



Guide for Applicants

Research and Education Proposals for the 2017 funding year

Submissions due October 18, 2016

Use only if you have been invited to submit based on an approved preproposal

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About Northeast SARE

Sustainable Agriculture Research and Education (SARE) is a USDA program offering competitive grants for new ideas in agriculture that improve profits, stewardship, and positive connections between farms and their communities. There are four SARE regions—Northeast, North Central, South, and West, each of which offers slightly different grant programs. The Northeast SARE region consists of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, West Virginia, and Washington, D.C.

Research and Education Grants

This grant program funds projects that result in farmers gaining knowledge and skills that they can apply to make verifiable changes that lead to greater sustainability. Projects may be submitted with or without an applied research component, but all projects must have an outcome-based education program for farmers. The maximum project length is four years.

Who can apply

Those who submitted a Research and Education preproposal and were then notified by Northeast SARE that they may submit a full proposal.

Northeast SARE programs are offered to all without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or familial status.

About this guide

Instructions are provided for completing a full proposal along with examples that illustrate the information expected. This document may be freely copied for instructional purposes.

Outcome funding

Northeast SARE uses an outcome funding approach for selection and management of Research and Education grants. To learn more about outcome funding as used by Northeast SARE, go to <http://www.nesare.org/Grants/Get-a-Grant/Research-and-Education-Grant> and download our guide from the “for applicants” box on the right-hand side of the page.

Size of awards

Grant awards are contingent on continued federal funding support of the SARE program in 2017. The size of these grant awards vary, typically ranging from \$30,000 to \$200,000.

Changes to an approved preproposal

Minor revisions to the approved preproposal, such as refinements to the project title, performance target, milestones, key participants, or budget estimates are acceptable, but reviewers will not accept a full proposal that differs significantly from the preproposal unless the changes made were those suggested by preproposal reviewers. Full proposal reviewers will have your preproposal and the

suggestions and comments sent from the preproposal review team, so please be sure the content of the full proposal answers any concerns that were raised.

Timeline

Online submission template opens on September 7, 2016

Online submission template closes at midnight, October 18, 2016

Electronic copy of proposal with signed cover and signature pages due by November 2, 2016

Clarification questions from review teams sent to applicants by November 29, 2016

Applicant response to clarification questions due by December 5, 2016

Project selection by Administrative Council (AC) in mid-February, 2017

Applicants notified of AC funding decisions by February 17, 2017

Pre-award discussion via phone with grantees in March or April, 2017

We expect the start date for 2017 grants to be September 1, 2017. The start date for project contracts is dependent on the date of passage of the FY2017 federal budget. It typically takes about six months after that before contracts can begin, and projects must close within four and a half years of the contract date.

If your project is funded

Northeast SARE requires annual progress reports and a comprehensive final report for all projects. Annual reports are due by December 31 of each year and final reports are due within 60 days of the end date of the project. Also at the close of projects, Northeast SARE asks for contact information of 8-12 project participants whom SARE may contact in the future for program evaluation. Any publication that arises from the project must credit Northeast SARE as a source of support.

To strengthen your proposal, and to understand further what you will be asked to report on if you are awarded a grant, please look at the performance indicators in Grantee Reporting and SARE Post-project Evaluation (appendix B). This table shows what information you will be asked to report during the project and what SARE may assess two to four years after the project's completion. To be eligible for funding it is not necessary that your project include results under all of the performance indicators. For more information on what SARE hopes its project investments will achieve, you can look at the SARE Logic Model at www.nesare.org/AboutUs/SARE-logic-models.

Conflict of interest

Members of the Northeast SARE Administrative Council and their immediate family members or business associates are not permitted to apply for or receive funding from SARE grants. Members of proposal review teams are not permitted to discuss or vote on proposals that involve institutions they work for, organizations for which they serve as board member or adviser, former graduate student advisees, or close personal friends.

How to submit your proposal

Submit on line at <http://www.ciids.org/nesare/re>. The deadline is midnight, October 18, 2016. Staff will be available to assist with technical questions until 4 p.m. on the due date.

There are word limits on each section of the proposal. Use a word processing program to write and edit the proposal ahead of time to make sure it is accurate and complies with the word limits.

Do not use special formatting or symbols. The submission system is text-based to accommodate dial-up access; the use of symbols and special characters can be problematic.

Give a draft of the proposal to your sponsored programs or grants office well ahead of the due date to verify that your budget is accurate and aligns with their policies. These offices usually require two to four weeks to review and approve proposals. After submitting your proposal on line, you'll be able to print it out with a cover page to be officiated by your institution. Send a copy with all required signatures as an e-mail attachment to Northeast SARE at nesare@uvm.edu no later than **November 2, 2016**.

If you notice an error after you submit, the only way to get a corrected proposal in the review system is to **submit another proposal before the October 18 deadline**. If you must submit a corrected version, contact the SARE office to request that the earlier version be disregarded so that it is not assigned to reviewers.

Full proposal outline

Components of a full proposal are in the order listed below, with the word limits given.

1. Cover pages (content generated by the submission system)
2. Title (125 characters, counting spaces)
3. Abstract (450 words)
4. Performance target (50 words)
5. Milestones for beneficiary learning (300 words)
6. Description of problem or opportunity (450 words)
7. Solution and benefits (450 words)
8. Beneficiaries and their interest (250 words)
9. Research description (for projects that include a research component, 850 words)
10. Educational approach (500 words)
11. Verification plan (300 words)
12. Key individuals (400 words)
13. Literature review (1800 words)
14. Citation list
15. Budget
16. Current and pending support
17. References

18. Attachments:

- 1) A single pdf or Word document that includes the following
 - a. Research plot plan or experiment diagram (if conducting research)
 - b. Draft performance target verification questions
 - c. Letters of commitment from key individuals
 - d. Current and pending support table for project leader
- 2) The budget justification and narrative in Excel spreadsheet format

Review criteria

These are the areas evaluated by reviewers to identify the strengths and weaknesses of proposals.

Performance target

The performance target describes the adoption of a new practice or strategy by farmer beneficiaries, the extent of adoption and verifiable benefits from the adoption. The performance target is numerical (not given in percentages) and measurable; it is achievable in the timeframe of the project.

Milestones for beneficiary learning

The milestones describe a sequence of knowledge and skills acquisition and interim action steps by farmer beneficiaries that leads logically and realistically to the performance target; project educational activities are reflected in the milestones.

Problem or opportunity description

The problem or opportunity is clearly described, including the type and scale of agriculture affected. The need to address the problem or opportunity is substantial and is supported by specific evidence (data). Addressing the problem or opportunity has potential to significantly contribute to the sustainability of agriculture in the Northeast.

Solution and benefits

The project proposes a feasible and realistic solution leading to measurable benefits; the likelihood of success is supported with data from previous work.

Beneficiaries and their interest

The beneficiary audience is appropriate to Research and Education grants (farmers); the proposal shows a strong understanding of the beneficiaries and clearly explains their relationship to the project; the proposal offers evidence (data) of their desire to engage with the project.

Research description

If research is proposed, the hypothesis, experimental design, and treatments are clearly articulated; there is evidence of farmer engagement in developing research concepts; and the research is likely to yield valid results that provide the basis for farm applications; research activities and results are integrated into the project's educational program.

Educational approach

The educational approach is clearly described, effective, realistic and achievable; curriculum topics are listed in detail; instruction and support methods are described.

Verification plan

The verification plan describes specific and effective verification tools, methods, and questions for verifying the extent to which the performance target is achieved. The project timeframe allows sufficient time for adoption of new practices or techniques prior to verification of the target.

Key individuals

Key individuals are adequately involved, understand their commitment, and possess appropriate skills to conduct the proposed work; the extent of their participation fits the needs of the project.

Literature review

Previous relevant work is described and connected to the proposed work, with citations provided.

Budget

Funding requests reflect the realistic needs of the project; and the total budget request is appropriate in terms of the magnitude of the project's expected results; all expenses are well justified, and the budget contains no errors.

Format of proposal instructions

Below is a description and explanation of each component in a Research and Education proposal. Sample text from a fictional project is in the appendix to illustrate content expected in proposal sections. **All the content and survey results from the sample proposal are fictional.**

1. Title (125 characters including spaces)

Use a clear, succinct title that captures the essence of the intent of the project. Avoid acronyms, jargon, or unnecessary words. Since search engines pick up on keywords in the title, it should briefly and appropriately describe the primary focus of the project.

2. Cover page information

Fill in the start date, end date, and project duration in number of years. You will be asked to select a category of practices and a production commodity the project addresses, and enter the project leader's name and institution, and collaborating institutions. The online system will also prompt you to define whether collaborating institutions/organization are receiving funding (a sub-award) or not.

The cover page is generated automatically by the online submission system. You will be able to see a PDF copy of these pages and the full proposal text at the final entry screen before you submit.

3. Abstract (450 words)

This is a standalone summary of the project, comprising three subsections. **Include the subheadings in the text you enter to identify each element for reviewers.**

- a. **Problem and justification:** A brief description of the problem or opportunity to be addressed, the target farmer audience affected, and justification for the project's need from the perspective of beneficiaries.

- b. **Solution and approach:** The proposed solution to the problem or opportunity and the approach for reaching or carrying out the solution.
- c. **Performance target:** The performance target, explained in the next section, is the final portion of the abstract. Enter the same text in the abstract that you enter as the performance target.

The abstract should not refer to subsequent parts of the proposal by using language such as “This will be described later.”

See appendix A for an example [abstract, including the performance target](#).

4. Performance target (50 words)

The performance target is a statement that defines the specific, beneficial, and verifiable results of the project. Reviewers look for ambitious but achievable targets. The target is a project’s measurable goal, not a guarantee.

Performance targets contain three required components:

1. A specific, verifiable practice or strategy that beneficiaries (farmers) will adopt by the end of the project as a result of their participation. Examples include farmers **adopting a new or improved:**
 - crop or livestock production practice
 - system for food safety, sanitation, product processing or storage
 - business, marketing, labor, organizational or farm transfer plan or strategy
 - crop, livestock or farm business enterprise
2. The number (not an undefined percentage) of farmers who will adopt and the extent of their adoption. The extent of adoption is expressed in measurable units like acres, animals, enterprises, markets, etc. Examples of extent of adoption statements include **the total number of:**
 - acres or animal units switched to a new practice,
 - new markets, products or enterprises developed
 - new plans created, or farm management strategies implemented.

Strong engagement and input from farmer beneficiaries during proposal planning are essential for establishing realistic numbers of farmers and the extent of their adoption.

3. The measurable benefits that result from the farmers adopting the new practice or strategy. The benefits resulting from adoption must be ones that are measured directly or that can be extrapolated or calculated from values already established in literature from prior research.

Examples of **resulting measurable benefit** include:

- Pounds of excess nutrients removed from livestock diet and waste products **as a result of** adopting recommended practices to improve nutrient balance of feed rations.

- The dollar value of input costs reduced *as a result of* adopting recommended pest control or nutrient management strategies.
- The dollar value of increased sales *as a result of* planting acres of land to a new crop, adopting a new marketing strategy, or developing a new enterprise.
- Farmer-assessed improvements in quality of life and lifestyle satisfaction, such as increased number of vacation days or improvements in farm efficiency *as a result of* making changes in farm organization or labor management.
- Acres of farmland passed on to younger farmers *as a result of* creating farm transfer plans.
- Savings in fuel (dollars, gallons) and reductions in soil loss (tons) *as a result of* switching to no-till or zone-till.

Note that the performance target cannot depend directly on the research results. The research should complement and be integrated into the learning that participants engage, but the level to which participants achieve the performance target should not depend on the research program.

See appendix A for example [performance targets](#).

5. Milestones for beneficiary learning (300 words)

Milestones are a list of logically connected learning or action steps a project will lead beneficiaries through to accomplish the performance target. Milestones outline the sequence of learning and skill development that beneficiaries will experience via the educational activities described later in the section on educational approach, or they describe intermediary steps the beneficiaries must take on the way to achieving the performance target. **Beneficiaries accomplish milestones as they participate in project activities.**

Milestones are different from a plan of work or list of activities that the project leader and team will perform; rather, they are written in terms of what the farmer beneficiaries will experience as they participate; what they will do and learn.

Milestones contain four required components:

1. A realistic number of farmer beneficiaries who participate and accomplish the milestone
2. The project activity or educational experience the farmers take part in
3. The specific knowledge or skills they learn or the intermediate action step they complete as a result of participating
4. The schedule or timeframe for the activity and learning

Each milestone should link with the next and have a specific duration. Taken together, the milestones show the sequential project steps from the perspective of the farmer beneficiaries. **This**

timeline of milestones becomes the framework you will use to report annual progress toward the performance target.

Reviewers look for realistic levels of participation, a strong and logical relationship between the milestones and performance target, and a progression of milestones capable of preparing beneficiaries for the performance target.

See appendix A for example [milestones for beneficiary learning](#).

6. Description of problem or opportunity (450 words)

This section must include:

- a. **A clear, concise explanation of the problem or opportunity** the project will address; the harm or adverse consequences the problem/missed opportunity creates for farmers; and the cause or hypothesized cause.
- b. **The number, type, and size of farms** where the problem or opportunity occurs, and the extent of agricultural production affected.

Provide references and numerical data to justify claims made in the description. Sources of justification include literature citations, the work of others, surveys of farmers or service providers, and census data.

See appendix A for an example [problem or opportunity](#) description.

7. Solution and benefits (450 words)

This section must describe:

- a. **The proposed solution** to the farm problem or missed opportunity that will be the focus of the project's research and/or educational efforts.
- b. **The benefits expected for farmers** from solving the problem or seizing the opportunity through participation in the project.

Provide evidence that supports how and why the solution is expected to be effective. Claims made about the proposed solution can be justified using the same sources listed in the section above.

Projects without a field or laboratory research component will rely on education about proven beneficial techniques that comprise the solution. This information may include demonstrations of these techniques with collaborating farmers.

For projects with research, the solution may be two-pronged—education about proven techniques plus research into best application of those techniques. Examples include the use of cover crops while studying optimal seeding rates, or the development of farm transfer plans while evaluating the most effective family goal setting tools.

See appendix A for an example [solution and benefits](#) description.

8. Beneficiaries and their interest in the project (250 words)

This section consists of the two parts listed below. **Include the subheadings in the text to identify each element for reviewers.**

- a. **Description of beneficiaries** – the number and type of farmers you will engage as participants, and the total pool, including geographic range, you will recruit from.
- b. **Beneficiaries' interest** – description of the farmers' interest in trying to solve the problem and their willingness to work with the project leaders towards a solution. Justify statements of interest with data from surveys conducted by the applicant (or others) that demonstrate farmer interest in solving the problem. The goal is to show reviewers you have an engaged audience that will participate in the project.

See appendix A for an example [beneficiaries and their interest](#) description.

9. Research description (850 words and optional attachment)

Complete this section if the project will include **research** that supports, demonstrates, and/or further develops the ideas or practices farmer beneficiaries are being asked to adopt as described in the performance target.

The research description must include all the elements listed below. Include the subheadings in bold in the text you enter to identify each element for reviewers.

- a. **Hypothesis:** A statement of the hypothesis or hypotheses to be tested.
- b. **Treatments:** Proposed treatments and rationale for their selection.
- c. **Methods:** Experimental design, experimental unit size, and treatment application.
- d. **Data collection:** Data to be collected, measurement protocols, and statistical methods of analysis.
- e. **Farmer input:** How farmers contributed to development of hypothesis and treatment selection, and the ways they may contribute to the conducting of research.
- f. **Additional information:** Other relevant features of the proposed research.

A plot plan or experiment diagram may be uploaded as an attachment. Label it “Research Component” so it can be easily identified.

10. Educational approach (500 words)

Describe the approach for educating farmer beneficiaries and supporting them in reaching the performance target. The approach should be realistic, acceptable to farmers, logical, and capable of leading to the actions and benefits described in the performance target.

The educational program should build on research that has already proven useful and suitable for adoption. If the project includes a research component, integrating information learned through the project's research into the curriculum and engaging farmers in research activities may be integral parts of the educational approach.

The educational approach must include all the elements listed below. Include the subheadings below in bold to identify each element for reviewers.

- a. **Recruitment:** Plans for recruiting and enrolling farmers.
- b. **Instructional methods:** The types of activities where learning will occur, often via participation in venues such as workshops, field days, demonstrations, webinars, meetings, and individual consultations, along with the sequence for instruction and learning.
- c. **Curriculum topics:** A detailed list of the topics that beneficiaries will learn about.
- d. **Beneficiary support:** Methods for supporting farmers as they learn and build skills, and afterward as they plan and take actions. Examples include one-on-one post-training sessions by phone, e-mail, or in person; tools and templates for participant record keeping; and fact sheets, videos, and other instructive materials.

See appendix A for an example of [educational approaches](#).

11. Verification plan (300 words and attachment)

The milestones and performance target drive your verification plan by defining the learning and actions that will be measured; the verification plan describes exactly how and when the measurements will be made.

Milestone participation and learning are verified throughout the project, often with brief knowledge assessment surveys after learning events, pre- and post- tests or surveys, and personal check-ins between events.

Tips for milestone verification:

1. Collect baseline data about participants' demographics, knowledge and skills; and about their attitudes and potential obstacles to change.
2. Ask questions to verify whether farmer beneficiaries are learning and acquiring skills as they progress through the identified milestones.
3. Use the baseline data and learning assessments to adjust the curriculum and educational approach, if needed, to meet beneficiary needs and interests.

Performance target verification requires following up with beneficiaries sometime after the end of project educational activities to determine:

- a. What specific practices or changes farmers adopted

- b. How many farmers adopted the practices or made the changes
- c. How many acres, animals, customers, farm families, etc., were affected by the new practices or changes
- d. What measureable benefits resulted from the new practices or changes—stated in measures of: improved yield or productivity; crop, animal or product quality; amounts and costs of farm inputs used; time and labor management demands; volume or dollar value of sales or net returns; animal health; environmental conditions; or farmer farm/family well-being.

Performance target verification methods and tools vary according to project design, but typical methods for follow-up with farmers at the end of a project are interviews, direct observations, data sheets, phone contact, e-mail, or regular mail. Typical instruments are e-mail surveys, paper surveys, interview questionnaires, or checklists.

Maintaining accurate and complete **beneficiary contact lists** is essential for performance target verification.

Tips for performance target verification:

1. Select indicators that are directly related to the target, measurable and realistic to obtain.
2. Write down the questions you will ask and the data you will collect for each indicator.
3. Inform beneficiaries about the project content, the performance target, the planned milestones, and verification activities.
4. Provide farmers and others with data collection tools and templates as needed.

More explanation and examples of verification tools are in the Verification Guide posted to the “for applicants” box at <http://www.nesare.org/Grants/Get-a-Grant/Research-and-Education-Grant>.

Verification plan outline

Include the subheadings in the text you enter to identify each element for reviewers.

a. Project data collection methods

- Describe the methods and tools that project leaders will use to collect milestone and performance target data from farmer beneficiaries, and
- Explain how and when the data will be collected or reported to you by farmers.

b. Verification support for beneficiaries

Describe the instructions, guidance, and templates you will provide to farmer beneficiaries to inform them of the performance target, help farmers record data about actions and results, if appropriate, and be prepared to respond to your requests for data about their follow-up actions.

Examples of guidance and tools for beneficiaries include:

- Project introduction or enrollment forms that explain the project focus, scope, and performance target, and that are used to obtain written commitment to participate.
- Data sheets or checklists where beneficiaries can record data and information about their project activities, on paper or online.

Draft of questions to verify the performance target. Submit a draft verification tool with questions that beneficiaries will answer to verify the extent to which they have reached the performance target. Upload into the online submission system. You may also upload examples of the tools you will provide to beneficiaries.

See appendix A for an example [verification plan](#) section.

12. Key individuals (400 words)

Provide a brief description of the project leader and other key individuals who will play an essential role leading the project to assure reviewers that there is credible, capable project management. Name the individuals, their affiliation, and the primary role they will play in the project.

If specific individuals and organizations are known, list their names.

If key individuals are not yet identified, briefly describe the position and its duties, without providing names. An acceptable entry might be “six growers in Pennsylvania with experience using cover crops,” or- “two extension agents with experience teaching integrated pest management.”

List any **other organizations**, outside of your own, that will be collaborating, receiving some of the money requested from SARE to carry out the project or contributing money, personnel time, facilities, or equipment to the project.

Upload a letter of commitment from each key individual (except the project leader) in an attachment to the proposal. These letters should indicate that each person understands his or her role and is ready and willing to participate. The letter should be written by the individuals, not the project leader.

See appendix A for an [example key individuals](#) description.

13. Literature review (1800 words)

Outline the scientific foundation and merits of your project and identify and explain the references used to understand the problems, challenges, opportunities and current knowledge associated with the project. Include only those sources that are most relevant to your project. This section is the place to convince reviewers that there is a body of knowledge that provides a compelling rationale for the project.

Make clear how your project will complement or build on the results of previous research efforts. Show that you are informed about previous grants from SARE if they are relevant to your project. The national SARE database of projects (www.sare.org) contains projects from all four SARE regions and is searchable by state, type of grant, author, and keyword.

14. Citation list

Provide a list of citations referenced in the literature review and elsewhere in your proposal in this section. There is no word count, but only list relevant references.

Here is an example citation list:

Anderson, Joan. *Sheep Herd Health Management*. 2004. Sustainable Agriculture Network. Includes a discussion the efficacy of alternative wormers and the managed reduction of antibiotic use.

Brown, Edgar. *A Producer's Guide to Whole-Herd Management*. 1998. Etherbooks. A holistic approach that encourages placing livestock in the context of overall farm management.

Chester, Anne. *Breeding for Natural Resistance*. 2001. NRAES 8888. A bulletin on breed characteristics and management strategy.

15. Budget summary and budget justification and narrative

The budget is an expense plan that provides your best estimate for the expenses you expect to encounter. Itemize all expected expenses and calculate their costs as precisely as possible to show reviewers what funds are needed, and why, to carry out your project.

Even the most persuasive proposal will not be funded if the budget is not clear, is too high or too low for the effort described, or if it includes requests for items not relevant to the proposal narrative, or for items not allowed by SARE (see below).

Budget summary

In the online submission template, you will be prompted to enter a budget summary for each year of your project if it is a multiyear grant, and for each subcontracting institution if it is a multi-institution project. The number of years you select on the cover page for project duration activates the templates for multiple years; listing collaborating institutions that will be paid via a subcontract activates budget templates for each institution.

The online submission system will calculate an overall project summary from the individual templates completed. In the budget summary section, you will enter only the totals for each subcategory from the budget justification spreadsheet for each year.

It is best to complete the justification spreadsheets first (per the instructions below), and then in the on line system enter budget summary information for subcontracts, if any, first before entering your lead institution budget.

Budget justification and narrative spreadsheet

Use the Northeast SARE budget justification and narrative Excel spreadsheet found in the “for applicants” box at <http://www.nesare.org/Grants/Get-a-Grant/Research-and-Education-Grant>.

Create a spreadsheet for each year and a spreadsheet showing all years—each year may be a separate worksheet tab or be provided in separate columns in a single spreadsheet, but there must be an overall project total sheet or column. **A budget justification and narrative spreadsheet is required for each institution that will receive funds through a subcontract.** The spreadsheets will be uploaded as attachments in the online submission system.

The categories in the spreadsheet (personnel salaries and wages, personnel fringe, materials and supplies, travel, printing and publications, other direct costs, and indirect costs if applicable) are the same as in the online budget summary form. **The total costs in the budget spreadsheet(s) must match the totals entered into the online proposal budget(s)**, so please complete all required budget justification spreadsheets before you enter the total numbers from each budget category into the online budget page(s). Itemize the quantity and per-unit cost of each expense, explain the use of each expense, and calculate the total cost of each item.

The competitiveness of applications is undermined by an inadequately justified budget. For example, if a budget shows expenses of \$18,450 for lab tests but provides no number of tests or cost per unit, the justification is inadequate. If the total of itemized expenses does not sum to the amount requested in the budget, the amount is not properly justified. This level of detail is required by USDA/NIFA and the University of Vermont. It also shows reviewers you have carefully considered the funding needed for your project.

Once the budget justification spreadsheet is complete, enter the summed totals for each budget category into the online budget summary form. Only the budget subtotals—totals for each category—need be entered in the budget summary form. Round budget categories to the nearest dollar; the online submission template does not accept trailing decimals for the summary figures.

Exclusions

There are certain expenses that SARE funds cannot be used for.

Expenses for enduring and non-project specific items such as land purchases, general farm improvements, and construction of buildings, greenhouses, and laboratories are not allowed.

Costs for copiers, cameras, computers, video equipment, and other items that could have a wide range of uses beyond the boundaries of the project must be clearly essential to a particular project and justified in the budget narrative in order to be allowed. These items are generally expected to be part of your institutional overhead and thus not appropriate to SARE funding. Applicants must provide a clear justification, making sure that these requests are reasonable and defensible.

Food expenses are typically not allowed. Under certain special circumstances—if it is a working meal as part of a meeting or training event, if the meeting is at a remote site where no restaurants are readily available and offering a meal is the only way to get people to reconvene in a timely way—meals might be paid for with SARE funds. When SARE funds are used for meals, USDA employees should note this on their expense reports and deduct meal costs from any per diem reimbursements.

International travel is discouraged but, if proposed, must be integral to the project's success and described in your budget justification. There are certain restrictions on costs and carriers, about which you can learn more by contacting SARE staff.

Graduate student tuition remission is not funded by SARE, and the tuition remission portion of fringe rates should be removed from the fringe rates used for personnel costs in the SARE budget.

Items of clothing—hats, tee-shirts, aprons, etc.—cannot be purchased with SARE funds, nor can giveaways, subsidies, and incentive payments be paid with SARE funds.

Cell phone charges are not allowable.

Explanation of budget categories and items to include

Personnel costs

Personnel costs must be shown as either an hourly rate multiplied by the anticipated time needed to complete the project as a percentage of FTE at a given salary. There is also a line in the personnel section for fringe benefits. Please note that tuition remission is not an allowable cost, neither as part of the fringe rate nor as part of indirect costs. For some institutions this exclusion will necessitate recalculation of the fringe rate percentage.

List only **your institution's personnel** under personnel costs. If people outside your institution will be paid to work on the project, they should be categorized as consultants, or the payment may be more appropriately placed under stipends or speaker/trainer fees. If the payment is for services (e.g. custom spraying), then it belongs under services. If the payment is part of a subcontract to another institution for a collaborator to oversee a portion of the project, then it belongs under the subcontract budget for that institution with a separate justification spreadsheet.

Non-personnel costs

There are several expense categories under non-personnel: materials and supplies, travel, publications and printing, and other direct costs. There are thirteen subcategories of other direct costs. In each category, describe each expense and show how it was arrived at by giving a unit cost times a set quantity.

Materials and supplies

This section is for items that are specific to the project and have a reasonable useful life of less than three years. Supplies also can include items such as office supplies, project-specific software, specialized tools, measuring devices, and other materials that will be used and used up in the course of the project. Again, be specific:

4 test kits at \$22 each = \$88
mapping software = \$420
10 reams of paper @ \$2.60 each = \$26

Travel

Specify the purpose of the trip and include who is traveling, the destination, and the expenses per trip. When requesting funds for travel by car, use the mileage reimbursement rate set by the institution administering the grant. If you are not associated with an institution, then you may use the rate established by the University of Vermont, which hosts the SARE program; this rate is adjusted each year to match the federal rate, and is currently 54.0 cents a mile. For auto travel, indicate who is traveling, the destination, the number of trips, and the total anticipated mileage. For lodging, state the room amount and number of nights. Here are some sample budget lines:

Research assistant making 4 trips to cooperating farm, 14 miles each; 56 miles @\$0.54/mile = \$30.24
Project leader making 3 trips to soil lab, 26 miles each; 78 miles @\$0.54/mile = \$42.12
Project leader making 1 trip to growers' meeting; 104 miles @\$0.54/mile = \$56.16

If the budget includes air travel, price your request with the least expensive carrier. Federal regulations say U.S. carriers must be used for international travel. Long-distance trips must clearly be justified as central to the project.

Publications and Printing

This budget item is specific to any publication development costs (editing, design, and printing) that you might incur. These costs would also include the cost of developing web-based publications, but would not include general web hosting or photocopying, which belong in the next section under other direct costs. Show a per-piece cost for any publications you plan to develop. For example:

24-page resource directory, layout and design at \$30/hour, 15 hours = \$ 450
Printing at \$1.12 each, 1000 pieces = \$1,120

Other direct costs

This budget category is for: communications, photocopying, services hired, conference, workshop and meeting expenses, speaker and trainer fees, stipends, office rental, land use charges, fabrication of equipment, other and miscellaneous (items must be identified), or subcontracts to other institutions.

Communications costs typically include postage, fax, and telephone expenses. Please note that charges for cell phones are not allowable.

For example, if you plan to mail 350 flyers to announce a field day, then your line item would read:

Postage for 350 flyers at 0.46 each= \$161.00

If you plan to have ongoing long-distance telephone contact with cooperators or perhaps a consultant, make an educated guess what these will cost. For example:

10 hours in-state evening long distance to cooperating farmers = \$ 50

4 hours in-state daytime long distance to technical advisor = \$ 45

2 conference calls with planning committee @ 1 hour each = \$ 72

Photocopying. If you make copies in the course of the project, estimate the number of copies needed and the cost per page. For example:

500 copies of the bulletin for distribution at field day @ .05 each = \$25

You can also estimate your copying costs, based on past experience:

100 pages a month @ .05 each X 12 months = \$60

Consultants and stipend payments. If outside entities are hired on a temporary basis to carry out a specific task, these charges are often listed under consultants. For example:

John Abrahamson, education consultant, assist in organizing and facilitating 4 meetings at \$325 each = \$1,300

Farmer contributors are often paid as a stipend, while some institutions process a payment for such contributors under consultants. Either is acceptable. SARE strongly feels that farmers need to be paid for the time they contribute to a project at a reasonable rate—Northeast SARE compensates farmers who serve on its committees and review teams at \$300 a day. Please note that there is a distinction between paying farmers to contribute to a project by participating in planning or project evaluation, or perhaps actively participating in a conference in the role of a trainer or presenter, which is appropriate and encouraged, versus paying farmers to receive the benefits of training, such as attending a workshop or conference as a recipient. In this second case, payment would not be appropriate.

Services. If an outside entity is hired for a specific custom job, it should be listed under services.

Jack Adams, WonderMark, precision spraying, 4 applications of fungicide at \$300 each = \$1,200

Conferences, meetings, and workshops. Costs of holding a conference, meeting, or workshop are included in this category. Some examples are the rental of facilities and equipment for the meeting, signage for field days, fees for guest speakers, and travel and per diem for participants and presenters. Details of costs for each conference or meeting should be itemized and provided in the budget narrative.

Meals may not be charged as project costs when individuals decide to go to breakfast, lunch, or dinner together when no need exists for continuity of a meeting. This kind of activity is considered to be an entertainment cost. In contrast, a formal group meeting being conducted in a business atmosphere may include a meal whose cost is charged to the project if the meal maintains the

continuity of the meeting, and not to offer such a meal would impose inappropriate discomfort for the meeting participants.

Trainee Participant Support Costs. If meals, transportation or lodging is to be paid on behalf of participants who are receiving training as the project beneficiaries, then these expenses should be listed separately under **trainee participant support costs**.

Speaker and trainer fees. These should include a description of the services speakers and trainers are providing and their fees.

Office rental is most often covered under the institution's indirect cost (see below) and would only be applicable if a remote site were needed to carry out the project.

Equipment and land use charges or rental. **Land use charges** are most typical in field research situations when a rental rate is applied or a research station has a standard per-acre fee for field plot maintenance.

Equipment purchase or Fabrication. **Fabrication of equipment** is only appropriate when a project calls for a piece of equipment to be constructed as an integral part of the project.

Other and miscellaneous. If you have a project expense that truly does not fit into any of the above categories, put it in this section. However, avoid using this budget category for items that really belong somewhere else. Each item must be identified, and an unidentified or unjustified miscellaneous item is not allowed, nor is an undefined "etc." or "contingency expense."

Subcontracts. If there is a portion of the project that will be subcontracted out to another institution, list it in this section. Be clear about the scope of work and cost. Provide a budget and budget justification for that institution.

Indirect costs. USDA currently allows indirect costs. If this changes, or the allowed percentage changes in next year's funding, the indirect amount will need to be adjusted accordingly. Applicants whose institution has a negotiated federal indirect cost rate may budget up to 10 percent of total funds requested. This is the maximum rate allowed by USDA on SARE grants. This amount can most easily be estimated as 11.11 percent of the total of direct costs. Please do not include a dollar value more than 10 percent of the total SARE request. If you calculate a fractional dollar amount, round down so the amount of indirect remains under 10 percent of the overall total. If the negotiated institutional rate is less, then that lower rate limit applies. If your organization has never had a federally negotiated indirect cost rate, you may request a de minimus rate of 10% of direct costs.

15. References

Provide three references of those who know your professional capabilities and work.

16. Current and pending support

Complete the current and pending support table for the project leader and upload it to the application submission system as an attachment. A copy of the current and pending support table can be found at the end of these instructions and is also available at

<http://www.nesare.org/Grants/Get-a-Grant/Research-and-Education-Grant>.

17. Checklist of attachments

Submit all proposal components in the on line application system, **including the required uploaded attachments** listed in the checklist below, on or before the October 18, 2016.

Attachment 1. Compile all the items in this checklist **in the order listed** into a single Word or PDF document as one attachment to upload into the online submission system.

- Research plot plan or experimental diagram (for projects with research)
- Draft performance target verification questions
- Letters of commitment from key individuals
- Current and pending support table for the project leader

Attachment 2. The budget justification spreadsheet for each institution requesting funds is submitted as a separate attachment in spreadsheet format (.xls file). It should include planned expenditures for each year. Please use the budget template, or layout similar to this, available at <http://www.nesare.org/Grants/Get-a-Grant/Research-and-Education-Grant>.

Do not submit **any letters of general support, curricula vitae, or other documentation not specifically requested.**

Other items to send to the SARE office

Send a copy of the proposal that includes the cover page with all required signatures as an e-mail attachment to Northeast SARE at nesare@uvm.edu no later than **November 2, 2016.**

If your institution requires a Protection of Human Research Subjects review, SARE will eventually need a completed approval document from your Institutional Review Board (IRB). If your project involves livestock experiments, it will need to be reviewed and approved in writing by your university Institutional Animal Care and Use Committee (IACUC) before we can issue an award contract. **These approvals will be needed only if the project is funded.** Send the IACUC or IRB review results to David Holm, Northeast SARE Regional Program Manager, 655 Spear Street, University of Vermont, Burlington, VT 05405-0107 or david.holm@uvm.edu.

Questions

If you have questions about the application format or instructions, contact the Northeast SARE office at 802/656-0471 or send e-mail to nesare@uvm.edu

CURRENT & PENDING SUPPORT

Name: _____ **Date Completed:** _____

Who completes this template: 1) The project director/principal investigator (PI) , 2) people listed as key individuals at the PI's institution and 3) people serving as project leaders at collaborating institutions that are to receive funding through this proposal.

How this template is completed:

- Record information for active and pending projects, including this proposal.
- All current efforts to which PD/PI(s) and other senior personnel have committed a portion of their time must be listed, whether or not salary for the person involved is included in the budgets of the various projects.
- Provide analogous information for all proposed work which is being considered by, or which will be submitted in the near future to, other possible sponsors, including other USDA programs.
- For concurrent projects, the percent of time committed must not exceed 100%.

Note: Concurrent submission of a proposal to other organizations will not prejudice its review.

NAME OF PROJECT PI (If co-PIs, list all)	SUPPORTING AGENCY AND AGENCY ACTIVE AWARD/PENDING PROPOSAL NUMBER	TOTAL \$ AMOUNT	START AND END DATES	% OF TIME COMMITTED	TITLE OF PROJECT
	ACTIVE PROJECTS:				
	PENDING PROPOSALS:				

Appendix A

Example abstract

Problem and justification

Despite the well-known potential benefits of cover crops, which include reducing erosion, adding organic matter, suppressing weeds, recycling excess nutrients, and supplying N to subsequent crops; despite significant investments by Cooperative Extension, NRCS, SARE, and others to promote adoption, the use of cover crops by vegetable farmers in New York and Pennsylvania remains limited. In a 2009 survey of 400 NY vegetable farmers, 168 of the 240 respondents were aware of the benefits from cover crops, but did not believe cover crops were feasible for their operations, given their complex rotations; however, 192 farmers rated the ability of legume crops to provide fixed nitrogen for crops as a high-value benefit. Seventy five percent of the farmers indicated interest to learn more about how to select and integrate cover crops into their vegetable production systems.

Solution and approach

This project will engage NY and PA vegetable farmers in a comprehensive education program about the multiple valuable functions of cover crops and cover-cropping management and innovations, and research trials investigating legume cover crops and cover-cropping innovations. The education and research components will address management constraints to cover crop usage such as establishment timing and techniques, mowing, killing, and rotations. Trials at research and production farms will investigate new legume cover crops because there are several that are new to growers in the region that have shown promise in filling specific niches in vegetable crop rotations. The documented N supplying capabilities of leguminous cover crops, which can potentially provide 120 lb N/acre to subsequent crops, is potentially of great value to vegetable farmers, especially organic producers. This green manure benefit can provide N fertilizer cost savings of \$60/acre at \$0.50 per lb N to farmers, and farmers surveyed indicated strong interest in learning more about these cover crops. Education will be conducted via workshops and field days at the research sites. All farmer beneficiaries will be recruited to submit cover crop plans for their farms and cooperating farmers will receive project team support and recordkeeping templates for tracking their decisions and actions. We will establish a project blog to share data and video from project trials and provide a discussion and support forum for farmers.

Performance target

Sixty vegetable farmers adopt legume cover crops and/or improved cover crop management practices on a total of 900 acres, reducing their historical N application rate in subsequent vegetable crops by an average of 75 lb/acre/year without reducing yields.

Example performance targets

Example 1: For the cover crops project introduced in the abstract. This example continues in the remaining sections.

Sixty vegetable farmers adopt legume cover crops and/or improved cover crop management practices on a total of 900 acres, reducing their historical N application rate in subsequent vegetable crops by an average of 75 lb/acre/year without reducing yields.

Example 2: Grass-based dairy project

Twenty-five grass-based organic dairy farms with a total of 1,500 milking cows implement a low-cost feed supplement program that has improved animal health as measured by cull rate; increasing average production per cow by 1,000 lbs. per year (\$220) at an added cost of \$94 per cow.

Example 3: Farm transfer planning project

Fifty farm families from three states with an average of 100 acres of farmland per family develop legally binding, comprehensive farm transfer plans aimed at keeping their land in farming after the current generation of farmers retires, resulting in 5,000 acres of farmland covered by plans for staying in production.

These targets each include the four essential elements. They state the **number of farmers** who act, describe the **specific action** farmers will make, define the **scale or extent of action** in terms of specified number of acres, products, animals affected, and they describe the **measurable benefit** to farmers (and in some cases society) that will result from their actions.

Example milestones for beneficiary learning

- 1,000 vegetable farmers in NY and PA learn about cover crop education program and receive an online survey about their current practices. September 2015*
- 200 farmers return the survey; 180 farmers agree to participate in education program; 7 farmers agree to host on-farm demonstrations. December 2015*
- 150 of the 180 farmers attend two three-hour workshops in each state that explain the project performance target, the known benefits of cover crops, ongoing legume cover crop research, on-farm trials, cover crop planning, and decision tools. Jan 2016 – March 2016*
- 100 of these farmers attend twilight field days at universities in each state and learn about termination techniques for cover crops. May 2016*

5. *100 farmers attend a field day at universities in each state and learn about new/existing cover crop species and cover crops establishment equipment and techniques. August – September 2016*
6. *7 farmers plant on-farm demonstration trials in collaboration with project team. September 2016*
7. *100 farmers attend twilight field days at the on-farm demonstration sites and learn about cover crop establishment, performance and termination. April 2017*
8. *65 farmers submit cover crop plans for their farms to project team for review. July 2017*
9. *65 farmers consult about cover crop species selection and management with project team by phone, e-mail, blog and with other farmers on blog. Ongoing*
10. *60 farmers document acres of new cover crops planted/improved management of cover crops and fertilizer N reductions by submitting completed verification information to project staff. September 2018*

The performance target should follow logically after the final milestone, as the performance target in example 1 above project does.

These example milestones describe beneficiary engagement over time. They reflect the fact that while every person who begins a project may not see it through to the end, a motivated cohort of beneficiaries can engage with a project and accomplish strong outcomes if their interests and learning needs are met and their follow-up actions supported.

The participation numbers established in the milestones are not a guarantee, but an informed estimate of participation and engagement. They will also become goals, because to reach the performance target, sufficient participation and engagement throughout the project is needed.

Milestone help the project leader by serving as a useful planning tool and implementation guide for the project's activities as they help the project leader outline sequentially how the beneficiaries will interact with the project's planned research and education activities. Milestones also provide reviewers with a comprehensive outline of the project from the farmers' perspective, showing good connection between the proposed activities and beneficiary learning. Reviewers gain confidence in a proposal when they can see a clear and logical outline that shows how the project intends to accomplish its objectives.

Milestones can also serve as a guide for verifying whether the project is reaching participation and learning goals. Routine milestone verification during the project should capture contact information and relevant demographics of beneficiaries, assess participation

levels, and gauge the effectiveness of the project's efforts to help beneficiaries reach their learning and skill milestones. If the milestones are not achieved with the expected number of participants, then course corrections are needed if the performance target is to be met.

Example problem or opportunity

Cover crops offer many potential benefits in vegetable production systems including reducing erosion, adding organic matter that improves soil structure and water holding capacity, weed suppression, recycling or capture of excess nutrients, and supplying symbiotically fixed N to subsequent crops, in the case of legume cover crops (2, 4). Despite these well-known potential benefits, the wide range of cover crop species available, and significant investments by Cooperative Extension, NRCS, SARE, and others to promote adoption, the use of cover crops by vegetable farmers in New York and Pennsylvania, who produce vegetables on more than 150,000 acres of farmland, remains limited (4, 7, 8).

A 2009 survey (5) of 400 vegetable farmers in NY revealed the problem of limited cover crop adoption has many facets. The survey reported a complex mixture of high awareness about cover crop benefits, high value placed on some potential benefits, lack of knowledge about appropriate cover crops and cover cropping strategies, and underuse of cover crops by farmers. Only 24 of the 240 respondents reported using cover crops routinely on their farms and only 48 farmers indicated that they felt confident or very confident to determine appropriate cover crop choices for their farms. One hundred and sixty-eight of the respondents were aware of the benefits from cover crops, but they did not believe cover crops were feasible for their operations, given their complex cropping patterns and rotations; however, when asked to rate the value they would place on various cover crop benefits for their farms—benefits such as weed suppression, erosion control, addition of organic matter, addition of nitrogen by legumes—192 of the 240 farmers rated the ability of legume crops to provide fixed nitrogen for crop use as a high- or very high-value benefit. Adding organic matter was similarly high, with 184 respondents rating that benefit highly, and 168 rated weed suppression as a valuable benefit. One hundred and sixty-eight farmers indicated an interest in learning more about how to select a cover crop and integrate cover crops into their vegetable production system.

The numbers in parentheses point to a specific item in the citation list.

Example solution and benefits

This project will engage NY and PA vegetable farmers in an education program about cover crops and cover-cropping innovations that will teach the multiple functions of cover crops valuable to farmers and will complete on-farm research trials investigating new and traditional

legume cover crops along with cover-cropping innovations. The education and research components will address the top management constraints to cover crop usage such as timing of seeding, establishment, mowing, killing, and rotations.

New legume cover crops have been chosen as the focus of the project's research component because there are several that are new to growers in the region, including mammoth clover, Canada field pea, and cow peas that have shown promise in filling specific niches or timeframes in vegetable crop rotations (4, 6). The green manure aspect of leguminous cover crops is also potentially of great value to vegetable farmers, especially organic producers, because commercial organic sources of N are costly and application of manure-based composts in the amounts necessary to supply adequate N for optimum crop yields can result in excessive amounts of P accumulating in the soil, often in as short a time span as one or two compost applications (12). Leguminous cover crops can provide up to 120 lbs N/acre to the crops that follow them, depending on stand quality and whether the legume is incorporated into the soil or surface-killed (4, 6). This green manure benefit can provide N fertilizer cost savings of \$60/acre at \$0.50 per lb N to farmers.

In addition to the study of legume cover crop species, the research and education program will include other cover cropping innovations such as the use of legume and non-legume cover crop mixtures, no-herbicide and no-till cover crop termination, cover crop interseeding, precision planting, and crop rotations that increase cover crop opportunities.

Example beneficiaries and their interest in project

Description of beneficiaries

The primary beneficiaries will be 50 commercial vegetable farmers in NY and PA who operate farms from five to 500 acres, as the benefits of cover cropping apply to farms of all scales, and most of the technology employed will be scale-neutral. The 400 NY farmers surveyed previously will be recruited as participants. Additional potential participants include more than 2,000 vegetable farmers in NY and PA that we will reach with advertisements through Extension meetings, newsletters and email networks, and in NY and PA vegetable production publications.

Beneficiaries' interest

Interest in cover crop education among the region's vegetable farmers is high, as evidenced by a 2009 survey of 400 NY vegetable farmers, which included farms of all sizes. One hundred eighty-eight (or 75 percent) of the 240 farmers who responded expressed an interest in participating in a program to learn more about cover crops and how to integrate cover crops into their vegetable production systems.

Example educational approach

Recruitment

We will send invitations to the 400 farmers who participated in our survey noted in the beneficiary section, and deliver advertisements to 2,000 or more vegetable farmers in NY and PA through extension meetings, newsletters, and e-mail networks, and via NY and PA vegetable production publications. Recruitment materials will include an invitation to complete a brief online survey about current cover cropping practices, knowledge levels and learning needs, and an opportunity to sign up as a demonstration trial host.

Instructional methods

This project combines comprehensive education about cover crops and on-farm demonstration trials to explore cover crop innovations. After gauging the current knowledge and practices of the vegetable farmers, a series of short workshops will bring all participants to a common level of understanding about the project goals and cover crops. Farmers will be invited to establish on-farm trials to test new and traditional cover crops and management strategies on their farms. The on-farm trials will complement the research trials conducted at the university research farm and provide additional opportunities for hands-on education. Field days at both university and collaborating farmers' trials will allow participants to learn results of experiments firsthand, and see multiple cover crops and management practices in various cropping scenarios. This combined educational and on-farm demonstration approach will increase farmers' knowledge about new and traditional cover crops, and build the skills and confidence needed to select appropriate crops and manage them for maximum benefit and optimum crop yield. All farmer beneficiaries will be recruited and encouraged to submit cover crop plans for their farms.

Curriculum topics

Topics for the educational program include:

- *Cover crop species and benefits from planting them such as weed suppression, nitrogen scavenging, nitrogen fixation, organic matter increase, erosion control.*
- *Cover crop management considerations such as time of planting, seeding method and equipment, growth rate and habit, competitiveness, winter survivability, timing and effective techniques for termination.*
- *The project's legume cover crop trials to study growth characteristics and competitiveness, N supplying capabilities, new seeding and termination equipment and techniques.*

Beneficiary support

The project team will support farmers conducting trials by providing technical assistance for treatment layout, species selection, crop rotations, establishment, fertilization, and termination.

The project team will also assist with data collection and yield measurements. All cooperating farmers will receive project team support and recordkeeping templates for tracking their cover cropping decisions and actions. A project blog will be established to share data and video from project trials and provide a discussion forum for farmers.

Example verification plan

Project data collection methods

Beneficiary contact lists will be maintained and updated throughout the project. Beneficiaries will be informed of project goals and the performance target at the beginning and throughout the project. The processes to verify the project's usefulness to them in terms of their learning and new actions will be explained at workshops and field days. Questionnaires will be used at all learning events to assess participant learning and skill development and identify areas where more education and support are desired. Final project verification will be conducted using online and mailed surveys with follow-up e-mails and phone calls to ensure completion. The surveys will be sent to all beneficiaries in the last 3 months of the project to verify their actions regarding cover crop planting and effects on crop yield and nitrogen usage; the results from beneficiaries who implemented cover crop plans on their farms will be collected.

Verification supports for beneficiaries

Beneficiaries will receive a cover crop plan template that will help them map out their cover cropping planting and management schedule. The form will include a checklist and form for recording farmer decisions, actions, observations about cover crop and market crop growth, and crop yield. Offers of support for drafting cover crop plans will be made at 1 and 3 month intervals after final field days via email, conference calls and blog. Requests for updates about follow-up actions and observations will be made at monthly intervals after cover crop plan submission via email and blog discussion forum. Information from the on-farm recording forms will be requested via the final project survey questions, and copies of the record form will also be requested.

Draft questions to verify the performance target (upload as an attachment; no word limit)

Consider these possible verification questions for the cover crops project performance target: *Ninety vegetable farmers adopt new legume cover crops and/or improved cover crop management practices on a total of 900 acres, reducing their historical N application rate in subsequent vegetable crops by an average of 75 lb/acre/year without reducing yields.*

1. Listed below are some of the cover crop techniques recommended through this project. Please circle the best answer for each recommendation.

Cover crop species and management recommendation:

Please circle the best answer for each recommendation:

Plant species A

No plans to do I plan to do this within 6 months I was doing this *before* the project I started this *since* the project on _____ acres of _____ crops)

Plant species mix B, etc.

No plans to do I plan to do this within 6 months I was doing this *before* the project I started this *since* the project on _____ acres of _____ crops)

Interseeded legume cover crop(s)

No plans to do I plan to do this within 6 months I was doing this *before* the project I started this *since* the project on _____ acres of _____ crop(s)

Adjust a crop rotation to increase opportunity for legume cover crop(s)

No plans to do I plan to do this within 6 months I was doing this *before* the project I started this *since* the project on _____ acres of _____ crop(s)

2. For fields in which you used a legume cover crop or improved cover management technique within the last year, please provide information requested below. List each field separately.*

Field size (ac)	Cover crop / technique used	Marketable crop grown following cover crop	How did the N application rate change compared to N rate for same crop with no cover crop (actual or historic)	How did marketable crop yield/acre change compared to yield for same crop with no cover crop (actual or historic)
			Increased by _____ lb Decreased by _____ lb <input type="checkbox"/> No change	Increased by _____ lb Decreased by _____ lb <input type="checkbox"/> No change
			Increased by _____ lb Decreased by _____ lb <input type="checkbox"/> No change	Increased by _____ lb Decreased by _____ lb <input type="checkbox"/> No change

1. Did you observe differences in the extent of insect damage or disease between crops grown with or after cover crops vs. those with no cover crops?*

Yes

No

2. If yes, please describe.*

3. Do you have any thoughts or comments about the benefits and challenges for the use of cover crops that you experienced on your farm?

4. Do you have any thoughts or comments about this project that you wish to share?

***Notes:** The information requested in questions 1-4 could also be included in the recordkeeping template provided to farmers, allowing them to gather management and production data and observations in real time. In this case, verification would involve collecting the farmer-recorded information during interim check-in contacts and again when the project activities are over.

It's useful to include some open-ended questions like numbers 5 and 6—even though they can be difficult to analyze, as they often contain important and even surprising information. If the final evaluation will be conducted by telephone, it is sound methodology to use an interview protocol to ask specific, fixed questions *and* also give each participant a chance to speak freely about the project. Unexpected outcomes can be interesting and often very gratifying, and the best way to learn of them is to listen actively to unstructured responses. It may sometimes be advisable to have a third party conduct these interviews to avoid bias as much as possible.

Example key individuals

Project leader

Arthur Blake is a vegetable specialist and extension educator at PA University with 11 years of experience in sustainable production techniques, including cover crops. He has also led interdisciplinary teams that work directly with farmers on applied research on production and pest management concerns. He will lead the project and do recruitment, follow-up, training, and assessment.

Key individuals

Mary Duke is an extension soil fertility specialist at NY University and has 15 years of experience researching cover crops and their implications for soil fertility on research and production farms. She will serve as the NY project co-leader and will assist with recruitment in NY and coordinate research activities in the state.

Greg Hunt is a PA agricultural extension educator and has been involved for the past 13 years in a range of educational efforts related to vegetable production systems. He will serve as the education coordinator of the project, preparing workshop and field day materials and facilitating events in PA with the project leader. Greg will also assist with surveying and follow-up contacts with farmers.

The technical coordinator, to be hired in NY, will assist with the establishment and management of trials in NY, perform data analysis for all the university and on-farm research trials, and help organize educational events in NY. The coordinator will have experience analyzing and presenting data from field trials and will create fact sheets and posters based on the project results.

Appendix B

NORTHEAST SARE RESEARCH & EDUCATION PROGRAM Grantee Reporting and SARE Post Project Evaluation

Logic Model Category	Performance Indicators <i>(When you report, you will receive prompts for these indicators.)</i>	Who Collects/When Reported	
		Grantee Collects/ Reports by End of Project	SARE Collects/ Post Project
Participants	Number of farmers participating in research	✓	
	Number of farmers participating in education/outreach activities	✓	
	Number of agricultural service providers participating in education/outreach activities <i>(optional)</i>		
Outputs: – Activities – Information – Products	Research activities conducted	✓	
	Research results of the project	✓	
	Number and type of education/outreach activities conducted	✓	
	Number journal articles in press or published <i>(if produced)</i>	✓	✓
	Number and type of other, non-refereed outreach publications/products <i>(if produced)</i>	✓	✓
Learning Outcomes	Number of farmers that report changes in KASA <i>(knowledge, attitudes, skills, awareness)</i> as a result of participating in project	✓	
Action Outcomes	Number of farmers who use information learned to adopt a practice, approach, technology <i>(including what is adopted)</i>	✓	✓
	Number of acres, animals, or other production units affected by adoption <i>(as an indicator of scale of adoption)</i>	✓	✓
	New professional collaborations as a result of project <i>(if occurred)</i>	✓	✓
	Number of citations of project results <i>(if occurred)</i>	✓	✓
	SARE grant leveraged another grant <i>(if occurred)</i>	✓	✓
Condition Outcomes	Economic, environmental, social benefit(s) for farmers from adopting practice, approach, technology on farm	✓	✓