

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATION
IRRIGATION WATER MANAGEMENT
CODE 449

SCOPE

This practice shall consist of improving the application efficiency of irrigation water to the field(s) as shown on the conservation plan(s) or drawing(s).

IRRIGATOR SKILLS AND CAPABILITIES

The irrigator or decision maker shall possess the knowledge and capability to achieve the management objectives of this practice. Proper irrigation scheduling in both timing and amount, control of runoff, and uniform application of water across the field are primary concerns.

SYSTEM PERFORMANCE

Irrigation systems must be capable of applying water in a uniform manner and provide the irrigator with adequate control over water application. The uniformity shall be that which is economically achievable for a given irrigation method and area.

IMPLEMENTATION

The implementation of this practice should be by incremental application of recommended changes in the management system. The cooperators may not acquire all of the needed skills from a few technical assistance visits. Management changes in the system generally require a long-term relationship during which new methods can be demonstrated.

Follow-up visits should be made to provide further assistance and to verify the implementation of management improvements. The goal is to have an acceptable irrigation management system in place and an irrigator that applies efficient water management skills on a routine basis. Progress shall be reported to PRS following submission of irrigation records at the end of the first irrigation season.

RECORDKEEPING

The irrigator or decision-maker shall maintain records of irrigation that shall consist, at a minimum, of the dates of irrigation, volume or flow rate of water applied, duration of the irrigation, and basis for determining when irrigation was needed. Other records should be kept by the irrigator if they are deemed necessary or will be of assistance to the irrigator.

BASIS OF ACCEPTANCE

The practice shall be considered acceptable based on the following criteria:

A. General Criteria applicable to all Low-Intensity Irrigation Water Management (IWM)

1. Complete the IWM Toolbox (CO449_JS_1), or other appropriate AWC/MAD worksheet
2. Complete the Colorado Modified Farm Irrigation Rating Index (FIRI) (IWM Job Sheet CO449_JS_2)
3. Complete a [Colorado Nutrient Management 590 Job Sheet](#) if nutrients will be applied to the field
4. Review irrigation records and document copies in the case file
5. Perform onsite inspection and determine principles of the practice have been adhered to

B. General Criteria applicable to all High-Intensity Irrigation Water Management

1. Complete the IWM Toolbox (CO449_JS_1) or other appropriate AWC/MAD worksheet
2. Complete the Colorado Modified Farm Irrigation Rating Index (FIRI) (IWM Job Sheet CO449_JS_2)
3. Complete a [Colorado Nutrient Management 590 Job Sheet](#) if nutrients will be applied to the field
4. Review records documenting evapotranspiration-based scheduling and document copies in the case file
5. Review records documenting soil moisture and management allowable depletion (MAD) and document in the case file
6. Review irrigation records with the producer and document copies in the case file
7. Complete the graphing portion of the IWM Toolbox
8. Perform onsite inspection to ensure the principles of IWM have been adhered to

C. Additional Criteria for Mountain Meadow Irrigation Systems

1. Mountain meadow systems are defined as uncontrolled flood irrigation systems having a water bearing gravel or cobble substratum that is hydrologically connected to a stream channel.
2. IWM is not required and shall not be applied to any mountain meadow irrigation system.
3. Irrigation system improvements, with the exception of a Structure for Water Control (Code 587), that result in a controlled flood, sprinkler, or micro-irrigation system being applied on a mountain meadow field, removes the IWM exemption for the mountain meadow irrigation system.

D. Additional Criteria for the Ogallala Aquifer Initiative (OAI) Limited Root Zone Pilot and Drought Resilience Improvement Project (DRIP)

1. High-Intensity Irrigation Water Management shall be applied including the use of continuous in-situ soil moisture monitoring
2. The managed depth in the soil profile shall not exceed eighteen (18) inches in depth
3. All tillage operations shall comply with the Residue and Tillage Management, No-Till/Strip Till/Direct Seed (Code 329) Standard
4. Irrigation Systems shall comply with the Irrigation System, Microirrigation (Code 441) or Irrigation System, Sprinkler (Code 442) standards. Irrigation systems shall be designed to operate or be capable of being upgraded to operate under full automation, including water delivery, using data from installed soil moisture monitors.

OPERATION AND MAINTENANCE

The owner/user should participate in the development of the items listed in the Operation and Maintenance plan prepared and provided for guidance in managing the operations for this practice.