CONSERVATION PRACTICE PHYSICAL EFFECTS WORKSHEET

STATE	Nebraska	FIELD OFFICE	Any	DATE	12/27/2011
PRACTICE: Feed Management 592		Baseline Setting:			
		Appropriate Land Use(s): Headquarters			
RESOURCES, CONSIDERATIONS AND CONCERNS		**PHYSICAL EFFECTS**		**RATIONALE**	
SOIL - EROSION					
Sheet and Rill		Not Applicable		Not applicable.	
Wind		Not Applicable		Not applicable.	
Ephemeral Gully		Not Applicable		Not applicable.	
Classic Gully		Not Applicable		Not applicable.	
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.	
SOIL – CONDITION					
Organic Matter Depletion		Not Applicable		Not applicable.	
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		Slight to Moderate Improvement		Reducing the amount of nutrients excreted in manure can reduce the potential for over-application of N on land to which the manure is applied.	
• Animal Waste and other Organics - P		Slight to Moderate Improvement		Reducing the amount of nutrients excreted in manure can reduce the potential for over-application of P on land to which the manure is applied.	
• Animal Waste and other Organics - K		Slight to Moderate Improvement		Reducing the amount of nutrients excreted in manure can reduce the potential for over-application of K on land to which the manure is applied.	
• Commercial Fertilizer - N		Slight to Moderate Improvement		Reducing the amount of nutrients excreted in manure can reduce the potential for over-application of N on land to which the manure is applied.	
• Commercial Fertilizer – P		Slight to Moderate Improvement		Reducing the amount of nutrients excreted in manure can reduce the potential for over-application of P on land to which the manure is applied.	
• Commercial Fertilizer – K		Slight to Moderate Improvement		Reducing the amount of nutrients excreted in manure can reduce the potential for over-application of K on land to	

		which the manure is applied.
• Residual Pesticides	Not Applicable	Not applicable.
Damage from Sediment Deposition	Not Applicable	Not applicable.
WATER – QUANTITY		
Rangeland Hydrologic Cycle	Not Applicable	Not Applicable
Excessive Seepage	Not Applicable	Not applicable.
Excessive Runoff, Flooding, or Ponding	Not Applicable	Not applicable.
Excessive Subsurface Water	Not Applicable	Not applicable.
Drifted Snow	Not Applicable	Not applicable.
Inadequate Outlets	Not Applicable	Not applicable.
Inefficient Water use on Irrigated Land	Not Applicable	Not applicable.
Inefficient Water use on Non-Irrigated Land	Not Applicable	Not applicable.
Reduced Capacity of Conveyances by Sediment Deposition	Not Applicable	Not applicable.
Reduced Storage of Water Bodies by Sediment Accumulation	Not Applicable	Not applicable.
Aquifer Overdraft	Not Applicable	Not applicable.
Insufficient Flows in Water Courses	Not Applicable	Not applicable.
WATER – QUALITY		
In Groundwater:		
• Harmful Levels of Pesticides	Not Applicable	Not applicable.
• Excessive Nutrients and Organics	Slight to Moderate Improvement	The action reduces the amount of nutrients excreted in manure which reduces the potential for over-application on the land.
• Excessive Salinity	Not Applicable	Not applicable.
• Harmful Levels of Heavy Metals	Not Applicable	Not applicable.
• Harmful Levels of Pathogens	Neutral	The action does not reduce the amount of manure produced by livestock, only the nutrient content. The same amount of manure will be applied as before the use of this practice.
• Harmful Levels of Petroleum	Not Applicable	Not applicable.
In Surface Water:		
• Harmful Levels of Pesticides	Not Applicable	Not applicable.
• Excessive Nutrients and Organics	Slight to Moderate Improvement	Reducing the amount of nutrients excreted in manure can reduce the potential for over-application of nutrients on land which the manure is applied, thus reducing the potential for loss to surface waters.
• Excessive Suspended Sediment and Turbidity	Not Applicable	Not applicable.
• Excessive Salinity	Not Applicable	Not applicable.
• Harmful Levels of Heavy Metals	Not Applicable	Not applicable.
• Harmful Temperatures	Not Applicable	Not applicable.
• Harmful Levels of Pathogens	Neutral	The action does not reduce the amount of manure produced by livestock, only the nutrient content. The same amount of

		manure will be applied as before the use of this practice.
• Harmful Levels of Petroleum	Not Applicable	Not applicable.
AIR – QUALITY		
Particulate Matter less than 10 Micrometers in Diameter (PM 10)	Not Applicable	Not applicable.
Particulate Matter less than 2.5 Micrometers in Diameter (PM 2.5)	Slight to Moderate Improvement	Proper nitrogen levels in feed can reduce the amount of ammonia in manure that is available for volatilization.
Excessive Ozone	Not Applicable	Not applicable.
Excessive Greenhouse Gas:		
• CO_2 (Carbon Dioxide)	Not Applicable	Not applicable.
• N_20 (Nitrous Oxide)	Slight Improvement	Reduction in N in waste results in less N volatilization
• CH_4 (Methane)	Slight to Moderate Improvement	Proper nutrient input causes reduction in methane production
Ammonia (NH_3)	Slight to Substantial Improvement	Proper nutrient management reduces NH3 production.
Chemical Drift	Not Applicable	Not applicable.
Objectionable Odors	Slight to Moderate Improvement	Reduces fine particulate and VOC.
Reduced Visibility	Slight to Moderate Improvement	Reduction in fine particulate emissions.
Undesirable Air Movement	Not Applicable	Not applicable.
Adverse Air Temperature	Not Applicable	Not applicable.
PLANTS – SUITABLIITY		
Plants not Adapted or Suited	Not Applicable	Not applicable.
PLANTS - CONDITION		
Productivity, Health, and Vigor	Not Applicable	Not applicable.
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.
ANIMALS - FISH AND WILDLIFE		
Inadequate Food	Not Applicable	Not applicable.
Inadequate Cover/Shelter	Not Applicable	Not applicable.
Inadequate Water	Not Applicable	Not applicable.
Inadequate Space	Not Applicable	Not applicable.
Habitat Fragmentation	Not Applicable	Not applicable.
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	Not Applicable	Not applicable.

• Declining Species, Species of Concern	Not Applicable	Not applicable.
ANIMALS – DOMESTIC		
Inadequate Quantities and Quality of Feed and Forage	Substantial Improvement	Feed and forage are in balance to ensure nutritional requirements of livestock.
Inadequate Shelter	Not Applicable	Not applicable.
Inadequate Stock Water	Not Applicable	Not applicable.
Stress and Mortality	Not Applicable	Not applicable.
HUMAN – ECONOMICS		
Land - Change in Land Use	Not applicable.	Not applicable.
Land – Land in Production	Not applicable	Not applicable.
Capital – Change in Equipment	Negligible to slight increase.	
Capital - Total Investment Cost	Negligible to slight.	
Capital – Annual Cost	Negligible to slight.	
Capital – Credit and Farm Program Eligibility	Situational.	
Labor - Labor	negligible to slight increase	Possible negligible to slight increase in time spent on feed preparation.
Labor – Change in Management Level	Negligible to slight increase.	
Risk - Yield	Slight to moderate decrease.	
Risk - Flexibility	Negligible	
Risk - Timing	Not applicable.	Not applicable.
Risk – Cash Flow	Slight to Moderate Decrease	Slight to moderate decrease due to better yields.
Profitability – Change in Profitability	Slight to Moderate Increase	Slight to moderate increase due to better yields.
HUMAN - CULTURAL		
Cultural Resources and/or Historic Properties Present or Suspected to be PRESENT	Not applicable.	Not applicable.
HUMAN – ENERGY		
Depletion of Fossil Fuel Resources	Slight to Substantial Decrease	Controlling the nutrient balance in feeds can improve the efficiency of on-farm nutrient management.
Underutilization of Non-Fossil Energy Resources	Not Applicable	Not applicable.

Human Considerations Explanation

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