

Practice: 344 - Residue Management, Seasonal

Scenario: #1 - Residue Management, Seasonal

Scenario Description:

During harvest, the combine or harvesting machine is equipped with a spreader to redistribute residues to at least 80% of the working width of the header. The field is not tilled until just prior to planting of the next crop. The RUSLE2 and/or WEPS models will be used to review the farming operation and determine if enough residue is being retained between planted crops to keep soil loss below T and the appropriate wildlife habitat tools will be used to assess wildlife habitat - where wildlife is an identified concern. The producer will then remove operations, or select alternate operations, to manage residue between planted crops.

Associated Practice(s): Conservation Crop Rotation (328), Cover Crop (340), Residue Management, No Till/Strip Till/Direct Seed (329), Residue Management, Mulch Till (345), Residue Management, Ridge Till (346)

Before Situation:

Fields are tilled immediately following row crop or small grain harvest. Tillage activities have been intensive, and have served to suppress weeds, reduce insect populations, and prepare fields for both immediate (spring) and subsequent (fall) planting events. These periods of intensive tillage have led to excessive soil loss, often above the Soil Loss Tolerance (T), due to the loss of critical crop or weed residue and have also resulted in a loss of seasonal wildlife cover. Residue amounts after harvest average 30% or less, resulting in bare soil being exposed to wind erosion and/or intense rainfall during the fall, winter, and early spring and a poor cover situation for wildlife. Over the winter residue degrades and sediment/nutrient runoff from fields increases. Spring tillage and seedbed preparation activities occur as early as possible in the late winter and early spring. Weed control is accomplished primarily through tillage, requiring multiple operations. Sediment and nutrient runoff from the fields flows into streams, water courses or other water bodies causing degradation to the receiving waters. Soil health (soil organic matter) declines over time as a result of tillage practices, low residue monocultures, and long periods of bare soil.

After Situation:

During harvest, the combine or harvesting machine is equipped with a spreader to redistribute residues to at least 80% of the working width of the header. The field is not tilled until just prior to planting of the next crop. The residue that remains on the soil surface provides soil cover during late fall, throughout the winter, and into the early spring. Winter weeds and cover crops may grow throughout the winter months. Wind erosion is reduced by standing residues. Runoff and erosion are reduced and wildlife cover is improved. Winter weeds or the cover crop is terminated with tillage, a roller-crimper, shredding, with an approved herbicide, or a combination of these methods prior to spring planting as late as feasible. Over time, soil health is improved due to the additional biomass, ground cover, soil infiltration, and plant diversity in the cropping system.

Scenario Feature Measure: Area planted

Scenario Unit: Acre

Scenario Typical Size: 40

Scenario Cost: \$180.56

Scenario Cost/Unit: \$4.51

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<i>Labor</i>						
Supervisor or Manager	234	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$45.14	4	\$180.56