Research and Education Grants
Preproposal submission guide for preproposals due June 23, 2016

Research and Education Grants

This grant program funds projects that result in farmers gaining knowledge and skills 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.

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 outcome funding guide from the "for applicants" box on the right-hand side of the page.

About preproposals

Preproposals are required for the Northeast SARE Research and Education grants. Only applicants with an approved preproposal can submit a full proposal; typically about a third of preproposal applicants are invited to submit full proposals.

The preproposal is a short preliminary concept document that allows SARE reviewers to select the most promising projects that offer strong justifications, a clear performance target, and effective approaches. Projects must explore and improve on sustainable practices in agriculture or seek wider adoption or mainstreaming of sustainable practices. Practices to be adopted may be related to production, marketing, finances, or social/quality of life issues. There are eight sections in a preproposal, each with a word limit.

Competitive preproposals are clear, specific, and show that the applicant understands outcome funding.

Who can apply

There is no requirement that applicants have a specific affiliation, but they must have the institutional connections and support needed to carry out their project. Typically, proposals come from university and extension staff, the agricultural nonprofit sector, and people who work on research farms and experiment stations, but proposals from private consultants or agriculture related businesses will be considered.

Applicants must have the skills needed to oversee and carry out their proposed project; be credible and experienced in the science of agriculture and agricultural sustainability; understand the importance of profitability, good stewardship, and quality of life for farmers and farm communities; and demonstrate a firm grasp of current opportunities and concerns in sustainable agriculture.

Applicants whose project includes a research component should have experience doing agricultural research, preferably research in cooperation with commercial farmers.

There is a limit of two preproposals per applicant, and only one preproposal per applicant will be approved**.**

Size of awards

Research and Education awards typically range from $50,000 to $200,000, depending on duration and content; the average award has been $146,000.

Preproposal review criteria

Reviewers use the following criteria, listed by section, to evaluate preproposals:

Section 1. Performance target
The performance target describes adoption of a new practice or strategy by farmer beneficiaries and the extent of adoption; the performance target is specific, measurable, and ambitious.

Section 2. Milestones
The milestones describe a sequence of knowledge and skills acquisition by farmers and changes that they make or steps that they take that lead logically and realistically to the performance target.

Section 3. Problem description
The problem is clearly described, including the type and scale of agriculture affected, and the need to address the problem is significant and is supported by specific evidence.

Section 4. Beneficiaries
The targeted beneficiaries are farmers, and their interest is clearly described and can be supported with data, or there is a plan to assess their interest with data to be presented in the full proposal.

Section 5. Educational approach
The educational approach is clearly described, credible, realistic, and achievable; curriculum topics and the key delivery and support methods are described.

Section 6. Research description (only for projects with a research component)
If there is a research component in this project, the research is relevant to the problem, the hypothesis is clearly stated, and the methods, treatments, and design are described.

Section 7. Key individuals
The project leader and cooperators have the capacity and appropriate experience to conduct the the project.

Section 8. Funding need
The funding needed is realistic in terms of the scope and intensity of the proposed work and the proposed performance target.

Process and timeline

Preproposals are submitted and reviewed in midsummer—the submission deadline varies somewhat from year to year. For 2017 awards, the deadline for preproposals is June 23, 2016.

A review team of Northeast SARE Administrative Council members works with staff to review preproposals and identify the strongest to receive invitations to submit full proposals. For 2016, applicants will be notified in mid-August about whether or not they are invited to submit a full proposal.

The review team provides feedback about invited preproposals to point out areas of concern that should be addressed in the full proposal. The team also provides feedback on preproposals not invited with a focus on key concerns or omissions.

Instructions for submitting full proposals are posted in early August, and full proposals are typically due in mid-October.

Submitting a preproposal

Follow the step by step directions below, drafting your preproposal in a word processor. Once your preproposal is complete and you have checked that all responses meet the word count limitations, go to www.ciids.org/nesare/REpre/ to submit, copying and pasting each section.

Register in the system using your email address as your username and create a password. Log in, and then provide this information: the proposal title, your name, organization, contact information, expected project start and end dates, and total amount of funding being requested.

If you have questions about how this submission system works, contact Northeast SARE by phone (802-656-0471) or e-mail (nesare@uvm.edu)

Step by step

Performance target (50 words)

In outcome funding, the performance target is the core of the project preproposal; it is the primary item reviewers use to evaluate the merit and investment value of the project.

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The performance target has three components:

1. A specific, verifiable adoption of a practice or strategy that beneficiaries (farmers) will make by the end of the project as a result of their participation. Examples include **adoption of 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
    - a new crop or 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.

3. The measurable benefits that result from the farmers' adoption of new practices or strategies. 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 from adopting recommended pest control or nutrient management strategies.
   - The dollar value of increased sales resulting from 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 resulting from changes in farm organization or labor management.
   - Acres of farmland passed on to younger farmers resulting from the creation of farm transfer plans.

Note that the performance target cannot be dependent on research results. The research should complement the learning participants engage in as they progress to the performance target, but the level to which participants achieve the performance target should not depend on the research program.

For sample performance targets, see Appendix A.

Milestones (200 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 educational approach, or they describe intermediary steps the beneficiaries must take on the way to achieving the performance target. In a funded proposal, milestones will become the benchmarks for required progress reports, and must be verifiable.

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 do and learn.

Each milestone is written as a statement with three components:

1. A realistic number of farmer beneficiaries who participate
2. The project activities or educational experiences 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

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

For sample milestones leading to a performance target, see Appendix B.

The problem and benefits from solving it (175 words)

Describe the problem or opportunity this project addresses and the expected benefits to farmers from solving the problem or acting on the opportunity.

Include each of these items in the description:

1. Explain the problem, harm, or missed opportunity for farmers and the causes (or hypothesized causes) of the problem
2. Describe the number, type, and size of farms and the extent of agricultural production affected by the problem.
3. Briefly state the project's proposed solution and describe the expected benefits to farmers from solving the problem.

Provide numerical data to justify the statements made about the items above**.** Sources of justification data may include references in literature, the work of others, farmer surveys, extension surveys, census data, etc. Citations not required in a preproposal, but will be for a full proposal.

For sample problems and benefits, see Appendix C.

Description of project beneficiaries (125 words)

Describe the population of farmers targeted for participation in this project and how you will know by the time of a full proposal submission if these farmers will be interested in your project.

These should be farmers who experience the problem and can benefit from the proposed solution.

If you have formal or informal survey data about farmers' concerns or willingness to participate in the project, provide it. If you do not have data yet, be aware that numerical data that substantiates farmers' willingness to take part in the project will be required in a full proposal.

For sample description of beneficiaries, see Appendix D.

Research description (only required for projects with an experimental or exploratory research component; 175 words)

This section is for experimental or exploratory research. It should **not** be used to describe surveys to verify how well beneficiaries are learning through the project or what actions they take after learning. Those surveys are project verification, and descriptions of those methods will be required in the full proposal. Those not including research can put "not applicable" in this section.

Research that is relevant to the described problem can be either field research or social science survey research. A description of field research must include:

1. The hypothesis for proposed research
2. The main treatments
3. Location and scope of the trials
4. Measurements to show differences among treatments

A description of survey research must include:

1. The proposed survey objective and hypothesis to be tested
2. The target population(s)
3. The survey methods to be employed

For a sample research description, see Appendix F.

Educational approach (150 words)

Provide a synopsis of the proposed educational approach to mitigate or solve the problem and encourage farmer adoption of the recommended practice or strategy. This approach must be realistic, acceptable to farmers, logical, and capable of leading to the actions and benefits described in the performance target. The education program should not be based solely on proposed new research; however, if the project proposes research, information learned though the project's research should be integrated to complement and enhance the educational activities.

The educational approach description must include:

1. List of curriculum topics
2. Methods for delivery and beneficiary support (workshops, demonstrations, etc.)
3. Known challenges to farmer adoption that will be addressed
4. Roles of collaborators to be involved (regulators, educators, farmers, consultants, buyers, etc.) that are critical to the success of the project

For sample educational approaches, see Appendix E.

Key individuals (125 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. Key individuals are essential team members that devote significant time to the project.

In some cases specific names or titles of all the key individuals are not yet known, but applicants should still provide an outline of the potential leadership team needed for a successful project. An acceptable entry might say, “a veterinarian with poultry expertise that works in the target states,” “two health department personnel with experience in water quality.”

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

Reviewers consider the capabilities and qualifications of key individuals listed as well as whether a key individual is obviously missing from the list, for example a grower organization, nonprofit, a government agency, or some other entity with a well-known record of activity in the proposed area of work.

For sample key individuals, see Appendix G.

Funding needs (75 words)

A fully detailed budget is not needed for the preproposal. Only a rough estimate of the types of expenses and amount is expected.

SARE funds can be used for **direct project costs** that include personnel, travel, materials and supplies, communications, and other direct costs.

SARE funds can be used to pay students for their work on a project, but SARE funds cannot be used to fund any sort of institutional tuition remission or curriculum fee waiver. SARE funds cannot be used for large capital expenditures--things like land, buildings, livestock, greenhouses, other major fixtures and improvements, general use items, or machinery. Expenditures for project-specific or unique equipment needed for a project will not be favorably reviewed unless the applicant clearly makes a case for the essential need and unique application. Equipment rental is preferable to a purchase.

To cover overhead, USDA/NIFA allows organizations and private businesses that have never had a federal negotiated indirect cost rate to use a de minimus rate of 10% of modified total direct costs (MTDC). MTDC means all direct salaries and wages, applicable fringe benefits, materials and supplies, services, travel, and up to the first $25,000 of each subaward. MTDC excludes amounts above $25,000 on subawards, trainee participant support costs, long term rentals, and equipment purchases.

Organizations that have a current federally negotiated indirect cost rate may use up to 10% of the total request, or if their negotiated rate is lower, they must use the lower rate.

For sample funding needs, see Appendix H.

Appendix A

Sample performance targets

Fifty-five vegetable farmers adopt legume and non-legume cover crops or improved cover crop management practices on a total of 700 acres, reducing historical N applications by 50 lbs. per acre per year without reducing yields.

Ten dairy farmers implement nutrient management plans on a total of 1,000 acres, reducing annual fertilizer applications of N by an average of 50 lbs. per acre and saving $30 per acre in fertilizer costs.

Twenty farms with a total of 100 full-time employees develop an employee training program, policy manual, and productivity incentives, reducing employee absentee days by an average of 50 per year per farm compared to the previous three years.

Twenty-five farmers with average direct-market annual sales of $150,000 per farm conduct market analyses and then develop and implement marketing plans that lead to an average increase in annual sales of $15,000 per farm.

Appendix B

Sample milestones leading to a performance target

1. A thousand vegetable farmers learn about the cover crop research and education program and receive the online survey about current practices.

2. Two hundred vegetable farmers return the survey; 180 agree to participate in the education program; 20 agree to host on-farm demonstrations.

3. One hundred and sixty of these farmers attend two three-hour workshops where they gain an understanding of the project's activities and performance target and learn about the benefits and optimal management practices of cover crops.

4. One hundred and fifty of these farmers attend a field day at the university and learn about new cover crops research and performance of existing cover crops; 20 farmers plant on-farm demonstration trials.

5. One hundred farmers submit cover crop plans for their farms to the project team for review.

6. Sixty of these 100 farmers attend on-farm demonstrations and consult with project team by phone, e-mail, blog, and with other farmers via the cover crops blog.

Performance target: Fifty-five vegetable farmers adopt legume and non-legume cover crops or improved cover crop management practices on a total of 700 acres, reducing historical N applications by 50 lbs. per acre per year without reducing yields.

Another set of sample milestones

1. Five hundred dairy farmers learn about nutrient management education opportunities offered by this project through a direct mailing.
2. Two hundred dairy farmers attend nutrient management workshops and learn about sources and economic and environmental costs of excess N and P accumulated in the soils of their farms.
3. Sixty of these farmers attend field days demonstrating nutrient planning and record-keeping techniques and learn about practical management tools they can use on their farms.
4. Twenty-five of these farmers receive individual advice from the project team members as they work on writing a nutrient management plan.
5. Fifteen farmers complete nutrient management plans that include their specific intentions for improving N fertilizer management; these plans are shared with the project team leaders.

Performance target: Ten dairy farmers implement nutrient management plans on a total of 1,000 acres, reducing annual fertilizer applications of N by an average of 50 lbs. per acre.

Appendix C

Sample problem and benefits from solving it

Three thousand New England vegetable farmers managing 40,000 acres of vegetable production could significantly reduce nitrogen fertilizer inputs and improve soil health by planting cover crops.

A 2010 survey of 400 New England vegetable farmers, with 240 responding, revealed that only 10 percent of the vegetable crop acreage in New England is routinely planted to cover crops, despite the well-known cover crop benefits of organic matter enrichment, weed suppression, nutrient recycling, and nitrogen fixation. The main reason the surveyed vegetable farmers indicated they don't plant cover crops is a lack of confidence when selecting them—only 15 percent said they were confident about making appropriate cover crop choices for their farms.

This project will increase farmer confidence and use of cover crops through further research to demonstrate the nitrogen supplying ability of cover crops in vegetable systems, education about all cover crop benefits, and selection options for vegetable crops.

Appendix D

Sample description of beneficiaries

Commercial vegetable farmers in Massachusetts, Vermont, New Hampshire, and Rhode Island represent the beneficiary audience for this project. We plan to target farmers who have extensive acreage of wholesale production, although many of these farmers also do some direct marketing; smaller direct market farmers will also be included in our outreach.

Prior to our submission of a proposal, we will survey the four hundred farmers surveyed in 2010 about cover crop use, along with 2,000 other farmers on the New England Vegetable and Fruit Conference's and extension specialists' list serves, about their interest in an intensive cover crops education and research project.

Appendix E

Sample educational approach

The education program will address cover crop benefits for soil health, weed control and nutrient supply, and management constraints to cover crop use such as time of seeding, establishment, mowing and killing, and rotations with commonly grown vegetable crops.

On-farm demonstrations will show how constraints can be overcome, and a cover crop decision tool will be provided with hands-on training in its use. Farmers hosting demonstrations will receive templates for data collection.

Winter meetings, webinars, short video clips, individual consultation, and site visits over two years will support adoption and adjustment of cover crop practices. Farmers currently planting cover crops will teach others about benefits and challenges, and the research results from trials on farms and at the university farm will be shared.

Appendix F

Sample field research description

Our hypothesis is that there are available plants not typically used as cover crops in New England that could be beneficial cover crops in vegetables. More choices of effective, versatile cover crop species should increase adoption of cover crops by vegetable farmers.

We will:
Screen two dozen crops from North America and Europe for winter hardiness, heat tolerance for summer growing, and ability to provide nitrogen to the next crop.

Compare new cover crops with traditional crops like buckwheat, winter rye, crimson clover, and hairy vetch in both small plots and large farm-scale plots.

Plant trials each year at three in cooperating farmers' fields and one university research station.

Measurements will include planting date, percent emergence, days to flower and completion, biomass yield, total N content, winter survival, and subsequent crop yield.

Appendix G

Sample key individuals

Dr. Jane Jones, the project leader, is a Delta College professor who will manage the development of all workshops and educational materials. She has 20 years of experience working farmers to improve soil health.

Mr. Ralph Rogers will manage the research trials at the university and on participating farms; he's conducted research on nutrient management at Alpha University for 15 years while also advising farmers on cover crops, fertilizer plans, and design of on-farm trials.

Three extension specialists in vegetable crops, one from each participating state, will assist with outreach and on-farm consultation.

An advisory team of six farmers, two from each state, will provide guidance and feedback for the project. Gray County Farm Bureau will pay for publication of project educational materials.

Appendix H

Sample funding needs

10 percent FTE project manager, 4 farmers at $240/day for 15 days, 50 percent FTE education coordinator, 20 percent FTE staff person: $54,600

2,248 miles to farms and field day: $1,248

Ultrasound equipment rental, including software training: $10,500

Four on-farm workshops at $600 per workshop: $2,400

Two bulk mailings, long-distance conference calls: $2,200

2000 handouts: $520

Direct costs: $71,468

Indirect costs $7,940

Total: $79,408

Revised March 2016