Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Southern Plains
State	Oklahoma
Discipline Group	Agronomy
Practice Code/Name	340 - Cover Crop
Scenario ID	2
Scenario Name	Cover Crop-Mechanical Kill
Scenario Description	Typically a small grain or small grain-legume mix (may also use forage sorghum, radishes, turnips, buckwheat, etc) will be planted as a cover crop immediately after harvest of a row crop, and will be followed by a row crop that will utilize the residue as a mulch. This scenario assumes that seed will be planted with a no-till drill. The cover crop should be allowed to generate as much biomass as possible, without delaying planting of the following crop. The cover crop will be terminated using a mechnical kill method (mowing, rolling, undercutting, etc.), a minimum of 3 weeks prior to planting the subsequent crop.
Before Practice Situation	Row crops such as corn, soybeans, or cotton are grown and harvested in mid-late fall. Fields are disked immediately following harvest, with rows in some fields being hipped for drainage. 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. Over the winter residue degrades and sediment/nutrient runoff from fields increases. Sheet and rill erosion occurs with visible rills by spring. Runoff from the fields flows into streams, water courses or other water bodies causing degradation to the receiving waters. Soil organic matter declines over time as a result of tillage practices, low residue crops, and long periods of bare soil.
After Practice Situation	Within 30 days after harvest of row crop, fields are planted with a small grain-legume mix cover crop, typically wheat and vetch. The average field size is 40 acres. The cover crop is seeded with a no-till drill. No additional fertilizer is applied with the cover crop. The cover crop provides soil cover by late fall, throughout the winter, and into the early spring. Runoff and erosion are reduced and no rills are visible on the soil surface in the spring. The cover crop is terminated with using a mechnical kill method (mowing, rolling, undercutting, etc.), prior to spring planting as late as feasible to maximize plant biomass production. Over time, soil health is improved due to the additional biomass, ground cover, and plant diversity introduced to the cropping system. Wind erosion is reduced by standing resides. Cover crop residues left on the surface may maximize weed control by increasing allelopathic and mulching effect.
Scenario Feature Measure	Area planted
Scenario Unit	Acre
Scenario Typical Size	40

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$2,252.00	$56.30
Equipment/Installation	$1,460.40	$36.51
Labor	$0.00	$0.00
Mobilization	$0.00	$0.00
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$3,712.40	$92.81

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost
Materials	187	Hairy Vetch (Vicia villosa)	Legumes, Cover Crops and shipping.	Pound	$2.54	400	$1,016.00
Materials	200	Wheat, Winter (Triticum aestivum)	Small Grains, Cover Crops and shipping.	Pound	$1.03	1200	$1,236.00
Equipment/Installation	957	Mechanical weed control, Vegetation termination	Mechanical operations, Includes: Roller/crimper, mower, shredder, etc. Includes equipment, power unit and labor costs.	Acre	$17.43	40	$697.20
Equipment/Installation	960	Seeding Operation, No Till/Grass Drill	No Till drill or grass drill for seeding. Includes all costs for equipment, power unit, and labor.	Acre	$19.08	40	$763.20

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Southern Plains
State	Oklahoma
Discipline Group	Agronomy
Practice Code/Name	340 - Cover Crop
Scenario ID	3
Scenario Name	Legume-N Fixation
Scenario Description	A legume will be planted as a cover crop immediately after harvest of a row crop, and will be followed by a row crop that will utilize fixed nitrogen and cover crop biomass as a mulch. This scenario assumes that seed will be planted with a no-till drill. Legume seeds must be inoculated with the proper inoculant prior to planting. The cover crop should be allowed to reach early to mid-bloom before it is terminated, using an approved herbicide, in order to maximize nitrogen fixation. The legume will promote biological nitrogen fixation and reduce energy use by reducing the need for commercial nitrogen fertilizer in following crops.
Before Practice Situation	Row crops such as corn, soybeans, or cotton are grown and harvested in mid-late fall. Fields are disked immediately following harvest, with some fields being hipped for drainage. Residue amounts after harvest average 30% or less, resulting in bare soil being exposed to intense rainfall during the fall, winter, and early spring. Over the winter residue degrades and sediment/nutrient runoff from fields increases. Sheet and rill erosion occurs with visible rills by spring. Runoff from the fields flows into streams, water courses or other water bodies causing degradation to the receiving waters. Soil organic matter declines over time as a result of tillage practices and long periods of bare soil. Only commerical nitrogen fertilzer is used for following crops.
After Practice Situation	Within 30 days after harvest fields are planted with a legume cover crop, typically a clover or vetch species. The average field size is 40 acres. The cover crop is seeded with a no-till drill. No fertilizer is applied with the cover crop. The cover crop provides soil cover by late fall, throughout the winter, and into the early spring. Runoff and erosion are reduced and no rills are visible on the soil surface in the spring. The cover crop is terminated with an approved herbicide prior to spring planting as late as feasible to maximize plant biomass production. Over time, soil health is improved due to the additional biomass, ground cover, and plant diversity introduced to the cropping system. Cover crop residues left on the surface may maximize weed control by increasing allelopathic and mulching effect. By utilizing the nitrogen that is fixed by the legume cover crop, the amount of energy is reduced by reducing the amount of commercial fertilizer that will be needed for the following crop.
Scenario Feature Measure	Area planted
Scenario Unit	Acre
Scenario Typical Size	40

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$1,965.60	$49.14
Equipment/Installation	$1,023.20	$25.58
Labor	$0.00	$0.00
Mobilization	$0.00	$0.00
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$2,988.80	$74.72

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost
Materials	187	Hairy Vetch (Vicia villosa)	Legumes, Cover Crops and shipping.	Pound	$2.54	600	$1,524.00
Materials	334	Herbicide, Glyphosate	A broad-spectrum, non-selective systemic herbicide. Product is typically used in these practices 340, 645, 314, 666, and 512. Product Name: Roundup, Accord XRT, and Accord SP.	Acre	$11.04	40	$441.60
Equipment/Installation	948	Chemical, ground application	Chemical application performed by ground equipment. Equipment and labor costs included.	Acre	$6.50	40	$260.00
Equipment/Installation	960	Seeding Operation, No Till/Grass Drill	No Till drill or grass drill for seeding. Includes all costs for equipment, power unit, and labor.	Acre	$19.08	40	$763.20

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Southern Plains
State	Oklahoma
Discipline Group	Agronomy
Practice Code/Name	340 - Cover Crop
Scenario ID	5
Scenario Name	Multispecies Cover Crop on Pasture
Scenario Description	Typically a small grain-legume mix (may also use forage sorghum, radishes, turnips, buckwheat, etc) will be planted as a cover crop by drilling into residual stand of native or improved forages. This scenario assumes that seed will be planted with a no-till drill. The cover crop should be allowed to generate as much biomass as possible. The cover crop will be left standing or laid down for an entire growing season, but the cover crop will not be grazed.
Before Practice Situation	Pasture management includes application of nutrients to a predominant monoculture of improved grasses. Soil organic matter is reduced, soil temperatures exceed the ambient air temperature. Biological activity in the soil is limited due to high soil temeratures and low soil moisture. Forages are exposed to wind erosion and/or intense rainfall during the fall, winter, and early spring. Over the summer, residue degrades and sediment/nutrient runoff from fields increases. Sheet and rill erosion occurs with visible rills by spring. Soil organic matter declines over time as a result of tillage practices, low residue crops, and long periods of bare soil. Biological fixation of nitrogen is not occurring.
After Practice Situation	In the spring or early summer, pastures are planted with a small grain-broadleaf plant - legume mix cover crop. The average field size is 40 acres. The cover crop is seeded with a no-till drill. No additional fertilizer is applied with the cover crop due to the biological fixation of nitrogen and the assimilation of P and K due to increased biological activity. The cover crop provides soil cover by late fall, throughout the winter, and into the early spring. Runoff and erosion are reduced and no rills are visible on the soil surface in the spring. Wind erosion is reduced by standing residues. The cover crop will be managed to maximize plant biomass production. Over time, soil organic matter is improved due to the additional biomass and the plant diversity introduced to the cropping system. Cover crop residues left on the surface may maximize weed control by increasing allelopathic and mulching effect. Soil moisture is improved.
Scenario Feature Measure	Area planted
Scenario Unit	Acre
Scenario Typical Size	40

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$939.52	$23.49
Equipment/Installation	$763.20	$19.08
Labor	$0.00	$0.00
Mobilization	$0.00	$0.00
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$1,702.72	$42.57

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost
Materials	187	Hairy Vetch (Vicia villosa)	Legumes, Cover Crops and shipping.	Pound	$2.54	120	$304.80
Materials	109	Ladino Clover (Trifolium repens)	Introduced Legumes and shipping.	Pound	$3.74	32	$119.68
Materials	171	Radish, Forage (Raphanus sativus var. niger)	Brassicas / Non-Legume Broadleaf, Cover Crops and shipping.	Pound	$3.53	32	$112.96
Materials	176	Ryegrass, Annual (Lolium multiflorum)	Annual Grasses, Cover Crops and shipping.	Pound	$1.25	240	$300.00
Materials	169	Turnips (Brassica rapa var. rapa)	Brassicas / Non-Legume Broadleaf, Cover Crops and shipping.	Pound	$3.19	32	$102.08
Equipment/Installation	960	Seeding Operation, No Till/Grass Drill	No Till drill or grass drill for seeding. Includes all costs for equipment, power unit, and labor.	Acre	$19.08	40	$763.20

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Southern Plains
State	Oklahoma
Discipline Group	Agronomy
Practice Code/Name	340 - Cover Crop
Scenario ID	4
Scenario Name	Organic Cover Crop
Scenario Description	Typically a small grain or small grain-legume mix (may also use forage sorghum, radishes, turnips, buckwheat, etc) will be planted as a cover crop immediately after harvest of an organically grown crop, and will be followed by an organically grown crop that will utilize the residue as a mulch. This scenario assumes that seed will be planted with a no-till drill. The cover crop should be allowed to generate as much biomass as possible, without delaying planting of the following crop. The cover crop will be terminated using a mechnical kill method (mowing, rolling, undercutting, etc.), a minimum of 3 weeks prior to planting the subsequent crop. This scenario REQUIRES use of Certified Organic Seed.
Before Practice Situation	Organically grown crops such as various vegetable and fruit crops (along with organically produced row crops) are grown and harvested in mid-late fall. Fields are disked immediately following harvest. 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. Over the winter residue degrades and sediment/nutrient runoff from fields increases. Sheet and rill erosion occurs with visible rills by spring. Runoff from the fields flows into streams, water courses or other water bodies causing degradation to the receiving waters. Soil organic matter declines over time as a result of tillage practices, low residue crops, and long periods of bare soil.
After Practice Situation	Within 30 days after harvest of organic crop, fields are planted with a small grain-legume mix cover crop, typically rye and clover. The average field size is 25 acres. The cover crop is seeded with a no-till drill. No additional fertilizer is applied with the cover crop. The cover crop provides soil cover by late fall, throughout the winter, and into the early spring. Runoff and erosion are reduced and no rills are visible on the soil surface in the spring. The cover crop is terminated with using a mechnical kill method (mowing, rolling, undercutting, etc.), prior to spring planting as late as feasible to maximize plant biomass production. Over time, soil health is improved due to the additional biomass, ground cover, and plant diversity introduced to the cropping system. Wind erosion is reduced by standing resides. Cover crop residues left on the surface may maximize weed control by increasing allelopathic and mulching effect.
Scenario Feature Measure	Area planted
Scenario Unit	Acre
Scenario Typical Size	25

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Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$3,283.75	$131.35
Equipment/Installation	$912.75	$36.51
Labor	$0.00	$0.00
Mobilization	$0.00	$0.00
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$4,196.50	$167.86

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost
Materials	192	Certified Organic, Crimson Clover (Trifolium incarnatum)	Legumes, Cover Crops and shipping.	Pound	$5.35	325	$1,738.75
Materials	203	Certified Organic, Rye, Cereal (Secale cereale L.)	Small Grains, Cover Crops and shipping.	Pound	$1.03	1500	$1,545.00
Equipment/Installation	957	Mechanical weed control, Vegetation termination	Mechanical operations, Includes: Roller/crimper, mower, shredder, etc. Includes equipment, power unit and labor costs.	Acre	$17.43	25	$435.75
Equipment/Installation	960	Seeding Operation, No Till/Grass Drill	No Till drill or grass drill for seeding. Includes all costs for equipment, power unit, and labor.	Acre	$19.08	25	$477.00

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Southern Plains
State	Oklahoma
Discipline Group	Agronomy
Practice Code/Name	342 - Critical Area Planting
Scenario ID	1
Scenario Name	Introduced Seed-Dozer-NPK
Scenario Description	Establishment of permanent vegetation on a site that is void or nearly void of vegetation due to a natural or human disturbance. Costs include a dozer for leveling or pulling extra heavy tillage equipment, seedbed preparation with typical tillage implements, bermudagrass seed, and fertilizer needed for establishment.
Before Practice Situation	Areas that are void or nearly void of vegetation, resulting in bare soil being exposed to erosive processes. The exposed areas may be caused from natural occurrences (fire, flood, etc) or human disturbance. The exposed areas have visible rills and possibly small gullies averaging 1 foot in depth and 1 foot in width. All gullies are treatable with a dozer or extra heavy tillage equipment such as a rhome disk and minimal blade work. Runoff from the area flows into streams, water courses or other water bodies causing degradation to the receiving waters. The soil typically has low fertility.
After Practice Situation	This typical 1.0 acre critical area is stabilized by smoothing rills and small gullies with heavy tillage and minimal blade work(4 hours) and then applying fertilizer and seeding. Soil amendments will be incorporated at an depth of six inches to improve fertility and ensure establishment of permanent vegetative cover. Apply 60 lbs of nitrogen, 55 lbs of phosphate and 40 lbs of potash. Prepare a firm, weed free seedbed so that proper germination and stand establishment are ensured. Once the seedbed has been prepared, seed adapted grass species (such as bermudagrass) for a vegetative cover.
Scenario Feature Measure	area seeded
Scenario Unit	Acre
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$130.50	$130.50
Equipment/Installation	$217.20	$217.20
Labor	$94.24	$94.24
Mobilization	$152.85	$152.85
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$594.79	$594.79

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost
Materials	1091	Bermuda Grass (Cynodon dactylon)	Introduced Perennial Grasses and shipping.	Pound	$3.92	10	$39.20
Materials	71	Nitrogen (N), Urea	Urea	Pound	$0.80	60	$48.00
Materials	73	Phosphorus, P2O5	Superphosphate 44-46% P2O5, NASS/ton	Pound	$0.46	55	$25.30
Materials	74	Potassium, K2O	Muriate Of Potash 60-62% K20, NASS $/ton	Pound	$0.45	40	$18.00
Equipment/Installation	960	Seeding Operation, No Till/Grass Drill	No Till drill or grass drill for seeding. Includes all costs for equipment, power unit, and labor.	Acre	$19.08	1	$19.08
Equipment/Installation	950	Fertilizer, ground application, dry bulk	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	$4.89	1	$4.89
Equipment/Installation	945	Tillage, Light	Includes light disking (tandem) or field cultivator. Equipment and power unit costs. Labor is included.	Acre	$9.63	1	$9.63
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hours	$45.90	4	$183.60
Labor	233	Equipment Operators, Heavy	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hours	$23.56	4	$94.24
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	$127.32	1	$127.32
Mobilization	1144	Mobilization, Heavy Equipment Operator	Mobilization of heavy equipment operators: Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	$25.53	1	$25.53

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Southern Plains
State	Oklahoma
Discipline Group	Agronomy
Practice Code/Name	342 - Critical Area Planting
Scenario ID	2
Scenario Name	Introduced Seed-Dozer-NPK Lime
Scenario Description	Establishment of permanent vegetation on a site that is void or nearly void of vegetation due to a natural or human disturbance. Costs include a dozer for leveling or pulling extra heavy tillage equipment, seedbed preparation with typical tillage implements, bermudagrass seed, and fertilizer/lime needed for establishment.
Before Practice Situation	Areas that are void or nearly void of vegetation, resulting in bare soil being exposed to erosive processes. The exposed areas may be caused from natural occurrences (fire, flood, etc) or human disturbance. The exposed areas have visible rills and possibly small gullies averaging 1 foot in depth and 1 foot in width. All gullies are treatable with a dozer or extra heavy tillage equipment such as a rhome disk and minimal blade work. Runoff from the area flows into streams, water courses or other water bodies causing degradation to the receiving waters. The soil typically has low fertility and possibly a pH imbalance.
After Practice Situation	This typical 1.0 acre critical area is stabilized by smoothing rills and small gullies with heavy tillage and minimal blade work(4 hours) and then applying fertilizer, lime (if needed) and seed. Soil amendments will be incorporated at an depth of six inches to improve fertility and ensure establishment of permanent vegetative cover. Apply 60 lbs of nitrogen, 55 lbs of phosphate and 40 lbs of potash. Prepare a firm, weed free seedbed so that proper germination and stand establishment are ensured. Once the seedbed has been prepared, drill adapted grass species (such as bermudagrass) for a vegetative cover.
Scenario Feature Measure	area seeded
Scenario Unit	Acre
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$241.96	$241.96
Equipment/Installation	$224.11	$224.11
Labor	$94.24	$94.24
Mobilization	$152.85	$152.85
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$713.16	$713.16

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost
Materials	1091	Bermuda Grass (Cynodon dactylon)	Introduced Perennial Grasses and shipping.	Pound	$3.92	10	$39.20
Materials	75	Lime, ENM	Fertilizer: Limestone Spread on field NASS	Ton	$111.46	1	$111.46
Materials	71	Nitrogen (N), Urea	Urea	Pound	$0.80	60	$48.00
Materials	73	Phosphorus, P2O5	Superphosphate 44-46% P2O5, NASS/ton	Pound	$0.46	55	$25.30
Materials	74	Potassium, K2O	Muriate Of Potash 60-62% K20, NASS $/ton	Pound	$0.45	40	$18.00
Equipment/Installation	960	Seeding Operation, No Till/Grass Drill	No Till drill or grass drill for seeding. Includes all costs for equipment, power unit, and labor.	Acre	$19.08	1	$19.08
Equipment/Installation	953	Lime application	Lime application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	$6.91	1	$6.91
Equipment/Installation	950	Fertilizer, ground application, dry bulk	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	$4.89	1	$4.89
Equipment/Installation	945	Tillage, Light	Includes light disking (tandem) or field cultivator. Equipment and power unit costs. Labor is included.	Acre	$9.63	1	$9.63
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hours	$45.90	4	$183.60
Labor	233	Equipment Operators, Heavy	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hours	$23.56	4	$94.24
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	$127.32	1	$127.32
Mobilization	1144	Mobilization, Heavy Equipment Operator	Mobilization of heavy equipment operators: Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	$25.53	1	$25.53

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Southern Plains
State	Oklahoma
Discipline Group	Agronomy
Practice Code/Name	342 - Critical Area Planting
Scenario ID	3
Scenario Name	Introduced Seed with NPK, normal tillage
Scenario Description	Establishment of permanent vegetation on a site that is void or nearly void of vegetation due to a natural or human disturbance or vegetation of newly constructed conservation practices such as ponds, waterways, diversions, etc. Costs include tillage equipment, seedbed preparation with typical tillage implements, bermudagrass seed, and fertilizer needed for establishment.
Before Practice Situation	Areas that are void or nearly void of vegetation, resulting in bare soil being exposed to erosive processes. The exposed areas may be caused from natural occurrences (fire, flood, etc) or human disturbance. The exposed areas have visible rills. All rills are treatable with tillage equipment. Runoff from the area flows into streams, water courses or other water bodies causing degradation to the receiving waters. The soil typically has low fertility.
After Practice Situation	This typical 1.0 acre critical area is stabilized by smoothing rills and then applying fertilizerand seed. Soil amendments will be incorporated at an depth of six inches to improve fertility and ensure establishment of permanent vegetative cover. Apply 60 lbs of nitrogen, 55 lbs of phosphate and 40 lbs of potash. Prepare a firm, weed free seedbed so that proper germination and stand establishment are ensured. Once the seedbed has been prepared, drill adapted grass species (such as bermudagrass) for a vegetative cover.
Scenario Feature Measure	area seeded
Scenario Unit	Acre
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$130.50	$130.50
Equipment/Installation	$33.60	$33.60
Labor	$0.00	$0.00
Mobilization	$22.85	$22.85
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$186.95	$186.95

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost
Materials	1091	Bermuda Grass (Cynodon dactylon)	Introduced Perennial Grasses and shipping.	Pound	$3.92	10	$39.20
Materials	71	Nitrogen (N), Urea	Urea	Pound	$0.80	60	$48.00
Materials	73	Phosphorus, P2O5	Superphosphate 44-46% P2O5, NASS/ton	Pound	$0.46	55	$25.30
Materials	74	Potassium, K2O	Muriate Of Potash 60-62% K20, NASS $/ton	Pound	$0.45	40	$18.00
Equipment/Installation	960	Seeding Operation, No Till/Grass Drill	No Till drill or grass drill for seeding. Includes all costs for equipment, power unit, and labor.	Acre	$19.08	1	$19.08
Equipment/Installation	950	Fertilizer, ground application, dry bulk	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	$4.89	1	$4.89
Equipment/Installation	945	Tillage, Light	Includes light disking (tandem) or field cultivator. Equipment and power unit costs. Labor is included.	Acre	$9.63	1	$9.63
Mobilization	1143	Mobilization, Light Equipment Operator	Mobilization of light equipment operators: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	$22.85	1	$22.85

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Southern Plains
State	Oklahoma
Discipline Group	Agronomy
Practice Code/Name	342 - Critical Area Planting
Scenario ID	4
Scenario Name	Introduced Seed with NPK and Lime, normal till
Scenario Description	Establishment of permanent vegetation on a site that is void or nearly void of vegetation due to a natural or human disturbance or vegetation of newly constructed conservation practices such as ponds, waterways, diversions, etc.. Costs include tillage equipment, seedbed preparation with typical tillage implements, bermudagrass seed, and fertilizer/lime needed for establishment.
Before Practice Situation	Areas that are void or nearly void of vegetation, resulting in bare soil being exposed to erosive processes. The exposed areas may be caused from natural occurrences (fire, flood, etc) or human disturbance. The exposed areas have visible rills. Runoff from the area flows into streams, water courses or other water bodies causing degradation to the receiving waters. The soil typically has low fertility and possibly a pH imbalance.
After Practice Situation	This typical 1.0 acre critical area is stabilized by smoothing rills and then applying fertilizer, lime (if needed) and seed. Soil amendments will be incorporated at an depth of six inches to improve fertility and ensure establishment of permanent vegetative cover. Apply 60 lbs of nitrogen, 55 lbs of phosphate and 40 lbs of potash, along with an application of 1 ton of lime. Prepare a firm, weed free seedbed so that proper germination and stand establishment are ensured. Once the seedbed has been prepared, drill adapted grass species (such as bermudagrass) for a vegetative cover.
Scenario Feature Measure	area seeded
Scenario Unit	Acre
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$241.96	$241.96
Equipment/Installation	$40.51	$40.51
Labor	$0.00	$0.00
Mobilization	$35.25	$35.25
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$317.72	$317.72

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost
Materials	1091	Bermuda Grass (Cynodon dactylon)	Introduced Perennial Grasses and shipping.	Pound	$3.92	10	$39.20
Materials	75	Lime, ENM	Fertilizer: Limestone Spread on field NASS	Ton	$111.46	1	$111.46
Materials	71	Nitrogen (N), Urea	Urea	Pound	$0.80	60	$48.00
Materials	73	Phosphorus, P2O5	Superphosphate 44-46% P2O5, NASS/ton	Pound	$0.46	55	$25.30
Materials	74	Potassium, K2O	Muriate Of Potash 60-62% K20, NASS $/ton	Pound	$0.45	40	$18.00
Equipment/Installation	960	Seeding Operation, No Till/Grass Drill	No Till drill or grass drill for seeding. Includes all costs for equipment, power unit, and labor.	Acre	$19.08	1	$19.08
Equipment/Installation	953	Lime application	Lime application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	$6.91	1	$6.91
Equipment/Installation	950	Fertilizer, ground application, dry bulk	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	$4.89	1	$4.89
Equipment/Installation	945	Tillage, Light	Includes light disking (tandem) or field cultivator. Equipment and power unit costs. Labor is included.	Acre	$9.63	1	$9.63
Mobilization	1137	Mobilization, very small equipment	Equipment that is small enough to be transported by a pick-up truck with typical weights less than 3,500 pounds. Can be multiple pieces of equipment if all hauled simultaneously.	Each	$35.25	1	$35.25

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Southern Plains
State	Oklahoma
Discipline Group	Agronomy
Practice Code/Name	342 - Critical Area Planting
Scenario ID	5
Scenario Name	Sprig-Dozer plus NPK
Scenario Description	Establishment of permanent vegetation on a site that is void or nearly void of vegetation due to a natural or human disturbance. Costs include a dozer for leveling or pulling extra heavy tillage equipment, seedbed preparation with typical tillage implements, bermudagrass sprigs, and fertilizer needed for establishment.
Before Practice Situation	Areas that are void or nearly void of vegetation, resulting in bare soil being exposed to erosive processes. The exposed areas may be caused from natural occurrences (fire, flood, etc) or human disturbance. The exposed areas have visible rills and possibly small gullies averaging 1 foot in depth and 1 foot in width. All gullies are treatable with dozing or extra heavy tillage equipment such as a rhome disk and minimal blade work. Runoff from the area flows into streams, water courses or other water bodies causing degradation to the receiving waters. The soil typically has low fertility.
After Practice Situation	This typical 1.0 acre critical area is stabilized by smoothing rills and small gullies with heavy tillage and minimal blade work(4 hours) and then applying fertilizer, sprigs. Soil amendments will be incorporated at an depth of six inches to improve fertility and ensure establishment of permanent vegetative cover. Apply 60 lbs of nitrogen, 55 lbs of phosphate and 40 lbs of potash. Prepare a firm, weed free seedbed so that proper stand establishment are ensured. Once the seedbed has been prepared, sprig adapted grass species (such as bermudagrass) for a vegetative cover.
Scenario Feature Measure	area sprigged
Scenario Unit	Acre
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$233.70	$233.70
Equipment/Installation	$273.33	$273.33
Labor	$94.24	$94.24
Mobilization	$127.32	$127.32
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$728.59	$728.59

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost
Materials	1092	Bermuda Grass, Sprigs (Cynodon dactylon)	Introduced Perennial Grasses and shipping.	Bushel	$3.56	40	$142.40
Materials	71	Nitrogen (N), Urea	Urea	Pound	$0.80	60	$48.00
Materials	73	Phosphorus, P2O5	Superphosphate 44-46% P2O5, NASS/ton	Pound	$0.46	55	$25.30
Materials	74	Potassium, K2O	Muriate Of Potash 60-62% K20, NASS $/ton	Pound	$0.45	40	$18.00
Equipment/Installation	1101	Ground sprigging	Includes costs for equipment, power unit and labor.	Acre	$75.21	1	$75.21
Equipment/Installation	950	Fertilizer, ground application, dry bulk	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	$4.89	1	$4.89
Equipment/Installation	945	Tillage, Light	Includes light disking (tandem) or field cultivator. Equipment and power unit costs. Labor is included.	Acre	$9.63	1	$9.63
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hours	$45.90	4	$183.60
Labor	233	Equipment Operators, Heavy	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hours	$23.56	4	$94.24
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	$127.32	1	$127.32

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Southern Plains
State	Oklahoma
Discipline Group	Agronomy
Practice Code/Name	342 - Critical Area Planting
Scenario ID	6
Scenario Name	Sprig-Dozer plus NPK and Lime
Scenario Description	Establishment of permanent vegetation on a site that is void or nearly void of vegetation due to a natural or human disturbance. Costs include a dozer for leveling or for pulling extra heavy tillage equipment, seedbed preparation with typical tillage implements, bermudagrass sprigs, and fertilizer/lime needed for establishment.
Before Practice Situation	Areas that are void or nearly void of vegetation, resulting in bare soil being exposed to erosive processes. The exposed areas may be caused from natural occurrences (fire, flood, etc) or human disturbance. The exposed areas have visible rills and possibly small gullies averaging 1 foot in depth and 1 foot in width. All gullies are treatable with dozing or extra heavy tillage equipment such as a rhome disk and minimal blade work. Runoff from the area flows into streams, water courses or other water bodies causing degradation to the receiving waters. The soil typically has low fertility and possibly a pH imbalance.
After Practice Situation	This typical 1.0 acre critical area is stabilized by smoothing rills and small gullies with heavy tillage and minimal blade work(4 hours) and then applying fertilizer, lime (if needed) and seed/sprigs. Soil amendments will be incorporated at an depth of six inches to improve fertility and ensure establishment of permanent vegetative cover. Apply 60 lbs of nitrogen, 55 lbs of phosphate and 40 lbs of potash, along with an application of 1 ton of lime. Prepare a firm, weed free seedbed so that proper stand establishment is ensured. Once the seedbed has been prepared, sprig adapted grass species (such as bermudagrass) for a vegetative cove.
Scenario Feature Measure	area sprigged
Scenario Unit	Acre
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$345.16	$345.16
Equipment/Installation	$280.24	$280.24
Labor	$94.24	$94.24
Mobilization	$127.32	$127.32
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$846.96	$846.96

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost
Materials	1092	Bermuda Grass, Sprigs (Cynodon dactylon)	Introduced Perennial Grasses and shipping.	Bushel	$3.56	40	$142.40
Materials	75	Lime, ENM	Fertilizer: Limestone Spread on field NASS	Ton	$111.46	1	$111.46
Materials	71	Nitrogen (N), Urea	Urea	Pound	$0.80	60	$48.00
Materials	73	Phosphorus, P2O5	Superphosphate 44-46% P2O5, NASS/ton	Pound	$0.46	55	$25.30
Materials	74	Potassium, K2O	Muriate Of Potash 60-62% K20, NASS $/ton	Pound	$0.45	40	$18.00
Equipment/Installation	1101	Ground sprigging	Includes costs for equipment, power unit and labor.	Acre	$75.21	1	$75.21
Equipment/Installation	953	Lime application	Lime application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	$6.91	1	$6.91
Equipment/Installation	950	Fertilizer, ground application, dry bulk	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	$4.89	1	$4.89
Equipment/Installation	945	Tillage, Light	Includes light disking (tandem) or field cultivator. Equipment and power unit costs. Labor is included.	Acre	$9.63	1	$9.63
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hours	$45.90	4	$183.60
Labor	233	Equipment Operators, Heavy	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hours	$23.56	4	$94.24
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	$127.32	1	$127.32

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Southern Plains
State	Oklahoma
Discipline Group	Agronomy
Practice Code/Name	342 - Critical Area Planting
Scenario ID	7
Scenario Name	bermudagrass sprigging, normal till plus NPK
Scenario Description	Establishment of permanent vegetation on a site that is void or nearly void of vegetation due to a natural or human disturbance or vegetation of newly constructed conservation practices such as ponds, waterways, diversions, etc.. Costs include tillage equipment, seedbed preparation with typical tillage implements, bermudagrass sprigs, and fertilizer needed for establishment.
Before Practice Situation	Areas that are void or nearly void of vegetation, resulting in bare soil being exposed to erosive processes. The exposed areas may be caused from natural occurrences (fire, flood, etc) or human disturbance. The exposed areas have visible rills. Runoff from the area flows into streams, water courses or other water bodies causing degradation to the receiving waters. The soil typically has low fertility.
After Practice Situation	This typical 1.0 acre critical area is stabilized by smoothing rills and then applying fertilizer and sprigs. Soil amendments will be incorporated at an depth of six inches to improve fertility and ensure establishment of permanent vegetative cover. Apply 60 lbs of nitrogen, 55 lbs of phosphate and 40 lbs of potash. Prepare a firm, weed free seedbed so that proper germination and stand establishment are ensured. Once the seedbed has been prepared, sprig grass species (such as bermudagrass) for a vegetative cover.
Scenario Feature Measure	area sprigged
Scenario Unit	Acre
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$233.70	$233.70
Equipment/Installation	$89.73	$89.73
Labor	$0.00	$0.00
Mobilization	$22.85	$22.85
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$346.28	$346.28

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost
Materials	1092	Bermuda Grass, Sprigs (Cynodon dactylon)	Introduced Perennial Grasses and shipping.	Bushel	$3.56	40	$142.40
Materials	71	Nitrogen (N), Urea	Urea	Pound	$0.80	60	$48.00
Materials	73	Phosphorus, P2O5	Superphosphate 44-46% P2O5, NASS/ton	Pound	$0.46	55	$25.30
Materials	74	Potassium, K2O	Muriate Of Potash 60-62% K20, NASS $/ton	Pound	$0.45	40	$18.00
Equipment/Installation	1101	Ground sprigging	Includes costs for equipment, power unit and labor.	Acre	$75.21	1	$75.21
Equipment/Installation	950	Fertilizer, ground application, dry bulk	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	$4.89	1	$4.89
Equipment/Installation	945	Tillage, Light	Includes light disking (tandem) or field cultivator. Equipment and power unit costs. Labor is included.	Acre	$9.63	1	$9.63
Mobilization	1143	Mobilization, Light Equipment Operator	Mobilization of light equipment operators: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	$22.85	1	$22.85

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Southern Plains
State	Oklahoma
Discipline Group	Agronomy
Practice Code/Name	342 - Critical Area Planting
Scenario ID	8
Scenario Name	bermudagrass sprigging, normal till plus NPK & Lime
Scenario Description	Establishment of permanent vegetation on a site that is void or nearly void of vegetation due to a natural or human disturbance or vegetation of newly constructed conservation practices such as ponds, waterways, diversions, etc. Costs include tillage equipment, seedbed preparation with typical tillage implements, bermudagrass sprigs, and fertilizer/lime needed for establishment.
Before Practice Situation	Areas that are void or nearly void of vegetation, resulting in bare soil being exposed to erosive processes. The exposed areas may be caused from natural occurrences (fire, flood, etc) or human disturbance. Runoff from the area flows into streams, water courses or other water bodies causing degradation to the receiving waters. The soil typically has low fertility and possibly a pH imbalance.
After Practice Situation	This typical 1.0 acre critical area is stabilized by smoothing rills and then applying fertilizer, lime (if needed) and seed/sprigs. Soil amendments will be incorporated at an depth of six inches to improve fertility and ensure establishment of permanent vegetative cover. Apply 60 lbs of nitrogen, 55 lbs of phosphate and 40 lbs of potash, along with an application of 1 ton of lime. Prepare a firm, weed free seedbed. Once the seedbed has been prepared, sprig adapted grasses (such as bermudagrass) for a vegetative cover.
Scenario Feature Measure	area sprigged
Scenario Unit	Acre
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$345.16	$345.16
Equipment/Installation	$96.64	$96.64
Labor	$0.00	$0.00
Mobilization	$22.85	$22.85
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$464.65	$464.65

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost
Materials	1092	Bermuda Grass, Sprigs (Cynodon dactylon)	Introduced Perennial Grasses and shipping.	Bushel	$3.56	40	$142.40
Materials	75	Lime, ENM	Fertilizer: Limestone Spread on field NASS	Ton	$111.46	1	$111.46
Materials	71	Nitrogen (N), Urea	Urea	Pound	$0.80	60	$48.00
Materials	73	Phosphorus, P2O5	Superphosphate 44-46% P2O5, NASS/ton	Pound	$0.46	55	$25.30
Materials	74	Potassium, K2O	Muriate Of Potash 60-62% K20, NASS $/ton	Pound	$0.45	40	$18.00
Equipment/Installation	1101	Ground sprigging	Includes costs for equipment, power unit and labor.	Acre	$75.21	1	$75.21
Equipment/Installation	953	Lime application	Lime application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	$6.91	1	$6.91
Equipment/Installation	950	Fertilizer, ground application, dry bulk	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	$4.89	1	$4.89
Equipment/Installation	945	Tillage, Light	Includes light disking (tandem) or field cultivator. Equipment and power unit costs. Labor is included.	Acre	$9.63	1	$9.63
Mobilization	1143	Mobilization, Light Equipment Operator	Mobilization of light equipment operators: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	$22.85	1	$22.85

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Southern Plains
State	Oklahoma
Discipline Group	Agronomy
Practice Code/Name	342 - Critical Area Planting
Scenario ID	10
Scenario Name	Native Species with dead litter
Scenario Description	Establishment of permanent vegetation on a site that is void or nearly void of vegetation due to a natural or human disturbance. Costs include a dozer for leveling or pulling extra heavy tillage equipment, seedbed preparation with typical tillage implements, native grass seed, and seeding operation needed for establishment. This scenerio also includes a dead litter cover for additional wind/water erosion control.
Before Practice Situation	Areas that are void or nearly void of vegetation, resulting in bare soil being exposed to erosive processes. The exposed areas may be caused from natural occurrences (fire, flood, etc) or human disturbance. The exposed areas have visible rills and possibly small gullies averaging 1 foot in depth and 1 foot in width. All gullies are treatable with leveling or extra heavy tillage equipment such as a rhome disk and minimal blade work. Runoff from the area flows into streams, water courses or other water bodies causing degradation to the receiving waters. The soil typically has low fertility.
After Practice Situation	This typical 1.0 acre critical area is stabilized by smoothing rills and small gullies with heavy tillage and minimal blade work(4 hours) and then seed. Soil amendments will be incorporated at an depth of six inches to ensure establishment of permanent vegetative cover. Prepare a firm, weed free seedbed so that proper germination and stand establishment are ensured. Once the seedbed has been prepared, drill adapted native grass species for a vegetative cover.
Scenario Feature Measure	area seeded
Scenario Unit	Acre
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$160.47	$160.47
Equipment/Installation	$38.16	$38.16
Labor	$0.00	$0.00
Mobilization	$127.32	$127.32
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$325.95	$325.95

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost
Materials	82	Switchgrass, Blackwell (Panicum virgatum)	Native Grasses and shipping.	Pound	$9.62	3.4	$32.71
Materials	81	Side Oats Grama (Bouteloua curtipendula)	Native Grasses and shipping.	Pound	$14.86		$0.00
Materials	71	Nitrogen (N), Urea	Urea	Pound	$0.80	40	$32.00
Materials	73	Phosphorus, P2O5	Superphosphate 44-46% P2O5, NASS/ton	Pound	$0.46	55	$25.30
Materials	74	Potassium, K2O	Muriate Of Potash 60-62% K20, NASS $/ton	Pound	$0.45	40	$18.00
Materials	79	Little Blue Stem (Schizachyrium scoparium)	Native Grasses and shipping.	Pound	$15.43	3.4	$52.46
Equipment/Installation	960	Seeding Operation, No Till/Grass Drill	No Till drill or grass drill for seeding. Includes all costs for equipment, power unit, and labor.	Acre	$19.08	2	$38.16
Equipment/Installation	950	Fertilizer, ground application, dry bulk	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	$4.89		$0.00
Equipment/Installation	946	Tillage, Primary	Includes heavy disking (offset) or chisel plow, Equipment and power unit costs. Labor is included.	Acre	$14.46		$0.00
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	$127.32	1	$127.32

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Southern Plains
State	Oklahoma
Discipline Group	Agronomy
Practice Code/Name	342 - Critical Area Planting
Scenario ID	9
Scenario Name	Native Species w NPK Lime
Scenario Description	Establishment of permanent vegetation on a site that is void or nearly void of vegetation due to a natural or human disturbance. Costs include a dozer for leveling or pulling extra heavy tillage equipment, seedbed preparation with typical tillage implements, a dead litter crop, native grass seed, soil amendments and seeding operation needed for establishment.
Before Practice Situation	Areas that are void or nearly void of vegetation, resulting in bare soil being exposed to erosive processes. The exposed areas may be caused from natural occurrences (fire, flood, etc) or human disturbance. The exposed areas have visible rills and possibly small gullies averaging 1 foot in depth and 1 foot in width. All gullies are treatable with leveling or extra heavy tillage equipment such as a rhome disk and minimal blade work. Runoff from the area flows into streams, water courses or other water bodies causing degradation to the receiving waters. The soil typically has low fertility and possibly a pH imbalance.
After Practice Situation	This typical 1.0 acre critical area is stabilized by smoothing rills and small gullies with heavy tillage and minimal blade work(4 hours) and then applying lime (if needed) and seed. Soil amendments will be incorporated at an depth of six inches to improve pH and ensure establishment of permanent vegetative cover. Prepare a firm, weed free seedbed so that proper germination and stand establishment are ensured. Once the seedbed has been prepared, drill adapted native grass species for a vegetative cover. A dead litter cover is utilized.
Scenario Feature Measure	area seeded
Scenario Unit	Acre
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$237.83	$237.83
Equipment/Installation	$247.93	$247.93
Labor	$94.24	$94.24
Mobilization	$127.32	$127.32
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$707.32	$707.32

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost
Materials	200	Wheat, Winter (Triticum aestivum)	Small Grains, Cover Crops and shipping.	Pound	$1.03	40	$41.20
Materials	82	Switchgrass, Blackwell (Panicum virgatum)	Native Grasses and shipping.	Pound	$9.62	3.4	$32.71
Materials	75	Lime, ENM	Fertilizer: Limestone Spread on field NASS	Ton	$111.46	1	$111.46
Materials	79	Little Blue Stem (Schizachyrium scoparium)	Native Grasses and shipping.	Pound	$15.43	3.4	$52.46
Equipment/Installation	960	Seeding Operation, No Till/Grass Drill	No Till drill or grass drill for seeding. Includes all costs for equipment, power unit, and labor.	Acre	$19.08	2	$38.16
Equipment/Installation	953	Lime application	Lime application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	$6.91	1	$6.91
Equipment/Installation	945	Tillage, Light	Includes light disking (tandem) or field cultivator. Equipment and power unit costs. Labor is included.	Acre	$9.63	2	$19.26
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hours	$45.90	4	$183.60
Labor	233	Equipment Operators, Heavy	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hours	$23.56	4	$94.24
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	$127.32	1	$127.32