

Effects of NRCS Conservation Practices - National

Conservation Crop Rotation

Growing crops in a planned sequence on the same field.

Code: 328

Units: ac.

Typical Landuse: C

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

| <u>Soil Erosion</u> | <u>Effect</u> | <u>Rationale</u> |
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| Soil Erosion - Sheet and Rill Erosion | 4 | Maintaining sufficient canopy and residue cover reduces soil detachment by water. |
| Soil Erosion - Wind Erosion | 4 | Maintaining sufficient canopy and residue cover reduces soil detachment by wind. |
| Soil Erosion - Ephemeral Gully Erosion | 1 | good cover reduces runoff |
| 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 | 4 | High residue crops can lead to increased root development and increased soil organic carbon. |
| Compaction | 1 | Deep rooted crops in the rotation may reduce compaction |
| Subsidence | 0 | If it affects drainage the practice can have an impact on subsidence. |
| Concentration of Salts or Other Chemicals | 2 | Salt tolerant crops with high transpiration rates can increase salt uptake and reduce salt content in the root zone. |
| <u>Excess Water</u> | | |
| Excess Water - Seeps | 1 | Improved plant uptake reduces excessive seepage. |
| Excess Water - Runoff, Flooding, or Ponding | 2 | Rotations with grass and legumes and high residue crops will reduce erosion and runoff. |
| Excess Water - Seasonal High Water Table | 1 | Rotations with grass and legumes and high residue crops will reduce erosion and runoff. |
| Excess Water - Drifted Snow | 0 | Not Applicable |
| <u>Insufficient Water</u> | | |
| Insufficient Water - Inefficient Use of Irrigation Water | 2 | Crop rotation balances available water with crop needs. |
| Insufficient Water - Inefficient Moisture Management | 2 | Crop rotation balances available water with crop needs. |
| <u>Water Quality Degradation</u> | | |
| Pesticides in Surface Water | 2 | The action reduces the need for pesticide use by breaking pest lifecycles. |
| Pesticides in Groundwater | 2 | The action reduces the need for pesticide use by breaking pest lifecycles. |
| Nutrients in Surface water | 2 | Nitrogen demanding or deep rooted crops can remove excess nitrogen. Legume in rotation will provide slow release nitrogen and reduce need for additional nitrogen. |
| Nutrients in Groundwater | 2 | Nitrogen demanding or deep rooted crops can remove excess nitrogen. Legume in rotation will provide slow release nitrogen and reduce need for additional nitrogen. |
| Salts in Surface Water | 1 | The action can reduce erosion and runoff which reduces transport of salts. Some crops may accumulate salts. |
| Salts in Groundwater | 2 | Suitable crops can take up salts, the amount depending on crop rotation and rooting pattern, |
| Excess Pathogens and Chemicals from Manure, Bio-solic | 1 | Depending on crop rotation, less erosion and runoff reduces delivery of pathogens. |
| Excess Pathogens and Chemicals from Manure, Bio-solic | 0 | Not Applicable |

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| Excessive Sediment in Surface Water | 2 | Depending on crop rotation and biomass produced, crop rotation reduces erosion and runoff which reduces transport of sediment. |
| Elevated Water Temperature | 0 | Not Applicable |
| Petroleum, Heavy Metals and Other Pollutants Transport | 0 | not applicable |
| Petroleum, Heavy Metals and Other Pollutants Transport | 0 | Not Applicable |
| <u>Air Quality Impacts</u> | | |
| Emissions of Particulate Matter (PM) and PM Precursors | 2 | The proper selection of crops in the rotation can reduce the generation of fugitive dust. |
| Emissions of Ozone Precursors | 0 | Not Applicable |
| Emissions of Greenhouse Gases (GHGs) | 1 | Vegetation removes CO2 from the air and stores it in the form of carbon in the plants and soil. |
| Objectionable Odors | 0 | Not Applicable |
| <u>Degraded Plant Condition</u> | | |
| Undesirable Plant Productivity and Health | 4 | Plants are selected and managed to maintain optimal productivity and health. |
| Inadequate Structure and Composition | 4 | Crop selection will be modified to include species better suited to soils and climate. |
| Excessive Plant Pest Pressure | 2 | Depending on crop rotation, crop rotation creates diversity that may reduce weed pressures, break weed life cycles, and provide competition that would slow the spread of noxious plants. |
| Wildfire Hazard, Excessive Biomass Accumulation | 0 | Not Applicable |
| <u>Fish and Wildlife - Inadequate Habitat</u> | | |
| Inadequate Habitat - Food | 2 | Selected crops and suitable rotations may provide more food for wildlife. |
| Inadequate Habitat - Cover/Shelter | 2 | Selected crops and suitable rotations may provide more food and cover for wildlife. |
| Inadequate Habitat - Water | 4 | Not Applicable |
| Inadequate Habitat - Habitat Continuity (Space) | 2 | Increased cover will increase space for wildlife. May be used to connect other cover areas. |
| <u>Livestock Production Limitation</u> | | |
| Inadequate Feed and Forage | 2 | Crop rotation may be designed to add forage crops. |
| Inadequate Shelter | 0 | Not Applicable |
| Inadequate Water | 0 | Not Applicable |
| <u>Inefficient Energy Use</u> | | |
| Equipment and Facilities | 0 | Not Applicable |
| Farming/Ranching Practices and Field Operations | 1 | The use of legume crops to supply nitrogen |

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| CPPE Practice Effects: | <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> |