

FRD01 - On Farm Research and Demonstration



On Farm Research and Demonstration

On farm research and demonstration consists of the implementation of applied research projects on working farms to gather information and demonstrate the efficacy of the activity. The projects must fit within identified state priority topic areas.

Benefits

Researchers often need willing farmers to help them carry out research projects on working farms.

Participating in such projects can help farmers learn about new technologies while helping researchers determine the results of new technologies. The results of the research can help NRCS identify new and innovative techniques to address on farm conservation problems.

Criteria for On Farm Research

The research projects must be conducted by an entity that is seeking to determine the value of a conservation practice, component, treatment or process. The entity must have the means and expertise to conduct the research, analyze the findings and develop conclusions from the findings that are relevant to NRCS. This is not intended to require farmers to initiate on farm research and demonstrations but rather to encourage them to participate in new or ongoing research projects sponsored by other responsible parties such as universities or other research oriented entities. However, if farmers have the necessary capability they can initiate their own projects within the topic areas identified by their state and the criteria of this activity.

The *State Supplemental Information Sheet* provides the details of topics that are available for research and demonstration in each state.

Projects proposals must include:

- Goals of the research and demonstration
- A schedule showing completion of the project during the contract period
- A chronological list or plan of activities expected to take place during the project
- Planned end products or outcomes from the project

Documentation Requirements for On Farm Research and Demonstration

- Results or conclusions from the research and demonstration
- Documentation of the CSP participant's participation in the research project including:
 - A schedule of activities undertaken by the participant
 - Fields or other areas of the farm involved in the research



FRD01 – On Farm Research and Demonstration and FPP02 – On-Farm Pilot Project

Nebraska Criteria/Requirements for Pilots, on Farm Research and Demonstration

- Focus must be in the topic areas listed below.
- Operator must have concurrence of Plant Materials Center, University of Nebraska extension specialist or educator prior to initiated demonstration or on farm research.
- Operators are responsible for any fees and negotiating terms with University of Nebraska Extension.
- Access to the research/demonstration or pilot project site must be provided for follow-up educational program or tours.
- Adequate strips, plots or areas within fields must be established for pilots, demonstrations, or on farm research as defined by the University of Nebraska Extension or Plant Materials Center. The methodology for making a valid comparison will need to be carefully defined which will typically include use of a control (comparison of alternative practice with conventional practice), multiple replications or comparisons, and other considerations.
- An agreement or letter of concurrence must be provided prior to initiating a CSP contract for University of Nebraska Extension projects prior to establishing the pilot, demo or research project that includes the area (acres), purpose, protocol etc.
- Provide annual report according to University of Nebraska Extension, or Plant Materials Center requirements to verify that the project is established and being carried out adequately in order to certify this each fiscal year.
- For University of Nebraska Extension projects the producer will be responsible for out of pocket costs or identifying a funding partner. On-farm research programs may require the operator to pay a fee.
- The pilot/research/demonstration can not be used to promote a commercial product or process. It must focus on demonstrating the strength and weaknesses of a management practice or technology in the three areas listed below: (check those that apply)
 - Pollinators (University of Nebraska Extension)**
 - Investigate the impacts of various agricultural production systems on the life cycles of pollinators.
 - Examples: impact of various pollinating cover crops on pollinator populations and life cycles; impact of use pollinating plants used on field borders on pollinator populations and life cycles i.e. different sizes, widths, locations, species.
 - Energy (University of Nebraska Extension)**
 - Evaluate energy usage for traditional farming practices vs. conservation systems.
 - Examples: conversion to a grazing dairy vs. a confined dairy; change, conversion from conventional nitrogen application to a system that includes annual legumes to reduce nitrogen energy needs; conversion from a conventional tillage system to a no-till system.
 - Water Quality (University of Nebraska Extension)**
 - Evaluate various cover crops for nutrient uptake and recycling nutrients.
 - Examples: establish plots or strips of various types of cover crops or cover crop mixtures and determine their impact on nutrient uptake and recycling.
 - Pollinators (Plant Materials Center or specialist)**
 - Evaluation of PMC released plant materials to identify pollinator friendly species for use at the farm level as follows:



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Nebraska criteria for On-Farm Research and Demonstration, Pilots for Plant Materials:

Choose one of the following (circle or highlight choice):

1. Plant a mix of native forbs and native grasses containing no more than 25% of the mix being native grass. Forbs will be at least 75% of the mix and contain a minimum of 9 species with three species from each flowering period (early, middle, and late).
2. Plant alternating strips of native grass and native forbs. Strips will be of equal width not being greater than 300 feet wide across the entire field. Strips of native grass will contain at least 50% native grass. Strips containing forbs will consist of a minimum 9 species with three species from each flowering period (early, middle, late) equaling 100% of the mix.

Additional Criteria for Pilots, On-Farm Research and Demonstration, Pilots for Plant Materials:

1. Implementation of this enhancement requires the use of the flowering plant species noted below. Substitute species may be approved by NRCS provided they are native and adapted to site conditions. New seedings must incorporate the required nine or more flowering species with three species from each flowering period. Total seeding rates (grasses plus wildflowers) should be a minimum of 30 PLS/ft².
2. Existing habitat areas must contain the required nine or more flowering species and make up at least 75% of the land cover. It may be necessary to upgrade or enhance existing habitat areas by suppression of established plants using prescribed burning, tillage, or herbicide application followed by interseeding of the necessary flowering plant species. The minimum seeding rate of 30 PLS/ft² should be used for interseeded forbs.
3. Vegetation will not be disturbed between April 15 and October 15 unless approved by NRCS as part of a management plan intended to maintain and enhance plant diversity and vigor.
4. Refer to 550DP, Herbaceous Vegetation Design Procedures for information concerning seeding rates, species, seeding methods and maintenance. An NE-CPA-8 Grass Seeding Job sheet will be provided by NRCS that details seeding requirements.
5. Inventory of the acreage to be seeded will be completed prior to seeding to determine a benchmark for wildlife and pollinator populations. After seeding, an inventory of wildlife and pollinators will be completed annually to document changes in benchmark condition. Inventories will be completed for a minimum of 5 years following seeding.



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Native Forbs

Early

Blanketflower
Canada milkvetch
Illinois bundleflower
Leadplant
Purple coneflower
Purple prairieclover
Roundhead lespedeza
Scarlet globemallow
Western yarrow
White prairieclover

Middle

Blackeyed Susan*
Blanketflower
Canada goldenrod
Canada milkvetch
Dotted gayfeather
False sunflower
False boneset
Illinois bundleflower
Leadplant
Missouri goldenrod
Plains coreopsis*
Prairie sunflower
Purple coneflower
Purple prairieclover
Roundhead lespedeza
Scarlet globemallow
Showy partridgepea
Stiff goldenrod
Stiff sunflower
Upright coneflower
Western yarrow
White aster
White prairieclover
Wild bergamot *

Late

Canada goldenrod
Dotted gayfeather
False sunflower
False boneset
Maximilian sunflower*
Missouri goldenrod
Prairie sunflower
Showy partridgepea
Stiff goldenrod
Stiff sunflower
Upright coneflower
White aster

* = only appear in one season (no native forbs appear in all three seasons)

Documentation Requirements for pilot, research and demo project (prior to initiating CSP contract)

1. Copy of project proposal as agreed to with University of Nebraska Extension or PMC
2. Agreement or documentation of concurrence with University of Nebraska Extension or PMC
3. A map showing fields where the enhancement will be applied
4. A completed Grass Seeding Job Sheet NE-CPA-8 seed tags and bills (Pollinator Establishment for PMC projects only).



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TABLE OF PLANNED AND APPLIED ACTIVITY –FRD01, FPP02

Tract	Field(s)	Acres Planned	Indicate Whether Project is Pilot, Research, or Demonstration	Indicate Whether Focus Area is Pollinator (UNL), Energy, Water Quality, or Pollinators (PMC)	Specific Topic Area	Acres Applied (completed by operator)
<i>1</i>	<i>1</i>	<i>20</i>	<i>Research</i>	<i>Water Quality</i>	<i>Cover Crop Nutrient Uptake/Tie Up</i>	

I certify that the following information meets specifications and has been provided to NRCS:

1. Complete the table above and provide a map with delineation of the area where the enhancement was applied including partial fields.
2. Photographs of a representative number of fields showing demonstration or research.
3. Annual report based on University of Nebraska Extension Service or PMC that documents accomplishments (required each year before certified).

Certified by: _____ **Date:** _____