

Northwest Florida Water Management District Agricultural Cost-Share Grant Program Definitions



The following nutrient and irrigation management Best Management Practices (BMPs) are eligible for cost-share. Only purchases of new equipment or services will be eligible for cost-share reimbursement.

Alternative Water Supply: A water supply for livestock that is away from surface waters. This will help prevent streambank erosion, prevent animal waste from entering surface waters, and protect riparian vegetation. Alternative water supply will also be considered if cross fencing and prescribed grazing are implemented since these practices could cut off cattle from their current water source.

Automatic Shut-Off Devices: Flow meters or timer operated shut-off devices cease irrigation when appropriate amounts of water have been applied through the irrigation system.

Banding or Side Dressing Fertilization Equipment: This includes the purchase of a banding machine with fertilizer coulters and injection nozzles to apply fertilizers and other soil amendments beneath the ground surface directly to the area of the plant roots. To be eligible for this measure, a producer must have field equipment with appropriate guidance capabilities. Bulk storage and transfer equipment is included.

Conservation Tillage Equipment: Conservation tillage is any tillage practice that builds up crop residues on the soil surface to minimize the impact of water and wind erosion. This includes no-tilling, in-row subsoiling, strip-tilling, and ridge-tilling.

Cover Crops: Cover crops are grasses, legumes, forbs, grains, and other species planted for vegetative cover during non-productive or fallow periods. Primary functions of cover crops are to reduce erosion from wind and water, reduce water quality degradation by scavenging remaining soil nutrients, improve soil moisture use efficiency, increase soil health and organic matter, and minimizing soil compaction. Cover Crops should be maintained in a manner that maximizes the benefits mentioned above. Early termination of cover crops will invalidate reimbursement requests.

Applications will be accepted each year beginning on June 1 and ending August 31. Contracts will be executed September through November and certification for payment will begin in December and

end in March of the following year. Single species cover crops will be funded at \$55 per acre for a single species cover crop and \$65 per acre for a multi-species cover crop.

Cover Crop Tools: Cover crop tools are advanced no-till techniques that involve managing a high-biomass cover crop and/or to produce a thick, uniform mat. A cash crop is then no-tilled into the cover crop mat. Specific implements, attachments, and equipment will be evaluated on a case-by-case basis.

Cross and Exclusion Fencing: Cross fences are 38T fences installed inside a perimeter fence to divide a grazing area into two or more separate paddocks. Exclusion fences are fences that exclude cattle from sensitive features such as sink holes, wetlands, streams, creeks, etc.

Diesel to Electric Conversion: Eligible components include electrical line construction, connection, electric powerplants, and removal of diesel powerplants. Electric systems allow for more automation and remote management of irrigation system components.

Electrical Conductivity Mapping: Electrical conductivity (EC) mapping will measure the characteristics of soils correlated to crop productivity. Soil measurements will include particle size distribution, organic matter, nutrient levels, compaction, drainage, water holding capacity, and salinity. Soil data will be used to manage water and nutrients within management zones of each field. Applications will be accepted each year beginning on June 1 and ending August 31 for work to be done during the fallow period.

Endgun Control: Endgun control is to upgrade control systems to turn the endgun on or off based on the location of the center pivot in the field. Producers can conserve water that would have previously been sprayed outside the field or in other areas where irrigation is not needed.

Fertigation: Fertigation allows fertilizer or other water-soluble products to be applied through the center pivot system. The application is appropriate through a center pivot with a DU of 80 percent or greater (evaluation must not be older than three years) or a system less than three years old. A fertigation system includes a chemical tank, concrete pad or impervious containment surface, injector pump, safety valves, backflow prevention, trailer (for portable units), and associated plumbing.

Guidance Systems: Global Positioning System (GPS) technology is the cornerstone of other advanced systems. There are many different units available and several tiers of systems ranging from basic lightbars to sub-inch accurate Real-Time Kinematic (RTK) systems. A basic lightbar will eliminate overlap, and more elaborate systems are capable of automatic steering and equipment guidance. Guidance systems for combines and other harvesting machinery is useful for refining management zones used for precision agriculture practices and variable rate application of water and nutrients.

Irrigation Automation and Remote Control: Remote controlling of equipment assists with managing irrigation events. The District anticipates that the equipment will lead to fewer irrigation events and enable producers to better manage frequency and duration of irrigation

events. To be eligible for this cost-share, the system must be less than two years old OR the most recent MIL evaluation (made within the past three years) must show that the system DU is 80% or greater OR the panel replacement must be part of an overall retrofit designed to bring the system DU to at least 80%.

Irrigation Retrofits: Irrigation system retrofits can be considered for cost-share funding when the results of an irrigation audit by the Mobile Irrigation Lab (MIL) show that the system's distribution uniformity (DU) is 85% or less. Irrigation system retrofits include seals, valves, pressure reducers or regulators and nozzles so that when the retrofit improvements are completed, the DU will be (1) greater than 85% with an improvement of at least 10%; or (2) at least 90%. Systems for which the MIL recommends replacement instead of retrofit will not be considered eligible for retrofit. Full system replacement is not funded under this program.

The producer may, free of charge, use the Northwest Florida Mobile Irrigation Lab (NWFMIL), for the required irrigation system evaluations. The District will only reimburse for equipment the MIL recommends and that is considered newer technology, not for equipment considered part of repair or maintenance such as joints or pipe. Eligible equipment may include more efficient nozzle packages, such as Senninger IWOBS or Nelson Rotators, pressure regulators, drop down hoses, and other associated water savings features.

If the producer chooses to use a MIL other than the NWFMIL, the producer will be responsible for any cost incurred for the evaluations. Cost for MIL services will not be reimbursed under this cost-share program. Any MIL vendor must follow the latest version of the Mobile Irrigation Lab Handbook (developed by the Florida Department of Agriculture and Consumer Services (FDACS) & NRCS).

Deliverables are uniformity score (weighted distribution and Christiansen's), recommendations to improve irrigation uniformity, and a laminated sprinkler chart.

Livestock Management Equipment: Any equipment that facilitates herd management that leads to reductions of denuded areas, reductions in high use areas, moving high intensity areas away from sensitive features, and promoting more efficient livestock waste distribution.

Multi-Sensor Soil Moisture Probes: To be eligible for funding, soil moisture probes must 1) have capability to record soil moisture content within 3 (three) levels (mid root zone, bottom of root zone, and below root zone), 2) have data storage and data transmission capability to transmit data to internet and/or smart phone technology enabling producer to make daily decisions for irrigation management, 3) have the capability to monitor movement of chlorides associated with fertilizer applications, and 4) be installed and maintained by a vendor for the term of the cost-share agreement. The producer must agree to select a vendor who is able to interpret data and provide recommendations for irrigation and fertilizer application events.

New Irrigation Control Panels: New irrigation control panels are to upgrade existing controller

panels that are not capable of interfacing with GPS devices, controlling application depth, and allowing for remote operation of the pivot system. To be eligible for this cost-share, the system must be less than two years old OR the most recent MIL evaluation (made within the past three years) must show that the system DU is 80% or greater OR the panel replacement must be part of an overall retrofit designed to bring the system DU to at least at least 80%.

Other: Additional projects, practices, or equipment that demonstrate an increased efficiency in water or nutrient use may be eligible for funding under this program.

Pasture Management Equipment: Any equipment that facilitates pasture management that leads to promoting more efficient nutrient management and water resource protection.

Precision Nutrient Application Equipment: Precision nutrient application is the practice of applying nutrients in a specific manner with specialized application equipment or multiple application events based on the site-specific recommendations for each GPS-referenced sampling point to minimize entry of nutrients to surface and groundwater and improve water quality. Equipment that fulfills this definition may be eligible for cost-share.

Precision Soil Sampling: Precision Soil Sampling involves the use of Global Positioning Systems, Geographic Information Systems, and traditional soil sampling techniques to identify field variability and manage inputs such as nutrients and liming materials. This can be accomplished through either grid or management zone sampling techniques. Applications will be accepted each year beginning on June 1 and ending August 31 for work to be done during the fallow period.

Pump Upgrades: Pump upgrades are the replacement of the bowl assembly and other necessary conversions to convert high-pressure pumps to operate at a lower pressure (less than 50 psi) and increase efficiency. The District will not cost-share on any high pressure system (more than 50 psi).

Sensor Technology: Remote-sensing techniques, such as Red-Blue-Green (RGB) and Near Infra-Red (NIR) spectral analysis, as well as portable soil water content Time Domain Reflectometer (TDR) probes, chlorophyll content meters, and plant sap nitrate and potassium meters can provide useful information to guide nutrient and irrigation decisions.

Sod Based Rotation: The University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) sod-based rotation (SBR) development program has been ongoing since 1999 at the IFAS field stations and has 17 years of monitoring data and research results that support its efficacy. The SBR is a four- year crop rotation program where a perennial grass is grown for the first two years (with or without cattle grazing), then a peanut or other legume crop is planted in the third year through the grass that has been killed via herbicide treatment (grass is not plowed under), and a crop with higher nitrogen requirements, such as corn or cotton, is planted in the fourth year. Eligible for cost-share is grass establishment, perimeter and cross fencing, and any equipment needed to facilitate the SBR cropping system.

Variable Rate Irrigation: Variable rate irrigation utilizes Global Positioning Systems and Geographic

Information Systems technology to prescribe a specific amount of water for certain areas of the field. Irrigation rates are applied at differing rates to non-production areas, different soil types, different crops, and overlapping pivots. Electrical conductivity mapping and/or precision soil sampling may be additionally required components for the project to be approved.

Variable Frequency Drives: Funding for a Variable Frequency Drive (VFD) will only be provided for electric systems or associated with a diesel to electric conversion project. Primary benefits of VFD's are to convert single-phase input power to three-phase output power to run pumps. Other benefits of VFD's include delivery of consistent pressure to systems, pipe break detection, multiple system connection and automation, and energy savings.

Variable Rate and Section Control Technology: These tools work in tandem and require other technology components, most notably GPS guidance systems, to allow producers the ability to adjust the application rate of inputs based on factors such as terrain, defined boundaries, and in-field variability. Variable rate and section controls for both spreaders and sprayers are eligible for cost-share. To be eligible for this measure, a producer must have field equipment (tractor) with GPS guidance capabilities and mapped management zones based on precision soil sampling, yield mapping or other field specific information. This is intended to reduce nitrogen applied to crops.

Weather Stations: Weather stations must have the ability to measure dry bulb temperature, wet bulb temperature, evapotranspiration, daily rain totals and provide interconnectivity to irrigation systems for management.