

**Scenario Worksheet**

**Practice and Scenario Description:**

Information Type	Data
Region	Appalachian
State	North Carolina
Discipline Group	Agronomy
Practice Code/Name	342 - Critical Area Planting
Scenario ID	1
Scenario Name	Grass/legume mix-normal tillage
Scenario Description	Establishment of permanent vegetation on a site that is void or nearly void of vegetation due to a natural occurrence or a newly constructed conservation practice. Costs include seedbed preparation with typical tillage implements, grass/legume seed, companion crop, and fertilizer and lime with application.
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 recent natural occurrences (fire, flood, wind, etc.) or due to newly constructed conservation practices such as waterways, terraces, water and sediment basins or dams. The exposed areas will be subject to wind erosion, sheet and rill erosion, or visible rills may have already occurred. Runoff from the area flows into streams, water courses or other water bodies causing degradation to the receiving waters. The soil typically has a pH imbalance and low fertility.
After Practice Situation	This typical 1.0 acre critical area is stabilized by applying fertilizer, lime and seed. Soil amendments will be incorporated at an depth of six inches to improve fertility and ensure establishment of permanent vegetative cover. Apply 30 lbs of nitrogen, 60 lbs of phosphate, and 60 lbs of potash, along with an application of 2 tons of lime. Prepare a firm, weed free seedbed so that proper germination and stand establishment are ensured. Once the seedbed has been prepared, drill the following mixture for a vegetative cover: Tall Fescue (50 lbs/ac), and Red Clover (8 lbs/ac) with a nurse crop of Cereal Rye at a seeding rate of 15 lbs per acre.
Scenario Feature Measure	area seeded
Scenario Unit	Acre
Scenario Typical Size	1

**Cost Summary:**

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$310.14	\$310.14
Equipment/Installation	\$49.09	\$49.09
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	\$359.23	\$359.23

**Cost Details:**

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	112	Red Clover (Trifolium pratense)	Introduced Legumes and shipping.	Pound	\$2.60	8	\$20.80
Materials	198	Rye, Cereal (Secale cereale L.)	Small Grains, Cover Crops. Shipping not included.	Pound	\$0.30	15	\$4.50
Materials	75	Lime, ENM	Fertilizer: Limestone Spread on field.	Ton	\$49.57	2	\$99.14
Materials	71	Nitrogen (N), Urea	Price per pound of N supplied by Urea. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.59	30	\$17.70
Materials	73	Phosphorus, P2O5	Price per pound of P2O5 supplied by Superphosphate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.78	60	\$46.80
Materials	74	Potassium, K2O	K2O supplied by Muriate Of Potash. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.52	60	\$31.20
Materials	87	Fescue, Tall (Festuca arundinacea)	Introduced Perennial Grasses and shipping.	Pound	\$1.80	50	\$90.00
Equipment/Installation	1100	Cultipacking	Includes equipment, power unit and labor costs.	Acre	\$7.67	1	\$7.67
Equipment/Installation	960	Seeding Operation, No Till/Grass Drill	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$14.46	1	\$14.46
Equipment/Installation	950	Fertilizer, ground application, dry bulk	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$7.10	1	\$7.10
Equipment/Installation	945	Tillage, Light	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$9.93	2	\$19.86

**Scenario Worksheet**

**Practice and Scenario Description:**

<b>Information Type</b>	<b>Data</b>
Region	Appalachian
State	North Carolina
Discipline Group	Agronomy
Practice Code/Name	342 - Critical Area Planting
Scenario ID	2
Scenario Name	Organic Grass/legume mix-normal tillage
Scenario Description	Establishment of permanent vegetation on a site that is void or nearly void of vegetation due to a natural occurrence or a newly constructed conservation practice. Costs include seedbed preparation with typical tillage implements, grass/legume seed, companion crop, and fertilizer and lime with application. Certified organic seed and fertilizer based upon NOP approved fertilizer inputs will be used where available.
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 recent natural occurrences (fire, flood, etc) or due to newly constructed conservation practices such as waterways, terraces, water and sediment basins or dams. The exposed areas will be subject to wind erosion, sheet and rill erosion, or visible rills may have already occurred. Runoff from the area flows into streams, water courses or other water bodies causing degradation to the receiving waters. The soil typically has a pH imbalance and low fertility.
After Practice Situation	This typical 1.0 acre critical area is stabilized by applying fertilizer, lime and seed. Soil amendments will be incorporated at an depth of six inches to improve fertility and ensure establishment of permanent vegetative cover. The plant nutrients will supplied by a blend of organic soil amendments. Apply 30 lbs of nitrogen, 60 lbs of phosphate, and 60 lbs of potash, along with an application of 2 tons of lime. Prepare a firm, weed free seedbed so that proper germination and stand establishment are ensured. Once the seedbed has been prepared, drill the following mixture for a vegetative cover: Tall Fescue (50 lbs/ac), and Red Clover (8 lbs/ac) with a nurse crop of Cereal Rye at a seeding rate of 15 lbs per acre. Organic seed will be used where available. Manure may be used in lieu of a commercially blended product as long as the manure is tested and the correct quantity of manure is calculated such that the specified 30-60-60 N-P2O5-K2O requirement is met.
Scenario Feature Measure	area seeded
Scenario Unit	Acre
Scenario Typical Size	1

**Cost Summary:**

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$752.92	\$752.92
Equipment/Installation	\$49.09	\$49.09
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	\$802.01	\$802.01

**Cost Details:**

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	117	Certified Organic, Red Clover (Trifolium pratense)	Introduced Legumes and shipping.	Pound	\$8.46	8	\$67.68
Materials	203	Certified Organic, Rye, Cereal (Secale cereale L.)	Small Grains, Cover Crops. Shipping not included.	Pound	\$0.58	15	\$8.70
Materials	266	Nitrogen, Organic	ORGANIC Nitrogen	Pound	\$2.44	30	\$73.20
Materials	267	Phosphorus, Organic	ORGANIC Phosphorus	Pound	\$2.93	60	\$175.80
Materials	268	Potassium, Organic	ORGANIC Potassium	Pound	\$1.29	60	\$77.40
Materials	75	Lime, ENM	Fertilizer: Limestone Spread on field.	Ton	\$49.57	2	\$99.14
Materials	100	Certified Organic, Orchard Grass (Dactylis glomerata)	Introduced Perennial Grasses and shipping.	Pound	\$5.02	50	\$251.00
Equipment/Installation	1100	Cultipacking	Includes equipment, power unit and labor costs.	Acre	\$7.67	1	\$7.67
Equipment/Installation	960	Seeding Operation, No Till/Grass Drill	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$14.46	1	\$14.46
Equipment/Installation	950	Fertilizer, ground application, dry bulk	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$7.10	1	\$7.10
Equipment/Installation	945	Tillage, Light	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$9.93	2	\$19.86

**Scenario Worksheet**

**Practice and Scenario Description:**

<b>Information Type</b>	<b>Data</b>
Region	Appalachian
State	North Carolina
Discipline Group	Agronomy
Practice Code/Name	342 - Critical Area Planting
Scenario ID	3
Scenario Name	Native seeding - normal tillage
Scenario Description	Establishment of permanent vegetation on a site that is void or nearly void of vegetation due to a natural occurrence or a newly constructed conservation practice. Costs include seedbed preparation with typical tillage implements, native grass seed, and fertilizer and lime with application.
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 recent natural occurrences (fire, flood, etc) or due to newly constructed conservation practices such as waterways, terraces, water and sediment basins or dams. The exposed areas will be subject to wind erosion, sheet and rill erosion, or visible rills may have already occurred. Runoff from the area flows into streams, water courses or other water bodies causing degradation to the receiving waters. The soil typically has a pH imbalance and low fertility.
After Practice Situation	This typical 1.0 acre critical area is stabilized by applying fertilizer, lime 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 phosphate and 60 lbs of potash, along with an application of 2 tons of lime. Prepare a firm, weed free seedbed so that proper germination and stand establishment are ensured. Once the seedbed has been prepared, drill the following mixture for a vegetative cover: Big Bluestem (14 lbs/ac) and Switchgrass (2 lbs/ac) with a nurse crop of oats at a seeding rate of 32 lbs per acre.
Scenario Feature Measure	area seeded
Scenario Unit	Acre
Scenario Typical Size	1

**Cost Summary:**

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$366.22	\$366.22
Equipment/Installation	\$49.09	\$49.09
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	\$415.31	\$415.31

**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	2	\$19.24
Materials	76	Big Blue Stem (Andropogon gerardii)	Native Grasses and shipping.	Pound	\$11.81	14	\$165.34
Materials	75	Lime, ENM	Fertilizer: Limestone Spread on field.	Ton	\$49.57	2	\$99.14
Materials	74	Potassium, K2O	K2O supplied by Muriate Of Potash. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.52	60	\$31.20
Materials	73	Phosphorus, P2O5	Price per pound of P2O5 supplied by Superphosphate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.78	60	\$46.80
Materials	198	Rye, Cereal (Secale cereale L.)	Small Grains, Cover Crops. Shipping not included.	Pound	\$0.30	15	\$4.50
Equipment/Installation	945	Tillage, Light	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$9.93	2	\$19.86
Equipment/Installation	950	Fertilizer, ground application, dry bulk	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$7.10	1	\$7.10
Equipment/Installation	960	Seeding Operation, No Till/Grass Drill	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$14.46	1	\$14.46
Equipment/Installation	1100	Cultipacking	Includes equipment, power unit and labor costs.	Acre	\$7.67	1	\$7.67

**Scenario Worksheet**

**Practice and Scenario Description:**

Information Type	Data
Region	Appalachian
State	North Carolina
Discipline Group	Agronomy
Practice Code/Name	342 - Critical Area Planting
Scenario ID	4
Scenario Name	Grass/legume mix-moderate grading
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 grading and shaping of small gullies, seedbed preparation with typical tillage implements, grass/legume seed, companion crop, and fertilizer and lime with application.
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 small gullies averaging 1 foot in depth and 1 foot in width. Runoff from the area flows into streams, water courses or other water bodies causing degradation to the receiving waters. The soil typically has a pH imbalance and low fertility.
After Practice Situation	This typical 1.0 acre critical area is stabilized by grading and shaping the small gullies with a dozer (4 hours) and then applying fertilizer, lime and seed. Soil amendments will be incorporated at an depth of six inches to improve fertility and ensure establishment of permanent vegetative cover. Apply 30 lbs of nitrogen, 60 lbs of phosphate, and 60 lbs of potash, along with an application of 2 tons of lime. Prepare a firm, weed free seedbed so that proper germination and stand establishment are ensured. Once the seedbed has been prepared, drill the following mixture for a vegetative cover: Tall Fescue (50 lbs/ac), and Red Clover (8 lbs/ac) with a nurse crop of Cereal Rye at a seeding rate of 15 lbs per acre.
Scenario Feature Measure	area seeded
Scenario Unit	Acre
Scenario Typical Size	1

**Cost Summary:**

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$320.04	\$320.04
Equipment/Installation	\$269.73	\$269.73
Labor	\$87.92	\$87.92
Mobilization	\$114.37	\$114.37
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$792.06	\$792.06

**Cost Details:**

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	87	Fescue, Tall (Festuca arundinacea)	Introduced Perennial Grasses and shipping.	Pound	\$1.80	50	\$90.00
Materials	75	Lime, ENM	Fertilizer: Limestone Spread on field.	Ton	\$49.57	2	\$99.14
Materials	74	Potassium, K2O	K2O supplied by Muriate Of Potash. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.52	60	\$31.20
Materials	73	Phosphorus, P2O5	Price per pound of P2O5 supplied by Superphosphate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.78	60	\$46.80
Materials	71	Nitrogen (N), Urea	Price per pound of N supplied by Urea. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.59	30	\$17.70
Materials	198	Rye, Cereal (Secale cereale L.)	Small Grains, Cover Crops. Shipping not included.	Pound	\$0.30	48	\$14.40
Materials	112	Red Clover (Trifolium pratense)	Introduced Legumes and shipping.	Pound	\$2.60	8	\$20.80
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$55.16	4	\$220.64
Equipment/Installation	945	Tillage, Light	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$9.93	2	\$19.86
Equipment/Installation	950	Fertilizer, ground application, dry bulk	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$7.10	1	\$7.10
Equipment/Installation	960	Seeding Operation, No Till/Grass Drill	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$14.46	1	\$14.46
Equipment/Installation	1100	Cultipacking	Includes equipment, power unit and labor costs.	Acre	\$7.67	1	\$7.67
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.	Hour	\$21.98	4	\$87.92
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$92.60	1	\$92.60
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	\$21.77	1	\$21.77

**Scenario Worksheet**

**Practice and Scenario Description:**

Information Type	Data
Region	Appalachian
State	North Carolina
Discipline Group	Agronomy
Practice Code/Name	342 - Critical Area Planting
Scenario ID	5
Scenario Name	Native seeding-moderate grading
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 grading and shaping of small gullies, seedbed preparation with typical tillage implements, native grass seed, companion crop, and fertilizer and lime with application.
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 small gullies averaging 1 foot in depth and 1 foot in width. Runoff from the area flows into streams, water courses or other water bodies causing degradation to the receiving waters. The soil typically has a pH imbalance and low fertility. This typical 1.0 acre critical area is stabilized by grading and shaping the small gullies with a dozer (4 hours) and then applying fertilizer, lime 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 phosphate and 60 lbs of potash, along with an application of 2 tons of lime. Prepare a firm, weed free seedbed so that proper germination and stand establishment are ensured. Once the seedbed has been prepared, drill the following mixture for a vegetative cover: Big Bluestem (14 lbs/ac) and Switchgrass (2 lbs/ac) with a nurse crop of oats at a seeding rate of 32 lbs per acre.
After Practice Situation	
Scenario Feature Measure	area seeded
Scenario Unit	Acre
Scenario Typical Size	1

**Cost Summary:**

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$366.22	\$366.22
Equipment/Installation	\$269.73	\$269.73
Labor	\$87.92	\$87.92
Mobilization	\$114.37	\$114.37
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$838.24	\$838.24

**Cost Details:**

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	198	Rye, Cereal (Secale cereale L.)	Small Grains, Cover Crops. Shipping not included.	Pound	\$0.30	15	\$4.50
Materials	82	Switchgrass, Blackwell (Panicum virgatum)	Native Grasses and shipping.	Pound	\$9.62	2	\$19.24
Materials	76	Big Blue Stem (Andropogon gerardii)	Native Grasses and shipping.	Pound	\$11.81	14	\$165.34
Materials	75	Lime, ENM	Fertilizer: Limestone Spread on field.	Ton	\$49.57	2	\$99.14
Materials	73	Phosphorus, P2O5	Price per pound of P2O5 supplied by Superphosphate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.78	60	\$46.80
Materials	74	Potassium, K2O	K2O supplied by Muriate Of Potash. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.52	60	\$31.20
Equipment/Installation	1100	Cultipacking	Includes equipment, power unit and labor costs.	Acre	\$7.67	1	\$7.67
Equipment/Installation	960	Seeding Operation, No Till/Grass Drill	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$14.46	1	\$14.46
Equipment/Installation	950	Fertilizer, ground application, dry bulk	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$7.10	1	\$7.10
Equipment/Installation	945	Tillage, Light	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$9.93	2	\$19.86
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$55.16	4	\$220.64
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.	Hour	\$21.98	4	\$87.92
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$92.60	1	\$92.60
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	\$21.77	1	\$21.77

**Scenario Worksheet**

**Practice and Scenario Description:**

Information Type	Data
Region	Appalachian
State	North Carolina
Discipline Group	Agronomy
Practice Code/Name	342 - Critical Area Planting
Scenario ID	6
Scenario Name	Grass/legume mix-heavy grading
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 grading and shaping of moderate to severe gullies, seedbed preparation with typical tillage implements, grass/legume seed, companion crop, and fertilizer and lime with application.
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 moderate to severe gullies averaging 3 feet in depth and 3 feet in width. Runoff from the area flows into streams, water courses or other water bodies causing degradation to the receiving waters. The soil typically has a pH imbalance and low fertility. This typical 1.0 acre critical area is stabilized by grading and shaping the moderate to severe gullies with a dozer (10 hours) and then applying fertilizer, lime and seed. Soil amendments will be incorporated at an depth of six inches to improve fertility and ensure establishment of permanent vegetative cover. Apply 30 lbs of nitrogen, 60 lbs of phosphate, and 60 lbs of potash, along with an application of 2 tons of lime. Prepare a firm, weed free seedbed so that proper germination and stand establishment are ensured. Once the seedbed has been prepared, drill the following mixture for a vegetative cover: Tall Fescue (50 lbs/ac), and Red Clover (8 lbs/ac) with a nurse crop of Cereal Rye at a seeding rate of 15 lbs per acre.
After Practice Situation	
Scenario Feature Measure	area seeded
Scenario Unit	Acre
Scenario Typical Size	1

**Cost Summary:**

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$310.14	\$310.14
Equipment/Installation	\$600.69	\$600.69
Labor	\$219.80	\$219.80
Mobilization	\$114.37	\$114.37
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$1,245.00	\$1,245.00

**Cost Details:**

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	87	Fescue, Tall (Festuca arundinacea)	Introduced Perennial Grasses and shipping.	Pound	\$1.80	50	\$90.00
Materials	75	Lime, ENM	Fertilizer: Limestone Spread on field.	Ton	\$49.57	2	\$99.14
Materials	74	Potassium, K2O	K2O supplied by Muriate Of Potash. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.52	60	\$31.20
Materials	73	Phosphorus, P2O5	Price per pound of P2O5 supplied by Superphosphate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.78	60	\$46.80
Materials	71	Nitrogen (N), Urea	Price per pound of N supplied by Urea. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.59	30	\$17.70
Materials	198	Rye, Cereal (Secale cereale L.)	Small Grains, Cover Crops. Shipping not included.	Pound	\$0.30	15	\$4.50
Materials	112	Red Clover (Trifolium pratense)	Introduced Legumes and shipping.	Pound	\$2.60	8	\$20.80
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$55.16	10	\$551.60
Equipment/Installation	945	Tillage, Light	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$9.93	2	\$19.86
Equipment/Installation	950	Fertilizer, ground application, dry bulk	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$7.10	1	\$7.10
Equipment/Installation	960	Seeding Operation, No Till/Grass Drill	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$14.46	1	\$14.46
Equipment/Installation	1100	Cultipacking	Includes equipment, power unit and labor costs.	Acre	\$7.67	1	\$7.67
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.	Hour	\$21.98	10	\$219.80
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$92.60	1	\$92.60
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	\$21.77	1	\$21.77

**Scenario Worksheet**

**Practice and Scenario Description:**

Information Type	Data
Region	Appalachian
State	North Carolina
Discipline Group	Agronomy
Practice Code/Name	342 - Critical Area Planting
Scenario ID	7
Scenario Name	Native seeding-heavy grading
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 grading and shaping of moderate to severe gullies, seedbed preparation with typical tillage implements, grass/legume seed, companion crop, and fertilizer and lime with application.
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 moderate to severe gullies averaging 3 feet in depth and 3 feet in width. Runoff from the area flows into streams, water courses or other water bodies causing degradation to the receiving waters. The soil typically has a pH imbalance and low fertility. This typical 1.0 acre critical area is stabilized by grading and shaping the moderate to severe gullies with a dozer (10 hours) and then applying fertilizer, lime 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 phosphate and 60 lbs of potash, along with an application of 2 tons of lime. Prepare a firm, weed free seedbed so that proper germination and stand establishment are ensured. Once the seedbed has been prepared, drill the following mixture for a vegetative cover: Big Bluestem (14 lbs/ac) and Switchgrass (2 lbs/ac) with a nurse crop of oats at a seeding rate of 32 lbs per acre.
After Practice Situation	
Scenario Feature Measure	area seeded
Scenario Unit	Acre
Scenario Typical Size	1

**Cost Summary:**

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$366.22	\$366.22
Equipment/Installation	\$600.69	\$600.69
Labor	\$219.80	\$219.80
Mobilization	\$114.37	\$114.37
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$1,301.08	\$1,301.08

**Cost Details:**

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	198	Rye, Cereal (Secale cereale L.)	Small Grains, Cover Crops. Shipping not included.	Pound	\$0.30	15	\$4.50
Materials	82	Switchgrass, Blackwell (Panicum virgatum)	Native Grasses and shipping.	Pound	\$9.62	2	\$19.24
Materials	76	Big Blue Stem (Andropogon gerardii)	Native Grasses and shipping.	Pound	\$11.81	14	\$165.34
Materials	75	Lime, ENM	Fertilizer: Limestone Spread on field.	Ton	\$49.57	2	\$99.14
Materials	73	Phosphorus, P2O5	Price per pound of P2O5 supplied by Superphosphate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.78	60	\$46.80
Materials	74	Potassium, K2O	K2O supplied by Muriate Of Potash. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.52	60	\$31.20
Equipment/Installation	1100	Cultipacking	Includes equipment, power unit and labor costs.	Acre	\$7.67	1	\$7.67
Equipment/Installation	960	Seeding Operation, No Till/Grass Drill	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$14.46	1	\$14.46
Equipment/Installation	950	Fertilizer, ground application, dry bulk	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$7.10	1	\$7.10
Equipment/Installation	945	Tillage, Light	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$9.93	2	\$19.86
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$55.16	10	\$551.60
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.	Hour	\$21.98	10	\$219.80
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$92.60	1	\$92.60
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	\$21.77	1	\$21.77

**Scenario Worksheet**

**Practice and Scenario Description:**

Information Type	Data
Region	Appalachian
State	North Carolina
Discipline Group	Agronomy
Practice Code/Name	342 - Critical Area Planting
Scenario ID	8
Scenario Name	Hydroseeding
Scenario Description	Seed, fertilizer and mulch are sprayed onto site using hydroseeding equipment to stabilize soil on an erosion prone site too steep for conventional seeding.
Before Practice Situation	Road bank on a mountain site has a 2:1 or steeper slope that is eroding and threatens stability of adjacent farm path, as well as causing non-point source water pollution. Site is too steep and narrow for use of conventional seeding equipment.
After Practice Situation	A permanent cover of perennial vegetation protects the slope from erosion.
Scenario Feature Measure	Area planted
Scenario Unit	Acre
Scenario Typical Size	0.5

**Cost Summary:**

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$1,361.11	\$2,722.21
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	\$1,361.11	\$2,722.21

**Cost Details:**

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	1291	Seeding Operation, hydroseeder	Hydroseeding with typical 1500 to 3600 gallon seeder. Includes all costs for equipment, power unit, and labor.	Acre	\$2,722.21	0.5	\$1,361.11

**Scenario Worksheet**

**Practice and Scenario Description:**

<b>Information Type</b>	<b>Data</b>
Region	Appalachian
State	North Carolina
Discipline Group	Agronomy
Practice Code/Name	342 - Critical Area Planting
Scenario ID	9
Scenario Name	Hydroseeding with Grading
Scenario Description	A gullied area on steep slope is graded smooth using s dozer, then seed, fertilizer and mulch are sprayed onto site using hydroseeding equipment to stabilize soil on an erosion prone site too steep for conventional seeding.
Before Practice Situation	Road bank on a mountain site has a 2:1 or steeper slope that is eroding and threatens stability of adjacent farm path, as well as causing non-point source water pollution. Site is too steep and narrow for use of conventional seeding equipment. Site has a gully that needs treatment to stop head-cutting erosion.
After Practice Situation	A permanent cover of perennial vegetation protects the slope from erosion.
Scenario Feature Measure	Area planted
Scenario Unit	Acre
Scenario Typical Size	0.5

**Cost Summary:**

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$1,471.43	\$2,942.85
Labor	\$43.96	\$87.92
Mobilization	\$114.37	\$228.74
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
<b>Total</b>	<b>\$1,629.76</b>	<b>\$3,259.51</b>

**Cost Details:**

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$55.16	2	\$110.32
Equipment/Installation	1291	Seeding Operation, hydroseeder	Hydroseeding with typical 1500 to 3600 gallon seeder. Includes all costs for equipment, power unit, and labor.	Acre	\$2,722.21	0.5	\$1,361.11
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.	Hour	\$21.98	2	\$43.96
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$92.60	1	\$92.60
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	\$21.77	1	\$21.77

**Scenario Worksheet**

**Practice and Scenario Description:**

<b>Information Type</b>	<b>Data</b>
Region	Appalachian
State	North Carolina
Discipline Group	Agronomy
Practice Code/Name	342 - Critical Area Planting
Scenario ID	10
Scenario Name	Bermudagrass
Scenario Description	A fine, uniform seedbed is prepared by repeated disking. Lime and fertilizer are broadcast and incrotopated. Then hulled Bermudagrass seed and Browntop millet seed are broadcast at rates of 15 lbs. (each) per acre.
Before Practice Situation	A coastal plain site with moderate to well drain soil has a slope that requires permanent vegetative cover to protect it from erosion.
After Practice Situation	A stand of millet emerges first, then by end of growing season the perennial Bermudagrass has become well enough established to provide a permanent protective cover.
Scenario Feature Measure	Acre planted
Scenario Unit	Acre
Scenario Typical Size	1

**Cost Summary:**

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$236.14	\$236.14
Equipment/Installation	\$31.49	\$31.49
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	\$267.63	\$267.63

**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.	Ton	\$49.57	2	\$99.14
Materials	74	Potassium, K2O	K2O supplied by Muriate Of Potash. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.52	30	\$15.60
Materials	73	Phosphorus, P2O5	Price per pound of P2O5 supplied by Superphosphate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.78	60	\$46.80
Materials	71	Nitrogen (N), Urea	Price per pound of N supplied by Urea. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.59	60	\$35.40
Equipment/Installation	945	Tillage, Light	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$9.93	1	\$9.93
Equipment/Installation	950	Fertilizer, ground application, dry bulk	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$7.10	1	\$7.10
Equipment/Installation	960	Seeding Operation, No Till/Grass Drill	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$14.46	1	\$14.46