assigned by FSA if there has been reconstitution of the farm resulting in a new Field ID during the field's enrollment in the project

Field data change

Data element name: Field data change

Reporting question: Has the information previously reported for this field changed?

Description: Indicator that this entry is being used to report any relevant changes, such as a new Field ID number or changes to the commodity or practice combinations, for a field that has previously been enrolled in the project.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Re-enrollment

Contract start date

Data element name: Contract start date

Reporting question: What is the start date of the contract with the producer that includes this field?

Description: Start date listed on the contract that enrolls the field in the project.

Data type: Date

Select multiple values: NA

Measurement unit: MM/DD/YYYY

Allowed values: 01/01/2023 – 12/31/2030

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Total field area

Data element name: Total field area

Reporting question: What is the total size of the enrolled field?

Description: Total size of the field enrolled with the project.

Data type: Decimal

Select multiple values: No

Measurement unit: Acres

Allowed values: .01-500

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Commodity category

Data element name: Commodity category	**Reporting question:** What category of commodity(ies) is (are) produced from this field?
Description: Category of commodity(ies) produced in field enrolled in the project	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Crops • Livestock • Trees • Crops and livestock • Crops and trees • Livestock and trees • Crops, livestock and trees
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Initial enrollment

Commodity type

Data element name: Commodity type	**Reporting question:** What type of commodity is produced from this field?
Description: Type of commodity produced in field enrolled in the project. See full list in Appendix B. The worksheet provides a drop-down list of the allowed values. Choose the appropriate value. Enter additional commodities in subsequent rows.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** FSA commodity list
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Initial enrollment

Baseline yield

Data element name: Baseline yield	**Reporting question:** What is the baseline yield of this field?
Description: Average annual yield of commodity in 3 years prior to enrollment. Provide yield for the enrolled field if possible. If not at field level, provide average annual yield for the specific commodity for the operation.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Production per acre or animal	**Allowed values:** .01-100,000
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Initial enrollment

Baseline yield unit

Data element name: Baseline yield unit

Reporting question: Baseline yield unit

Description: Unit of average annual yield of commodity in enrolled field in 3 years prior to enrollment. The worksheet provides a drop-down list of choices for this data element. If "other" is chosen, use the additional column to enter the appropriate yield unit as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Animal units per acre
- Bushels per acre
- Carcass pounds per animal
- Head per acre
- Hundred-weights (or pounds) per head
- Linear feet per acre
- Liveweight pounds per animal
- Pounds per acre
- Tons per acre
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Baseline yield location

Data element name: Baseline yield location

Reporting question: For what portion of the operation is the baseline yield being reported?

Description: Location of the reported average annual yield of commodity in 3 years prior to enrollment. If "other" is chosen, use the additional column to enter the appropriate location as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Enrolled field
- Whole operation
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Field land use

Data element name: Field land use

Reporting question: What is this field's land use history?

Description: Prior to enrollment, what was the most common land use for this field in the past 3 years?

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Crop land
- Forest land
- Non-agriculture
- Other agricultural land
- Pasture
- Range

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Field irrigated

Data element name: Field irrigated	**Reporting question:** What is this field's irrigation history?
Description: Prior to enrollment, what was the most common irrigation practice on this field the past 3 years?	
Data type: List	**Select multiple values:** No
Measurement unit: Category	**Allowed values:** • No irrigation • Center pivot • Drip-subsurface • Drip-surface • Flood/border • Furrow/ditch • Lateral/linear sprinklers • Micro-sprinklers • Seepage • Side roll • Solid set sprinklers • Supplemental • Surface • Traveling gun/towline • Wheel Line • Other
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Initial enrollment

Field tillage

Data element name: Field tillage	**Reporting question:** What is this field's tillage history?
Description: Prior to enrollment, what was the most common tillage approach during the past 3 years?	
Data type: List	**Select multiple values:** No
Measurement unit: Category	**Allowed values:** • None • Conventional, inversion • Conventional, vertical • No-till, direct seed • Reduced till, inversion • Reduced till, vertical • Strip till • Other
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Initial enrollment

Practice past extent - farm

Data element name: Practice past extent - farm

Reporting question: What percent of the farm has implemented this CSAF practice (combination) previously?

Description: Prior to enrollment, on what portion of the whole farm had this (these) CSAF practice(s) ever been used by the primary operator? If multiple practices are planned to be implemented in this field, enter the value that best corresponds to the farm's prior experience with the planned set of practices.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Never used
- Used on less than 25% of operation
- Used on 25-50% of operation
- Used on 51-75% of operation
- Used on more than 75% of operation

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Field any CSAF practice

Data element name: Field any CSAF practice

Reporting question: What is this field's prior experience with CSAF practices?

Description: Prior to enrollment, have any CSAF practice or practices been used in this field in the past 3 years? CSAF practices are included in a list in Appendix A.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Practice past use - this field

Data element name: Practice past use - this field

Reporting question: Have this CSAF practice (combination) been implemented previously in this field?

Description: Prior to enrollment, had this (these) CSAF practice(s) been used in this field in the in the past 3 years? Enter yes if all of the practices had been used previously in this field; enter some if multiple practices are being implemented and one or more, but not all of the practices had been used previously in this field; and enter no if none of the practices had been used previously in this field.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- Some
- No
- I don't know

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Practice type

Data element name: Practice type 1-7

Reporting question: What CSAF practice is being implemented in this field through the project?

Description: Which CSAF practice or practices will be implemented on this field as part of enrollment in the project? CSAF practices are included in a list in Appendix A. The worksheet provides seven columns for this data element. Enter one value for each column. If there are fewer than 7 practices being implemented on this field through enrollment in the project, leave unnecessary columns blank.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values: See list in Appendix A

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Practice standard

Data element name: Practice standard 1-7

Reporting question: What standard does the CSAF practice follow?

Description: Is the CSAF practice being implemented on the field as part of enrollment in the project following a defined practice standard? The worksheet provides seven columns for this data element. Enter one value for each column, corresponding to the practice types entered in the previous columns. If there are fewer than 7 practices being implemented on this field through enrollment in the project, leave unnecessary columns blank.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- NRCS
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Planned practice implementation year

Data element name: Practice 1-7 implementation year

Reporting question: What year is the CSAF practice planned to be implemented?

Description: Year that the CSAF practice is planned to be implemented on the field. Use 2022 for early adopters, defined as fields that have the practice actively implemented in 2022 (prior to contract being signed for this project). The worksheet provides seven columns for this data element. Enter one value for each column, corresponding to the practice types entered in the previous columns. If there are fewer than 7 practices being implemented on this field through enrollment in the project, leave unnecessary columns blank.

Data type: Integer

Select multiple values: No

Measurement unit: Year

Allowed values: 2022-2030

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Practice extent

Data element name: Practice 1-7 extent

Reporting question: To what extent is the practice implemented?

Description: Total area, length, or head where the practice is being implemented in the field specified by the contract.

Data type: Decimal

Select multiple values: No

Measurement unit: Extent

Allowed values: .01-100,000

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Initial enrollment

Practice extent unit	
Data element name: Practice 1-7 extent unit	**Reporting question:** Unit for extent of practice implementation
Description: Unit for extent of practice implementation on the field specified by the contract. If "other" is chosen, use the additional column to enter the appropriate unit.	
Data type: List	**Select multiple values:** No
Measurement unit: Category	**Allowed values:** • Acres • Head of livestock • Linear feet • Square feet • Other (specify)
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Initial enrollment

CSAF Practice Sub-questions

For certain practices, additional questions are asked that provide information necessary to estimate greenhouse gas benefits from implementation of the practice. See Table 11 in the *CSAF Practice Sub-questions* section for descriptions of individual questions to be answered depending on the CSAF practices selected.

Farm Summary

Unique IDs

Farm ID	Unique Farm ID assigned by FSA
State or territory	State name (must match FSA farm enrollment data)
County of residence	County name (must match FSA farm enrollment data)

Producer TA received

Data element name: Producer TA received 1-3

Reporting question: What types of technical assistance were provided to this producer?

Description: Did the recipient or any partner provide technical assistance (TA) to the producer this year? Technical assistance is any training, education, capacity building or other support provided by any project partner(s) directly to producers enrolled in the project. List up to the top three most common types of TA provided to this producer. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If there are fewer than 3 TA types, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other TA types as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Demonstration plots
- Equipment demonstrations
- Group field days or in-person field workshops
- Hotline
- One-on-one enrollment assistance
- One-on-one field visits
- One-on-one producer mentorship
- Producer networks and peer-to-peer groups
- Retailer consultation
- Social media/digital tools
- Train-the-trainer opportunities
- Virtual meetings or field days
- Webinars and videos
- Written materials
- None
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Producer incentive amount

Data element name: Producer incentive amount

Reporting question: What is the total value of financial incentives provided to this producer?

Description: Total incentive payment received by the producer from USDA project funds for the year (non-cumulative). Do not include incentive payments made with partner match funds.

Data type: Decimal

Select multiple values: NA

Measurement unit: Dollars

Allowed values: $0-$5,000,000

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Incentive reason

Data element name: Incentive reason 1-4

Reporting question: Why were incentives provided to this producer?

Description: List up to four reasons for producer incentive payments. List the top 4 based on total value of the incentive for each reason. The worksheet provides four columns with a drop-down list of the allowed values. Choose one value for each column. If there are fewer than 4 reasons, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other reasons as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Avoided conversion
- Conference or training attendance
- Demographics/equity payment
- Enrollment
- Foregone revenue
- Historic data collection
- Identity preservation (supply chain tracing)
- Implementation of practices
- MMRV (e.g., data collection, reporting)
- Passing audit
- Price premium on output
- Yield change
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Incentive structure

Data element name: Incentive structure 1-4

Reporting question: What are the units for the financial incentives provided to this producer?

Description: List the structures (units) corresponding to the top 4 (by dollar value) incentive payments to producers. Production unit is weight or volume (bushel, kilogram, ton). The worksheet provides four columns with a drop-down list of the allowed values. Choose one value for each column. If there are fewer than 4 structure types, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other structure types as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Flat rate
- Per animal head
- Per area
- Per length
- Per production unit
- Per ton GHG
- Per tree
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Incentive type

Data element name: Incentive type 1-4

Reporting question: What type of incentives were provided to each producer?

Description: List the top 4 types of incentive payments to producers (based on dollar value). The worksheet provides four columns with a drop-down list of the allowed values. Choose one value for each column. If there are fewer than 4 incentive types, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other incentive types as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Cash payment
- Equipment loan
- Guaranteed commodity premium payment
- Inputs and supplies
- Land rental
- Loan
- Paid labor
- Post-harvest transportation
- Tuition or fees for training
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Payment on enrollment

Data element name: Payment on enrollment

Reporting question: What portion of the financial incentive is provided to the producer upon enrollment in the project?

Description: Any incentive payment provided to the producer upon enrollment/signing a contract, and not related to any implementation, MMRV or sales activities. Full payment means the full incentive amount for any contract held by the producer is paid upon enrollment. Partial payment means that only part of the full incentive amount for any contract held by the producer is paid upon enrollment. No payment means that none of the full incentive amount for any contract held by the producer is paid upon enrollment.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Full payment
- Partial payment
- No payment

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Payment on implementation

Data element name: Payment on implementation

Reporting question: What portion of the financial incentive is provided to the producer upon implementation of the practices?

Description: Any incentive payment provided to the producer upon implementing the practices included in the contract. Full payment means the full incentive amount for any contract held by the producer is paid upon implementation. Partial payment means that only part of the full incentive amount for any contract held by the producer is paid upon implementation. No payment means that none of the full incentive amount for any contract held by the producer is paid upon implementation.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Full payment
- Partial payment
- No payment

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Payment on harvest

Data element name: Payment on harvest

Reporting question: What portion of the financial incentive is provided to the producer upon harvest of the commodity?

Description: Any incentive payment provided to the producer upon harvesting or slaughtering the commodity included in the contract. Full payment means the full incentive amount for any contract held by the producer is paid upon harvest. Partial payment means that only part of the full incentive amount for any contract held by the producer is paid upon harvest. No payment means that none of the full incentive amount for any contract held by the producer is paid upon harvest.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Full payment
- Partial payment
- No payment

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Payment on MMRV

Data element name: Payment on MMRV

Reporting question: What portion of the financial incentive is provided to the producer upon completing MMRV requirements?

Description: Any incentive payment provided to the producer upon completing the annual MMRV requirements included in the contract. Full payment means the full incentive amount for any contract held by the producer is paid upon MMRV being complete. Partial payment means that only part of the full incentive amount for any contract held by the producer is paid upon MMRV being complete. No payment means that none of the full incentive amount for any contract held by the producer is paid upon MMRV being complete.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Full payment
- Partial payment
- No payment

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Payment on sale

Data element name: Payment on sale

Reporting question: What portion of the financial incentive is provided to producer upon sale of the commodity?

Description: Any incentive payment provided to the producer upon sale of the commodity included in the contract. Full payment means the full incentive amount for any contract held by the producer is paid upon sale. Partial payment means that only part of the full incentive amount for any contract held by the producer is paid upon sale. No payment means that none of the full incentive amount for any contract held by the producer is paid upon sale.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Full payment
- Partial payment
- No payment

Logic: None – all respond

Required: Yes

Data collection level: Producer

Data collection frequency: Quarterly

Field Summary

Unique IDs

Farm ID	Unique Farm ID assigned by FSA
Tract ID	Unique Tract ID assigned by FSA
Field ID	Unique Field ID assigned by FSA
State or territory of field	State name (must match FSA farm enrollment data)
County of field	County name (must match FSA farm enrollment data)

Commodity type

Data element name: Commodity type

Reporting question: What type of commodity is produced from this field?

Description: Type of commodity produced in field enrolled in the project. See full list in Appendix B. The worksheet provides multiple columns with a drop-down list of the allowed values. Choose one value for each column. Leave unnecessary columns blank.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values: FSA commodity list

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Practice type

Data element name: Field practice type 1-7

Reporting question: What CSAF practice is being implemented in this field through the project?

Description: Which climate-smart agriculture or forestry (CSAF) practice or practices are being implemented in this project? CSAF practices are included in a list in Appendix A. The worksheet provides seven columns for this data element. Enter one value for each column. If there are fewer than 7 practices being implemented on this field through enrollment in the project, leave unnecessary columns blank.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values: See list in Appendix A

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Date practice complete

Data element name: Date practice complete

Reporting question: When did the project certify CSAF practice implementation as complete?

Description: Date that the project certifies that implementation of the CSAF practice is complete on the field. Use January of the year prior to contract year for early adopters, defined as fields that have the practice actively implemented in the year prior to a contract associated with this project is signed). The worksheet provides seven columns for this data element. Enter one value for each column, corresponding to the practice types entered in the previous columns. If there are fewer than 7 practices being implemented on this field through enrollment in the project, leave unnecessary columns blank.

Data type: Date

Select multiple values: No

Measurement unit: MM/DD/YYYY

Allowed values: 01/01/2023 – 12/31/2030

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Contract end date

Data element name: Contract end date

Reporting question: Contract end date

Description: End date listed on the contract that enrolls the field in the project. If contract end date changes, submit updated end date during the next quarter's reporting.

Data type: Date

Select multiple values: No

Measurement unit: MM/DD/YYYY

Allowed values: 01/01/2023 – 12/31/2030

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

MMRV assistance provided

Data element name: MMRV assistance provided

Reporting question: Was MMRV assistance provided?

Description: Was any MMRV assistance provided to the primary operator for this field? MMRV assistance includes in-field support for the use of technologies, consultation on data collection and input, and other support related to MMRV. MMRV is defined a measurement (calculations or estimations of GHG emissions), monitoring (ongoing review and confirmation that the climate-smart practice has been implemented according to the agreed upon standard and documentation of any changes in the site, implementation, or GHG emissions impacts over time), reporting (documenting and sharing monitoring and measurement results with project partners, the recipient, and any third-party verification organization), and verification (independent confirmation that measurement, monitoring and reporting information are complete, accurate and reliable).

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Marketing assistance provided

Data element name: Marketing assistance provided

Reporting question: Was marketing assistance provided?

Description: Was any marketing assistance provided to the primary operator for the commodity(ies) produced from this field? Marketing assistance includes guaranteeing the sale of the commodity(ies), providing a platform for the sale of the commodity(ies), providing a label, branding, or other support related to marketing.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Incentive per acre or head

Data element name: Incentive per acre or head

Reporting question: Is this field receiving a per-acre or per-head incentive?

Description: Is this field receiving an incentive payment to implement a specific CSAF practice or set of practices on a per-acre or per-head (livestock) basis?

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field commodity value

Data element name: Field commodity value	**Reporting question:** What is the value of the commodity produced on the enrolled field?
Description: The dollar value of the commodity produced on the enrolled field.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Dollars	**Allowed values:** $1-$10,000,000
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Quarterly

Field commodity volume

Data element name: Field commodity volume	**Reporting question:** What is the volume of commodity produced on the enrolled field?
Description: The volume of the commodity produced on the enrolled field	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Number	**Allowed values:** 1-10,000,000
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Quarterly

Field commodity volume unit

Data element name: Field commodity volume unit	**Reporting question:** What is the unit of volume?
Description: The unit associated with the volume of the commodity produced on the enrolled field. If "other" is chosen, enter the appropriate value in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Bushels • Carcass weight pounds • Gallons • Head • Linear feet • Liveweight pounds • Pounds • Tons • Other (specify)
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Quarterly

Cost of implementation

Data element name: Cost of implementation	**Reporting question:** What is the cost of practice implementation in the field?
Description: Total annual estimated cost per unit of implementing the practice(s) in the enrolled field.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Dollars	**Allowed values:** $1-$10,000,000
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Quarterly

Cost unit

Data element name: Cost unit

Reporting question: What is the unit for cost?

Description: The unit associated with the cost of implementing CSAF practices in the field. If "other" is chosen, enter the appropriate value in the additional column.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Per acre
- Per bushel
- Per head
- Per linear foot
- Per pound
- Per ton
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Cost coverage

Data element name: Cost coverage

Reporting question: What percent of the practice cost is covered by the incentive?

Description: Estimated proportion of total annual cost of implementing the practice(s) that is covered by project incentives.

Data type: Integer

Select multiple values: No

Measurement unit: Percent

Allowed values: 0-100

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field GHG monitoring

Data element name: Field GHG monitoring 1-3

Reporting question: How were GHG impacts monitored in this field?

Description: Up to the top three forms of monitoring GHG benefits as part of MMRV requirements. Monitoring is defined as ongoing review and confirmation that the climate-smart practice has been implemented according to the agreed upon standard and documentation of any changes in the site, implementation, or GHG emissions impacts over time. Include up to 3 methods, based on which methods are most commonly used for this field. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 3 GHG monitoring methods are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other GHG monitoring methods as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Drones
- Ground-level photos and videos
- On-farm inspection
- Plot-based sampling (e.g., soil, water)
- Producer records or attestation
- Satellite monitoring or remote sensing
- Soil metagenomics
- Soil sensors
- Water sensors
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field GHG reporting

Data element name: Field GHG reporting 1-3

Reporting question: How were GHG benefits reported for this field?

Description: Up to the top three forms of reporting on GHG benefits as part of MMRV requirements. Reporting is defined as documenting and sharing monitoring and measurement results with project partners, the recipient, and any third-party verification organization. Include up to 3 methods, based on which methods are most commonly used for this field. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 3 GHG reporting methods are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other GHG reporting methods as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Automated devices
- Email
- Mobile app
- Paper
- Third-party actors
- Website
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field GHG verification

Data element name: Field GHG verification 1-3

Reporting question: How was implementation of practices to reduce GHG emissions verified for this field?

Description: Up to the top three of verification of GHG benefits as part of MMRV requirements. Verification is defined as independent confirmation that measurement, monitoring and reporting information are complete, accurate and reliable. Include up to 3 methods, based on which methods are most commonly used for this field. The worksheet provides three columns with a drop-down list of the allowed values. Choose one value for each column. If fewer than 3 GHG verification methods are used, leave unnecessary columns blank. If "other" is chosen, use the additional column to enter other GHG verification methods as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Artificial intelligence
- Computer modeling
- Recipient audit
- Photos
- Record audit
- Satellite imagery
- Site or field visit
- Third-party audit
- Other (specify)

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field GHG calculations

Data element name: Field GHG calculations

Reporting question: What methods are used to calculate GHG benefits in this field?

Description: List the method(s) used to calculate GHG benefits in this field. If yes to direct physical measurements, submit result reports (see *Supplemental Data Submission – Field direct GHG measurement results*).

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:
- Models
- Direct field measurements
- Both

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field official GHG calculation

Data element name: Field official GHG calculation

Reporting question: What method was used to calculate the official GHG benefits in this field?

Description: List the method used to calculate the official GHG benefits in this field that are reported as part of the project's aggregate impact.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:
- Models
- Direct field measurements

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field official GHG ER

Data element name: Field official GHG emission reductions

Reporting question: What are the estimated total GHG emission reductions (CO2eq) in this field?

Description: Estimated greenhouse gas emission reductions from practice implementation in this field that are reported as part of the project's aggregate impact. This data element must be entered upon practice completion or annually, as appropriate.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field official carbon stock

Data element name: Field official carbon stock

Reporting question: How much carbon has been sequestered in this field?

Description: Estimated total change in carbon stock based on practice implementation in this field. This data element can be reported in any quarter and is cumulative for the year. Conversion rate is one ton of carbon = 3.67 tons of CO_2eq.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field official CO2 ER

Data element name: Field official CO2 emission reductions

Reporting question: What are the estimated total CO2 emission reductions in this field?

Description: Estimated total carbon dioxide emission reductions based on practice implementation in this field that are reported as part of the project's aggregate impact. This data element must be entered upon practice completion or annually, as appropriate.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field official CH4 ER

Data element name: Field official CH4 emission reductions

Reporting question: What are the estimated total CH4 emission reductions in this field?

Description: Estimated total methane emission reductions based on practice implementation in this field that are reported as part of the project's aggregate impact. This data element must be entered upon practice completion or annually, as appropriate. Conversion rate is one ton of CH_4 = 25 tons of CO_2eq.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CH4 reduced in CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field official N20 ER

Data element name: Field official N2O emission reductions

Reporting question: What are the estimated total N2O emission reductions in this field?

Description: Estimated total nitrous oxide emission reductions based on practice implementation in this field that are reported as part of the project's aggregate impact. This data element must be entered upon practice completion or annually, as appropriate. Conversion rate is one ton of N_2O = 298 tons of CO_2eq.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons N2O reduced in CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field offsets produced

Data element name: Field offsets produced

Reporting question: How many carbon offsets have been produced in this field?

Description: Total carbon offsets produced in the field during the quarter (not cumulative). Offsets are defined as having been verified and certified using an accepted standard and sold into the carbon marketplace.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Quarterly

Field insets produced

Data element name: Field insets produced	**Reporting question:** How many carbon insets have been produced in this field?
Description: Total carbon insets produced in the field during the quarter (not cumulative). Insets are defined as having been verified and certified using an accepted standard and accounted for within Scope 3 emissions for a firm.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Metric tons CO_2eq	**Allowed values:** 0-10,000,000
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Quarterly

Other field measurement

Data element name: Other field measurement	**Reporting question:** Were data collected from the field for reasons other than GHG benefit estimation?
Description: Direct physical measurements or data collection taken in the field for any reason other than GHG benefits estimation. These reasons could include calibration of GHG estimation tools or models, tracking other environmental benefits (see Field environmental benefits report), and other reasons. If yes, submit corresponding reports (see *Supplemental data submission - Field direct measurement results*).	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Yes • No • I don't know
Logic: None – all respond	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Quarterly

GHG Benefits - Alternate Modeled

Unique IDs

Farm ID	Unique Farm ID assigned by FSA
Tract ID	Unique Tract ID assigned by FSA
Field ID	Unique Field ID assigned by FSA
State or territory of field	State name (must match FSA farm enrollment data)
County of field	County name (must match FSA farm enrollment data)

Commodity type

Data element name: Commodity type 1-6 **Reporting question:** What type of commodity(ies) is produced from this field?

Description: Type of commodity(ies) produced in field enrolled in the project. See full list of commodity options in Appendix B. The worksheet provides multiple columns with drop-down lists of the allowed values. Choose one value for each column. Leave unnecessary columns blank

Data type: List **Select multiple values**: No

Measurement unit: Category **Allowed values:** FSA commodity list

Logic: None – all respond **Required:** If project calculates GHG benefits using multiple methods

Data collection level: Field **Data collection frequency:** Annual

Practice type

Data element name: Practice type 1-7 **Reporting question:** What CSAF practice is being implemented by this project?

Description: Which CSAF practice or practices are being implemented in this project? CSAF practices are included in a list in Appendix A. The worksheet provides seven columns for this data element. Enter one value for each column. If there are fewer than 7 practices being implemented by the project, leave unnecessary columns blank.

Data type: List **Select multiple values:** No

Measurement unit: Category **Allowed values:** See list in Appendix A

Logic: None – all respond **Required:** If project calculates GHG benefits using multiple methods

Data collection level: Field **Data collection frequency:** Annual

GHG model

Data element name: GHG model

Reporting question: What model was used for alternate calculation of GHG benefits?

Description: Select the model used for the alternate calculation of the field's GHG benefits.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- ACC Calculator
- Agriculture, Forestry and Other Land Use (AFOLU) Carbon Calculator
- AIRES
- APEX
- Bowen Ratio Energy Balance
- Carat-Calculator
- CArPE
- CDFA web-based calculator
- COMET-Farm
- COMET-Planner
- CoolFarm
- Cover Crop Explore
- CropTrak
- CultivateAI's FMIS
- DayCent-CR
- DNDC
- DSSAT
- Earth Optics
- EcoPractices
- EPIC
- Extrapolation based on literature
- FieldPrint
- Granular
- GREET
- gTIR
- IFSM
- IPCC default emissions factors & models
- itree
- Nitrogen Balance
- Nutrient Tracking Tool (NTT)
- RCD Project Tracker
- Revised Universal Soil Loss equation 2 (RUSLE2)
- RuFaS
- SAFE-Link
- SALUS (CIBO)
- SNAPGRAZE
- SquareRoots
- SWAT-C
- SYMFONI
- Truterra Sustainability Tool
- Verra
- WEPP
- YardStick
- Other (specify)

Logic: None – all respond

Required: If project calculates GHG benefits using multiple methods

Data collection level: Field

Data collection frequency: Annual

Model start date

Data element name: Model start date	**Reporting question:** For what time period are the GHG benefits modeled (model start date)?
Description: Date that the model parameters begin.	
Data type: Date	**Select multiple values**: NA
Measurement unit: MM/DD/YYYY	**Allowed values:** 01/01/1950 – 12/31/2030
Logic: None – all respond	**Required:** If project calculates GHG benefits using multiple methods
Data collection level: Field	**Data collection frequency:** Annual

Model end date

Data element name: Model end date	**Reporting question:** For what time period are the GHG benefits modeled (model end date)?
Description: Date that the model parameters end.	
Data type: Date	**Select multiple values**: NA
Measurement unit: MM/DD/YYYY	**Allowed values:** 01/01/2023– 12/31/2030
Logic: None – all respond	**Required:** If project calculates GHG benefits using multiple methods
Data collection level: Field	**Data collection frequency:** Annual

Total GHG benefits estimated

Data element name: Total GHG benefits estimated	**Reporting question:** What is the alternate estimate of the field's total GHG emission reductions?
Description: Total greenhouse gas emission reductions from practice implementation in the field estimated using an alternate model.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Metric tons CO_2eq	**Allowed values:** 0-10,000,000
Logic: None – all respond	**Required:** If project calculates GHG benefits using multiple methods
Data collection level: Field	**Data collection frequency:** Annual

Total carbon stock estimated

Data element name: Total carbon stock estimated	**Reporting question:** What is the alternate estimate of how much carbon has the field has sequestered?
Description: Total change in carbon stock based on practice implementation in the field estimated using an alternate model. Conversion rate is one ton of carbon = 3.67 tons of CO_2eq.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Metric tons CO_2eq	**Allowed values:** 0-10,000,000
Logic: None – all respond	**Required:** If project calculates GHG benefits using multiple methods
Data collection level: Field	**Data collection frequency:** Annual

Total CO2 estimated

Data element name: Total CO2 estimated	**Reporting question:** What is the alternate estimate of the field's total CO2 emission reductions?
Description: Total carbon dioxide emission reductions based on practice implementation in the field estimated using an alternate model.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Metric tons CO_2	**Allowed values:** 0-10,000,000
Logic: None – all respond	**Required:** If project calculates GHG benefits using multiple methods
Data collection level: Field	**Data collection frequency:** Annual

Total CH4 estimated

Data element name: Total CH4 estimated	**Reporting question:** What is the alternate estimate of the field's total CH4 emission reductions?
Description: Total methane emission reductions based on practice implementation in the field estimated using an alternate model. Conversion rate is one ton of CH_4 = 25 tons of CO_2eq.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Metric tons CH4 reduced in CO_2eq	**Allowed values:** 0-10,000,000
Logic: None – all respond	**Required:** If project calculates GHG benefits using multiple methods
Data collection level: Field	**Data collection frequency:** Annual

Total field N20 estimated

Data element name: Total N2O estimated	**Reporting question:** What is the alternate estimate of the field's total N2O emission reductions?
Description: Total nitrous oxide emission reductions based on practice implementation in the field estimated using an alternate method. Conversion rate is one ton of N_2O = 298 tons of CO_2eq.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Metric tons N2O reduced in CO_2eq	**Allowed values:** 0-10,000,000
Logic: None – all respond	**Required:** If project calculates GHG benefits using multiple methods
Data collection level: Field	**Data collection frequency:** Annual

GHG Benefits - Measured

Unique IDs

Farm ID	Unique Farm ID assigned by FSA
Tract ID	Unique Tract ID assigned by FSA
Field ID	Unique Field ID assigned by FSA
State or territory of field	State name (must match FSA farm enrollment data)
County of field	County name (must match FSA farm enrollment data)

GHG measurement method

Data element name: GHG measurement method

Reporting question: What measurement method is used to calculate GHG benefits?

Description: Field-based measurement method used to calculate GHG benefits. If "other" is chosen, enter the appropriate value as free text in the additional column.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Emissions measurement unit
- Flux towers
- Litterbags
- Plant measurements
- Portable emissions analyzers
- Soil flux chambers
- Soil samples
- Soil sensors
- Vehicle-mounted sensors
- Other (specify)

Logic: None – all respond

Required: If a project conducts soil samples or takes carbon stock or greenhouse gas emission measurements in this field

Data collection level: Field

Data collection frequency: Annual

Lab name

Data element name: Lab name

Reporting question: What is the name of the lab that processed the measurement samples?

Description: Name of entity that received data and conducted analysis of samples.

Data type: Text

Select multiple values: No

Measurement unit: NA

Allowed values: Free text

Logic: None – all respond

Required: If applicable

Data collection level: Field

Data collection frequency: Annual

Measurement start date

Data element name: Measurement start date

Reporting question: On what date did the measurement start?

Description: Date that the measurements began. If it was a single point in time, use the same date for start date and end date. If multiple measurements took place over a time period, use the date that the measurements first began.

Data type: Date

Select multiple values: No

Measurement unit: MM/DD/YYYY

Allowed values: 01/01/2023 – 12/31/2030

Logic: None – all respond

Required: If a project conducts soil samples or takes carbon stock or greenhouse gas emission measurements in this field

Data collection level: Field

Data collection frequency: Annual

Measurement end date

Data element name: Measurement end date

Reporting question: On what date did the measurement end?

Description: Date that the measurements began. If it was a single point in time, use the same date for start date and end date. If multiple measurements took place over a time period, use the date that the measurements were completed.

Data type: Date

Select multiple values: No

Measurement unit: MM/DD/YYYY

Allowed values: 01/01/2023– 12/31/2030

Logic: None – all respond

Required: If a project conducts soil samples or takes carbon stock or greenhouse gas emission measurements in this field

Data collection level: Field

Data collection frequency: Annual

Total CO2 reduction calculated

Data element name: Total CO2 reduction calculated

Reporting question: What are the total measured CO2 emission reductions?

Description: Total annual CO2 emission reductions based on practice implementation in the field calculated from in-field measurements.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2

Allowed values: 0-10,000,000

Logic: None – all respond

Required: If a project takes carbon stock or greenhouse gas emission measurements in this field

Data collection level: Field

Data collection frequency: Annual

Total field carbon stock measured

Data element name: Total field carbon stock measured

Reporting question: What is the total amount of carbon sequestered based on repeat measurements in this field?

Description: Change in carbon stock based on practice implementation in the field calculated from repeat soil sampling in this field. (Results for initial field soil samples should be reported in the 'Soil sample result' and 'Measurement type" columns.) Conversion rate is one ton of carbon = 3.67 tons of CO_2eq.

Data type: Decimal

Select multiple values: No

Measurement unit: Metric tons CO_2eq

Allowed values: 0-10,000,000

Logic: None – all respond

Required: If a project conducts soil samples or takes carbon stock measurements in this field

Data collection level: Field

Data collection frequency: Annual

Total CH4 reduction calculated

Data element name: Total CH4 reduction calculated	**Reporting question:** What are the total measured CH4 emission reductions?
Description: Total annual methane emission reductions based on practice implementation in the field calculated from in-field measurements. Conversion rate is one ton of CH_4 = 25 tons of CO_2eq.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Metric tons CH4 reduced in CO_2eq	**Allowed values:** 0-10,000,000
Logic: None – all respond	**Required:** If a project conducts soil samples or takes carbon stock or greenhouse gas emission measurements in this field
Data collection level: Field	**Data collection frequency:** Annual

Total N20 reduction calculated

Data element name: Total N2O reduction calculated	**Reporting question:** What are the total measured N2O emission reductions?
Description: Total annual nitrous oxide emission reductions based on practice implementation in the field calculated from in-field measurements. Conversion rate is one ton of N_2O = 298 tons of CO_2eq.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Metric tons N2O reduced in CO_2eq	**Allowed values:** 0-10,000,000
Logic: None – all respond	**Required:** If a project conducts soil samples or takes carbon stock or greenhouse gas emission measurements in this field
Data collection level: Field	**Data collection frequency:** Annual

Soil sample result

Data element name: Soil sample result	**Reporting question:** What is the numeric result from this soil sample?
Description: Results of measurement(s) taken to determine the carbon stock of a soil (the tons of carbon found in a specified volume of soil).	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Amount	**Allowed values:** .00001-100,000
Logic: None – all respond	**Required:** If a project conducts soil samples in this field
Data collection level: Field	**Data collection frequency:** Annual

Soil sample result unit

Data element name: Soil sample result unit

Reporting question: What is unit for the soil sample result?

Description: Unit for the corresponding soil sample result. The worksheet provides a drop-down list of choices for this data element. If "other" is chosen, use the additional column to enter the appropriate yield unit as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Percent
- Ppm
- Grams
- Grams per cubic centimeter
- Other (specify)

Logic: None – all respond

Required: If a project conducts soil samples in this field

Data collection level: Field

Data collection frequency: Annual

Measurement type

Data element name: Measurement type

Reporting question: What type of analysis was conducted for this soil sample?

Description: Type of soil analysis conducted. The worksheet provides a drop-down list of choices for this data element. If "other" is chosen, use the additional column to enter the appropriate yield unit as free text.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Organic matter
- Total organic carbon
- Bulk density
- Other (specify)

Logic: None – all respond

Required: If a project conducts soil samples in this field

Data collection level: Field

Data collection frequency: Annual

Additional Environmental Benefits

Unique IDs

Farm ID	Unique Farm ID assigned by FSA
Tract ID	Unique Tract ID assigned by FSA
Field ID	Unique Field ID assigned by FSA
State or territory of field	State name (must match FSA farm enrollment data)
County of field	County name (must match FSA farm enrollment data)

Environmental benefits

Data element name: Environmental benefits

Reporting question: Are environmental benefits other than GHGs being tracked in the field?

Description: Tracking of environmental benefits other than greenhouse gas emission reductions and carbon sequestration in the enrolled field. Tracking means at a minimum using some form of monitoring and reporting that can quantify benefits.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: None – all respond

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Reduction in nitrogen loss

Data element name: Reduction in nitrogen loss

Reporting question: Are reductions in nitrogen losses being tracked in the field?

Description: Tracking reductions in nitrogen losses in the enrolled field. Tracking means at a minimum using some form of monitoring and reporting that can quantify benefits.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: Respond if yes to 'Environmental benefits'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Reduction in nitrogen loss amount

Data element name: Reduction in nitrogen loss amount

Reporting question: How much reduction in nitrogen losses have been measured in the field?

Description: Total amount of reduction in nitrogen losses that is measured and reported in the enrolled field.

Data type: Decimal

Select multiple values: No

Measurement unit: Amount

Allowed values: 0-1,000,000

Logic: Respond if yes to 'Reduction in nitrogen loss'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Reduction in nitrogen loss amount unit

Data element name: Reduction in nitrogen loss amount unit	**Reporting question:** What is the unit for how much reduction in nitrogen losses have been measured in the field?
Description: Unit for the total amount of reduction in nitrogen losses that is measured and reported in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Kilograms • Metric tons • Pounds • Other (specify)
Logic: Respond if yes to 'Reduction in nitrogen loss'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduction in nitrogen loss purpose

Data element name: Reduction in nitrogen loss purpose	**Reporting question:** What is the purpose of tracking reduction in nitrogen losses?
Description: Purpose of tracking reduction in nitrogen losses in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Commodity marketing • Producing insets • Producing offsets • I don't know • Other (specify)
Logic: Respond if yes to 'Reduction in nitrogen loss'	**Required:** Yes
Data collection level: Project	**Data collection frequency:** Annual

Reduction in phosphorus loss

Data element name: Reduction in phosphorus loss	**Reporting question:** Are reductions in phosphorus losses being tracked in the field?
Description: Tracking of reductions in phosphorus losses in the enrolled field. Tracking means at a minimum using some form of monitoring and reporting that can quantify benefits.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Yes • No • I don't know
Logic: Respond if yes to 'Environmental benefits'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduction in phosphorus loss amount

Data element name: Reduction in phosphorus loss amount	**Reporting question:** How much reduction in phosphorus losses have been measured in the field?
Description: Total amount of reduction in phosphorus losses that is measured in the field.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Amount	**Allowed values:** 0-1,000,000
Logic: Respond if yes to 'Reduction in phosphorus loss'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduction in phosphorus loss amount unit

Data element name: Reduction in phosphorus loss amount unit	**Reporting question:** What is the unit for the reduction in phosphorus losses measured in the field?
Description: Unit for the total amount of reduction in phosphorus losses that is measured in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Kilograms • Metric tons • Pounds • Other (specify)
Logic: Respond if yes to 'Reduction in phosphorus loss'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduction in phosphorus loss purpose

Data element name: Reduction in phosphorus loss purpose	**Reporting question:** What is the purpose of tracking reductions in phosphorus losses?
Description: Purpose of tracking reduction in phosphorus losses in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Commodity marketing • Producing insets • Producing offsets • I don't know • Other (specify)
Logic: Respond if yes to 'Reduction in phosphorus loss'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Other water quality

Data element name: Other water quality	**Reporting question:** Are other water quality metrics being tracked in the field?
Description: Project tracking of other water quality metrics in the enrolled field. Tracking means at a minimum using some form of monitoring and reporting that can quantify benefits.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Yes • No • I don't know
Logic: Respond if yes to 'Environmental benefits'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Other water quality type	
Data element name: Other water quality type	**Reporting question:** What type of other water quality metric have been measured in the field?
Description: Type of other water quality metric (besides nitrogen loss and phosphorus loss reductions) that is measured in the field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Sediment load reduction • Temperature • Other (specify)
Logic: Respond if yes to 'Other water quality'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Other water quality amount	
Data element name: Other water quality amount	**Reporting question:** How much reduction in other water quality metrics have been measured in the field?
Description: Total amount of reduction in other water quality metrics that is measured in the enrolled field.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Amount	**Allowed values:** 0-1,000,000
Logic: Respond if yes to 'Other water quality'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Other water quality amount unit	
Data element name: Other water quality amount unit	**Reporting question:** What is the unit for the reduction in other water quality metrics measured in the field?
Description: Unit for the total amount of reduction in other water quality metrics that is measured in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Degrees F • Kilograms • Kilograms per liter • Metric tons • Pounds • Other (specify)
Logic: Respond if yes to 'Other water quality'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Other water quality purpose

Data element name: Other water quality purpose	**Reporting question:** What is the purpose of tracking other water quality benefits?
Description: Purpose of tracking other water quality benefits in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Commodity marketing • Producing insets • Producing offsets • I don't know • Other (specify)
Logic: Respond if yes to 'Other water quality'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Water quantity

Data element name: Water quantity	**Reporting question:** Is water conservation being tracked in the field?
Description: Tracking of water conservation or reduction in use in the enrolled field. Tracking means at a minimum using some form of monitoring and reporting that can quantify benefits.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Yes • No • I don't know
Logic: Respond if yes to 'Environmental benefits'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Water quantity amount

Data element name: Water quantity amount	**Reporting question:** How much water conservation has been measured in the field?
Description: Total amount of water conservation or reduction that is measured in the field.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Amount	**Allowed values:** 0-1,000,000
Logic: Respond if yes to 'Water quantity'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Water quantity amount unit

Data element name: Water quantity amount unit	**Reporting question:** What is the unit for the amount of water conservation measured in the field?
Description: Unit for the total amount of water conservation or reduced use that is measured and reported in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Acre-feet • Cubic feet • Other (specify)
Logic: Respond if yes to 'Water quantity'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Water quantity purpose

Data element name: Water quantity purpose	**Reporting question:** What is the purpose of tracking water conservation?
Description: Purpose of tracking water conservation or reductions in water use in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Commodity marketing • Producing insets • Producing offsets • I don't know • Other (specify)
Logic: Respond if yes to 'Water quantity'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduced erosion

Data element name: Reduced erosion	**Reporting question:** Is reduced soil erosion being tracked in the field?
Description: Tracking of reduced soil erosion in the enrolled field. Tracking means at a minimum using some form of monitoring and reporting that can quantify benefits.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Yes • No • I don't know
Logic: Respond if yes to 'Environmental benefits'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduced erosion amount

Data element name: Reduced erosion amount	**Reporting question:** How much erosion reduction has been measured in the field?
Description: Total amount of erosion reduction that is measured in the enrolled field.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Amount	**Allowed values:** 0-1,000,000
Logic: Respond if yes to 'Reduced erosion'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduced erosion amount unit

Data element name: Reduced erosion unit	**Reporting question:** What is the unit for the amount of erosion reduction measured?
Description: Unit for the total amount of erosion reduction from enrolled fields that is measured and reported by the project. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Tons • Other (specify)
Logic: Respond if yes to 'Reduced erosion'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduced erosion purpose

Data element name: Reduced erosion purpose	**Reporting question:** What is the purpose of tracking reduced erosion in the field?
Description: Purpose of tracking reduced erosion the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Commodity marketing • Producing insets • Producing offsets • I don't know • Other (specify)
Logic: Respond if yes to 'Reduced erosion'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduced energy use

Data element name: Reduced energy use	**Reporting question:** Is reduced energy use being tracked in the field?
Description: Tracking of reduced energy use in the enrolled field. Tracking means at a minimum using some form of monitoring and reporting that can quantify benefits.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Yes • No • I don't know
Logic: Respond if yes to 'Environmental benefits'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduced energy use amount

Data element name: Reduced energy use amount	**Reporting question:** How much energy use reduction has been measured in the field?
Description: Total amount of energy use reduction that is measured in the enrolled field.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Amount	**Allowed values:** 0-1,000,000
Logic: Respond if yes to 'Reduced energy use'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduced energy use amount unit

Data element name: Reduced energy use unit	**Reporting question:** What is the unit for the energy use reduction measured in the field?
Description: Unit for the total amount of energy use reduction that is measured in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Kilowatt hours • Other (specify)
Logic: Respond if yes to 'Reduced energy use'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Reduced energy use purpose

Data element name: Reduced energy use purpose

Reporting question: What is the purpose of tracking reduced energy use in the field?

Description: Purpose of tracking reduced energy use in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Commodity marketing
- Producing insets
- Producing offsets
- I don't know
- Other (specify)

Logic: Respond if yes to 'Reduced energy use'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Avoided land conversion

Data element name: Avoided land conversion

Reporting question: Is avoided land conversion being tracked in the field?

Description: Tracking of avoided land conversion in the enrolled field. Tracking means at a minimum using some form of monitoring and reporting that can quantify benefits. Land conservation means land use changing from agricultural uses to non-agricultural uses.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Yes
- No
- I don't know

Logic: Respond if yes to 'Environmental benefits'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Avoided land conversion amount

Data element name: Avoided land conversion amount

Reporting question: How much avoided land conversion has been measured in the field?

Description: Total amount of avoided land conversion that is measured in the enrolled field.

Data type: Decimal

Select multiple values: No

Measurement unit: Amount

Allowed values: 0-1,000,000

Logic: Respond if yes to 'Avoided land conversion'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Avoided land conversion amount unit

Data element name: Avoided land conversion unit

Reporting question: What is the unit for the amount of avoided land conversion measured in the field?

Description: Unit for the total amount of avoided land conversion that is measured in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.

Data type: List

Select multiple values: No

Measurement unit: Category

Allowed values:

- Acres
- Other (specify)

Logic: Respond if yes to 'Avoided land conversion'

Required: Yes

Data collection level: Field

Data collection frequency: Annual

Avoided land conversion purpose

Data element name: Avoided land conversion purpose	**Reporting question:** What is the purpose of tracking avoided land conversion in the field?
Description: Purpose of tracking avoided land conversion in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Commodity marketing • Producing insets • Producing offsets • I don't know • Other (specify)
Logic: Respond if yes to 'Avoided land conversion'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Improved wildlife habitat

Data element name: Improved wildlife habitat	**Reporting question:** Are improvements to wildlife habitat being tracked in the field?
Description: Tracking of improvements to wildlife in and around the enrolled field. Tracking means at a minimum using some form of monitoring and reporting that can quantify benefits.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Yes • No • I don't know
Logic: Respond if yes to 'Environmental benefits'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Improved wildlife habitat amount

Data element name: Improved wildlife habitat amount	**Reporting question:** How much improved wildlife habitat has been measured in the field?
Description: Total amount of improved wildlife habitat that is measured in and around the enrolled fields.	
Data type: Decimal	**Select multiple values**: No
Measurement unit: Amount	**Allowed values:** 0-1,000,000
Logic: Respond if yes to 'Improved wildlife habitat'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Improved wildlife habitat amount unit

Data element name: Improved wildlife habitat unit	**Reporting question:** What is the unit for the amount of improved wildlife habitat measured in the field?
Description: Unit for the total amount of improved wildlife habitat that is measured in and around enrolled fields. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Acres • Linear feet • Other (specify)
Logic: Respond if yes to 'Improved wildlife habitat'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

Improved wildlife habitat purpose	
Data element name: Improved wildlife habitat purpose	**Reporting question:** What is the purpose of tracking improved wildlife habitat in the field?
Description: Purpose of tracking improved wildlife habitat in the enrolled field. If "other" is chosen, enter the appropriate value as free text in the additional column.	
Data type: List	**Select multiple values**: No
Measurement unit: Category	**Allowed values:** • Commodity marketing • Producing insets • Producing offsets • I don't know • Other (specify)
Logic: Respond if yes to 'Improved wildlife habitat'	**Required:** Yes
Data collection level: Field	**Data collection frequency:** Annual

CSAF Practice Sub-questions

For some CSAF practices, there is an additional set of questions that are unique to each practice. Responses to these questions are needed to verify estimated GHG benefits of these practices. If a field is implementing a CSAF practice with an NRCS CPS code in Table 11, answer the follow-up questions listed next to the relevant practice name in the table. Use the *Supplemental Reporting Workbook – CSAF Practice Sub-questions* to report the required information.

Table 11. Follow-on questions for select CSAF practices

Practice name and code	Follow-up question	Options (select one)
Alley Cropping (CPS 311)	Species category (select most common/extensive type if using more than one)	Coniferous trees Deciduous trees Shrubs
	Species density (number of trees planted per acre)	1-10,000
Anaerobic Digester (CPS 366)	Waste storage system prior to installing anaerobic digester	Aerobic lagoon Anaerobic digester (complex mix) with energy generation Anaerobic digester (plug flow) with energy generation Anaerobic lagoon Composting Covered lagoon (no energy generation or flaring) Covered lagoon with energy generation Covered lagoon with flaring Daily spread Deep bedding pack Deep pit Dry lot Dry stacking/solid storage Pasture/range/paddock Poultry with bedding Poultry without bedding (e.g., high rise) Slurry tank/basin
	Digester type	Covered lagoon with energy generation Covered lagoon with flaring Covered lagoon (no energy generation or flaring) Complex mix with energy generation Plug flow with energy generation Other (specify)
	Additional feedstock source (select most common if using more than one)	Food waste Straw or bedding Wastewater Other (specify)

Combustion System Improvement (CPS 372)	Fuel type before installation	Coal Diesel Electricity Gasoline Kerosene Liquified petroleum gas (LPG) Natural gas Propane Wood Other (specify)
	Fuel amount before installation	0-1,000,000
	Fuel amount unit before installation	Cubic feet (natural gas) Gallons (diesel, gasoline, propane, LPG, kerosene) Kilowatt-hours (electricity) Pounds (wood, coal) Other (specify)
	Fuel type after installation	Coal Diesel Electricity Gasoline Kerosene Liquified petroleum gas (LPG) Natural gas Propane Wood Other (specify)
	Fuel amount after installation	0-1,000,000
	Fuel amount unit after installation	Cubic feet (natural gas) Gallons (diesel, gasoline, propane, LPG, kerosene) Kilowatt-hours (electricity) Pounds (wood, coal) Other (specify)
Conservation Cover (CPS 327)	Species category (select most common/extensive type if using more than one)	Brassicas Grasses Legumes Non-legume broadleaves Shrubs

Conservation Crop Rotation (CPS 328)	Conservation crop type	Brassica Broadleaf Cool season Grass Legume Warm season
	Change implemented	Added perennial crop Reduced fallow period Both
	Conservation crop rotation tillage type	Conventional (plow, chisel, disk) No-till, direct seed Reduced till Strip till None Other (specify)
	Total conservation crop rotation length in days	1-120
Contour Buffer Strips (CPS 332)	Strip width (feet)	1-100
	Species category	Grasses Forbs Mix
Cover Crop (CPS 340)	Species category (select most common/extensive type if using more than one)	Brassicas Forbs Grasses Legume Non-legume broadleaves
	Cover crop planned management	Grazing Haying Termination
	Cover crop termination method	Burning Herbicide application Incorporation Mowing Rolling/crimping Winter kill/frost
Critical Area Planting (CPS 342)	Species category (select most common/extensive type if using more than one)	Grass Grass legume/forb mix Herbaceous woody mix Perennial or reseeding Shrubs Trees
Feed Management (CPS 592)	Crude protein (percent)	0-100
	Fat (percent)	0-100
	Feed additives/supplements	Chemical Edible oils/fats Seaweed/kelp Other (specify)
Field Border (CPS 386)	Species category (select most common/extensive type if using more than one)	Forbs Grasses Mix Shrubs

Filter Strip (CPS 393)	Strip width (feet)	20-1,000
	Species category (select most common/extensive type if using more than one)	Forbs Grasses Mix Shrubs
Forest Farming (CPS 379)	Land use in previous year	Forest Multi-story cropping Pasture/grazing land Row crops Other agroforestry
Forest Stand Improvement (CPS 666)	Purpose for implementation	Maintain or improve forest carbon stocks Maintain or improve forest health and productivity Maintain or improve forest structure and composition Maintain or improve wildlife, fish, and pollinator habitat Manage natural precipitation more efficiently Reduce forest pest pressure Reduce forest wildfire hazard
Grassed Waterway (CPS 412)	Species category (select most common/extensive type if using more than one)	Flowering Plants Forbs Grasses
Hedgerow Planting (CPS 422)	Species category (select most common/extensive type if using more than one)	Grasses Shrubs Trees
	Species density (number of trees planted per acre)	1-10,000
Herbaceous Wind Barriers (CPS 603)	Species category (select most common/extensive type if using more than one)	Forbs Grasses Mix Shrubs
	Barrier width (feet)	1-1,000
	Number of rows	1-100
Mulching (CPS 484)	Mulch type	Gravel Natural Synthetic Wood
	Mulch cover (percent of field)	0-100

Nutrient management (CPS 590)	Nutrient type with CPS 590	Biosolids Commercial fertilizers Compost EEF (nitrification inhibitor) EEF (slow or controlled release) EEF (urease inhibitor) Green manure Liquid animal manure Organic by-products Organic residues or materials Solid/semi-solid animal manure Wastewater
	Nutrient application method with CPS 590	Banded Broadcast Injection Irrigation Surface application Surface application with tillage Variable rate
	Nutrient application method in the previous year	Banded Broadcast Injection Irrigation Surface application Surface application with tillage Variable rate
	Nutrient application timing with CPS 590	Single pre-planting Single post-planting Split pre- and post-planting Split post-planting
	Nutrient application timing in the previous year	Single pre-planting Single post-planting Split pre- and post-planting Split post-planting
	Nutrient application rate with CPS 590	0-20,000
	Nutrient application rate unit with CPS 590	Gallons per acre Pounds per acre
	Nutrient application rate change	Decrease compared to previous year Increase compared to previous year No change
Pasture and Hay Planting (CPS 512)	Species category (select most common/extensive type if using more than one)	Cool-season broadleaf Cool-season grass Warm-season broadleaf Warm-season grass
	Termination process	Grazing Haying (i.e., cutting and baling) Other (specify)
Prescribed Grazing (CPS 528)	Grazing type	Cell grazing Deferred rotational Management intensive Rest-rotation

Range Planting (CPS 550)	Species category (select most common/extensive type if using more than one)	Forbs Grasses Legumes Shrubs Trees
Residue and Tillage Management – No-till (CPS 329)	Surface disturbance	None Seed row only
Residue and Tillage Management – Reduced Till (CPS 345)	Surface disturbance	None Seed row/ridge tillage for planting Shallow across most of the soil surface Vertical/mulch
Riparian Forest Buffer (CPS 391)	Species category (select most common/extensive type if using more than one)	Coniferous trees Deciduous trees Shrubs
	Species density (number of trees planted per acre)	1-10,000
Riparian Herbaceous Cover (CPS 390)	Species category (select most common/extensive type if using more than one)	Ferns Forbs Grasses Legumes Rushes Sedges
Roofs and Covers (CPS 367)	Roof/cover type	Concrete Flexible geomembrane Metal Timber Other (specify)
Silvopasture (CPS 381)	Species category (select most common/extensive type if using more than one)	Coniferous trees Deciduous trees Forage Shrubs
	Species density (number of trees planted per acre)	1-10,000
Stripcropping (CPS 585)	Strip width (feet)	1-1,000
	Crop category (select most common/extensive type if using more than one)	Erosion resistant crops Fallow Sediment trapping crops
	Number of strips	2-100
Tree/Shrub Establishment (CPS 612)	Species category (select most common/extensive type if using more than one)	Coniferous trees Deciduous trees Shrubs
	Species density (number of trees planted per acre)	1-10,000
Vegetative Barrier (CPS 601)	Species category (select most common/extensive type if using more than one)	Grasses Grass forb mix Grass legume mix
	Barrier width (feet)	3-1,000

Waste Separation Facility (CPS 632)	Separation type	Chemical (e.g., salts, polymers) Mechanical (e.g., screens, presses) Settling basin
	Most common use of solids	Bedding Field applied Other (specify)
Waste Storage Facility (CPS 313)	Waste storage system prior to installing your waste storage facility	Aerobic lagoon Anaerobic digester (complex mix) with energy generation Anaerobic digester (plug flow) with energy generation Anaerobic lagoon Composting Covered lagoon (no energy generation or flaring) Covered lagoon with energy generation Covered lagoon with flaring Daily spread Deep bedding pack Deep pit Dry lot Dry stacking/solid storage Pasture/range/paddock Poultry with bedding Poultry without bedding (e.g., high rise) Slurry tank/basin
Waste Treatment (CPS 629)	Treatment type	Biological Chemical Mechanical
Waste Treatment Lagoon (CPS 359)	Waste storage system prior to installing waste treatment lagoon	Aerobic lagoon Anaerobic digester (complex mix) with energy generation Anaerobic digester (plug flow) with energy generation Anaerobic lagoon Composting Covered lagoon (no energy generation or flaring) Covered lagoon with energy generation Covered lagoon with flaring Daily spread Deep bedding pack Deep pit Dry lot Dry stacking/solid storage Pasture/Range/Paddock Poultry with bedding Poultry without bedding (e.g., high rise) Slurry tank/basin
	Is there a lagoon cover/crust?	Yes No
	Is there lagoon aeration?	Yes No

Windbreak/Shelterbelt Establishment and Renovation (CPS 380)	Species category (select most common/extensive type if using more than one)	Coniferous trees Deciduous trees Shrubs
	Species density (number of trees planted per acre)	1-10,000

Appendix A: Climate-smart Agriculture and Forestry Practices

All NRCS Practice Standards (not limited to climate-smart practices)

309, Agrichemical Handling Facility
311, Alley Cropping
313, Waste Storage Facility
314, Brush Management
315, Herbaceous Weed Treatment
316, Animal Mortality Facility
317, Composting Facility
318, Short Term Storage of Animal Waste and By-Products
319, On-Farm Secondary Containment Facility
320, Irrigation Canal or Lateral
324, Deep Tillage
325, High Tunnel System
326, Clearing and Snagging
327, Conservation Cover
328, Conservation Crop Rotation
329, Residue and Tillage Management, No Till
330, Contour Farming
331, Contour Orchard and Other Perennial Crops
332, Contour Buffer Strips
333, Amending Soil Properties with Gypsum Products
334, Controlled Traffic Farming
336, Soil Carbon Amendment
338, Prescribed Burning
340, Cover Crop
342, Critical Area Planting
345, Residue and Tillage Management, Reduced Till
348, Dam, Diversion
350, Sediment Basin
351, Well Decommissioning
353, Monitoring Well
355, Groundwater Testing
356, Dike and Levee
359, Waste Treatment Lagoon
360, Waste Facility Closure
362, Diversion
366, Anaerobic Digester
367, Roofs and Covers
368, Emergency Animal Mortality Management
371, Air Filtration and Scrubbing
372, Combustion System Improvement
373, Dust Control on Unpaved Roads and Surfaces
374, Energy Efficient Agricultural Operation
375, Dust Management for Pen Surfaces
376, Field Operations Emissions Reduction
378, Pond
379, Forest Farming
380, Windbreak/Shelterbelt Establishment and Renovation
381, Silvopasture
382, Fence
383, Fuel Break
384, Woody Residue Treatment
386, Field Border
388, Irrigation Field Ditch
390, Riparian Herbaceous Cover
391, Riparian Forest Buffer
393, Filter Strip
394, Firebreak
395, Stream Habitat Improvement and Management
396, Aquatic Organism Passage
397, Aquaculture Pond
398, Fish Raceway or Tank
399, Fishpond Management
400, Bivalve Aquaculture Gear and Biofouling Control
402, Dam
410, Grade Stabilization Structure
412, Grassed Waterway
420, Wildlife Habitat Planting
422, Hedgerow Planting
423, Hillside Ditch
428, Irrigation Ditch Lining
428A, Irrigation Water Conveyance, Ditch and Canal Lining, Plain Concrete
428B, Irrigation Water Conveyance, Ditch and Canal Lining, Flexible Membrane
428C, Irrigation Water Conveyance, Ditch and Canal Lining, Galvanized Steel
430, Irrigation Pipeline
432, Dry Hydrant
436, Irrigation Reservoir
441, Irrigation System, Microirrigation
442, Sprinkler System
443, Irrigation System, Surface and Subsurface
447, Irrigation and Drainage Tailwater Recovery
449, Irrigation Water Management
450, Anionic Polyacrylamide (PAM) Application
453, Land Reclamation, Landslide Treatment
455, Land Reclamation, Toxic Discharge Control
457, Mine Shaft and Adit Closing
460, Land Clearing
462, Precision Land Forming and Smoothing
464, Irrigation Land Leveling
466, Land Smoothing
468, Lined Waterway or Outlet
472, Access Control
484, Mulching
490, Tree/Shrub Site Preparation
500, Obstruction Removal
511, Forage Harvest Management
512, Pasture and Hay Planting
516, Livestock Pipeline
520, Pond Sealing or Lining, Compacted Soil Treatment
521, Pond Sealing or Lining, Geomembrane or Geosynthetic Clay Liner
521A, Pond Sealing or Lining, Flexible Membrane
521B, Pond Sealing or Lining, Soil Dispersant
521C, Pond Sealing or Lining, Bentonite Sealant

521D, Pond Sealing or Lining, Compacted Clay Treatment
522, Pond Sealing or Lining - Concrete
527, Sinkhole Treatment
528, Prescribed Grazing
533, Pumping Plant
543, Land Reclamation, Abandoned Mined Land
544, Land Reclamation, Currently Mined Land
548, Grazing Land Mechanical Treatment
550, Range Planting
554, Drainage Water Management
555, Rock Wall Terrace
557, Row Arrangement
558, Roof Runoff Structure
560, Access Road
561, Heavy Use Area Protection
562, Recreation Area Improvement
566, Recreation Land Improvement and Protection
570, Stormwater Runoff Control
572, Spoil Disposal
574, Spring Development
575, Trails and Walkways
576, Livestock Shelter Structure
578, Stream Crossing
580, Streambank and Shoreline Protection
582, Open Channel
584, Channel Bed Stabilization
585, Stripcropping
587, Structure for Water Control
588, Crosswind Ridges
589, Cross Wind Trap Strips
590, Nutrient Management
591, Amendments for Treatment of Agricultural Waste
592, Feed Management
595, Pest Management Conservation System
600, Terrace
601, Vegetative Barrier
602, Equitable Relief
603, Herbaceous Wind Barriers
604, Saturated Buffer
605, Denitrifying Bioreactor
606, Subsurface Drain
607, Surface Drain, Field Ditch
608, Surface Drain, Main or Lateral
609, Surface Roughening
610, Salinity and Sodic Soil Management
612, Tree/Shrub Establishment
614, Watering Facility
620, Underground Outlet
629, Waste Treatment
630, Vertical Drain
632, Waste Separation Facility
633, Waste Recycling
634, Waste Transfer
635, Vegetated Treatment Area
636, Water Harvesting Catchment
638, Water and Sediment Control Basin
640, Waterspreading
642, Water Well
643, Restoration of Rare or Declining Natural Communities
644, Wetland Wildlife Habitat Management
645, Upland Wildlife Habitat Management
646, Shallow Water Development and Management
647, Early Successional Habitat Development-Mgt
649, Structures for Wildlife
650, Windbreak/Shelterbelt Renovation
654, Road/Trail/Landing Closure and Treatment
655, Forest Trails and Landings
656, Constructed Wetland
657, Wetland Restoration
658, Wetland Creation
659, Wetland Enhancement
660, Tree-Shrub Pruning
666, Forest Stand Improvement
670, Energy Efficient Lighting System
672, Energy Efficient Building Envelope
736, Crop By-Product Transfer, interim
724, Water Treatment Facility, interim
735, Waste Gasification Facility, interim
737, Reduced Water and Energy Coffee Conveyance System, interim
740, Pond Sealing and Lining, Soil Cement, interim
751, Individual Terrace, interim
753, Infiltration Ditch, interim
755, Well Plugging, interim
770, Livestock Confinement Facility, interim
775, Drainage Ditch Covering, interim
782, Phosphorus Removal System, interim
800, Controlling Existing Flowing Wells, interim
803, Water Well Disinfection, interim
805, Amending Soil Properties with Lime, interim
808, Soil Carbon Amendment, interim
809, Conservation Harvest Management, interim
810, Annual Forages for Grazing Systems, interim
812, Raised Beds, interim
815, Groundwater Recharge Basin or Trench, interim
817, On-Farm Recharge, interim
818, Water Conservation System, interim
821, Low Tunnel Systems, interim
823, Organic Management, interim

Other CSAF Practices

Traditional or cultural practices
Microbial products
Solar power generation
Grain bin construction
Pre-season drainage

Appendix B: Commodity List

CROPS
ALFALFA
ALMONDS
AMARANTH GRAIN
APPLES
APRICOTS
ARONIA (CHOKEBERRY)
ARTICHOKES
ASPARAGUS
ATEMOYA
AVOCADOS
BAMBOO SHOOTS
BANANAS
BARLEY
BEANS
BEETS
BIRDSFOOT/TREFOIL
BLUEBERRIES
BREADFRUIT
BROCCOFLOWER
BROCCOLI
BROCCOLINI
BRUSSEL SPROUTS
BUCKWHEAT
CABBAGE
CACAO
CACTUS
CAIMITO
CALABAZA MELON
CALALOO
CAMELINA
CANARY MELON
CANARY SEED
CANEBERRIES
CANISTEL
CANOLA
CANTALOUPES
CARAMBOLA (STAR FRUIT)
CARROTS
CASHEW
CASSAVA
CAULIFLOWER
CELERIAC
CELERY
CHERIMOYA
CHERRIES
CHESTNUTS
CHICORY/RADICCHIO
CHINESE BITTER MELON
CHRISTMAS TREES
CHUFAS
CINNAMON
CLOVER
COCONUTS
COFFEE
CORN
COTTON ELS
COTTON UPLAND
CRANBERRIES
CRENSHAW MELON
CRUSTACEAN
CUCUMBERS
CURRANTS
DASHEEN
DATES
DURIAN
EGGPLANT
EINKORN
ELDERBERRIES
EMMER
FIGS
FINFISH
FLAX
FLOWERS
FORAGE SOYBEAN/SORGHUM
GAILON
GARLIC
GENIP
GINGER
GINSENG
GOOSEBERRIES
GOURDS
GRAPEFRUIT
GRAPES
GRASS
GREENS
GROUND CHERRY
GUAMABANA/SOURSOP
GUAR
GUAVA
GUAVABERRY
GUAYULE
HAZEL NUTS
HEMP
HERBS
HESPERALOE
HONEY
HONEYBERRIES
HONEYDEW
HOPS
HORSERADISH
HUCKLEBERRIES
HYBRID POPLAR TREES
IDLE
INDIGO
ISRAEL MELONS
JACK FRUIT
JERUSALEM ARTICHOKES
JICAMA
JOJOBA
JUJUBE
JUNEBERRIES
KENAF
KHORASAN
KIWIBERRY
KIWIFRUIT
KOCHIA (PROSTRATA)
KOHLRABI
KOREAN GOLDEN MELON
KUMQUATS
LAMBS EAR
LEEKS
LEMONS
LENTILS
LESPEDEZA
LETTUCE
LIMES
LONGAN
LOQUATS
LYCHEE
MANGOS
MANGOSTEEN
MAPLE SAP
MAYHAW BERRIES
MEADOWFOAM
MILKWEED
MILLET
MIXED FORAGE
MOHAIR
MOLLUSK
MORINGA
MULBERRIES
MUSHROOMS
MUSTARD
NECTARINES
NIGER SEED
NONI
OATS
OKRA
OLIVES
ONIONS
ORANGES
PAPAYA

PARSNIP
PASSION FRUITS
PAWPAW
PEACHES
PEANUTS
PEARS
PEAS
PECANS
PENNYCRESS
PEPPERS
PERENNIAL PEANUTS
PERIQUE TOBACCO
PERSIMMONS
PINE NUTS
PINEAPPLE
PISTACHIOS
PITAYA/DRAGONFRUIT
PLANTAIN
PLUMCOTS
PLUMS
POMEGRANATES
POTATOES
POTATOES SWEET
PRUNES
PSYLLIUM
PUMMELO
PUMPKINS
QUINCES
QUINOA
RADISHES
RAISINS
RAMBUTAN
RAPESEED
RHUBARB
RICE
RICE SWEET
RICE WILD
RUTABAGA
RYE
SAFFLOWER
SAPODILLA
SAPOTE
SCALLIONS
SESAME
SHALLOTS
SORGHUM
SORGHUM DUAL PURPOSE
SORGHUM FORAGE
SOYBEANS
SPELT
SQUASH
STAR GOOSEBERRY
STRAWBERRIES
SUGAR BEETS
SUGARCANE
SUNFLOWERS
SUNN HEMP
TANGELOS
TANGERINES
TANGORS
TANGOS
TANNIER
TARO
TEA
TEFF
TI
TOBACCO CIGAR WRAPPER
TOBACCO BURLEY
TOBACCO BURLEY 31V
TOBACCO CIGAR BINDER
TOBACCO CIGAR FILLER
TOBACCO CIGAR FILLER BINDER
TOBACCO DARK AIR CURED
TOBACCO FIRE CURED
TOBACCO FLUE CURED
TOBACCO MARYLAND
TOBACCO VIRGINIA FIRE CURED
TOMATILLOS
TOMATOES
TREES TIMBER
TRITICALE
TRUFFLES
TURNIPS
VETCH
WALNUTS
WAMPEE
WASABI
WATERMELON
WAX JAMBOO FRUIT
WHEAT
WILLOW SHRUB
WINTER MELON
WOLFBERRY/GOJI
YAM

LIVESTOCK
ALPACAS
BEEF COWS
BEEFALO
BUFFALO OR BISON
CHICKENS (BROILERS)
CHICKENS (LAYERS)
DAIRY COWS
DEER
DUCKS
ELK
EMUS
EQUINE
GEESE
GOATS
HONEYBEES
LLAMAS
REINDEER
SHEEP
SWINE
TURKEYS

Partnerships for Climate-Smart Commodities Additional Specific Terms and Conditions February 2023

I. Overarching Statement

The following award terms and conditions are applicable to Partnerships for Climate-Smart Commodities agreements and are in addition to the USDA FPAC General Terms and Conditions. The award recipient must abide by all terms of this grant including, but not limited to, the General Terms and Conditions, the terms in the Funding Opportunity and associated Frequently Asked Questions, and this addendum. The recipient must also deliver on the planned objectives in the project narrative and budget narrative associated with this grant.

II. Eligibility and Highly Erodible Lands and Wetlands Compliance

In order to be eligible for an incentive payment as a part of the Partnerships for Climate-Smart Commodities, a producer must:

- Establish Farm Records with the Farm Service Agency (FSA) (have farm, tract, and field numbers in place);
- Complete an AD-2047 (Customer Data Worksheet to facilitate the collection of customer data for Business Partner Record);
- Certify highly erodible land conservation (HEL) and wetland conservation (WC) compliance via Form AD-1026, Highly Erodible Land Conservation (HELC) and Wetland Conservation (WC) Certification; and
- Certify that they are not a foreign person or entity.

Farm, tract, and field numbers are required for the producer, and ultimately the Partnerships for Climate-Smart Commodities recipient, to report climate-smart practice implementation to USDA, as well as to certify and maintain HELC/WC compliance. This will require that some producers who do not already have these numbers, like perennial crop growers or feedlots, establish these records with USDA's FSA. Farm, tract, field numbers, producer name, and Core Customer I.D. (CCID) will be provided by the recipient to the National Program Officer as a part of routine grant reporting. Recipients must ensure that producers receiving financial assistance or incentives through this project use the same name as is included in the relevant FSA Business File for that Farm ID in any contracts or similar documentation kept by the recipient.

Producers are not bound by the payment limitations and the adjusted gross income (AGI) limitations that are in place for other USDA programs.

In order to demonstrate HELC/WC compliance for Partnerships for Climate-Smart Commodities incentive payments, producers will need to request a copy of their subsidiary print from their

USDA FSA field office. The Subsidiary Print includes print year specific eligibility related information about a selected producer. The producer will then provide this documentation to the Partnerships for Climate-Smart Commodities recipients as proof of compliance. A current year subsidiary print will be required for each crop year that the producer receives a payment, and HELC/WC eligibility information is provided under the AD-1026 and Conservation Compliance sections of subsidiary (determined by year, which can change at any time during the year or in a subsequent year). As is the case already, field offices will not be expected to provide documentation to anyone besides the producer themselves (and must always comply with Section 1619 limitations if they ever do provide documentation to third parties). Producers must have control of the land for the term of their beneficiary contract.

Recipients are responsible for determining producer eligibility within the funding opportunity requirements. Recipients must inform producers of eligibility requirements and direct them to local USDA offices for requested information as necessary, including but not limited to, farm and tract establishment and Highly Erodible Land and Wetland Compliance determinations. Privacy of producers is a priority throughout this process, and recipients are responsible for maintaining producer privacy in the process.

At minimum, the recipient will collect and review subsidiary reports from participating producers. They will ensure that the producer is listed as "compliant" in all sections of the conservation compliance portion of subsidiary and "certified" for AD-1026 before an incentive payment is made. If payments to a producer span more than one Federal fiscal year, the recipient will review an updated subsidiary print each fiscal year to ensure that the status is still compliant.

III. Other Environmental and Cultural Resources Reviews

A Finding of No Significant Impact (FONSI) was signed by USDA NRCS on August 26, 2022. A copy of the Programmatic Environmental Assessment for Partnerships for Climate-Smart Commodities is available at www.usda.gov/climate-smart-commodities . USDA may determine that additional environmental and cultural resources review is needed for any particular action under Partnerships for Climate-Smart Commodities. The recipient must not execute any beneficiary contracts under this grant agreement prior to receipt of a letter from USDA that specifically details:

1) further procedures deemed appropriate by the Agency to ensure a completed National Environmental Policy Act (NEPA) review and all appropriate consultation requirements are met, and
2) additional instructions for any unanticipated discoveries or conditions.

A resolution of support is required for projects on Tribal lands from the governing body of the Tribe with jurisdiction over that land, if the applicant is not the Tribe nor an entity owned or

operated by that Tribe. USDA may approve alternative documentation for resolutions when USDA deems necessary and legally sufficient.

IV. Producer Benefits

USDA encourages the recipient to disclose to participating producers the manner and amount for which any market premiums derived from the development of the relevant climate-smart commodity will be shared between participating parties, including producers. USDA will be monitoring producer benefits, in particular those to small and underserved producers, throughout the grant period. Recipients agree that their project(s) will implement a plan for engaging small and underserved producers as laid out in this agreement.

V. Producer Data Protection and Disclosure

Recipients must ensure each producer has convenient access to any data collected from that producer or the producer's land and any associated modeling as part of the project. The recipient must provide each producer applying for benefits under this grant a description in writing of how their information, including but not limited to data about their farm and commodities, will be utilized, protected and shared as applicable.

VI. Other Data and Reporting Requirements

In addition to the reporting information provided in the statement of work and General Terms and Conditions, USDA will provide a template for the Detailed Progress Report, also known as the Partnerships for Climate-Smart Commodities (PSCS) Project Reporting Workbook. Within 30 calendar days of execution of this grant, a copy of this workbook will be posted at www.usda.gov/climate-smart-commodities or an alternative location provided to the recipient by the National Program Officer. USDA may provide updates to the PCSC Project Reporting Workbook or submission methods to streamline the data collection process and/or reduce the burden on the recipient throughout the grant period. Generally, these updates will be provided at least 3 months in advance of any required changes. The recipient must not transfer any data to foreign governments or foreign entities without prior approval from USDA.

USDA will provide a Technical Contact for this grant. The Technical Contact will have the responsibility of technical oversight for USDA for the project. The recipient is responsible for providing the technical assistance required to successfully implement and complete the project. The recipient must comply with any requests for information from the Technical Contact. The Technical Contact for this award is the National Program Officer assigned to this grant.

Prior to execution of this grant, the recipient must provide a shapefile depicting the project boundary for enrollment under this grant. Producer enrollment may not occur outside this boundary without modification of this grant.

Within 30 calendar days of execution of this grant, the recipient must provide to the National Program Officer a website address where enrollment information will be posted for producers for the project associated with this grant. Recipients will be responsible for the following reports:

- Submit quarterly performance reports that include a written progress report, as well as additional reporting on specific data elements contained in the most up-to-date version of the Partnerships for Climate-Smart Commodities Project Reporting Workbook. Additional information about each reported element is described in the Data Dictionary.
- Submit supplemental reports required to validate greenhouse gas (GHG) benefit data, including: (1) an initial project MMRV plan, (2) field-modeled GHG benefit reports, and (3) field-direct GHG measurement results, as applicable. Additional information about these reports is in included in the Data Dictionary.
- Submit copies of project outputs and deliverables (e.g., fact sheets, reports) as attachments in ezFedGrants along with quarterly performance reports.
- Report the version of COMET-Planner used to estimate GHG benefits of the project within each quarterly performance report. As COMET-Planner is updated, recipients must adopt the latest version of the tool as directed by USDA for use in performance reports.

Recipients must designate an individual as a member of the USDA Partnerships for Climate-Smart Commodities Learning Network (Partnerships Network); this representative should be identified in the Project Narrative for this grant. Each project includes a plan for up to two Partnerships Network virtual meetings and two in-person meetings a year during the project duration. Dates and other details on events will be posted at www.usda.gov/climate-smart-commodities or an alternative location provided to the recipient by the National Program Officer.

The Partnerships Network will be co-chaired by representative from the USDA Office of the Chief Economist and the Farm Production and Conservation Mission Area. The Partnerships Network will inform synthesis reports to be assembled by USDA on a range of topics related to the implementation of Partnerships for Climate-Smart Commodities projects, including:

- Lessons-learned as projects are implemented;
- Options for providing technical assistance;
- Procedures for measurement/quantification, monitoring, reporting, and verifying GHG benefits;
- Options for tracing climate-smart commodities through the supply chain;
- Mechanisms for reducing costs of implementation;
- A forum for discussion and learning regarding approaches to climate-smart agriculture and forestry implementation (including but not limited to deployment and

measurement/quantification, monitoring, reporting, tracking, and verification of associated greenhouse gas benefits and marketing of climate-smart commodities).
- Synthesis of outcomes; and
- Opportunities for USDA and others to inform future approaches to generating new and expanded markets for climate-smart commodities.

The Partnerships Network topics to be discussed will cover at minimum the areas described in previous FAQs and will evolve with USDA's ongoing project data analysis efforts and with input from the project recipients on the kinds of sessions that will be most helpful to them in building the diverse climate-smart markets associated with their projects. Participation may include at least one interview a year and include questions related to the following areas:

- Technical assistance approaches, methods, and successes and/or challenges
- Producer outreach approaches, methods, and successes and/or challenges
- Monitoring, measurement, reporting, and verification (MMRV) approaches, methods, and successes and/or challenges
- Marketing approaches, methods, and successes and/or challenges
- Partnership approaches, methods, and successes and/or challenges
- Data collection and storage approaches, methods, and successes and/or challenges
- Supply chain approaches, methods and successes and/or challenges, including approaches to traceability
- Supply chain benefits and demand for climate-smart commodities
- Perspectives on program design, climate-smart commodity definitions, and future approaches or opportunities
- Project successes and stories

USDA may also request producer exit reports at a later date. Additional marketing and branding-related requirements may be provided by USDA, including signage related to Partnerships for Climate-Smart Commodities.

VII. Competition and Anti-Competitive Practices

In connection with this grant, recipients may not prohibit or otherwise limit a producer from changing the provider of other services or materials not included as part of this grant. Recipients may not condition, limit, steer, or discriminate in their provision or sale of non-project business functions or products to producers based on their participation or non-participation in or use of any services provided as part of this grant. Additionally, funds in this agreement shall not be used for purposes or activities related to mergers or acquisitions.

VIII. Suspension and Disbarment

The provisions governing Suspension and Disbarment in subsection 1.a.8 shall also apply to fraud, embezzlement, theft, forgery, bribery, falsification, or destruction of records, making false statements, or violations of the Federal civil antitrust or unfair trade practice laws.

IX. Special provisions for awards to for-profit entities as recipients

This section contains provisions that apply to awards to for-profit entities. These provisions are in addition to other applicable provisions of these terms and conditions, or they make exceptions from other provisions of the terms and conditions for awards to for-profit entities. For-profit entities that receive awards have two options regarding audits:

1) A financial related audit of a particular award in accordance with Generally Accepted Government Auditing Standards issued by the Comptroller General of the United States, in those cases where the for-profit entity receives awards under only one USDA program; or, if awards are received under multiple USDA programs, a financial related audit of all awards in accordance with Generally Accepted Government Auditing Standards issued by the Comptroller General of the United States; or

2) An audit that meets the requirements contained in 2 CFR 200 subpart F.

For-profit entities that receive annual awards totaling less than the audit requirement threshold in 2 CFR 200 subpart F are exempt from USDA audit requirements for that year, but records must be available for review by appropriate officials of Federal agencies or the Government Accountability Office.

X. Non-Disparagement

Recipients may not engage in any advertising deemed by USDA as disparaging to another agricultural commodity or competing product, or in violation of the prohibition against false and misleading advertising. Disparagement is defined as anything that depicts other commodities in a negative or unpleasant light via overt or subjective video, photography, or statements. Comparative advertising is allowable, provided the presentation of facts is truthful, objective, not misleading, and supported by a reasonable basis.