

## CONSERVATION PRACTICE PHYSICAL EFFECTS WORKSHEET

STATE	Nebraska	FIELD OFFICE	Any	DATE	12/27/2011
<b>PRACTICE: Stripcropping 585</b>		Baseline Setting:			
		Appropriate Land Use(s): Crop			
<b>RESOURCES, CONSIDERATIONS AND CONCERNS</b>	<b>PHYSICAL EFFECTS</b>	<b>RATIONALE</b>			
<b>SOIL - EROSION</b>					
Sheet and Rill	Moderate to Substantial Improvement	When applied on or near the contour, this practice reduces runoff velocities, thus reducing the detachment and transport capacity of overland flow. Additional credit is given for the sediment trapped and retained on the slope by the non-erosive strips.			
Wind	Moderate to Substantial Improvement	Stripcropping reduces the "L" factor value of WEQ. The amount of erosion reduction depends on strip width, vegetative cover and strip orientation in relation to the direction of erosive winds.			
Ephemeral Gully	Moderate to Substantial Improvement	Stripcropping can reduce ephemeral gully erosion by decreasing runoff velocity and volume			
Classic Gully	Slight Improvement	Reduces runoff causing erosion in the gully.			
Streambank	Not Applicable	Not applicable.			
Shoreline	Not Applicable	Not applicable.			
Irrigation Induced	Not Applicable	Not applicable.			
Mass Movement	Not Applicable	Not applicable.			
Road, Roadsides, and Construction Sites	Not Applicable	Not applicable.			
<b>SOIL – CONDITION</b>					
Organic Matter Depletion	Slight to Moderate Improvement	Perennial crops in the alternating strips can add organic matter to the soil. Reduced erosion reduces organic matter loss.			
Rangeland Site Stability	Not Applicable	Not applicable.			
Compaction	Not Applicable	Not applicable.			
Subsidence	Not Applicable	Not applicable.			
Contaminants:					
• Salts and other Chemicals	Not Applicable	Not applicable.			
• Animal Waste and other Organics - N	Not Applicable	Not applicable.			
• Animal Waste and other Organics - P	Not Applicable	Not applicable.			
• Animal Waste and other Organics - K	Not Applicable	Not applicable.			
• Commercial Fertilizer - N	Not Applicable	Not applicable.			
• Commercial Fertilizer – P	Not Applicable	Not applicable.			

• Commercial Fertilizer – K	Not Applicable	Not applicable.
• Residual Pesticides	Not Applicable	Not applicable.
Damage from Sediment Deposition	Moderate to Substantial Improvement	Alternating strips of erosion-resistant vegetation reduce soil erosion and the resulting soil deposition.
<b>WATER – QUANTITY</b>		
Rangeland Hydrologic Cycle	Not Applicable	Not applicable.
Excessive Seepage	Slight to Moderate Worsening	Increased water infiltration that may move laterally to a seep area, particularly during fallow periods.
Excessive Runoff, Flooding, or Ponding	Slight Improvement	Drifting snow traps results in increased water infiltration which will slightly reduce the potential for flooding or ponding.
Excessive Subsurface Water	Slight Worsening	Drifting snow trapped results in increased infiltration which could contribute to excess subsurface water.
Drifted Snow	Slight Improvement	Protected strips will capture additional snow.
Inadequate Outlets	Not Applicable	Not applicable.
Inefficient Water use on Irrigated Land	Not Applicable	Not applicable.
Inefficient Water use on Non-Irrigated Land	Slight Improvement	Drifting snow trapped results in increased water infiltration and greater water storage in the profile.
Reduced Capacity of Conveyances by Sediment Deposition	Moderate to Substantial Improvement	Reduces soil erosion and resulting off-site sediment deposition.
Reduced Storage of Water Bodies by Sediment Accumulation	Slight to Moderate Improvement	Reduces soil erosion and resulting off-site sediment deposition.
Aquifer Overdraft	Not Applicable	Not applicable.
Insufficient Flows in Water Courses	Not Applicable	Not applicable.
<b>WATER – QUALITY</b>		
In Groundwater:		
• Harmful Levels of Pesticides	Neutral	The action increases infiltration which may be offset by increased soil organic matter and biological activity .
• Excessive Nutrients and Organics	Neutral	The alternating vegetation and cover may reduce groundwater risks.
• Excessive Salinity	Slight Worsening	Stripcropping may reduce the velocity of runoff and trap drifting snow resulting in increased water infiltration which could move salts to groundwater.
• Harmful Levels of Heavy Metals	Not Applicable	Not applicable.
• Harmful Levels of Pathogens	Not Applicable	Not applicable.
• Harmful Levels of Petroleum	Not Applicable	Not applicable.

<b>In Surface Water:</b>		
• Harmful Levels of Pesticides	Slight to Moderate Improvement	The action reduces runoff and erosion and traps adsorbed pesticides.
• Excessive Nutrients and Organics	Slight to Substantial Improvement	Stripcropping decreases soil erosion by wind and water and may increase water infiltration, thereby reducing the transport of nutrients and organics to surface water.
• Excessive Suspended Sediment and Turbidity	Slight to Substantial Improvement	Reduces erosion, slows water and wind velocities, increases infiltration.
• Excessive Salinity	Slight Improvement	Stripcropping slows runoff and can increase water, thereby reducing the potential for transport of salts to surface water.
• Harmful Levels of Heavy Metals	Slight to Substantial Improvement	The action decreases soil erosion by wind and water and may increase water infiltration, thereby reducing the potential for transport of heavy metals to surface water.
• Harmful Temperatures	Not Applicable	Not applicable.
• Harmful Levels of Pathogens	Slight Improvement	Stripcropping decreases soil erosion by wind and water and may increase water infiltration, thereby reducing the potential for transport of pathogens to surface water
• Harmful Levels of Petroleum	Not Applicable	Not applicable.
<b>AIR – QUALITY</b>		
Particulate Matter less than 10 Micrometers in Diameter (PM 10)	Slight to Substantial Improvement	Vegetated strips provide ground cover and reduces wind erosion.
Particulate Matter less than 2.5 Micrometers in Diameter (PM 2.5)	Slight to Substantial Improvement	Vegetated strips provide ground cover and reduces wind erosion.
Excessive Ozone	Not Applicable	Not applicable.
Excessive Greenhouse Gas:		
• CO <sub>2</sub> (Carbon Dioxide)	Neutral	CO <sub>2</sub> emissions are decreased if equipment travel is reduced.
• N <sub>2</sub> O (Nitrous Oxide)	Not Applicable	Not applicable.
• CH <sub>4</sub> (Methane)	Not Applicable	Not applicable.
Ammonia (NH <sub>3</sub> )	Not Applicable	Not applicable.
Chemical Drift	Not Applicable	Not applicable.
Objectionable Odors	Not Applicable	Not applicable.
Reduced Visibility	Slight Improvement	Reduction in wind erosion potential and fugitive dust
Undesirable Air Movement	Not Applicable	Not applicable.
Adverse Air Temperature	Not Applicable	Not applicable.
<b>PLANTS – SUITABILITY</b>		
Plants not Adapted or Suited	Not Applicable	Not applicable.
<b>PLANTS - CONDITION</b>		
Productivity, Health, and Vigor	Slight to Substantial Improvement	Reduced erosion will improve

		site potential to enhance plant productivity and health.
Threatened or Endangered Plant Species:		
• Plant Species Listed or Proposed for Listing Under the Endangered Species Act	Not Applicable	Not applicable.
• Declining Species, Species of Concern	Not Applicable	Not applicable.
Noxious and Invasive Plants	Not Applicable	Not applicable.
Forage Quality and Palatability	Not Applicable	Not applicable.
Wildfire Hazard	Not Applicable	Not applicable.
<b>ANIMALS - FISH AND WILDLIFE</b>		
Inadequate Food	Slight to Moderate Improvement	Food for wildlife is improved because of proximity of strips to one another.
Inadequate Cover/Shelter	Slight to Moderate Improvement	Cover for wildlife is improved because of proximity of strips to one another.
Inadequate Water	Not Applicable	Not applicable.
Inadequate Space	Slight Improvement	Strip provides only limited additional space for most species.
Habitat Fragmentation	Slight Improvement	Strips can connect adjacent habitats to a limited degree.
Imbalance Among and Within Populations	Not Applicable	Not applicable.
Threatened and Endangered Fish and Wildlife Species:		
• Fish and Wildlife Species Listed or Proposed for Listing Under the Endangered Species Act	Neutral	Activities are designed, installed, and mitigated to an extent to maintain or enhance species of concern.
• Declining Species, Species of Concern	Neutral	Activities are designed, installed, and mitigated to an extent to maintain or enhance species of concern.
<b>ANIMALS – DOMESTIC</b>		
Inadequate Quantities and Quality of Feed and Forage	Not Applicable	Not applicable.
Inadequate Shelter	Not Applicable	Not applicable.
Inadequate Stock Water	Not Applicable	Not applicable.
Stress and Mortality	Not Applicable	Not applicable.
<b>HUMAN – ECONOMICS</b>		
Land - Change in Land Use	Not applicable.	Not applicable.
Land – Land in Production	Slight decrease	N/A, or slight decrease, corners and end rows taken out of production.
Capital – Change in Equipment	Negligible	
Capital - Total Investment Cost	Not applicable.	Not applicable.
Capital – Annual Cost	Negligible to slight increase.	
Capital – Credit and Farm Program Eligibility	Situational.	
Labor - Labor	Slight increase	Slight increase where short rows

		exist, when moving between strips.
Labor – Change in Management Level	Slight to moderate increase	Slight to moderate increase to manage new mix of enterprises.
Risk - Yield	Slight Decrease	Slight decrease due to reduction of water erosion.
Risk - Flexibility	Slight to Moderate Increase	Slight to moderate increase due to following designed cropping pattern.
Risk - Timing	Negligible	
Risk – Cash Flow	Slight Increase	Slight increase due to higher fuel and labor requirements.
Profitability – Change in Profitability	Slight decrease.	Some land taken out of production.
<b>HUMAN - CULTURAL</b>		
Cultural Resources and/or Historic Properties Present or Suspected to be PRESENT	Not applicable.	Not applicable.
<b>HUMAN – ENERGY</b>		
Depletion of Fossil Fuel Resources	No Effect	Fuel use may or may not be increased by implementation of this practice; it is dependent on the type of crops planted.
Underutilization of Non-Fossil Energy Resources	Not Applicable	Not Applicable

## Human Considerations Explanation

<b>Considerations</b>	<b>Physical effects indicate:</b>
<b>Land - Change in Land Use</b>	The degree to which implementing the conservation practice is expected to cause a change from one land use to another.
<b>Land - Land in Production</b>	The degree to which implementing the conservation practice is expected to cause an increase or decrease in the amount of land in production.
<b>Capital - Change in Equipment</b>	The degree to which implementing the conservation practice is expected to cause an increase or decrease in the amount of capital equipment required for farm or ranch operations.
<b>Capital - Total Investment Cost</b>	A qualitative measure of the increase in total investment dollars required in order to implement the conservation practice.
<b>Capital - Annual Cost</b>	A qualitative measure of the expected change in annual capital costs required in order to operate and maintain the conservation practice.
<b>Capital - Credit &amp; Farm Program Eligibility</b>	Included to make conservation planners aware of the potential availability of funding for implementing conservation practices.
<b>Labor – Labor</b>	The degree to which implementing the conservation practice is likely to cause an increase or decrease in the total amount of overall farm or ranch labor required for operations.
<b>Labor - Change in Management Level</b>	The degree to which implementing the conservation practice is likely to cause an increase or decrease in the total amount of required active management on a farm or ranch.
<b>Risk – Yield</b>	The degree to which risk, as related to crop or livestock yields, is expected to increase or decrease as a result of implementing the conservation practice.
<b>Risk – Flexibility</b>	The degree to which risk, as related to the flexibility of farm or ranch operations, is expected to increase or decrease as a result of implementing the conservation practice. For example, converting from flood irrigation to a sprinkler system gives a farmer an increase in flexibility of irrigation, which results in a decrease in the level of risk associated with inflexibility of operations.
<b>Risk – Timing</b>	The degree to which risk, as related to the timing of farm or ranch operations, is expected to increase or decrease as a result of implementing the conservation practice.
<b>Risk - Cash Flow</b>	The degree to which risk, as related to cash flow in farm or ranch operations, is expected to increase or decrease as a result of implementing the conservation practice.
<b>Profitability - Change in Profitability</b>	The degree to which farm or ranch profitability is expected to increase or decrease as a result of implementing the conservation practice.
<b>Cultural Resources and/or Historic Properties Present or Suspected to be Present</b>	The degree to which implementation of the conservation practice is expected to increase or decrease the risk of cultural resource disturbance, degradation, or loss.
<b>Depletion of Fossil Fuel Resources</b>	Inefficient use of fossil-originated energy sources (diesel, gasoline, propane, natural gas, coal), lubricants, and other materials.
<b>Underutilization of Non-Fossil Energy Sources</b>	Available and cost-effective alternative energy sources (solar, wind, biofuel, hydroelectric, geothermal) are not being used or are being used inefficiently.