

# Effects of NRCS Conservation Practices - National

## Irrigation System, Microirrigation

An irrigation system for frequent application of small quantities of water on or below the soil surface: as drops, tiny streams or miniature spray through emitters or applicators placed along a water delivery line.

Code: 441  
Units: ac.

AL: Approved  
O: Other  
D: Discontinued  
R: Re-evaluated  
P: Prohibited  
P: Partially  
E: Evaluated  
C: C-DEP

Typical Landuse: 0 1 2 3 4 5 6 7 8 9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

<u>Soil Erosion</u>	<u>Effect</u>	<u>Rationale</u>
Soil Erosion - Sheet and Rill Erosion	0	Not Applicable
Soil Erosion - Wind Erosion	0	Not Applicable
Soil Erosion - Ephemeral Gully Erosion	0	Not Applicable
Soil Erosion - Classic Gully Erosion	0	Not Applicable
Soil Erosion - Streambank, Shoreline, Water Conveyance	0	Not Applicable
<u>Soil Quality Degradation</u>		
Organic Matter Depletion	0	Not Applicable
Compaction	0	The action limits the wetted area in the soil profile as compared to other irrigation methods. The compaction during field operations should be limited.
Subsidence	0	Not Applicable
Concentration of Salts or Other Chemicals	1	Improved irrigation allows the limited leaching of salt below the root zone.
<u>Excess Water</u>		
Excess Water - Seeps	2	Small irrigation applications and improved uniformity reduces seepage.
Excess Water - Runoff, Flooding, or Ponding	2	More uniform applications reduces ponding and excessive tailwater runoff.
Excess Water - Seasonal High Water Table	2	A more uniform and efficient irrigation prevents losses to deep percolation.
Excess Water - Drifted Snow	0	Not Applicable
<u>Insufficient Water</u>		
Insufficient Water - Inefficient Use of Irrigation Water	2	Water is applied more efficiently and uniformly.
Insufficient Water - Inefficient Moisture Management	0	Not Applicable
<u>Water Quality Degradation</u>		
Pesticides in Surface Water	2	Efficient and uniform irrigation reduces runoff and erosion.
Pesticides in Groundwater	2	Efficient and uniform irrigation reduces deep percolation.
Nutrients in Surface water	2	Efficient and uniform irrigation reduces the potential for transport of dissolved nutrient to surface water.
Nutrients in Groundwater	2	The action improves water use efficiency resulting in decreased deep percolation.
Salts in Surface Water	0	The action reduces the potential for runoff from the field but concentrates salts around the wetted perimeter.
Salts in Groundwater	2	Efficient and uniform irrigation reduces soluble contaminant transport to ground water. Magnitude of effect depends on previous irrigation method.
Excess Pathogens and Chemicals from Manure, Bio-sol	2	Efficient and uniform irrigation reduces transport to surface water
Excess Pathogens and Chemicals from Manure, Bio-sol	1	Uniform water application reduces the potential for deep percolation.
Excessive Sediment in Surface Water	1	Installation of irrigation system limits or eliminates surface erosion and resulting sedimentation.
Elevated Water Temperature	0	Conservation irrigation systems minimize effects to surface water quality.
Petroleum, Heavy Metals and Other Pollutants Transport	1	Efficient and uniform irrigation reduces transport to surface water.
Petroleum, Heavy Metals and Other Pollutants Transport	1	Uniform water application reduces the potential for deep percolation.
<u>Air Quality Impacts</u>		
Emissions of Particulate Matter (PM) and PM Precursors	1	Increased production from irrigation lowers the soil wind erodibility group by one class.
Emissions of Ozone Precursors	0	Not Applicable
Emissions of Greenhouse Gases (GHGs)	1	Increased vegetative growth from irrigation can improve carbon sequestration in a reduced tillage system.
Objectionable Odors	0	Not Applicable
<u>Degraded Plant Condition</u>		
Undesirable Plant Productivity and Health	2	Increased water availability and managed application enhances plant growth, health and vigor.
Inadequate Structure and Composition	0	Not Applicable
Excessive Plant Pest Pressure	1	Improved irrigation efficiency improves crop health and vigor which decreases weed competition.
Wildfire Hazard, Excessive Biomass Accumulation	0	Not Applicable
<u>Fish and Wildlife - Inadequate Habitat</u>		
Inadequate Habitat - Food	0	Not Applicable
Inadequate Habitat - Cover/ Shelter	0	Not Applicable
Inadequate Habitat - Water	0	Water is temporarily provided during the irrigation season.
Inadequate Habitat - Habitat Continuity (Space)	0	Not Applicable
<u>Livestock Production Limitation</u>		
Inadequate Feed and Forage	4	Production will be improved with uniform and consistent application of water.
Inadequate Shelter	0	Not Applicable
Inadequate Water	0	Not Applicable
<u>Inefficient Energy Use</u>		
Equipment and Facilities	2	Requires less water and lower pressure pumping. Substantially reduces water needs because being applied directly to plant roots.
Farming/Ranching Practices and Field Operations	2	Improvement of Distribution Uniformity can result in reduced energy use for pumping.

**CPPE Practice Effects:**

- 5 Substantial Improvement
- 4 Moderate to Substantial Improvement
- 3 Moderate Improvement
- 2 Slight to Moderate Improvement
- 1 Slight Improvement

**0 No Effect**

- 1 Slight Worsening
- 2 Slight to Moderate Worsening
- 3 Moderate Worsening
- 4 Moderate to Substantial Worsening
- 5 Substantial Worsening