

## Environmental Quality Incentives Program (EQIP) Practice Payment Schedule Oklahoma FY 2009

Practice Code	Practice Name (units)	Scenario <sup>1/</sup>	Payment Units	Payment Rate <sup>2/</sup>	Practice Lifespan (Yrs)
<b>311</b>	<b>Alley Cropping (ac)</b>				<b>15</b>
	311.1 Tree/Shrub Bareroot		EA	\$0.53	
	311.1 Tree/Shrub Bareroot-HU <sup>3/</sup>		EA	\$0.64	
	311.2 Tree/Shrub Containerized		EA	\$0.92	
	311.2 Tree/Shrub Containerized-HU		EA	\$1.10	
<b>313</b>	<b>Waste Storage Facility (no)</b>				<b>15</b>
	313.1 Waste Storage Facility		CY	\$1.67	
	313.1 Waste Storage Facility-HU		CY	\$2.01	
	313.2 Concrete Open Top Waste Storage Facility		CY	\$255.52	
	313.2 Concrete Open Top Waste Storage Facility-HU		CY	\$306.62	
	313.3 Winter Feeding Structure		SF	\$7.48	
	313.3 Winter Feeding Structure-HU		SF	\$8.97	
	313.4 Dry Waste Storage, Temporary Storage of Bird Litter		SF	\$5.75	
	313.4 Dry Waste Storage, Temporary Storage of Bird Litter-HU		SF	\$6.90	
	313.5 Liquid Waste Storage Facility		CUFT	\$1.06	
	313.5 Liquid Waste Storage Facility-HU		CUFT	\$1.50	
<b>314</b>	<b>Brush Management (ac)</b>				<b>10</b>
	314.1 Chemical treatments (except 2,4D and tebuthiuron)		AC	\$15.44	
	314.1 Chemical treatments (except 2,4D and tebuthiuron)-HU		AC	\$23.16	
	314.2 Chemical, 2,4D		AC	\$5.69	
	314.2 Chemical, 2,4D-HU		AC	\$8.53	
	314.3 Chemical, tebuthiuron		AC	\$38.16	
	314.3 Chemical, tebuthiuron-HU		AC	\$57.23	
	314.4 Mechanical - level 1		AC	\$47.78	
	314.4 Mechanical - level 1-HU		AC	\$66.15	
	314.5 Mechanical - level 2		AC	\$83.20	
	314.5 Mechanical - level 2-HU		AC	\$115.20	
	314.6 Cut/Spray		AC	\$39.55	
	314.6 Cut/Spray-HU		AC	\$59.32	
	314.7 Chemical, IPT		AC	\$16.00	
	314.7 Chemical, IPT-HU		AC	\$24.00	
	314.8 Mechanical-Volatile Fuels Removal		AC	\$90.68	
	314.8 Mechanical-Volatile Fuels Removal-HU		AC	\$125.55	
	314.9 Mechanical-Cedar Removal, Special		AC	\$172.79	
	314.9 Mechanical-Cedar Removal, Special-HU		AC	\$239.25	
<b>317</b>	<b>Composting Facility (no)</b>				<b>15</b>
	317.1 Composting Facility		SF	\$6.50	
	317.1 Composting Facility-HU		SF	\$7.79	
	317.2 Compost/Dry Waste Storage Structure		SF	\$6.46	
	317.2 Compost/Dry Waste Storage Structure-HU		SF	\$7.75	
<b>322</b>	<b>Channel Bank Vegetation (ac)</b>				<b>10</b>
	322.1 Sprigging and Seeding Grasses		AC	\$105.32	
	322.1 Sprigging and Seeding Grasses-HU		AC	\$126.38	
	322.2 Trees/shrub Establishment		AC	\$496.24	
	322.2 Trees/shrub Establishment-HU		AC	\$595.49	
	322.3 Switchgrass and Reedgrass Establishment		AC	\$1,965.00	
	322.3 Switchgrass and Reedgrass Establishment-HU		AC	\$2,358.00	
<b>324</b>	<b>Deep Tillage (ac)</b>				<b>3</b>
	324.1 Ripping and Subsoiling		AC	\$9.00	
	324.1 Ripping and Subsoiling-HU		AC	\$10.80	

Practice Code	Practice Name (units)	Scenario 1/	Payment Units	Payment Rate 2/	Practice Lifespan (Yrs)
<b>328</b>	<b>Conservation Crop Rotation (ac)</b>				<b>1</b>
	<b>Note:</b>	Payment is limited to a maximum of 1280 acres. Must have been in monoculture previous 3 years. Payment is made first year a new crop is planted.			
		328.1 Utilizing Crop Rotations	AC	\$5.25	
		328.1 Utilizing Crop Rotations-HU	AC	\$6.30	
	<b>Note:</b>	328.2 is only available in counties with 30 inch or less average annual precipitation: Alfalfa, Beaver, Beckham, Blaine, Cimarron, Custer, Dewey, Ellis, Greer, Harmon, Harper, Jackson, Kiowa, Major, Roger Mills, Texas, Tillman, Washita, Woods, and Woodward counties.			
		328.2 Severe Climate	AC	\$18.00	
		328.2 Severe Climate-HU	AC	\$23.30	
<b>329</b>	<b>Residue and Tillage Management, No Till/Strip Till/Direct Seed (ac)</b>				<b>1</b>
	<b>Note:</b>	Payment is limited to a maximum of 1280 acres per year. The practice must be applied for three consecutive years.			
		329.1 No Till System	AC	\$19.70	
		329.1 No Till System-HU	AC	\$29.55	
<b>332</b>	<b>Contour Buffer Strips (ac)</b>				<b>10</b>
		332.1 Introduced Grass Seed	AC	\$28.88	
		332.1 Introduced Grass Seed-HU	AC	\$34.65	
		332.2 Bermudagrass Sprigging	AC	\$56.25	
		332.2 Bermudagrass Sprigging-HU	AC	\$67.50	
		332.3 Native Grass Monoculture	AC	\$54.56	
		332.3 Native Grass Monoculture-HU	AC	\$65.48	
		332.4 Native Grass Mixture	AC	\$49.50	
		332.4 Native Grass Mixture-HU	AC	\$59.40	
<b>338</b>	<b>Prescribed Burning (ac)</b>				<b>5</b>
		338.1 Level 1-Prescribed Burn	AC	\$5.24	
		338.1 Level 1-Prescribed Burn-HU	AC	\$6.28	
		338.2 Level 2-Prescribed Burn	AC	\$8.24	
		338.2 Level 2-Prescribed Burn-HU	AC	\$9.88	
<b>340</b>	<b>Cover Crop (ac)</b>				<b>1</b>
		Green Manure	AC	\$23.00	
		Green Manure-HU	AC	\$46.00	
<b>342</b>	<b>Critical Area Planting (ac)</b>				<b>10</b>
		342.1 Critical Area Planting	AC	\$116.76	
		342.1 Critical Area Planting-HU	AC	\$140.11	
		342.2 Tree/Shrub Establishment	AC	\$514.99	
		342.2 Tree/Shrub Establishment-HU	AC	\$617.99	
		342.3 Shaping and Filling Gullies	AC	\$632.01	
		342.3 Shaping and Filling Gullies-HU	AC	\$758.41	
		342.4 Sod Mulching, Seedbed Preparation, Placement	AC	\$187.50	
		342.4 Sod Mulching, Seedbed Preparation, Placement-HU	AC	\$225.00	
<b>345</b>	<b>Residue and Tillage Management, Mulch Till (ac)</b>				<b>1</b>
	<b>Note:</b>	Payment is limited to a maximum of 1280 acres per year. The practice must be applied for three consecutive years.			
		345.1 Implement Mulch Till System	AC	\$8.73	
		345.1 Implement Mulch Till System-HU	AC	\$13.09	
<b>346</b>	<b>Residue and Tillage Management, Ridge Till (ac)</b>				<b>1</b>
	<b>Note:</b>	Payment is limited to a maximum of 1280 acres per year. The practice must be applied for three consecutive years.			
		346.1 Implement Ridge Till System	AC	\$27.09	
		346.1 Implement Ridge Till System-HU	AC	\$40.63	

Practice Code	Practice Name (units)	Scenario 1/	Payment Units	Payment Rate 2/	Practice Lifespan (Yrs)
<b>350</b>	<b>Sediment Basin (no)</b>				20
	350.1 Sediment Basin		EA	\$5,799.90	
	350.1 Sediment Basin-HU		EA	\$6,959.88	
<b>351</b>	<b>Well Decommissioning (no)</b>				20
	351.1 Plugging - Domestic/Livestock Well		EA	\$412.50	
	351.1 Plugging - Domestic/Livestock Well-HU		EA	\$495.00	
	351.2 Plugging - Irrigation Well		EA	\$900.00	
	351.2 Plugging - Irrigation Well-HU		EA	\$1,080.00	
<b>359</b>	<b>Waste Treatment Lagoon (no)</b>				15
	359.1 Waste Treatment Lagoon		CY	\$1.67	
	359.1 Waste Treatment Lagoon-HU		CY	\$2.01	
<b>360</b>	<b>Closurement of Waste Impoundment (no)</b>				15
	360.1 Closure of Waste Impoundment		EA	\$13,031.25	
	360.1 Closure of Waste Impoundment-HU		EA	\$15,637.50	
<b>362</b>	<b>Diversion (ft)</b>				10
	362.1 Diversion		CY	\$1.04	
	362.1 Diversion-HU		CY	\$1.25	
<b>370</b>	<b>Atmospheric Resource Quality Management (ac)</b>				1
	<b>Note:</b> Payment is limited to 200 acres per year. Payment may be made for one, two, or three years.				
	370.1 Three Manure Harvests/Year		AC	\$232.50	
	370.1 Three Manure Harvests/Year-HU		AC	\$279.00	
<b>378</b>	<b>Pond (no)</b>				20
	<b>Note:</b> Limited to a maximum payment of <b>\$7,500.00</b> per pond.				
	378.1 Pond		CU	\$0.86	
	378.1 Pond -HU		CU	\$1.29	
<b>380</b>	<b>Windbreak/Shelterbelt Establishment (ft)</b>				15
	380.1 Trees &/or Shrubs - Barerooted		EA	\$0.54	
	380.1 Trees &/or Shrubs - Barerooted-HU		EA	\$0.64	
	380.2 Trees &/or Shrubs - Barerooted - w/ACD		EA	\$0.77	
	380.2 Trees &/or Shrubs - Barerooted - w/ACD-HU		EA	\$0.92	
	380.3 Trees &/or Shrubs - Containerized/Potted		EA	\$0.92	
	380.3 Trees &/or Shrubs - Containerized/Potted-HU		EA	\$1.10	
	380.4 Trees &/or Shrubs-Containerized/Potted - w/ACD		EA	\$1.15	
	380.4 Trees &/or Shrubs-Containerized/Potted - w/ACD-HU		EA	\$1.38	
<b>382</b>	<b>Fence (ft)</b>				20
	382.1 Permanent Fence, Barbed or Smooth Wire		FT	\$0.76	
	382.1 Permanent Fence, Barbed or Smooth Wire-HU		FT	\$1.14	
	382.2 Permanent Fence, Woven Wire		FT	\$1.12	
	382.2 Permanent Fence, Woven Wire-HU		FT	\$1.68	
	382.3 Permanent Power Fence		FT	\$0.56	
	382.3 Permanent Power Fence-HU		FT	\$0.84	
	382.5 Permanent Fence, Barbed or Smooth Wire, Extra Materials and Labor		FT	\$1.64	
	382.5 Permanent Fence, Barbed or Smooth Wire, Extra Materials and Labor-HU		FT	\$1.96	
<b>383</b>	<b>Fuel Break (ac)</b>				1
	<b>Note:</b> Available only in Atoka, Choctaw, Haskell, Latimer, LeFlore, McCurtain, Pittsburg, and Pushmataha Counties in Oklahoma				
	383.1 Mechanical Removal		AC	\$55.13	
	383.1 Mechanical Removal-HU		AC	\$66.15	

Practice Code	Practice Name (units)	Scenario 1/	Payment Units	Payment Rate 2/	Practice Lifespan (Yrs)
<b>386</b>	<b>Field Border (ft)</b>				10
	386.1	Introduced Grass Seed	AC	\$25.91	
	386.1	Introduced Grass Seed-HU	AC	\$31.09	
	386.2	Bermudagrass Sprigging	AC	\$56.25	
	386.2	Bermudagrass Sprigging-HU	AC	\$67.50	
	386.3	Native Grass Monoculture	AC	\$59.81	
	386.3	Native Grass Monoculture-HU	AC	\$71.78	
	386.4	Native Grass Mixture	AC	\$49.50	
	386.4	Native Grass Mixture-HU	AC	\$59.40	
<b>390</b>	<b>Riparian Herbaceous Cover (ac)</b>				10
	390.1	Native Grass Mixture	AC	\$62.10	
	390.1	Native Grass Mixture-HU	AC	\$74.52	
<b>391</b>	<b>Riparian Forest Buffer (ac)</b>				15
	391.1	Trees &/or Shrubs - Barerooted	EA	\$0.54	
	391.1	Trees &/or Shrubs - Barerooted-HU	EA	\$0.64	
	391.2	Trees &/or Shrubs - Barerooted - w/ACD	EA	\$0.77	
	391.2	Trees &/or Shrubs - Barerooted - w/ACD-HU	EA	\$0.92	
	391.3	Trees &/or Shrubs - Containerized/Potted	EA	\$0.92	
	391.3	Trees &/or Shrubs - Containerized/Potted-HU	EA	\$1.10	
	391.4	Trees &/or Shrubs - Containerized/Potted - w/ACD	EA	\$1.15	
	391.4	Trees &/or Shrubs - Containerized/Potted - w/ACD-HU	EA	\$1.38	
<b>393</b>	<b>Filter Strip (ac)</b>				10
	393.1	Introduced Species	AC	\$54.62	
	393.1	Introduced Species-HU	AC	\$65.54	
	393.2	Sprigging Bermudagrass	AC	\$112.50	
	393.2	Sprigging Bermudagrass-HU	AC	\$135.00	
	393.3	Native Species	AC	\$93.09	
	393.3	Native Species-HU	AC	\$111.71	
<b>394</b>	<b>Fire Break (ft)</b>				10
	394.1	Firebreak, Normal	AC	\$112.44	
	394.1	Firebreak, Normal-HU	AC	\$134.93	
	394.2	Firebreak, Heavy Equipment	AC	\$531.32	
	394.2	Firebreak, Heavy Equipment-HU	AC	\$637.58	
<b>410</b>	<b>Grade Stabilization Structure (no)</b>				15
	410.1	Grade Stabilization Structure - Earthen	CU	\$1.29	
	410.1	Grade Stabilization Structure - Earthen -HU	CU	\$1.55	
	410.2	GSS with Concrete Chute	CY	\$397.65	
	410.2	GSS with Concrete Chute-HU	CY	\$477.18	
	410.3	GSS-Galvanized Steel Toe	SF	\$18.91	
	410.3	GSS-Galvanized Steel Toe-HU	SF	\$22.69	
<b>412</b>	<b>Grassed Waterway (ac)</b>				10
	412.1	Grassed Waterway	AC	\$501.75	
	412.1	Grassed Waterway-HU	AC	\$602.10	
<b>422</b>	<b>Hedgerow Planting (Ft.)</b>				15
	422.1	Trees &/or Shrubs - barerooted	Each	\$0.54	
	422.1	Trees &/or Shrubs - barerooted-HU	Each	\$0.64	
	422.2	Trees &/or Shrubs - barerooted - ACD	Each	\$0.77	
	422.2	Trees &/or Shrubs - barerooted - ACD-HU	Each	\$0.92	
<b>428A</b>	<b>Irrigation Water Conveyance, Ditch and Canal Lining, Plain Concrete (ft)</b>				20
	428A.1	Concrete Ditch and Canal Lining	CY	\$171.60	
	428A.1	Concrete Ditch and Canal Lining-HU	CY	\$257.40	
<b>430DD</b>	<b>Irrigation Water Conveyance, Pipeline, High-Pressure, Underground, Plastic (ft)</b>				25
	430DD.1	High Pressure	DIFT	\$0.30	
	430DD.1	High Pressure-HU	DIFT	\$0.44	

Practice Code	Practice Name (units)	Scenario 1/	Payment Units	Payment Rate 2/	Practice Lifespan (Yrs)
<b>430EE</b>	<b>Irrigation Water Conveyance, Pipeline, Low-Pressure, Underground, Plastic (ft)</b>				25
	430EE.1 Low Pressure		DIFT	\$0.30	
	430EE.1 Low Pressure-HU		DIFT	\$0.44	
<b>436</b>	<b>Irrigation Storage Reservoir (ac-ft)</b>				15
	<b>Note:</b> Limited to a maximum payment of <b>\$7,500.00</b> per practice.				
	436.1 Irrigation Storage Reservoir		CU	\$0.86	
	436.1 Irrigation Storage Reservoir -HU		CU	\$1.29	
<b>441</b>	<b>Irrigation System, Microirrigation (ac)</b>				10
	441.1 Subsurface Drip System		AC	\$498.75	
	441.1 Subsurface Drip System-HU		AC	\$748.13	
	441.2 Windbreak Drip System		TREE	\$1.57	
	441.2 Windbreak Drip System-HU		TREE	\$1.88	
<b>442</b>	<b>Irrigation System, Sprinkler (ac)</b>				15
	442.1 New Low Pressure System		LF	\$26.14	
	442.1 New Low Pressure System-HU		LF	\$39.21	
	442.2 Conversion		LF	\$2.43	
	442.2 Conversion-HU		LF	\$3.64	
	442.3 Big Gun/Pasture Gun		EA	\$550.00	
	442.3 Big Gun/Pasture Gun-HU		EA	\$825.00	
	442.4 Solid Set System for Dust Control, Feedlots 35 Acres and Less		AC	\$4,341.00	
	442.4 Solid Set System for Dust Control, Feedlots 35 Acres and Less-HU		AC	\$6,511.50	
	442.5 Solid Set System for Dust Control, Feedlots Greater Than 35 Acres		AC	\$2,690.50	
	442.5 Solid Set System for Dust Control, Feedlots Greater Than 35 Acres-HU		AC	\$4,035.75	
	442.6 New Low Pressure System		LF	\$36.17	
	442.6 New Low Pressure System-HU		LF	\$54.25	
<b>447</b>	<b>Irrigation System, Tailwater Recovery (no)</b>				20
	447.1 Tailwater Recovery System		CY	\$1.11	
	447.1 Tailwater Recovery System-HU		CY	\$1.66	
<b>449</b>	<b>Irrigation Water Management (ac)</b>				1
	<b>Note:</b> Payment is limited to 640 acres per year. Payment may be made for one, two, or three years.				
	449.1 IWM-Higher Technology		AC	\$10.73	
	449.1 IWM-Higher Technology-HU		AC	\$12.87	
<b>468</b>	<b>Lined Waterway or Outlet (ft)</b>				15
	468.1 Concrete Lined Waterway		CY	\$356.25	
	468.1 Concrete Lined Waterway-HU		CY	\$427.50	
<b>472</b>	<b>Use Exclusion (ac)</b>				10
	<b>Note:</b> 472.1 payment may be made for one, two, or three years. There is no limit to the number of watering sources protected.				
	472.1 Exclusion from Existing Water Source		EA	\$197.50	
	472.1 Exclusion from Existing Water Source-HU		EA	\$217.00	
	<b>Note:</b> 472.2 payment is limited to the lesser acreage of the following computations: 1) the size of the pasture; 2) the linear feet of the stream times a 1000 foot width divided by 43560. This payment may be made for one, two, or three years.				
	472.2 Limit Access to Riparian Areas		AC	\$13.04	
	472.2 Limit Access to Riparian Areas-HU		AC	\$14.32	
<b>484</b>	<b>Mulching (ac)</b>				1
	484.1 Geotextile Fabric Weed Barrier		LF	\$0.30	
	484.1 Geotextile Fabric Weed Barrier-HU		LF	\$0.36	
	484.2 Organic Mulch		AC	\$450.00	
	484.2 Organic Mulch -HU		AC	\$540.00	

Practice Code	Practice Name (units)	Scenario 1/	Payment Units	Payment Rate 2/	Practice Lifespan (Yrs)
<b>490</b>	<b>Tree/Shrub Site Preparation (ac)</b>				<b>1</b>
	490.1 Mechanical Seedbed Preparation		AC	\$28.50	
	490.1 Mechanical Seedbed Preparation-HU		AC	\$34.20	
	490.2 Chemical Site Preparation		AC	\$90.00	
	490.2 Chemical Site Preparation-HU		AC	\$108.00	
	490.3 Complete Forest Site Prep		AC	\$105.75	
	490.3 Complete Forest Site Prep-HU		AC	\$126.90	
	490.4 Soil Ripping		AC	\$63.75	
	490.4 Soil Ripping-HU		AC	\$76.50	
<b>500</b>	<b>Obstruction Removal (ac)</b>				<b>10</b>
	500.1 Terrace Removal		LF	\$0.22	
	500.1 Terrace Removal-HU		LF	\$0.33	
	500.2 Obstruction Removal		CY	\$0.70	
	500.2 Obstruction Removal -HU		CY	\$1.04	
<b>512</b>	<b>Pasture and Hay Planting (ac)</b>				<b>10</b>
	512.1 Bermudagrass Sprigging		AC	\$68.85	
	512.1 Bermudagrass Sprigging-HU		AC	\$82.62	
	512.2 Introduced Species - Seedbed Preparation, Seed & Seeding		AC	\$43.63	
	512.2 Introduced Species - Seedbed Preparation, Seed & Seeding-HU		AC	\$52.35	
	512.3 Native Species - Seedbed Preparation, Seed & Seeding		AC	\$64.64	
	512.3 Native Species - Seedbed Preparation, Seed & Seeding-HU		AC	\$77.57	
	512.4 Legumes - Seedbed Preparation, Seed & Seeding		AC	\$17.36	
	512.4 Legumes - Seedbed Preparation, Seed & Seeding-HU		AC	\$20.83	
<b>516</b>	<b>Pipeline (ft)</b>				<b>20</b>
	516.1 Livestock Pipeline		FT	\$0.72	
	516.1 Livestock Pipeline-HU		FT	\$1.07	
<b>521C</b>	<b>Pond Sealing or Lining, Bentonite Sealant (no)</b>				<b>15</b>
	521C.1 Bentonite/Clay		CY	\$4.13	
	521C.1 Bentonite/Clay-HU		CY	\$6.19	
<b>528</b>	<b>Prescribed Grazing (ac)</b>				<b>5</b>
	528.1 payment is limited to 1280 acres per year. Payment may be made for one, two, or three years.				
	<b>Note:</b>				
	528.1 Prescribed Grazing		AC	\$6.75	
	528.1 Prescribed Grazing-HU		AC	\$8.10	
	528.2 payment is limited to 1280 acres per year. Payment may be made for one, two, or three years.				
	<b>Note:</b>				
	528.2 Monitoring		AC	\$3.45	
	528.2 Monitoring-HU		AC	\$4.14	

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<b>533</b>	<b>Pumping Plant (no)</b>				15
	533.1 Solar Powered		GAL/DA	\$1.53	
	533.1 Solar Powered-HU		GAL/DA	\$2.30	
	<b>Note:</b> 533.2 payment may only be used for pumping of waste or waste water in a waste management system or for pumping tailwater in conjunction with a tailwater recovery system.				
	533.2 Electric Powered		EA	\$7,040.00	
	533.2 Electric Powered-HU		EA	\$10,560.00	
	<b>Note:</b> 533.3 payment may only be used for pumping of waste or waste water in a waste management system or for pumping tailwater in conjunction with a tailwater recovery system.				
	533.3 Internal Combustion Engine		EA	\$11,000.00	
	533.3 Internal Combustion Engine-HU		EA	\$16,500.00	
	<b>Note:</b> Limited to a maximum total payment of <b>\$4,500.00</b> per well.				
	533.4 Pumping Plant Rehabilitation		LF	\$29.80	
	533.4 Pumping Plant Rehabilitation-HU		LF	\$44.70	
	533.5 Pumping Plant Waste Water (Pump Only)		EA	\$550.00	
	533.5 Pumping Plant Waste Water (Pump Only)-HU		EA	\$825.00	
<b>550</b>	<b>Range Planting (ac)</b>				10
	550.1 Native Species, Seedbed Preparation, Seed & Seeding		AC	\$62.10	
	550.1 Native Species, Seedbed Preparation, Seed & Seeding-HU		AC	\$74.52	
<b>552</b>	<b>Irrigation Regulating Reservoir (no)</b>				15
	552.1 Storage Tanks Used with Sprinkler System		GAL	\$0.20	
	552.1 Storage Tanks Used with Sprinkler System-HU		GAL	\$0.30	
	552.2 Irrigation Regulating Reservoir		CY	\$0.86	
	552.2 Irrigation Regulating Reservoir-HU		CY	\$1.29	
<b>561</b>	<b>Heavy Use Area Protection (ac)</b>				10
	561 payment is limited to <b>\$35,000</b> per operating unit.				
	561.1 Rock/Gravel		CY	\$31.27	
	561.1 Rock/Gravel-HU		CY	\$37.52	
	561.2 Concrete		CY	\$122.91	
	561.2 Concrete-HU		CY	\$147.49	
<b>574</b>	<b>Spring Development (no)</b>				10
	574.1 Spring Development		EA	\$344.13	
	574.1 Spring Development-HU		EA	\$516.20	
<b>575</b>	<b>Animal Trails and Walkways (ft)</b>				10
	575.1 Access Ramp		CY	\$107.09	
	575.1 Access Ramp-HU		CY	\$128.50	
<b>578</b>	<b>Stream Crossing (no)</b>				10
	578.1 Stream Crossing		CY	\$58.51	
	578.1 Stream Crossing-HU		CY	\$70.21	
<b>580</b>	<b>Streambank and Shoreline Protection (ft)</b>				20
	580.1 Streambank and Shoreline Protection		CY	\$44.55	
	580.1 Streambank and Shoreline Protection-HU		CY	\$53.46	
<b>587</b>	<b>Structure for Water Control (no)</b>				20
	587.1 Structure for Water Control		CU	\$0.86	
	587.1 Structure for Water Control-HU		CU	\$1.29	

Practice Code	Practice Name (units)	Scenario 1/	Payment Units	Payment Rate 2/	Practice Lifespan (Yrs)
<b>589C</b>	<b>Cross Wind Trap Strips (ac)</b>				<b>5</b>
	589C.1 Introduced Grass Seed		AC	\$25.91	
	589C.1 Introduced Grass Seed-HU		AC	\$31.09	
	589C.2 Bermuda Sprigging		AC	\$56.25	
	589C.2 Bermuda Sprigging-HU		AC	\$67.50	
	589C.3 Native Grass Monoculture		AC	\$59.81	
	589C.3 Native Grass Monoculture-HU		AC	\$71.78	
	589C.4 Native Grass Mixture		AC	\$49.50	
	589C.4 Native Grass Mixture-HU		AC	\$59.40	
<b>590</b>	<b>Nutrient Management (ac)</b>				<b>1</b>
	590.1 Fertilizer for Grass Establishment		AC	\$49.88	
	590.1 Fertilizer for Grass Establishment-HU		AC	\$59.86	
	590.2 Fertilizer for Critical Area Plantings		AC	\$100.01	
	590.2 Fertilizer for Critical Area Plantings-HU		AC	\$120.02	
	590.3 Lime for Grass Establishment		TON	\$31.50	
	590.3 Lime for Grass Establishment-HU		TON	\$37.80	
	<b>Note:</b> 590.4 payment is limited to 640 acres per year. Payment may be made for one, two, or three years.				
	590.4 Calibration Strips		AC	\$4.85	
	590.4 Calibration Strips-HU		AC	\$5.81	
	<b>Note:</b> 590.5 payment is limited to 640 acres per year. Payment may be made for one, two, or three years.				
	590.5 Precision Application		AC	\$8.38	
	590.5 Precision Application-HU		AC	\$10.05	
	<b>Note:</b> 590.6 payment is limited to 640 acres per year. Payment may be made for one, two, or three years.				
	590.6 Chemigation		AC	\$6.13	
	590.6 Chemigation-HU		AC	\$7.35	
	590.7 High Soil P Index		mile/ton	\$0.07	
	590.7 High Soil P Index-HU		mile/ton	\$0.12	
<b>595</b>	<b>Pest Management (ac)</b>				<b>1</b>
	595.1 Pest Mgt, Sericea Lespedeza Control		AC	\$8.76	
	595.1 Pest Mgt, Sericea Lespedeza Control-HU		AC	\$13.13	
	595.2 Pest Mgt, Thistle Control, Chemical		AC	\$6.18	
	595.2 Pest Mgt, Thistle Control, Chemical-HU		AC	\$9.26	
	<b>Note:</b> 595.3 payment is limited to a maximum payment of \$326.25 per year for this practice. Payment may be made for one, two, or three years.				
	595.3 Integrated Pest Management		Year	\$382.50	
	595.3 Integrated Pest Management-HU		Year	\$573.74	
	<b>Note:</b> 595.4 payment is limited to a maimum payment of \$3,520.00 per year. Payment may be made for one, two, or three years.				
	595.4 Crop Application System		AC	\$5.25	
	595.4 Crop Application System-HU		AC	\$6.30	
	<b>Note:</b> 595.5 is only available in Atoka, Choctaw, Haskell, Latimer, LeFlore, McCurtain, Pittsburg, and Pushmataha Counties in Oklahoma				
	595.5 Herbaceous Release		AC	\$37.50	
	595.5 Herbaceous Release-HU		AC	\$45.00	

Practice Code	Practice Name (units)	Scenario 1/	Payment Units	Payment Rate 2/	Practice Lifespan (Yrs)
<b>600</b>	<b>Terrace (ft)</b>				<b>10</b>
	600.1 Terrace Construction		LF	\$0.60	
	600.1 Terrace Construction-HU		LF	\$0.72	
	600.2 Terrace (Fill Section)		CY	\$1.12	
	600.2 Terrace (Fill Section)-HU		CY	\$1.34	
	600.3 Terrace Removal		LF	\$0.33	
	600.3 Terrace Removal-HU		LF	\$0.40	
	600.4 Terrace Reconstruction		LF	\$0.28	
	600.4 Terrace Reconstruction-HU		LF	\$0.33	
<b>603</b>	<b>Herbaceous Wind Barriers (ft)</b>				<b>5</b>
	603.1 Introduced Grass Seed		AC	\$25.69	
	603.1 Introduced Grass Seed-HU		AC	\$30.83	
	603.2 Native Grass Monoculture		AC	\$51.66	
	603.2 Native Grass Monoculture-HU		AC	\$61.99	
	603.3 Native Grass Mixture		AC	\$49.50	
	603.3 Native Grass Mixture-HU		AC	\$59.40	
<b>610</b>	<b>Salinity &amp; Sodic Soil Management (ac)</b>				<b>3</b>
	610.1 Establishing Grass on Salt Area		AC	\$98.46	
	610.1 Establishing Grass on Salt Area-HU		AC	\$118.16	
	610.2 Applying Gypsum		TON	\$22.50	
	610.2 Applying Gypsum-HU		TON	\$27.00	
<b>612</b>	<b>Tree/Shrub Establishment (ac)</b>				<b>15</b>
	612.1 Trees &/or Shrubs - Barerooted		EA	\$0.54	
	612.1 Trees &/or Shrubs - Barerooted-HU		EA	\$0.64	
	612.2 Trees &/or Shrubs - Barerooted - w/ACD		EA	\$0.77	
	612.2 Trees &/or Shrubs - Barerooted - w/ACD-HU		EA	\$0.92	
	612.3 Trees &/or Shrubs - Containerized/Potted		EA	\$0.92	
	612.3 Trees &/or Shrubs - Containerized/Potted-HU		EA	\$1.10	
	612.4 Trees &/or Shrubs - Containerized/Potted - w/ACD		EA	\$1.15	
	612.4 Trees &/or Shrubs - Containerized/Potted - w/ACD-HU		EA	\$1.38	
	612.5 Tree Spade Transplantation		PLUG	\$6.12	
	612.5 Tree Spade Transplantation-HU		PLUG	\$7.34	
	612.6 Planting Pine in Plantation Type Settings		EA	\$0.11	
	612.6 Planting Pine in Plantation Type Settings-HU		EA	\$0.13	
<b>614</b>	<b>Watering Facility (no)</b>				<b>10</b>
	614.1 Drinking Tank or Trough		DF	\$106.76	
	614.1 Drinking Tank or Trough-HU		DF	\$160.14	
	614.2 Energy Free Fountains		GAL	\$15.83	
	614.2 Energy Free Fountains-HU		GAL	\$23.74	
	614.3 Freeze Proof Tank		EA	\$570.15	
	614.3 Freeze Proof Tank-HU		EA	\$855.23	
	614.4 Guzzler		GAL	\$3.15	
	614.4 Guzzler-HU		GAL	\$4.73	
	614.5 Storage Tank		GAL	\$0.27	
	614.5 Storage Tank-HU		GAL	\$0.40	
<b>620</b>	<b>Underground Outlet (ft)</b>				<b>20</b>
	620.1 Underground Outlet		DIFT	\$0.46	
	620.1 Underground Outlet-HU		DIFT	\$0.56	

Practice Code	Practice Name (units)	Scenario 1/	Payment Units	Payment Rate 2/	Practice Lifespan (Yrs)
<b>633</b>	<b>Waste Utilization (ac)</b>				1
	633.1 Agitated or Solid Waste		lbs. P	\$0.15	
	633.1 Agitated or Solid Waste-HU		lbs. P	\$0.18	
	633.2 Liquid Waste		lbs. P	\$0.08	
	633.2 Liquid Waste-HU		lbs. P	\$0.09	
	633.3 Effluent Pumping for Rehabilitation		100 GA	\$1.35	
	633.3 Effluent Pumping for Rehabilitation-HU		100 GA	\$1.62	
<b>634</b>	<b>Manure Transfer (no)</b>				1
	<b>Note:</b> Payment is limited to \$25,000.00 per person. Limited to eastern Oklahoma - All counties containing I-35, and eastward to the Arkansas State Line.				
	634.1 Manure Transfer		TMI	\$0.14	
	634.1 Manure Transfer-HU		TMI	\$0.16	
<b>638</b>	<b>Water and Sediment Control Basin (no)</b>				10
	638.1 Water and Sediment Control Basin		CY	\$2.17	
	638.1 Water and Sediment Control Basin-HU		CY	\$2.60	
<b>642</b>	<b>Water Well (no)</b>				20
	642.1 Well-Drilled, Cased		FT	\$9.43	
	642.1 Well-Drilled, Cased-HU		FT	\$14.14	
	642.2 Well-Drilled, Cased, Shallow <100 foot		EA	\$971.03	
	642.2 Well-Drilled, Cased, Shallow <100 foot-HU		EA	\$1,456.54	
	<b>Note:</b> 642.3 is for Zone 1 only. Alfalfa, Beaver, Blaine, Canadian, Cimarron, Dewey, Ellis, Garfield, Grant, Harper, Kay, Kingfisher, Logan, Major, Noble, Oklahoma, Texas, Woods, and Woodward Counties.				
	642.3 Well-Drilled, Cased, Zone 1		FT	\$11.70	
	642.3 Well-Drilled, Cased, Zone 1-HU		FT	\$17.55	
<b>643</b>	<b>Restoration and Management of Rare or Declining Habitats (ac)</b>				15
	643.1 Native Species, Seedbed Preparation, Seed & Seeding		AC	60.38	
	643.1 Native Species, Seedbed Preparation, Seed & Seeding-HU		AC	72.45	
	643.2 Native Species, Seedbed Preparation, Seed & Seeding		AC	66.28	
	643.2 Native Species, Seedbed Preparation, Seed & Seeding		AC	79.53	
<b>645</b>	<b>Upland Wildlife Habitat Management (ac)</b>				1
	<b>Note:</b> Payment is limited to 1280 acres per year. Payment may be made for one, two, or three years.				
	645.1 - Upland Wildlife Habitat Management		AC	\$4.77	
	645.1 - Upland Wildlife Habitat Management-HU		AC	\$7.16	
<b>666</b>	<b>Forest Stand Improvement (ac)</b>				10
	666.1 Chemical Release		AC	\$63.75	
	666.1 Chemical Release-HU		AC	\$76.50	
	666.2 Mechanical Release		AC	\$82.50	
	666.2 Mechanical Release-HU		AC	\$99.00	
	666.3 Hand Release		AC	\$45.00	
	666.3 Hand Release-HU		AC	\$54.00	

1/ All items must be implemented according to the Economic Cost Data grey box for that scenario

2/ All Items are paid at 100% of the payment rate per unit applied.

3/ HU - Historically Underserved which includes any of the following:

- Limited Resource Farmer or Rancher or Forest Owner
- Beginning Farmer or Rancher
- Socially disadvantaged Farmer or Rancher

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

##### 311.1 Tree/Shrub Bareroot

This practice consists of a typical scenario of planting bareroot pecan trees on a 35' X 35' spacing on a 10 acre bottomland field in an effort to increase crop diversity. The area between the tree rows consists of a bermudgrass/fescue mixture which is harvested for hay as the trees mature into a pecan orchard. The trees will be established according to the Tree/Shrub Establishment (612) and Tree/Shrub Site Preparation (490) standard and specifications.

This practice includes the costs of tree/shrubs, tractor, planter and labor to plant tree/shrubs in an alley system.

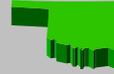
Associated practices include: Cover Crop (340), Forage Harvest Management (511), Pest Management (595), Nutrient Management (590), Tree/Shrub Pruning (660), Pasture and Hayland Planting (512)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Each

**Practice Life (Years):** 15

**Discount Rate (%/Year):** 5%



**Data Source:** 2008 actual cost data and current vendor pricing. Cost data from the 612 practice was used for this practice.

**Cost/Unit**

<b><u>Materials</u></b>	<b>\$0.40</b>
Bareroot Trees/Shrubs	
<b><u>Equipment/Installation/Labor</u></b>	<b>\$0.30</b>
Tractor/Planter/Labor	
<b><u>Labor</u></b>	<b>\$0.00</b>
Included in Equipment/Installation	
<b><u>Mobilization</u></b>	<b>\$0.01</b>
2% of materials, equipment and labor	
<b><u>Operation &amp; Maintenance</u></b>	<b>\$0.01</b>
1% O&M factor	
<b><u>Acquisition of Technical Knowledge</u></b>	<b>\$0.00</b>
Calibrate and operate tree planter and manage trees	
<b><u>Forgone Income</u></b>	<b>\$0.00</b>
Assume no crops taken out of production.	
<b><u>Risk</u></b>	<b>\$0.00</b>
Reduced risk, less erosion, improved water quality	
<b><u>Administration &amp; Permit Costs</u></b>	<b>\$0.00</b>
None	
<b>Total Cost Estimate:</b>	<b>\$0.72</b>

ECONOMIC COST DATA

**Cost Data**

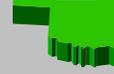
**Typical Implementation Scenario**  
**311.2 Tree/Shrub Containerized**

This practice consists of a typical scenario of planting containerized pecan trees on a 35' X 35' spacing on a 10 acre bottomland field in an effort to increase crop diversity. The area between the tree rows consists of a bermudgrass/fescue mixture which is harvested for hay as the trees mature into a pecan orchard. The trees will be established according to the Tree/Shrub Establishment (612) and Tree/Shrub Site Preparation (490) standard and specifications.

This practice includes the costs of tree/shrubs, tractor, planter and labor to plant tree/shrubs in an alley system.

Associated practices include: Cover Crop (340), Forage Harvest Management (511), Pest Management (595), Nutrient Management (590), Tree/Shrub Pruning (660), Pasture and Hayland Planting (512)

**Geographic Area:** Statewide  
**Unit for Cost Estimate:** Each  
**Practice Life (Years):** 15  
**Discount Rate (%/Year):** 5%



**Cost/Unit**

Data Source: 2008 actual cost data and current vendor pricing. Cost data from the 612 practice was used for this practice.

<b>Materials</b>	<b>\$0.90</b>
Containerized Trees/Shrubs	
<b>Equipment/Installation/Labor</b>	<b>\$0.30</b>
Tractor/Planter/Labor	
<b>Labor</b>	<b>\$0.00</b>
Included in Equipment/Installation	
<b>Mobilization</b>	<b>\$0.02</b>
2% of materials, equipment and labor	
<b>Operation &amp; Maintenance</b>	<b>\$0.01</b>
1% O&M factor	
<b>Acquisition of Technical Knowledge</b>	<b>\$0.00</b>
Calibrate and operate tree planter and manage trees	
<b>Forgone Income</b>	<b>\$0.00</b>
Assume no crops taken out of production.	
<b>Risk</b>	<b>\$0.00</b>
Reduced risk, less erosion, improved water quality	
<b>Administration &amp; Permit Costs</b>	<b>\$0.00</b>
None	
<b>Total Cost Estimate:</b>	<b>\$1.24</b>

ECONOMIC COST DATA

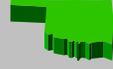
**Cost Data**

**Typical Implementation Scenario**

**313.1 Waste Storage Facility**

A waste storage facility that is constructed by excavation or fill of earth that temporarily stores wastes such as manure, waste water, and contaminated runoff. The typical structure consists of excavation/fill plus a designed liner. Typical structure consists of 6572 CY of excavation/fill plus 1230 CY of liner. The liner will normally be a Clay Liner or Bentonite Liner. The cost for the typical installation is equal to \$2.23/cy of required excavation/fill, and designed liner.

Data Source: Indexed 2007 actual cost data



Geographic Area: Statewide

Unit for Cost Estimate: CY - Cubic Yard  
 Practice Life (Years): 15  
 Discount Rate (%/Year): 5%

**Cost/Unit**

**Materials**

\$2.23

Includes Equipment/Installation, Labor and Mobilization Costs

Component	Quantity	Unit Cost	Total Costs
Excavation	6572 CY	\$1.72 / CY	\$ 11,303.84
Clay Liner	1230 CY	\$4.95 / CY	\$ 6,088.50
<b>Total Cost</b>			<b>\$ 17,392.34</b>

**Equipment/Installation**

\$0.00

Included in Materials Cost

**Labor**

\$0.00

Included in Equipment/Installation Costs

**Mobilization**

\$0.00

Included in Materials Cost

**Operation & Maintenance**

\$0.00

N/A

**Acquisition of Technical Knowledge**

\$0.00

N/A

**Forgone Income**

\$0.00

None

Small amount of land taken out of production, no lost opportunity costs

**Risk**

\$0.00

Reduced risk, can better manage livestock waste

Increased risk, slight increase in motorized equipment

**Administration & Permit Costs**

None

**Total Cost Estimate:**

\$2.23

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### **313.2 Concrete Open Top Waste Storage Facility**

The typical installation scenario described is on a dairy facility, however, the costs and type of structure would carry across to all open top concrete waste storage facilities (including swine).

The size of the structures and the standard drawings used would be the variables.

A typical structure is designed to store the waste for 120 cow dairy for a 45 day period requiring 82.8 CY of concrete. Cost is based on a turnkey job, all costs included, constructed in accordance to SNTC-1B drawing.

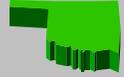
Data Source: 2007 & 2008 actual cost data

Geographic Area: Statewide

Unit for Cost Estimate: CY

Practice Life (Years): 15

Discount Rate (%/Year): 5%



**Cost/Unit**

### Materials

Includes Equipment/Installation, Labor and Mobilization Costs

\$340.69

### Equipment/Installation

Included in Materials Cost

\$0.00

### Labor

Included in Equipment/Installation Costs

\$0.00

### Mobilization

Included in Materials Cost

\$0.00

### Operation & Maintenance

N/A

\$0.00

### Acquisition of Technical Knowledge

N/A

\$0.00

### Forgone Income

None

\$0.00

### Risk

Reduced risk, can better manage livestock waste

\$0.00

### Administration & Permit Costs

None

\$0.00

### **Total Cost Estimate:**

\$340.69

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### **313.3 Winter Feeding Structure**

Part of an animal waste management system. This includes a building designed and installed from approved standard drawings being used for dairy cows; shelter, feeding and the storage of waste. The structure will store approximately 90 days of manure.

Unit costs include all labor and materials needed to build the structure.

The typical structure is an open sided building with metal trusses and metal roof. It is 40' 4" wide, 144' long (5904.0 SF) for 100 dairy cows.

Data Source: Indexed 2007 actual cost data.

Geographic Area: Statewide

Unit for Cost Estimate: SF

Practice Life (Years): 15

Discount Rate (%/Year): 5%

#### Materials

Includes Equipment/Installation, Labor and Mobilization Costs

#### Equipment/Installation

Included in Materials Cost

#### Labor

Included in Equipment/Installation Costs

#### Mobilization

Included in Materials Cost

#### Operation & Maintenance

N/A

#### Acquisition of Technical Knowledge

N/A

#### Forgone Income

None

#### Risk

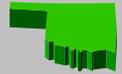
Reduced risk, can better manage livestock waste

#### Administration & Permit Costs

None

#### **Total Cost Estimate:**

**\$9.97**



**Cost/Unit**

\$9.97

\$0.00

\$0.00

\$0.00

\$0.00

\$0.00

\$0.00

\$0.00

\$0.00

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### **313.4 Dry Waste Storage Structure, Temporary Storage of Bird Litter**

The typical structure is an enclosed building, 40.3 ft (40'4") wide, 65 ft long, 5.0 ft deep for 100,000 broilers.

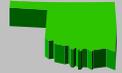
Data Source: Actual cost data from 3 jobs constructed in 2007.

Geographic Area: Statewide

Unit for Cost Estimate: SF

Practice Life (Years): 15

Discount Rate (%/Year): 5%



**Cost/Unit**

#### Materials

Includes Equipment/Installation, Labor and Mobilization Costs

\$7.67

#### Equipment/Installation

Included in Materials Cost

\$0.00

#### Labor

Included in Equipment/Installation Costs

\$0.00

#### Mobilization

Included in Materials Cost

\$0.00

#### Operation & Maintenance

N/A

\$0.00

#### Acquisition of Technical Knowledge

N/A

\$0.00

#### Forgone Income

None

\$0.00

#### Risk

Reduced risk, can better manage livestock waste

\$0.00

#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

\$7.67

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 313.5 Liquid Waste Storage Facility

The typical installation scenario is a pre-fabricated storage tank for liquid slurry on a swine or dairy operation. Cost is based on cubic feet of storage capacity.

The size of the structures and the standard drawings used would be the variables.

Cost is based on a turnkey job, all costs included.

Data Source: Supplier quotes, 2007 cost data from other states.

Geographic Area: Statewide  
 Unit for Cost Estimate: Cubic Foot (CUFT)  
 Practice Life (Years): 15  
 Discount Rate (%/Year): 5%



	<u>Cost/Unit</u>
<b>Materials</b>	\$1.76
Includes Equipment/Installation, Labor and Mobilization Costs	
<b>Equipment/Installation</b>	\$0.00
Included in Materials Cost	
<b>Labor</b>	\$0.00
Included in Equipment/Installation Costs	
<b>Mobilization</b>	\$0.00
Included in Materials Cost	
<b>Operation &amp; Maintenance</b>	\$0.00
N/A	
<b>Acquisition of Technical Knowledge</b>	\$0.00
N/A	
<b>Forgone Income</b>	\$0.00
None	
<b>Risk</b>	\$0.00
Reduced risk, can better manage livestock waste	
<b>Administration &amp; Permit Costs</b>	\$0.00
None	
<b>Total Cost Estimate:</b>	<b>\$1.76</b>

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 314.1 Chemical treatments (excluding 2,4D and tebuthiuron)

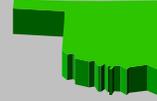
This management practice is for controlling undesirable and/or invasive brush on rangeland, pasturelands, native or naturalized pastures and hayland according to a brush management plan developed in accordance with the NRCS Brush Management (314) standard and specifications. Application is completed either by broadcast, ground application or aerial with plane or helicopter.

There may be several options for chemicals. This scenario includes the most commonly used brush herbicides, excluding 2,4-D products or tebuthiuron. Some options may also be combinations of more than one active ingredient. Common brush species controlled under this practice include mesquite, sand sagebrush, blackberry, broom snakeweed, multiflora rose, osage orange, prickly pear, cholla cactus, honey locust, oaks, shinnery and elm. Results may vary.

Associated Practices: Prescribed Grazing (528), Upland Wildlife Habitat Management (645)

Geographic Area: Statewide

Unit for Cost Estimate: Acre  
 Practice Life (Years): 10  
 Discount Rate (%/Year): 5%



Data Source: 2008 actual cost data, Sales data from companies.

### Cost/Unit

<b>Materials</b>		<b>\$24.88</b>
Chemical: Multiple, most commonly used	\$24.43	
Surfactant (if needed)	\$0.45	
Costs based on average cost of chemicals and prescribed rates according to current Brush Management (314) specifications.		
<b>Equipment/Installation</b>		<b>\$6.00</b>
Aerial or broadcast application: cost of equipment use, labor, fuel, etc.		
<b>Labor</b>		<b>\$0.00</b>
Included in installation Costs		
<b>Mobilization</b>		<b>\$0.00</b>
Included in equipment costs		
<b>Operation &amp; Maintenance</b>		<b>\$0.31</b>
Monitoring and possible follow-up treatments		
<b>Acquisition of Technical Knowledge</b>		<b>\$0.00</b>
None		
<b>Forgone Income</b>		<b>\$2.00</b>
Short term production loss in treated fields. Typically there will also be a deferment period depending on density of brush prior to control. Typical deferment may be 60 - 90 days		
<b>Risk</b>		<b>\$0.00</b>
Reduced risk, forage yield increase		
<b>Administration &amp; Permit Costs</b>		<b>\$0.00</b>
None		
<b>Total Cost Estimate:</b>		<b>\$33.19</b>

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**314.2 Chemical treatment with 2,4D**

This management practice is for controlling undesirable and/or invasive brush on rangeland, pasturelands, native or naturalized pastures and hayland according to a brush management plan developed in accordance with the NRCS Brush Management (314) standard and specifications. Application is completed either by broadcast, ground application or aerial with plane or helicopter.

The most common chemical used is 2,4D as a low cost alternative for control of species such as sand sagebrush, black locust, sumac, willow, buckbrush and elm. Control options for sumac and mesquite using 2,4D and picloram are also included due to low rates and costs. Results may be variable and some alternatives may only result in suppression and/or low kill rates. Those used for suppression will require follow-up applications in order to achieve reductions.

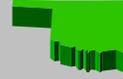
Associated Practices: Prescribed Grazing (528), Upland Wildlife Habitat Management (645)

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 10

Discount Rate (%/Year): 5%



Data Source: 2008 actual cost data, Sales data from companies.

**Cost/Unit**

**Materials**

Chemical: 2,4D (and/or picloram when used for sumac or mesquite) \$4.92

Surfactant (if needed) \$0.45

Costs based on average cost of chemicals and prescribed rates according to current Brush Management (314) specifications.

\$5.37

**Equipment/Installation**

Aerial or broadcast application: cost of equipment use, labor, fuel, etc.

\$6.00

**Labor**

Included in installation Costs

\$0.00

**Mobilization**

Included in equipment costs

\$0.00

**Operation & Maintenance**

Monitoring and possible follow-up treatments

\$0.11

**Acquisition of Technical Knowledge**

None

\$0.00

**Forgone Income**

Short term production loss in treated fields. Typically there will also be a deferment period depending on density of brush prior to control. Typical deferment may be 60 - 90 days

\$2.00

**Risk**

Reduced risk, forage yield increase

\$0.00

**Administration & Permit Costs**

None

\$0.00

**Total Cost Estimate:**

**\$13.48**

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### 314.3 Chemical treatment with tebuthiuron

This management practice is for controlling undesirable and/or invasive brush on rangeland, pasturelands, native or naturalized pastures and hayland according to a brush management plan developed in accordance with the NRCS Brush Management (314) standard and specifications. Application is completed either by broadcast, ground application or aerial with plane or helicopter.

This control option uses tebuthiuron and is primarily used on sand shinnery and some for blackjack / post oaks. This option is higher cost than other options that are available and successful. The use of this chemical is not intended as a means of landclearing and is applied in a manner that results in some brush remaining (i.e. applied in strips).

Associated Practices: Prescribed Grazing (528), Upland Wildlife Habitat Management (645)

**Geographic Area:** Statewide

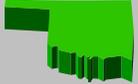
**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%

**Data Source:** 2008 actual cost data, Sales data from companies.

	<u>Cost/Unit</u>
<b><u>Materials</u></b>	<b>\$70.31</b>
Chemical: Tebuthiuron	\$70.31
Costs based on average cost of chemicals and prescribed rates according to current Brush Management (314) specifications.	
<b><u>Equipment/Installation</u></b>	<b>\$6.00</b>
Aerial or broadcast application: cost of equipment use, labor, fuel, etc.	
<b><u>Labor</u></b>	<b>\$0.00</b>
Included in installation Costs	
<b><u>Mobilization</u></b>	<b>\$0.00</b>
Included in equipment costs	
<b><u>Operation &amp; Maintenance</u></b>	<b>\$0.76</b>
Monitoring and possible follow-up treatments	
<b><u>Acquisition of Technical Knowledge</u></b>	<b>\$0.00</b>
None	
<b><u>Forgone Income</u></b>	<b>\$2.00</b>
Short term production loss in treated fields. Typically there will also be a deferment period depending on density of brush prior to control. Typical deferment may be 60 - 90 days	
<b><u>Risk</u></b>	<b>\$0.00</b>
Reduced risk, forage yield increase	
<b><u>Administration &amp; Permit Costs</u></b>	<b>\$0.00</b>
None	
<b>Total Cost Estimate:</b>	<b>\$79.07</b>



ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**314.4 Mechanical Treatment Level 1**

This management practice is for controlling undesirable and/or invasive brush on rangeland, pasturelands, native or naturalized pastures and hayland according to a brush management plan developed in accordance with the NRCS Brush Management (314) standard.

These control options can be very selective by removing the individual unwanted plants but cutting, sawing, severing below the soil surface, or uprooting the plant, while leaving desirable ones. These options are best used for non-sprouting species (such as cedar) or when no other effective option is available and followup treatments are planned. Costs include stacking and raking into piles / windrows.

Associated Practices: Prescribed Grazing (528), Upland Wildlife Habitat Management (645)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%

**Data Source:** 2008 actual cost data, receipts.

**Cost/Unit**

**Materials**

NONE

\$0.00

**Equipment/Installation**

Costs associated with this activity will vary depending on the level of infestation and type of equipment used. Average cost is estimated on a per acre basis based on the most common treatments of clipping/cutting and stacking on areas with medium infestation levels.

\$73.50

Infestation levels are typically <30% canopy cover or less than 200 single stem, non-sprouting plants (i.e. Juniper <8 ft tall) per acre.

Equipment may include tree saws, hydraulic clippers, hydraulic circular saws or other approved methods to sever woody species at or just above the ground surface; or, powergrubbing, treedozing, and low-energy grubbing equipment designed to cut underneath a brush plant and lift or push it out of the ground.

\$56.00

Stacking and/or raking into piles or windrows

\$17.50

**Labor**

Included in installation Costs

\$0.00

**Mobilization**

Included in equipment costs

\$0.00

**Operation & Maintenance**

Monitoring and possible followup treatments

\$0.74

**Acquisition of Technical Knowledge**

None

\$0.00

**Forgone Income**

Short term production loss in treated fields. Typically there may also be a deferment period depending on density of brush prior to control. Typical deferment may be 60 - 90 or more days

\$2.00

**Risk**

Reduced risk, forage yield increase

\$0.00

**Administration & Permit Costs**

None

\$0.00

**Total Cost Estimate:**

**\$76.24**

ECONOMIC COST DATA

Cost Data

**Typical Implementation Scenario**

**314.5 Mechanical Treatment Level 2**

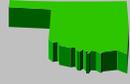
This management practice is for controlling undesirable and/or invasive brush on rangeland, pasturelands, native or naturalized pastures and hayland according to a brush management plan developed in accordance with the NRCS Brush Management (314) standard.

These control options can be very selective by removing the individual unwanted plants but cutting, sawing, severing below the soil surface, or uprooting the plant, while leaving desirable ones. These options are best used for non-sprouting species (such as cedar) or when no other effective option is available and followup treatments are planned. Costs include stacking and raking into piles / windrows.

Associated Practices: Prescribed Grazing (528), Upland Wildlife Habitat Management (645)

Geographic Area: Statewide

Unit for Cost Estimate: Acre  
 Practice Life (Years): 10  
 Discount Rate (%/Year): 5%



Data Source: 2008 actual cost data, receipts.

**Cost/Unit**

<b>Materials</b>		\$0.00
NONE		
<b>Equipment/Installation</b>		\$128.00
Costs associated with this activity will vary depending on the level of infestation and type of equipment used. Average cost is estimated on a per acre basis based on the most common treatments of clipping/cutting and stacking on areas with high infestation levels of brush		
<u>Infestation levels</u> are typically >30% canopy cover or 200 single stem, non-sprouting plants (i.e. Juniper <8 ft tall) per acre. The most cost effective application is at levels of 30-60% canopy or 200 - 500 single stem, non-sprouting plants per acre.		
Equipment may include tree saws, hydraulic clippers, hydraulic circular saws or other approved methods to sever woody species at or just above the ground surface or, powergrubbing, treedozing, and low-energy grubbing equipment designed to cut underneath a brush plant and lift or push it out of the ground.		\$93.00
Stacking and/or raking into piles or windrows		\$35.00
<b>Labor</b>		\$0.00
Included in installation Costs		
<b>Mobilization</b>		\$0.00
Included in equipment costs		
<b>Operation &amp; Maintenance</b>		\$1.28
Monitoring and possible followup treatments		
<b>Acquisition of Technical Knowledge</b>		\$0.00
None		
<b>Forgone Income</b>		\$2.00
Short term production loss in treated fields. Typically there may also be a deferment period depending on density of brush prior to control. Typical deferment may be 60 - 90 or more days		
<b>Risk</b>		\$0.00
Reduced risk, forage yield increase		
<b>Administration &amp; Permit Costs</b>		\$0.00
None		
<b>Total Cost Estimate:</b>		<b>\$131.28</b>

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**314.6 Cutting and Spraying**

This management practice is for controlling undesirable and/or invasive brush on rangeland, pasturelands, native or naturalized pastures and hayland according to a brush management plan developed in accordance with the NRCS Brush Management (314) standard and specifications.

This control option can be very selective by treating the individual unwanted plants, while leaving desirable ones and is only used when controlling sprouting species. Equipment such as tree saws, hydraulic clippers, hydraulic circular saws or other approved methods are used to sever woody species at or just above the ground surface. The equipment is also equipped with spray nozzle and tank to apply a chemical mixture directly to the stump immediately following severing.

Associated Practices: Prescribed Grazing (528), Upland Wildlife Habitat Management (645)

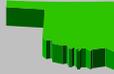
**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%

Data Source: 2008 actual cost data.



		<b>Cost/Unit</b>
<b>Materials</b>		<b>\$22.55</b>
Chemical Mixture: Costs based on Remedy (25%) and diesel fuel (75%)		
	Low infestations	\$11.28
	Medium infestations	\$22.55
	High infestations	\$33.83
<b>Equipment/Installation</b>		<b>\$56.54</b>
Costs includes costs for labor, fuel, chemical application and mobilization. Costs associated with this activity will vary depending on the level of infestation. Average cost is estimated on a per acre basis based on the most common treatments.		
Low infestation levels are typically less than 10% canopy cover or less than 100 single stem, plants per acre.		\$31.00
Medium infestation levels are typically 10% to 30% canopy cover or less than 199 single stem plants per acre.		\$56.00
High infestation levels are typically >30% canopy cover or 200 single stem plants per acre. The most cost effective application is at levels of 30-60% canopy or 200 - 500 single stem, non-sprouting plants per acre.		\$93.00
<b>Labor</b>		<b>\$0.00</b>
Included in installation Costs		
<b>Mobilization</b>		<b>\$0.00</b>
Included in equipment costs		
<b>Operation &amp; Maintenance</b>		<b>\$0.79</b>
Monitoring and possible followup treatments		
<b>Acquisition of Technical Knowledge</b>		<b>\$0.00</b>
None		
<b>Forgone Income</b>		<b>\$2.00</b>
Short term production loss in treated fields. Typically there may also be a deferment period depending on density of brush prior to control. Typical deferment may be 60 - 90 or more days		
<b>Risk</b>		<b>\$0.00</b>
Reduced risk, forage yield increase		
<b>Administration &amp; Permit Costs</b>		<b>\$0.00</b>
None		
<b>Total Cost Estimate:</b>		<b>\$81.88</b>

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**314.7 Individual Plant Treatment (IPT), Chemical**

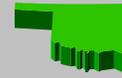
This management practice is for controlling undesirable and/or invasive brush on rangeland, pasturelands, native or naturalized pastures and hayland according to a brush management plan developed in accordance with the NRCS Brush Management (314) standard and specifications (IPT recommendations).

This option is for Individual Plant Treatment (IPT). Treatments are made by using backpack sprayers, hand pump-up units, spray rigs with hand wands, or other similar equipment made to apply herbicides by hand. Treatments are made to individual plants by basal/stem spraying, high volume leaf spraying, soil application (liquid or pellets) or stump spraying when done by hand. These options are most cost effective for controlling brush at lower infestation levels, typically less than 150 plant stems per acre, for selective control when treating individual species when damage to surrounding, desirable plants needs to be avoided and for species that no other control method is available.

Associated Practices: Prescribed Grazing (528), Upland Wildlife Habitat Management (645)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre  
**Practice Life (Years):** 10  
**Discount Rate (%/Year):** 5%



Data Source: 2008 actual cost data, past cost data, data from herbicide companies and rates according to current Brush Management (314) specifications.

**Cost/Unit**

**Materials**

Included chemicals, diesel, oils and/or penetrants, depending on option		\$17.00
Basal Treatment - Herbicide mixed with diesel fuel, oil and/or penetrant applied around lower stem targeted plants. Average of \$.25 per tree	\$18.75	
Soil applied herbicides applied by hand as pellets or some liquid herbicides requiring an exact delivery handgun applicator. Average of \$.10 per tree	\$7.50	
High volume foliar - Herbicides sprayed onto the foliage, stems and trunks of the targeted trees. This method is very useful for spraying small trees, vines, bushes with canes (blackberry) or low growing shrubs (buckbrush). Average of \$.22 per tree.	\$16.50	

**Equipment/Installation**

Hand held equipment and labor costs estimated at \$15.00 per acre. Average treatment is 75 trees per acre.

**Labor**

Included in equipment and installation Costs

**Mobilization**

Included in equipment costs

**Operation & Maintenance**

Monitoring and possible followup treatments

**Acquisition of Technical Knowledge**

None

**Forgone Income**

None

**Risk**

Reduced risk, forage yield increase

**Administration & Permit Costs**

None

**Total Cost Estimate:**

**\$32.15**

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**314.8 Mechanical Treatment - Volatile fuel removal**

This management practice is for removing volatile fuels, when required and in locations required, according to the NRCS Prescribed Burning (338) and Firebreak (394) standards.

Includes the removal of volatile fuels from within the burned firebreak area. This does not include situations where brush (volatile fuels) are removed from the constructed firebreak area only (refer to 394.2) and does not include costs of the actual burning of the firebreak (covered under prescribed burning costs). Removal of volatile fuels is only required where they are present and in locations as specified in approved prescribed burn plan.

Associated Practices: Prescribed Grazing (528), Upland Wildlife Habitat Management (645)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%



Data Source: 2008 actual cost data, receipts.

**Cost/Unit**

<b>Materials</b>		\$0.00
NONE		
<b>Equipment/Installation</b>		\$139.50
Costs associated with this activity will vary depending on the level of infestation and type of equipment used. Average cost is estimated on a per acre basis based on the most common treatments of clipping/cutting. Extra costs are associated with removing brush to areas away from where they were cut/removed.		
Equipment such as tree saws, hydraulic clippers, hydraulic circular saws, dozers, or other approved methods	\$69.50	
Stacking and/or raking into piles or windrows	\$70.00	
<b>Labor</b>		\$0.00
Included in installation Costs		
<b>Mobilization</b>		\$0.00
Included in equipment costs		
<b>Operation &amp; Maintenance</b>		\$1.40
Monitoring and possible followup treatments		
<b>Acquisition of Technical Knowledge</b>		\$0.00
None		
<b>Forgone Income</b>		\$0.00
None		
<b>Risk</b>		\$0.00
Reduced risk, forage yield increase		
<b>Administration &amp; Permit Costs</b>		\$0.00
None		
<b>Total Cost Estimate:</b>		<b>\$140.90</b>

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**314.9 Mechanical Treatment - Cedar Removal, Special**

This management practice is for mechanically removing cedar trees from rangeland, pasturelands, native or naturalized pastures and hayland or within riparian zones according to the NRCS Brush Management (314) standard.

This practice is only applied when cedar trees exceed 30% canopy cover and one of the following exists: 1) Riparian areas where cedars are threatening desirable deciduous trees native to riparian sites (cottonwoods) used for wildlife habitat (primarily roosting sites), or 2) Terrain and /or density of cedar trees do not allow for use of clipping/cutting to be accomplished. Cedars are selectively removed using clipping / cutting equipment or dozers and stacked or placed in windrows or piles. Dozing will be done in a manner that minimizes soil disturbances and damage to other woody species (i.e. hardwoods). This practice is not used for land clearing or for control of re-sprouting species (i.e. oaks).

Associated Practices: Prescribed Grazing (528), Upland Wildlife Habitat Management (645)

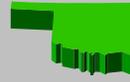
**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%

Data Source: 2008 actual cost data, receipts.



	<u>Cost/Unit</u>
<b>Materials</b>	\$0.00
NONE	
<b>Equipment/Installation</b>	\$265.83
Costs associated with this activity will vary depending on the level of infestation and type of equipment used. Average cost is estimated on a per acre basis based on the most common treatment of dozing.	
Clipping, cutting, dozing	\$195.83
Stacking and/or raking into piles or windrows	\$70.00
<b>Labor</b>	\$0.00
Included in installation Costs	
<b>Mobilization</b>	\$0.00
Included in equipment costs	
<b>Operation &amp; Maintenance</b>	\$2.66
Monitoring and possible followup treatments	
<b>Acquisition of Technical Knowledge</b>	\$0.00
None	
<b>Forgone Income</b>	\$0.00
None	
<b>Risk</b>	\$0.00
Reduced risk, forage yield increase	
<b>Administration &amp; Permit Costs</b>	\$0.00
None	
<b>Total Cost Estimate:</b>	<b>\$268.49</b>

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

##### 317.1 Composting Facility

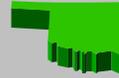
This is a treatment component of an agricultural management system for the biological stabilization of organic material.

Part of an animal waste management system, this includes a building designed and installed from approved standard drawings or a PE design used for composting poultry litter.

Unit costs include all labor and materials needed to build the structure.

A typical facility is 7424 SF with a cost of \$8.66/SF

Geographic Area:                      Statewide  
 Unit for Cost Estimate:            SquareFoot (SF)  
 Practice Life (Years):               15  
 Discount Rate (%/Year):           5%



Data Source: 2008 actual cost data.

#### Cost/Unit

#### Materials

\$8.66

Total cost estimate for complete composting facility and all associated components, includes installation and labor.

7424 sq. ft. @ \$8.66 / sq.ft. = \$64,291.84.00

#### Equipment/Installation

\$0.00

(Included in Materials Costs)

#### Labor

\$0.00

(Included in Materials Costs)

#### Mobilization

\$0.00

Included in Materials Cost

#### Operation & Maintenance

\$0.17

2% of Installation Costs

#### Acquisition of Technical Knowledge

\$0.00

N/A

#### Forgone Income

\$0.00

N/A

#### Risk

\$0.00

N/A

#### Administration & Permit Costs

\$0.38

State Department of Agriculture permit to operate \$600 (\$200 every 5 years, practice life 15yrs).

#### Total Cost Estimate:

\$9.21

# ECONOMIC COST DATA

## Cost Data

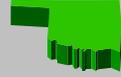
### Typical Implementation Scenario

#### 317.2 Compost/Dry Waste Storage Structure

This is a treatment component of an agricultural management system for the biological stabilization of organic material.

Part of a animal waste management system, this includes a building designed and installed from approved standard drawings or a PE design used for the temporary storage of dry poultry waste and to compost poultry. Dry waste is the mix of poultry litter and manure removed from a poultry house after a single flock has been removed, otherwise known as cake. For breeder operations, dry waste will be that mix of litter and manure resulting from a complete cleanout. The structure will store one cake-out from all houses (broiler, pullet, and/or turkey) or one cleanout of all houses in a breeder operation plus the appropriate compost volume. Unit costs include all labor and materials needed to build the structure. The typical structure is an enclosed building 40' 4" wide, 65' long (2,622 SF) and 5.0' deep with composting bins for 85,000 broilers.

Geographic Area: Statewide  
 Unit for Cost Estimate: SquareFoot (SF)  
 Practice Life (Years): 15  
 Discount Rate (%/Year): 5%



Data Source: 2008 actual cost data.

**Cost/Unit**

#### Materials

\$8.61

Total cost estimate for complete composting facility and all associated components, includes installation and labor.

2622 sq. ft. @ \$8.61 / sq.ft. = \$22,575.42

#### Equipment/Installation

\$0.00

(Included in Materials Costs)

#### Labor

\$0.00

(Included in Material Costs)

#### Mobilization

\$0.00

Included in Materials Cost

#### Operation & Maintenance

\$0.17

2% of Installation Costs

#### Acquisition of Technical Knowledge

\$0.00

N/A

#### Forgone Income

\$0.00

N/A

#### Risk

\$0.00

N/A

#### Administration & Permit Costs

\$0.19

State Department of Agriculture permit to operate \$600 (\$200 every 5 years, practice life 15yrs).

#### **Total Cost Estimate:**

**\$8.97**

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**322.1 Sprigging and Seeding Grasses**

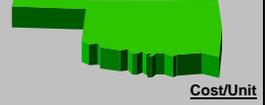
Establishing permanent herbaceous vegetation on channel banks, berms, spoils and associated areas along streambanks and/or shorelines (above the water line) following stabilization activities or used alone to stabilize streambank or shorelines to reduce erosion and sedimentation. Evaluations for the proper use of this practice are based on criteria found in the NRCS Streambank and Shoreline (580) standard.

Associated Practices: Critical Area Planting (342), Nutrient Management (590), Pest Management (595), Streambank and Shoreline Protection (580)

Data Source: 2008 actual cost data, Critical Area Planting (342) cost data.

Geographic Area: Statewide

Unit for Cost Estimate: Acre  
 Practice Life (Years): 10  
 Discount Rate (%/Year): 5%



**Materials**

Includes the cost of the seed/sprigs and any needed seedbed preparation prior to planting. Plantings can be comprised of bermudagrass (seed, sprigs, sod mulch), native mixtures, tall fescue or "Blackwell" switchgrass and will be planted according to the NRCS critical area planting (342) standard and specifications

Does not include cost of fertilizer for establishment.

\$100.00

**Equipment/Installation**

Tractor / Drill / Sprigger / Spreader  
 Seedbed preparation  
 Includes labor

\$15.42

**Labor**

Costs included with installation

**Mobilization**

Due to size of jobs (typically small), some cost may be incurred.

\$25.00

**Operation & Maintenance**

Proper use which may include excluding use.  
 2% of installation costs

\$2.81

**Acquisition of Technical Knowledge**

Planting and management grass.

\$0.00

**Forgone Income**

None

\$0.00

**Risk**

None

\$0.00

**Administration & Permit Costs**

None

\$0.00

**Total Cost Estimate:**

**\$143.23**

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### **322.2 Trees/Shrub Establishment - Seedbed Preparation & Planting**

Establishing trees / shrubs on channel banks, berms, spoils and associated areas along streambanks and/or shorelines following stabilization activities or used alone to stabilize streambank or shorelines to reduce erosion and sedimentation. Evaluations for the proper use of this practice are based on criteria found in the NRCS Streambank and Shoreline (580) standard.

Associated Practices: Critical Area Planting (342), Nutrient Management (590), Pest Management (595), Streambank and Shoreline Protection (580), Tree / Shrub Planting (612)

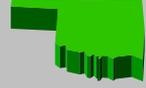
Data Source: 2008 actual cost data, Critical Area Planting (342) cost data.

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 10

Discount Rate (%/Year): 5%



**Cost/Unit**

#### Materials

Includes the cost of the trees and/or shrubs (barerooted) and is based on average spacing requirements (681 - 1210 trees per acre) and costs of 40 cents per tree.

Does not include cost of fertilizer for establishment.

#### Equipment/Installation

Included with labor costs

#### Labor

Includes the cost labor and any equipment needed to install trees / shrubs and is based on an average rate of 30 cents per tree. Also includes any costs associated with site preparation prior to planting.

#### Mobilization

None

#### Operation & Maintenance

Proper use which may include excluding use.  
2% of installation costs

#### Acquisition of Technical Knowledge

Planting and maintenance of trees.

#### Forgone Income

None

#### Risk

None

#### Administration & Permit Costs

None

**Total Cost Estimate:**

\$378.00

\$283.65

\$13.23

\$0.00

\$0.00

\$0.00

\$0.00

**\$674.88**

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**322.3 Switchgrass and Reedgrass Establishment**

Establishing "Kanlow" switchgrass and common reedgrass on channel banks, berms, spoils and associated areas along streambanks and/or shoreline. May be installed following stabilization activities or used alone to stabilize streambank or shorelines to reduce erosion and sedimentation. Kanlow switchgrass is planted in areas at or above the waterline with common reedgrass planted at or below the water line in a system that provides protection from erosion and sedimentation during periodic fluctuations in water levels and flows. Evaluations for the proper use of this practice are based on criteria found in the NRCS Streambank and Shoreline (580) standard.

Associated Practices: Critical Area Planting (342), Nutrient Management (590), Pest Management (595), Streambank and Shoreline Protection (580)

Data Source: 2008 actual cost data, Critical Area Planting (342) cost data.

Geographic Area: Statewide  
 Unit for Cost Estimate: Acre  
 Practice Life (Years): 10  
 Discount Rate (%/Year): 5%



	<u>Cost/Unit</u>
<b>Materials</b>	<b>\$2,600.00</b>
Kanlow switchgrass: Cost of the seed and any needed seedbed preparation prior to planting.	\$150.00
Common reedgrass below water line: Costs includes rhizomes and labor for installation, based on 49 cents per rhizome with approximately 5,000 rhizomes planted per acre.	\$2,450.00
Does not include cost of fertilizer for establishment.	
<b>Equipment/Installation</b>	<b>\$20.00</b>
Tractor / Drill / Sprigger / Spreader (typically range from \$15 - \$25 per acre) and includes labor for planting above the water line.	
Hand tools such as shovels, tree spades, posthole diggers, etc. are used for planting rhizomes by hand.	
<b>Labor</b>	
Costs included with materials / installation	
<b>Mobilization</b>	
None	
<b>Operation &amp; Maintenance</b>	<b>\$52.40</b>
Proper use which may include excluding use.	
2% of installation costs	
<b>Acquisition of Technical Knowledge</b>	<b>\$0.00</b>
Planting and management grass.	
<b>Forgone Income</b>	<b>\$0.00</b>
None	
<b>Risk</b>	<b>\$0.00</b>
None	
<b>Administration &amp; Permit Costs</b>	<b>\$0.00</b>
None	
<b>Total Cost Estimate:</b>	<b>\$2,672.40</b>

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### **324.1 Ripping and Subsoiling**

Using a tractor to pull a subsoiler at a depth of 12 inches in an 80 acre conventionally farmed, continuous wheat field to fracture an existing plow pan, which will promote improved water infiltration and root penetration. This practice is limited to only situations where deep tillage has been determined to be necessary prior to conversion to a no-till system or establishing permanent vegetation.

This practice includes the costs of the tractor, tillage implement, and labor associated with performing the operations.

Associated practices include: Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management -(330) Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Conservation Crop Rotation (328), Contour Farming

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 3

**Discount Rate (%/Year):** 5%

**Cost/Unit**

Data Source: 2007-2008 OSU Cooperative Extension Service Custom Rates.

#### Materials

None

\$0.00

#### Equipment/Installation/Labor

Tractor/Implement/Labor

\$12.00

#### Labor

Included in Equipment/Installation cost

\$0.00

#### Mobilization

No cost on tillage practices

\$0.00

#### Operation & Maintenance

0% O&M factor

\$0.00

#### Acquisition of Technical Knowledge

Knowledge to determine location of compacted soil layer

\$0.00

#### Forgone Income

None, no land taken out of production or lost crop

\$0.00

#### Risk

None

\$0.00

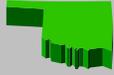
#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$12.00**



## ECONOMIC COST DATA

### Cost Data

#### **Typical Implementation Scenario**

#### **328.1 Utilizing Crop Rotations**

This practice consists of establishing a crop rotation of wheat/soybeans/corn on an 80 acre field with gently sloped, loamy soils to control sheet and rill erosion and improve soil organic matter content.

This practice is to be used to convert a continuous monoculture cropping system to crop rotations where a minimum of 2 different crops are planted in a rotation. Longer rotations of 3 or more different crops in sequence may be used and are encouraged. An evaluation of the cropping system using the current NRCS approved Soil Conditioning Index procedure shall result in a positive trend (SCI >0).

This practice includes the costs of acquiring knowledge and different management skills associated with converting from a monoculture to a crop rotation.

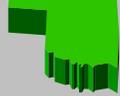
Associated practices include: Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324)

**Geographic Area:** [Counties with 30 inch or less average annual precipitation as listed below:](#)  
Cimarron, Custer, Dewey, Ellis,  
Greer, Harmon, Harper, Jackson,

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 1

**Discount Rate (%/Year):** 5%



**Cost/Unit**

**Data Source:** 2008 estimates from technical specialists.

#### Materials

None

\$0.00

#### Equipment/Installation/Labor

None

\$0.00

#### Labor

None

\$0.00

#### Mobilization

None

\$0.00

#### Operation & Maintenance

0% O&M factor

\$0.00

#### Acquisition of Technical Knowledge

Management skills and knowledge required to convert from a monoculture cropping system to a multiple crop rotation.  
(28 hours X \$20/hour / 80 acres = \$7/ac)

\$7.00

#### Forgone Income

N/A

\$0.00

#### Risk

Crop failure

\$0.00

#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$7.00**

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### **328.2 Severe Climate**

This practice consists of establishing a crop rotation of wheat/soybeans on an 80 acre field with gently sloped, loamy soils to control sheet and rill erosion and improve soil organic matter content.

This practice is to be used on non-irrigated and non-double cropped fields where the average annual rainfall is less than 30 inches per year, to convert a continuous monoculture cropping system to crop rotations where a minimum of 2 different crops are planted in a rotation. Longer rotations of 3 or more different crops in sequence may be used and are encouraged. An evaluation of the cropping system using the current NRCS approved Soil Conditioning Index procedure shall result in a positive trend (SCI >0).

This practice includes the costs of acquiring technical knowledge and different management skills associated with converting from a monoculture to a crop rotation along with the risk of establishing a crop in areas with severe climatic hazards and the associated potential forgone income.

Associated practices include: Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324)

**Geographic Area:** Counties with 30 inch or less average annual precipitation as listed below:

Alfalfa, Beaver, Beckham, Blaine, Cimarron, Custer, Dewey, Ellis, Greer, Harmon, Harper, Jackson, Kiowa, Major, Roger Mills, Texas, Tillman, Washita, Woods, and Woodward counties.



**Unit for Cost Estimate:**

Acre

**Practice Life (Years):**

1

**Discount Rate (%/Year):**

5%

**Cost/Unit**

**Data Source:** 2008 estimates from technical specialists.

### Materials

None

\$0.00

### Equipment/Installation/Labor

None

\$0.00

### Labor

None

\$0.00

### Mobilization

None

\$0.00

### Operation & Maintenance

0% O&M factor

\$0.00

### Acquisition of Technical Knowledge

Management skills and knowledge required to convert from a monoculture cropping system to a multiple crop rotation. (28 hours X \$20/hour / 80 acres = \$7/ac)

\$7.00

### Forgone Income

\$182/ac expected return for wheat minus \$165/ac expected return for soybeans

\$17.00

### Risk

Crop failure

\$0.00

### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$24.00**

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### 329.1 Implement No Till System

This practice consists of managing crop residues on the soil surface year round while limiting soil disturbance activities to only those needed for the placement of nutrients, residue conditioning, and/or planting crops. This practice will be used to convert field(s) which are using full width tillage to no till/strip till systems. The typical cropping scenario includes an 80 acre field planted to a wheat/soybean/corn rotation.

The payment for this practice is made annually after the no-till crop is planted. The annual payment(s) are subject to recovery if fields are not continuously no-tilled/strip-tilled for a minimum of 3 consecutive years. A crop rotation with a minimum of two crops is strongly encouraged. Graze-out wheat is only allowed once within a three year period and must be immediately followed with a warm season crop or cover crop. An evaluation of the cropping system using the current NRCS approved Soil Conditioning Index procedure shall result in a positive trend (SCI >0). This practice includes the costs of increased pesticides usage, short term fertilizer increase and the extra expense of a no-till drill/planter associated with installing the practice.

Associated practices include: Conservation Crop Rotation (328), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324), Terrace (600), Grassed Waterway (412)

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 1

Discount Rate (%/Year): 5%

**Cost/Unit**

Data Source: 2007 cost data plus inflationary increases.

#### Materials

Fertilizer - 15% increase in N requirement (Short-Term)	\$11.20	\$36.20
Pesticides - Dramatic increase in lieu of traditional tillage operations	\$25.00	

#### Equipment/Installation/Labor

No-till Drill/Planter (Difference between conventional vs. no-till rental)		\$3.20
Machinery Fuel, Oil, Repair, etc. - Significant decrease in machinery usage		\$0.00

#### Labor

Significant decrease in machinery labor		\$0.00
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#### Mobilization

None		\$0.00
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#### Operation & Maintenance

0% O&M factor		\$0.00
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#### Acquisition of Technical Knowledge

Knowledge required to management no-till/strip-till system (20 hours X \$20/hour / 80 acres = \$5.00/acre)		\$5.00
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#### Forgone Income

None - No land taken out of production, or lost crop.		\$0.00
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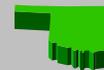
#### Risk

Reduced erosion and improved water quality		\$0.00
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#### Administration & Permit Costs

None		\$0.00
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<b>Total Cost Estimate:</b>		<b>\$44.40</b>
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ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**  
**332.1 Introduced Grass Seed**

This practice consists of establishing a series of 15 feet wide strips to old world bluestem, along the contour, of an 80 acre gently sloping cropland field, with slopes averaging approximately 4 percent for the purpose of reducing sheet and rill erosion. The grass strips will be alternated down the slope with 120 feet wide strips that are cropped to continuous wheat and farmed on the contour. The vegetated buffer strips will be planted according to the NRCS Pasture and Hay Planting (512) standard.

This practice includes the costs of introduced warm or cool season perennial grass seed, tractor, drill and labor to plant grass in buffer strips.

Associated practices include: Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324), Pasture and Hayland Planting (512), Conservation Crop Rotation (328)

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 10

Discount Rate (%/Year): 5%

**Cost/Unit**

Data Source: 2008 Pasture Planting (512) cost data.

**Materials**

Perennial Grass (Introduced Species): \$31.50  
 (Bermudagrass seed, Tall Fescue, Tall Wheatgrasses, Old World Bluestem)

**Equipment/Installation/Labor**

Tractor/Drill/Labor \$7.00

**Labor**

Included in Equipment/Installation \$0.00

**Mobilization**

None \$0.00

**Operation & Maintenance**

2% O&M factor \$0.77

**Acquisition of Technical Knowledge**

Calibrate and operate seed drill, manage perennial grass \$0.00

**Forgone Income**

1 Acre taken out of crop production \$15.63  
 Assume wheat crop minus value of occasional hay/forage crop from herbaceous cover crop.  
 Net Income (\$/Ac/Yr) =

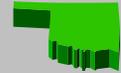
**Risk**

Reduced risk, less erosion, less machinery wear & tear. \$0.00

**Administration & Permit Costs**

None \$0.00

**Total Cost Estimate: \$54.90**



ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**332.2 Bermudagrass Sprigging**

This practice consists of sprigging a series of 15 feet wide strips to bermudagrass, along the contour of an 80 acre gently sloping cropland field, with slopes averaging approximately 4 percent for the purpose of reducing sheet and rill erosion. The grass strips will be alternated down the slope with 120 feet wide strips that are cropped to continuous wheat and farmed on the contour. The vegetated buffer strips will be planted according to the NRCS Pasture and Hay Planting (512) standard.

This practice includes the costs of bermudagrass sprigs, tractor, sprigger, and labor to plant grass in buffer strips.

Associated practices include: Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Nutrient Management (590), Contour Farming (330), Deep Tillage (324), Pasture and Hayland Planting (512), Conservation Crop Rotation (328)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%

**Cost/Unit**

**Data Source:** 2008 Pasture and Hay Planting (512) cost data.

**Materials**

Sprigs - included in equipment and installation

Fertilizer and/or other amendments needed for establishment are covered in 590.1 and 590.3

**Equipment/Installation**

Tractor / sprigger and sprigs (average 25 bushel per acre and \$3.00 per bushel planted)

Includes labor costs

\$75.00

**Labor**

Costs included with equipment and installation

\$0.00

**Mobilization**

None

\$0.00

**Operation & Maintenance**

2% O&M factor

\$1.50

**Acquisition of Technical Knowledge**

Calibrate and operate sprigger, manage grass

\$0.00

**Forgone Income**

1 Acre taken out of crop production

Assume wheat crop minus value of occasional hay/forage crop from herbaceous cover crop.

Net Income (\$/Ac/Yr) =

\$15.63

**Risk**

Reduced risk, less erosion, less machinery wear & tear.

\$0.00

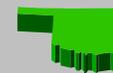
**Administration & Permit Costs**

None

\$0.00

**Total Cost Estimate:**

**\$92.13**



## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### 332.3 Native Grass Monoculture

This practice consists of establishing a series of 15 feet wide strips to switchgrass, along the contour, of an 80 acre gently sloping cropland field, with slopes averaging approximately 4 percent for the purpose of reducing sheet and rill erosion. The grass strips will be alternated down the slope with 120 feet wide strips that are cropped to continuous wheat and farmed on the contour. The vegetated buffer strips will be planted according to the NRCS Pasture and Hay Planting (512) standard.

This practice includes the costs of grass seed, tractor, drill and labor to plant grass in buffer strips.

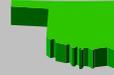
Associated practices include: Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324), Pasture and Hayland Planting (512), Conservation Crop Rotation (328)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%



**Cost/Unit**

Data Source: 2008 Pasture and Hay Planting (550) cost data.

#### Materials

Native Grass Species

(Big Bluestem, Sand Bluestem, Indiangrass, Switchgrass)

\$72.75

#### Equipment/Installation

Tractor / drill

includes labor costs

\$7.00

#### Labor

Included in Installation cost.

#### Mobilization

None

\$0.00

#### Operation & Maintenance

2% O&M factor

\$1.46

#### Acquisition of Technical Knowledge

Calibrate and operate seed drill, manage perennial grass

\$0.00

#### Forgone Income

1 Acre taken out of crop production

Assume wheat crop minus value of occasional hay/forage crop from herbaceous cover crop.

Net Income (\$/Ac/Yr) =

\$2.74

#### Risk

Reduced risk, less erosion, less machinery wear & tear.

\$0.00

#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$83.95**

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 332.4 Native Grass Mixture

This practice consists of establishing a series of 15 feet wide strips to a native grass mixture, along the contour, of an 80 acre gently sloping cropland field, with slopes averaging 4 percent for the purpose of reducing sheet and rill erosion. The grass strips will be alternated down the slope with 120 feet wide strips that are cropped to continuous wheat and farmed on the contour. The vegetated buffer strips will be planted according to the NRCS Range Planting (550).

This practice includes the costs of native grass seed, tractor, drill and labor to plant grass in buffer strips.

Associated practices include: Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324), Range Planting (550), Conservation Crop Rotation (328)

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 10

Discount Rate (%/Year): 5%

Cost/Unit

Data Source: 2008 Range Planting (550) cost data.

#### Materials

Native Grass Seed

\$59.00

#### Equipment/Installation/Labor

Tractor/Drill/Labor

\$7.00

#### Labor

Included in Installation cost

\$0.00

#### Mobilization

None

\$0.00

#### Operation & Maintenance

2% O&M factor

\$1.32

#### Acquisition of Technical Knowledge

Calibrate and operate seed drill, manage perennial grass

\$0.00

#### Forgone Income

1 Acre taken out of crop production

Assume wheat crop minus value of occasional hay/forage crop from herbaceous cover crop.

Net Income (\$/Ac/Yr) =

\$2.74

#### Risk

Reduced risk, less erosion, less machinery wear & tear.

\$0.00

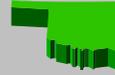
#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$70.06**



ECONOMIC COST DATA

Cost Data

**Typical Implementation Scenario**

338.1 Level 1-Prescribed Burn

Applying a prescribed burn according to designed burn plan and NRCS Prescribed Burning (338) standard and specifications in order to control undesirable species, improve wildlife habitat, improve plant productivity and/or quality, facilitate grazing distribution and maintain ecological processes.

Prescribed burns in this scenario are open grasslands or wooded areas, and may contain volatile woody species such as red cedar. Terrain is less than 12% slopes and fires can be completed in 1 day or less. Burned firebreaks used to achieve total firebreak width are part of these burns. (Constructed firebreak cost is not included in cost of burn. Refer to Firebreak (394) standard and cost scenarios)

Associated Practices: Firebreak (394), Prescribed Grazing (528), Upland Wildlife Habitat Management (645)

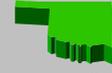
Data Source: Actual equipment costs, producer knowledge, Documented research and demonstration projects

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 5

Discount Rate (%/Year): 5%



Cost/Unit

**Materials**

Included in Equipment and Installation

**Equipment/Installation**

Costs will vary depending on burn plan, available resources, whether the burn is custom applied or done by the landowner. Equipment may include 4-wheelers, sprayers, drip torches or propane torches, fuel mixture for torches, hand tools, tractors, pumpers, radios, weather kits, etc. Some of the equipment may be bought for first burn, so upfront costs will be more and cost will decrease for future burns.

\$2.98

**Labor**

Labor will vary depending on number of crew. Average crew size would be 8 people

\$4.00

**Mobilization**

Included in Equipment and Installation

\$0.00

**Operation & Maintenance (Annual)**

N/A

\$0.00

**Acquisition of Technical Knowledge**

There will be some costs associated with potential training at workshops and schools, costs could be on an annual basis and may be more in the beginning. As experience is gained, costs will decrease. Costs associated with burn plan development not included since this scenario is based on NRCS burn plan. Estimate \$100.00 per year and when applied to an average burn of 240 acres this would be \$.63 per acre.

\$0.42

**Forgone Income (Annual)**

Depending on situation, there may be deferral to build fuels as required and according to the Prescribed Burn Plan and some deferral following burn to allow for plant regrowth prior to grazing.

\$6.00

**Risk**

None

**Administration & Permit Costs**

None

**Total Cost Estimate:**

\$13.40

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**338.2 Level 2-Prescribed Burn**

Applying a prescribed burn according to designed burn plan and NRCS Prescribed Burning (338) standard and specifications in order to control undesirable species, improve wildlife habitat, improve plant productivity and/or quality, facilitate grazing distribution and maintain ecological processes.

This scenario applies under the following conditions: where the terrain of the majority of the area to be burned exceeds 12% slopes with deep canyons requiring extra time and labor; or when the burn cannot be completed in one day to size of area or complexity; or when used for forest site preparation according to a forest stewardship plan. Burned firebreaks used to achieve total firebreak width are part of these burns. (Constructed firebreak cost is not included in cost of burn. Refer to Firebreak (394) standard and cost scenarios)

Associated Practices: Firebreak (394), Prescribed Grazing (528), Upland Wildlife Habitat Management (645)

Data Source: Actual equipment costs, producer knowledge, Documented research and demonstration projects

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 5

Discount Rate (%/Year): 5%

**Cost/Unit**

**Materials**

Included in Equipment and Installation

**Equipment/Installation**

Costs will vary depending on burn plan, available resources, whether the burn is custom applied or done by the landowner. Equipment may include 4-wheelers, sprayers, drip torches or propane torches, fuel mixture for torches, hand tools, tractors, pumpers, radios, weather kits, etc. Some of the equipment may be bought for first burn, so upfront costs will be more and cost will decrease for future burns.

\$2.98

**Labor**

Labor will vary depending on number of crew. Average crew size would be 8 people

\$8.00

**Mobilization**

Included in Equipment and Installation

\$0.00

**Operation & Maintenance (Annual)**

N/A

\$0.00

**Acquisition of Technical Knowledge**

There will be some costs associated with potential training at workshops and schools, costs could be on an annual basis and may be more in the beginning. As experience is gained, costs will decrease. Costs associated with burn plan development not included since this scenario is based on NRCS burn plan. Estimate \$100.00 per year and when applied to an average burn of 240 acres this would be \$.63 per acre.

\$0.42

**Forgone Income (Annual)**

Depending on situation, there may be deferment to build fuels as required and according to the Prescribed Burn Plan and some deferment following burn to allow for plant regrowth prior to grazing.

\$6.00

**Risk**

None

**Administration & Permit Costs**

None

**Total Cost Estimate:**

\$17.40

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### **340 Green Manure - Seasonal Cover Crop**

This practice consists of planting annual crops, legumes and forbs for temporary seasonal cover. The cover crop will be terminated by frost, mowing, or herbicides in preparation for the planting of the next crop. This practice is to be used only with crop rotations. It will not be harvested. It must remain on the soil surface and it will not be used for grass establishment purposes.

This practice includes the costs of seed, fertilizer, pesticides, tractor, and labor associated with installing the practice.

Associated practices include: Conservation Crop Rotation (328), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324), Residue and Tillage Management, No Till/Strip Till/Direct Seed (329)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 1

**Discount Rate (%/Year):** 5%

**Cost/Unit**

**Data Source:** 2008 discipline estimates & OSU Crop Budgets.

#### Materials

Seed \$10.50  
Fertilizer \$77.50  
Pesticide \$4.00

\$92.00

#### Equipment/Installation

Machinery Fuel, Oil, Repair \$54.32

\$54.32

#### Labor

Machinery Labor

\$9.61

#### Mobilization

None

\$0.00

#### Operation & Maintenance

1% O&M factor

\$1.56

#### Acquisition of Technical Knowledge

None

\$0.00

#### Forgone Income

Loss of crop

\$0.00

#### Risk

Reduced risk, less erosion and improved water quality

\$0.00

#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$157.49**

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**342.1 Critical Area Planting**

Establishing permanent vegetation on areas with excessive erosion and previously constructed structural practices (ponds, waterways, grade stabilization structures, diversions, etc.) Typical planting is either seeding grasses or sprigging.

Associated Practices: Nutrient Management (590), Various Engineering Practices

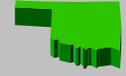
Data Source: 2008 actual cost data.

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 10

Discount Rate (%/Year): 5%



Cost/Unit

**Materials**

Costs for seed and/or sprigs are included in Equipment and Installation. All rates and species are according to the Critical Area Planting (342) standard and specifications

Does not include cost of fertilizer and/or amendments that may be needed for establishment. Refer to 590.1 and 590.3

**Equipment/Installation**

\$130.68

Seeding introduced or native seeds as monoculture or in mixture - Includes seed costs, seedbed preparation and seeding equipment. Typical species would be bermudagrass, fescue, old world bluestems and major native grass species	\$111.36
Sprigging bermudagrass includes cost of sprigs, tractor / sprigging equipment and planting	\$150.00

**Labor**

Costs included with installation

**Mobilization**

\$25.00

Due to size of jobs (typically small), some cost may be incurred.

**Operation & Maintenance**

\$4.67

3% of installation cost

**Acquisition of Technical Knowledge**

\$0.00

N/A

**Forgone Income**

\$0.00

None

**Risk**

\$0.00

Reduced risk, less concentrated flow erosion.

**Administration & Permit Costs**

\$0.00

None

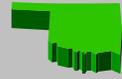
**Total Cost Estimate:**

**\$160.35**

## ECONOMIC COST DATA

### Cost Data

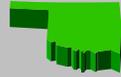
<u>Typical Implementation Scenario</u>		<u>Cost/Unit</u>
342.2 Tree/Shrub Establishment		
Establishing adapted trees on gullied areas with excessive erosion.		
Associated Practices: Nutrient Management (590), Tree / Shrub Establishment (612)		
Data Source: 2008 actual cost data, Tree Shrub Establishment (612) cost data.		
Geographic Area:	Statewide	
Unit for Cost Estimate:	Acre	
Practice Life (Years):	10	
Discount Rate (%/Year):	5%	
<u>Materials</u>		<b>\$378.00</b>
Includes the cost of the trees and/or shrubs (barerooted). This component is for planting completed under the critical area planting (342) specifications only and is based on average spacing requirements (681 - 1210 trees per acre) and costs of 40 cents per tree.		
Does not include cost of fertilizer for establishment.		
<u>Equipment/Installation</u>		<b>\$0.00</b>
Included with labor costs		
<u>Labor</u>		<b>\$283.65</b>
Includes the cost labor and any equipment needed to install trees / shrubs and is based on an average rate of 30 cents per tree. Also includes any costs associated with site preparation prior to planting.		
<u>Mobilization</u>		<b>\$25.00</b>
Due to size of jobs (typically small), some cost may be incurred.		
<u>Operation &amp; Maintenance</u>		<b>\$8.51</b>
3% of installation costs		
<u>Acquisition of Technical Knowledge</u>		<b>\$0.00</b>
Planting and maintenance of trees.		
<u>Forgone Income</u>		<b>\$0.00</b>
None		
<u>Risk</u>		<b>\$0.00</b>
Reduced risk, less concentrated flow erosion.		
<u>Administration &amp; Permit Costs</u>		<b>\$0.00</b>
None		
<b>Total Cost Estimate:</b>		<b>\$695.16</b>



## ECONOMIC COST DATA

### Cost Data

<b>Typical Implementation Scenario</b>		
342.3 Shaping and Filling Gullies		
Mechanically shaping and/or filling gullies (according to a gully shaping design) where natural recovery is not possible and vegetating afterwards.		
Associated Practices: Nutrient Management (590), Access Control (472), Fence (382)		
Data Source: 2008 actual costs.		
<b>Geographic Area:</b>	Statewide	
<b>Unit for Cost Estimate:</b>	Acre	
<b>Practice Life (Years):</b>	10	
<b>Discount Rate (%/Year):</b>	5%	
		<b>Cost/Unit</b>
<b>Materials</b>		\$130.68
Includes the cost of the seed/sprigs, planting operation and any needed seedbed preparation prior to planting following the shaping / filling of gullies. Does not include cost of fertilizer for establishment.		
<b>Equipment/Installation</b>		\$712.00
Dozer or other heavy equipment used to shape and/or fill gullies. Costs include removal and replacement of topsoil, removal of any trees or other rubbish that interferes with shaping and filling and the shaping of gully side slopes and bottom according to design.		
Includes labor		
<b>Labor</b>		
Costs included with installation		
<b>Mobilization</b>		
None		
<b>Operation &amp; Maintenance</b>		\$21.36
3% of installation costs		
<b>Acquisition of Technical Knowledge</b>		\$0.00
N/A		
<b>Forgone Income</b>		\$0.00
None		
<b>Risk</b>		\$0.00
Reduced risk, less concentrated flow erosion.		
<b>Administration &amp; Permit Costs</b>		\$0.00
None		
<b>Total Cost Estimate:</b>		<b>\$864.04</b>



## ECONOMIC COST DATA

### Cost Data

<b>Typical Implementation Scenario</b>		<b>Cost/Unit</b>
<p>342.4 Sod mulching, seedbed preparation, placement                      Establishing bermudagrass on areas with excessive erosion and/or previously constructed structural practices (ponds, waterways, grade stabilization structures, diversions, gully shaping, etc.) by placing sod mulch (mixture of bermudagrass and topsoil). This is primarily used in situations where the extra topsoil may be needed to ensure establishment or concentrated flows are a concern. Sod mulch is dug, loaded and hauled to the site where it is needed and placed. <u>This does not include</u> situations where existing bermudagrass is stockpiled and then replaced as part of the final construction activity of an engineering structural practice.</p>		
<p>Associated Practices: Nutrient Management (590), Various Engineering Practices                      Data Source: 2008 actual cost data.</p>		
Geographic Area:	Statewide	
Unit for Cost Estimate:	Acre	
Practice Life (Years):	10	
Discount Rate (%/Year):	5%	
<b>Materials</b>		<b>\$100.00</b>
<p>Materials cost include value of sprigs that are mixed with the soil and the topsoil.                      Does not include cost of fertilizer and/or amendments that may be needed for establishment. Refer to 590.1 and 590.3</p>		
<b>Equipment/Installation</b>		<b>\$150.00</b>
<p>Equipment and labor for digging mulch, hauling, preparation and placement of sod mulch according to the critical area planting (342) standard. Assume \$50.00 per hour, 2 hours per acre</p>		
<b>Labor</b>		
<p>Costs included with installation</p>		
<b>Mobilization</b>		
<p>Included in Equipment and installation costs</p>		
<b>Operation &amp; Maintenance</b>		<b>\$4.50</b>
<p>3% of installation costs</p>		
<b>Acquisition of Technical Knowledge</b>		<b>\$0.00</b>
<p>N/A</p>		
<b>Forgone Income</b>		<b>\$0.00</b>
<p>None</p>		
<b>Risk</b>		<b>\$0.00</b>
<p>Reduced risk, less concentrated flow erosion.</p>		
<b>Administration &amp; Permit Costs</b>		<b>\$0.00</b>
<p>None</p>		
<b>Total Cost Estimate:</b>		<b>\$254.50</b>

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 345.1 Implement Mulch Till System

This practice consists of using chisels or light disking to till the entire field surface prior to planting so that crop residue is maintained on the soil surface year round on an 80 acre continuous wheat field. This practice will be used to convert tillage systems where little to no residue is maintained on the soil surface during the year to a mulch till system.

Fields must be continuously mulch-tilled for a minimum of 3 consecutive years to receive this payment. An evaluation of the cropping system using the current NRCS approved Soil Conditioning Index procedure shall result in a positive trend (SCI >0). This practice includes the costs of slight increases in pesticide and fertilizer useage.

Associated practices include: Conservation Crop Rotation (328), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324), Terrace (600), Grassed Waterway (412)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 1

**Discount Rate (%/Year):** 5%

**Cost/Unit**

**Data Source:** 2008 cost estimates by discipline specialists to account for inflationary increases.

#### Materials

Fertilizer - 10% increase in N requirement (Short-Term) \$ 7.45  
 Pesticide - Slight increase in lieu of traditional tillage. \$10.00

\$17.45

#### Equipment/Installation

Machinery Fuel, Oil, Repair, etc - Slight decrease in machinery useage.

\$0.00

#### Labor

Slight decrease in machinery labor.

\$0.00

#### Mobilization

None

\$0.00

#### Operation & Maintenance

0% O&M factor

\$0.00

#### Acquisition of Technical Knowledge

Knowledge to manage mulch till system  
 (20 hours X \$20/hour / 80 acres = \$5.00/ac)

\$5.00

#### Forgone Income

None - No land taken out of production, or lost crop.

\$0.00

#### Risk

Reduced risk, less erosion and improved water quality

\$0.00

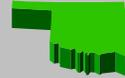
#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$22.45**



# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 346.1 Implement Ridge Till System

This practice consists of managing crop residues on the soil surface year round while planting and growing crops on ridges alternated with furrows protected by crop residues. This practice will be used to convert cropland field(s) where little to no residue is left on the soil surface during the year to a ridge till system.

This practice includes a typical scenario of establishing wheat in the furrows of ridge rowed cotton to act as a protective cover. The wheat will be terminated with a knockdown herbicide and will remain on the soil surface throughout the cotton growing season. Costs include planting wheat to act as a cover along with a knockdown herbicide application.

Associated practices include: Conservation Crop Rotation (328), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324)

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 1

Discount Rate (%/Year): 5%

**Cost/Unit**

Data Source: 2008 discipline specialist estimates due to inflationary increases.

#### Materials

Seed	\$7.00
Fertilizer	\$21.50
Pesticides	\$25.67

\$54.17

#### Equipment/Installation

Machinery Costs	\$15.00
Machinery Fuel, Oil, Repair	\$19.41

\$34.41

#### Labor

Machinery Labor included with machinery costs

\$0.00

#### Mobilization

None

\$0.00

#### Operation & Maintenance

0% O&M factor

\$0.00

#### Acquisition of Technical Knowledge

Knowledge required to management no-till/stripcult system  
(20 hours X \$20/hour / 80 acres = \$5.00/ac)

\$5.00

#### Forgone Income

N/A

\$0.00

#### Risk

Crop Failure

\$0.00

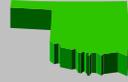
#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$93.58**



ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**350.1 Sediment Basin**

An impoundment constructed by excavation/or fill to collect and store debris or sediment. The structure is normally installed upstream of cropland fields or conservation practices. The typical structure consists of 2830 CY of excavation/fill with 80 ft of 18 inch conduit. The typical installation cost is equal to \$7,405.00

Data Source: 2007 actual cost data plus 10%.

Geographic Area: Statewide

Unit for Cost Estimate: EACH

Practice Life (Years): 20

Discount Rate (%/Year): 5%

**Cost/Unit**

**Materials**

\$7,733.20

Includes Equipment/Installation, Labor and Mobilization costs

Typical Installed Pipe Costs	
Pipe Diam	Cost / Foot
12 inch	\$23.88
18 inch	\$35.82

Component	Cost/Unit	Units	Total Costs
Earthwork	1.72 / CY	2830	\$ 4,867.60
Pipe	\$35.82 / FT	80	\$ 2,865.60
			<u>\$ 7,733.20</u>

**Equipment/Installation**

Included in Materials Cost.

\$0.00

**Labor**

Included in Materials Cost.

\$0.00

**Mobilization**

Included in Materials Cost.

\$0.00

**Operation & Maintenance (Annual)**

3% of Installation Costs

\$232.00

**Acquisition of Technical Knowledge**

None

\$0.00

**Forgone Income (Annual)**

Minimal land taken out of production.

\$0.00

**Risk**

Reduced risk, reduced sediment/flood damage.

\$0.00

**Administration & Permit Costs**

None

\$0.00

**Total Cost Estimate:**

**\$7,965.20**

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**351.1 Plugging - Domestic/Livestock Well**

This sealing or permanent closure of a water well no longer in use.

This includes all costs necessary to adequately plug a livestock well or domestic well (i.e. abandoned farmstead water well) according to the Oklahoma practice standard for Well Decommissioning (351). This does not apply to larger, deep water wells used for irrigation.

**Geographic Area:** Statewide

**Unit for Cost Estimate:** No.

**Practice Life (Years):** 20

**Discount Rate (%/Year):** 5%

Source: 2007 actual cost data plus 10%.



	<u>Cost/Unit</u>
<b>Materials</b>	\$550.00
Includes the total materials and installation cost for the whole job.	
<b>Equipment/Installation</b>	\$0.00
(Included in Materials Costs)	
<b>Labor</b>	\$0.00
(Included in Materials Costs)	
<b>Mobilization</b>	\$0.00
(Included in Materials Costs)	
<b>Operation &amp; Maintenance</b>	\$0.00
0% of Installation Costs	
<b>Acquisition of Technical Knowledge</b>	\$0.00
N/A	
<b>Forgone Income</b>	\$0.00
None	
<b>Risk</b>	\$0.00
N/A	
<b>Administration &amp; Permit Costs</b>	\$0.00
N/A	
<b>Total Cost Estimate:</b>	<b>\$550.00</b>

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**351.2 Plugging - Irrigation Well**

This sealing or permanent closure of a water well no longer in use.

This includes all costs necessary to adequately plug an irrigation well complying with all Federal, State, and Local laws and regulations and according to Oklahoma practice standard for Well Decommissioning (351). This does not apply to smaller and shallower domestic and livestock water wells. Unit cost is for the turnkey plugging of each well.

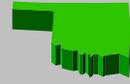
Geographic Area: Statewide

Unit for Cost Estimate: No.

Practice Life (Years): 20

Discount Rate (%/Year): 5%

Data Source: 2007 actual cost data.



	<b>Cost/Unit</b>
<b>Materials</b>	<b>\$1,200.00</b>
Includes the total materials and installation cost for the whole job.	
<b>Equipment/Installation</b>	<b>\$0.00</b>
(Included in Materials Costs)	
<b>Labor</b>	<b>\$0.00</b>
(Included in Materials Costs)	
<b>Mobilization</b>	<b>\$0.00</b>
(Included in Materials Costs)	
<b>Operation &amp; Maintenance</b>	<b>\$0.00</b>
0% of Installation Costs	
<b>Acquisition of Technical Knowledge</b>	<b>\$0.00</b>
N/A	
<b>Forgone Income</b>	<b>\$0.00</b>
None	
<b>Risk</b>	<b>\$0.00</b>
N/A	
<b>Administration &amp; Permit Costs</b>	<b>\$0.00</b>
N/A	
<b>Total Cost Estimate:</b>	<b>\$1,200.00</b>

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**359.1 Waste Treatment Lagoon**

A waste storage facility that is constructed by excavation or fill of earth that temporarily stores wastes such as manure, waste water, and contaminated runoff. The typical structure consists of excavation/fill plus a designed liner. Typical structure consist of 6572 CY of excavation/fill plus 1230 CY of liner. The liner will normally be a Clay Liner or Bentonite Liner. The cost for the typical installation is equal to \$2.23/cy of required excavation/fill, and designed liner.

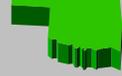
Data Source: Indexed cost based on 2007 cost data.

Geographic Area: Statewide

Unit for Cost Estimate: CY - Cubic Yard

Practice Life (Years): 15

Discount Rate (%/Year): 5%



**Cost/Unit**

**Materials**

Includes Equipment/Installation, Labor and Mobilization Costs

\$2.23

Component	Quantity	Unit Cost	Units	Total Costs
Excavation	6572	\$1.72	CY	\$ 11,303.84
Clay Liner	1230	\$4.95	CY	\$ 6,088.50
<b>Total Cost</b>				<b>\$ 17,392.34</b>

**Equipment/Installation**

Included in Materials Cost

\$0.00

**Labor**

Included in Equipment/Installation Costs

\$0.00

**Mobilization**

Included in Materials Cost

\$0.00

**Operation & Maintenance**

N/A

\$0.00

**Acquisition of Technical Knowledge**

N/A

\$0.00

**Forgone Income**

None

Small amount of land taken out of production, no lost opportunity costs

\$0.00

**Risk**

Reduced risk, can better manage livestock waste

Increased risk, slight increase in motorized equipment

\$0.00

**Administration & Permit Costs**

None

**Total Cost Estimate:**

\$2.23

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**360.1 Closure of Waste Impoundment**

Waste Impoundment that is no longer used for the intended purpose. A typical impoundment is 2 ac-ft of volume with 1.3 ac-ft of solids and a embankment height of 10 ft. The total cost of the closure is \$17,375.00

Cost Data Source: Costs based on indexed 2007 cost data.

Geographic Area: Statewide

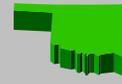
Unit for Cost Estimate: EACH

Practice Life (Years): 15

Discount Rate (%/Year): 5%

**Cost/Unit**

<b>Materials</b>	\$0.00
<b>Equipment/Installation</b>	\$17,375.00
(Included in Materials cost)	
<b>Labor</b>	\$0.00
(Included in Materials cost)	
<b>Mobilization</b>	\$0.00
(Included in Materials Cost)	
<b>Operation &amp; Maintenance (Annual)</b>	\$0.00
None	
<b>Acquisition of Technical Knowledge</b>	\$0.00
None	
<b>Forgone Income (Annual)</b>	\$0.00
None, possible land brought into production.	
<b>Risk</b>	\$0.00
Reduced risk, change in land use	
<b>Administration &amp; Permit Costs</b>	\$0.00
None	
<b>Total Cost Estimate:</b>	<b>\$17,375.00</b>



# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### **362.1 Diversion**

A channel constructed across long slopes, undulating land surfaces or gently rolling slopes to divert water away from farmsteads, agricultural waste systems, gullies, critical erosion areas or construction areas or collect and direct runoff or protect terrace systems. An earth channel constructed with a supporting ridge on the lower side across the slope. A typical diversion is 1000 ft long requiring 1200 C.Y. of excavation/fill.

**Associated Practices:** 410-Grade Stabilization Structure, 342-Critical Area Planting, 410-Grassed Waterway

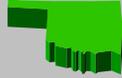
**Data Source:** 2007 & 2008 actual cost data.

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Cubic Yard (CY)

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%



**Cost/Unit**

#### Materials

\$0.00

If needed, Included in Equipment/Installation Cost

#### Equipment/Installation

Includes cost of equipment, labor, mobilization

#### Labor

\$1.39

Included in Equipment/Installation Cost

#### Mobilization

\$0.00

Included in Equipment/Installation Cost

#### Operation & Maintenance (Annual)

\$0.03

2% of Installation Costs

#### Acquisition of Technical Knowledge

\$0.00

None

#### Forgone Income (Annual)

\$0.00

Minimal to no land taken out of production.

#### Risk

\$0.00

Reduced risk, less concentrated flow erosion, less machinery wear & tear.

#### Administration & Permit Costs

\$0.00

None

#### **Total Cost Estimate:**

**\$1.42**

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 370.1 Three Manure Harvests/Year

This scenario requires a feedyard to perform three or more manure harvests on all the pens annually plus follow the Atmospheric Resource Quality Management (370) standard and the approved Manure Harvesting Management Plan. The beef feedyard would be required to apply all applicable criteria listed under "General Criteria applicable to All Purposes" and the "Specific Criteria Applicable to Particulate Matter Emissions" in this standard. Specific criteria are listed for both roads and confined animals. The payment amount will be determined by measuring the total pen area of the CAFO where manure was harvested to the nearest 0.1 acre.

This practice includes the costs of labor, machinery, and fuel associated with installing the practice.

Cost Data Source: 2008 Engineering Estimates and Contractor Quotes.

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 1

Discount Rate (%/Year): 5%



**Cost/Unit**

#### Materials

Includes costs of labor, machinery, and fuel

\$310.00

#### Equipment/Installation/Labor

Included in Materials Cost

\$0.00

#### Labor

Included in Materials Cost

\$0.00

#### Mobilization

NA

\$0.00

#### Operation & Maintenance

NA

\$0.00

#### Acquisition of Technical Knowledge

Knowledge to operate and manage application equipment

\$0.00

#### Forgone Income

None

\$0.00

#### Risk

Reduced risk, can better manage livestock waste

\$0.00

#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$310.00**

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**378.1 Pond - Earthen**

A water impoundment constructed by excavation and/or fill to store water. This structure may require a principal spillway pipe. The typical structure consists of 3000 CY of embankment with 93 feet of 12 in pipe. Other structures may require one or more of the following components: concrete, trashguard, riprap, gypsum treatment for dispersive clay soils, filter diaphragm and plastic pipe.

**Construction Units (CU)** are found by multiplying the designed or estimated **Quantity** by the given **Multiplier** as shown in the example in Table 1-A. The construction units for each component are then summed to give the **Total Construction Units** for the project. If a component is not used, there will be no construction units for that component. The Total Construction Units are then multiplied by the **Cost/Unit** given below to give the average cost of the project. Table 1-B is given as a template for computations.

**Associated Practices:** 382-Fence, 575-Animal Trails and Walkways, 614-Watering Facility, 342-Critical Area Planting, 393-Filter Strip, 516-Pipeline, 521C-Pond Sealing or Lining, Bentonite Sealant

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Construction Unit (CU)

**Practice Life (Years):** 20

**Discount Rate (%/Year):** 5%

**Data Source:** 2008 actual cost data and current vendor pricing.

**Cost/Unit**

**Materials**

Includes Equipment/Installation, Labor and Mobilization Costs

\$1.72

**Table 1-A Example**

Component	Units	Quantity	Multiplier	CU
Earthwork	CY	3000	1.0	3,000
HCMP / Welded Steel	DIFT	1116	1.2	1,339
Plastic Pipe	DIFT	0	0.4	0
Concrete	CY	2	146.5	293
Trashguard	PF	44	9.9	436
Gypsum	TON	0	69.8	0
Riprap	CY	0	31.4	0
Filter (C33 sand)	CY	0	23.0	0
<b>Total Construction Units</b>				<b>5,068</b>

To determine the average cost for any component listed above, multiply \$1.72 times the **Multiplier** for that component. For example, the average cost of concrete would be  $\$1.72 \times 146.5 = \$251.98 / \text{CY}$ .

**Table 1-B**

Component	Units	Quantity	Multiplier	CU
Earthwork	CY		1	
HCMP / Welded Steel	DIFT		1.2	
Plastic Pipe	DIFT		0.4	
Concrete	CY		146.5	
Trashguard	PF		9.9	
Gypsum	TON		69.8	
Riprap	CY		31.4	
Filter	CY		23	
<b>Total Construction Units</b>				

**Equipment/Installation**

Included in Materials Cost

\$0.00

**Labor**

Included in Materials Cost

\$0.00

**Mobilization**

Included in Materials Cost

\$0.00

**Operation & Maintenance (Annual)**

1% of Installation Costs

\$0.02

**Acquisition of Technical Knowledge**

None

\$0.00

**Forgone Income (Annual)**

Minimal land taken out of production.

\$0.00

**Risk**

Reduced risk, reliable source of water

\$0.00

**Administration & Permit Costs**

None

\$0.00

**Total Cost Estimate:**

**\$1.74**

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### 380.1 Trees &/or Shrubs - barerooted

This practice consists of establishing 3 rows of bare root trees or shrubs in linear configurations oriented east to west, to reduce soil erosion from wind.

Includes the cost of the bare root seedlings and the costs of planting (labor and equipment).

Associated practices include: Windbreak/Shelterbelt Renovation (650), Upland Wildlife Habitat Management (645), Access Control (472), Pest Management (595), Tree/Shrub Pruning (660), Brush Management (314), Forest Stand Improvement (666), Riparian Forest Buffer (391), Alley Cropping (311), Critical Area Planting (342), Silvopasture Establishment (381), Hedgerow Planting (422), Irrigation System, Microirrigation (441), Tree/Shrub Site Preparation (490), Firebreak (394), Tree/Shrub Establishment (612)

**Geographic Area:** Statewide

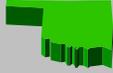
**Unit for Cost Estimate:** Each

**Practice Life (Years):** 15

**Discount Rate (%/Year):** 5%

Data Source: 2008 actual costs, and ODAFF-Forestry Services Data.

			<u>Cost/Unit</u>
<b>Materials</b>			<b>\$0.40</b>
	<u>Unit</u>	<u>\$/Unit</u>	
Bare-rooted seedlings (average for all species and order sizes)	Tree	\$0.40	
<b>Equipment/Installation</b>			<b>\$0.30</b>
	<u>Unit</u>	<u>\$/Unit</u>	
Planting of each seedling	Tree	\$0.30	
<b>Labor</b>			<b>\$0.00</b>
(Included in Installation cost)			
<b>Mobilization</b>			<b>\$0.01</b>
2% o materials, equipment and labor			
<b>Operation &amp; Maintenance</b>			<b>\$0.01</b>
Replacement of unsuccessful seedlings during establishment period, 1% of materials, equipment and labor			
<b>Acquisition of Technical Knowledge</b>			<b>\$0.00</b>
None			
<b>Forgone Income</b>			<b>\$0.00</b>
None			
<b>Risk</b>			<b>\$0.00</b>
None			
<b>Administration &amp; Permit Costs</b>			<b>\$0.00</b>
None			
<b>Total Cost Estimate:</b>			<b>\$0.72</b>



# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 380.2 Trees &/or Shrubs - barerooted, with animal control devices

This practice consists of planting 3 rows of bare root trees or shrubs with animal control devices, in linear configurations oriented east to west, to reduce soil erosion from wind.

Includes the cost of the bare root seedlings and the costs of planting (labor and equipment). Includes the use of the polyethylene wrap or protection net or tube, stakes, and the cost of labor for placing the devices.

Associated practices include: Windbreak/Shelterbelt Renovation (650), Upland Wildlife Habitat Management (645), Access Control (472), Pest Management (595), Tree/Shrub Pruning (660), Brush Management (314), Forest Stand Improvement (666), Riparian Forest Buffer (391), Alley Cropping (311), Critical Area Planting (342), Silvopasture Establishment (381), Hedgerow Planting (422), Irrigation System, Microirrigation (441), Tree/Shrub Site Preparation (490), Firebreak (394), Tree/Shrub Establishment (612)

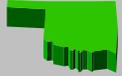
Geographic Area: Statewide

Unit for Cost Estimate: Each

Practice Life (Years): 15

Discount Rate (%/Year): 5%

Data Source: 2008 cost estimates by ODAFF-Forestry Services Data.



<u>Materials</u>	<u>Unit</u>	<u>\$/Unit</u>	<u>Cost/Unit</u>
Bare-rooted seedlings (average for all species and order sizes)	Tree	\$0.40	
Animal Control Devices	Tree	\$0.25	
Total		\$0.65	\$0.65
<b>Equipment/Installation</b>			<b>\$0.35</b>
Planting of each seedling	Tree	\$0.30	
Animal Control Devices	Tree	\$0.05	
Total		\$0.35	
<b>Labor</b>			<b>\$0.00</b>
(Included in Installation cost)			
<b>Mobilization</b>			<b>\$0.02</b>
2% of materials, equipment and labor			
<b>Operation &amp; Maintenance</b>			<b>\$0.01</b>
Replacement of unsuccessful seedlings during establishment period, 1% of materials, equipment and labor			
<b>Acquisition of Technical Knowledge</b>			<b>\$0.00</b>
None			
<b>Forgone Income</b>			<b>\$0.00</b>
None			
<b>Risk</b>			<b>\$0.00</b>
None			
<b>Administration &amp; Permit Costs</b>			<b>\$0.00</b>
None			
<b>Total Cost Estimate:</b>			<b>\$1.03</b>

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### 380.3 Trees &/or Shrubs - containerized/potted

This practice consists of planting 3 rows of containerized trees/shrubs in harsh site conditions where bare rooted seedlings are not recommended, in linear configurations oriented east to west, to reduce soil erosion from wind. This scenario should only be used when the planting plan requires containerized tree stock.

Includes the cost of the containerized or potted seedlings and the costs of planting (labor and equipment).

Associated practices include: Windbreak/Shelterbelt Renovation (650), Upland Wildlife Habitat Management (645), Access Control (472), Pest Management (595), Tree/Shrub Pruning (660), Brush Management (314), Forest Stand Improvement (666), Riparian Forest Buffer (391), Alley Cropping (311), Critical Area Planting (342), Silvopasture Establishment (381), Hedgerow Planting (422), Irrigation System, Microirrigation (441), Tree/Shrub Site Preparation (490), Firebreak (394), Tree/Shrub Establishment (612)

**Geographic Area:** Statewide

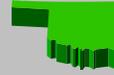
**Unit for Cost Estimate:** Each

**Practice Life (Years):** 15

**Discount Rate (%/Year):** 5%

Data Source: 2008 by ODAFF-Forestry Services Data.

			<u>Cost/Unit</u>
<b>Materials</b>			<b>\$0.90</b>
Containerized or potted seedlings (average for all species and order sizes)	<u>Unit</u> Tree	<u>\$/Unit</u> \$0.90	
<b>Equipment/Installation</b>			<b>\$0.30</b>
Planting of each seedling	<u>Unit</u> Tree	<u>\$/Unit</u> \$0.30	
<b>Labor</b> (Included in Installation cost)			<b>\$0.00</b>
<b>Mobilization</b> 2% or materials, equipment and labor			<b>\$0.02</b>
<b>Operation &amp; Maintenance</b> Replacement of unsuccessful seedlings during establishment period, 1% of materials, equipment and labor			<b>\$0.01</b>
<b>Acquisition of Technical Knowledge</b> None			<b>\$0.00</b>
<b>Forgone Income</b> None			<b>\$0.00</b>
<b>Risk</b> None			<b>\$0.00</b>
<b>Administration &amp; Permit Costs</b> None			<b>\$0.00</b>
<b>Total Cost Estimate:</b>			<b>\$1.24</b>



ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**380.4 Trees &/or Shrubs - containerized/potted with animal control device**

This practice consists of planting 3 rows of containerized trees/shrubs with animal control devices, in harsh site conditions where bare rooted seedlings are not recommended, in linear configurations oriented east to west, to reduce soil erosion from wind. This scenario should only be used when the planting plan requires containerized tree stock.

Includes the cost of the containerized or potted seedlings and the costs of planting (labor and equipment). Includes the use of the polyethylene wrap or protection net or tube, stakes, and the cost of labor for placing the devices.

Associated practices include: Windbreak/Shelterbelt Renovation (650), Upland Wildlife Habitat Management (645), Access Control (472), Pest Management (595), Tree/Shrub Pruning (660), Brush Management (314), Forest Stand Improvement (666), Riparian Forest Buffer (391), Alley Cropping (311), Critical Area Planting (342), Silvopasture Establishment (381), Hedgerow Planting (422), Irrigation System, Microirrigation (441), Tree/Shrub Site Preparation (490), Firebreak (394), Tree/Shrub Establishment (612)

**Geographic Area:** Statewide

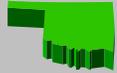
**Unit for Cost Estimate:** Each

**Practice Life (Years):** 15

**Discount Rate (%/Year):** 5%

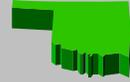
Data Source: 2008 estimates by ODAFF-Forestry Services Data.

			<u>Cost/Unit</u>
<b>Materials</b>			<b>\$1.15</b>
Containerized or potted seedlings (average for all species and order sizes)	<u>Unit</u> Tree	<u>\$/Unit</u> \$0.90	
Animal Control Devices	<u>Tree</u>	<u>\$0.25</u>	
Total		<u>\$1.15</u>	
<b>Equipment/Installation</b>			<b>\$0.35</b>
Planting of each seedling	<u>Unit</u> Tree	<u>\$/Unit</u> \$0.30	
Animal Control Devices	<u>Tree</u>	<u>\$0.05</u>	
Total		<u>\$0.35</u>	
<b>Labor</b>			<b>\$0.00</b>
(Included in Installation cost)			
<b>Mobilization</b>			<b>\$0.03</b>
2% of materials, equipment and labor			
<b>Operation &amp; Maintenance</b>			<b>\$0.02</b>
Replacement of unsuccessful seedlings during establishment period, 1% of materials, equipment and labor			
<b>Acquisition of Technical Knowledge</b>			<b>\$0.00</b>
None			
<b>Forgone Income</b>			<b>\$0.00</b>
None			
<b>Risk</b>			<b>\$0.00</b>
None			
<b>Administration &amp; Permit Costs</b>			<b>\$0.00</b>
None			
<b>Total Cost Estimate:</b>			<b>\$1.55</b>



ECONOMIC COST DATA

<b>Typical Implementation Scenario</b>		
<b>382.1 Permanent fence, Barbed or smooth Wire</b>		
Installation of permanent 4-wire, double strand barbed or smooth wire fence to facilitate a planned grazing system as designed in a prescribed grazing plan or to provide access control from specified areas in order to address one or more resource concerns. This type of fence is typically a division fence (separating forage types, areas of different production or carrying capacity, sensitive areas or areas requiring different levels of management). When used for cross fencing, size of paddocks should be >40 acres.		
All materials and design are based off of the NRCS Fence (382) standard and specifications		
Associated Practices: Prescribed Grazing (528), Access Control (472)		
Geographic Area:	Statewide	
Unit for Cost Estimate:	Foot	
Practice Life (Years):	20	
Discount Rate (%/Year):	5%	
Data Source: 2008 actual cost data and current vendor pricing		<b>Cost/Unit</b>
<b>Materials</b>		\$0.78
Materials may vary depending on length of fence, types of post used, etc. Typical materials consist of: Double strand barbed or smooth wire, t-posts, wood or steel brace posts, stays, staples, concrete, paint, gates and welding supplies		
<b>Equipment/Installation</b>		\$0.74
Pick-Up Truck, Post Hole Auger, Post "Driver", Shovel, Fencing Pliers, 4 wheeler, tractor blade for clearing site, welder, fuel		
Labor costs include setting posts, running wire, installing braces (welded steel or wood), attaching wires, etc.		
<b>Labor</b>		\$0.00
Included in equipment and installation		
<b>Mobilization</b>		\$0.00
Included in equipment and installation		
<b>Operation &amp; Maintenance (Annual)</b>		\$0.03
2% of Installation Cost		
<b>Acquisition of Technical Knowledge</b>		\$0.00
Fence building skills, design, layout		
<b>Forgone Income (Annual)</b>		\$0.00
None, no land taken out of production		
<b>Risk</b>		\$0.00
Reduced risk, better livestock control		
<b>Administration &amp; Permit Costs</b>		\$0.00
None		
<b>Total Cost Estimate:</b>		<b>\$1.55</b>



# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### **382.2 Permanent Fence, Woven wire**

Installation of permanent woven wire fence to facilitate a planned grazing system as designed in a prescribed grazing plan or to provide use exclusion from specified areas in order to address one or more resource concerns. Typically used for sheep and/or goats. This type of fence can be a boundary or division fence (separating forage types, areas of different production or carrying capacity, sensitive areas or areas requiring different levels of management). When used as cross fencing, size of paddocks should be >40 acres.

All materials and design are based off of the NRCS Fence (382) standard and specifications

Associated Practices: Prescribed Grazing (528), Access Control (472)

Geographic Area: Statewide

Unit for Cost Estimate: Foot

Practice Life (Years): 20

Discount Rate (%/Year): 5%

Source of data: 2008 actual cost data, fence suppliers.

### Materials

Materials may vary depending on length of fence, types of post used, etc. Typical materials consist of:

Woven wire with 1 strand barbed wire, t-posts and wood line posts, wood or steel brace posts, staples, concrete, paint, gates and welding supplies

### Equipment/Installation

Pick-Up Truck, Post Hole Auger, Post "Driver", Shovel, Fencing Pliers, 4 wheeler, tractor blade for clearing site, welder, fuel

Labor costs include setting posts, running wire, installing braces (welded steel or wood), attaching wires, etc.

### Labor

Included in equipment and installation

### Mobilization

Included in equipment and installation

### Operation & Maintenance (Annual)

2% of Installation Cost

### Acquisition of Technical Knowledge

Fence building skills, design, layout

### Forgone Income (Annual)

None, no land taken out of production

### Risk

Reduced risk, better livestock control

### Administration & Permit Costs

None

### **Total Cost Estimate:**

**\$2.28**

Cost/Unit

\$1.23

\$1.01

\$0.00

\$0.00

\$0.04

\$0.00

\$0.00

\$0.00

\$0.00

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### **382.3 Permanent Power Fence**

Installation of permanent 3 wire, high tensile steel, electric fence to facilitate a planned grazing system as designed in a prescribed grazing plan or to provide use exclusion from specified areas in order to address one or more resource concerns. This type of fence is typically a cross fence (facilitate rotations and further subdivisions with temporary electric fencing) and/or division fence (separating forage types, areas of different production or carrying capacity, sensitive areas or areas requiring different levels of management).

All materials and design are based off of the NRCS Fence (382) standard and specifications

Associated Practices: Prescribed Grazing (528), Access Control (472)

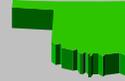
Geographic Area: Statewide

Unit for Cost Estimate: Foot

Practice Life (Years): 20

Discount Rate (%/Year): 5%

Source of data: 2008 actual cost data, fence suppliers.



	<b>Cost/Unit</b>
<b>Materials</b>	<b>\$0.77</b>
Materials may vary depending on length of fence, types of post used, etc. Typical materials consist of: High tensile steel wire, t-posts, wood or steel brace posts, strainers, insulators, fence charger, concrete, paint, gates and welding supplies	
<b>Equipment/Installation</b>	<b>\$0.35</b>
Pick-Up Truck, Post Hole Auger, Post "Driver", Shovel, Fencing Pliers, 4 wheeler, tractor blade for clearing site, welder, fuel Labor costs include setting posts, running wire, installing braces (welded steel or wood), attaching wires, etc.	
<b>Labor</b>	<b>\$0.00</b>
Included in equipment and installation	
<b>Mobilization</b>	<b>\$0.00</b>
Included in equipment and installation	
<b>Operation &amp; Maintenance (Annual)</b>	<b>\$0.02</b>
2% of Installation Cost	
<b>Acquisition of Technical Knowledge</b>	<b>\$0.00</b>
Fence building skills, design, layout	
<b>Forgone Income (Annual)</b>	<b>\$0.00</b>
None, no land taken out of production	
<b>Risk</b>	<b>\$0.00</b>
Reduced risk, better livestock control	
<b>Administration &amp; Permit Costs</b>	<b>\$0.00</b>
None	
<b>Total Cost Estimate:</b>	<b>\$1.14</b>

## ECONOMIC COST DATA

### Cost Data

**Typical Implementation Scenario**

**382.5 Permanent fence, Barbed or smooth Wire, Extra materials and labor**

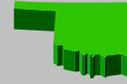
Installation of permanent 4-wire fence (double strand barbed or smooth wire fence, or woven wire) to facilitate a planned grazing system as designed in a prescribed grazing plan or to provide use exclusion from specified areas in order to address one or more resource concerns. This type of fence will involve extra labor and materials due to rough terrain or changes in direction (more corners) that are [required according the NRCS Fence \(382\) standard and specifications, design and layout](#)

All materials and design are based off of the NRCS Fence (382) standard and specifications

Associated Practices: Prescribed Grazing (528), Access Control (472)

Geographic Area: Statewide

Unit for Cost Estimate: Foot  
 Practice Life (Years): 20  
 Discount Rate (%/Year): 5%



Source of data: 2008 actual cost data, fence suppliers.

**Cost/Unit**

**Materials**

\$1.16

Materials may vary depending on length of fence, types of post used, etc. Typical materials consist of:

Double strand barbed, smooth wire, or woven wire t-posts, wood or steel brace posts, stays, staples, concrete, paint, gates and welding supplies

**Equipment/Installation**

\$1.02

Pick-Up Truck, Post Hole Auger, Post "Driver", Shovel, Fencing Pliers, 4 wheeler, tractor blade for clearing site, welder, fuel  
 Labor costs include setting posts, running wire, installing braces (welded steel or wood), attaching wires, etc.

**Labor**

\$0.00

Included in equipment and installation

**Mobilization**

\$0.00

Included in equipment and installation

**Operation & Maintenance (Annual)**

\$0.04

2% of Installation Cost

**Acquisition of Technical Knowledge**

\$0.00

Fence building skills, design, layout

**Forgone Income (Annual)**

\$0.00

None, no land taken out of production

**Risk**

\$0.00

Reduced risk, better livestock control

**Administration & Permit Costs**

\$0.00

None

**Total Cost Estimate:**

**\$2.22**

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### 383.1 Mechanical Removal

This practice is for thinning trees and removing understory canopy along a strip of land to control or diminish the risk of the spread of a wild fire crossing the strip and entering into a pine forested area. The strip or block of land shall be a minimum of 66 feet in width. Trees and understory will be selectively removed using clipping/cutting equipment or dozers and removed from the site. Dozing will be done in a manner that minimizes soil disturbances and damage to other woody species.

Associated Practices: Prescribed Forestry (409), Upland Wildlife Habitat Management (645)

**Geographic Area:** Available only in Atoka, Choctaw, Haskell, Latimer, LeFlore, McCurtain, Pittsburg, and Pushmataha Counties in Oklahoma



**Unit for Cost Estimate:** Acre  
**Practice Life (Years):** 1  
**Discount Rate (%/Year):** 5%

Data Source: Cost Data from 2008 Brush Management (314.4).

**Cost/Unit**

<b>Materials</b>	<b>\$0.00</b>
None	
<b>Equipment/Installation</b>	<b>\$73.50</b>
Costs associated with this activity will vary depending on the amount of thinning, understory and type of equipment used. Average cost is estimated on a per acre basis based on the most common treatments of clipping/cutting and removing.	
Equipment may include tree saws, hydraulic clippers, hydraulic circular saws or other approved methods to sever woody species at or just above the ground surface; or, powergrubbing, treedozing, and low-energy grubbing equipment designed to cut underneath a brush plant and lift or push it out of the ground.	\$56.00
Removing debris from site.	\$17.50
<b>Labor</b>	<b>\$0.00</b>
Included in installation Costs	
<b>Mobilization</b>	<b>\$0.00</b>
Included in equipment costs	
<b>Operation &amp; Maintenance</b>	<b>\$0.74</b>
Monitoring and possible followup treatments	
<b>Acquisition of Technical Knowledge</b>	<b>\$0.00</b>
None	
<b>Forgone Income</b>	<b>\$0.00</b>
None	
<b>Risk</b>	<b>\$0.00</b>
Reduced risk, forage yield increase	
<b>Administration &amp; Permit Costs</b>	<b>\$0.00</b>
None	
<b>Total Cost Estimate:</b>	<b>\$74.24</b>

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 386.1 Introduced Grass Seed

This practice consists of establishing a 30 feet wide strip to old world bluestem around the perimeter of an 80 acre cropland field planted to a wheat/soybean rotation, to protect soil and water quality. The field border will be planted according to the NRCS Pasture and Hay Planting (512) standard.

This practice includes the costs of introduced warm or cool season perennial grass seed, tractor, drill and labor to plant grass in borders.

Associated practices include: Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324), Pasture and Hayland Planting (512), Conservation Crop Rotation (328)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%

**Cost/Unit**

**Data Source:** 2008 actual cost data, OSU Enterprise Budget Software, Pasture and Hay Planting (512) cost data

#### Materials

Introduced Perennial Grass Seed

\$27.54

#### Equipment/Installation/Labor

Tractor/Drill/Labor

\$7.00

#### Labor

Included in Equipment/Installation cost

\$0.00

#### Mobilization

None

\$0.00

#### Operation & Maintenance

1% O&M factor

\$0.35

#### Acquisition of Technical Knowledge

Calibrate and operate seed drill, manage perennial grass

\$0.00

#### Forgone Income

1 Acre taken out of crop production

Assume wheat crop minus value of hay/forage crop from perennial forage.

Net Income (\$/Ac/Yr)

\$15.63

#### Risk

Reduced risk, less erosion, less machinery wear & tear.

\$0.00

#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$50.52**

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**386.2 Bermudagrass Sprigging**

This practice consists of sprigging a 30 feet wide strip to bermudagrass around the perimeter of an 80 acre cropland field planted to a wheat/soybean rotation, to protect soil and water quality. The field border will be planted according to the NRCS Pasture and Hay Planting (512) standard.

This practice includes the costs of bermudagrass sprigs, tractor, sprigger, and labor to plant grass in borders.

Associated practices include: Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324), Pasture and Hayland Planting (512), Conservation Crop Rotation (328)

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 10

Discount Rate (%/Year): 5%

**Cost/Unit**

Data Source: 2008 actual cost data, OSU Enterprise Budget Software, Pasture and Hay Planting (512) cost data.

**Materials**

Sprigs - included in equipment and installation

Fertilizer and/or other amendments needed for establishment are covered in 590.1 and 590.3

**Equipment/Installation**

Tractor / sprigger and sprigs (average 25 bushel per acre and \$3.00 per bushel planted)  
includes labor costs

\$75.00

**Labor**

Included in Equipment/Installation Cost

**Mobilization**

None

\$0.00

**Operation & Maintenance**

1% O&M factor

\$0.00

**Acquisition of Technical Knowledge**

Calibrate and operate sprigger, manage grass

\$0.00

**Forgone Income**

1 Acre taken out of crop production

Assume wheat crop minus value of hay/forage crop from perennial forage.

Net Income (\$/Ac/Yr)

\$15.63

**Risk**

Reduced risk, water erosion, less machinery wear & tear.

\$0.00

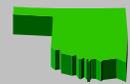
**Administration & Permit Costs**

None

\$0.00

**Total Cost Estimate:**

**\$90.63**



# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 386.3 Native Grass Monoculture

This practice consists of establishing a 30 feet wide strip to switchgrass around the perimeter of an 80 acre cropland field planted to a wheat/soybean rotation, to provide wildlife food and cover. The field border will be planted according to the NRCS Pasture and Hay Planting (512) standard.

This practice includes the costs of grass seed, tractor, drill and labor to plant grass in borders.

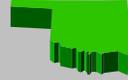
Associated practices include: Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324), Pasture and Hayland Planting (512), Conservation Crop Rotation (328)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%



**Cost/Unit**

Data Source: 2008 actual cost data, OSU Enterprise Budget Software, Pasture and Hay (512) cost data.

#### Materials

Native Grass Species

\$72.75

#### Equipment/Installation/Labor

Tractor/Drill/Labor

\$7.00

#### Labor

Included in Equipment/Installation Cost

\$0.00

#### Mobilization

None

\$0.00

#### Operation & Maintenance

1% O&M factor

\$0.80

#### Acquisition of Technical Knowledge

Calibrate and operate seed drill, manage perennial grass

\$0.00

#### Forgone Income

1 Acre taken out of crop production

Assume wheat crop minus value of hay/forage crop from perennial forage.

Net Income (\$/Ac/Yr)

\$2.74

#### Risk

Reduced risk, less erosion, less machinery wear & tear.

\$0.00

#### Administration & Permit Costs

None

\$0.00

#### **Total Cost Estimate:**

**\$83.29**

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 386.4 Native Grass Mixture

This practice consists of establishing a 30 feet wide strip to a native grass mixture around the perimeter of an 80 acre cropland field planted to a wheat/soybean rotation, to provide wildlife food and cover. The field border will be planted according to the NRCS Range Planting (550) standard. This practice includes the costs of perennial native grass seed, tractor, drill and labor to plant grass in borders.

Associated practices include: Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324), Range Planting (550), Conservation Crop Rotation (328)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%

**Cost/Unit**

Data Source: 2008 actual cost data, OSU Enterprise Budget Software, Range Planting (550) cost data.

#### Materials

Native Grass Seed

\$59.00

#### Equipment/Installation/Labor

Tractor/Drill/Labor

\$7.00

#### Labor

Included in Equipment/Installation Cost

\$0.00

#### Mobilization

None

\$0.00

#### Operation & Maintenance

1% O&M factor

\$0.66

#### Acquisition of Technical Knowledge

Calibrate and operate seed drill, manage perennial grass

\$0.00

#### Forgone Income

1 Acre taken out of crop production

Assume wheat crop minus value of hay/forage crop from perennial forage.

Net Income (\$/Ac/Yr)

\$2.74

#### Risk

Reduced risk, erosion, less machinery wear & tear.

\$0.00

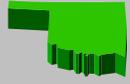
#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$69.40**



## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

##### 390.1 Native Grass Mixture

This practice consists of establishing riparian areas to permanent, herbaceous vegetation at the edge or around the perimeter of water bodies. The riparian area will be planted to a native mixture using the Oklahoma NRCS 550 standard.

This practice includes the costs of perennial native grass seed, tractor, drill and labor to plant grass in borders.

Data Source: 2008 actual cost data, OSU Enterprise Budget Software.

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 10

Discount Rate (%/Year): 5%

#### Materials

Seed (based on average lbs. PLS and cost per lb. PLS needed to plant a typical range seeding mixture according to the NRCS Range Planting (550) Standard and Specification)

Fertilizer and/or amendments, if needed for establishment, are covered in 590.1 and 590.3

Does not include cost of cover crops if needed

#### Equipment/Installation/Labor

Tractor / drill \$7.00

includes labor costs

Seedbed Preparation. Most seedbed preparation work is done as part of tillage operations for previously grown crops. In some cases an extra tillage or firming operation may be needed prior to planting. \$16.80

#### Labor

Included in Installation costs.

#### Mobilization

None

#### Operation & Maintenance

1% O&M factor

#### Acquisition of Technical Knowledge

Calibrate and operate seed drill, manage perennial grass

#### Forgone Income

1 Acre taken out of crop production

Assume small grain crop rotation minus value of occasional hay/forage crop from herbaceous cover crop.

Net Income (\$/Ac/Yr) =

#### Risk

Reduced risk, erosion, less machinery wear & tear.

#### Administration & Permit Costs

None

Total Cost Estimate:

**Cost/Unit**

\$59.00

\$23.80

\$0.00

\$0.00

\$0.83

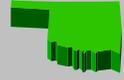
\$0.00

\$2.74

\$0.00

\$0.00

**\$86.37**



# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 391.1 Trees &/or Shrubs - barerooted

This practice consists of planting a 35 foot wide strip to barerooted bottomland hardwood trees along each side of the bank of a perinneal stream, to reduce excess amounts of sediment and nutrients entering the stream. The trees will be established according to the Tree/Shrub Establishment (612) and Tree/Shrub Site Preparation (490) standard and specifications.

Associated practices include: Filter Strip (393), Upland Wildlife Habitat Management (645), Pest Management (595), Tree/Shrub Pruning (660), Brush Management (314), Forest Stand Improvement (666), Streambank and Shoreline Protection (580)

Includes the cost of the bare root seedlings and the costs of planting (labor and equipment).

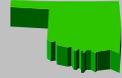
Geographic Area: Statewide

Unit for Cost Estimate: Each

Practice Life (Years): 15

Discount Rate (%/Year): 5%

Data Source: 2008 cost data from ODAFF-Forestry Services Data.



<u>Materials</u>	<u>Unit</u>	<u>\$/Unit</u>	<u>Cost/Unit</u>
Bare-rooted seedlings (average for all species and order sizes)	<span style="color: blue;">Tree</span>	<span style="color: blue;">\$0.40</span>	<span style="color: blue;">\$0.40</span>
<b>Equipment/Installation</b>			<span style="color: blue;">\$0.30</span>
Planting of each seedling	<span style="color: blue;">Tree</span>	<span style="color: blue;">\$0.30</span>	
<b>Labor</b> (Included in Installation cost)			<span style="color: blue;">\$0.00</span>
<b>Mobilization</b> 2% of materials, equipment and labor			<span style="color: blue;">\$0.01</span>
<b>Operation &amp; Maintenance</b> O & M during establishment period, 1% of materials, equipment and labor			<span style="color: blue;">\$0.01</span>
<b>Acquisition of Technical Knowledge</b> None			<span style="color: blue;">\$0.00</span>
<b>Forgone Income</b> None			<span style="color: blue;">\$0.00</span>
<b>Risk</b> None			<span style="color: blue;">\$0.00</span>
<b>Administration &amp; Permit Costs</b> None			<span style="color: blue;">\$0.00</span>
<b>Total Cost Estimate:</b>			<span style="color: blue;">\$0.72</span>

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**391.2 Trees &/or Shrubs - barerooted, with animal control devices**

This practice consists of planting a 35 foot wide strip to barerooted bottomland hardwood trees with animal control devices, along each side of the bank of a perennial stream, to reduce excess amounts of sediment and nutrients entering the stream. The trees will be established according to the Tree/Shrub Establishment (612) and Tree/Shrub Site Preparation (490) standard and specifications.

and/or water bodies.

Associated practices include: Filter Strip (393), Upland Wildlife Habitat Management (645), Pest Management (595), Tree/Shrub Pruning (660), Brush Management (314), Forest Stand Improvement (666), Streambank and Shoreline Protection (580)

Includes the cost of the bare root seedlings and the costs of planting (labor and equipment). Includes the use of the polyethylene wrap or protection net or tube, stakes, and the cost of labor for placing the devices.

Geographic Area: Statewide

Unit for Cost Estimate: Each

Practice Life (Years): 15

Discount Rate (%/Year): 5%

Data Source: 2008 cost data from ODAFF-Forestry Services Data.



			<u>Cost/Unit</u>
<b>Materials</b>			<b>\$0.65</b>
	<u>Unit</u>	<u>\$/Unit</u>	
Bare-rooted seedlings (average for all species and order sizes)	Tree	\$0.40	
Animal Control Devices	Tree	\$0.25	
Total		\$0.65	
<b>Equipment/Installation</b>			<b>\$0.35</b>
	<u>Unit</u>	<u>\$/Unit</u>	
Planting of each seedling	Tree	\$0.30	
Animal Control Devices	Tree	\$0.05	
Total		\$0.35	
<b>Labor</b>			<b>\$0.00</b>
(Included in Installation cost)			
<b>Mobilization</b>			<b>\$0.02</b>
2% of materials, equipment and labor			
<b>Operation &amp; Maintenance</b>			<b>\$0.01</b>
O & M during establishment period, 1% of materials, equipment and labor			
<b>Acquisition of Technical Knowledge</b>			<b>\$0.00</b>
None			
<b>Forgone Income</b>			<b>\$0.00</b>
None			
<b>Risk</b>			<b>\$0.00</b>
None			
<b>Administration &amp; Permit Costs</b>			<b>\$0.00</b>
None			
<b>Total Cost Estimate:</b>			<b>\$1.03</b>

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### **391.3 Trees &/or Shrubs - containerized/potted**

This practice consists of planting a 35 foot wide strip to containerized bottomland hardwood trees in harsh site conditions where bare rooted seedlings are not recommended, along each side of the bank of a perinneal stream, to reduce excess amounts of sediment and nutrients entering the stream. The trees will be established according to the Tree/Shrub Establishment (612) and Tree/Shrub Site Preparation (490) standard and specifications.

Includes the cost of the containerized or potted seedlings and the costs of planting (labor and equipment).

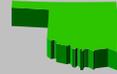
Associated practices include: Filter Strip (393), Upland Wildlife Habitat Management (645), Pest Management (595), Tree/Shrub Pruning (660), Brush Management (314), Forest Stand Improvement (666), Streambank and Shoreline Protection (580)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Each

**Practice Life (Years):** 15

**Discount Rate (%/Year):** 5%



Data Source: 2008 cost data from ODAFF-Forestry Services Data.

#### Cost/Unit

\$0.90

#### Materials

	<u>Unit</u>	<u>\$/Unit</u>
Containerized or potted seedlings (average for all species and order sizes)	Tree	\$0.90

#### Equipment/Installation

Planting of each seedling	Tree	\$0.30
---------------------------	------	--------

\$0.30

#### Labor

(Included in Installation cost)

\$0.00

#### Mobilization

2% of materials, equipment and labor

\$0.02

#### Operation & Maintenance

Replacement of unsuccessful seedlings during establishment period, 1% of materials, equipment and labor

\$0.01

#### Acquisition of Technical Knowledge

None

\$0.00

#### Forgone Income

None

\$0.00

#### Risk

None

\$0.00

#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$1.24**

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**391.4 Trees &/or Shrubs - containerized/potted with animal control device**

This practice consists of planting a 35 foot wide strip to containerized bottomland hardwood trees with animal control devices, in harsh site conditions where bare rooted seedlings are not recommended, along each side of the bank of a perinneal stream, to reduce excess amounts of sediment and nutrients entering the stream. The trees will be established according to the Tree/Shrub Establishment (612) and Tree/Shrub Site Preparation (490) standard and specifications.

Associated practices include: Filter Strip (393), Upland Wildlife Habitat Management (645), Pest Management (595), Tree/Shrub Pruning (660), Brush Management (314), Forest Stand Improvement (666), Streambank and Shoreline Protection (580)

Includes the cost of the containerized or potted seedlings and the costs of planting (labor and equipment). Includes the use of the polyethylene wrap or protection net or tube, stakes, and the cost of labor for placing the devices.

Geographic Area: **Statewide**

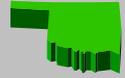
Unit for Cost Estimate: **Each**

Practice Life (Years): **15**

Discount Rate (%/Year): **5%**

Data Source: 2008 cost data from ODAFF-Forestry Services Data.

			<u>Cost/Unit</u>
<b>Materials</b>			<b>\$1.15</b>
	<u>Unit</u>	<u>\$/Unit</u>	
Containerized or potted seedlings (average for all species and order sizes)	<u>Tree</u>	<u>\$0.90</u>	
Animal Control Devices	<u>Tree</u>	<u>\$0.25</u>	
Total		<u>\$1.15</u>	
<b>Equipment/Installation</b>			<b>\$0.35</b>
	<u>Unit</u>	<u>\$/Unit</u>	
Planting of each seedling	<u>Tree</u>	<u>\$0.30</u>	
Animal Control Devices	<u>Tree</u>	<u>\$0.05</u>	
Total		<u>\$0.35</u>	
<b>Labor</b>			<b>\$0.00</b>
(Included in Installation cost)			
<b>Mobilization</b>			<b>\$0.03</b>
2% of materials, equipment and labor			
<b>Operation &amp; Maintenance</b>			<b>\$0.02</b>
Replacement of unsuccessful seedlings during establishment period, 1% of materials, equipment and labor			
<b>Acquisition of Technical Knowledge</b>			<b>\$0.00</b>
None			
<b>Forgone Income</b>			<b>\$0.00</b>
None			
<b>Risk</b>			<b>\$0.00</b>
None			
<b>Administration &amp; Permit Costs</b>			<b>\$0.00</b>
None			
<b>Total Cost Estimate:</b>			<b>\$1.55</b>



## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

##### 393.1 Introduced

This practice consists of planting a 30 foot wide strip of bermudagrass, 2700 feet long, along both edges of a drainage way within a cropland field, to trap and filter sediment from runoff. The Filter Strip will be planted according to the NRCS Critical Area Planting (342) standard.

This practice includes the costs of perennial grass seed, tractor, drill, and labor to plant grass in filter strips.

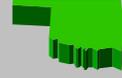
Associated practices include: Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324), Critical Area Planting (342), Conservation Crop Rotation (328)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%



**Cost/Unit**

Data Source: 2008 actual cost data, OSU Enterprise Budget Software, Critical Area Planting (342) cost data

#### Materials

Costs for seed is included in Equipment and Installation. All rates and species are according to the Critical Area Planting (342) standard and specifications

Does not include cost of fertilizer and/or amendments that may be needed for establishment. Refer to 590.1 and 590.3

#### Equipment/Installation

\$72.82

Seeding introduced species as monoculture or in mixture - Includes seed costs, seedbed preparation and seeding equipment.

#### Labor

Costs included with installation

#### Mobilization

None

#### Operation & Maintenance

\$1.46

2% O&M factor

#### Acquisition of Technical Knowledge

\$0.00

Calibrate and operate seed drill/sprigger, manage perennial grass

#### Forgone Income

\$15.63

1 Acre taken out of crop production

Assume small grain crop rotation minus value of occasional hay/forage crop from herbaceous cover crop.

Net Income (\$/Ac/Yr) =

#### Risk

\$0.00

Reduced risk, less erosion, less machinery wear & tear.

#### Administration & Permit Costs

\$0.00

None

**Total Cost Estimate:**

**\$89.91**

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

##### 393.2 Sprigging

This practice consists of sprigging a 30 foot wide strip of bermudagrass, 2700 feet long, along both edges of a drainage way within a cropland field, to trap and filter sediment from runoff. The Filter Strip will be planted according to the NRCS Critical Area Planting (342) standard.

This practice includes the costs of perennial grass seed, tractor, drill, sprigger, and labor to plant grass in filter strips.

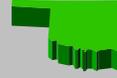
Associated practices include: Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324), Critical Area Planting (342), Conservation Crop Rotation (328)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%



**Cost/Unit**

Data Source: 2008 actual cost data, OSU Enterprise Budget Software, Critical Area Planting (342) cost data

#### Materials

Costs for sprigs are included in Equipment and Installation. All rates and species are according to the Critical Area Planting (342) standard and specifications

Does not include cost of fertilizer and/or amendments that may be needed for establishment. Refer to 590.1 and 590.3

**Equipment/Installation** \$150.00

Sprigging bermudagrass includes seedbed preparation, cost of sprigs, tractor / sprigging equipment and planting

#### Labor

Costs included with installation

#### Mobilization

None

**Operation & Maintenance** \$3.00

2% O&M factor

**Acquisition of Technical Knowledge** \$0.00

Calibrate and operate seed drill/sprigger, manage perennial grass

**Forgone Income** \$15.63

1 Acre taken out of crop production

Assume small grain crop rotation minus value of occasional hay/forage crop from herbaceous cover crop.

Net Income (\$/Ac/Yr) =

**Risk** \$0.00

Reduced risk, less erosion, less machinery wear & tear.

**Administration & Permit Costs** \$0.00

None

**Total Cost Estimate:** \$168.63

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

##### 393.3 Natives

This practice consists of planting a 30 foot wide strip of a native grass mixture, 2700 feet long, along both edges of a drainage way within a cropland field, to trap and filter sediment from runoff. The Filter Strip will be planted according to the NRCS Critical Area Planting (342) standard.

This practice includes the costs of perennial grass seed, tractor, drill, and labor to plant grass in filter strips.

Associated practices include: Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324), Critical Area Planting (342), Conservation Crop Rotation (328)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%

Cost/Unit

**Data Source:** 2008 actual cost data, OSU Enterprise Budget Software, Critical Area Planting (342) cost data

#### Materials

Costs for seed is included in Equipment and Installation. All rates and species are according to the Critical Area Planting (342) standard and specifications

Does not include cost of fertilizer and/or amendments that may be needed for establishment. Refer to 590.1 and 590.3

#### Equipment/Installation

\$124.12

Seeding inative grass species as monoculture or in mixture - Includes seed costs, seedbed preparation and seeding equipment.

#### Labor

Costs included with installation

#### Mobilization

None

#### Operation & Maintenance

2% O&M factor

\$2.48

#### Acquisition of Technical Knowledge

Calibrate and operate seed drill/sprigger, manage perennial grass

\$0.00

#### Forgone Income

1 Acre taken out of crop production

Assume small grain crop rotation minus value of occasional hay/forage crop from herbaceous cover crop.

Net Income (\$/Ac/Yr) =

\$15.63

#### Risk

Reduced risk, less erosion, less machinery wear & tear.

\$0.00

#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$142.23**

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 394.1 Firebreak, normal

#### Installation of firebreak to facilitate implementation of Prescribed Burning (338)

Construction/installation of a firebreak as designed according to the NRCS Firebreak (394) standard and included in a Prescribed Burning Management Plan. This is limited to constructed firebreaks that can be prepared with normal farm machinery (disks, plows, mowers) or similar type equipment. Generally these are installed on open grasslands with landscapes and soils that allows for use of normal farm equipment (i.e. no boulders, no large trees, no canyons that can no be crossed).

Associated Practices: Prescribed Burning (338)

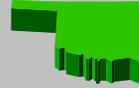
Data Source: 2008 actual cost data.

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 10

Discount Rate (%/Year): 5%



**Cost/Unit**

#### Materials

None

0.00

#### Equipment/Installation

Normal farm equipment (tractor, disk, plow, mowers, etc..) and labor. Some cases may require mowing of thick vegetation and 2-3 passes to fully remove/bury vegetation.

\$149.92

#### Labor

Included in installation.

#### Mobilization

Included in installation.

#### Operation & Maintenance

Constructed firebreaks can be maintained in order to reduce amount of preparation time and effort for future burning. The initial construction is usually the more expensive and time consuming. Afterwards, with annual tillage and/or planting of green crops (i.e. wheat), the firebreaks can be maintained for future burns.

5.00

#### Acquisition of Technical Knowledge

Knowledge of prescribed burning, use of equipment for installation

0.00

#### Forgone Income

Could be loss of acreage of forage, but could be negligible if planted to green crops as part of maintenance,

0.00

#### Risk

Reduced risk, less fire damage hazard.

0.00

#### Administration & Permit Costs

None

0.00

#### Total Cost Estimate:

**154.92**

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### **394.2 Firebreak, heavy equip.**

#### **Installation of firebreak to facilitate implementation of Prescribed Burning (338)**

Construction/installation of a firebreak as designed according to the NRCS Firebreak (394) standard and included in a Prescribed Burning Management Plan. This is limited to constructed firebreaks that require heavy equipment (dozers, graders) due to site conditions that do not allow for use of normal farm equipment. Site conditions would include thick brush, large trees, rocky terrain, creek crossings or steep slopes that would necessitate the need for heavy equipment. Also included is the needed stacking and removing of debris in order to provide a technically sufficient firebreak.

Associated Practices: Prescribed Burning (338)

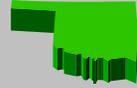
Data Source: 2008 actual cost data.

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 10

Discount Rate (%/Year): 5%



**Cost/Unit**

#### Materials

None

0.000

#### Equipment/Installation

Equipment includes cost of Dozer to construct firebreak. Costs are on a per acre basis.

\$708.42

#### Labor

Included in installation

#### Mobilization

Included with equipment and installation

#### Operation & Maintenance

Constructed firebreaks can be maintained with periodic tillage, removal of debris, etc. in order to reduce amount of preparation time and effort for future burning. The initial construction is usually the more expensive and time consuming. Afterwards, with annual tillage and/or planting of green crops (i.e. wheat), the firebreaks can be maintained for future burns.

10.00

#### Acquisition of Technical Knowledge

Knowledge of prescribed burning, use of equipment for installation

0.000

#### Forgone Income

None

0.000

#### Risk

Reduced risk, less fire damage hazard.

0.000

#### Administration & Permit Costs

None

0.000

#### **Total Cost Estimate:**

**718.42**

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**410.1 Grade Stabilization Structure - Earthen**

An earthen embankment constructed near a head cut or in an unstable drain to control erosion. The typical structure consists of 3100 CY of embankment with 93 feet of 24 inch pipe. Other structures may require one or more of the following components: concrete, trashguard, riprap, gypsum treatment for dispersive clay soils, filter diaphragm, and plastic pipe.

**Construction Units (CU)** are found by multiplying the designed or estimated **Quantity** by the given **Multiplier** as shown in the example in Table 1-A. The construction units for each component are then summed to give the **Total Construction Units** for the project. If a component is not used, there will be no construction units for that component. The Total Construction Units are then multiplied by the **Cost/Unit** provided below, to give the average cost of the project. Table 1-B is given as a template for computations.

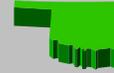
**Associated Practices:** 382-Fence, 342-Critical Area Planting, 362-Diversion

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Construction Unit (CU)

**Practice Life (Years):** 20

**Discount Rate (%/Year):** 5%



**Data Source:** 2008 actual cost data and current vendor pricing.

**Cost/Unit**

\$1.72

**Materials**

Includes Equipment/Installation, Labor and Mobilization Costs

**Table 1-A Example**

Component	Units	Quantity	Multiplier	CU
Earthwork	CY	3000	1.0	3,000.0
HCMP / Welded Steel	DIFT	2232	1.2	2,678.4
Plastic Pipe	DIFT	0	0.4	0.0
Concrete	CY	2	146.5	293.0
Trashguard	PF	44	9.9	435.6
Gypsum	TON	0	69.8	0.0
Riprap	CY	0	31.4	0.0
Filter (C33 sand)	CY	0	23.0	0.0
<b>Total Construction Units</b>				<b>6,407.0</b>

To determine the average cost for any component listed above, multiply \$1.72 times the **Multiplier** for that component. For example, the average cost of concrete would be  $\$1.72 \times 146.5 = \$251.98 / \text{CY}$ .

**Table 1-B**

Component	Units	Quantity	Multiplier	CU
Earthwork	CY		1	
HCMP / Welded Steel	DIFT		1.2	
Plastic Pipe	DIFT		0.4	
Concrete	CY		146.5	
Trashguard	PF		9.9	
Gypsum	TON		69.8	
Riprap	CY		31.4	
Filter	CY		23	
<b>Total Construction Units</b>				

**Equipment/Installation**

Included in Materials Cost

\$0.00

**Labor**

Included in Materials Cost

\$0.00

**Mobilization**

Included in Materials Cost

\$0.00

**Operation & Maintenance (Annual)**

1% of Installation Costs

\$0.02

**Acquisition of Technical Knowledge**

None

\$0.00

**Forgone Income (Annual)**

Minimal land taken out of production.

\$0.00

**Risk**

Reduced risk, reliable source of water

\$0.00

**Administration & Permit Costs**

None

\$0.00

**Total Cost Estimate:**

**\$1.74**

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**410.2 Grade Stabilization Structure with Concrete Open Weir Spillway (Formless Concrete Chute)**

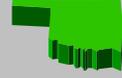
Constructed near a head cut to control erosion. Minor excavation and embankment is required to install the concrete structure. Typical quantities is 40 cubic yards of concrete. This structure may or may not require foundation stabilization with rock.

**Geographic Area:** Statewide

**Unit for Cost Estimate:** CY

**Practice Life (Years):** 15

**Discount Rate (%/Year):** 5%



**Data Source:** Cost is based on 10% price increase from 2008.

**Cost/Unit**

<b>Materials</b>		\$530.20
Includes Equipment/Installation, Labor and Mobilization Costs		
<b>Equipment/Installation</b>		\$0.00
Included in Materials cost		
<b>Labor</b>		\$0.00
Included in Materials cost		
<b>Mobilization</b>		\$0.00
Included in Materials Cost		
<b>Operation &amp; Maintenance (Annual)</b>	0	\$5.30
One percent of materials, equipment and labor		
<b>Acquisition of Technical Knowledge</b>		\$0.00
N/A		
<b>Forgone Income (Annual)</b>		\$0.00
None		
<b>Risk</b>		\$0.00
Reduced risk, can better manage runoff water and materials		
<b>Administration &amp; Permit Costs</b>		\$0.00
Paperwork required to designs, meetings with engineers, travel		
<b>Total Cost Estimate:</b>		\$535.50

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### **410.3 Galvanized Steel Toe Structure**

Installed to control erosion consisting of a galvanized steel toe wall structure. The typical structure with 160 ac drainage area and 3.9 ft drop consists of 301 sq ft of galvanized steel at a total cost of \$25.21/sq-ft.

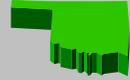
**Geographic Area:** Statewide

**Unit for Cost Estimate:** Square Foot (SF)

**Practice Life (Years):** 15

**Discount Rate (%/Year):** 5%

**Data Source:** 10% cost increase from 2008.



		<u>Cost/Unit</u>
<b>Materials</b>		<b>\$25.21</b>
Galvanized Steel	301 sq ft	
Concrete (reinforced)	10.6 CY	
Filter C-33 Sand	1.3 CY	
Drain Pipe	35 LF	
Rip Rap	3.9 CY	
Excavation/Fill	variable CY	
<b>Equipment/Installation</b>		<b>\$0.00</b>
Includes Labor		
<b>Labor</b>		<b>\$0.00</b>
Labor included in Equipment cost.		0
<b>Mobilization</b>		<b>\$0.00</b>
Included in Materials, Equipment and Installation Costs.		
<b>Operation &amp; Maintenance</b>		<b>\$0.25</b>
One percent of Materials, Equipment, Labor Costs		
<b>Acquisition of Technical Knowledge</b>		<b>\$0.00</b>
N/A		
<b>Forgone Income</b>		<b>\$0.00</b>
Little or none land taken out of production.		
<b>Risk</b>		<b>\$0.00</b>
None		
<b>Administration &amp; Permit Costs</b>		<b>\$0.00</b>
Paperwork required to designs, meetings with engineers, travel		
<b>Total Cost Estimate:</b>		<b>\$25.46</b>

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 412.1 Grassed Waterway

A natural or constructed channel that is shaped to the required dimensions by excavating and/or filling. The typical waterway is 3.1 acres. If the waterway is required to be vegetated, the vegetation is installed under NRCS practice code 342, Critical Area Planting.

**Associated Practices:** 600-Terrace, 362-Diversion, 342-Critical Area Planting

**Data Source:** 2008 actual cost data

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%



**Cost/Unit**

#### Materials

Includes Equipment, Installation and Labor Costs

\$669.00

#### Equipment/Installation

Included in Materials Cost

\$0.00

#### Labor

Included in Materials Cost

\$0.00

#### Mobilization

Included in Materials Cost

\$0.00

#### Operation & Maintenance (Annual)

2% of Installation Costs

\$13.38

#### Acquisition of Technical Knowledge

Planting and management of vegetation

\$0.00

#### Forgone Income (Annual)

None

\$0.00

#### Risk

Reduced risk, less concentrated flow erosion, less machinery wear & tear.

\$0.00

#### Administration & Permit Costs

None

\$0.00

#### **Total Cost Estimate:**

**\$682.38**

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### 422.1 Trees &/or Shrubs - barerooted

Establishment of dense vegetation (trees/shrubs) in a linear design.

Includes the cost of the bare root seedlings and the costs of planting (labor and equipment) to establish at least two rows of shrubs or trees to typically serve as a wildlife corridor or screen.

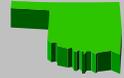
Geographic Area: Statewide

Unit for Cost Estimate: Each

Practice Life (Years): 15

Discount Rate (%/Year): 5%

Data Source: 2008 actual cost data and current vendor pricing.



<u>Materials</u>	<u>Unit</u>	<u>\$/Unit</u>	<u>Cost/Unit</u>
Bare-rooted seedlings (average for all species and order sizes)	Tree	\$0.40	\$0.40
<u>Equipment/Installation</u>			\$0.30
Planting of each seedling	Tree	\$0.30	
<u>Labor</u> (Included in Installation cost)			\$0.00
<u>Mobilization</u> 2% of materials, equipment and labor			\$0.01
<u>Operation &amp; Maintenance</u> 5% of installation costs			\$0.01
<u>Acquisition of Technical Knowledge</u> None			\$0.00
<u>Forgone Income</u> None			\$0.00
<u>Risk</u> None			\$0.00
<u>Administration &amp; Permit Costs</u> None			\$0.00
<b>Total Cost Estimate:</b>			<b>\$0.72</b>

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**422.2 Trees &/or Shrubs - barerooted, with animal control devices**

Establishment of dense vegetation (trees/shrubs) with animal control devices, in a linear design.

Includes the cost of the bare root seedlings and the costs of planting (labor and equipment) to establish at least two rows of shrubs or trees to typically serve as a wildlife corridor or screen. Includes the use of the polyethylene wrap or protection net or tube, stakes, and the cost of labor for placing the devices.

**Geographic Area:** Statewide

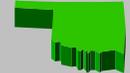
**Unit for Cost Estimate:** Each

**Practice Life (Years):** 15

**Discount Rate (%/Year):** 5%

**Data Source:** 2008 actual cost data and current vendor pricing and ODAFF information.

			<u>Cost/Unit</u>
<b>Materials</b>			<b>\$0.65</b>
	<u>Unit</u>	<u>\$/Unit</u>	
Bare-rooted seedlings (average for all species and order sizes)	Tree	\$0.40	
Animal Control Devices	Tree	\$0.25	
Total		\$0.65	
<b>Equipment/Installation</b>			<b>\$0.35</b>
	<u>Unit</u>	<u>\$/Unit</u>	
Planting of each seedling	Tree	\$0.30	
Animal Control Devices	Tree	\$0.05	
Total		\$0.35	
<b>Labor</b>			<b>\$0.00</b>
(Included in Installation cost)			
<b>Mobilization</b>			<b>\$0.02</b>
2% of materials, equipment and labor			
<b>Operation &amp; Maintenance</b>			<b>\$0.01</b>
5% of installation costs			
<b>Acquisition of Technical Knowledge</b>			<b>\$0.00</b>
None			
<b>Forgone Income</b>			<b>\$0.00</b>
None			
<b>Risk</b>			<b>\$0.00</b>
None			
<b>Administration &amp; Permit Costs</b>			<b>\$0.00</b>
None			
<b>Total Cost Estimate:</b>			<b>\$1.03</b>



ECONOMIC COST DATA

**Cost Data**

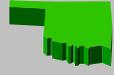
**Typical Implementation Scenario**

**428A.1 Concrete Ditch and Canal Lining**

The typical structure is 2500 ft long requiring 75 CY of concrete at a total cost of \$25,740.00

Data Source: 2008 actual cost data and current vendor pricing.

Geographic Area: Statewide  
 Unit for Cost Estimate: CY  
 Practice Life (Years): 20  
 Discount Rate (%/Year): 5%



**Cost/Unit**

<b>Materials</b>	\$343.20
Includes cost of equipment/installation, labor and mobilization.	
<b>Equipment/Installation</b>	\$0.00
Included in Materials Cost	
<b>Labor</b>	\$0.00
Included in Materials Cost	
<b>Mobilization</b>	\$0.00
Included in Materials Cost	
<b>Operation &amp; Maintenance (Annual)</b>	\$10.30
3% of Installation Costs	
<b>Acquisition of Technical Knowledge</b>	\$0.00
None	
<b>Forgone Income (Annual)</b>	\$0.00
Minimal to no land taken out of production.	
<b>Risk</b>	\$0.00
None	
<b>Administration &amp; Permit Costs</b>	\$0.00
None	
<b>Total Cost Estimate:</b>	<b>\$353.50</b>

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 430DD.1 High Pressure

Pipeline, high-pressure, underground, plastic, consisting of a pipeline with appurtenances to convey irrigation water. The typical job is 1500 Lin ft of 8 inch 80 psi pipe at a total cost of \$7080.00

Data Source: 2008 actual cost data and current vendor pricing.

Geographic Area: Statewide

Unit for Cost Estimate: DIFT

Practice Life (Years): 25

Discount Rate (%/Year): 5%

#### Materials

Includes equipment/installation, labor and mobilization costs.  
Includes cost of trenching.

#### Equipment/Installation

Included in Materials Cost

#### Labor

Included in Materials Cost

#### Mobilization

Included in Materials Cost

#### Operation & Maintenance (Annual)

None

#### Acquisition of Technical Knowledge

Pipe installation skills, design, layout

#### Forgone Income (Annual)

None, no land taken out of production

#### Risk

Reduced risk, better irrigation water control

#### Administration & Permit Costs

None

#### **Total Cost Estimate:**

**Cost/Unit**

\$0.59

\$0.00

\$0.00

\$0.00

\$0.00

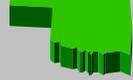
\$0.00

\$0.00

\$0.00

\$0.00

**\$0.59**



# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 430EE.1 Low Pressure

Pipeline, low-pressure, underground, plastic, consisting of a pipeline with appurtenances to convey irrigation water. The typical job is 2650 ft of 8 inch 50 psi pipe at a total cost of \$12,508.00

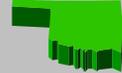
Data Source: 2008 actual cost data and current vendor pricing.

Geographic Area: Statewide

Unit for Cost Estimate: DIFT

Practice Life (Years): 25

Discount Rate (%/Year): 5%



**Cost/Unit**

#### Materials

Includes equipment/installation, labor and mobilization costs

\$0.59

#### Equipment/Installation

Included in Materials Cost

\$0.00

#### Labor

Included in Materials Cost

\$0.00

#### Mobilization

Included in Materials Cost

\$0.00

#### Operation & Maintenance (Annual)

None

\$0.00

#### Acquisition of Technical Knowledge

Pipe installation skills, design, layout

\$0.00

#### Forgone Income (Annual)

None, no land taken out of production

\$0.00

#### Risk

Reduced risk, better irrigation water control

\$0.00

#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$0.59**

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 436.1 Irrigation Storage Reservoir

A water impoundment constructed by excavation and/or fill to store water. This structure may require a principal spillway pipe. The typical structure consists of 3000 CY of embankment with 93 feet of 12 in pipe. Other structures may require one or more of the following components: concrete, trashguard, riprap, gypsum treatment for dispersive clay soils, filter diaphragm, and plastic pipe.

**Construction Units (CU)** are found by multiplying the designed or estimated **Quantity** by the given **Multiplier** as shown in the example in Table 1-A. The construction units for each component are then summed to give the **Total Construction Units** for the project. If a component is not used, there will be no construction units for that component. The Total Construction Units are then multiplied by the **Cost/Unit** given below to give the average cost of the project. Table 1-B is given as a template for computations.

**Associated Practices:** 382-Fence, 342-Critical Area Planting, 393-Filter Strip, 516-Pipeline, 521C-Pond Sealing or Lining, Bentonite Sealant

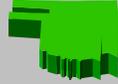
**Geographic Area:** Statewide

**Unit for Cost Estimate:** Construction Unit (CU)

**Practice Life (Years):** 20

**Discount Rate (%/Year):** 5%

**Data Source:** 2008 actual cost data and current vendor pricing.



**Cost/Unit**

\$1.72

### Materials

Includes Equipment/Installation, Labor and Mobilization Costs

#### Table 1-A Example

Component	Units	Quantity	Multiplier	CU
Earthwork	CY	3000	1.0	3,000
HCMP / Welded Steel	DIFT	1116	1.2	1,339
Plastic Pipe	DIFT	0	0.4	0
Concrete	CY	2	146.5	293
Trashguard	PF	44	9.9	436
Gypsum	TON	0	69.8	0
Riprap	CY	0	31.4	0
Filter (C33 sand)	CY	0	23.0	0
<b>Total Construction Units</b>				<b>5,068</b>

To determine the average cost for any component listed above, multiply \$1.72 times the **Multiplier** for that component. For example, the average cost of concrete would be

#### Table 1-B

Component	Units	Quantity	Multiplier	CU
Earthwork	CY		1	
HCMP / Welded Steel	DIFT		1.2	
Plastic Pipe	DIFT		0.4	
Concrete	CY		146.5	
Trashguard	PF		9.9	
Gypsum	TON		69.8	
Riprap	CY		31.4	
Filter	CY		23	
<b>Total Construction Units</b>				

### Equipment/Installation

Included in Materials Cost

\$0.00

### Labor

Included in Materials Cost

\$0.00

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### **441.1 Subsurface Drip System**

Consisting of subsurface drip systems. The typical system consists of subsurface drip tapes on 80 inch spacing covering a 130 acre field.

Data Source: 2008 actual cost data

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 10

Discount Rate (%/Year): 5%



**Cost/Unit**

### Materials

Total cost estimate for complete drip irrigation system, including materials, installation, labor and mobilization.

Includes filtering system, valves, controllers, main lines, lateral lines, flow meter and other required appurtenances.

\$997.50

### Equipment/Installation

Included in Materials Cost.

\$0.00

### Labor

Included in Materials Cost.

\$0.00

### Mobilization

Included in Materials Cost.

\$0.00

### Operation & Maintenance (Annual)

5% of materials, equipment/Installation and labor costs

\$49.88

### Acquisition of Technical Knowledge

N/A

\$0.00

### Forgone Income (Annual)

None, no land taken out of production.

\$0.00

### Risk

Reduced risk, can better manage irrigation water, agricultural chemicals and crops

\$0.00

### Administration & Permit Costs

Paperwork required to complete designs, meetings with engineers, travel

\$0.00

### **Total Cost Estimate:**

**\$1,047.38**

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### **441.2 Drip System for Windbreaks**

Consisting of drip systems for wind breaks. The typical system is a windbreak 2600 ft long with 3 rows of trees on 12 ft spacing which results in 650 trees.

Data Source: Cost based on indexed 2007 cost data.

Geographic Area: Statewide

Unit for Cost Estimate: Tree

Practice Life (Years): 10

Discount Rate (%/Year): 5%

#### Materials

Includes cost for Equipment/Installation, Labor, Filters, Gauges, Emitters, Lateral lines, and Mobilization.

#### Equipment/Installation

Included in Materials Cost.

#### Labor

Included in Materials Cost.

#### Mobilization

Included in Materials Cost.

#### Operation & Maintenance (Annual)

5% of materials, equipment/Installation and labor costs

#### Acquisition of Technical Knowledge

N/A

#### Forgone Income (Annual)

None

#### Risk

Reduced risk, can better manage irrigation water, agricultural chemicals and crops

#### Administration & Permit Costs

Paperwork required to complete designs, meetings with engineers, travel

#### **Total Cost Estimate:**

Cost/Unit

\$2.09

\$0.00

\$0.00

\$0.00

\$0.10

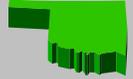
\$0.00

\$0.00

\$0.00

\$0.00

\$2.19



ECONOMIC COST DATA

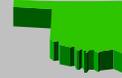
**Cost Data**

**Typical Implementation Scenario**

**442.1 New Low Pressure Sprinkler System**

Consisting of installing a new low pressure system. The typical system is a pivot 1290 ft long with drops on 5 ft spacing. A typical system also includes pressure regulators, chemigation safety check valve, and a flow meter.

Geographic Area: Statewide



Unit for Cost Estimate: LF - Linear Foot

Practice Life (Years): 15

Discount Rate (%/Year): 5%

Data Source: 2008 actual cost data.

**Cost/Unit**

**Materials**

\$52.28

Total cost includes Materials, Equipment/Installation, Labor and Mobilization

Component	Unit Cost	Units	Total Costs
Main Line	49.64 / FT	1290	\$ 64,035.60
Flowmeter	1055.28 / Each	1	\$ 1,055.98
Chemigation Valve	634.94 / Each	1	\$ 634.94
Pressure Regulators	6.6 / Each	259	\$ 1,709.40
			<b>\$ 67,435.92</b>

**Equipment/Installation**

\$0.00

Included in Materials

**Labor**

\$0.00

Included in Materials

**Mobilization**

\$0.00

Included in Materials

**Operation & Maintenance (Annual)**

\$1.05

2% of materials, equipment/Installation and labor costs

**Acquisition of Technical Knowledge**

\$0.00

N/A

**Forgone Income (Annual)**

\$0.00

None, no land taken out of production.

**Risk**

\$0.00

Reduced risk, can better manage irrigation water, agricultural chemicals and crops

**Administration & Permit Costs**

\$0.00

N/A

**Total Cost Estimate:**

\$53.32

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 442.2 Conversion to Low Pressure

Consisting of converting an existing high pressure system to a low pressure system. The typical system is 1290 ft long with drops at 5 ft spacing. A typical system includes pressure regulators, chemigation safety check valve and a flow meter.

Geographic Area: Statewide

Unit for Cost Estimate: LF - Linear Foot

Practice Life (Years): 15

Discount Rate (%/Year): 5%

Data Source: 2008 actual cost data.



### Materials

Total cost includes Materials, Equipment/Installation, Labor and Mobilization

Component	Unit Cost	Units	Total Costs
Main Line	2.21 / FT	1290	\$ 2,856.18
Flowmeter	1055.98 / Each	1	\$ 1,055.98
Chemigation Valve	634.94 / Each	1	\$ 634.94
Pressure Regulators	6.6 / Each	259	\$ 1,709.40
			<b>\$ 6,256.50</b>

### Labor

Included in Materials

### Mobilization

Included in Materials

### Operation & Maintenance (Annual)

2% of materials, equipment/Installation and labor costs

### Acquisition of Technical Knowledge

N/A

### Forgone Income (Annual)

None, no land taken out of production.

### Risk

Reduced risk, can better manage irrigation water, agricultural chemicals and crops

### Administration & Permit Costs

N/A

Total Cost Estimate:

**Cost/Unit**

\$4.85

\$0.00

\$0.00

\$0.00

\$0.10

\$0.00

\$0.00

\$0.00

\$0.00

\$4.95

ECONOMIC COST DATA

**Cost Data**

Typical Implementation Scenario

**442.3 Big Gun/Pasture Gun**

For use in disposal of waste water as part of a waste management plan. The typical sprinkler is one traveling gun with 100 gpm capacity.

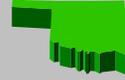
Data Source: 2008 actual cost data.

Geographic Area: Statewide

Unit for Cost Estimate: Each

Practice Life (Years): 15

Discount Rate (%/Year): 5%



**Cost/Unit**

Materials

\$1,100.00

Total cost includes Materials, Equipment/Installation, Labor and Mobilization

Equipment/Installation

\$0.00

Included in Materials

Labor

\$0.00

Included in Materials

Mobilization

\$0.00

Included in Materials

Operation & Maintenance (Annual)

\$22.00

2% of materials, equipment/Installation and labor costs

Acquisition of Technical Knowledge

\$0.00

N/A

Forgone Income (Annual)

\$0.00

None, no land taken out of production.

Risk

\$0.00

Reduced risk, can better manage irrigation water, agricultural chemicals and crops

Administration & Permit Costs

\$0.00

N/A

**Total Cost Estimate:**

\$1,122.00

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### **442.4 Solid Set System for Dust Control, Feed lots 35 acres and less**

System for dust control on feedlots 35 acres or less. A typical system is for a 30 acre feedlot.

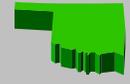
Data Source: 2008 actual cost data.

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 15

Discount Rate (%/Year): 5%



**Cost/Unit**

<b>Materials</b>	<b>\$8,682.00</b>
Total cost includes Materials, Equipment/Installation, Labor and Mobilization	
<b>Equipment/Installation</b>	<b>\$0.00</b>
Included in Materials	
<b>Labor</b>	<b>\$0.00</b>
Included in Materials	
<b>Mobilization</b>	<b>\$0.00</b>
Included in Materials	
<b>Operation &amp; Maintenance (Annual)</b>	<b>\$173.64</b>
2% of materials, equipment/Installation and labor costs	
<b>Acquisition of Technical Knowledge</b>	<b>\$0.00</b>
N/A	
<b>Forgone Income (Annual)</b>	<b>\$0.00</b>
N/A	
<b>Risk</b>	<b>\$0.00</b>
N/A	
<b>Administration &amp; Permit Costs</b>	<b>\$0.00</b>
N/A	
<b>Total Cost Estimate:</b>	<b>\$8,855.64</b>

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**442.5 Solid Set System for Dust Control, Feed lots greater than 35 acres**

System for dust control on feed lots greater than 35 acres in size. A typical system for a 144 acre feed lot.

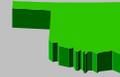
Data Source: 2008 actual cost data.

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 15

Discount Rate (%/Year): 5%



**Cost/Unit**

**Materials**

\$5,381.00

Total cost includes Materials, Equipment/Installation, Labor and Mobilization

**Equipment/Installation**

\$0.00

Included in Materials

**Labor**

\$0.00

Included in Materials

**Mobilization**

\$0.00

Included in Materials

**Operation & Maintenance (Annual)**

\$107.62

2% of materials, equipment/Installation and labor costs

**Acquisition of Technical Knowledge**

\$0.00

N/A

**Forgone Income (Annual)**

\$0.00

N/A

**Risk**

\$0.00

N/A

**Administration & Permit Costs**

\$0.00

N/A

**Total Cost Estimate:**

\$5,488.62

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**442.6 New Variable Rate Low Pressure Sprinkler System**

Consisting of installing a new variable rate low pressure, precision sprinkler system. The typical system is a pivot 1290 ft long with drops on 5 ft spacing. A typical system also includes pressure regulators, chemigation safety check valve, and a flow meter.

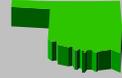
Geographic Area: Statewide

Unit for Cost Estimate: LF - Linear Foot

Practice Life (Years): 15

Discount Rate (%/Year): 5%

Data Source: 2008 vendor pricing.



**Cost/Unit**

**Materials**

\$72.34

Total cost includes Materials, Equipment/Installation, Labor and Mobilization

Component	Unit Cost	Units	Total Costs
Main Line	49.64 / FT	1290	\$ 64,035.60
Flowmeter	1055.98 / Each	1	\$ 1,055.98
Chemigation Valve	634.94 / Each	1	\$ 634.94
Pressure Regulators	6.6 / Each	259	\$ 1,709.40
Var. Rate Base Cost	7300	1	\$ 7,300.00
Nodes	1500	4	\$ 6,000.00
Variable Rate Valves	32	259	\$ 8,288.00
Labor	2200	2200	\$ 2,200.00
Distance Surcharge	2.00/Mi	1050	\$ 2,094.00
Total Cost of System			<b>\$ 93,317.92</b>

**Equipment/Installation**

\$0.00

Included in Materials

**Labor**

\$0.00

Included in Materials

**Mobilization**

\$0.00

Included in Materials

**Operation & Maintenance (Annual)**

\$1.45

2% of materials, equipment/Installation and labor costs

**Acquisition of Technical Knowledge**

\$0.00

N/A

**Forgone Income (Annual)**

\$0.00

None, no land taken out of production.

**Risk**

\$0.00

Reduced risk, can better manage irrigation water, agricultural chemicals and crops

**Administration & Permit Costs**

\$0.00

N/A

**Total Cost Estimate:**

\$73.79

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**447.1 Tailwater Recovery System**

Consist of an impoundment or pit installed to temporary store tailwater from surface irrigation systems. A typical system consists of a sediment basin, tailwater pit with a conduit to pass the water from the sediment basin into the tailwater pit.

The typical job requires 7303 CY of excavation/fill and 100 ft of 18 inch conduit.

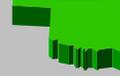
Data Source: 2007-2008 actual cost data and vendor quote

Geographic Area: Statewide

Unit for Cost Estimate: CY

Practice Life (Years): 20

Discount Rate (%/Year) 5%



**Cost/Unit**

**Materials**

Includes Equipment/Installation, Labor and Mobilization Costs.

Includes Equipment/Installation, Labor and Mobilization Costs

ypical Installed Pipe Cost		Unit Cost	QTY	Total
	Cost / Foot	Earthwork	7,303	\$12,561.16
6 inch	\$11.94	18 inch Pipe	100	\$3,582.00
12 inch	\$23.88			\$16,143.16
18 inch	\$35.82			

\$2.21

**Equipment/Installation**

(Included in Materials cost)

\$0.00

**Labor**

(Included in Materials cost)

\$0.00

**Mobilization**

Included in Materials

\$0.00

**Operation & Maintenance (Annual)**

3% of Installation Costs

\$0.07

**Acquisition of Technical Knowledge**

None

\$0.00

**Forgone Income (Annual)**

None, possible land brought into production.

\$0.00

**Risk**

Reduced risk, change in land use

\$0.00

**Administration & Permit Costs**

None

\$0.00

**Total Cost Estimate:**

**\$2.28**

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### 449.1 IWM - Higher Technology

For proper irrigation scheduling by utilizing "feel and appearance" soil moisture monitoring, daily evapotranspiration data, rain gauge data and flow meter checks. A typical management system is 125 Acres at a total cost of \$1787.50/yr

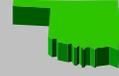
Data Source: OSU Budgets and Irrigation Data and Producer Interviews

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 10

Discount Rate (%/Year): 5%



Cost/Unit

#### Materials

NA

\$0.00

#### Equipment/Installation

Etagage -  $\$210.00 \div 10 \text{ yr} = \$21.00/\text{yr}$

Soil Auger -  $\$262.50 \div 10 \text{ yr} = 26.25/\text{yr}$

Rain Gage -  $\$21.00 \div 10 \text{ yr} = 2.10/\text{yr}$

Total Cost =  $\$49.35/\text{yr}$

\$0.40

#### Labor

Reading Etagage and recording keeping 124 hrs

Reading Rain gauges and recording keeping 10 hrs

"Feel and appearance" soil moisture check and flow meter reading -- 16 hrs

Total Labor = 150 hrs @  $\$10.50/\text{hr} = \$1575/\text{yr}$

Total Cost  $1624.35 \div 125.00 = \$13.00/\text{acre}$

\$12.60

#### Mobilization

NA

\$0.00

#### Operation & Maintenance

NA

\$0.00

#### Acquisition of Technical Knowledge

Working with technical specialists and attending seminars and training sessions

Average 8 hours per year =  $\$160/\text{yr}$  \$1.30

\$1.30

#### Forgone Income

N/A

\$0.00

#### Risk

N/A

\$0.00

#### Administration & Permit Costs

N/A

\$0.00

**Total Cost Estimate:**

\$14.30

## ECONOMIC COST DATA

**Typical Implementation Scenario**

**468.1 Concrete Lined Outlet**

Open weir concrete structures installed near head cuts to control erosion. This structure can only be used when the 10-yr-24 hr storm peak flow is equal or less than 200 cfs. The typical structure is 30 ft long and requires 12.8 cy of concrete. The concrete is reinforced with wire fabric or polypropylene fibers. Minor amounts of earthen excavation/fill is required for foundation and support dikes. Payment is based on cubic yards of concrete.

**Associated Practices:** 362-Diversion, 313 Waste Storage Facility, 359-Waste Treatment Lagoon, 412-Grassed Waterway

**Data Source:** 2008 actual cost data and current vendor pricing.



<b>Geographic Area:</b>	Statewide
<b>Unit for Cost Estimate:</b>	Cubic Yard (CY) of Concrete
<b>Practice Life (Years):</b>	15
<b>Discount Rate (%/Year):</b>	5%

<b>Materials</b>	<b>Cost/Unit</b>
Total cost estimate for complete lined waterway or outlet, includes installation, labor, and mobilization.	\$475.00

<b>Equipment/Installation</b>	\$0.00
Included in Materials Costs	

<b>Labor</b>	\$0.00
Included in Materials Costs	

<b>Mobilization</b>	\$0.00
Included in Materials Costs	

<b>Operation &amp; Maintenance (Annual)</b>	\$47.50
10% of Installation Costs	

<b>Acquisition of Technical Knowledge</b>	\$0.00
None	

<b>Forgone Income (Annual)</b>	\$0.00
Minimal to no land taken out of production.	

<b>Risk</b>	\$0.00
None	

<b>Administration &amp; Permit Costs</b>	\$0.00
None	

<b>Total Cost Estimate:</b>	<b>\$522.50</b>
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# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 472.1 Exclusion from Existing Water Source

This practice is implemented to exclude free access to [existing water sources \(with existing water quality problem\)](#) to minimize impacts on water quality by livestock use. This may include limited access points for livestock watering (i.e. access ramps, etc.)

Structural practices needed to accomplish this purpose (such as fences, access ramps, pipelines, tanks, ponds, etc.) are covered under their respective practices.

Average size of area is 1 acre

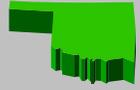
Associated Practices: Fence (382), Animal Trails and Walkways (575), Prescribed Grazing (528), Heavy Use Area Protection (561), Watering Facility (614)

Geographic Area: Statewide

Unit for Cost Estimate: Each

Practice Life (Years): 1

Discount Rate (%/Year): 5%



Cost Data Source: 2008 Average Cost Data

**Cost/Unit**

#### Materials

N/A

\$0.00

#### Equipment/Installation

None

\$0.00

#### Labor

Additional labor to monitor and manage the intensity of use of the area of concern.

Estimate .25 Hour/week, \$10/Hour,

\$130.00

#### Mobilization

None

\$0.00

#### Operation & Maintenance (Annual)

Included in Labor costs.

\$0.00

#### Acquisition of Technical Knowledge

None

\$0.00

#### Forgone Income (Annual)

May have some loss due to restricted use of the area

\$100.00

#### Risk

Minor risk due to exclusion during periods when water may be needed and cannot adequately be provided elsewhere. This would be short term. An example could be failure of an alternate water source that may not be noticed immediately.

\$20.00

#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$250.00**

## ECONOMIC COST DATA

### Cost Data

**Typical Implementation Scenario**

472.2 Limiting Access to Riparian Areas

This practice is implemented to limit livestock from riparian areas associated with permanent/perennial streams when overuse is currently present at the site and protection is needed for recovery of the area. This practice is applicable on croplands and grasslands. When applied on grasslands, grazing will be excluded or limited to no more than 10% of the grazing season and not during critical periods (i.e. wet periods). Management will be according to a prescribed grazing plan which also includes monitoring.

Costs associated with this practice also include monitoring of areas being protected through use of photo points and other methods that document changes due to application of the practice.

Structural practices needed to accomplish this purpose (such as fences, access ramps, pipelines, tanks, ponds, etc.) are covered under their respective practices.

Costs based on an average area of 500 feet wide, 1320 feet long (15.15 acres)

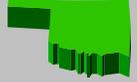
Associated Practices: Fence (382), Animal Trails and Walkways (575), Prescribed Grazing (528), Heavy Use Area Protection (561), Watering Facility (614)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 1

**Discount Rate (%/Year):** 5%



Cost Data Source: 2008 Average Cost Data

**Cost/Unit**

**Materials**

N/A

\$0.00

**Equipment/Installation**

None

\$0.00

**Labor**

Additional labor to monitor and manage the intensity of use of the area of concern.  
Estimate .25 Hour/week, \$10/Hour

\$130.00

\$8.58

**Mobilization**

None

\$0.00

**Operation & Maintenance (Annual)**

Included in Labor costs.

\$0.00

**Acquisition of Technical Knowledge**

None

\$0.00

**Forgone Income (Annual)**

May have some loss due to restricted use of the area

\$6.60

**Risk**

\$0.00

**Administration & Permit Costs**

None

\$0.00

**Total Cost Estimate:**

\$15.18

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### **484.1 Geotextile Fabric Weed Barrier**

This practice consists of applying 6 feet wide strips of geotextile fabric (weed barrier) material in tree/shrub planting rows during the establishment year to control weed competition and conserve moisture.

This practice includes the costs of the geotextile fabric, anchoring materials, equipment and labor associated with placing the fabric in place.

Associated practices include: Tree/Shrub Establishment (612), Tree/Shrub Site Preparation (490), Windbreak/Shelterbreak Establishment (380), Riparian Forest Buffer (391)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** LF

**Practice Life (Years):** 1

**Discount Rate (%/Year):** 5%

**Cost/Unit**

Data Source: 2008 cost data from ODAFF.

#### Materials

Geotextile Fabric/Anchoring Materials/Equipment/Labor

\$0.40

#### Equipment/Installation

Included in Materials Cost

\$0.00

#### Labor

Included in Materials Cost

\$0.00

#### Mobilization

Included in Materials Cost

\$0.00

#### Operation & Maintenance

0% O&M factor

\$0.00

#### Acquisition of Technical Knowledge

N/A

\$0.00

#### Forgone Income

N/A

\$0.00

#### Risk

N/A

\$0.00

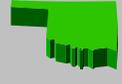
#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$0.40**



ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**484.2 Organic Mulch**

This practice consists of applying organic mulch material during the grass establishment year to control weed competition and conserve moisture. This practice includes the costs of the organic mulch, equipment and labor associated with placing the material.

Associated practices include: Pasture and Hayland Planting (512), Range Planting (550), Salinity and Sodic Soil Management (610), Nutrient Management (590), Critical Area Planting (342)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 1

**Discount Rate (%/Year):** 5%

**Data Source:** 2008 current vendor pricing.

**Materials**

Organic Mulch/Equipment/Labor

**Equipment/Installation/Labor**

Included in Materials Cost

**Labor**

Included in Materials Cost

**Mobilization**

Included in Materials Cost

**Operation & Maintenance**

0% O&M factor

**Acquisition of Technical Knowledge**

N/A

**Forgone Income**

N/A

**Risk**

N/A

**Administration & Permit Costs**

None

**Total Cost Estimate:**



**Cost/Unit**

\$600.00

\$0.00

\$0.00

\$0.00

\$0.00

\$0.00

\$0.00

\$0.00

\$0.00

**\$600.00**

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 490.1 Mechanical Seedbed Preparation

Treating areas with tillage implements (disk, plow, etc.) to improve site conditions for establishing trees and/or shrubs.

This scenario includes the cost of tractor, equipment, and labor for a total of **four** tillage trips to prepare a seedbed in preparation of planting trees or shrubs in **heavy sod**. This mechanical seedbed preparation is used for tree and shrub plantings on previously non-cultivated ground only.

Data Source: 2008 cost data from ODAFF, Foresters

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 1

Discount Rate (%/Year): 5%



**Cost/Unit**

#### Materials

Materials includes complete installation costs.

\$38.00

#### Equipment/Installation

N/A

\$0.00

#### Labor

N/A

\$0.00

#### Mobilization

N/A

\$0.00

#### Operation & Maintenance

Continued suppression of competitive vegetation the first year - 15%

\$5.70

#### Acquisition of Technical Knowledge

None

\$0.00

#### Forgone Income (Annual)

None

\$0.00

#### Risk

None

\$0.00

#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$43.70**

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 490.2 Chemical Site Preparation

Treating forested areas with an aerial chemical application to control various hardwood species such as oak, hickory, blackberry, elm, etc. to improve site conditions for establishing/planting pine trees.

This scenario includes a herbicide application with a mixture of Imazapyr, Metsulfuron methyl and Glyphosate to control vegetative competition prior to planting trees. Other costs may include scouting and record keeping. Chemical treatments to suppress competitive vegetation on other planting sites will be accomplished by using the pest management practice.

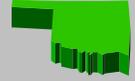
Associated practices include: Pest Management (595), Tree/Shrub Pruning (660), Brush Management (314), Forest Stand Improvement (666), Silvopasture Establishment (381), Firebreak (394), Access Control (472), Tree/Shrub Planting (612) Forest Slash Treatment (384)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 1

**Discount Rate (%/Year):** 5%



**Cost/Unit**

Data Source: 2008 cost data from ODAFF, Foresters

#### Materials

Herbicide cost per acre

\$80.00

#### Equipment/Installation

Included in Labor cost

\$0.00

#### Labor

Cost to aerially apply herbicide per acre

\$40.00

#### Mobilization

N/A

\$0.00

#### Operation & Maintenance (Annual)

N/A

\$0.00

#### Acquisition of Technical Knowledge

None

\$0.00

#### Forgone Income (Annual)

None

\$0.00

#### Risk

None

\$0.00

#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

\$120.00

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 490.3 Complete Forest Site Preparation

Treating forested areas to improve site conditions for establishing/re-establishing forestland.

This scenario is only for establishment of forestland, and includes the costs of equipment, labor, supplies for mechanical site preparation done to the soil to prepare an adequate seedbed prior to planting trees. This includes applications such as roller chopping, bulldozing, mowing, shearing, root plowing, and other approved methods necessary to meet the NRCS Forest Site Preparation (490) practice standards and specifications.

Associated practices include: Pest Management (595), Tree/Shrub Pruning (660), Brush Management (314), Forest Stand Improvement (666), Silvopasture Establishment (381), Firebreak (394), Access Control (472), Tree/Shrub Planting (612), Prescribed Burning (338), Forest Slash Treatment (384)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 1

**Discount Rate (%/Year):** 5%

**Data Source:** 2008 cost data from ODAFF, Foresters

#### Materials

None

\$0.00

#### Equipment/Installation

Includes costs of bulldozer/tractors, implements and labor.

\$141.00

#### Labor

Included in Installation cost.

\$0.00

#### Mobilization

N/A

\$0.00

#### Operation & Maintenance (Annual)

N/A

\$0.00

#### Acquisition of Technical Knowledge

None

\$0.00

#### Forgone Income (Annual)

None

\$0.00

#### Risk

None

\$0.00

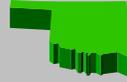
#### Administration & Permit Costs

None

\$0.00

#### **Total Cost Estimate:**

\$141.00



**Cost/Unit**

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**490.4 Soil Ripping**

Treating forested areas by ripping 18-24 inches deep with a D-6 dozer to allow moisture to penetrate, roots to grow and make hand planting of trees easier. Treatment must be done before planting.

This scenario is only for establishment of forestland, and includes the costs of a bulldozer, equipment, and labor for ripping operations required to prepare an adequate seedbed prior to planting trees.

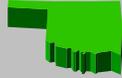
Associated practices include: Tree/Shrub Pruning (660), Brush Management (314), Forest Stand Improvement (666), Silvopasture Establishment (381), Firebreak (394), Access Control (472), Tree/Shrub Planting (612), Forest Slash Treatment (384), Prescribed Burning (338)

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 1

Discount Rate (%/Year): 5%



**Cost/Unit**

Data Source: 2008 cost data from ODAFF, Foresters

**Materials**

None

\$0.00

**Equipment/Installation**

Bulldozer, implement and labor.

\$85.00

**Labor**

Included in installation cost

\$0.00

**Mobilization**

N/A

\$0.00

**Operation & Maintenance**

\$0.00

**Acquisition of Technical Knowledge**

None

\$0.00

**Forgone Income (Annual)**

None

\$0.00

**Risk**

None

\$0.00

**Administration & Permit Costs**

None

\$0.00

**Total Cost Estimate:**

\$85.00

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 500.1 Obstruction Removal

Consisting of removal of terrace ridge on fields that are to be established to grass. The typical job is 12640 LF at a cost of \$5,561.60

Associated Practice: 342-Critical Area Planting

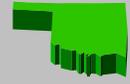
Data Source: 2008 actual cost data

Geographic Area: Statewide

Unit for Cost Estimate: LF

Practice Life (Years): 10

Discount Rate (%/Year): 5%



#### Materials

None

**Cost/Unit**

\$0.00

#### Equipment/Installation

Includes Labor and mobilization costs.

\$0.44

#### Labor

Included in Equipment/Installation Cost

\$0.00

#### Mobilization

Included in Equipment/Installation Cost

\$0.00

#### Operation & Maintenance (Annual)

5% of Installation Costs

\$0.02

#### Acquisition of Technical Knowledge

None

\$0.00

#### Forgone Income (Annual)

None

\$0.00

#### Risk

None

\$0.00

#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$0.46**

## ECONOMIC COST DATA

### Cost Data

**Typical Implementation Scenario**

**500.2 Obstruction Removal**

Consisting of removal and disposing obstruction (other than terrace ridge) that will interfere with planned land use. A typical job consists of removing earthrow (fence row). 1320 ft long involving 2500 CY of material at a cost of \$1450.00

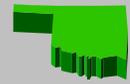
Data Source: 2008 vendor quote

Geographic Area: Statewide

Unit for Cost Estimate: CY

Practice Life (Years): 10

Discount Rate (%/Year): 5%



**Cost/Unit**

**Materials**

None

\$0.00

**Equipment/Installation**

Includes Labor and mobilization costs.

\$1.39

**Labor**

Included in Equipment/Installation Cost

\$0.00

**Mobilization**

Included in Equipment/Installation Cost

\$0.00

**Operation & Maintenance (Annual)**

5% of Installation Costs

\$0.03

**Acquisition of Technical Knowledge**

None

\$0.00

**Forgone Income (Annual)**

None

\$0.00

**Risk**

None

\$0.00

**Administration & Permit Costs**

None

\$0.00

**Total Cost Estimate:**

**\$1.42**

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### **512.1 Bermudagrass Sprigging - Seedbed preparation, sprigs, and sprigging**

Establishing bermudagrass by sprigging, according to the Oklahoma NRCS Pasture and Hay Planting (512) standard and specification

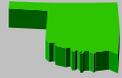
Associated Practices: Nutrient Management (590), Pest Management (595), Prescribed Grazing (528), Forage Harvest Management (511)

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 10

Discount Rate (%/Year): 5%



Data Source: 2007-2008 actual cost data, Oklahoma Cooperative Extension Fact Sheets <http://osufacts.okstate.edu> and custom sprigging rates from various counties

Cost/Unit

#### Materials

Sprigs - included in equipment and installation

Fertilizer and/or other amendments needed for establishment are covered in 590.1 and 590.3

#### Equipment/Installation

Tractor / sprigger and sprigs (average 25 bushel per acre and \$3.00 per bushel planted) \$75.00

includes labor costs

Seedbed Preparation. Most seedbed preparation work is done as part of tillage operations for previously grown crops. In some cases an extra tillage or firming operation may be needed prior to planting. Costs includes one disking and packing operation. \$16.80

#### Labor

Costs included with equipment and installation

#### Mobilization

N/A

#### Operation & Maintenance

1% of installation costs

#### Acquisition of Technical Knowledge

Calibrate and operate seed drill, manage perennial grass

#### Forgone Income

Lost forage production during installation (1-year deferment)

#### Risk

Reduced risk, less erosion, less machinery wear & tear.

#### Administration & Permit Costs

None

**Total Cost Estimate:**

**\$107.96**

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### **512.2 Introduced Species - Seedbed Preparation, Seed & Seeding**

Establishing perennial introduced forage species (i.e. bermudagrass, old world bluestems, tall fescue, weeping lovegrass, etc.) alone or as a mixture (including legumes), according to the Oklahoma NRCS Pasture and Hay Planting (512) standard and specification.

Associated Practices: Nutrient Management (590), Pest Management (595), Prescribed Grazing (528), Forage Harvest Management (511)

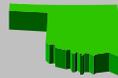
**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%

**Data Source:** 2007-2008 actual cost data, Oklahoma Cooperative Extension Fact Sheets <http://osufacts.okstate.edu>, seed costs from dealers



	<u>Cost/Unit</u>
<b><u>Materials</u></b>	<b>\$34.37</b>
Seed (based on average lbs. PLS and cost per lb. PLS needed to meet 512 Standard and Specification for introduced species plantings)	
Fertilizer and/or other amendments needed for establishment are covered in 590.1 and 590.3	
Does not include cost of cover crops if needed.	
<b><u>Equipment/Installation</u></b>	<b>\$23.80</b>
Tractor / drill	\$7.00
includes labor costs	
Seedbed Preparation. Most seedbed preparation work is done as part of tillage operations for previously grown crops. In some cases an extra tillage or firming operation may be needed prior to planting.	\$16.80
<b><u>Labor</u></b>	
Costs included with equipment and installation	
<b><u>Mobilization</u></b>	
N/A	
<b><u>Operation &amp; Maintenance</u></b>	<b>\$0.58</b>
1% of installation costs	
<b><u>Acquisition of Technical Knowledge</u></b>	<b>\$0.00</b>
Calibrate and operate seed drill, manage perennial grass	
<b><u>Forgone Income</u></b>	<b>\$15.24</b>
Lost forage production during installation (1-year deferment)	
<b><u>Risk</u></b>	<b>\$0.00</b>
Reduced risk, less erosion, less machinery wear & tear.	
<b><u>Administration &amp; Permit Costs</u></b>	<b>\$0.00</b>
None	
<b>Total Cost Estimate:</b>	<b>\$73.99</b>

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### **512.3 Native species - Seedbed Preparation, Seed & Seeding**

Establishing native forage species (big bluestem, switchgrass, indiangrass, eastern gamagrass, etc.) as monoculture or mixture (2-4 species), according to the Oklahoma NRCS Pasture and Hay Planting (512) standard and specification

Associated Practices: Nutrient Management (590), Pest Management (595), Prescribed Grazing (528), Forage Harvest Management (511)

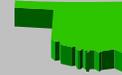
**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%

**Data Source:** 2007-2008 actual cost data, Oklahoma Cooperative Extension Fact Sheets <http://osufacts.okstate.edu>, seed costs from dealers



#### Cost/Unit

<b><u>Materials</u></b>	<b>\$62.39</b>
Seed (based on average lbs. PLS and cost per lb. PLS needed to meet 512 Standard and Specification for native grasses plantings)	
Does not include cost of cover crops if needed	
Fertilizer and/or other amendments needed for establishment are covered in 590.1 and 590.3	
<b><u>Equipment/Installation</u></b>	<b>\$23.80</b>
Tractor / drill	\$7.00
Includes labor costs	
Seedbed Preparation. Most seedbed preparation work is done as part of tillage operations for previously grown crops. In some cases an extra	\$16.80
<b><u>Labor</u></b>	
Costs included with equipment and installation	
<b><u>Mobilization</u></b>	
N/A	
<b><u>Operation &amp; Maintenance</u></b>	<b>\$0.86</b>
1% of installation costs	
<b><u>Acquisition of Technical Knowledge</u></b>	<b>\$0.00</b>
Calibrate and operate seed drill, manage perennial grass	
<b><u>Forgone Income</u></b>	<b>\$10.00</b>
Lost forage production during installation (1-year deferment)	
<b><u>Risk</u></b>	<b>\$0.00</b>
Reduced risk, less erosion, less machinery wear & tear.	
<b><u>Administration &amp; Permit Costs</u></b>	<b>\$0.00</b>
None	
<b>Total Cost Estimate:</b>	<b>\$97.05</b>

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**512.4 Legumes - Seedbed Preparation, Seed & Seeding**

Establishing perennial introduced legumes (white clover, red clover, birdsfoot trefoil, cicer milkvetch, etc.) into an existing stand of introduced grasses to increase diversity, according to the Oklahoma NRCS Pasture and Hay Planting (512) standard and specification. Plantings are incorporated after base grasses are in place (following pasture planting for grasses) in overseeded into existing stands. When mixing legumes with grass seed for establishment, refer to 512.2.

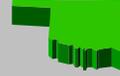
Associated Practices: Nutrient Management (590), Pest Management (595), Prescribed Grazing (528), Forage Harvest Management (511)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%



**Cost/Unit**

Data Source: 2007-2008 actual cost data, Oklahoma Cooperative Extension Fact Sheets <http://osufacts.okstate.edu>, seed costs from dealers

**Materials**

\$13.00

Costs include: Seed (based on average lbs. PLS and cost per lb. PLS needed to meet 512 Standard and Specification for legume planting); inoculants as required for species planted; any pre-planting preparation as needed to enhance existing stands of grass (mowing, herbicides, disking or burning to create seedbed).

Does not include cost of fertilizer or other soil amendments needed for establishment.

**Equipment/Installation**

\$10.14

Tractor / drill or broadcaster \$10.14  
includes labor costs

**Labor**

Costs included with equipment and installation

**Mobilization**

N/A

**Operation & Maintenance**

\$0.23

1% of installation costs

**Acquisition of Technical Knowledge**

\$0.00

Calibrate and operate seed drill, manage perennial grass

**Forgone Income**

\$0.00

None

**Risk**

\$0.00

Reduced risk, less erosion, less machinery wear & tear.

**Administration & Permit Costs**

\$0.00

None

**Total Cost Estimate:**

**\$23.37**

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 516.1 Livestock Pipeline

A pipeline installed to deliver water from the water source to a watering facility. The typical pipeline consists of 1200 FT of 1 inch pipe.

Associated Practices: 614-Watering Facility, 642-Water Well, 533-Pumping Plant

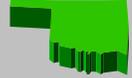
Data Source: 2008 actual cost data

Geographic Area: Statewide

Unit for Cost Estimate: DIFT

Practice Life (Years): 20

Discount Rate (%/Year): 5%



**Cost/Unit**

### Materials

\$1.43

Total Cost includes Materials, Equipment/Installation, Labor and Mobilization

Diameter	Installed Cost / Foot
Inch	\$
0.75	\$1.07
1.00	\$1.43
1.50	\$2.15
2.00	\$2.86
2.50	\$3.58

If a water meter tap is required in a rural water line, 302 DIFT can be added to the total DIFT of the pipeline.

### Equipment/Installation

\$0.00

Included in Materials Cost

### Labor

\$0.00

Included in Materials Cost

### Mobilization

\$0.00

Included in Materials Cost

### Operation & Maintenance (Annual)

\$0.03

2% of materials, equipment/Installation and labor costs

### Acquisition of Technical Knowledge

\$0.00

Pipe installation skills, design, layout

### Forgone Income (Annual)

\$0.00

None, no land taken out of production

### Risk

\$0.00

Reduced risk, better irrigation water control

### Administration & Permit Costs

\$0.00

None

### Total Cost Estimate:

**\$1.46**

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### 521C.1 Bentonite/Clay

Bentonite sealant installed in ponds to reduce seepage losses to an acceptable level. A typical job consist of installing Bentonite liner in a 1.0 surface acre pond using 2 - 4 inch thick treated blankets with 1.5 lbs per sq-ft on each treated blanket.

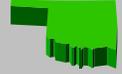
Data Source: 2008 actual cost data and current vendor pricing.

Geographic Area: Statewide

Unit for Cost Estimate: CY

Practice Life (Years): 15

Discount Rate (%/Year): 5%



**Cost/Unit**

#### Materials

Includes cost of Equipment/Installation, Labor, and Mobilization

29,000 lbs of Bentonite

Fill - 1076 CY

\$7.50/CY of Treated Liner

\$8.25

#### Equipment/Installation

Included in Materials Cost

\$0.00

#### Labor

Included in Materials Cost

\$0.00

#### Mobilization

Included in Materials Cost

\$0.00

#### Operation & Maintenance (Annual)

3% of Installation Costs

\$0.25

#### Acquisition of Technical Knowledge

None

\$0.00

#### Forgone Income (Annual)

Minimal to no land taken out of production.

\$0.00

#### Risk

None

\$0.00

#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$8.50**

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 528.1 Prescribed Grazing

Implementing a new or modified prescribed grazing plan that ensures a balance between forage supply and animal demand and will meet the needs of both the plant (health and vigor) and animal (nutritional needs) resources. Where producer objectives include wildlife, the system will also address critical habitat needs.

A prescribed grazing plan includes a complete resource inventory including forage production, livestock numbers and types to support proper grazing use and a balance between supply and demand; and a schedule of grazing (timing and duration) that provides sufficient recovery time during the growing season to meet resource needs and planned objectives. Deferment during the growing season can be accomplished through fencing, herding, prescribed burning (patch burning), and other management methods that accomplish the same desired results. Record keeping (including dates of grazing, grazing durations, residue heights before and after) to support implementation of the grazing plan and monitoring (at least two of the following: utilization with use exclosures, photo points, range health, pasture condition, fecal samples) are also included.

[Water development and/or fencing that may be needed to facilitate the new grazing system are explained under their respective practices. Prescribed burning to implement a patch burn grazing system is applied according to a prescribed burning plan.](#)

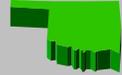
Associated Practices: Fence (382), Watering Facility (614), Prescribed Burning (338)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Ac

**Practice Life (Years):** 1

**Discount Rate (%/Year):** 5%



**Data Source:** 2008 cost estimates from technical specialists

All costs based on implementation on 640 acres

#### Materials

Included in Equipment and Installation

#### Equipment/Installation

Includes labor and equipment (i.e. clipping supplies, enclosures, etc) needed for inventory and monitoring residuals, implementing monitoring plans as described in the scenario narrative and additional management of livestock (i.e. rotations, herding, etc.) needed to accomplish the overall objectives of the prescribed grazing plan. The time needed nor expenses include time and work already associated with the operation such as vaccinations, checking fences, monitoring calving, etc.

#### Labor

Included in Equipment and Installation

#### Mobilization

N/A

#### Operation & Maintenance

N/A

#### Acquisition of Technical Knowledge

Included in Equipment and Installation

#### Forgone Income

none

#### Risk

#### Administration & Permit Costs

None

**Total Cost Estimate:**

**Cost/Unit**

\$0.00

\$9.00

\$0.00

\$0.00

\$0.00

\$0.00

\$0.00

\$0.00

\$0.00

**\$9.00**

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 528.2 Monitoring

No changes made in an existing grazing system which already meets the forage and animal balance and is managed in a manner that currently meets the needs of both the plant (health and vigor) and animal (nutritional needs) resources. A grazing plan is in place and grazing records are maintained and are used to make management decisions.

This scenario is for the implementation of a new and/or improved monitoring system involving at least 3 of the following: photo points, permanent transects, range health, pasture condition, use exclosures or fecal samples. Monitoring data is used to help make management decisions related to the system.

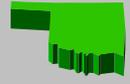
Associated Practices: Fence (382), Watering Facility (614), Prescribed Burning (338)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Ac

**Practice Life (Years):** 1

**Discount Rate (%/Year):** 5%



**Data Source:** 2008 cost estimates from technical specialists

All costs based on implementation on 640 acre operation.

	<u>Cost/Unit</u>
<b><u>Materials</u></b>	\$0.00
Included in Equipment and Installation	
<b><u>Equipment/Installation</u></b>	\$4.60
Includes Labor and Materials costs. Monitoring supplies (tapes, worksheets, wire panels for enclosures, clipping supplies, software, fecal samples, etc).	
<b><u>Labor</u></b>	\$0.00
Included in Equipment and Installation	
<b><u>Mobilization</u></b>	\$0.00
N/A	
<b><u>Operation &amp; Maintenance</u></b>	\$0.00
N/A	
<b><u>Acquisition of Technical Knowledge</u></b>	\$0.00
Included in Labor, Materials	
<b><u>Forgone Income</u></b>	\$0.00
Production loss due to deferred fields (short term)	
<b><u>Risk</u></b>	\$0.00
N/A	
<b><u>Administration &amp; Permit Costs</u></b>	\$0.00
None	
<b>Total Cost Estimate:</b>	<b>\$4.60</b>

## ECONOMIC COST DATA

### Cost Data

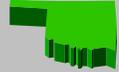
#### Typical Implementation Scenario

#### **533.1 Solar Powered**

A solar powered pumping plant to provide water for agriculture use such as livestock or wildlife water. A typical pumping plant consists of installing a solar pump and solar panel that will deliver 1200 gallons of water per day at a cost of \$3,672.00.

Data Source: 2008 actual cost data.

Geographic Area: Statewide  
 Unit for Cost Estimate: gallons/day  
 Practice Life (Years): 15  
 Discount Rate (%/Year): 5%



	<u>Cost/Unit</u>
<b>Materials</b>	\$3.06
Total cost includes Materials, Equipment/Installation, Labor and Mobilization	
<b>Equipment/Installation</b>	\$0.00
Included in Materials	
<b>Labor</b>	\$0.00
Included in Materials	
<b>Mobilization</b>	\$0.00
Included in Materials	
<b>Operation &amp; Maintenance (Annual)</b>	\$0.06
2% of Installation Cost	
<b>Acquisition of Technical Knowledge</b>	\$0.00
N/A	
<b>Forgone Income (Annual)</b>	\$0.00
None	
<b>Risk</b>	\$0.00
None	
<b>Administration &amp; Permit Costs</b>	\$0.00
None	
<b>Total Cost Estimate:</b>	<b>\$3.12</b>

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**533.2 Electric Powered**

A permanent pumping plant consisting of pumping irrigation water associated with tailwater recovery systems, subsurface system and low pressure sprinkler systems. The typical pumping plant provides the needed water for 130 AC irrigation system at a total cost of \$14,080.00.

This same scenario can also be used for establishing costs for waste pumps (both portable and permanent) used in disposal of waste water as part of a waste management plan. Portable pumps may be needed where permanent pumps cannot as effectively serve the purpose (i.e. a system with two lagoons).

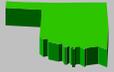
Cost is based on 2006 Lugert-Altus LEA cost list which is for a turnkey installation of pump with electric motor plus cost adjustment for inflation.  
No actual cost has been collected for installation in FY 2007 & 2008.

Geographic Area: Statewide

Unit for Cost Estimate: Each

Practice Life (Years): 15

Discount Rate (%/Year): 5%



**Cost/Unit**

<b>Materials</b>	\$14,080.00
Total cost includes Materials, Equipment/Installation, Labor and Mobilization	
<b>Equipment/Installation</b>	\$0.00
Included in Materials	
<b>Labor</b>	\$0.00
Included in Materials	
<b>Mobilization</b>	\$0.00
Included in Materials	
<b>Operation &amp; Maintenance (Annual)</b>	\$281.60
2% of Installation Cost	
<b>Acquisition of Technical Knowledge</b>	\$0.00
N/A	
<b>Forgone Income (Annual)</b>	\$0.00
None	
<b>Risk</b>	\$0.00
None	
<b>Administration &amp; Permit Costs</b>	\$0.00
None	
<b>Total Cost Estimate:</b>	<b>\$14,361.60</b>

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**533.3 Internal Combustion Engine**

Consisting of pumping irrigation water associated with tailwater recovery systems, subsurface system and low pressure sprinkler systems. The typical pumping plant provides the needed water for 130 AC irrigation system at a total cost of \$22,000.00

This same scenario can also be used for establishing costs for waste pumps (both portable and permanent) used in disposal of waste water as part of a waste management plan. Portable pumps may be needed where permanent pumps cannot as effectively serve the purpose (i.e. a system with two lagoons).

Data Source: 2008 actual cost data and current vendor pricing.

Geographic Area: Statewide

Unit for Cost Estimate: Each

Practice Life (Years): 15

Discount Rate (%/Year): 5%



**Cost/Unit**

<b>Materials</b>	\$22,000.00
Total cost includes Materials, Equipment/Installation, Labor and Mobilization	
<b>Equipment/Installation</b>	\$0.00
Included in Materials	
<b>Labor</b>	\$0.00
Included in Materials	
<b>Mobilization</b>	\$0.00
Included in Materials	
<b>Operation &amp; Maintenance (Annual)</b>	\$440.00
2% of Installation Cost	
<b>Acquisition of Technical Knowledge</b>	\$0.00
N/A	
<b>Forgone Income (Annual)</b>	\$0.00
None	
<b>Risk</b>	\$0.00
None	
<b>Administration &amp; Permit Costs</b>	\$0.00
None	
<b>Total Cost Estimate:</b>	<b>\$22,440.00</b>

ECONOMIC COST DATA

**Cost Data**

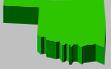
**Typical Implementation Scenario**

**533.4 Pumping Plant-Rehabilitation of an existing irrigation pumping facility**

Rehabilitation of an existing irrigation pumping facility in conjunction with the conversion of an existing irrigation system. A typical job is the rehabilitation of an 8 inch pump set at 200 ft below surface with a total cost of \$11,920.00

Data Source: 2008 actual cost data and current vendor pricing.

Geographic Area: Statewide



Unit for Cost Estimate: LF  
 Practice Life (Years): 15  
 Discount Rate (%/Year): 5%

**Cost/Unit**

<b>Materials</b>	\$59.60
Total cost includes Materials, Equipment/Installation, Labor and Mobilization \$47.98/LF (Depth to pump)	
<b>Equipment/Installation</b>	\$0.00
Included in Materials	
<b>Labor</b>	\$0.00
Included in Materials	
<b>Mobilization</b>	\$0.00
Included in Materials	
<b>Operation &amp; Maintenance (Annual)</b>	\$1.19
2% of Installation Cost	
<b>Acquisition of Technical Knowledge</b>	\$0.00
N/A	
<b>Forgone Income (Annual)</b>	\$0.00
None	
<b>Risk</b>	\$0.00
None	
<b>Administration &amp; Permit Costs</b>	\$0.00
None	
<b>Total Cost Estimate:</b>	<b>\$60.79</b>

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**533.5 Pumping Plant Waste Water (Pump Only)**

For pumping waste water. A typical pumping plant is a pump that will deliver 200 gpm at 100 psi discharge pressure at a cost of \$1,100.00

Data Source: Collaboration of field engineers estimates from 2006 & 2007 plus price adjustment to account for inflation.

Geographic Area: Statewide

Unit for Cost Estimate: LF

Practice Life (Years): 15

Discount Rate (%/Year): 5%

**Materials**

Total cost includes Materials, Equipment/Installation, Labor and Mobilization

**Equipment/Installation**

Included in Materials

**Labor**

Included in Materials

**Mobilization**

Included in Materials

**Operation & Maintenance (Annual)**

2% of Materials and Installation Cost

**Acquisition of Technical Knowledge**

N/A

**Forgone Income (Annual)**

None

**Risk**

None

**Administration & Permit Costs**

None

**Total Cost Estimate:**



**Cost/Unit**

\$1,100.00

\$0.00

\$0.00

\$0.00

\$22.00

\$0.00

\$0.00

\$0.00

\$0.00

\$1,122.00

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### 550.1 Native Species, Seedbed Preparation, Seed & Seeding

Establishing a mixture of native grasses, forbs and/or legumes, according to the Oklahoma NRCS Range Planting (550) standard and specification

Associated Practices: Nutrient Management (590), Pest Management (595), Prescribed Grazing (528), Forage Harvest Management (511)

Data Source: 2008 actual cost data and current vendor pricing.

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 10

Discount Rate (%/Year): 5%

**Cost/Unit**

#### Materials

Seed (based on average lbs. PLS and cost per lb. PLS needed to plant a typical range seeding mixture according to the NRCS Range Planting (550) Standard and Specification)

Fertilizer and/or amendments, if needed for establishment, are covered in 590.1 and 590.3

Does not include cost of cover crops if needed

\$59.00

#### Equipment/Installation

Tractor / drill

\$7.00

includes labor costs

Seedbed Preparation. Most seedbed preparation work is done as part of tillage operations for previously grown crops. In some cases an extra tillage or firming operation may be needed prior to planting.

\$16.80

\$23.80

#### Labor

Costs included with equipment and installation

#### Mobilization

None

#### Operation & Maintenance

Management practices such as prescribed grazing, prescribed burning and brush management

#### Acquisition of Technical Knowledge

Calibrate and operate seed drill, management of native range.

\$0.00

#### Forgone Income

Assume deferment for up to two years

\$20.00

#### Risk

Reduced risk, less erosion, less machinery wear & tear.

\$0.00

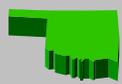
#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$102.80**



# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 552.1 Storage Tanks Used with Sprinkler System

Constructed of steel and other suitable materials used to collect water from two or more irrigation wells for use in an irrigation system. Used to control dust on feed yards. The tank will meet the latest versions of AWWA standard D-1000 and D 102. A typical steel tank that holds 500,000 gallons of water installed cost is \$200,000.00 The installed cost includes all necessary items to tie tank into a pumping plant.

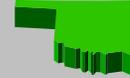
Data Source: Based on 2008 actual cost data.

Geographic Area: Statewide

Unit for Cost Estimate: Gallon

Practice Life (Years): 15

Discount Rate (%/Year): 5%



**Cost/Unit**

<b><u>Materials</u></b>	\$0.40
Includes Equipment/Installation and Labor	
<b><u>Equipment/Installation</u></b>	\$0.00
(Included in Materials cost)	
<b><u>Labor</u></b>	\$0.00
(Included in Materials cost)	
<b><u>Mobilization</u></b>	\$0.00
None	
<b><u>Operation &amp; Maintenance (Annual)</u></b>	\$0.00
1% of Installation Costs	
<b><u>Acquisition of Technical Knowledge</u></b>	\$0.00
None	
<b><u>Forgone Income (Annual)</u></b>	\$0.00
None	
<b><u>Risk</u></b>	\$0.00
None	
<b><u>Administration &amp; Permit Costs</u></b>	\$0.00
None	
<b>Total Cost Estimate:</b>	<b>\$0.40</b>

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 552.2 Irrigation Regulating Reservoir

An impoundment or pit to temporarily store water to be used for irrigation when the stream or well capacity is not large enough to supply the irrigation system design flow rate. A typical job is an irrigation system design flow rate is 600 gpm and the pumping plant capacity is only 300 gpm. For a 7 day application an additional 9.3 ac ft or 15000 CY of storage is required which requires 9000 CY of excavation at a total cost of \$15,480.00

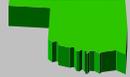
Data Source: Based on 2008 actual cost data.

Geographic Area: Statewide

Unit for Cost Estimate: CY

Practice Life (Years): 15

Discount Rate (%/Year): 5%



**Cost/Unit**

#### Materials

Includes Equipment/Installation, Labor and Mobilization Costs.

\$1.72

#### Equipment/Installation

(Included in Materials cost)

\$0.00

#### Labor

(Included in Materials cost)

\$0.00

#### Mobilization

(Included in Materials Cost)

\$0.00

#### Operation & Maintenance (Annual)

1% of Installation Costs

\$0.02

#### Acquisition of Technical Knowledge

None

\$0.00

#### Forgone Income (Annual)

None, possible land brought into production.

\$0.00

#### Risk

Reduced risk, change in land use

\$0.00

#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$1.74**

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### **561.1 Heavy Use Protection, Rock/Gravel**

Heavy use area protection using a rock/gravel surface. A typical job consist of 26.7 CY of rock/gravel at a total cost \$1113.05

Associated Practices: 614-Watering Facilities, 313-Waste Storage Facility

Data Source: 2008 Actual Cost Data

Geographic Area: Statewide

Unit for Cost Estimate: CY

Practice Life (Years): 10

Discount Rate (%/Year): 5%

**Cost/Unit**

#### Materials

Total Cost includes Equipment/Installation and Labor Costs.

\$41.69

Rock/gravel	26.7	CY	\$ 31.83	\$ 849.86
Geotextile	51.5	SQ-YD	\$ 1.71	\$ 88.07
Excavation	88	CY	\$ 1.99	\$ 175.12
			<b>Total Cost</b>	<b>\$1,113.05</b>

#### Equipment/Installation

Included in Materials Cost

\$0.00

#### Labor

Included in Materials Cost

\$0.00

#### Mobilization

Included in Materials Cost

\$0.00

#### Operation & Maintenance

15% of Installation Costs

\$6.25

#### Acquisition of Technical Knowledge

N/A

\$0.00

#### Forgone Income

Small amount of land taken out of production, no lost opportunity costs

\$0.00

#### Risk

Reduced risk, can better manage livestock

\$0.00

#### Administration & Permit Costs

None

\$0.00

#### **Total Cost Estimate:**

**\$47.94**



# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 561.2 Heavy Use Protection, Concrete

Heavy use protection consist of stabilization of an area frequently used by people, animals or vehicles. They typical job is protecting a 3000 sq-ft areas with concrete frequently being used by dairy cows. The Unit cost is per cubic yards of concrete.

**Associated Practices:** 614-Watering Facilities, 313-Waste Storage Facility

**Data Source:** 2008 actual cost data.

**Geographic Area:** Statewide

**Unit for Cost Estimate:** CY

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%



**Cost/Unit**

### Materials

\$163.88

Includes Equipment/Installation and Labor Costs.

Component	Quantity	Units	Cost/Unit	Cost
Concrete	70.8	CY	\$147.04	\$10,410.43
Blanket material (sand)	57.3	CY	19.83	1136.259
Excavation	28	CY	1.99	55.72
<b>Total Cost</b>			<b>\$11,602.41</b>	

### Equipment/Installation

\$0.00

Included in Materials Cost

### Labor

\$0.00

Included in Materials Cost

### Mobilization

\$0.00

Included in Materials Cost

### Operation & Maintenance

\$24.58

15% of Installation Costs

### Acquisition of Technical Knowledge

\$0.00

N/A

### Forgone Income

\$0.00

Small amount of land taken out of production, no lost opportunity costs

### Risk

\$0.00

Reduced risk, can better manage livestock

### Administration & Permit Costs

\$0.00

None

**Total Cost Estimate:**

\$188.46

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**574.1 Spring Development**

Consists of developing springs and seeps to provide a dependable supply of water for planned time of use. A typical spring development consists of excavating out the seep area, installing a 36 inch diameter perforated pipe to a depth of 5.0 ft, placing 2.0 ft wide band of gravel around the 36 inch pipe and installing 50 ft of 1 1/2 inch pipe to a water facility at a total cost of \$688.27

**Associated Practices:** 614-Watering Facility, 516-Pipeline, 516-Heavy Use Area Protection

**Data Source:** Based on 2008 Actual Cost Data for similar type work.

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Each

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%



**Cost/Unit**

**Materials**

\$688.27

Includes Equipment/Installation, Labor and Mobilization Costs.

Component	Quantity	Units	Cost/Unit	Cost
Excavation/Fill	20	CY	1.72	\$ 34.40
Gravel (filter material)	4.6	CY	31.83	\$ 146.42
Galvanized Steel Pipe	180	DIFT	1.99	\$ 358.20
Drain Pipe	75	DIFT	1.99	\$ 149.25
			<b>Total Cost</b>	<b>\$ 688.27</b>

**Equipment/Installation**

(Included in Materials cost)

\$0.00

**Labor**

(Included in Materials cost)

\$0.00

**Mobilization**

(Included in Materials Cost)

\$0.00

**Operation & Maintenance (Annual)**

None

\$0.00

**Acquisition of Technical Knowledge**

None

\$0.00

**Forgone Income (Annual)**

None, possible land brought into production.

\$0.00

**Risk**

None

\$0.00

**Administration & Permit Costs**

None

\$0.00

**Total Cost Estimate:**

**\$688.27**

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 575.1 Animal Access Ramp

Typical job is an animal access ramp to pond water for 100 animals. A typical ramp is 16 ft wide X 40 ft long at a cost of \$1799.05 The unit for Estimating cost is CY of Rock/Gravel.

**Associated Practices:** 378-Pond, 382-Fence

**Data Source:** 2008 actual cost data and current vendor pricing.

**Geographic Area:** Statewide

**Unit for Cost Estimate:** CY

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%



**Cost/Unit**

### Materials

Includes Labor, Equipment/Installation and Mobilization Costs.

\$142.78

Component	Cost / Unit	Units	Cost
Geocell (SY)	19.53	71	\$ 1,386.63
Geotextile (SY)	\$1.19	84	\$ 99.96
Rock (CY)	\$23.37	12.6	\$ 294.46
Excavation (CY)	\$1.20	15	\$ 18.00
<b>Total Cost</b>			<b>\$ 1,799.05</b>

### Equipment/Installation

Included in Materials

\$0.00

### Mobilization

Included in Materials

\$0.00

### Operation & Maintenance (Annual)

1% of Installation Costs

\$1.43

### Acquisition of Technical Knowledge

None

\$0.00

### Forgone Income (Annual)

None

\$0.00

### Risk

Reduced risk, less erosion

\$0.00

### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$144.21**

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 578.1 Stream Crossing

Used to stabilize an area where livestock, people and/or equipment cross an intermittent or perennial water course. A typical site is a stream channel 15 ft wide and 6.0 ft deep stabilized with geocell, geotextile, and rock at a total cost \$2,340.25. Cost is based on cubic yards of rock installed.

Data Source: 2008 actual cost data

Geographic Area: Statewide

Unit for Cost Estimate: CY

Practice Life (Years): 10

Discount Rate (%/Year): 5%

**Cost/Unit**

### Materials

\$78.01

Includes Labor, Equipment/Installation and Mobilization Costs.

Component	Cost / Unit	Units	Cost
Geocell (SY)	\$19.53	66	\$1,288.98
Geotextile (SY)	\$1.19	143	\$170.17
Rock (CY)	\$23.37	30	\$701.10
Excavation (CY)	\$1.20	150	\$180.00
Total Cost			\$2,340.25

### Equipment/Installation

\$0.00

Included in Materials Cost

### Labor

\$0.00

Included in Materials Cost

### Mobilization

\$0.00

Included in Materials Cost

### Operation & Maintenance (Annual)

\$7.80

10% of Installation Costs

### Acquisition of Technical Knowledge

\$0.00

None

### Forgone Income (Annual)

\$0.00

None

### Risk

\$0.00

None

### Administration & Permit Costs

\$0.00

None

### Total Cost Estimate:

**\$85.81**

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 580.1 Streambank and Shoreline Protection

For the purpose of stabilizing a stream bank. A typical job would consist of 100 ft of non stable 10 ft high bank to be stabilized with rock rip rap at a total cost of \$14,731.20

**Associated Practices:** 342-Critical Area Planting, 382-Fence

**Data Source:** Costs taken from current federal contracts for similar type work.

**Geographic Area:** Statewide

**Unit for Cost Estimate:** CY

**Practice Life (Years):** 20

**Discount Rate (%/Year):** 5%

**Cost/Unit**

### Materials

\$59.40

Includes Equipment/Installation, Labor and Mobilization Costs

Component	Quantity	Cost / CY	Total Cost
Riprap - Cubic Yard	207	\$59.40	\$12,295.80
Filter - Cubic Yard	41	\$59.40	\$2,435.40
			\$14,731.20

### Equipment/Installation

\$0.00

Included in Materials Cost

### Labor

\$0.00

Included in Materials Cost

### Mobilization

\$0.00

Included in Materials Cost

### Operation & Maintenance

\$5.94

10% of Installation Costs, pest control.

### Acquisition of Technical Knowledge

\$0.00

None

### Forgone Income

\$0.00

None

### Risk

\$0.00

None

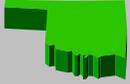
### Administration & Permit Costs

\$0.00

None

### Total Cost Estimate:

**\$65.34**



ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**587.1 Structure for Water Control**

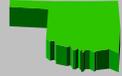
A component of a system to control the stage, discharge, distribution, delivery or direction of water flow. A typical system consists of a low embankment (effective height cannot exceed 8.0 ft) 2000 ft long.

**Construction Units (CU)** are found by multiplying the designed or estimated **Quantity** by the given **Multiplier** as shown in the example in Table 1-A. The construction units for each component are then summed to give the **Total Construction Units** for the project. If a component is not used, there will be no construction units for that component. The Total Construction Units are then multiplied by the **Cost/Unit** given below to give the average cost of the project. Table 1-B is given as a template for computations.

**Associated Practices:** 382-Fence, 447-Irrigation System Tailwater Recovery, 607-Surface Drainage

**Data Source:** 2008 Actual Cost Data

**Geographic Area:** Statewide  
**Unit for Cost Estimate:** CU  
**Practice Life (Years):** 20  
**Discount Rate (%/Year):** 5%



**Cost/Unit**

**Materials**

Includes Equipment/Installation, Labor and Mobilization Costs

\$1.72

**Table 1-A Example**

Component	Units	Quantity	Multiplier	CU
Earthwork	CY	3000	1.0	3,000.0
HCMP / Welded Steel	DIFT	1116	1.2	1,339.2
Plastic Pipe	DIFT	0	0.4	0.0
Concrete	CY	2	146.5	293.0
Trashguard	PF	44	9.9	435.6
Gypsum	TON	0	69.8	0.0
Riprap	CY	0	31.4	0.0
Filter (C33 sand)	CY	0	23.0	0.0
In-Line PVC Riser	EA	1	697.7	697.7
Slide Gate	DI	0	17.4	0.0
<b>Total Construction Units</b>				<b>5,765.5</b>

To determine the average cost for any component listed above, multiply \$1.72 times the **Multiplier** for that component. For example, the average cost of concrete would be  $\$1.72 \times 146.5 = \$251.98 / \text{CY}$ .

**Table 1-B**

Component	Units	Quantity	Multiplier	CU
Earthwork	CY		1	
HCMP / Welded Steel	DIFT		1.2	
Plastic Pipe	DIFT		0.4	
Concrete	CY		146.5	
Trashguard	PF		9.9	
Gypsum	TON		69.8	
Riprap	CY		31.4	
Filter	CY		23	
In-Line PVC Riser	EA		697.7	
Slide Gate	DI		17.4	
<b>Total Construction Units</b>				

<b>Equipment/Installation</b>	\$0.00
Included in Materials Cost	
<b>Labor</b>	\$0.00
Included in Materials Cost	
<b>Mobilization</b>	\$0.00
Included in Materials Cost	
<b>Operation &amp; Maintenance</b>	\$0.02
1% of Installation Costs	
<b>Acquisition of Technical Knowledge</b>	\$0.00
None	
<b>Forgone Income</b>	\$0.00
None	
<b>Risk</b>	\$0.00
None	
<b>Administration &amp; Permit Costs</b>	\$0.00
None	
<b>Total Cost Estimate:</b>	<b>\$1.74</b>

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 589C.1 Introduced Grass Seed

This practice consists of establishing a series of 15 feet wide strips to old world bluestem, running in an east/west direction across an 80 acre field of continuous wheat, on gently sloping sandy textured soils to reduce soil erosion from wind. The distance between the strips will average approximately 300 feet. The strips will be planted according to the NRCS Pasture and Hay Planting (512) standard.

This practice includes the costs of introduced warm or cool season perennial grass seed, tractor, drill and labor to plant grass in strips.

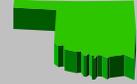
Associated practices include: Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324), Pasture and Hayland Planting (512), Forage Harvest Management (511), Prescribed Grazing (528), Conservation Crop Rotation (328)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 5

**Discount Rate (%/Year):** 5%



**Cost/Unit**

Data Source: 2008 actual cost data, OSU Enterprise Budget Software, Pasture and Hay Planting (512) cost data

<b><u>Materials</u></b>	<b>\$27.54</b>
Introduced Perennial Grass Seed	
<b><u>Equipment/Installation/Labor</u></b>	<b>\$7.00</b>
Tractor/Drill/Labor	
<b><u>Labor</u></b>	<b>\$0.00</b>
Included in Equipment/Installation Cost	
<b><u>Mobilization</u></b>	<b>\$0.00</b>
None	
<b><u>Operation &amp; Maintenance</u></b>	<b>\$1.73</b>
5% O&M factor	
<b><u>Acquisition of Technical Knowledge</u></b>	<b>\$0.00</b>
Calibrate and operate seed drill, manage perennial grass	
<b><u>Forgone Income</u></b>	<b>\$15.63</b>
1 Acre taken out of crop production	
Assume wheat crop minus value of hay/forage crop from perennial forage.	
Net Income (\$/Ac/Yr)	
<b><u>Risk</u></b>	<b>\$0.00</b>
Reduced risk, less erosion, less machinery wear & tear.	
<b><u>Administration &amp; Permit Costs</u></b>	<b>\$0.00</b>
None	
<b>Total Cost Estimate:</b>	<b>\$51.90</b>

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 589C.2 Bermuda Sprigging

This practice consists of sprigging a series of 15 feet wide strips to bermudagrass, running in an east/west direction across an 80 acre field of continuous wheat, on gently sloping sandy textured soils to reduce soil erosion from wind. The distance between the strips will average approximately 300 feet. The strips will be planted according to the NRCS Pasture and Hay Planting (512) standard.

This practice includes the costs of bermudagrass sprigs, tractor, sprigger, and labor to plant grass in buffer strips.

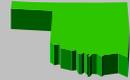
Associated practices include: Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324), Pasture and Hayland Planting (512), Forage Harvest Management (511), Prescribed Grazing (528), Conservation Crop Rotation (328)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 5

**Discount Rate (%/Year):** 5%



**Cost/Unit**

Data Source: 2008 actual cost data, OSU Enterprise Budget Software, Pasture and Hay Planting (512) cost data

### Materials

Sprigs - included in equipment and installation

Fertilizer and/or other amendments needed for establishment are covered in 590.1 and 590.3

### Equipment/Installation

Tractor / sprigger and sprigs (average 25 bushel per acre and \$3.00 per bushel planted)  
includes labor costs

\$75.00

### Labor

Included in Equipment/Installation Cost

\$0.00

### Mobilization

None

\$0.00

### Operation & Maintenance

5% O&M factor

\$3.75

### Acquisition of Technical Knowledge

Calibrate and operate sprigger, manage grass

\$0.00

### Forgone Income

1 Acre taken out of crop production

Assume wheat crop minus value of hay/forage crop from perennial forage.

Net Income (\$/Ac/Yr)

\$15.63

### Risk

Reduced risk, less erosion, less machinery wear & tear.

\$0.00

### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$94.38**

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### 589C.3 Native Grass Monoculture

This practice consists of establishing a series of 15 feet wide strips to switchgrass, running in an east/west direction across an 80 acre field of continuous wheat, on gently sloping sandy textured soils to reduce soil erosion from wind. The distance between the strips will average approximately 300 feet. The strips will be planted according to the NRCS Pasture and Hay Planting (512) standard.

This practice includes the costs of grass seed, tractor, drill and labor to plant grass in buffer strips.

Associated practices include: Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324), Pasture and Hayland Planting (512), Forage Harvest Management (511), Prescribed Grazing (528), Conservation Crop Rotation (328)

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 5

Discount Rate (%/Year): 5%

Cost/Unit

Data Source: 2008 actual cost data, OSU Enterprise Budget Software, Pasture and Hay (512) cost data

#### Materials

Native Grass Species

\$72.75

#### Equipment/Installation/Labor

Tractor/Drill/Labor

\$7.00

#### Labor

Included in Equipment/Installation Cost

\$0.00

#### Mobilization

None

\$0.00

#### Operation & Maintenance

5% O&M factor

\$3.99

#### Acquisition of Technical Knowledge

Calibrate and operate seed drill, manage perennial grass

\$0.00

#### Forgone Income

1 Acre taken out of crop production

Assume wheat crop minus value of hay/forage crop from perennial forage.

Net Income (\$/Ac/Yr)

\$2.74

#### Risk

Reduced risk, less erosion, less machinery wear & tear.

\$0.00

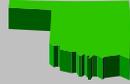
#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$86.48**



# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 589C.4 Native Grass Mixture

This practice consists of establishing a series of 15 feet wide strips to a native grass mixture, running in an east/west direction across an 80 acre field of continuous wheat, on gently sloping sandy textured soils to reduce soil erosion from wind. The distance between the strips will average approximately 300 feet. The vegetative strips will be planted to a native mixture using the NRCS Range Planting (550) standard.

This practice includes the costs of perennial native grass seed, tractor, drill and labor to plant grass in buffer strips.

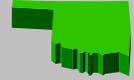
Associated practices include: Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324), Range Planting (512), Forage Harvest Management (511), Prescribed Grazing (528), Conservation Crop Rotation (328)

Geographic Area: [Statewide](#)

Unit for Cost Estimate: [Acre](#)

Practice Life (Years): [5](#)

Discount Rate (%/Year): [5%](#)



**Cost/Unit**

Data Source: 2008 actual cost data, OSU Enterprise Budget Software, Range Planting (550) cost data

#### Materials

[Native Grass Seed](#)

\$59.00

#### Equipment/Installation/Labor

[Tractor/Drill/Labor](#)

\$7.00

#### Labor

[Included in Equipment/Installation Cost](#)

\$0.00

#### Mobilization

[None](#)

\$0.00

#### Operation & Maintenance

[5% O&M factor](#)

\$3.30

#### Acquisition of Technical Knowledge

[Calibrate and operate seed drill, manage perennial grass](#)

\$0.00

#### Forgone Income

[1 Acre taken out of crop production](#)

[Assume wheat crop minus value of hay/forage crop from perennial forage.](#)

[Net Income \(\\$/Ac/Yr\)](#)

\$2.74

#### Risk

[Reduced risk, less erosion, less machinery wear & tear.](#)

\$0.00

#### Administration & Permit Costs

[None](#)

\$0.00

**Total Cost Estimate:**

**\$72.04**

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 590.1 Fertilizer for Grass Establishment

This practice consists of applying fertilizer for establishing vegetation planted in accordance with the NRCS Pasture and Hay Planting (512) and/or Range Planting (550) standards. Fertilizer will only be applied during or immediately following planting. Fertilizer application rates will be based on results from current soil test analysis and will be applied according to the NRCS Nutrient Management (590) standard.

This practice includes the costs of fertilizer, application equipment and labor to apply the nutrients. The typical/average scenario is a 60 acre field with an application rate of 35N-20P-20K. This is the extent that has been used in the following calculations when arriving at per acre costs.

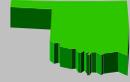
Associated practices include: Pasture and Hayland Management (512), Range Planting (550), Deep Tillage (324), Pest Management (595), Access Control (472), Prescribed Grazing (528), Fencing (382)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 1

**Discount Rate (%/Year):** 5%



Data Source: 2008 actual cost data and current vendor pricing.

**Cost/Unit**

#### Materials

\$58.34

##### Fertilizer

The maximum fertilizer application for any grass planting is 40N-40P-40K, which is very rarely recommended. This scenario is based on a typical (average) fertilizer application rate of 35N-20P-20K.

#### Equipment/Installation/Labor

\$8.17

Application/Labor \$8.00

Soil Test = \$10/eac \$10 on 60 acres \$0.17

In general for fairly uniform field conditions only one field test would be required in a 60 acre field.

#### Labor

\$0.00

Included in Materials Cost

#### Mobilization

\$0.00

Included in installation cost

#### Operation & Maintenance

\$0.00

0% O&M factor

#### Acquisition of Technical Knowledge

\$0.00

Knowledge to calibrate applicator

#### Forgone Income

\$0.00

No land taken out of production, no lost opportunity costs

#### Risk

\$0.00

Reduced risk, crop yield increase, reduced water quality damages

#### Administration & Permit Costs

\$0.00

None

**Total Cost Estimate:**

**\$66.51**

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 590.2 Fertilizer for Critical Area Plantings

This practice consists of applying fertilizer for establishing vegetation planted in accordance with the NRCS Critical Area Planting (342) standard. Fertilizer will only be applied during or immediately following planting. Fertilizer application rates may be based on results from a soil test analysis or in lieu of a soil test, a blend of 40 lbs/ac N, 40 lbs/ac P2O5, and 40 lbs/ac K2O may be applied according to the NRCS Nutrient Management (590) standard.

This practice includes the costs of fertilizer, application equipment and labor to apply the nutrients. The typical scenario involves a small acreage, generally less than 1 acre with a fertilizer application rate of 200 lbs. of 19N-19P-19K or 300 lbs. of 13N-13P-13K. One acre will be used to establish per acre costs for this scenario.

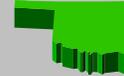
Associated practices include: Critical Area Planting (342), Mulching (484), Pest Management (595), Access Control (472), Prescribed Grazing (528), Fencing (382), Salinity and Sodic Soil Management (610)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 1

**Discount Rate (%/Year):** 5%



**Cost/Unit**

Data Source: 2008 actual cost data and current vendor pricing.

<b><u>Materials</u></b>	<b>\$100.85</b>
Fertilizer	
<b><u>Equipment/Installation/Labor</u></b>	<b>\$32.50</b>
Application/Labor = \$32.50	
<b><u>Labor</u></b>	<b>\$0.00</b>
Included in Equipment/Installation Cost	
<b><u>Mobilization</u></b>	<b>\$0.00</b>
Included in Equipment/Installation Cost	
<b><u>Operation &amp; Maintenance</u></b>	<b>\$0.00</b>
0% O&M factor	
<b><u>Acquisition of Technical Knowledge</u></b>	<b>\$0.00</b>
Knowledge to calibrate applicator	
<b><u>Forgone Income</u></b>	<b>\$0.00</b>
No land taken out of production, no lost opportunity costs	
<b><u>Risk</u></b>	<b>\$0.00</b>
Reduced risk, crop yield increase, reduced water quality damages	
<b><u>Administration &amp; Permit Costs</u></b>	<b>\$0.00</b>
None	
<b>Total Cost Estimate:</b>	<b>\$133.35</b>

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 590.3 Lime for Grass Establishment

This practice consists of applying lime for establishing vegetation in accordance with the NRCS Pasture and Hay Planting (512) and/or Range Planting (550) standards. Lime will only be applied during the first year of establishment. Lime application rates will be based on results from a soil test analysis with a typical application rate of 1 ton/ac.

This practice includes the costs of (ECCE) lime, application equipment and labor to apply the nutrients.

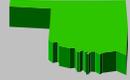
Associated practices include: Pasture and Hayland Management (512), Range Planting (550), Deep Tillage (324), Pest Management (595), Access Control (472), Prescribed Grazing (528), Fencing (382)

Geographic Area: Statewide

Unit for Cost Estimate: Ton ECCE

Practice Life (Years): 1

Discount Rate (%/Year): 5%



Data Source: 2008 actual cost data and current vendor pricing.

#### Materials

Lime

**Cost/Unit**

\$35.33

#### Equipment/Installation/Labor

Application/Labor \$6.50

Soil Test = \$10/ea \$10/ 60 ton \$0.17

In general for fairly uniform field conditions only one soil test would be required in a 60 acre field with average lime application of 1 ton/ac.

\$6.67

#### Labor

Included in Equipment/Installation Cost

\$0.00

#### Mobilization

Included in Equipment/Installation Cost

\$0.00

#### Operation & Maintenance

0% O&M factor

\$0.00

#### Acquisition of Technical Knowledge

Knowledge to calibrate applicator

\$0.00

#### Forgone Income

No land taken out of production, no lost opportunity costs

\$0.00

#### Risk

Reduced risk, crop yield increase, reduced water quality damages

\$0.00

#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$42.00**

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 590.4 Calibration Strips

This practice consists of applying fertilizer in a manner than minimizes the risk of leaving the field. This practice will be used to utilize nitrogen rich or ramped calibration strips to determine split application rates for nitrogen. It includes the use of hand held sensor tools (ex. Greenseeker) to determine nitrogen needs as well as equipment to establish nitrogen rich or ramped calibration strips. Soil testing will be performed to determine overall fertility needs of the plants.

This practice includes the costs for hand held sensors, soils testing, nitrogen strip application, and labor associated with installing this practice. Typical scenario is a 320 ac. field.

Associated practices include: Conservation Crop Rotation (328), Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Contour Farming (330), Deep Tillage (324), Filter Strip (393)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

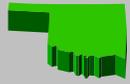
**Practice Life (Years):** 1

**Discount Rate (%/Year):** 5%

**Cost/Unit**

**Data Source:** OSU Cooperative Extension data and Commerical Suppliers

<b>Materials</b>	<b>\$0.00</b>
<b>Equipment/Installation/Labor</b>	<b>\$6.46</b>
Private or Custom Application of Strips	\$8/320ac = 0.03
Hand Held Sensor	\$2000/320ac = 6.26
Soil Test	\$0.17
<b>Labor</b>	<b>\$0.00</b>
Included in Equipment	
<b>Mobilization</b>	<b>\$0.00</b>
None	
<b>Operation &amp; Maintenance</b>	<b>\$0.00</b>
0% O&M factor	
<b>Acquisition of Technical Knowledge</b>	<b>\$0.00</b>
Knowledge to operate application tool and calibrate sensor	
<b>Forgone Income</b>	<b>\$0.00</b>
No land taken out of production, no lost opportunity costs	
<b>Risk</b>	<b>\$0.00</b>
Reduced risk, crop yield increase, reduced water quality damages	
<b>Administration &amp; Permit Costs</b>	<b>\$0.00</b>
None	
<b>Total Cost Estimate:</b>	<b>\$6.46</b>



# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 590.5 Precision Application

This practice consists of applying fertilizer in a manner than minimizes the risk of leaving the field. This practice will be used to utilize advanced technology in the application of nutrients by applying nitrogen rich or ramped calibration strips and using nutrient applicators equipped with precision sensors to deliver fertilizer through a spray system at variable rates across the field. Soil testing will be performed to determine overall fertility needs of the plants.

This practice includes the costs for application equipment with sensors, soils testing, nitrogen strip application, and labor associated with installing this practice.

Associated practices include: Conservation Crop Rotation (328), Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Contour Farming (330), Deep Tillage (324), Filter Strip (393)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 1

**Discount Rate (%/Year):** 5%



Data Source: 2006-2007 actual cost data, OSU Cooperative Extension data

Cost/Unit

<b><u>Materials</u></b>			\$0.00
<b><u>Equipment/Installation/Labor</u></b>			\$11.17
Nutrient applicator with sensors	\$10.00		
Computer data entry for analysis and records	\$1.00		
Soil Test	\$0.17		
<b><u>Labor</u></b>			\$0.00
Included in Equipment/Installation Cost			
<b><u>Mobilization</u></b>			\$0.00
None			
<b><u>Operation &amp; Maintenance</u></b>			\$0.00
0% O&M factor			
<b><u>Acquisition of Technical Knowledge</u></b>			\$0.00
Knowledge to calibrate and operate applicator			
<b><u>Forgone Income</u></b>			\$0.00
No land taken out of production, no lost opportunity costs			
<b><u>Risk</u></b>			\$0.00
Reduced risk, crop yield increase, reduced water quality damages			
<b><u>Administration &amp; Permit Costs</u></b>			\$0.00
None			
<b>Total Cost Estimate:</b>			<b>\$11.17</b>

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 590.6 Chemigation

This practice consists of applying fertilizer in a manner than minimizes the risk of leaving the field. This practice is an incentive to apply nutrients through irrigation systems using chemigation values and components. Nutrient management plans and soil testing will be used to determine application rates and timing.

This practice includes the costs to adapt the irrigation system for chemigation.

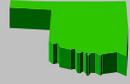
Associated practices include: Irrigation Water Management (449) Conservation Crop Rotation (328), Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Contour Farming (330), Deep Tillage (324), Filter Strip (393)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 1

**Discount Rate (%/Year):** 5%



**Data Source:** 2008 actual cost data and current vendor pricing.

**Cost/Unit**

<b>Equipment/Installation/Labor</b>		<b>\$8.17</b>
Equipment to Adapt Irrigation System to Chemigation	\$8.00	
Soil Test	\$0.17	
<b>Labor</b>		<b>\$0.00</b>
Included in Equipment/Installation Costs		
<b>Mobilization</b>		<b>\$0.00</b>
None		
<b>Operation &amp; Maintenance</b>		<b>\$0.00</b>
0% O&M factor		
<b>Acquisition of Technical Knowledge</b>		<b>\$0.00</b>
Knowledge to operate irrigation system		
<b>Forgone Income</b>		<b>\$0.00</b>
No land taken out of production, no lost opportunity costs		
<b>Risk</b>		<b>\$0.00</b>
Reduced risk, crop yield increase, reduced water quality damages		
<b>Administration &amp; Permit Costs</b>		<b>\$0.00</b>
None		
<b>Total Cost Estimate:</b>		<b>\$8.17</b>

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### **590.7 High Soil P Index**

This practice consists of applying fertilizer in a manner than minimizes the risk of leaving the field. This practice will be used to discontinue application of animal manure or waste on soils which exceed a current soil test phosphorus index of 120. Additional nutrients required by the plant will be supplied with fertilizers that do not contain phosphorus. Soil testing will be performed to determine overall fertility needs of the plants.

This practice includes the costs to transport manure to offsite locations. Cost of this practice will be calculated using the following formula:  $\$0.13 \times \text{mile} \times \text{ton} = \text{cost/mile/ton}$

Associated practices include: Waste Utilization (633), Manure Transfer (634), Conservation Crop Rotation (328), Cover Crop (340), Pest Management (595), Contour Farming (330), Deep Tillage (324), Filter Strip (393)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** \$0.13/mile/ton

**Practice Life (Years):** 1

**Discount Rate (%/Year):** 5%

**Data Source:** OSU Cooperative Custom Rates

### Equipment/Installation/Labor

Transport Manure \$0.13/mile/ton

### Labor

Included in Equipment/Installation Cost

### Mobilization

None

### Operation & Maintenance

0% O&M factor

### Acquisition of Technical Knowledge

N/A

### Forgone Income

No land taken out of production, no lost opportunity costs

### Risk

Reduced risk, improved water quality

### Administration & Permit Costs

None

**Total Cost Estimate:**

**Cost/Unit**

\$0.13

\$0.00

\$0.00

\$0.00

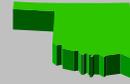
\$0.00

\$0.00

\$0.00

\$0.00

**\$0.13**



# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### **595.1 Pest Mgt, sericea lespedeza control**

This practice utilizes Integrated Pest Management (IPM) principles to manage weeds, including invasive and noxious species, in order to minimize impacts of pest control on natural resources. Prevention, Avoidance, Monitoring and Suppression (PAMS) strategies will be applied according to an approved Pest Management Plan and the Oklahoma NRCS Pest Management (595) practice standard.

This scenario includes the use of chemicals to manage sericea lespedeza. Other costs may include scouting and record keeping.

Associated Practices: Prescribed Grazing (528), Prescribed Burning (338), Forage Harvest Management (511)

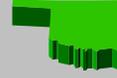
Data Source: 2008 actual cost data and current vendor pricing.

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 1

Discount Rate (%/Year): 5%



**Cost/Unit**

### Materials

Chemical - costs vary depending on chemical used. Costs are based on the most used chemicals and recommended rates.

\$11.93

\$12.38

Adjuvants, Surfactant, crop oils - costs vary but range from \$.35 to .50 per acre

\$0.45

### Equipment/Installation

Tractor / Sprayer or custom application (aerial or ground)

\$5.00

### Labor

Labor costs would include scouting and record keeping. Estimated at \$.13 per acre per year. (This is based on 1 hour for each 160 acres at \$20.00 per hour)

Labor for control strategies incorporated into equipment and installation cost

\$0.13

### Mobilization

Included in Materials Cost

\$0.00

### Operation & Maintenance

Depending on success of first application, follow-up treatments are typically needed. Monitoring and record keeping would be done to support decisions of follow-up treatments.

\$0.00

### Acquisition of Technical Knowledge

Education incorporated into materials cost (a certified pesticide applicators license may be required)

\$0.00

### Forgone Income

No land taken out of production, no lost opportunity costs

\$0.00

### Risk

None

\$0.00

### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$17.51**

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**595.2 Pest Mgt, thistle control, chemical**

This practice utilizes Integrated Pest Management (IPM) principles to manage weeds, including invasive and noxious species, in order to minimize impacts of pest control on natural resources. Prevention, Avoidance, Monitoring and Suppression (PAMS) strategies will be applied according to an approved Pest Management Plan and the Oklahoma NRCS Pest Management (595) practice standard.

This scenario includes the use of chemicals to manage thistles identified as Noxious in Oklahoma (Musk, Scotch, Canada). Other costs may include scouting and record keeping.

Associated Practices: Prescribed Grazing (528), Prescribed Burning (338), Forage Harvest Management (511)

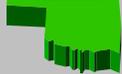
Data Source: 2008 actual cost data and current vendor pricing.

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 1

Discount Rate (%/Year): 5%



**Cost/Unit**

**Materials**

Chemical - costs vary depending on chemical used. Based on the most commonly used chemicals and recommended rates

\$6.77

\$7.22

Adjuvants, Surfactant, crop oils - costs vary but range from \$.35 to .50 per acre

\$0.45

**Equipment/Installation**

Tractor / Sprayer or custom application (aerial or ground)

\$5.00

**Labor**

Labor costs would include scouting and record keeping. Estimated at \$.13 per acre per year. (This is based on 1 hour for each 160 acres at \$20.00 per hour)

\$0.13

Labor for control strategies incorporated into equipment and installation cost

**Mobilization**

Included in Materials Cost

\$0.00

**Operation & Maintenance**

Depending on success of first application, follow-up treatments are typically needed. Monitoring and record keeping would be done to support decisions of follow-up treatments.

\$0.00

**Acquisition of Technical Knowledge**

Education incorporated into materials cost (a certified pesticide applicators license may be required)

\$0.00

**Forgone Income**

No land taken out of production, no lost opportunity costs

\$0.00

**Risk**

None

\$0.00

**Administration & Permit Costs**

None

\$0.00

**Total Cost Estimate:**

\$12.35

## ECONOMIC COST DATA

### Cost Data

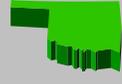
#### Typical Implementation Scenario

#### **595.3 Integrated Pest Management**

This practice consists of using an Integrated Pest Management (IPM) system that aids in the control and suppression of pests and reduces the overall use of pesticides by incorporating a combination of mechanical, cultural, and biological control measures. This practice establishes an IPM system that utilizes scouting and monitoring to determine when pest control is needed and a pesticide record keeping system that documents all aspects of the system (pest, location, dates, rates, control measure used, etc.).

Data Source: Producer and private crop consultants interviews

Geographic Area: Statewide  
 Unit for Cost Estimate: Year  
 Practice Life (Years): 1  
 Discount Rate (%/Year): 5%



**Cost/Unit**

			<b>Cost/Unit</b>
<b>Materials</b>			
Computer Software and equipment	\$100.00		\$100.00
Record Keeping Manual	\$0.00		
<b>Equipment/Installation</b>			
Pest Identification Manuals and Handbooks	\$100.00		\$125.00
Insect Nets, Containers, etc	\$25.00		
<b>Labor</b>			
Record Keeping and Computer Data Entry (16 hours @ \$10/hour)	\$160.00		\$480.00
Scouting and Monitoring Pest Populations (\$2/ac @ 160ac.)	\$320.00		
<b>Mobilization</b>			
NA			\$0.00
<b>Operation &amp; Maintenance</b>			
NA			\$0.00
<b>Acquisition of Technical Knowledge</b>			
An Oklahoma certified pesticide applicators license may be required (\$50/5 years)	\$10.00		\$60.00
Education - Continuing Educational Units may be required for applicator's license (\$250/5 years)	\$50.00		
<b>Forgone Income</b>			
No land taken out of production, no lost opportunity costs			\$0.00
<b>Risk</b>			
Reduced risk, improved water quality			\$0.00
<b>Administration &amp; Permit Costs</b>			
None			\$0.00
<b>Total Cost Estimate:</b>			<b>\$765.00</b>

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 595.4 Crop Application System

This practice consists of using new and improved technology in pesticide applications to control pests and reduce the overall use of pesticides. This practice includes the use of Real Time Kinematic satellite navigation (RTK) level of GPS for auto steer and auto boom control to reduce sprayer overlap and/or sensor technology that identifies weeds and activates sprayer application on demand.

Data Source: OSU Custom Farm Rates and previous cost share data

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 1

Discount Rate (%/Year): 5%



**Cost/Unit**

#### Materials

\$0.00

#### Equipment/Installation

Private or commercial application (aerial or ground)

\$7.00

\$7.00

#### Labor

Included in Equipment/Installation

\$0.00

#### Mobilization

NA

\$0.00

#### Operation & Maintenance

NA

\$0.00

#### Acquisition of Technical Knowledge

Knowledge to management and operate auto system

\$0.00

#### Forgone Income

No land taken out of production, no lost opportunity costs

\$0.00

#### Risk

None

\$0.00

#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$7.00**

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

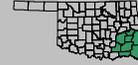
##### **595.5 Herbaceous Release**

This practice utilizes Integrated Pest Management (IPM) principles to manage weeds/brush, including invasive and noxious species, in order to minimize impacts of pest control on natural resources. Prevention, Avoidance, Monitoring and Suppression (PAMS) strategies will be applied according to an approved Pest Management Plan and the Oklahoma NRCS Pest Management (595) practice standard.

This scenario includes a spring herbicide application with a mixture of Imazapyr and Sulfometuron methyl in a 4 foot swath over the rows of recently planted pine trees to control vegetative competition. Other costs may include scouting and record keeping.

Associated Practices: Prescribed Grazing (528), Prescribed Burning (338), Forage Harvest Management (511)

**Geographic Area:** Atoka, Choctaw, Haskell, Latimer, LeFlore, McCurtain, Pittsburg, and Pushmataha Counties in Oklahoma



**Unit for Cost Estimate:** Acre  
**Practice Life (Years):** 1  
**Discount Rate (%/Year):** 5%

Cost/Unit

**Data Source:** 2008 ODAFF actual costs.

#### Materials

Herbicide cost per acre	\$29.55	\$30.00
Adjuvants, Surfactant, crop oils - costs vary but range from \$.35 to .50 per acre	\$0.45	

#### Equipment/Installation

Included in Labor cost		\$0.00
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#### Labor

Cost to apply herbicide per acre		\$20.00
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#### Mobilization

Included in Materials Cost		\$0.00
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#### Operation & Maintenance

Monitoring and record keeping would be done to support decisions of follow-up treatments.		\$0.00
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#### Acquisition of Technical Knowledge

Education incorporated into materials cost (a certified pesticide applicators license may be required)		\$0.00
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#### Forgone Income

No land taken out of production, no lost opportunity costs		\$0.00
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#### Risk

None		\$0.00
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#### Administration & Permit Costs

None		\$0.00
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<b>Total Cost Estimate:</b>		<b>\$50.00</b>
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# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 600.1 Terrace Construction

A channel with a ridge on the downslope side installed across the land slope to control erosion. The typical job consists of 5130 LF at an average cost of \$4,104.00. (A cost of \$0.80/LF)

Associated Practices: 412-Waterway

Data Source: 2008 actual cost data.

Geographic Area: Statewide

Unit for Cost Estimate: LF - Linear Foot

Practice Life (Years): 10

Discount Rate (%/Year): 5%



**Cost/Unit**

#### Materials

None

\$0.00

#### Equipment/Installation

\$0.80

#### Labor

Included in Equipment/Installation cost

\$0.00

#### Mobilization

Included in Equipment/Installation Cost

\$0.00

#### Operation & Maintenance (Annual)

0% of Installation Costs

\$0.00

#### Acquisition of Technical Knowledge

None

\$0.00

#### Forgone Income (Annual)

Minimal to no land taken out of production.

\$0.00

#### Risk

Reduced risk, less concentrated flow erosion, less machinery wear & tear.

\$0.00

#### Administration & Permit Costs

None

\$0.00

#### **Total Cost Estimate:**

**\$0.80**

# ECONOMIC COST DATA

## Cost Data

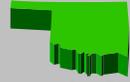
### Typical Implementation Scenario

#### **600.2 Terrace (Fill Section)**

Terraces that have underground outlets. The typical system is a 40 acre field with 6 terraces. Each terrace height (channel to ridge) varies from 1.4 ft to 4.0 ft resulting in an average ridge volume of 200 CY per terrace at a total cost of \$1,788.00

Data Source: 2008 actual cost data.

Geographic Area: Statewide  
 Unit for Cost Estimate: CY - Cubic Yard  
 Practice Life (Years): 10  
 Discount Rate (%/Year): 5%



**Cost/Unit**

<b>Materials</b>	<b>\$0.00</b>
None	
<b>Equipment/Installation</b>	<b>\$1.49</b>
<b>Labor</b>	<b>\$0.00</b>
Included in Equipment/Installation cost	
<b>Mobilization</b>	<b>\$0.00</b>
Included in Equipment/Installation Cost	
<b>Operation &amp; Maintenance (Annual)</b>	<b>\$0.00</b>
0% of Installation Costs	
<b>Acquisition of Technical Knowledge</b>	<b>\$0.00</b>
None	
<b>Forgone Income (Annual)</b>	<b>\$0.00</b>
Minimal to no land taken out of production.	
<b>Risk</b>	<b>\$0.00</b>
Reduced risk, less concentrated flow erosion.	
<b>Administration &amp; Permit Costs</b>	<b>\$0.00</b>
None	
<b>Total Cost Estimate:</b>	<b>\$1.49</b>

# ECONOMIC COST DATA

## Cost Data

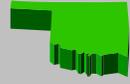
### Typical Implementation Scenario

#### 600.3 Ridge Removal

The removal of existing inadequate terraces before the installation of a new terrace system.

Data Source: 2008 actual cost data

Geographic Area: Statewide  
 Unit for Cost Estimate: LF - Linear Foot  
 Practice Life (Years): 10  
 Discount Rate (%/Year): 5%



**Cost/Unit**

<u>Materials</u>	\$0.00
None	
<u>Equipment/Installation</u>	\$0.44
<u>Labor</u>	\$0.00
Included in Equipment/Installation cost	
<u>Mobilization</u>	\$0.00
Included in Equipment/Installation Cost	
<u>Operation &amp; Maintenance (Annual)</u>	\$0.00
0% of Installation Costs	
<u>Acquisition of Technical Knowledge</u>	\$0.00
None	
<u>Forgone Income (Annual)</u>	\$0.00
Minimal to no land taken out of production.	
<u>Risk</u>	\$0.00
Reduced risk, less concentrated flow erosion, less machinery wear & tear.	
<u>Administration &amp; Permit Costs</u>	\$0.00
None	
<b>Total Cost Estimate:</b>	<b>\$0.44</b>

# ECONOMIC COST DATA

## Cost Data

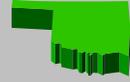
### Typical Implementation Scenario

#### **600.4 Terrace Reconstruction**

When new terraces are to be reconstructed on same alignment as existing terraces. The average job consists of the reconstruction of 4842 linear feet of existing terrace at a cost of \$0.45/linear foot. This gives a total cost of \$2,178.90

Data Source: 2008 actual cost data

Geographic Area: Statewide  
 Unit for Cost Estimate: LF - Linear Foot  
 Practice Life (Years): 10  
 Discount Rate (%/Year): 5%



**Cost/Unit**

<b>Materials</b>	<b>\$0.00</b>
None	
<b>Equipment/Installation</b>	<b>\$0.37</b>
<b>Labor</b>	<b>\$0.00</b>
Included in Equipment/Installation cost	
<b>Mobilization</b>	<b>\$0.00</b>
Included in Equipment/Installation Cost	
<b>Operation &amp; Maintenance (Annual)</b>	<b>\$0.00</b>
0% of Installation Costs	
<b>Acquisition of Technical Knowledge</b>	<b>\$0.00</b>
None	
<b>Forgone Income (Annual)</b>	<b>\$0.00</b>
Minimal to no land taken out of production.	
<b>Risk</b>	<b>\$0.00</b>
Reduced risk, less concentrated flow erosion, less machinery wear & tear.	
<b>Administration &amp; Permit Costs</b>	<b>\$0.00</b>
None	
<b>Total Cost Estimate:</b>	<b>\$0.37</b>

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### 603.1 Introduced Grass Seed

This practice consists of establishing a series of narrow strips consisting of two rows of weeping lovegrass, spaced 24 inches apart, running in an east/west direction across an 80 acre field of continuous wheat, on gently sloping sandy textured soils to reduce soil erosion from wind. The distance between the strips will average approximately 100 feet. The strips will be planted according to the NRCS Pasture and Hay Planting (512) standard.

This practice includes the costs of introduced perennial grass seed, tractor, drill and labor to plant grass in strips.

Associated practices include: Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324), Pasture and Hayland Planting (512), Forage Harvest Management (511), Prescribed Grazing (528), Conservation Crop Rotation (328)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 5

**Discount Rate (%/Year):** 5%

**Cost/Unit**

**Data Source:** 2008 actual cost data, OSU Enterprise Budge Software, Pasture and Hay Planting (512) cost data

<b><u>Materials</u></b>	<b>\$27.25</b>
Introduced Perennial (old world bluestem or weeping lovegrass) Grass Seed	
<b><u>Equipment/Installation/Labor</u></b>	<b>\$7.00</b>
Tractor/Drill/Labor	
<b><u>Labor</u></b>	<b>\$0.00</b>
Included in Equipment/Installation Cost	
<b><u>Mobilization</u></b>	<b>\$0.00</b>
None	
<b><u>Operation &amp; Maintenance</u></b>	<b>\$1.03</b>
3% O&M factor	
<b><u>Acquisition of Technical Knowledge</u></b>	<b>\$0.00</b>
Calibrate and operate seed drill, manage perennial grass	
<b><u>Forgone Income</u></b>	<b>\$15.63</b>
1 Acre taken out of crop production	
Assume wheat crop minus value of hay/forage crop from perennial forage.	
Net Income (\$/Ac/Yr)	
<b><u>Risk</u></b>	<b>\$0.00</b>
Reduced risk, less erosion, less machinery wear & tear.	
<b><u>Administration &amp; Permit Costs</u></b>	<b>\$0.00</b>
None	
<b>Total Cost Estimate:</b>	<b>\$50.91</b>

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### 603.2 Native Grass Species

This practice consists of establishing a series of narrow strips consisting of two rows of switchgrass, spaced 30 inches apart, running in an east/west direction across an 80 acre field of continuous wheat, on gently sloping sandy textured soils to reduce soil erosion from wind. The distance between the strips will average approximately 100 feet. The strips will be planted according to the NRCS Pasture and Hay Planting (512) standard.

This practice includes the costs of grass seed, tractor, drill and labor to plant grass in strips.

Associated practices include: Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324), Pasture and Hayland Planting (512) Forage Harvest Management (511), Prescribed Grazing (528), Conservation Crop Rotation (328)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

**Practice Life (Years):** 5

**Discount Rate (%/Year):** 5%

**Cost/Unit**

Data Source: 2008 actual cost data, OSU Enterprise Budge Software, Pasture and Hay Planting (512) cost data

<b><u>Materials</u></b>	\$61.88
Native Grass (switchgrass only)	
<b><u>Equipment/Installation/Labor</u></b>	\$7.00
Tractor/Drill/Labor	
<b><u>Labor</u></b>	\$0.00
Included in Equipment/Installation Cost	
<b><u>Mobilization</u></b>	\$0.00
None	
<b><u>Operation &amp; Maintenance</u></b>	\$2.07
3% O&M factor	
<b><u>Acquisition of Technical Knowledge</u></b>	\$0.00
Calibrate and operate seed drill, manage perennial grass	
<b><u>Forgone Income</u></b>	\$2.74
1 Acre taken out of crop production	
Assume wheat crop minus value of hay/forage crop from perennial forage.	
Net Income (\$/Ac/Yr)	
<b><u>Risk</u></b>	\$0.00
Reduced risk, less erosion, less machinery wear & tear.	
<b><u>Administration &amp; Permit Costs</u></b>	\$0.00
None	
<b>Total Cost Estimate:</b>	<b>\$73.69</b>

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 603.3 Native Grass Mixture

This practice consists of establishing a series of narrow strips consisting of two rows of a native grass mixture, spaced 30 inches apart, running in an east/west direction across an 80 acre field of continuous wheat, on gently sloping sandy textured soils to reduce soil erosion from wind. The distance between the strips will average approximately 100 feet. The strips will be planted according to the NRCS Range Planting (550) standard.

This practice includes the costs of perennial native grass seed, tractor, drill and labor to plant grass in strips.

Associated practices include: Residue and Tillage Management - No Till/Strip Till/Direct Seed (329), Residue and Tillage Management - Mulch Till (345), Residue and Tillage Management - Ridge Till (346), Cover Crop (340), Pest Management (595), Nutrient Management (590), Contour Farming (330), Deep Tillage (324), Range Planting (512), Forage Harvest Management (511), Prescribed Grazing (528), Conservation Crop Rotation (328)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Acre

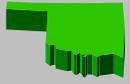
**Practice Life (Years):** 5

**Discount Rate (%/Year):** 5%

Cost/Unit

**Data Source:** 2008 actual cost data, OSU Enterprise Budget Software, Range Planting (550) cost data

<b><u>Materials</u></b>	<b>\$59.00</b>
Native Grass Seed	
<b><u>Equipment/Installation/Labor</u></b>	<b>\$7.00</b>
Tractor/Drill/Labor	
<b><u>Labor</u></b>	<b>\$0.00</b>
Included in Equipment/Installation Cost	
<b><u>Mobilization</u></b>	<b>\$0.00</b>
None	
<b><u>Operation &amp; Maintenance</u></b>	<b>\$1.98</b>
3% O&M factor	
<b><u>Acquisition of Technical Knowledge</u></b>	<b>\$0.00</b>
Calibrate and operate seed drill, manage perennial grass	
<b><u>Forgone Income</u></b>	<b>\$2.74</b>
1 Acre taken out of crop production	
Assume wheat crop minus value of hay/forage crop from perennial forage.	
Net Income (\$/Ac/Yr)	
<b><u>Risk</u></b>	<b>\$0.00</b>
Reduced risk, less erosion, less machinery wear & tear.	
<b><u>Administration &amp; Permit Costs</u></b>	<b>\$0.00</b>
None	
<b>Total Cost Estimate:</b>	<b>\$70.72</b>



# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 610.1 Establishing Grass on Salt Area

This practice will be used to establish grass on saline, saline seeps, or alkaline (sodic) areas of a field to reduce and control harmful salt concentrations. The saline or alkaline soils are to be identified using designated procedures in the Oklahoma NRCS 610 standard. Additional treatment required to reclaim the area will be planned and applied accordingly. Grass species selected for planting must have the appropriate salt tolerance for the designated area as listed in Technical Note OK-17, Table 1. The NRCS Critical Area Planting (342) standard will be used as guidance for grass establishment in the salted area.

Associate practices include: Nutrient Management (590), Irrigation Water Management (449), Deep Tillage (324), Cover Crop (340)

This practice includes the costs for perennial grass, tractor, drill/sprigger and labor to plant grass in salted areas.

**Geographic Area:** Statewide  
**Unit for Cost Estimate:** Acre  
**Practice Life (Years):** 1  
**Discount Rate (%/Year):** 5%



**Cost/Unit**

Data Source: 2008 actual cost data and current vendor pricing.

### Materials

Costs for seed and or sprigs are included in Equipment and Installation. All rates and species are according to the Critical Area Planting (342) Does not include cost of fertilizer and/or amendments that may be needed for establishment. Refer to 590.1 and 590.3

### Equipment/Installation

\$131.29

Seeding introduced or native seeds - Includes seed costs, seedbed preparation and seeding equipment. Typical species would be bermudagrass, tall wheatgrass, tall fescue, lovegrass and major native grass species	\$112.57
Sprigging bermudagrass includes cost of sprigs, tractor / sprigging equipment and planting	\$150.00

### Labor

Costs included with installation

### Mobilization

None

### Operation & Maintenance

0% O&M factor

\$0.00

### Acquisition of Technical Knowledge

Calibrate and operate seed drill/sprigger, manage perennial grass

\$0.00

### Forgone Income

None

\$0.00

### Risk

Reduced risk, less erosion

\$0.00

### Administration & Permit Costs

None

\$0.00

### Total Cost Estimate:

\$131.29

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

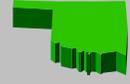
#### **610.2 Applying Gypsum for Soil Reclamation**

This practice is to be used to assist in reclaiming alkaline (sodic) areas of a field by applying gypsum. Gypsum is applied to replace the sodium in the soil and allow it to leach through the soil profile. The soils are to be identified using designated procedures in the Oklahoma NRCS Salinity and Sodic Soil Management (610) standard. Additional treatment required to reclaim the area will be planned and applied accordingly.

This practice includes the costs for gypsum and its application.

Associate practices include: Nutrient Management (590), Irrigation Water Management (449), Deep Tillage (324), Cover Crop (340)

**Geographic Area:** Statewide



**Unit for Cost Estimate:** Ton

**Practice Life (Years):** 1

**Discount Rate (%/Year):** 5%

**Cost/Unit**

Data Source: 2008 actual cost data and current vendor pricing.

#### Materials

Gypsum \$20.00

#### Equipment/Installation/Labor

Application of gypsum \$8.00

Soil Salinity Test \$2.00

#### Labor

Included in Equipment/Installation Cost \$0.00

#### Mobilization

None \$0.00

#### Operation & Maintenance

0% O&M factor \$0.00

#### Acquisition of Technical Knowledge

Application of Gypsum \$0.00

#### Forgone Income

None \$0.00

#### Risk

Reduced risk, less erosion \$0.00

#### Administration & Permit Costs

None \$0.00

**Total Cost Estimate:** **\$30.00**

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### 612.1 Trees &/or Shrubs - barerooted

This practice consists of planting barerooted trees and/or shrubs on a 10' x 12' spacing to enhance wildlife habitat and restore natural diversity.

Associated practices include: Windbreak/Shelterbelt Establishment (380), Windbreak/Shelterbelt Renovation (650), Upland Wildlife Habitat Management (645), Pest Management (595), Tree/Shrub Pruning (660), Brush Management (314), Forest Stand Improvement (666), Riparian Forest Buffer (391), Alley Cropping (311), Critical Area Planting (342), Silvopasture Establishment (381), Hedgerow Planting (422), Irrigation System, Microirrigation (441), Tree/Shrub Site Preparation (490), Firebreak (394) Access Control (472)

Includes the cost of the bare root seedlings and the costs of planting (labor and equipment).

**Geographic Area:** Statewide

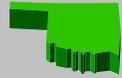
**Unit for Cost Estimate:** Each

**Practice Life (Years):** 15

**Discount Rate (%/Year):** 5%

Data Source: 2008 actual costs, and ODAFF-Forestry Services Data

			<u>Cost/Unit</u>
<b>Materials</b>			<b>\$0.40</b>
	<u>Unit</u>	<u>\$/Unit</u>	
Bare-rooted seedlings (average for all species and order sizes)	Tree	\$0.40	
<b>Equipment/Installation</b>			<b>\$0.30</b>
	<u>Unit</u>	<u>\$/Unit</u>	
Planting of each seedling	Tree	\$0.30	
<b>Labor</b>			<b>\$0.00</b>
(Included in Installation cost)			
<b>Mobilization</b>			<b>\$0.01</b>
2% of materials, equipment and labor			
<b>Operation &amp; Maintenance</b>			<b>\$0.01</b>
Replacement of unsuccessful seedlings during establishment period, 1% of materials, equipment and labor			
<b>Acquisition of Technical Knowledge</b>			<b>\$0.00</b>
None			
<b>Forgone Income</b>			<b>\$0.14</b>
Deferred grazing for up to five years.			
<b>Risk</b>			<b>\$0.00</b>
None			
<b>Administration &amp; Permit Costs</b>			<b>\$0.00</b>
None			
<b>Total Cost Estimate:</b>			<b>\$0.86</b>



ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**612.2 Trees &/or Shrubs - barerooted, with animal control devices**

This practice consists of planting barerooted trees and/or shrubs with animal control devices on a 10' x 12' spacing, to enhance wildlife habitat and restore natural diversity.

Associated practices include: Windbreak/Shelterbelt Establishment (380), Windbreak/Shelterbelt Renovation (650), Upland Wildlife Habitat Management (645), Pest Management (595), Tree/Shrub Pruning (660), Brush Management (314), Forest Stand Improvement (666), Riparian Forest Buffer (391), Alley Cropping (311), Critical Area Planting (342), Silvopasture Establishment (381), Hedgerow Planting (422), Irrigation System, Microirrigation (441), Tree/Shrub Site Preparation (490), Firebreak (394) Access Control (472)

Includes the cost of the bare root seedlings and the costs of planting (labor and equipment). Includes the use of the polyethylene wrap or protection net or tube, stakes, and the cost of labor for placing the devices.

**Geographic Area:** Statewide

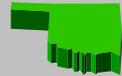
**Unit for Cost Estimate:** Each

**Practice Life (Years):** 15

**Discount Rate (%/Year):** 5%

Data Source: 2008 vendor quotes, and ODAFF-Forestry Services Data

			<u>Cost/Unit</u>
<b>Materials</b>			<b>\$0.65</b>
	<u>Unit</u>	<u>\$/Unit</u>	
Bare-rooted seedlings (average for all species and order sizes)	Tree	\$0.40	
Animal Control Devices	Tree	\$0.25	
Total		\$0.65	
<b>Equipment/Installation</b>			<b>\$0.35</b>
	<u>Unit</u>	<u>\$/Unit</u>	
Planting of each seedling	Tree	\$0.30	
Animal Control Devices	Tree	\$0.05	
Total		\$0.35	
<b>Labor</b>			<b>\$0.00</b>
(Included in Installation cost)			
<b>Mobilization</b>			<b>\$0.02</b>
2% of materials, equipment and labor			
<b>Operation &amp; Maintenance</b>			<b>\$0.01</b>
Replacement of unsuccessful seedlings during establishment period, 1% of materials, equipment and labor			
<b>Acquisition of Technical Knowledge</b>			<b>\$0.00</b>
None			
<b>Forgone Income</b>			<b>\$0.14</b>
Deferred grazing for up to five years.			
<b>Risk</b>			<b>\$0.00</b>
None			
<b>Administration &amp; Permit Costs</b>			<b>\$0.00</b>
<b>Total Cost Estimate:</b>			<b>\$1.17</b>



ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**612.3 Trees &/or Shrubs - containerized/potted**

This practice consists of planting containerized trees/shrubs on a 10' x 12' spacing, in harsh site conditions where bare rooted seedlings are not recommended, to enhance wildlife habitat and restore natural diversity. This scenario should only be used when the planting plan requires containerized tree stock.

Associated practices include: Windbreak/Shelterbelt Establishment (380), Windbreak/Shelterbelt Renovation (650), Upland Wildlife Habitat Management (645), Pest Management (595), Tree/Shrub Pruning (660), Brush Management (314), Forest Stand Improvement (666), Riparian Forest Buffer (391), Alley Cropping (311), Critical Area Planting (342), Silvopasture Establishment (381), Hedgerow Planting (422), Irrigation System, Microirrigation (441), Tree/Shrub Site Preparation (490), Firebreak (394) Access Control (472)

Includes the cost of the containerized or potted seedlings and the costs of planting (labor and equipment).

**Geographic Area:** Statewide

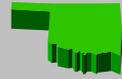
**Unit for Cost Estimate:** Each

**Practice Life (Years):** 15

**Discount Rate (%/Year):** 5%

Data Source: 2008 ODAFF-Forestry Services Data

			<b>Cost/Unit</b>
<b>Materials</b>			<b>\$0.90</b>
	<u>Unit</u>	<u>\$/Unit</u>	
Containerized or potted seedlings (average for all species and order sizes)	Tree	\$0.90	
<b>Equipment/Installation</b>			<b>\$0.30</b>
	<u>Unit</u>	<u>\$/Unit</u>	
Planting of each seedling	Tree	\$0.30	
<b>Labor</b>			<b>\$0.00</b>
(Included in Installation cost)			
<b>Mobilization</b>			<b>\$0.02</b>
2% of materials, equipment and labor			
<b>Operation &amp; Maintenance</b>			<b>\$0.01</b>
Replacement of unsuccessful seedlings during establishment period, 1% of materials, equipment and labor			
<b>Acquisition of Technical Knowledge</b>			<b>\$0.00</b>
None			
<b>Forgone Income</b>			<b>\$0.14</b>
Deferred grazing for up to five years.			
<b>Risk</b>			<b>\$0.00</b>
None			
<b>Administration &amp; Permit Costs</b>			<b>\$0.00</b>
None			
<b>Total Cost Estimate:</b>			<b>\$1.38</b>



## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### 612.4 Trees &/or Shrubs - containerized/potted with animal control device 612.4

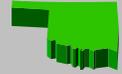
This practice consists of planting containerized trees and/or shrubs with animal control devices on a 10' x 12' spacing, in harsh site conditions where bare rooted seedlings are not recommended, to enhance wildlife habitat and restore natural diversity. This scenario should only be used when the planting plan requires containerized tree stock.

Associated practices include: Windbreak/Shelterbelt Establishment (380), Windbreak/Shelterbelt Renovation (650), Upland Wildlife Habitat Management (645), Pest Management (595), Tree/Shrub Pruning (660), Brush Management (314), Forest Stand Improvement (666), Riparian Forest Buffer (391), Alley Cropping (311), Critical Area Planting (342), Silvopasture Establishment (381), Hedgerow Planting (422), Irrigation System, Microirrigation (441), Tree/Shrub Site Preparation (490), Firebreak (394) Access Control (472)

Includes the cost of the containerized or potted seedlings and the costs of planting (labor and equipment). Includes the use of the polyethylene wrap or protection net or tube, stakes, and

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Each  
**Practice Life (Years):** 15  
**Discount Rate (%/Year):** 5%



Data Source: 2008 vender quotes and ODAFF-Forestry Services Data

			<u>Cost/Unit</u>
<b>Materials</b>			<b>\$1.15</b>
	<u>Unit</u>	<u>\$/Unit</u>	
Containerized or potted seedlings (average for all species and order sizes)	Tree	\$0.90	
Animal Control Devices	Tree	\$0.25	
Total		\$1.15	
<b>Equipment/Installation</b>			<b>\$0.35</b>
	<u>Unit</u>	<u>\$/Unit</u>	
Planting of each seedling	Tree	\$0.30	
Animal Control Devices	Tree	\$0.05	
Total		\$0.35	
<b>Labor</b>			<b>\$0.00</b>
(Included in Installation cost)			
<b>Mobilization</b>			<b>\$0.03</b>
2% or materials, equipment and labor			
<b>Operation &amp; Maintenance</b>			<b>\$0.02</b>
Replacement of unsuccessful seedlings during establishment period, 1% of materials, equipment and labor			
<b>Acquisition of Technical Knowledge</b>			<b>\$0.00</b>
None			
<b>Forgone Income</b>			<b>\$0.14</b>
Deferred grazing for up to five years.			
<b>Risk</b>			<b>\$0.00</b>
None			
<b>Administration &amp; Permit Costs</b>			<b>\$0.00</b>
<b>Total Cost Estimate:</b>			<b>\$1.68</b>

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**612.5 Establishment of trees or shrubs through transplanting with a tree spade**

This practice consists of transplanting sand plum shrubs by using a tree spade, to create mottes which will promote protective cover for bobwhite quail.

Associated practices include: Windbreak/Shelterbelt Establishment (380), Windbreak/Shelterbelt Renovation (650), Upland Wildlife Habitat Management (645), Pest Management (595), Tree/Shrub Pruning (660), Brush Management (314), Forest Stand Improvement (666), Riparian Forest Buffer (391), Alley Cropping (311), Critical Area Planting (342), Silvopasture Establishment (381), Hedgerow Planting (422), Irrigation System, Microirrigation (441), Tree/Shrub Site Preparation (490), Firebreak (394) Access Control (472)

Includes the cost of labor and equipment (the tree spade to dig up, transport and transplant the planting stock) to complete the planting operation.

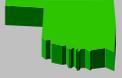
**Geographic Area:** Statewide

**Unit for Cost Estimate:** Plug

**Practice Life (Years):** 15

**Discount Rate (%/Year):** 5%

Data Source: 2008 ODWC estimates of charges and job costs for their equipment



**Cost/Unit**

<b>Materials</b>	<b>\$0.00</b>
N/A	
<b>Equipment/Installation</b>	<b>\$8.00</b>
Cost of equipment and labor to compete the transplant operations. - unit is a PLUG of trees	
<b>Labor</b>	<b>\$0.00</b>
(Included in Installation cost)	
<b>Mobilization</b>	<b>\$0.16</b>
2% of materials, equipment and labor	
<b>Operation &amp; Maintenance</b>	<b>\$0.08</b>
Replacement of unsuccessful seedlings during establishment period, 1% of materials, equipment and labor	
<b>Acquisition of Technical Knowledge</b>	<b>\$0.00</b>
None	
<b>Forgone Income</b>	<b>\$0.14</b>
Deferred grazing for up to five years.	
<b>Risk</b>	<b>\$0.00</b>
None	
<b>Administration &amp; Permit Costs</b>	<b>\$0.00</b>
None	
<b>Total Cost Estimate:</b>	<b>\$8.38</b>

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**612.6 Planting Pine in Plantation Type Settings**

This practice consists of planting loblolly pine seedlings on a 8' x 9' spacing following a ripping operation, for the establishment of forest products.

Associated practices include: Upland Wildlife Habitat Management (645), Pest Management (595), Tree/Shrub Pruning (660), Brush Management (314), Forest Stand Improvement (666), Silvopasture Establishment (381), Tree/Shrub Site Preparation (490), Firebreak (394), Access Control (472)

Includes the cost of the bare root pine seedlings and the costs of planting seedlings (labor and equipment) in a plantation type of setting, such as tree farm, timber stand, or reforestation

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Each

**Practice Life (Years):** 15

**Discount Rate (%/Year):** 5%

**Cost/Unit**

Data Source: 2008 ODAFF-Forestry Services Data

**Materials**

	<u>Unit</u>	<u>\$/Unit</u>	<b>\$0.05</b>
Bare-rooted pine seedlings	Each	\$0.05	

**Equipment/Installation**

	<u>Unit</u>	<u>\$/Unit</u>	<b>\$0.09</b>
Planting of each seedling	Each	\$0.09	

**Labor**

(Included in Installation cost) **\$0.00**

**Mobilization**

2% or materials, equipment and labor **\$0.00**

**Operation & Maintenance**

Replacement of unsuccessful seedlings during establishment period, 1% of materials, equipment and labor **\$0.00**

**Acquisition of Technical Knowledge**

None **\$0.00**

**Forgone Income**

Deferred grazing for up to five years. **\$0.14**

**Risk**

None **\$0.00**

**Administration & Permit Costs**

None **\$0.00**

**Total Cost Estimate:** **\$0.28**

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

##### **614.1 Drinking Tank or Trough**

A device (tank, trough, or other watertight container) for providing animal access to water.

A livestock watering facility for livestock or wildlife. This covers all types of drinking facilities except for freeze proof tanks and energy free fountains. Cost covers concrete, concrete floor with steel sidewalls, fiberglass tanks, and rubber tire tanks, and includes all materials and labor to install the tank including foundation preparation, apron, and plumbing, based on a turnkey operation.

**Associated Practices:** 561-Heavy Use Area Protection, 382-Fence, 533-Pumping Plant, 516-Pipeline

**Geographic Area:** Statewide

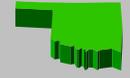
**Unit for Cost Estimate:** Diameter Foot (DF)

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%

Source: 2008 actual jobs and cost data

	<u>Cost/Unit</u>
<b>Materials</b>	<b>\$176.02</b>
Cost of a turn-key installation.	
<b>Equipment/Installation</b>	<b>\$37.50</b>
Included in materials.	
<b>Labor</b>	<b>\$0.00</b>
(Included in Installation)	
<b>Mobilization</b>	<b>\$0.00</b>
Included in Installation Cost	
<b>Operation &amp; Maintenance</b>	<b>\$2.14</b>
1% of Installation Costs	
<b>Acquisition of Technical Knowledge</b>	<b>\$0.00</b>
N/A	
<b>Forgone Income</b>	<b>\$0.00</b>
None	
<b>Risk</b>	<b>\$0.00</b>
Reduced risk, can better manage livestock	
<b>Administration &amp; Permit Costs</b>	<b>\$0.00</b>
None	
<b>Total Cost Estimate:</b>	<b>\$215.66</b>



ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**614.2 Energy Free Fountains**

A device (tank, trough, or other watertight container) for providing animal access to water.

Includes the complete installation of an approved Energy-Free Fountain waterer. Typically this would be a fountain unit with two to four watering stations. The cost includes all materials and labor to install the fountain, including foundation preparation, apron, and plumbing in a turnkey installation.

**Associated Practices:** 561-Heavy Use Area Protection, 382-Fence, 533-Pumping Plant, 516-Pipeline

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Gallon  
**Practice Life (Years):** 10  
**Discount Rate (%/Year):** 5%



**Cost/Unit**

Source: 2008 actual cost data

**Materials**

Cost of the actual watering fountain. (\$533 for 20 gallon)

\$24.45

**Equipment/Installation**

Total Installation Cost/Unit: (\$144 for 20 gallon)

\$7.20

**Labor**

(Included in Installation Costs)

\$0.00

**Mobilization**

Included in Installation Costs

\$0.00

**Operation & Maintenance**

1% of Installation Costs

\$0.32

**Acquisition of Technical Knowledge**

N/A

\$0.00

**Forgone Income**

None

\$0.00

**Risk**

None

\$0.00

**Administration & Permit Costs**

None

\$0.00

**Total Cost Estimate:**

\$31.97

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 614.3 Freeze Proof Tank

The complete installation of an approved pre-fabricated concrete freeze proof tank. Cost includes all materials and labor on a turnkey installation, to install the tank including the headwall, the apron, and plumbing for a unit installed in the backside of an embankment. For installations that are not in the backside of the embankment, a separate pipeline design will be needed for the pipeline feeding the tank.

**Associated Practices:** 561-Heavy Use Area Protection, 382-Fence, 516-Pipeline

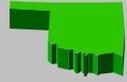
**Data Source:** 2008 actual cost data.

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Gallon

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%



	<u>Cost/Unit</u>
<b>Materials</b>	<b>\$1,140.30</b>
Cost of tank (includes the miscellaneous appurtenances and installation)	
<b>Equipment/Installation</b>	<b>\$0.00</b>
(Included in Materials Costs)	
<b>Labor</b>	<b>\$0.00</b>
(Included in Materials Costs)	
<b>Mobilization</b>	<b>\$0.00</b>
Included in Installation Costs	
<b>Operation &amp; Maintenance</b>	<b>\$11.40</b>
1% of Installation Costs	
<b>Acquisition of Technical Knowledge</b>	<b>\$0.00</b>
N/A	
<b>Forgone Income</b>	<b>\$0.00</b>
None	
<b>Risk</b>	<b>\$0.00</b>
Reduced risk, can better manage livestock	
<b>Administration &amp; Permit Costs</b>	<b>\$0.00</b>
None	
<b>Total Cost Estimate:</b>	<b>\$1,151.70</b>

## ECONOMIC COST DATA

### Cost Data

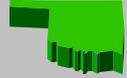
#### Typical Implementation Scenario

#### **614.4 Guzzler**

A device for providing drinking water in a wildlife watering system.

The complete installation of an approved guzzler as specified in Wildlife Guzzler Standard Drawings 1 and 2 of the Oklahoma Standard 648, Wildlife Watering Facility, or as described in the list of "Pre-Approved Structures, Components, and Appurtenances" in Section IV of the Field Office Technical Guide. Total gallons for the cost will be based on the effective storage in the tank or barrel. Prefabricated guzzlers and guzzlers constructed using Standard Drawing No. 2, can be filled to capacity; therefore the effective storage is 100 percent of the capacity of the tank as measured in gallons. Because of the design features, guzzlers constructed using Standard Drawing No. 1 can be filled to a maximum of two-thirds of capacity; therefore the effective storage is 66.6 percent of the capacity of the tank as measured in gallons.

**Geographic Area:** Statewide  
**Unit for Cost Estimate:** Gallon  
**Practice Life (Years):** 10  
**Discount Rate (%/Year):** 5%



**Data Source: Indexed 2007 Actual Cost Data.**

	<u>Cost/Unit</u>
<b>Materials</b>	\$6.30
Cost includes the installation	
<b>Equipment/Installation</b>	\$0.00
(Included in Materials Costs)	
<b>Labor</b>	\$0.00
(Included in Materials Costs)	
<b>Mobilization</b>	\$0.00
Included in Installation Costs	
<b>Operation &amp; Maintenance</b>	\$0.06
1% of Installation Costs	
<b>Acquisition of Technical Knowledge</b>	\$0.00
N/A	
<b>Forgone Income</b>	\$0.00
None	
<b>Risk</b>	\$0.00
N/A	
<b>Administration &amp; Permit Costs</b>	\$0.00
None	
<b>Total Cost Estimate:</b>	<b>\$6.36</b>

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### **614.5 Storage Tank**

A device (tank, trough, or other watertight container) for providing storage of water in a livestock or wildlife watering system.

This cost is for the complete installation of an approved prefabricated or refurbished storage tank for use in a livestock or wildlife watering system. These tanks are not drinking facilities. Materials may be fiberglass or steel. Tanks may be of used materials provided they are refurbished and certified for the intended purpose. The cost includes all materials and labor to install the storage tank including foundation preparation and plumbing

**Associated Practices:** 533-Pumping Plant, 516-Pipeline

**Data Source:** Indexed 2007 Actual Cost Data.

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Gallon

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%



**Source:** 2006 Cost Lists which had been originally developed from cost estimates and calls to suppliers.

	<u>Cost/Unit</u>
<b><u>Materials</u></b>	\$0.53
Cost of tank (includes the miscellaneous appurtenances and installation)	
<b><u>Equipment/Installation</u></b>	\$0.00
(Included in Materials Costs)	
<b><u>Labor</u></b>	\$0.00
(Included in Materials Costs)	
<b><u>Mobilization</u></b>	\$0.00
Included in Installation Costs	
<b><u>Operation &amp; Maintenance</u></b>	\$0.01
1% of Installation Costs	
<b><u>Acquisition of Technical Knowledge</u></b>	\$0.00
N/A	
<b><u>Forgone Income</u></b>	\$0.00
None	
<b><u>Risk</u></b>	\$0.00
Reduced risk, can better manage livestock	
<b><u>Administration &amp; Permit Costs</u></b>	\$0.00
None	
<b>Total Cost Estimate:</b>	<b>\$0.54</b>

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### 620.1 Underground Outlet

A conduit, such as plastic pipe, installed beneath the ground surface to collect and convey it to a suitable outlet. A typical underground outlet serves as a stable outlet for a 40 acre terrace system having six 6 inch inlets and 1300 linear feet of 4 inch to 8 inch mainline at a total cost of \$4,890

**Associated Practices:** 600-Terrace, 362-Diversion

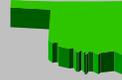
**Data Source:** Indexed 2007 Actual Cost Data.

**Geographic Area:** Statewide

**Unit for Cost Estimate:** DIFT

**Practice Life (Years):** 20

**Discount Rate (%/Year):** 5%



**Cost/Unit**

#### Materials

Cost of turnkey installation of high pressure plastic irrigation pipe including equipment, labor, and installation.

\$0.59

#### Equipment/Installation

Included in Materials

\$0.00

#### Labor

Included in Materials

\$0.00

#### Mobilization

Five percent of materials, equipment/Installation and labor costs

\$0.03

#### Operation & Maintenance (Annual)

1% of materials, equipment/Installation and labor costs

\$0.01

#### Acquisition of Technical Knowledge

None

\$0.00

#### Forgone Income (Annual)

None, no land taken out of production

\$0.00

#### Risk

Reduced risk, better soil/water control

\$0.00

#### Administration & Permit Costs

None

\$0.00

#### **Total Cost Estimate:**

**\$0.63**

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 633.1 Agitated or Solid Waste

This practice consists of removing animal waste from an animal storage facility/lagoon in preparation for "closure" of the structure. This scenario includes liquid manure needing agitation to obtain a slurry mixture before application or solid (dry) manure. Nutrient values of the manure shall be determined immediately prior to land application based on a laboratory analysis. All animal waste shall be land applied on cropland or pastureland fields in a manner that minimizes the opportunity for contamination of surface and groundwater supplies. Refer to Oklahoma NRCS Nutrient Management (590) and Waste Utilization (633) Standards for guidance on application of manure.

This practice includes the costs of labor, machinery, and fuel associated with installing the practice.

Associated Practices include: Closure of Waste Impoundments (360), Manure Transfer (634), Waste Treatment (629)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** lbs P

**Practice Life (Years):** 1

**Discount Rate (%/Year):** 5%

**Cost/Unit**

Data Source: 2008 actual cost data and current vendor pricing.

<b><u>Materials</u></b>	<b>\$0.20</b>
Includes costs of labor, machinery, and fuel	
<b><u>Equipment/Installation/Labor</u></b>	<b>\$0.00</b>
Included in Materials Cost.	
<b><u>Labor</u></b>	<b>\$0.00</b>
Included in Materials Cost	
<b><u>Mobilization</u></b>	<b>\$0.00</b>
NA	
<b><u>Operation &amp; Maintenance</u></b>	<b>\$0.00</b>
1% O&M factor	
<b><u>Acquisition of Technical Knowledge</u></b>	<b>\$0.00</b>
Knowledge to operate and manage application equipment	
<b><u>Forgone Income</u></b>	<b>\$0.00</b>
None	
<b><u>Risk</u></b>	<b>\$0.00</b>
None	
<b><u>Administration &amp; Permit Costs</u></b>	<b>\$0.00</b>
None	
<b>Total Cost Estimate:</b>	<b>\$0.20</b>

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 633.2 Liquid Waste

This practice consists of removing animal waste from an animal storage facility/lagoon in preparation for "closure" of the structure. This scenario includes liquid animal waste not needing agitation with less than 5% solids. Nutrient values of the liquid manure shall be determined immediately prior to land application based on laboratory analysis. All liquid animal waste shall be land applied on cropland or pastureland fields in a manner that minimizes the opportunity for contamination of surface and groundwater supplies. Refer to Oklahoma NRCS Nutrient Management (590) and Waste Utilization (633) Standards for guidance on application of manure.

This practice includes the costs of labor, machinery, and fuel associated with installing the practice.

Associated Practices include: Closure of Waste Impoundments (360), Manure Transfer (634), Waste Treatment (629)

Geographic Area: Statewide

Unit for Cost Estimate: lbs P

Practice Life (Years): 1

Discount Rate (%/Year): 5%

**Cost/Unit**

Data Source: 2008 actual cost data and current vendor pricing.

<b><u>Materials</u></b>	<b>\$0.10</b>
Includes costs of labor, machinery, and fuel	
<b><u>Equipment/Installation/Labor</u></b>	<b>\$0.00</b>
Included in Materials Cost	
<b><u>Labor</u></b>	<b>\$0.00</b>
Included in Materials Cost	
<b><u>Mobilization</u></b>	<b>\$0.00</b>
NA	
<b><u>Operation &amp; Maintenance</u></b>	<b>\$0.00</b>
1% O&M factor	
<b><u>Acquisition of Technical Knowledge</u></b>	<b>\$0.00</b>
Knowledge to operate and manage application equipment	
<b><u>Forgone Income</u></b>	<b>\$0.00</b>
None	
<b><u>Risk</u></b>	<b>\$0.00</b>
None	
<b><u>Administration &amp; Permit Costs</u></b>	<b>\$0.00</b>
None	
<b>Total Cost Estimate:</b>	<b>\$0.10</b>

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 633.3 Effluent Pumping for Rehabilitation

This practice includes the removal and land application of waste from an "active" swine waste treatment lagoon. Effluent will require agitation prior to pumping. The volume to be pumped is calculated from the minimum operating elevation to the bottom of the lagoon as originally designed (The effluent between the maximum and minimum operating levels on the pumpdown post is considered O&M, therefore it will not be included with the allowable pumped volume). This practice applies only to lagoons that are greater than 5 years old, installed without EQIP or other federal cost-share assistance, on non-CAFO operations. Nutrient values of the manure shall be determined prior to land application based on laboratory analysis. All animal waste shall be land applied on cropland or pastureland fields in a manner that minimizes the opportunity for contamination of surface and groundwater supplies. Refer to Oklahoma NRCS Nutrient Management (590) and Waste Utilization (633) Standards for guidance on application of manure.

This practice includes the costs of labor, machinery, and fuel associated with installing the practice.

Associated Practices include: Closure of Waste Impoundments (360), Manure Transfer (634), Waste Treatment (629)

Geographic Area: Haskell, Latimer, and LeFlore Counties



Unit for Cost Estimate: 100 GAL  
 Practice Life (Years): 1  
 Discount Rate (%/Year): 5%

**Cost/Unit**

Data Source: 2008 actual cost data and current vendor pricing.

<b>Materials</b>	<b>\$1.80</b>
Includes costs of labor, machinery, and fuel	
<b>Equipment/Installation/Labor</b>	<b>\$0.00</b>
Included in Materials Cost.	
<b>Labor</b>	<b>\$0.00</b>
Included in Materials Cost	
<b>Mobilization</b>	<b>\$0.00</b>
NA	
<b>Operation &amp; Maintenance</b>	<b>\$0.02</b>
1% O&M factor	
<b>Acquisition of Technical Knowledge</b>	<b>\$0.00</b>
Knowledge to operate and manage application equipment	
<b>Forgone Income</b>	<b>\$0.00</b>
None	
<b>Risk</b>	<b>\$0.00</b>
None	
<b>Administration &amp; Permit Costs</b>	<b>\$0.00</b>
None	
<b>Total Cost Estimate:</b>	<b>\$1.80</b>

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

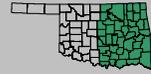
#### **634.1 Manure Transfer**

This practice includes the cost of transporting manure from an animal waste facility within a specified watershed to an area in Oklahoma that is located outside the watershed. The manure must be applied as part of a Nutrient Management Plan in accordance with the Oklahoma NRCS practice standard for Nutrient Management (590). This includes only the costs associated with transporting the manure. Hauling tickets will be used to substantiate the distance and the tonnage of the manure transferred. This is only applicable to the producer who is purchasing and applying the waste, not the producer associated with the animal waste facility.

This practice includes the costs of labor, trucking, machinery, and fuel associated with installing the practice. Units for cost estimates are based on the number of tons of manure loaded and hauled multiplied by the number of miles hauled (one way-loaded).

**Data Source:** 2008 actual cost data and current vendor pricing.

**Geographic Area:** Eastern Oklahoma - All counties containing I-35, and eastward to the Arkansas State Line



**Unit for Cost Estimate:** Tons times loaded miles (TMI)

**Practice Life (Years):** 1

**Discount Rate (%/Year):** 5%

**Cost/Unit**

#### Materials

Does not include cost of manure, if any

\$0.00

#### Equipment/Installation/Labor

Transportation of Manure

\$0.18/TMI

\$0.18

#### Labor

Included in Materials Cost

\$0.00

#### Mobilization

NA

\$0.00

#### Operation & Maintenance

5% O&M factor

\$0.00

#### Acquisition of Technical Knowledge

Knowledge to operate and manage application equipment

\$0.00

#### Forgone Income

None

\$0.00

#### Risk

Reduced risk, can better manage livestock waste, improve water quality

\$0.00

#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

**\$0.18**

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 638.1 Water and Sediment Control Basin

Consist of an embankment with a principle spillway constructed across the slope and minor water courses to form a sediment trap and water detention basin. A typical structure has a 10 acre watershed requiring 2037CY of excavation/fill with a principal spillway pipe of 12 inches in diameter.

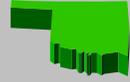
Data Source: The typical structure cost is based on actual cost data collected for ponds.

Geographic Area: Statewide

Unit for Cost Estimate: CY

Practice Life (Years): 10

Discount Rate (%/Year): 5%



**Cost/Unit**

#### Materials

\$2.83

Includes equipment/installation, labor and mobilization costs.

	Unit Cost	QTY	Total
Earthwork - CY	\$1.72	2,000	\$3,440.00
12 inch Pipe -FT	\$23.88	93	\$2,220.84
			\$5,660.84

#### Equipment/Installation

\$0.00

(Included in Materials cost)

#### Labor

\$0.00

(Included in Materials cost)

#### Mobilization

\$0.06

Included in Materials Cost

#### Operation & Maintenance (Annual)

\$0.08

3% of Installation Costs

#### Acquisition of Technical Knowledge

\$0.00

None

#### Forgone Income (Annual)

\$0.00

None, possible land brought into production.

#### Risk

\$0.00

Reduced risk, change in land use

#### Administration & Permit Costs

\$0.00

None

**Total Cost Estimate:**

**\$2.97**

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### **642.1 Well - Drilled, Cased**

A hole drilled, dug, driven, bored, jetted or otherwise constructed to an aquifer.

Part of a livestock watering system. This component consists of the creation of a hole by drilling, digging, boring, jetting, or other means to an aquifer and the installation of casing material to seal out undesirable surface or shallow ground water flow and to support the side of the hole through unstable earth materials. Wells must meet the criteria of the Oklahoma Water Resources Board and be drilled by a contractor having an OWRB issued license. Oklahoma practice standard 642, Water Well, shall be followed in the planning and installation of water wells. Casing materials shall be as specified in the standard.

**Data Source:** 2008 actual cost data

**Geographic Area:** Statewide

**Unit for Cost Estimate:** Foot

**Practice Life (Years):** 20

**Discount Rate (%/Year):** 5%

**Cost/Unit**

#### Materials

Materials cost includes complete installation.

\$18.85

#### Equipment/Installation

(Included in Materials Costs)

\$0.00

#### Labor

(Included in Materials Costs)

\$0.00

#### Mobilization

(Included in Materials Costs)

\$0.00

#### Operation & Maintenance

1% of Installation Costs

\$0.19

#### Acquisition of Technical Knowledge

N/A

\$0.00

#### Forgone Income

N/A

\$0.00

#### Risk

N/A

\$0.00

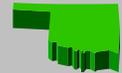
#### Administration & Permit Costs

N/A

\$0.00

**Total Cost Estimate:**

\$19.04



## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### **642.2 Well-Drilled, Cased, Shallow <100 foot**

This scenario is for a water well that is less than 100 foot in depth. Mobilization is a larger portion of the cost on the smaller well drilling jobs.

Part of a livestock watering system. This component consists of the creation of a hole by drilling, digging, boring, jetting, or other means to an aquifer and the installation of casing material to seal out undesirable surface or shallow ground water flow and to support the side of the hole through unstable earth materials. Wells must meet the criteria of the Oklahoma Water Resources Board and be drilled by a contractor having an OWRB issued license. Oklahoma practice standard 642, Water Well, shall be followed in the planning and installation of water wells. Casing materials shall be as specified in the standard.

**Data Source:** 2008 actual cost data for wells less than 100 feet in depth.

**Geographic Area:** Statewide

**Unit for Cost Estimate:** EACH

**Practice Life (Years):** 20

**Discount Rate (%/Year):** 5%

**Cost/Unit**

#### Materials

\$1,765.50

Materials cost includes complete installation.

Well, Drilled and Cased \$23.54 / Foot

Well Depth (feet): 75 FT

Total Cost Typical Installation **\$1,765.50**

#### Equipment/Installation

\$0.00

(Included in Materials Costs)

#### Labor

\$0.00

(Included in Materials Costs)

#### Mobilization

\$176.55

10% - Mobilization on a shallow well is a larger percentage of the cost of the total job.

#### Operation & Maintenance

\$19.42

1% of Installation Costs

#### Acquisition of Technical Knowledge

\$0.00

N/A

#### Forgone Income

\$0.00

N/A

#### Risk

\$0.00

N/A

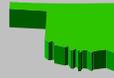
#### Administration & Permit Costs

\$0.00

N/A

**Total Cost Estimate:**

\$1,961.47



# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

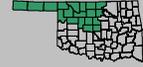
#### 642.3 Well - Drilled, Cased, For Zone 1 Counties Only

A hole drilled, dug, driven, bored, jetted or otherwise constructed to an aquifer. This scenario is limited to the following counties: Cimarron, Texas, Beaver, Harper, Ellis, Woodward, Woods, Major, Dewey, Blaine, Alfalfa, Grant, Garfield, Kingfisher, Canadian, Kay, Noble, Logan, and Oklahoma.

Part of a livestock watering system. This component consists of the creation of a hole by drilling, digging, boring, jetting, or other means to an aquifer and the installation of casing material to seal out undesirable surface or shallow ground water flow

Associated Practices: 614-Watering Facility, 533-Pumping Plant

Data Source: 2008 actual cost data



**Geographic Area:** Zone 1 only. Alfalfa, Beaver, Blaine, Canadian, Cimarron, Dewey, Ellis, Garfield, Grant, Harper, Kay, Kingfisher, Logan, Major, Noble, Oklahoma, Texas, Woods, and Woodward Counties.

**Unit for Cost Estimate:** Foot  
**Practice Life (Years):** 20  
**Discount Rate (%/Year):** 5%

**Cost/Unit**

<b>Materials</b>	<b>\$23.40</b>
Materials cost includes complete installation.	
<b>Equipment/Installation</b>	<b>\$0.00</b>
(Included in Materials Costs)	
<b>Labor</b>	<b>\$0.00</b>
(Included in Materials Costs)	
<b>Mobilization</b>	<b>\$0.00</b>
(Included in Materials Costs)	
<b>Operation &amp; Maintenance</b>	<b>\$0.23</b>
1% of Installation Costs	
<b>Acquisition of Technical Knowledge</b>	<b>\$0.00</b>
N/A	
<b>Forgone Income</b>	<b>\$0.00</b>
N/A	
<b>Risk</b>	<b>\$0.00</b>
N/A	
<b>Administration &amp; Permit Costs</b>	<b>\$0.00</b>
N/A	
<b>Total Cost Estimate:</b>	<b>\$23.63</b>

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**643.1 Native Species, Seedbed Preparation, Seed & Seeding - Herbaceous only**

Establishing a mixture of native grasses, forbs, legumes, to restore previously converted native prairie ecological sites (i.e. those converted to cropland) that no longer support native plants characteristic of the ecological site.

Associated Practices: Range Planting (550), Tree/Shrub Establishment (612), Nutrient Management (590), Pest Management (595), Prescribed Grazing (528), Forage Harvest Management (511)

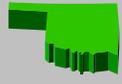
Data Source: Current vendor pricing, Technical expertise

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 10

Discount Rate (%/Year): 5%



**Cost/Unit**

**Materials**

Seed (based on average lbs. PLS and cost per lb. PLS needed to plant a typical range seeding mixture according to the NRCS Range Planting (550) Standard and Specification)

Fertilizer and/or amendments, if needed for establishment, are covered in 590.1 and 590.3  
Does not include cost of cover crops if needed

\$56.70

**Equipment/Installation**

Tractor / drill \$7.00

includes labor costs

Seedbed Preparation. Most seedbed preparation work is done as part of tillage operations for previously grown crops. In some cases an extra tillage or firming operation may be needed prior to planting. \$16.80

\$23.80

**Labor**

Costs included with equipment and installation

**Mobilization**

None

**Operation & Maintenance**

Management practices such as prescribed grazing, prescribed burning and brush management

**Acquisition of Technical Knowledge**

Calibrate and operate seed drill, management of native range.

\$0.00

**Forgone Income**

Assume deferment for up to two years

\$20.00

**Risk**

Reduced risk, less erosion, less machinery wear & tear.

\$0.00

**Administration & Permit Costs**

None

\$0.00

**Total Cost Estimate:**

**\$100.50**

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**643.2 Native Species, Seedbed Preparation, Seed & Seeding - Herbaceous and woody**

Establishing a mixture of native grasses, forbs, legumes, and woody species (i.e. plum) to restore previously converted native prairie ecological sites (i.e. those converted to cropland) that no longer support native plants characteristic of the ecological site.

Associated Practices: Range Planting (550), Tree/Shrub Establishment (612), Nutrient Management (590), Pest Management (595), Prescribed Grazing (528), Forage Harvest Management (511)

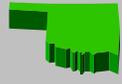
Data Source: Current vendor pricing, Technical expertise

Geographic Area: Statewide

Unit for Cost Estimate: Acre

Practice Life (Years): 10

Discount Rate (%/Year): 5%



**Cost/Unit**

**Materials**

Seed (based on average lbs. PLS and cost per lb. PLS needed to plant a typical range seeding mixture according to the NRCS Range Planting (550) Standard and Specification) 56.7 \$64.57

Costs based on 1210 trees per acre, planted in plots on 6x6 spacing. Assumed 1% of acres, typical scenario of 100 acres 7.87

Fertilizer and/or amendments, if needed for establishment, are covered in 590.1 and 590.3

Does not include cost of cover crops if needed

**Equipment/Installation**

Tractor / drill \$7.00 \$23.80

includes labor costs

Seedbed Preparation. Most seedbed preparation work is done as part of tillage operations for previously grown crops. In some cases an extra tillage or firming operation may be needed prior to planting. \$16.80

**Labor**

Costs included with equipment and installation

**Mobilization**

None

**Operation & Maintenance**

Management practices such as prescribed grazing, prescribed burning and brush management

**Acquisition of Technical Knowledge**

Calibrate and operate seed drill, management of native range. \$0.00

**Forgone Income**

Assume deferment for up to two years \$20.00

**Risk**

Reduced risk, less erosion, less machinery wear & tear. \$0.00

**Administration & Permit Costs**

None \$0.00

**Total Cost Estimate:** \$108.37

## ECONOMIC COST DATA

### Cost Data

#### Typical Implementation Scenario

#### 645.1 - Upland Wildlife Habitat Management

This practice will be implemented where the objective is to establish, maintain or improve habitat for selected wildlife species. Wildlife management is dependent upon providing essential habitat requirements including food, cover, water, and space (interspersed) for selected species as determined by a Wildlife Habitat Appraisal Guide (WHAG) or other approved habitat evaluation procedure. The appraisal guide will identify the types, amounts, and distribution of habitat elements that are limiting and determine actions necessary to improve habitat to meet management objectives for the selected species. As a minimum, all evaluated habitat elements will provide at least 50 percent of optimum conditions as determined by the evaluation score (i.e. score of 5 or > on 1 to 10 scale). Implementation of facilitating practices such as prescribed grazing, range planting, prescribed burning, tree/shrub planting, brush management, residue management, etc., may be required to address limiting factors and improve habitat. When needed, refer to the economic cost data developed for each of the facilitating practices to be implemented.

Based on typical operation of 160 acres which is also within the home range of many commonly managed species

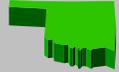
Data Source: Actual Cost Data and OSU Extension Service Custom Rates and Rental Rates

Geographic Area: Statewide

Unit for Cost Estimate: Acre  
 Practice Life (Years): 1  
 Discount Rate (%/Year): 5%

**Cost/Unit**

	<u>\$/Acre</u>	<u>Cost/Unit</u>
<b>Materials</b>		<b>\$2.19</b>
Wildlife habitat evaluations and management plan development	\$0.50	
Wildlife habitat plan implementation	\$1.00	
Monitoring (50% of evaluation and plan development costs)	\$0.25	
Seed for food plots	\$0.44	
<b>Equipment/Installation</b>		<b>\$0.45</b>
Shallow Disking/Seeding food plots (based on custom rates)	\$0.45	
<b>Labor</b>		<b>\$0.00</b>
Labor incorporated into materials cost		
<b>Mobilization</b>		<b>\$0.00</b>
N/A		
<b>Operation &amp; Maintenance</b>		<b>\$0.00</b>
N/A		
<b>Acquisition of Technical Knowledge</b>		<b>\$1.56</b>
Education to understand wildlife habitat management and adopt changes based on \$250 per year.	(\$1.56/ac.)	
<b>Forgone Income</b>		<b>\$5.34</b>
Some income may be lost due to maintaining or creating habitat elements such as food plots, leaving buffers or unharvested areas, deferred grazing for maintaining nesting cover, reduction in brush management activities to maintaining woody cover/food, etc.. Estimated costs are based on 160 acre farm with 80 acres rangeland and 80 acres cropland/pastureland. Estimate that managing primarily for wildlife will reduce rental income of \$9.66/ac. on 50% of rangeland (40 ac) and reduce rental income on 8% (6.4.ac.) of crop/range for buffers and unharvested grain strips at an average rental rate \$23.09/ac.(\$33.03/ac. for crop and \$13.09 for pasture. Avg. cost of all losses is \$5.34/ac when applied to 160 acre operating unit.		
<b>Risk</b>		<b>\$0.00</b>
N/A		
<b>Administration &amp; Permit Costs</b>		<b>\$0.00</b>
None		
<b>Total Cost Estimate:</b>		<b>\$9.54</b>



# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 666.1 Chemical Release

Using stem injection, basal bark spray, foliar, or soil applied chemicals to kill undesirable hardwood trees to release desirable loblolly pine, which will increase the quantity and quality of forest products.

Associated practices include: Brush Management (314), Tree/Shrub Pruning (660), Windbreak/Shelterbreak Renovation (650), Fuel Break (383), Multi-Story Cropping (379), Prescribed Forestry (409)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** AC

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%



**Cost/Unit**

Data Source: 2008 estimates from ODAFF

#### Materials

Includes Labor and Materials Cost.

\$85.00

#### Equipment/Installation

Included in Materials Cost

\$0.00

#### Labor

Included in Materials Cost

\$0.00

#### Mobilization

N/A

\$0.00

#### Operation & Maintenance (Annual)

N/A

\$0.00

#### Acquisition of Technical Knowledge

None

\$0.00

#### Forgone Income (Annual)

None

\$0.00

#### Risk

None

\$0.00

#### Administration & Permit Costs

None

\$0.00

**Total Cost Estimate:**

\$85.00

ECONOMIC COST DATA

**Cost Data**

**Typical Implementation Scenario**

**666.2 Mechanical Release**

Mechanically removing selected pine trees by use of a rotary mower, bulldozer, tree saw, hydraulic circular saws, disk, drum chopper or other approved methods to release desirable loblolly pine, which will increase the quantity and quality of forest products.

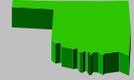
Associated practices include: Brush Management (314), Tree/Shrub Pruning (660), Fuel Break (383), Multi-Story Cropping (379), Prescribed Forestry (409)

**Geographic Area:** Statewide

**Unit for Cost Estimate:** AC

**Practice Life (Years):** 10

**Discount Rate (%/Year):** 5%



**Cost/Unit**

Data Source: 2008 estimates from ODAFF and current vendor pricing.

**Materials**

Materials includes complete installation costs: including labor and equipment.

\$110.00

**Equipment/Installation**

Included in Materials Cost

\$0.00

**Labor**

Included in Materials Cost

\$0.00

**Mobilization**

N/A

\$0.00

**Operation & Maintenance (Annual)**

N/A

\$0.00

**Acquisition of Technical Knowledge**

None

\$0.00

**Forgone Income (Annual)**

None

\$0.00

**Risk**

None

\$0.00

**Administration & Permit Costs**

None

\$0.00

**Total Cost Estimate:**

\$110.00

# ECONOMIC COST DATA

## Cost Data

### Typical Implementation Scenario

#### 666.3 Hand Release

Precommercial hand cutting of pine trees to thin and improve the timber stand by using a machete, axe, brush hook, chainsaw or other approved hand cutting tools to increase the quantity and quality of forest products.

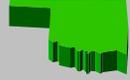
Associated practices include: Brush Management (314), Tree/Shrub Pruning (660), Fuel Break (383), Multi-Story Cropping (379), Prescribed Forestry (409)

Geographic Area: Statewide

Unit for Cost Estimate: AC

Practice Life (Years): 10

Discount Rate (%/Year): 5%



**Cost/Unit**

Data Source: 2008 estimates from ODAFF

#### Materials

\$60.00

Materials includes complete installation costs: including labor and equipment.

#### Equipment/Installation

\$0.00

Included in Materials Cost

#### Labor

\$0.00

Included in Materials Cost

#### Mobilization

\$0.00

N/A

#### Operation & Maintenance (Annual)

\$0.00

N/A

#### Acquisition of Technical Knowledge

\$0.00

None

#### Forgone Income (Annual)

\$0.00

None

#### Risk

\$0.00

None

#### Administration & Permit Costs

\$0.00

None

**Total Cost Estimate:**

**\$60.00**