

FRD01 – On Farm Research and Demonstration



Enhancement Description

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.

The farmer will need to conduct one of the following types of research: 1) randomized and replicated experiment, paired comparison, or multiple activity comparison on the farm where data is collected and assessed to determine

which activities might best enhance conservation or resource condition on their farming operation and others in their region, or 2) intense record keeping and analysis where data is collected on implementation, efficacy, and/or outcomes of one or more conservation practices or enhancements over a period of time and used for better decision-making concerning the farmer’s activities addressing conservation concerns on working lands.

Land Use Applicability

Cropland, Pastureland, Rangeland and/or Forest land, each approved project will have a land use designated.

Benefits

On-farm research, documentation, and evaluation of alternative conservation techniques can help farmers and NRCS personnel develop more effective approaches to protecting resources and improving resource condition. Dissemination of findings through on farm field days, written summaries, and other means promotes adoption of the most effective current and new conservation practices and enhancements.

Farmers often need willing researchers to help them design research and demonstration projects they initiate. It is also true that researchers often need willing farmers to help them carryout out research projects on working farms. Regardless of who takes the lead in initiating the project, 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.

Conditions Where Enhancement Applies

This enhancement applies to all crop, pasture, range or forest land use acres.



Criteria

On-Farm Research and Demonstration projects consists of implementing applied research on working land to gather information and demonstrate the effectiveness of new and innovative conservation activities. The research projects must be conducted by an individual or entity that seeks to determine the value of a conservation practice, component, treatment, or process. The individual or 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. Projects are preapproved by the NRCS State Conservationist in each state.

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 to conduct scientific research, they can initiate their own projects within the topic areas identified by their state and the criteria of this activity.

The farmer may chose to work independently, or to collaborate with other farmers, a non-governmental organization, extension, university, NRCS, and/or other entities to help with trial design and protocol, and the conduct of the study or data collection. The farmer is not required to work with an outside group. However, if working independently, the participant must be able to demonstrate the ability to manage and lead an applied research project.

When field trials or other research on a particular practice, enhancement, or conservation topic are conducted on multiple farms, each farm is eligible for this enhancement. However, enrollment in the CSP is not a requirement for all farms participating in a multiform research project under this enhancement.

Participants will need to follow criteria as outlined for each project that 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
- Acreage needed
- Years research is to be conducted
- Farm inputs, equipment needs, etc.
- Expected assistance with data collection

Adoption Requirements

This enhancement is considered adopted when the pre-approved applied research project has been implemented and monitored according protocols developed specifically for the project and events to publicize the project have been held.

Documentation Requirements

- Research plan, including objectives, resource concerns addressed, experimental design, and data to be gathered.



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2013 Ranking Period 1

- Results or conclusions from the research and demonstration
- Plan for disseminating project outcomes
- The farmer is committed to sharing research plans, data summary, and project outcomes in writing with NRCS and with other farmers and the general public through written summaries, on-farm events, or oral presentations.
- Farmers are encouraged but not required to work with their NRCS and/or extension agents to have at least one field day/open house where the experimental practices can be reviewed and discussed with the public.
- 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



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IDAHO ADDENDUM 2013
FRD01 – *On Farm Research and Demonstrations*

Additional guidance for on-farm research and demonstration:

Pick **ONE** of the following on-farm research and demonstration projects for FY2013 in Idaho. Descriptions of each project are provided below.

- 1) **EVALUATION OF POLLINATOR SPECIES (This cannot be used with PLT15).**
- 2) **ONEPLAN IPM PLANNER AND PESTICIDE RECORDING-KEEPING DEMONSTRATION PROJECT**

Potential Duplicate Practices:

327 – Conservation Cover, 386 – Field Border, 612 – Tree and Shrub Establishment, 512 – Forage and Biomass Planting, 550 – Range Planting, 380 – Windbreak and Shelterbelt Establishment

EVALUATION OF POLLINATOR SPECIES

The following research scenarios (conventional or organic) can be used to evaluate pollinator species. The research must be conducted in cooperation with the NRCS Plant Materials Center.

Research Scenario - 1

	Treatment 1	Treatment 2	Treatment 3
YEAR 1			
Spring	Cultivate early to maximize germination of weed seed. After 2 nd cultivation, apply non-selective topical herbicide to chemical fallow after vegetation has grown 4 to 6 inches. Check with your state or plant materials contact for site preparation.	Cultivate early to maximize germination of weed seed. After 2 nd cultivation, apply non-selective topical herbicide to chemical fallow after vegetation has grown 4 to 6 inches. Check with your state or plant materials contact for site preparation.	Cultivate early to maximize germination of weed seed. After 2 nd cultivation, apply non-selective topical herbicide to chemical fallow after vegetation has grown 4 to 6 inches. Check with your state or plant materials contact for site preparation.
Summer	Spray with non-selective herbicide as needed to control weeds.	Spray with non-selective herbicide as needed to control weeds.	Spray with non-selective herbicide as needed to control weeds.
Fall	1. Plant mix of wildflowers and native grasses (grasses	Plant alternating strips of native bunch grasses and wildflowers	Plant native grasses (grasses <25% of total mix) and

	<25% of total mix). 2. Plant “islands” of selected pollinator plants (containerized plants not seed).	species strips(<3 species with matching flowering times)	wildflowers.
YEAR 2			
Spring	Mow planting avoiding “islands”. Remove weeds from “islands” by hand hoeing, cultivating or using selective herbicides if necessary. Evaluate Planting.	Mow native grass planting and treat broadleaf weeds with selective herbicide if necessary. Treat wildflowers strips with mowing or selective herbicide if necessary. Evaluate Planting.	Evaluate and mow as needed. Apply appropriate herbicide if necessary and feasible.
Summer	Mow planting avoiding “islands”. Remove weeds from “islands” by hand hoeing, cultivating or using selective herbicides. Evaluate Planting.	Mow native grass planting and treat broadleaf weeds with selective herbicide if necessary. Treat wildflowers strips with mowing or selective herbicide if necessary. Evaluate Planting.	Evaluate and mow as needed. Apply appropriate herbicide if necessary and feasible.
Fall	Mow planting avoiding “islands”. Remove weeds from “islands” by hand hoeing, cultivating or using selective herbicides. Evaluate Planting.	Mow native grass planting and treat broadleaf weeds with selective herbicide if necessary. Treat wildflowers strips with mowing or selective herbicide if necessary. Evaluate Planting.	Evaluate and mow as needed. Apply appropriate herbicide if necessary and feasible.
YEAR 3	Mow planting avoiding “islands”. Remove weeds from “islands” by hand hoeing, cultivating or using selective herbicides. Evaluate Planting.	Mow native grass planting and treat broadleaf weeds with selective herbicide if necessary. Treat wildflowers strips with mowing or selective herbicide if necessary. Evaluate Planting.	Evaluate and mow as needed. Apply appropriate herbicide if necessary and feasible.
YEAR 4	Evaluate. Mow and apply herbicide if necessary. Evaluate Planting	Mow native grass planting and treat broadleaf weeds with selective herbicide if necessary. Treat wildflowers strips with mowing or selective herbicide if necessary. Evaluate Planting.	Evaluate and mow as needed. Apply appropriate herbicide if necessary and feasible.

Research Scenario - 2 (Organic Option)

	Treatment 1	Treatment 2	Treatment 3
YEAR 1			
Spring	Cultivate early with 1 st flush of vegetation. Cultivate regularly to prevent weeds from setting seed (every 1 to 2 weeks). Check with your state or plant materials contact for recommendations on site	Cultivate early with 1 st flush of vegetation. Cultivate regularly to prevent weeds from setting seed (every 1 to 2 weeks). Check with your state or plant materials contact for recommendations on site	Cultivate early with 1 st flush of vegetation. Cultivate regularly to prevent weeds from setting seed (every 1 to 2 weeks). Check with your state or plant materials contact for recommendations on site preparation.

	preparation.	preparation.	
Summer	Cultivate regularly to prevent weeds from setting seed (every 1 to 2 weeks).	Cultivate regularly to prevent weeds from setting seed (every 1 to 2 weeks).	Cultivate regularly to prevent weeds from setting seed (every 1 to 2 weeks).
Fall	Plant mix of wildflowers and native grasses (<25% of total mix). 2. Plant “islands” of selected pollinator plants (containerized plants not seed).	Plant alternating strips of native bunch grasses and wildflowers species strips(≥3 species with matching flowering times)	Plant native grasses (<25% of total mix) and wildflowers.

YEAR 2			
Spring	Mow planting avoiding “islands”. Remove weeds from “islands” by hand hoeing or cultivating. Evaluate Planting.	Mow native grass planting and mechanically remove broadleaf weeds in native grasses. Evaluate Planting.	Evaluate and mow as needed.
Summer	Mow planting avoiding “islands”. Remove weeds from “islands” by hand hoeing or cultivating. Evaluate Planting.	Mow native grass planting and mechanically remove broadleaf weeds in native grasses. Evaluate Planting.	Evaluate and mow as needed.
Fall	Mow planting avoiding “islands”. Remove weeds from “islands” by hand hoeing or cultivating. Evaluate Planting.	Mow native grass planting and mechanically remove broadleaf weeds in native grasses. Evaluate Planting.	Evaluate and mow as needed.
YEAR 3	Mow planting avoiding “islands”. Remove weeds from “islands” by hand hoeing or cultivating. Evaluate Planting.	Mow native grass planting and mechanically remove broadleaf weeds in native grasses. Evaluate Planting..	Evaluate and mow as needed.
YEAR 4	Mow planting avoiding “islands”. Remove weeds from “islands” by hand hoeing or cultivating. Evaluate Planting.	Mow native grass planting and mechanically remove broadleaf weeds in native grasses. Evaluate Planting...	Evaluate and mow as needed..

For additional information and guidance on this demonstration, contact:

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ONEPLAN IPM PLANNER AND PESTICIDE RECORDING-KEEPING DEMONSTRATION PROJECT

The goal of this project is to demonstrate the use of a valuable online tool for landowners to use for pesticide record keeping (PAR) and for Integrated Pest Management (IPM) planning. The project provides an opportunity for landowners to work with the University of Idaho to refine the tool and address any concerns. The PAR and the IPM planner can be utilized by producers to provide an overall pest management plan that will address producer needs as well as reducing the impact to water quality and other resources. The PAR allows producers to maintain critical and accurate site specific pesticide applications on their own computers. The PAR also provides pesticide safety and worker protection information, along with important field data that allows landowners to judiciously select proper pesticides, when needed. The PAR is a completed stand-alone program that is ready to be introduced to producers statewide.

The IPM planner is in development stage but will be sufficiently completed to demonstrate in Year 2 of FY2012 contracts. The IPM planner will provide an array of crop specific pest management options, by crop stage. The benefit of using the IPM planner is to provide the best combination of pest management options to the producer and explain how to accomplish the recommendations, in order to protect water quality and other natural resources.

In addition to presentations at winter grower meetings and commodity workshops, there may also be one-on-one producer and farm advisor meetings to help introduce the PAR and IPM Planner tools. These tools can be utilized by additional states, once the programming framework is in place.

Participant Expectations:

The project is restricted to growers from the Treasure Valley, Magic Valley, and eastern Idaho. Landowners involved in this project will grow, or have knowledge of, at least one of the following crops: potato, onion, small grains, or sugarbeets. Participants are asked to keep pesticide application records on their own computers through the use of the online PAR tool. University of Idaho Extension will survey users to determine usage, acceptance, feasibility, etc. Each participant will be asked to complete some type of questionnaire. Additionally, each grower will need to supply the time and computer hardware to utilize the IPM planning tool for appropriate crops, and to meet one-on-one with Extension staff to discuss use of the planning tool. Each participant will be asked to complete a separate questionnaire for the IPM planner. Participants need to commit to a minimum of two years for data collection. The demonstration project should not be scheduled until YEAR 2 of FY2012 contracts.

The user data collected from the project will be evaluated in order to determine resource impacts from the use this innovative pest management delivery system. The user data will also be extremely helpful in fine-tuning and modifying aspects of the tool to provide the best possible product to maximize grower adoption.

For additional information on this project, contact

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