

Effects of NRCS Conservation Practices - National

Nutrient Management

Managing the amount (rate), source, placement (method of application), and timing of plant nutrients and soil amendments.

Code: 590

Units: ac.

AL-Aso Land
 O-Other
 W-Water
 D-Developed
 FS-Farmstead
 Pr-Protected
 P-Pasture
 R-Range
 F-Forest
 C-Crop

Typical Landuse: C F R P Pr FS D O AL

<u>Soil Erosion</u>	<u>Effect</u>	<u>Rationale</u>
Soil Erosion - Sheet and Rill Erosion	0	Soil disturbance to incorporate fertilizer loosens the soil and buries surface residue which can increase erosion. Other application methods do not contribute to erosion.
Soil Erosion - Wind Erosion	0	Soil disturbance to incorporate fertilizer loosens the soil and buries surface residue which can increase erosion. Other application methods do not contribute to erosion.
Soil Erosion - Ephemeral Gully Erosion	0	Soil disturbance to incorporate fertilizer loosens the soil and buries surface residue which can increase erosion. Other application methods do not contribute to erosion.
Soil Erosion - Classic Gully Erosion	0	Not Applicable
Soil Erosion - Streambank, Shoreline, Water Conveyance C	0	Not Applicable
<u>Soil Quality Degradation</u>		
Organic Matter Depletion	2	Management of pH and applying sufficient nutrients will maintain or enhance biomass production
Compaction	-2	Field operations on moist soils cause soil compaction.
Subsidence	0	Not Applicable
Concentration of Salts or Other Chemicals	2	Matching plant requirements with nutrient applications decreases excess nutrient conditions and reduces salts and other contaminants
<u>Excess Water</u>		
Excess Water - Seeps	0	Not Applicable
Excess Water - Runoff, Flooding, or Ponding	0	Not Applicable
Excess Water - Seasonal High Water Table	0	Not Applicable
Excess Water - Drifted Snow	0	Not Applicable
<u>Insufficient Water</u>		
Insufficient Water - Inefficient Use of Irrigation Water	0	Excess nitrogen promotes shoot growth in relation to root growth.
Insufficient Water - Inefficient Moisture Management	0	Excess nitrogen promotes shoot growth in relation to root growth.
<u>Water Quality Degradation</u>		
Pesticides in Surface Water	0	Not Applicable
Pesticides in Groundwater	0	Not Applicable
Nutrients in Surface water	5	Right: Amount, source, placement, and timing (4R) provides nutrients when plants need them most.
Nutrients in Groundwater	5	The amount and timing of nutrient application are balanced with plant needs.
Salts in Surface Water	1	Proper nutrient application should reduce salinity if nutrient source contains salts.
Salts in Groundwater	1	Proper nutrient application should reduce salinity if nutrient source contains salts.
Excess Pathogens and Chemicals from Manure, Bio-solic	1	Decrease application of pathogens if nutrient source contains pathogens.
Excess Pathogens and Chemicals from Manure, Bio-solic	1	The action limits the amount of manure that can be applied thus preventing harmful levels of pathogens.

Excessive Sediment in Surface Water	0	Proper nutrient application will minimize losses due to runoff.
Elevated Water Temperature	0	Not Applicable
Petroleum, Heavy Metals and Other Pollutants Transport	2	Changing pH will alter the solubility of metals. The action will reduce the application rate of heavy metals if required.
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<u>Air Quality Impacts</u>		
Emissions of Particulate Matter (PM) and PM Precursors	3	The proper application of nitrogen can greatly reduce ammonia emissions. Proper application techniques can also reduce particulate emissions from solid manure and fertilizers.
Emissions of Ozone Precursors	2	The proper application of nitrogen can reduce NOx emissions. Proper application techniques can also reduce VOC emissions from manure.
Emissions of Greenhouse Gases (GHGs)	4	Management of nutrients optimizes the storage of soil carbon. The proper application of nitrogen can reduce emissions of nitrous oxide.
Objectionable Odors	4	The proper application of nitrogen can reduce ammonia emissions. Proper application techniques can also reduce emissions of VOCs and other odorous compounds from manure.
<u>Degraded Plant Condition</u>		
Undesirable Plant Productivity and Health	2	Nutrients and soil amendments are optimized to enhance health and vigor of desired species.
Inadequate Structure and Composition	2	Nutrients and soil amendments are optimized to enhance suited and desired species.
Excessive Plant Pest Pressure	0	Not Applicable
Wildfire Hazard, Excessive Biomass Accumulation	0	Not Applicable
<u>Fish and Wildlife - Inadequate Habitat</u>		
Inadequate Habitat - Food	1	Management enhances production of any food species planted.
Inadequate Habitat - Cover/Shelter	1	Management enhances cover/shelter conditions.
Inadequate Habitat - Water	0	Not Applicable
Inadequate Habitat - Habitat Continuity (Space)	0	Not Applicable
<u>Livestock Production Limitation</u>		
Inadequate Feed and Forage	4	Nutrients are managed to ensure optimal production and nutritive value of the forage used by livestock.
Inadequate Shelter	0	Not Applicable
Inadequate Water	2	Management improves livestock water quality.
<u>Inefficient Energy Use</u>		
Equipment and Facilities	0	Not Applicable
Farming/Ranching Practices and Field Operations	0	Not Applicable

<u>CPPE Practice Effects:</u>	<i>0 No Effect</i>
<i>5 Substantial Improvement</i>	<i>-1 Slight Worsening</i>
<i>4 Moderate to Substantial Improvement</i>	<i>-2 Slight to Moderate Worsening</i>
<i>3 Moderate Improvement</i>	<i>-3 Moderate Worsening</i>
<i>2 Slight to Moderate Improvement</i>	<i>-4 Moderate to Substantial Worsening</i>
<i>1 Slight Improvement</i>	<i>-5 Substantial Worsening</i>