

Irrigation Water Management

Georgia

Conservation Practice Job Sheet – 449 (9/09)

Land User _____

County _____ Date _____

Farm # _____ Tract # _____

Assisted By _____

Irrigation Water Management



- Improve air quality by managing soil moisture to reduce particulate matter movement.

Conservation Management System

Rarely does one conservation practice provide the treatment needed for all of our natural resources. Irrigation water management is a component of conservation management systems.

A conservation management system is a combination of conservation practices and management that achieves a level of treatment for our soil, water, air, plant, and animal resources while also meeting the objectives of the land user.

In addition to irrigation water management, practices such as cover crop, crop rotation, residue management, nutrient management, pest management, and some structures may also be needed.

General Specifications

The volume of water applied in each irrigation frequency will be based on the available water holding capacity of the soil for the crop rooting depth and the irrigation efficiency.

The irrigation frequency will be based on the volume of irrigation water needed and/or available, crop needs, rate of evapotranspiration, and effective precipitation.

Irrigation water will not be applied in excess of the needs to meet the intended purpose.

Definition

Irrigation water management is the process of determining and controlling the volume, frequency, and application rate of irrigation water in a planned and efficient manner.

Purposes

This practice is applied as part of a conservation management system on irrigated land to support one or more of the following:

- Manage soil moisture to promote desired crop responses
- Optimize the use of available water supplies
- Minimize irrigation induced soil erosion
- Decrease non-point source pollution of surface and groundwater resources
- Manage salts in the crop root zone
- Manage air, soil, or plant microclimate
- Proper and safe chemigation or fertigation

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Water will not be applied in a manner that will result in increased soil erosion.

On soils that are susceptible to irrigation induced erosion, the irrigation system will be operated so that the application rate is less than the basic infiltration rate as given in the Georgia Irrigation Guide.

Water application shall be at rates that minimize transport of sediment, nutrients, and pesticides to water sources.

The timing and rate of irrigation water applications containing nutrients and pesticides will be based on a Nutrient Management Plan and/or a Pest Management Plan.

A back-flow prevention device must be installed to prevent contamination of the water source if nutrients and/or pesticides are to be applied with irrigation water.

Nutrients and pesticides will not be applied with irrigation systems when rainfall is imminent.

All work will comply with Federal, State, and Local Laws.

Additional Guidelines

- Consider the quality of water and the potential impact to crop quality and plant development.

- Modify plant populations, crop and variety selection, and irrigated acres to match available or anticipated water supplies.
- Consider the potential for spray drift and odors when applying wastewater and pesticides.
- Crop residue management practices (no till and strip till) can increase the soil carbon content, improve soil physical properties, and increase water infiltration rates.
- Avoid traffic on wet soils to minimize soil compaction.
- An irrigation system evaluation should be performed to determine if the system meets the minimum uniformity guidelines. Where irrigation systems do not meet the minimum guidelines, they should be modified to meet or exceed the minimum specified uniformity.
- Manage irrigation water to prevent drift from coming into contact with surrounding electrical lines, supplies, devices, controls, or components that would cause shorts and create an electrical safety hazard to humans or other animals.



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Irrigation Specifications

Soil Water Content Determined by: Water Balance Method Electrical Resistance Meters
 Tensiometers Computer Models
 Feel and Appearance Easy Pan Method

Field #	Crop	Soil Series and Texture	Intake Rate (in/hr)	Irrigation Method	Irrigation Efficiency %	Application Rate (in/hr)

For More Information: Contact your local NRCS Office and Soil & Water Conservation District.

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