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:
NR233A750004G106		Date of final signature - 08/31/2028	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	WEST VIRGINIA UNIVERSITY RESEARCH CORPORATION 886 CHESTNUT RIDGE ROAD MORGANTOWN WV 26506-6845 UEI Number / DUNS Number: M7PNRH24BBM8 / 191510239 EIN:

7. NRCS Program Contact	8. NRCS Administrative Contact	9. Recipient Program Contact	10. Recipient Administrative Contact
Name: James Denton	Name: ADAM CARL	Name: Lisa Jones	Name: Tim Kirby
(b)(6)			

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

15. Project Title/ Description: Expands markets for climate-smart beef in VA and WV and supports farmer implementation and monitoring of climate-smart practices. Grazing Regeneratively for Appalachian Sustainable Solutions (GRASS)

16. Entity Type: M = Nonprofit with 501C3 IRS Status (Other than Institution of Higher Education)

17. Select Funding Type

Select funding type:	☒ Federal	☒ Non-Federal
Original funds total	$4,795,046.82	$2,144,560.92
Additional funds total	$0.00	$0.00
Grand total	$4,795,046.82	$2,144,560.92

18. Approved Budget

Personnel	$710,896.95	Fringe Benefits	$198,070.28
Travel	$123,075.28	Equipment	$0.00
Supplies	$58,631.25	Contractual	$32,197.50
Construction	$0.00	Other	$3,672,175.56
Total Direct Cost	$4,495,250.56	Total Indirect Cost	$299,796.26
		Total Non-Federal Funds	$2,144,560.92
		Total Federal Funds Awarded	$4,795,046.82
		Total Approved Budget	$6,939,607.74

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: 2023.09.26 15:15:22 -05'00'	
Name and Title of Authorized Recipient Representative	Signature	Date
KATIE SCHNELLER Director, Office of Sponsored Programs	Katie Schneller Katie Schneller (Sep 26, 2023 09:44 EDT)	9/26/2023

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 West Virginia University Research Corporation, 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 $6,939,608.39

TOTAL FEDERAL FUNDS $4,795,047.47
PERSONNEL $536,526.00
FRINGE BENEFITS $149,487.00
TRAVEL $92,887.50
EQUIPMENT $0.00
SUPPLIES $44,250.00
CONTRACTUAL $24,300.00
CONSTRUCTION$0.00
OTHER $3,647,800.56 (Includes PRODUCER INCENTIVES $1,932,500.00)
TOTAL DIRECT COSTS $4,495,251.06
INDIRECT COSTS $299,796.41

TOTAL NON-FEDERAL FUNDS $2,144,560.92
PERSONNEL $99,845.00
FRINGE BENEFITS $22,465.13
TRAVEL $0.00
EQUIPMENT $0.00
SUPPLIES $0.00
CONTRACTUAL $0.00
CONSTRUCTION$0.00
OTHER $1,982,500.00 (Includes PRODUCER INCENTIVES $1,982,500.00)
TOTAL DIRECT COSTS $2,104,810.13
INDIRECT COSTS $39,750.79

Recipient has an approved Negotiated Indirect Cost Rate Agreement (NICRA) with a rate of 32.5 percent and a base of $922,450.50. Also, recipient has elected to use unrecovered indirect costs as match in the amount of $39,750.79.

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

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GRazing for **A**ppalachian **S**u**S**tainability

(GRASS)

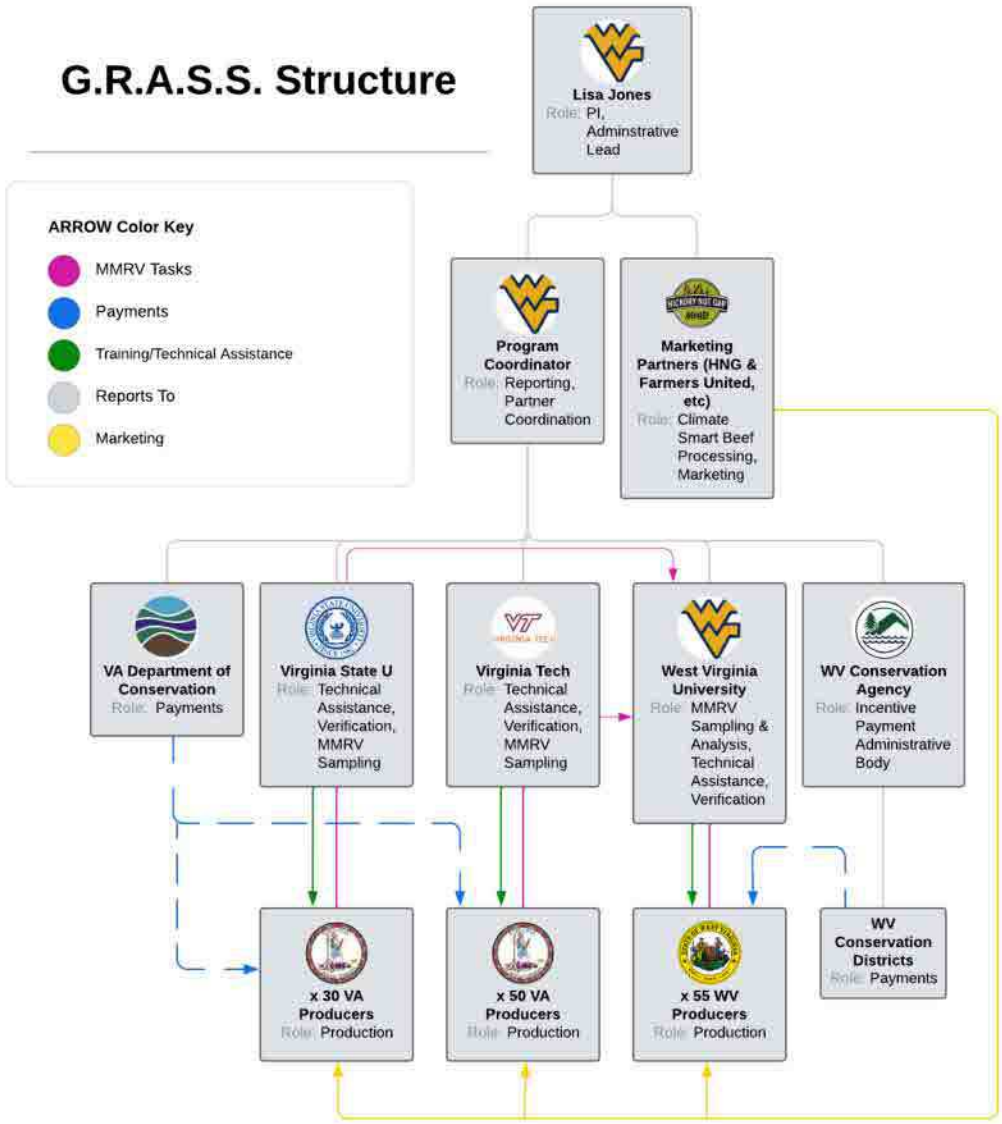
I. EXECUTIVE SUMMARY

West Virginia University is leading the five-year "**GR**azing for **A**ppalachian **S**u**S**tainability" (GRASS) project. The mission of GRASS is to support and empower 135 farmers in the Central Appalachian region of West Virginia and Virginia, many of which are considered small and/or underserved, by technical assistance, marketing opportunities, and $3,522,500 in producer incentives. The goal of GRASS is to facilitate the production of climate-smart cattle and beef, promoting a shift from conventional management practices to climate-smart practices on working lands. Through this transition, we aim to reduce greenhouse gas emissions and increase soil carbon sequestration. Under the GRASS project, our dedicated team will collaborate closely with farmers to report and verify the changes achieved and the production of climate-smart commodities. We will focus on implementing climate-smart mitigation practices such as Prescribed Grazing (Conservation Practice Standard (CPS) 528 and facilitating/supporting practices as necessary outlined further in the narrative), Nutrient Management (CPS 590), Pasture and Hay Planting (CPS 512), and Silvopasture Establishment (CPS 381). By embracing these practices, producers will enhance working land resiliency, support high carbon sequestration rates, foster healthier soils, and generate economic benefits for many small and underserved farmers in Appalachia. Situated in the Mid-Atlantic region, West Virginia and Virginia are strategically located within a 500-mile radius of 40% of the United States (U.S.) population. This geographic advantage positions the Mid-Atlantic region as a potential major supplier of climate-smart commodities to consumers in the eastern U.S. To ensure the scalability and long-term viability of this pilot project, we will conduct consumer perception studies regarding climate-smart beef and cattle production, target climate-conscious consumers through effective marketing strategies, and establish lasting relationships between participating farmers and various marketing outlets that extend beyond the life of the grant's duration. GRASS is committed to empowering farmers in the Appalachian region to produce and sell climate-smart cattle and beef products.

A. Contact Information

West Virginia University Research Corporation
886 Chestnut Ridge Road, P.O. Box 6845, Morgantown, West Virginia 26506-6845
(304) 293-3998 | Fax: (304) 293-7435
wvusponsoredprograms@mail.wvu.edu

B. List of Project Partners



- **West Virginia University (WVU)** - Davis College of Agriculture, Natural Resources and Design; WVU Extension Agriculture and Natural Resources Unit; WVU Extension Small Farm Center
- **Virginia Polytechnic Institute and State University** (Virginia Tech)
- **Virginia State University (VSU) -** Cooperative Extension Small Farm Outreach Program (SFOP)
- **West Virginia Conservation Agency (WVCA)**
- **West Virginia Association of Conservation Districts (WVACD)**
- **Virginia Department of Conservation and Recreation (VACR)** - Soil and Water Conservation Division

- **Hickory Nut Gap (HNG)**
- **Farmers United Cattle Company**

C. List of underserved/minority-focused project partners

Virginia State University Cooperative Extension Small Farm Outreach Program will provide the organization of producer-led on-farm field days in Appalachian Virginia, which will allow for peer-to-peer learning. As an 1890 land-grant university in Virginia, VSU will play a significant role in reaching out to Virginia's socially disadvantaged, limited-resource, and underserved audiences. As an integral part of Virginia Cooperative Extension, VSU has a tradition of collaborating with the United States Department of Agriculture (**USDA**) local agencies, local soil and water conservation districts, and community leaders to effectively deliver programs to the target audience.

West Virginia University Extension Small Farm Center will provide oversight of the overall project, coordination of climate-smart producer-led on-farm field days, and regular meetings with project partners through the Head Program Coordinator. Founded in 2009, the Small Farm Center endeavors to increase the bottom line of the small farmer by helping them retain more of the food dollar. The Small Farm Center supports and assists in the development of West Virginia's food system and local communities by encouraging local production, processing, wholesale and retail marketing, and consumption.

D. Compelling need for the project

Pastures are central to the agricultural land use and economy of Appalachia. Accordingly, improving pasture management is critical to reducing the region's agricultural greenhouse gas (**GHG**) footprint. In West Virginia, pastureland accounts for 46% of unwooded farmland, surpassing the amount of cropland available. Additionally, approximately 68% of cropland is used for hay/haylage production for livestock feed (Census of Agriculture, 2017). Cattle and calves represent the second largest agricultural commodity in West Virginia with a market value of $171,784,000. Forage crops, valued at $49,804,000, rank as the third largest agricultural commodity (Census of Agriculture, 2017). Despite the evident importance of pasturelands in West Virginia and the broader Appalachian region, many pastures are currently not effectively managed to mitigate GHG production, enhance sustainability, and improve soil health. Failure to responsibly manage Appalachian soils puts them at heightened risk of erosion and degradation. Soil erosion entails both on-farm productivity costs due to lost nutrients and soil carbon, and societal costs including reduced water-based recreation benefits, impacts on power plant efficiency, enhanced GHG emissions, and other off-farm costs (Hansen and Ribaudo, 2008).

Growing the demand for climate-smart cattle and beef requires changing consumer purchasing habits. Cattle and beef are often not seen as a climate-smart choice due to the inputs required and the emissions generated during the standard production process. However, by employing Climate-Smart Agricultural and Forestry (**CSAF**) mitigation practices tailored to the Appalachian region, such as prescribed grazing, silvopasture, and planting legumes and warm

season grasses, producers can offer consumers a climate-smart alternative to the conventional model. Through GRASS and similar initiatives, the Appalachian region has the potential to produce substantial quantities of climate-smart commodities through the coordinated adoption of CSAF mitigation practices.

Presently, Appalachian farmers face several hurdles in cost-effectively and profitably producing cattle and beef. Challenges include a limited number of U.S. harvest facilities in the region catering to medium and small-scale operations, inconsistent supply chains, limited marketing opportunities for small producers, climatic events impacting production (such as droughts and floods), and a lack of resources, among other factors. Moreover, smaller and underserved producers of unlabeled and unverified climate-smart products have limited avenues for marketing and selling their goods beyond direct-to-consumer strategies. These limitations are particularly prevalent in rural, economically disadvantaged areas like Appalachia. The challenge and opportunity presented by this project lie in the fact that many small and underserved farmers lack the economies of scale to compete in traditional wholesale markets. However, by accessing a climate-smart commodity market that rewards regenerative production practices guided by ecologically-based management principles, these producers can thrive within a system that values equity at every step of the way.

GRASS aims to increase the number of farmers producing and selling climate-smart commodities. We will provide substantial producer incentives for the adoption of CSAF mitigation activities, regular quarterly reporting, participation in intensive training through two-day grazing schools, and producer on-farm field days allowing for peer-to-peer training. This is in addition to one-on-one technical assistance offered by partner organizations for the adoption of CSAF mitigation activities. Lastly, GRASS will create market access opportunities for the climate-smart commodities produced through our marketing partners and a targeted marketing campaign.

By addressing the barriers faced by cattle and beef producers, including inadequate knowledge of forage, grazing, and herd management, limited business and financial planning skills, and restricted access to new markets, GRASS aims to empower these producers, including but not limited to small and underserved farmers in West Virginia and Appalachian Virginia. Through comprehensive and equitable support, we will enable them to thrive in the production and sale of climate-smart commodities.

E. Approach to minimize transaction costs associated with project activities.

Partnership with conservation organizations (WVDA, WVACD, VACR) is central to minimizing transaction costs for this project as they will not be taking indirect expenses. This partnership will significantly reduce paperwork burdens for farmers that want to access voluntary incentives while increasing the equitable administration of funds. The conservation partner's administrative systems are efficient, effective at administering funds, and well-established with personnel at the local level. These agencies currently support other match programs within agricultural communities associated with conservation and infrastructure incentives that are

funded through their respective states. These organizations do not have superfluous requirements for cooperating farmers to receive incentives. Consequently, producers eligible for match incentives through GRASS will only need to meet their specified eligibility requirements. The eligibility requirements for producers receiving federal funds as incentives will follow program terms and conditions, as outlined in detail in Section II.E of this narrative.

West Virginia University as the prime award will be responsible for incentivizing all participating producers for their quarterly reporting to reduce amounts of indirect costs charged on requested funds. These producer incentives will be used to assist in the required reporting efforts for the project, including contributing marketing data and assisting with continued accountability during the project's life. While reporting will happen quarterly, incentives will be distributed on a yearly basis to reduce administrative burden.

F. Approach to reduce producer barriers to implementing CSAF practices for the purpose of marketing climate-smart commodities.

The partnership with Hickory Nut Gap (HNG) and Farmers United Cattle Company offers our program participants established contracts and marketing opportunities, which can be a major barrier for rural and small producers. Currently, among consumers, demand for climate-smart beef and other products is high (Li et al., 2016). HNG has agreed to market climate-smart beef products from participants involved in the grant, so long as producers meet the required criteria of certifications (Ecological Outcome Verification (EOV) certification included as match costs by HNG) and product quality. However, many producers that this project will target lack the technical and financial proficiency to meet those criteria. This project will offer education, incentives, technical assistance, and resources to producers wanting to enter the climate-smart market. Small and underserved producers hesitant to implement CSAF activities may be motivated to participate once the benefits of partnering and selling climate-smart commodities are outlined. By providing an outlet for climate-smart products, project participants can focus on production while also having a long-term connection that will continue the relationship beyond the life of the grant.

The GRASS project will also include a marketing campaign to support the promotion of climate-smart beef. These funds will be broken down across a range of media to target climate-conscious consumers and incorporate data as analyzed by Virginia Polytechnic Institute and State University. This will include branding, brand awareness, targeted marketing channels, and promotion. More details are outlined under Section IV below.

G. Geographic Focus

The Appalachian areas of West Virginia, (all 55 counties), and Virginia, (33 western counties and independent cities) recognized by the Appalachian Regional Commission, are the regionalized focus of this grant project. The project counties were selected based on two overriding factors: 1) the region has significant potential benefits both for farmers and markets through the adoption of climate-smart activities, and 2) the region has seen significant growth in

the number of underserved and socially disadvantaged farmers as indicated in the 2017 Agricultural Census Report.

Socially disadvantaged, limited-resource, beginning, and veteran producers are often underrepresented in government agricultural programs, particularly in Appalachia and they are less likely to participate in federal agricultural programs (Nickerson and Hand, 2009). Their inclusion in government programs is critical to evaluating the environmental, sociological, and financial attributes of climate-smart practices, as these groups offer understanding through a lens of different experiences than those of other producers (Nickerson and Hand, 2009).

According to the 2017 Census of Agriculture, West Virginia has a higher percentage of beginning (31%) and veteran (13.5%) producers than the U.S. (United States) average (27% and 11% respectively). West Virginia has the 6th highest poverty rate in the nation with 16% of residents living in poverty. West Virginia also has the highest percentage (97%) of small farms in the U.S. and a high percentage (62%) of these farms run as single-operator businesses (USDA NASS, 2016). 38,123 producers operate 23,622 farms in West Virginia. Of these individuals, 5,160 (13.5%) of them are producers with military service (USDA NASS, 2019).

The western counties of Virginia chosen for this project have 84 Black, 3,449 Veteran, and 5,612 new & beginning farmers, according to the 2017 Census of Agriculture. Virginia has a growing population of small farmers who are veterans. While the number of veterans in the U.S. decreased by 17% between 2000 and 2014, Virginia had the highest increase in the nation 5.12-6.7% (Vetpop, 2014). Additionally, 87% of the target audience resides in persistent poverty and economically challenged, rural areas of the state. These producers tend to lack the understanding of grazing management principles that support greater sustainability and profitability.

H. Project management capacity of partners, including a description of existing relationship with and/or prior experience working with producers or landowners, promoting climate-smart activities and marketing climate-smart commodities.

West Virginia University (WVU) is an 1862 land-grant institution that combines research and education in its outreach mission to teach practical skills. WVU Extension will provide technical assistance and coordination through its Agriculture & Natural Resources (ANR) unit, which will house the Head Program Coordinator for the project. This person will report to the PI of the grant agreement. The WVU Extension ANR unit Office Administrator, Carra Higgins, is responsible for assisting with processing annual producer incentives for participants. Also, within the WVU Extension Agriculture & Natural Resources Unit, the WVU Extension Small Farm Center provides networking opportunities through events and programming to connect farmers to university knowledge and research projects. Within WVU, the Davis College of Agriculture, Natural Resources and Design is engaging professional technical expertise, lab facilities, and use of thirteen Research, Education, Outreach Center demonstration farms and forests to further greenhouse gas reduction and on-farm carbon sequestration practices. WVU Extension maintains an office in every county, an advantage that will be used for outreach to

deliver the GRASS program across the state. The WVU Office of Sponsored Programs (WVU-OSP) will provide financial and compliance oversight for the project. WVU-OSP has established protocols for overseeing all financial aspects of grant awards as well as compliance protocols for overseeing issues such as human subjects via IRB activities and training of investigators to ensure the ethical and responsible conduct of research. Within the WVU Extension Agriculture & Natural Resources Unit, the Small Farm Center's Program Coordinator and project Principal Investigator, Lisa Jones, is responsible for grant management and will provide regular, timely reporting to meet the administrative duties of the project. Lisa has eight years of experience managing grants and during that time has participated as PI or Co-PI on over $20 million worth of food system projects. Lisa will also be responsible for the management and development of intake forms to be included on the project webpage, leveraging her experience building websites for nonprofit organizations. Within WVU, the Davis College of Agriculture, Natural Resources and Design will actively participate in greenhouse gas measurement, monitoring reporting, and verification tasks. WVU Extension in partnership with Virginia Tech, and VSU will direct training and recruitment efforts through on-farm field days, provide technical assistance to producers, and verify adequate implementation at participating farms. These efforts will be coordinated and led by John Fike (Virginia Tech), Tammy Holler & William Crutchfield (VSU), and Brian Wickline (WVU Extension), and other personnel as needed.

Virginia Polytechnic Institute and State University (i.e., Virginia Tech) will conduct the needs assessment (producer interviews and surveys), consumer and market analysis of the climate-smart commodity, and the collection of soil samples using the protocols set by WVU. They will provide training through the two-day grazing schools in Virginia and one-on-one on-farm technical assistance to ensure the implementation of practices meets USDA standards. Their project technical support person will provide MMRV assistance to Virginia producers within the project region.

Virginia State University Cooperative Extension Small Farm Outreach Program will provide training and one-on-one technical assistance within the 33 counties and independent cities of Appalachian Virginia, as recognized by the Appalachian Regional Commission. As an 1890 land-grant University, VSU will provide a strong connection to underserved farmers, including socially disadvantaged, veteran, and beginning farmers, providing support within the project region. VSU will also serve as a verifier for participants. Virginia State University's experienced specialists and agricultural management agents working in the Appalachian region of Virginia will focus on recruitment and assist producers with CSAF activity implementation.

The West Virginia Conservation Agency (WVCA) is a state agency that provides technical assistance and incentives to producers through 14 Conservation Districts. WVCA is the governing body over the West Virginia Association of Conservation Districts (WVACD). WVCA and WVACD are critical partners as the financial home for funds distributed to West Virginia producers to incentivize the adoption of climate-smart practices, which will aid the transition to climate-smart practices. In addition to managing funds for producers, WVCA will

also provide an additional $500,000 to serve as matching funds for this five-year project. They will serve, as needed, as verifiers of CSAF activities in West Virginia.

The Soil and Water Conservation Division of Virginia's Department of Conservation and Recreation (VACR) will act as the financial home for funds distributed across the Appalachian portion of Virginia. Both WVCA and VACR will work to offer producer incentives to underserved farmers wanting to transition to climate-smart practices. Field agents from each agency will assist in the MMRV process as outlined by WVU Lead Scientist as a requirement of fund distribution to participating farms. In addition to managing funds for producers, VACR will also provide an additional $1 million to serve as matching funds for this project. These dollars, provided through VACR's Agricultural Best Management Practices Program, will expand the reach of this project.

Hickory Nut Gap (HNG) is an industry leader in the regenerative beef business and a project stakeholder. HNG is a fifth-generation business that has been operating for over 100 years and has been focused on marketing grass-fed and regenerative beef and pork products for the last fifteen years. HNG serves grocery stores (such as Whole Foods and Harris Teeter), distributors (US Foods), and food service outlets on the East Coast as a processor, marketer, and product distributor. HNG has developed protocols and standards that producers meet to ensure product quality and consistency, including requiring and verifying the implementation of many climate-smart practices. HNG's role will be as one potential outlet for participating farmers to market and profit from the climate-smart commodities produced from this project. HNG is an Ecological Outcome Verification (EOV) monitoring hub for the region. HNG will also be heavily involved with the measuring/quantifying and monitoring aspect through the EOV verification process as well as providing marketing data to producers, which can be included in producer-incentivized quarterly reporting. HNG is providing short and long-term EOV for producers as in-kind match.

Farmers United Cattle Company, founded by a ninth-generation farmer, was established to build a bridge between farmers and brands by providing opportunities at scale for regeneratively produced products in the cattle and beef sectors. Farmers United currently works with several brands such as Hickory Nut Gap Meats, Marksbury Farms, and Meyer Natural Foods sourcing cattle and helping farmers reach protocol demands to reach the conscious consumer. Working with farmers to procure and move livestock from North Carolina (NC), Virginia (VA), West Virginia (WV), Tennessee (TN), Pennsylvania (PA), New York (NY), Ohio (OH), South Carolina (SC), and Georgia (GA), Farmers United has seen protocol demands increase and change to coincide with consumers concerns, which include purchasing climate-smart cattle and beef thus pushing demand for more animals raised in this manner. Farmers United Cattle Company will serve as a potential outlet for producers and connection to buyers for cattle raised through climate-smart practices.

ii. PROJECT PLAN

Our project, through producer incentives, hands-on education during on-farm field days, and training through grazing schools will engage and encourage producers to produce climate-smart commodities by implementing appropriate practices (outlined in Section A below) that support climate-smart cattle and beef production. We will monitor and verify gains in soil carbon that occur with the shift to climate-smart management practices. Extensive survey work will be conducted to better understand both producer and consumer attitudes to climate-smart management practices and food products. This survey work will feed into targeted marketing campaigns to promote climate-smart cattle and beef. Brief descriptions of the farm-level project activities follow, with a discussion of monitoring/modeling and market expansion efforts described in subsequent sections.

A. Description of CSAF Mitigation Activities to be deployed.

Most pasture systems in the Appalachian region are overgrazed and undermanaged. Overgrazed grasslands are less productive and exhibit reductions in soil organic carbon (Milchunas and Lauenroth, 1993, Schlesinger et al., 1990, Lai, 2020). Less productive grasslands may require alternative feed sources (e.g., hay) for livestock which increases both the cost of production and GHG emissions. Well-managed, productive pastures can reduce the need to apply GHG-intensive fertilizers, increase soil carbon sequestration, and increase farmer profitability. GRASS will focus on deploying climate-smart practices that will form the basis for profitable and environmentally sound pasture management systems in Appalachia. Prescribed grazing increases farm profitability and improves environmental outcomes, including greater plant productivity, lower carbon footprint, and healthier soil.

Although prescribed grazing is known to yield a variety of environmental and economic benefits, including enhanced soil carbon sequestration (Byrnes et al., 2018), the practice is not widespread among Appalachian producers. A 2014 survey of West Virginia beef producers (n = 103) found the top perceived barriers to implementing rotational grazing were livestock access to water, cost of fencing, and increased time and labor (Boone et al., 2014). These challenges may be particularly acute in Appalachia given the high proportion of small and underserved farmers that often lack the funding, time, and training to implement critically important climate-smart practices. Funding from this project will incentivize Appalachian farmers to revitalize agriculture in the region while facilitating the production of climate-smart products.

Of the USDA-provided climate-smart mitigation activities, Conservation Practice (CP) 590 Nutrient Amendment, CP 528 Prescribed Grazing, CP 381 Silvopasture (& associated codes), and 512 Pasture and Hay Planting were selected due to their mitigation potential and relevance for the region. The carbon sequestration and GHG mitigation potential of these practices are well-documented (Bai and Cotrufo, 2022) and when performed co-currently may result in enhanced mitigation potential (Crystal-Ornelas et al., 2021). In relation to Prescribed Grazing (CPS 528), corresponding practices Fencing (CPS 382) and Watering Facility (CPS 614) may also be necessary. Furthermore, to install a watering facility, Livestock Pipeline (CPS 516) and Pumping Plant (CPS 533) may also be necessary. These practices will only be used as a

supplement to the main NRCS climate smart practices identified previously and not as stand-alone practices. Whole farm plans that involve fencing, livestock pipeline, and watering facility will need to prove the justification for this practice, along with the other farm practices to be implemented. Plans that involve supplying temporary, semi-permanent, or virtual fencing that utilize existing perimeter fencing and therefore do not disturb the plow layer will be prioritized when possible. We do not expect any other disturbance below the plow layer. Implemented practices will meet National Resource Conservation Service (**NRCS**) practice standards.

B. Plan to recruit producers and landowners, including estimated scale of the project (e.g., number of landowners, acres targeted, head of livestock, etc.)

Social media, newspaper and newsletter articles, emails, promotional meetings, small groups, peer-to-peer learning through on-farm field days, and one-on-one engagement by Extension and Small Farm Outreach Program (**SFOP**) faculty and staff will be used to describe the project and recruit farmer participants. Our Conservation partners at WVCA, WVACD, and VACR will also engage in producer recruitment through localized group meetings, newsletters, social media, and word of mouth. The GRASS project will also be promoted at relevant agricultural events, such as the West Virginia and Virginia Beef Expos, Extension events such as grazing schools, and other relevant conferences (Appalachian Grazing Conference, Beginning Farmers Conference, Small Farm Conference, etc.). Leads for producer recruitment include Tammy Holler (VSU-SFOP), Brian Wickline (WVU Extension), and John Fike (Virginia Tech). Our target is 135 mostly small and underserved farmers from West Virginia and the Appalachian region of Virginia participating in education, training, and implementation of climate-smart practices on working lands. Farmer recruitment will begin early in the project and be focused during the first two years, ensuring enough time to compare baseline samples with changes in soil health to verify results at the end of the five-year timeframe. *No concentrated animal feeding operations (CAFOs) will be involved in this project. Additionally, we do not anticipate any project activities occurring on tribal lands.*

Interested producers will be directed to the GRASS webpage, which will be created within 30 days of the project final agreement, where potential participants can find additional information that will address the project background, technical assistance and resources available through the project organizations, eligibility requirements, and a simplified, standardized online in-take application. To be eligible to enroll in GRASS, producers will need to meet the eligibility requirements outlined in Section II of the Program-Specific Terms and Conditions for Partnerships in Climate-Smart Commodities reprinted below:

> "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 and 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 (WV) 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 certify and maintain HELC/WC compliance. This will require that some producers who do not already have these numbers, like perennial crop growers, 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 Office 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 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/WV compliance for Partnerships for Climate-Smart Commodities Incentive payments, producers will need to request a copy of their subsidiary print from their USDA 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 of 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/WV 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."

The Head Program Coordinator and conservation partners will confirm that participants are not involved in multiple USDA programs funding the same practices on the same lands. Lists of potential producers and practices will be given to FSA and NRCS to review for comments. This verification will also be included in the cooperator agreements through WVACD and VACR, which are signed by farmers verifying their intent to participate. Eligible applications will be ranked by the applicant's need for assistance and training to implement climate-smart practices, i.e., a small or underserved producer that does not already implement any of the CSAF mitigation activities would be given the highest priority. Geographic location and farm size (acres and head of cattle) will also be considered.

Upon evaluation and ranking, applications and supporting documentation will be presented to the WVACD and VACR boards. The boards will approve or deny applications based on qualifications set by the project team. Written notification of the board's decision will be provided to producers. For an approved application, the farmer will be asked to enter into a written agreement. This agreement will specify the responsibilities of each party with details of the producer incentives to be awarded.

We anticipate that the average producer will manage 120 acres, with an average cow herd of 30 to 40 cows. Based on these estimates, we anticipate 135 farmers that use voluntary incentives to implement climate-smart practices will represent approximately 16,200 acres, along with 4,050 – 5,400 head of livestock.

C. Plan to provide technical assistance, outreach, and training, including who will be conducting these activities, qualifications, and timeline

Technical assistance will be delivered by trained WVU, Virginia Tech, and VSU Extension Agents, VSU-SFOP staff, and WVCA, WVACD, and VACR Field Agents working one-on-one with producers. Each organization will have a cluster of producers they will work with over the project's life based on their geographic location. These agents will be the first point of contact for producers, of which, at least 14 are Certified Forage and Grassland Professionals (CFGP) through the American Forage and Grassland Council. They will assist with prescribed grazing management plans. Should more technical assistance be necessary, WVU and Virginia Tech faculty will be available for consult. The project team will operate under leadership provided by the Head Program Coordinator hired for this project effort (see organizational structure chart). Participants receiving incentives for implementing climate-smart practices will participate in a sponsored two-day grazing school prior to receiving incentives. It is strongly encouraged that participants join in person and take full advantage of networking, but a virtual/hybrid option will also be available. Grazing schools serve as the primary foundation to

learn about the implementation of the climate-smart mitigation activities, as well as basic training in soil health, plant species, growth patterns and responses to grazing, and animal nutrition and management required to successfully grow cattle and beef for climate-smart markets. Through these events GRASS participants will develop their plans, with assistance and supervision, to implement CSAF mitigation activities on their farms. They will receive information on how producer incentives will be distributed and what verification, administrative, and other tasks will be expected of them. Participants will have the opportunity to meet with various marketing partners at grazing schools to discuss opportunities, requirements, and financials to decide if producers would like to partner with them or choose other marketing channels.

VSU's Small Farm Outreach Program (SFOP) agents on average have over 20 years of experience working with members of small, Black, Veteran, and new & beginning farmer communities. Each agent has also completed an intensive grazing school training before the beginning of this project. The SFOP program is recognized as one of the leading 1890 outreach programs in the nation and has a wide range of agricultural expertise and field experience working with the target groups of farmers. The agents will work one-on-one with the participants providing technical assistance to help farmers convert to climate-smart grazing management practices at the direction of the VSU Program Coordinator.

The forages team (Brian Wickline, WVU, Tammy Holler and VSU-SFOP staff, and John Fike, Virginia Tech) have extensive experience in forage research, demonstration, and related extension and outreach efforts. Dr. Fike is a professor at Virginia Polytechnic Institute and State University's School of Plant and Environmental Sciences with over 20 years of forage research and 10 years as Virginia's forage extension specialist.

Brian Wickline is a WVU Extension Associate Professor and for 25 years has focused his efforts on forage and livestock production. Brian works closely with producers on farm profitability and aids in teaching grazing schools through WVU Extension.

Tammy Holler is part of Virginia State University Small Farm Outreach Program and for 20 years has focused her efforts on soil nutrient management and livestock production. She will engage in this project as a Program Coordinator, providing technical assistance and on-on-one consulting on farms, and collecting samples per the WVU protocol for verification purposes.

Ember Morrissey, an Associate Professor of Environmental Microbiology at WVU with over a decade of experience studying soil carbon, will act as the Lead Soil Scientist by providing technical assistance and developing outreach materials related to the climate benefits of regenerative grazing practices. During grazing schools, producers will specifically learn about regenerative practices and their benefits to soil carbon, consequences for pasture productivity, and how monitoring greenhouse gas benefits can improve the marketing of agricultural commodities produced under climate-smart practices.

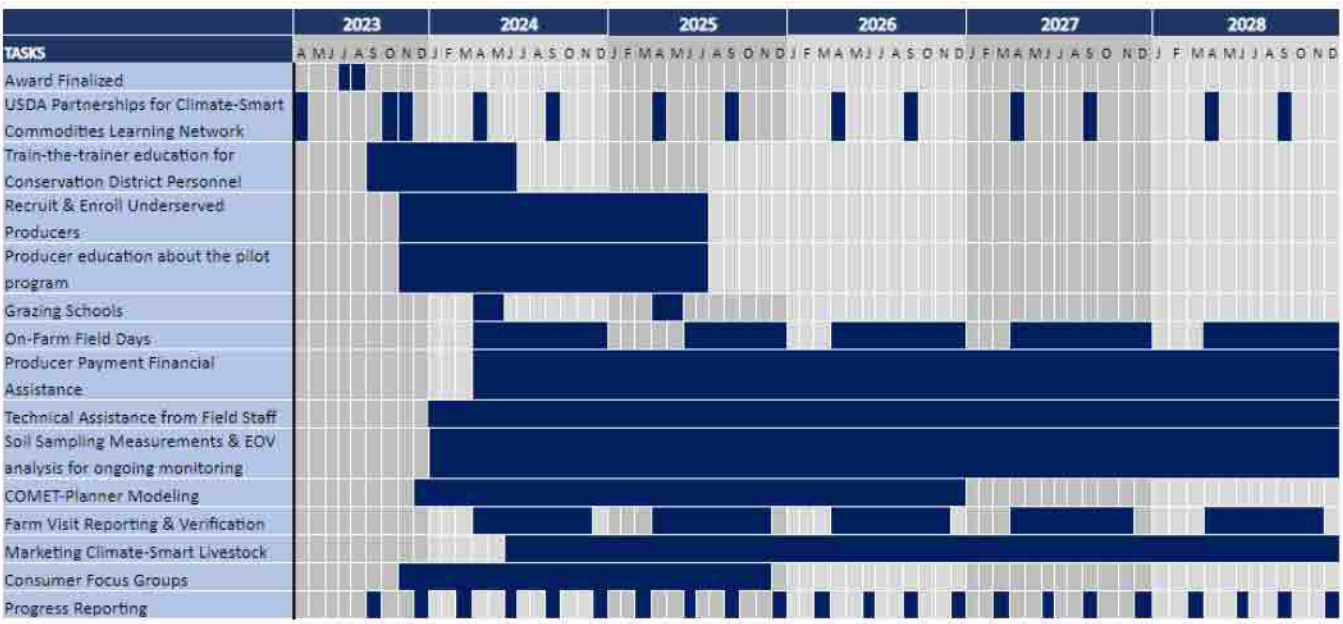
Liesel Ritchie is a Professor of Sociology at Virginia Polytechnic Institute and State University. For more than 20 years, she has specialized in needs assessments, conducting surveys , and qualitative data collection with a variety of populations, including agricultural

producers. She will serve as the lead for the producer needs assessment and producer surveys, which will impact the education and marketing portions of the project.

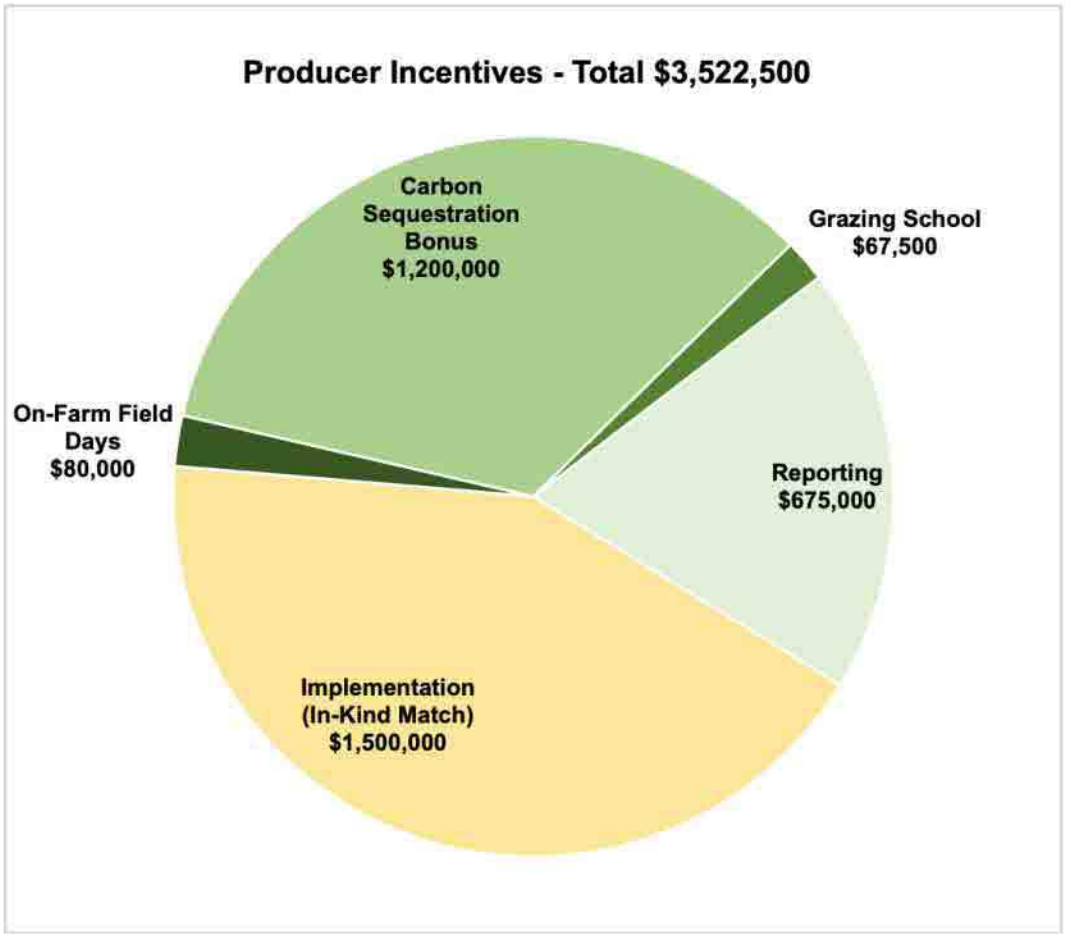
John Bovay is an Assistant Professor of Agricultural and Applied Economics at Virginia Polytechnic Institute and State University with nine years of experience studying the economics of agricultural and food policy, including issues such as cost-benefit analysis of food labels. He will lead the economic dimensions, which will impact the marketing portion of the project.

The needs assessment will focus on the social dimensions of climate-smart and regenerative farming among the population of small and underserved producers. Building upon results from prior focus groups with socially disadvantaged farmers conducted in 2018 by Virginia State University, Ritchie at Virginia Tech will lead the evaluation of factors that influence producers' engagement in climate-smart practices and marketing their climate-smart commodities. More specifically, assessing how sociocultural factors (e.g., economic, environmental, cultural, political, and trust in various information sources), such as knowledge about different approaches to production management, contribute to or hinder the adoption of various climate-smart farming practices. This assessment will be conducted through personal interviews with producers, as well as producer surveys. Findings from the assessment will inform ways in which GRASS partners conduct outreach, as well as how they interact with participating farmers and decision-makers in their respective areas. Findings will contribute to problem identification to increase profitability and productivity and will illustrate areas for education regarding agricultural practices in a changing climate.

The approach to conduct a needs assessment at the onset of the project will involve surveying producers who are participating in GRASS. The assessment instrument will be developed collaboratively with the project leads. The instrument will be field tested with producers, to ensure questions are clear and applicable for the target population. Information will be gathered about the characteristics of producers (e.g., sociodemographic data, years of farming) and production operations (e.g., size, location, types of production). This will help with the implementation of the overall project, as well as with the creation of effective messaging and educational materials. The needs assessment will be administered using a combination of mail and email methods, including follow-up with non-respondents to ensure as many responses as possible. Consistent with the requirements of the Paperwork Reduction Act, time is built into our proposal to obtain clearance to conduct the needs assessment and seek approval from Virginia Tech's Institutional Review Board.



D. Plan to provide financial assistance for producers/landowners to implement CSAF practices



Federal funds ($2,022,500 total) will serve as producer incentivizes to adopt multiple climate-smart mitigation activities over working lands, submit quarterly reports, and host on-farm field days for peer-to-peer learning. The economic incentive for participating producers will be based on estimated CO2 equivalents sequestered from all practices implemented. A preliminary calculator (https://grass.shinyapps.io/equivalentpayments) for determining incentive amount, uses COMET CO2 equivalent values, when available, for target practices and assigning a value of $41.39 to each estimated metric ton of CO2eqv sequestered. This value was derived from multiple sources to fit within our budget and offer sufficient incentive to producers for the time and effort required to implement and track climate-smart practices and commodities (Indigo Ag 2023; Havens, Perrin, and Fulginiti, 2023).

In addition to the federal funds, $1.5 million in match funds have been committed by the WVCA and VADCR. The WVCA and VADCR will oversee and administer producer incentive implementation funding through their respective Conservation Districts using match funds. Conservation Districts will adhere to existing policies, established by the agencies, and procedures to issue producer incentives to assist in supplies, labor, and equipment costs surrounding climate-smart practices. The funds for helping producers develop the infrastructure to implement climate-smart practices will come from match funds offered through WVCA and VADCR, and the payment schedules determined by their respective policies (https://www.wvca.us/reports/annual/pdf/FINAL%202022%20WVCA%20Annual%20Report.pdf ; https://www.dcr.virginia.gov/soil-and-water/cmwarehouse).

We estimate that the *average* GRASS producer will obtain incentives, from federal funds and state match funds, of an estimated $26,093.00 over the length of the project. That number does not include any payments for attending grazing schools or hosting field days. Including those, a total of $3,522,500 will go directly to producers throughout the length of the project.

List of climate-smart practices to be implemented and their expected outcomes.

Code	Name	Key Implementation Notes	Verification	Link to CSP (Conservation Stewardship Program) Doc	Est. metric ton CO2eqv per acre	Est. Farms	Est. Acres	Est. CO2 eqv Outcome	Est. Total Incentives
381	Silvopasture	Planting an acre with > 10% stocked by single- stemmed woody species of any size that will be at least 4 meters (13 feet) tall at maturity. Adapted species for climate, and no invasive or noxious species. Work with WVCA/VACA on match funds as necessary. Producers can only receive USDA funds once	Use the practice job sheet to plan and certify this practice. See CPS document for minimum documentation required.	https://efotg.sc.egov.usda.gov/api/CPSFile/584/381_VA_CPS_Silvopasture_2016	4.5	40.5	4,860	21870	$905,199.3

		every 15-years for this practice on the same acreage.							
528	Prescribed Grazing	Preparing and following through on a prescribed grazing plan for all planned management units where grazing and/or browsing will occur in coordination with project partners and following CSP guidelines. See document for grazing plan requirements. Work with WVCA/VACA on match as necessary. Supporting /facilitating practices **Fencing (CPS 382)** and **Watering Facility (CPS 614)** , **Livestock Pipeline (CPS 516)**, and **Pumping Plant (CPS 533)** applicable here.	Monitoring will include an annual pasture walkover for visual evaluation documented by a pasture condition score sheet to evaluate if the objectives of the plan are met.	https://efotg.sc.egov.usda.gov/api/CPSFile/12365/528_WV_CPS_Prescribed_Grazing_2017	0.2	135	16,200	3240	$134,103.6
590	Nutrient Management	Replacing synthetic N fertilizer with beef manure on managed non-irrigated pasture.	Verification based on pasture nutrient management plan to replace synthetic N fertilizer with beef manure on pasture, developed, monitored, and verified by qualified program partners.	https://efotg.sc.egov.usda.gov/api/CPSFile/3950/590_VA_CPS_Nutrient_Management_2020	0.2	135	16,200	3240	$134,103.6
512	Pasture and Hay Planting {Planting for High C Sequestration Rate}	Planting perennial legumes, forbs, and native warm season grasses. No-till plantings only.	Prepare plans and specifications for each site or management unit according to the requirements of this standard. Operation and maintenance plan.	https://efotg.sc.egov.usda.gov/api/CPSFile/32633/512_VA_CPS_Pasture_and_Hay_Planting_2021	0.1	27	3240	324	$13,410.36

E. Plan to enroll underserved and small producers, including estimated number participating and associated dollar amounts anticipated to go directly to producers, in the form of technical and financial assistance.

Our goal is to recruit 135 cattle or beef farmers to become climate-smart commodity producers with the focused and meaningful recruitment and participation of small and underserved producers. In order to enroll these producers in GRASS, there will be an open advertisement period providing information and encouraging producers to apply to enroll. Advertising will take place through cooperating agencies' media platforms and mailing lists. The GRASS project will also be promoted at relevant agricultural events frequented by underserved and small producers like the Appalachian Grazing Conference, Beginning Farmers Conference, and the West Virginia Small Farm Conference.

Of the nearly $4.8 million requested in funding for this project, $2,022,500 will go directly to farmers as producer incentives. An additional $1.5 million offered as an in-kind match

will be provided by the WVCA and VADCR. These funds will be used to mitigate around 30,000 tons of CO2, which is equivalent to $160 federal dollars per ton of CO2. This is equivalent to approximately 5.67 kg of CO2 per federal dollar invested over the five-year period or 10.08 kg of CO2 in GHG benefits for each dollar producers receive.

Considering the federal funds and matching funds provided by the WVCA and VADCR, this project will provide a total of $3,522,500 in direct incentives to producers for the implementation of climate-smart practices on approximately 80 farms in Appalachian Virginia, and 55 farms in West Virginia. In addition to on-farm implementation support, an additional $482,500 is offered as in-kind match funds by Hickory Nut Gap to benefit farmers in reaching climate-smart marketing opportunities by covering the expense associated with the Ecological Outcome Verification (EOV) monitoring fees. Producer incentives will be used to compensate farmers for their time, travel, and enrollment to bring the latest climate-smart grazing management production practices to participants through the two-day Grazing Schools. Producer incentives will also be used to compensate farmers for time and the use of their farm to host producer-led on-farm field days, which will allow for peer-to-peer learning, networking, and informal mentoring relationships.

The Head Program Coordinator will work with the partner organizations and assigned staff to make sure participating producers are not receiving double incentives through other climate-smart commodity programs of which partners may be involved. This person will also work with conservation partners to make sure participating producer that agree to receive incentives sign documentation stating they are not participating in overlapping programming that may be offered by the United States Department of Agriculture (USDA).

iii. MEASUREMENT / QUANTIFICATION, MONITORING, REPORTING, AND VERIFICATION PLAN

A. Approach to greenhouse gas benefit quantification

Consistent with the quantification requirements, we will use the Carbon Management Evaluation Tool (COMET) to estimate the greenhouse gas benefits of the regenerative practices implemented on working lands. Farmers participating in the program will be required to supply all the necessary information to use the COMET Farm tool, which will provide a detailed, yet cost-effective estimate of greenhouse gas (GHG) benefits associated with implementation of practices on each farm. We will use the COMET-Planner tool to quantify the general GHG benefits of cattle and beef farms implementing CSAF mitigation activities across the Appalachian region. The farms that participate in our pilot program initially which implement CSAF mitigation activities may generate greater or lesser GHG emissions reductions than the average or typical farm in the region. Thus, estimated GHG benefits from the COMET-Farm tool may be higher or lower than the representative estimates generated by COMET-Planner.

B. Approach to monitoring of practice implementation, including the anticipated number of farms and acres reached through project activities

This project will directly impact 135 farmers by providing direct producer incentives to adopt climate-smart practices. Participating producers will evaluate their operations for future improvements and implement climate-smart mitigation activities best suited to their operations. This approach will directly affect an estimated 16,200 acres in Central Appalachia providing cost-effective solutions to underserved farmers. Project coordinators, technical support assistants, and soil scientists will engage in sampling using protocols set by the Lead Soil Scientist to take accurate measurements. These dedicated personnel on the project will be trained on procedures at the start of the project for consistency throughout the MMRV process.

Farms marketing through HNG will go through a built-in verification process that accompanies the required Ecological Outcome Verification (EOV). HNG agrees to share data and abide by verification standards set by project administrators. EOV verifiers will be provided guidelines for verifying producer implementation of CSAF mitigation activities. In addition, soil will be collected from each farm at the initiation of their participation in the program in accordance with the Savory Institute's EOV long-term monitoring program guidelines. Producers will need to provide information about cattle numbers, secondary production, and management activities. In this case, management activities will refer to approved CSAF Mitigation Activities. HNG agrees to share verification and MMRV soil data collected from their affiliated farms with GRASS project administrators to ensure no duplication of resources. For producers that choose not to market through HNG, and therefore forego the EOV process, verification will be carried out by GRASS project partners under the direction of the Head Program Coordinator.

C. Approach to reporting and tracking of greenhouse gas benefits

The GHG benefits associated with this project will be reported in accordance with the USDA's guidelines. Progress reports will be submitted *quarterly* for the duration of the project. Each progress report will include detailed information on the proportion of underserved and small farmers, the regenerative practices applied, the training and outreach opportunities, and the technical assistance provided. Additional GHG benefit information from COMET Farm and the soil carbon sequestration measured through soil sampling and testing will be reported. Reports will include estimates of the GHG benefits per farm, per climate-smart practice, per commodity produced, and per dollar expended. Notably, our project will involve estimating the soil carbon GHG benefits of climate-smart practices, including the addition of native warm season grasses to the production system and bale grazing. GRASS intends to offer data to be considered for inclusion into the COMET datasets. The data generated from this work will facilitate a more accurate incorporation of these climate-smart practices into future iterations of COMET Farm. The project Head Program Coordinator will track the progress on a monthly basis, and report to the Principal Investigator on the progress and timeline. The coordinators will assist in preparing quarterly reports for submission to USDA explaining details of progress and challenges with a

plan on how to meet the current challenges. Participating producers will also receive producer incentives annually for their quarterly reporting to the project, which will create meaningful engagement and accountability over the life of the project.

The anticipated GHG benefits of this project were estimated using COMET Planner. We estimate that we producers will adopt the climate-smart practices on 50 to 120 acres per farm, for a total of 6,750 to 16,200 acres. We expect the implementation of prescribed grazing (CPS 528) and replacing synthetic N fertilizer with cattle manure (CPS 590) to be implemented on all farms (6,750 to 16,200 acres). Additionally, we estimate silvopasture (CPS 381) to be adopted on 30% of the farms (2,025 to 4,860 acres) and Pasture & Hay Planting (CPS 512) to be adopted on 20% of farms (1,350 to 3,240 acres) in West Virginia and Virginia. The adoption of these practices will yield ~12,293 to 29,503 tons of CO_2 equivalents per year in GHG benefits. Accordingly, each farm will have an anticipated average GHG benefit of ~91.06 to 218.56 tons of CO_2 equivalents per year and ~5.1 to 12.3 lbs. of CO_2 equivalents per year for each federal dollar invested in the project. Because the practices we will promote have both ecological and economic benefits for the farmers, we expect participants to continue these practices indefinitely. Additionally, our education, extension, and outreach efforts are likely to increase the adoption of climate-smart practices by farmers throughout the region.

D. Approach to verification of greenhouse gas benefits

The greenhouse gas benefit and carbon sequestration measurement/quantification, monitoring, reporting, and verification (MMRV) plan we have developed involves verifying the estimates provided by COMET Farm using soil testing. Soil testing will be performed at WVU and will allow us to capture the full impact of project activities on and verify greenhouse gas benefits. Samples will be collected from each farm during the first year of that farms participation and during at least two subsequent years distributed throughout the project period for soil analysis to monitor changes in soil health. If applicable, the first sampling will occur before any new CSAF practices are implemented. Each partner organization responsible for MMRV sampling (WVU, Virginia Tech, and VSU) will have a dedicated staff member for verification tasks. These staff members will be trained on and required to use one standardized protocol to maintain sampling consistency.

This protocol was developed through the recommendations in Stanley et al. (2023), which outlined the need for improved sampling designs for accurate carbon sequestration verification. Due to the large number of farms participating in GRASS, we are limited to analyzing one homogenized soil sample per farm for each sampling. These samples must be collected in a way that will enable the highest statistical power possible to detect any changes in soil carbon content. After the GRASS practice implementation plan has been made and signed, the producer and soil scientist together will choose a pasture/paddock that will receive all or most of the practices agreed upon to focus sampling efforts. The larger and the more heterogenous the area, the more cores will be required. Homogeneous areas (same slope, same plant species, same management history, etc.) are preferred for this sampling to offset the lack of

replication on each farm due to the large number of farms in the study. Once the pasture/paddock is identified, the soil scientist will use the web tool Stratifi (https://charliebettigole.users.earthengine.app/view/stratifi-beta-v21) to stratify the area(s) based on geospatial parameters (POLARIS soil organic matter & bulk density, and slope). If the area is particularly heterogenous, such as farms on mountain ridges, the soil scientists may need to add parameters (aspect, elevation) to stratify effectively. The program will also recommend the number and random placement of samples to take based on strata size and predicted organic matter heterogeneity. An example of a Stratifi output is shown below. One representative stratum will be chosen to sample from for the duration of the project. The soil scientists will collect and homogenize soil cores from random samples of the A-horizon (up to 12 inches max depth). They will also collect a bulk density core using the following USDA Soil Quality Test Kit guide protocol (https://efotg.sc.egov.usda.gov/references/public/WI/Soil_Quality_Test_Kit_Guide.pdf).

Soils will be air-dried and shipped to WVU for analysis. Using the same laboratory for all soil analyses will reduce unnecessary variation and improve soil response detectability (Stanley et al., 2023).

Figure 2. Output from the Stratifi app of an example farm (WVU-owned) using slope, POLARIS organic matter, and bulk density estimates as stratification parameters. Using our knowledge of this farm's landscape and history as well as Stratifi, we would only sample from Strata #1 (dark blue) at the randomized points indicated. The GPS coordinates for the points can be downloaded and used in-field.

The WVU team will measure soil organic carbon, soil respiration, and bulk density to estimate soil carbon stocks. Additionally, we will measure water-filled pore space, and soil mineral nitrogen concentrations (Sparkes et al., 2020), as these are key predictors of N2O production in grazed pasture systems (Li et al., 2005, Saggar et al., 2007). Lastly, potential measurements of CH4 production and oxidation will be performed at low and high soil moisture contents in laboratory microcosms as described in Korkiakoski et al. (2022).

Farms that choose to market through HNG will also participate in an Ecological Outcome Verification (EOV) Program. Hickory Nut Gap, is a Savory Institute (SI) hub. The SI has developed an Ecological Outcome Verification (EOV) Program to monitor soil health indicators and soil carbon sequestration benefits of regenerative practices. The EOV program measures 12 attributes of soil health and combines them to produce an integrated quality score. These measurements include soil pH, Modified Morgan Extractable P, K, Micronutrients, Soil Texture, Active Carbon, Wet Aggregate Stability, Soil Respiration, Autoclave –Citrate Extractable Protein, and Available Water Capacity. Any years that HNG conducts soil testing on affiliated farms, they agree to share soil test data in order to prevent any duplication of testing with the WVU lab.

Soil test data and the EOV program via HNG will help us track the GHG benefits resulting from the program. In addition to using COMET Farm, soil test data will enable us to measure soil carbon sequestration rates as described in Kimble et al. (2000). Soil carbon sequestration is a key mechanism of the GHG benefits associated with regenerative grazing (Byrnes et al., 2018). Soil carbon sequestration rates will be calculated on a per kilogram soil and per unit area (hectare basis) for each farm and for the program and compared to estimates of carbon dioxide emissions reductions produced by the COMET Farm. Additionally, we will assess the impacts of climate-smart practices on soil mineral nitrogen concentrations which drive nitrous oxide (N_2O) production and short-term methane (CH4) fluxes. The soil scientist working with Dr. Morrissey will perform the soil tests at WVU, calculate soil carbon sequestration rates, and estimate N2O and CH4 fluxes. These data will be provided alongside COMET Farm estimates of GHG benefits in reports to the USDA. The regenerative grazing approaches that will be implemented have a variety of co-benefits beyond the reductions in GHG emissions. For example, prescribed grazing increases plant species diversity. Pasture diversity promotes higher pasture productivity (Eisenhauer et al., 2017), a more nutritious diet for livestock, and supports wildlife including bees (Enri et al., 2017). Prescribed grazing also reduces soil bulk density (Byrnes et al. 2017) allowing greater water infiltration and reduced soil erosion (Pilon et al. 2017).

E. Agreement to participate in the Partnerships Network

Lisa Jones will be designated as a member of the “USDA Partnerships for Climate-Smart Commodities Learning Network” (Partnership Network) until the Head Program Coordinator is hired. Their participation will include up to two virtual meetings and two in-person meetings per year for the duration of the project. These individuals will stay in contact with project partners,

which will allow for an additional level of verification that participants do not become involved in multiple USDA programs funding the same practices on the same lands. This Learning Network also allows for idea-sharing and problem-solving across organizations.

iv. PLAN TO DEVELOP AND EXPAND MARKETS

A. Any partnerships designed to market resulting climate-smart commodities

This project provides an outlet for climate-smart commodities through the partnership with Hickory Nut Gap (HNG), Farmers United, and direct-to-consumer. Creating this market channel and space for participating farms will allow them to focus on implementing climate-smart mitigation activities and producing climate-smart commodities. For those that choose to go through HNG, we will take advantage of HNG's existing infrastructure for harvesting, packing, and marketing climate-smart beef from farms throughout the central and southern Appalachian region. The relationships and connections built through this arrangement will continue long after the life of the grant, offering project sustainability. HNG is a fifth-generation farm that began in 1916, which more than 100 years later, now cultivates unique Appalachian terroir through regional partnerships. HNG's contracts range from direct-to-consumer online sales, farmers' markets, and on-farm butchery retail to large grocery stores and wholesalers. HNG currently is processing approximately 80 head of cattle per week and has recently expanded its market through new retail outlets in the southeast.

Farmers United Cattle Company was founded to build a bridge between farmers and brands to provide opportunities at scale providing these products in the cattle and beef sectors. Farmers United currently works with several brands, such as Hickory Nut Gap Meats, Marksbury Farms, and Meyer Natural Foods, sourcing cattle and helping farmers reach protocol demands to reach the conscience consumer. Working with over 100 farmers from NC, VA, WV, TN, PA, NY, OH, SC, and GA, Farmers United has been expanding to meet the growing demand of the marketplace. They have concentrated efforts to work with producers who have spring and fall calving seasons which offers them a consistent supply of cattle during the year. Farmers United Cattle Company agrees to assist with the marketing aspect of climate-smart cattle and beef through the GRASS project by connecting participating farmers that produce climate-smart commodities with new brands and markets that fit project goals. Farmers United also agrees to provide project partners with relevant marketing data to quantify the demand for climate-smart cattle and beef and consumer preferences throughout the project.

Participating producers can also market through direct-to-consumer channels (farmers' markets and community-supported agriculture) as well as the several local retail channels around the project region (Swift Level Meats, Wayne's Country Fresh Meats Butcher Shop, Village Butcher, Farmers' Daughter Market & Butcher, etc.).

B. A plan to track climate-smart commodities through the supply chain, if appropriate

Climate-smart commodities (beef and cattle) will be tracked through the supply chain by marketing partners (HNG, Farmer's United, etc.), and data provided to the project team. Each

producer's cattle are ear tagged and are documented by Farmers United, which allows those animals to be traced during the harvesting process. This will be accomplished by tracking individual carcass data and specifically what farms the carcasses originated from. Producers choosing this option can use data from marketing partners to gather needed information for quarterly reporting, for which they will receive producer incentives.

Farmers choosing to market their beef direct to consumers will need to report sales numbers to the project team as part of their quarterly reporting updates, which they will receive producer incentives to report. The animal's live weight at harvest and carcass weight will be used to determine the overall yield of the animal.

C. Estimated economic benefits for participating producers including market returns

The current market price for grain-fed finished cattle is $1.63 per lb. for June 2023 futures prices, which traditionally is a respectable price for a grain-finished product. Unfortunately, due to increased fuel and grain prices, the cost to insure, feed, and pay yardage is also approximately $1.65 per lb. as well, leaving producers with no real earning potential to retain ownership in fed cattle. Recently, the average cost to produce a conventional grain-fed, weaned calf is approximately $800 per head. Cow-calf producers would then sell their calves at weaning with steer calves bringing $800 to $1,000 per head depending on the size of the calf and how they are marketed and heifer calves averaging $700.00 to $850.00 per head, leaving little profit for the producer.

In the climate-smart cattle and beef program we are promoting, farmers would receive a premium from marketing partners for raising the calves using climate-smart practices. Historically, this premium has existed for the grass-fed market, which has been approximately ten to fifteen cents per pound over the conventional market allowing a $60 to $90 per head premium. For producers willing to retain ownership until calves are finished at a live weight of 1,150 lbs., $200 to $250 premiums can be achieved, which is an increase of 20% over the conventional grain-fed market. In the economic outline described below, we will estimate consumers' willingness to pay for beef marketed as climate-smart, which we believe—coupled with information on the GHG reductions and other environmental benefits and local economic benefits of the GRASS program—will command a higher premium than other beef products. For example, Wang et al. (2022) estimate that consumers are willing to pay up to 200% more for certain cuts of grass-fed beef, compared with their grain-fed equivalents; and those premiums are positively influenced by media reports about climate change and the positive environmental and nutritional benefits of grass-fed beef. Our project team estimates these willingness-to-pay percentages will also apply to climate-smart beef.

In addition, there is a potential cost savings to producers from grass-feeding their calves due to lower input costs. The "Graze 300" Extension program created at Virginia Tech, which promotes prescribed grazing, has demonstrated cost savings from grazing calves for about 300 days and purchasing less hay, in a range of plausible case studies. Resources already developed by the Graze 300 team will be used to demonstrate the conditions under which raising climate-

smart cattle would represent cost savings and/or additional profit for producers. The Graze 300 program is available to all producers and participants.

D. Post-project potential, including anticipated ability to scale project activities, likelihood of long-term viability beyond project period, and ability to inform future USDA actions to encourage climate-smart commodities.

Through establishing a partnership with HNG and Farmers United for climate-smart products, GRASS project participants can focus on production and implementing CSAF mitigation activities. They will have a high likelihood of developing a long-term commercial relationship that will continue beyond the life of the grant. To support the long-term viability of the project, funding has been designated to cover marketing costs to support a campaign promoting climate-smart beef. This will include label development, branding, brand awareness, targeted marketing channels, and promotion. This campaign will use a range of media to target climate-conscious consumers and incorporate data as analyzed by Bovay and a Ph.D. student at Virginia Polytechnic Institute and State University as detailed below.

Concurrently, this project will hope to inform future USDA actions to encourage climate-smart commodities through 1) showing the potential of the Appalachian region to produce climate-smart cattle and beef products in an age of uncertain factors (drought, fires) in other U.S. regions 2) how partnerships between regionally-based and forward-looking marketing partners like HNG and Farmers United, and small and underserved producers result in the optimum return-on-investment for marketing partners, USDA, and farmers alike and 3) how the recruitment and attainment of CSAF mitigation activity procedural fidelity of farmers to produce climate-smart commodities can be best achieved.

To understand the scalability and the likelihood of long-term viability of the GRASS project, it is essential to understand how consumers perceive beef produced under the climate-smart initiative. Although some consumers are likely to pay a high price premium for climate-smart products, the price premium may depend on other product attributes such as packaging or branding, certifications, and the level of processing (e.g., ground beef, muscle cuts, or further-processed products). Non-market valuation techniques provide an effective way to assess consumers' heterogeneous preferences for various product attributes and identify the consumer characteristics most closely associated with demand for climate-smart beef and the product label features that are most likely to engage consumers' interest and stimulate demand. To accomplish this objective, we will conduct three interdependent phases of the market discovery study: 1) focus groups and survey development; 2) experiment design and implementation; and 3) econometric estimation. Approval to collect data from individuals will require approval under the Paperwork Reduction Act and through Virginia Polytechnic Institute and State University's Institutional Review Board and time is accounted for in the approval process in the timeline. Based on previous experience with similar studies, the focus group and survey development and design stages will require approximately one academic year of part-time work by the Ph.D.

student under Bovay's supervision. Implementing the survey will require approximately one semester, and analyzing the data will require another semester.

(1) *Focus Groups and Survey Development*

In addition to the producers' needs assessment, social science project team members will conduct focus groups with consumers and marketers to understand their current knowledge of and assess the potential demand for climate-smart beef products. Information collected in these focus groups will be used to design subsequent experiments. Through the consumer focus group process, we will identify the scope of interests and concerns consumers may have that may affect consumer valuation, especially regarding greenhouse gas footprints. Focus groups are essential to ensure that the presentation of the experiment, particularly the explanations regarding terminology and product attributes, are understandable to the general population (Johnston et al., 1995; Johnston et al., 2017). Focus group discussion guides will include non-leading questions to minimize misunderstandings in terminology and ensure that concepts are well-defined. Based on feedback from the focus groups, we will develop and field test a draft survey in collaboration with GRASS project leads and a sample of consumers, respectively. The survey and experiment described below will be implemented together, online.

(2) Experiment Design and Implementation

We will design and implement a choice experiment to estimate consumers' aggregate preferences, and their heterogeneous preferences, for beef products with climate-smart labels. The choice experiment methodology is as follows. Individuals (N=1,500) will be recruited through an online system or a third-party contractor for participation in the study. We will focus on individuals in the Appalachian region in our recruiting efforts. In the experiment, they will be asked to make a series of several hypothetical purchase decisions, considering suites of products that have different attributes and prices, with an opt-out or none-of-the-above option (Tian et al., 2022). Consumers will be randomly placed into a control group or one of several treatment groups; the treatment groups will be given additional information about the carbon footprint and the benefits of climate-smart beef. This process will allow for testing consumers' relative preferences for various potential labels (with different words or images). PD Bovay has expertise with both experiment design (Tian et al., 2022) and detection of fraudulent responses to online surveys (Goodrich et al., 2023). Th project team believes it is important to keep this portion of the work in-house to ensure the quality and usefulness of data collected through the experiment.

(3) Econometric Estimation of the Choice Data

Treatment variables will be incorporated into the econometric model to estimate preferences. Responses to Likert scale questions about environmental attitudes and consumer demographic characteristics will also be used as explanatory variables in the modeling, including in the estimation of class probability equations in a latent class model with a finite number of classes or a mixed logit model that reflects respondents' heterogeneous preferences for climate-

smart labels, as well as other product attributes. To analyze the choice data, we will begin with the well-established Random Utility Model (RUM) framework (Louviere et al., 2000; Scarpa and Thiene, 2005; Provencher and Moore, 2006; Train, 2009). Statistical modeling will be conducted, and results from the experiment will be presented to Extension and marketing specialists as part of the process of refining product labels and marketing strategies that could potentially benefit farmers. The experiment will help USDA to assess the effectiveness of supporting programs like GRASS by understanding their scalability and feasibility. We will be able to estimate the likely geographical scope of markets for GRASS products, the price premiums paid by consumers, the total volume of sales of GRASS products if the program is scaled up, and information about the types of consumers who are most likely to purchase the products.

If appropriate, we will also consider using statistical and economic methods to model the impact of the GRASS program on markets (especially market prices) for grass-fed cattle and conventional cattle in the Appalachian region. There is no specific market price basis for climate-smart cattle and beef, so we will need personnel to engage in market discovery and track trend changes over the life of the project in order to inform USDA of future actions.

Project Timeline

	Year One												Year Two												Year Three												Year Four												Year Five											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Climate Smart																																																												
Virtual information session conducted																																																											
Formation of selection committee																																																										
Producer enrollment																																																										
Training of enrolled producers (initial, refresher), feedback																																																										
Producers allocate areas for implementing CS practices																																																										
Producers develop CS practices																																																										
Record keeping by producers																																																										
Data collection - carbon sequestration and GHG emission																																																									
Data collection - GHG Emission from animals																																																									
Marketing																																																										
Development of marketing coalition																																																										
Coalition meeting for market promotion																																																										
Marketing of produce																																																										
Market survey of CS produce																																																										
Outreach & Education																																																										
Field days																																																										
Dissemination of project findings through presentations in conferences, meetings																																																									
Incentive Program																																																										
Input/services to participants																																																										
Administration																																																										
Quarterly progress report																																																										
Annual project meeting																																																										
Annual progress report																																																										
Final report																																																										
Monitoring																																																										
CS produce data																																																										
Data analyses - GHG & C sequestration																																																										
Producer records collection and economic analyses																																																										
Establishment of monitoring and evaluation committee																																																										
Monitoring and evaluation committee meeting & reporting																																																										

Climate-Smart Practices and Limitations

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

NRCS Practice Code	Practice Name
311	Alley cropping
381	Silvopasture
382*	Fence
512	Pasture and Hay Planting
528	Prescribed Grazing
590	Nutrient Management
612	Tree/Shrub Establishment
614*	Watering Facility

* To be used only in combination with other climate-smart practices listed above.

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

N/A

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.