

Effects of NRCS Conservation Practices - National

Residue and Tillage Management, No Till/Strip Till/Direct Seed

Managing the amount, orientation and distribution of crop and other plant residue on the soil surface year round, limiting soil-disturbing activities to those necessary to place nutrients, condition residue and plant crops.

Code: 329

Units: ac.

Typical Landuse:

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

<u>Soil Erosion</u>	<u>Effect</u>	<u>Rationale</u>
Soil Erosion - Sheet and Rill Erosion	4	Managing residue to reduce soil disturbance and increase residue cover reduces erosion by water.
Soil Erosion - Wind Erosion	4	Managing residue to reduce soil disturbance and increase residue cover reduces erosion by wind.
Soil Erosion - Ephemeral Gully Erosion	4	Managing residue to reduce soil disturbance and increase residue cover reduces erosion by water.
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	Decreased erosion and less oxidation from lack of soil disturbance will increase or maintain organic matter.
Compaction	2	Fewer field operations and less tillage reduce the potential for soil compaction.
Subsidence	0	Not Applicable
Concentration of Salts or Other Chemicals	1	Low disturbance and high residue cropping systems increase organic matter which will buffer salts.
<u>Excess Water</u>		
Excess Water - Seeps	-1	No-till increases infiltration resulting in more water moving through the profile.
Excess Water - Runoff, Flooding, or Ponding	2	No-till increases infiltration, reducing runoff and ponding.
Excess Water - Seasonal High Water Table	-1	Can reduce evaporation and increase infiltration of water
Excess Water - Drifted Snow	0	Not Applicable
<u>Insufficient Water</u>		
Insufficient Water - Inefficient Use of Irrigation Water	2	No-till increases infiltration and decreases evaporation resulting in more available water. However, increased infiltration reduces the efficiency of flood and furrow irrigation.
Insufficient Water - Inefficient Moisture Management	2	No-till increases infiltration and decreases evaporation resulting in more available water.
<u>Water Quality Degradation</u>		
Pesticides in Surface Water	4	The action decreases runoff and erosion.
Pesticides in Groundwater	0	Not Applicable
Nutrients in Surface water	2	Less erosion and runoff reduces transport of nutrients.
Nutrients in Groundwater	-1	The action increases infiltration that contributes to nutrient leaching. Also, high organic carbon will cause microbes to immobilize nutrients.
Salts in Surface Water	1	Less runoff reduces transport of soluble salts. However increased infiltration results in more seepage which can carry soluble salts to the surface.
Salts in Groundwater	-1	Better infiltration may increase leaching potential.
Excess Pathogens and Chemicals from Manure, Bio-solic	1	Less erosion and runoff reduces delivery of pathogens.
Excess Pathogens and Chemicals from Manure, Bio-solic	0	Not Applicable

Excessive Sediment in Surface Water	4	Less erosion and runoff reduces transport of sediment.														
Elevated Water Temperature	0	Not Applicable														
Petroleum, Heavy Metals and Other Pollutants Transport	0	Not Applicable														
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<u>Air Quality Impacts</u>																
Emissions of Particulate Matter (PM) and PM Precursors	4	Less soil disturbance, increased residue on the surface and fewer field operations reduce the generation of particulate matter.														
Emissions of Ozone Precursors	2	Reduced use of machinery reduces ozone precursor emissions.														
Emissions of Greenhouse Gases (GHGs)	4	Reduced use of machinery reduces CO2 emissions and increases soil carbon storage.														
Objectionable Odors	0	Not Applicable														
<u>Degraded Plant Condition</u>																
Undesirable Plant Productivity and Health	2	Conserving moisture and improving soil conditions contribute to enhanced plant productivity and health. However, on cold and wet soils there may be a delay in emergence and early growth.														
Inadequate Structure and Composition	0	Not Applicable														
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	2	Crop residue provides some food for wildlife.														
Inadequate Habitat - Cover/Shelter	2	Crop residue provides some cover/shelter.														
Inadequate Habitat - Water	4	Not Applicable														
Inadequate Habitat - Habitat Continuity (Space)	1	Residue restores some habitat/space.														
<u>Livestock Production Limitation</u>																
Inadequate Feed and Forage	0	Not Applicable														
Inadequate Shelter	0	Not Applicable														
Inadequate Water	0	Not Applicable														
<u>Inefficient Energy Use</u>																
Equipment and Facilities	4	No tillage equipment needed														
Farming/Ranching Practices and Field Operations	4	No tillage operations														
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