## **Effects of NRCS Conservation Practices - National**

## Surface Roughening

Performing tillage operations that create random roughness of the soil surface.

<u>Soil Erosion</u> Soil Erosion - Sheet and Rill Erosion	<u>Effect</u> 1	<u>Rationale</u> Soil roughness created for wind erosion also temporarily reduces runoff and
Soil Erosion - Wind Erosion	3	Clods and ridges from tillage temporarily reduce wind erosion
Soil Erosion - Ephemeral Gully Erosion	0	Not Applicable
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	0	Not Applicable
Compaction	0	Not Applicable
Subsidence	0	Not Applicable
Concentration of Salts or Other Chemicals	0	Not Applicable
<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
Insufficient Water Insufficient Water - Inefficient Use of Irrigation Water	0	Not Applicable
Insufficient Water - Inefficient Moisture Management	0	Not Applicable
<u>Water Quality Degradation</u> Pesticides in Surface Water	1	The action reduces soil erosion from wind.
Pesticides in Groundwater	0	Not Applicable
Nutrients in Surface water	0	Not Applicable
Nutrients in Groundwater	0	Not Applicable
Salts in Surface Water	0	Not Applicable
Salts in Groundwater	0	Not Applicable
Excess Pathogens and Chemicals from Manure, Bio-solic	0	Not Applicable
Excess Pathogens and Chemicals from Manure, Bio-solic	-1	Roughened surface may cause some modest infiltration increases, moving so

Code: 609 Units: ac.	AL-Aso Land O-Other D-Developed FS-Farmstead Pr-Protected P-Pasture R-Range F-Forest C-Crop
Typical Landuse:	с

nd erosion from water

soluble contaminates and pathogens below the root zone.

Excessive Sediment in Surface Water 1 Formation of clods will reduce wind erosion.   Elevated Water Tomperature 0 Net Applicable   Petroleum, Heavy Metals and Other Pollutants Transport 0 Net Applicable   Arr Cotality Innaccis 2 Increasing the random roughness of the soil surface reduces the potential for   Emissions of Particulate Matter (PM) and PM Precursors 2 Increasing the random roughness of the soil surface reduces the potential for   Emissions of Ozone Precursors 0 Not Applicable   Emissions of Groenhouse Gases (GHGs) 1 Some carbon may be lost due to soil disturbance.   Objectionable Coors 0 Not Applicable   Excessive Plant Productivity and Health 0 Not Applicable   Inadequate Blant Continuity 0 Not Applicable   Inadequate Mather - Food 0 Not Applicable   Inadequate Blant - Cover/Shelter 0 Not Applicable   Inadequate Blant - Cover/Shelter 0 Not Applicable   Inadequate Blantia - Food 0 Not Applicable   Inadequate Blantia - Food Not Applicable Inadequate Blantia - Food   Inadequate Blantia - Food Not Applicable Inadequate Blantia - F				
Petroleum, Heavy Metals and Other Pollutants Transport 0 Not Applicable   Petroleum, Heavy Metals and Other Pollutants Transport 0 Not Applicable   Emissions of Priticulate Matter (PM) and PM Precursors 2 Increasing the random roughness of the soil surface reduces the potential for   Emissions of Ozone Procursors 0 Not Applicable   Emissions of Greenhouse Gases (GHGs) 1 Some carbon may be lost due to soil disturbance.   Objectionable Odors 0 Not Applicable   Degraded Plant Condition 0 Not Applicable   Inadequate Matter froductivity and Health 0 Not Applicable   Inadequate Matter Toductivity and Health 0 Not Applicable   Inadequate Matter Toductivity and Health 0 Not Applicable   Inadequate Multific - Inadequate Habitat 0 Not Applicable   Inadequate Habitat - Cover/Shelter 0 Not Applicable   Inadequate Habitat - Gover/Shelter 0 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable<	Excessive Sediment in Surface Water	1	Formation of clods will reduce wind erosion.	
Perroleum, Heavy Metals and Other Pollutants Transport 0 Not Applicable   Aff Guality Impacts 1 Increasing the random roughness of the soil surface roduces the polential for   Emissions of Ozone Precursors 0 Not Applicable   Emissions of Greenhouse Gases (GHGs) -1 Some carbon may be lost due to soil disturbance.   Objectionable Odors 0 Not Applicable   Descraded Plant Condition 0 Not Applicable   Inadequate Burn Productivity and Health 0 Not Applicable   Inadequate Matter Condition 0 Not Applicable   Inadequate Mabitat - Food 0 Not Applicable   Inadequate Habitat - Food 0 Not Applicable   Inadequate Habitat - Gover/Shelter 0 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable	Elevated Water Temperature	0	Not Applicable	
A Cludity Impacts 2 Increasing the random roughness of the soil surface reduces the potential for femissions of Ozone Precursors 0 Not Applicable   Emissions of Ozone Precursors 0 Not Applicable   Emissions of Ozone Precursors 0 Not Applicable   Departed Plant Condition 0 Not Applicable   Departed Plant Condition 0 Not Applicable   Indequate Structure and Composition 0 Not Applicable   Excessive Plant Ped Pressure 0 Not Applicable   Wildfire Hazard, Excessive Blomass Accumulation 0 Not Applicable   Inadequate Habitat - Food 0 Not Applicable   Inadequate Habitat - Cover/Shelter 0 Not Applicable   Inadequate Habitat - Cover/Shelter 0 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable   Inadequate Rabitat - Habitat Continuity (Space) 0 Not Applicable   Inadequate Babitat - Habitat Continuity (Space) 0 Not Applicable   I	Petroleum, Heavy Metals and Other Pollutants Transporte	0	Not Applicable	
Emissions of Particulate Matter (PM) and PM Precursors 2 Increasing the random roughness of the soil surface reduces the potential for   Emissions of Ozone Precursors 0 Not Applicable   Emissions of Greenhouse Gases (GHGs) -11 Some carbon may be leat due to soil disturbance.   Objectionable Odors 0 Not Applicable   Degraded Plant Condition 0 Not Applicable   Undestrable Plant Productivity and Health 0 Not Applicable   Ladequate Structure and Composition 0 Not Applicable   Wildlife - Inadequate Habitat - Food 0 Not Applicable   Wildlife - Inadequate Habitat - Food 0 Not Applicable   Inadequate Habitat - Food 0 Not Applicable   Inadequate Habitat - Cover/Shelter 0 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable   Inadequate Feed and Forage - Not Applicable   Inadequate Shelter 0 Not Applicable	Petroleum, Heavy Metals and Other Pollutants Transporte	0	Not Applicable	
Emissions of Particulate Matter (PM) and PM Precursors 2 Increasing the random roughness of the soil surface reduces the potential for   Emissions of Ozone Precursors 0 Not Applicable   Emissions of Greenhouse Gases (GHGs) -11 Some carbon may be leat due to soil disturbance.   Objectionable Odors 0 Not Applicable   Degraded Plant Confusion 0 Not Applicable   Undestrable Plant Productivity and Health 0 Not Applicable   Excessive Plant Productivity and Health 0 Not Applicable   Krider Hazard, Excessive Biomass Accumulation 0 Not Applicable   Wildlife - Inadequate Habitat - Food 0 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable   Inadequate Feed and Forage 0 Not Applicable   Inadequate Feed and Forage 0 Not Applicable   Inadequate Shotter 0 Not Applicable   Inadequate Feed and Forage 0 Not Applicable				
Emissions of Greenhouse Gases (GHGs) 1 Some carbon may be lost due to soil disturbance.   Objectionable Odors 0 Not Applicable   Periaded Plant Condition 0 Not Applicable   Undesirable Plant Productivity and Health 0 Not Applicable   Excessive Plant Pest Pressure 0 Not Applicable   Wildfife Hazard, Excessive Blomass Accumulation 0 Not Applicable   Wildfife Hazard, Excessive Blomass Accumulation 0 Not Applicable   Inadequate Habitat - Food 0 Not Applicable   Inadequate Habitat - Cover/Shetter 0 Not Applicable   Inadequate Habitat - Cover/Shetter 0 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable   Inadequate Kabitar - Habitat Continuity (Space) 0 Not Applicable   Inadequate Babitar - Habitat Continuity (Space) 0 Not Applicable   Inadequate Kabitar - Habitat Continuity (Space) 0 Not Applicable   Inadequate Babitar - Habitat Continuity (Space) 0 Not Applicable   Inadequate Kabitar - Habitat Continuity (Space) <td></td> <td>2</td> <td>Increasing the random roughness of the soil s</td> <td>surface reduces the potential fo</td>		2	Increasing the random roughness of the soil s	surface reduces the potential fo
Objectionable Odors 0 Not Applicable   Degraded Plant Condition Undesirable Plant Productivity and Health 0 Not Applicable   Inadequate Structure and Composition 0 Not Applicable   Excessive Plant Pest Pressure 0 Not Applicable   Wildfife Hazard, Excessive Biomass Accumulation 0 Not Applicable   Fish and Wildfife - inadequate Habitat Inadequate Habitat - Food 0 Not Applicable   Inadequate Habitat - Food 0 Not Applicable   Inadequate Habitat - Continuity (Space) 0 Not Applicable   Inadequate Habitat - Abitat Continuity (Space) 0 Not Applicable   Inadequate Babitat - Habitat Continuity (Space) 0 Not Applicable   Inadequate Babitar - Habitat Continuity (Space) 0 Not Applicable   Inadequate Babitar - Habitat Continuity (Space) 0 Not Applicable   Inadequate Babitar - Habitat Continuity (Space) 0 Not Applicable   Inadequate Babitar - Habitat Continuity (Space) 0 Not Applicable   Inadequate Babitar - Habitat Continuity (Space) 0 Not Applicable   Inadequate Babitar - Habitat Continuity (Space) 0 Not Applicable   Ina	Emissions of Ozone Precursors	0	Not Applicable	
Decarded Plant Condition 0 Not Applicable   Inadequate Structure and Composition 0 Not Applicable   Excessive Plant Pest Pressure 0 Not Applicable   Wildfire Hazard, Excessive Biomass Accumulation 0 Not Applicable   Wildfire Hazard, Excessive Biomass Accumulation 0 Not Applicable   Fish and Wildfire Inadequate Habitat 0 Not Applicable   Inadequate Habitat - Food 0 Not Applicable   Inadequate Habitat - Cover/Shelter 0 Not Applicable   Inadequate Habitat - Water 1 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Water 3 High Energy Requirement to Roughen the Surface   Farming/Ranching Practic	Emissions of Greenhouse Gases (GHGs)	-1	Some carbon may be lost due to soil disturbance.	
Undesirable Plant Productivity and Health 0 Not Applicable   Inadequate Structure and Composition 0 Not Applicable   Excessive Plant Pest Pressure 0 Not Applicable   Wildfire Hazard, Excessive Biomass Accumulation 0 Not Applicable   Fish and Wildfife - Inadequate Habitat 0 Not Applicable   Inadequate Habitat - Food 0 Not Applicable   Inadequate Habitat - Cover/Shelter 0 Not Applicable   Inadequate Habitat - Water 1 Not Applicable   Inadequate Habitat - Mater 1 Not Applicable   Inadequate Babitat - Habitat Continuity (Space) 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Mater 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Geed and Forage 3 High Energy Requirement to Roughen the Surface   Equipment an	Objectionable Odors	0	Not Applicable	
Undesirable Plant Productivity and Health 0 Not Applicable   Inadequate Structure and Composition 0 Not Applicable   Excessive Plant Pest Pressure 0 Not Applicable   Wildfire Hazard, Excessive Biomass Accumulation 0 Not Applicable   Fish and Wildfife - Inadequate Habitat 0 Not Applicable   Inadequate Habitat - Food 0 Not Applicable   Inadequate Habitat - Cover/Shelter 0 Not Applicable   Inadequate Habitat - Water 1 Not Applicable   Inadequate Habitat - Mater 1 Not Applicable   Inadequate Babitat - Habitat Continuity (Space) 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Mater 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Geed and Forage 3 High Energy Requirement to Roughen the Surface   Equipment an				
Inadequate Structure and Composition 0 Not Applicable   Excessive Plant Pest Pressure 0 Not Applicable   Wildfire Hazard, Excessive Biomass Accumulation 0 Not Applicable   Wildfire Hazard, Excessive Biomass Accumulation 0 Not Applicable   Inadequate Habitat - Food 0 Not Applicable   Inadequate Habitat - Cover/Shelter 0 Not Applicable   Inadequate Habitat - Cover/Shelter 0 Not Applicable   Inadequate Habitat - Cover/Shelter 0 Not Applicable   Inadequate Habitat - Gover/Shelter 0 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Mater 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate George and Field Operations -3 High Energy Requirement to Roughen the Surface		0		
Excessive Plant Pest Pressure 0 Not Applicable   Wildfire Hazard, Excessive Biomass Accumulation 0 Not Applicable   Fish and Wildfife - Inadequate Habitat 0 Not Applicable   Inadequate Habitat - Food 0 Not Applicable   Inadequate Habitat - Cover/Shelter 0 Not Applicable   Inadequate Habitat - Water 1 Not Applicable   Inadequate Habitat - Mater 1 Not Applicable   Inadequate Habitat - Cover/Shelter 0 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable   Inadequate Feed and Forage 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Graphical Effects: -3 High Energy Requirement to Roughen the Surface   Farming/Ranching Practices and Field Operations -3 High Energy Requirement to Roughen the Surface   Substaniial Improvement 3 -3	Undesirable Plant Productivity and Health	0	Not Applicable	
Wildfire Hazard, Excessive Biomass Accumulation 0 Not Applicable   Fish and Wildlife - Inadequate Habitat Food 0 Not Applicable   Inadequate Habitat - Food 0 Not Applicable   Inadequate Habitat - Cover/Shelter 0 Not Applicable   Inadequate Habitat - Water 1 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable   Inadequate Feed and Forage 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Generations -3 High Energy Requirement to Roughen the Surface   Farming/Ranching Practices and Field Operations -3 High Energy Requirement to Roughen the Surface   Substantial Improvement 3 Moderate ingrovement 3 Moderate	Inadequate Structure and Composition	0	Not Applicable	
Fish and Wildlife - Inadequate Habitat 0 Not Applicable   Inadequate Habitat - Cover/Shelter 0 Not Applicable   Inadequate Habitat - Water 1 Not Applicable   Inadequate Habitat - Water 1 Not Applicable   Inadequate Habitat - Water 0 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable   Livestock Production Limitation 1 Not Applicable   Inadequate Feed and Forage 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Feed and Facilities -3 High Energy Requirement to Roughen the Surface   Farming/Ranching Practices and Field Operations -3 High Energy Requirement to Roughen the Surface   Farming/Ranching Practices and Field Operations -3 High Energy Requirement to Roughen the Surface   Substantial Improvement 3 Substantial Improvement   Substantial Improvement	Excessive Plant Pest Pressure	0	Not Applicable	
Inadequate Habitat - Food 0 Not Applicable   Inadequate Habitat - Cover/Shelter 0 Not Applicable   Inadequate Habitat - Water 1 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable   Livestock Production Limitation 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Mater 0 Not Applicable   Inadequate Mater 0 Not Applicable   Inadequate Mater 3 High Energy Requirement to Roughen the Surface   Farming/Ranching Practices and Field Operations -3 High Energy Requirement to Roughen the Surface   Substantial Improvement 3 Moderate Improvement 3 Moderate Improvement 3   Moderate Improvement 3 Substantial Improvement 3   Sight to Moderate Improvem	Wildfire Hazard, Excessive Biomass Accumulation	0	Not Applicable	
Inadequate Habitat - Food 0 Not Applicable   Inadequate Habitat - Cover/Shelter 0 Not Applicable   Inadequate Habitat - Water 1 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable   Livestock Production Limitation 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Mater 0 Not Applicable   Inadequate Mater 0 Not Applicable   Inadequate Mater 3 High Energy Requirement to Roughen the Surface   Farming/Ranching Practices and Field Operations -3 High Energy Requirement to Roughen the Surface   Substantial Improvement 3 Moderate Improvement 3 Moderate Improvement 3   Moderate Improvement 3 Substantial Improvement 3   Sight to Moderate Improvem	Fish and Wildlife - Inadequate Habitat			
Inadequate Habitat - Cover/Shelter 0 Not Applicable   Inadequate Habitat - Water 1 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable   Livestock Production Limitation 1 Not Applicable   Inadequate Feed and Forage 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Breed and Forage 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Breezy Use -3 High Energy Requirement to Roughen the Surface   Farming/Ranching Practices and Field Operations -3 High Energy Requirement to Roughen the Surface   Substantial Improvement 3 Moderate instrument 3   Moderate instrument 3 Substantial Improvement 3		0	Not Applicable	
Inadequate Habitat - Water 1 Not Applicable   Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable   Livestock Production Limitation 0 Not Applicable   Inadequate Feed and Forage 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Teneray Use -3 High Energy Requirement to Roughen the Surface   Farming/Ranching Practices and Field Operations -3 High Energy Requirement to Roughen the Surface   Substantial Improvement 3 Moderate Improvement   3 Substantial Improvement 3		•		
Inadequate Habitat - Habitat Continuity (Space) 0 Not Applicable   Livestock Production Limitation 0 Not Applicable   Inadequate Feed and Forage 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Water 0 Not Applicable   Inadequate Water 0 Not Applicable   Inefficient Energy Use Equipment and Facilities -3   Farming/Ranching Practices and Field Operations -3 High Energy Requirement to Roughen the Surface   Substantial Improvement & Moderate to Substantial Improvement & Moderate Improvement & Moderate Improvement & Substantial Improvem	Inadequate Habitat - Cover/Shelter	0	Not Applicable	
Livestock Production Limitation   Inadequate Feed and Forage 0   Not Applicable   Inadequate Shelter 0   Inadequate Water 0   Not Applicable   Inadequate Water 0   Inefficient Energy Use   Equipment and Facilities -3   High Energy Requirement to Roughen the Surface   Farming/Ranching Practices and Field Operations -3   High Energy Requirement to Roughen the Surface   Substantial Improvement   4 Moderate to Substantial Improvement   3 Moderate Improvement   2 Slight to Moderate Improvement	Inadequate Habitat - Water	1	Not Applicable	
Inadequate Feed and Forage 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Water 0 Not Applicable   Inefficient Energy Use 3 High Energy Requirement to Roughen the Surface   Farming/Ranching Practices and Field Operations -3 High Energy Requirement to Roughen the Surface <i>CPPE Practice Effects:</i> 5 Substantial Improvement   4 Moderate Improvement 3   2 Sight to Moderate Improvement 2	Inadequate Habitat - Habitat Continuity (Space)	0	Not Applicable	
Inadequate Feed and Forage 0 Not Applicable   Inadequate Shelter 0 Not Applicable   Inadequate Water 0 Not Applicable   Inefficient Energy Use 3 High Energy Requirement to Roughen the Surface   Farming/Ranching Practices and Field Operations -3 High Energy Requirement to Roughen the Surface <i>CPPE Practice Effects:</i> 5 Substantial Improvement   4 Moderate Improvement 3   2 Sight to Moderate Improvement 2	Livestock Production Limitation			
Inadequate Shelter 0 Not Applicable   Inadequate Water 0 Not Applicable   Inefficient Energy Use Equipment and Facilities -3   Farming/Ranching Practices and Field Operations -3 High Energy Requirement to Roughen the Surface   Farming/Ranching Practices and Field Operations -3 High Energy Requirement to Roughen the Surface   Substantial Improvement 4 Moderate to Substantial Improvement 2 Substantial Improvement   3 Substantial Improvement 2 Slight to Moderate Improvement		0	Not Applicable	
Inadequate Water 0 Not Applicable   Inefficient Energy Use Equipment and Facilities -3 High Energy Requirement to Roughen the Surface   Farming/Ranching Practices and Field Operations -3 High Energy Requirement to Roughen the Surface   Farming/Ranching Practices and Field Operations -3 High Energy Requirement to Roughen the Surface   Øulderate Information -3 High Energy Requirement to Roughen the Surface   Øulderate Information -3 High Energy Requirement to Roughen the Surface   Øulderate Information -3 High Energy Requirement to Roughen the Surface   Øulderate Information -3 High Energy Requirement to Roughen the Surface   Øulderate Information -3 High Energy Requirement to Roughen the Surface   Øulderate Information -3 High Energy Requirement to Roughen the Surface   Øulderate Information -3 Information   Øulderate Information -3 Information   Øulderate Information -3 Information   Øulderate Information -3 Information		-		
Inefficient Energy Use   Equipment and Facilities -3   Farming/Ranching Practices and Field Operations -3   High Energy Requirement to Roughen the Surface   CPPE Practice Effects:   5 Substantial Improvement   4 Moderate to Substantial Improvement   3 Moderate Improvement   2 Slight to Moderate Improvement	Inadequate Shelter	0	Not Applicable	
Equipment and Facilities -3 High Energy Requirement to Roughen the Surface   Farming/Ranching Practices and Field Operations -3 High Energy Requirement to Roughen the Surface   Image: Comparison of the stream of	Inadequate Water	0	Not Applicable	
Equipment and Facilities -3 High Energy Requirement to Roughen the Surface   Farming/Ranching Practices and Field Operations -3 High Energy Requirement to Roughen the Surface   Image: Comparison of the stream of	Inefficient Energy Use			
Farming/Ranching Practices and Field Operations -3 High Energy Requirement to Roughen the Surface <i>CPPE Practice Effects:</i> 5 <i>S Substantial Improvement</i> 4 <i>Moderate to Substantial Improvement</i> 3 <i>Moderate Improvement</i> 2 <i>S Slight to Moderate Improvement</i> 2		-3	High Energy Requirement to Roughen the Sur	rface
CPPE Practice Effects:   5 Substantial Improvement   4 Moderate to Substantial Improvement   3 Moderate Improvement   2 Slight to Moderate Improvement		-3		
5 Substantial Improvement 4 Moderate to Substantial Improvemen 3 Moderate Improvement 2 Slight to Moderate Improvement		-		
5 Substantial Improvement 4 Moderate to Substantial Improvemen 3 Moderate Improvement 2 Slight to Moderate Improvement				
4 Moderate to Substantial Improvemen 3 Moderate Improvement 2 Slight to Moderate Improvement				CPPE Practice Effects:
3 Moderate Improvement 2 Slight to Moderate Improvement				5 Substantial Improvement
2 Slight to Moderate Improvement				4 Moderate to Substantial Improvement
1 Slight Improvement				
				1 Slight Improvement

for wind erosion.

	0 No Effect
	-1 Slight Worsening
ent	-2 Slight to Moderate Worsening
	-3 Moderate Worsening
	-4 Moderate to Substantial Worsening
	-5 Substantial Worsening