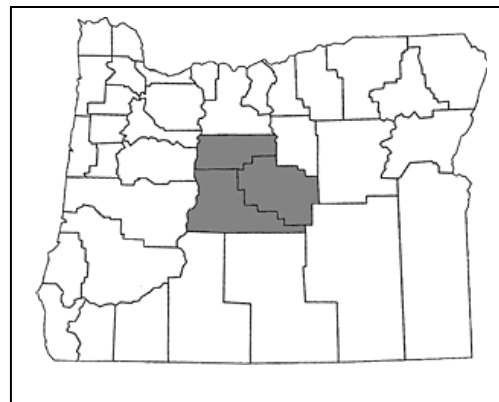


Enterprise Budget

Kentucky Bluegrass Central Oregon Region

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This enterprise budget estimates the typical costs and returns to management, for the production years and the establishment year, of producing certified Kentucky bluegrass seed in the Madras area of central Oregon. The stand is assumed to have a 4-year life, including the establishment year. The cost of the establishment year is considered a cost of producing grass seed in the following 3 years, and thus it is amortized over the 3 following production years. While efforts were made to reflect common practices, it is not representative of any particular farm and should be used only as a guide to estimate actual costs. The major assumptions used in constructing this budget are discussed below. Assistance provided by area producers is greatly appreciated.

Cropping Pattern

This budget is based on a typical 600-acre farm with 150 acres in production of certified Kentucky bluegrass seed, with 50 acres of these as first-year fields following wheat. The budget includes establishment year production costs for 1 acre, with a yield of 1,000 pounds per acre, and production year production costs for 1 acre, with a yield of 1,250 pounds per acre. A summary of the estimated costs and returns per acre for the establishment year is shown in Table 1, and a summary of the estimated costs and returns per acre for a production year is shown in Table 2.

Land and Irrigation

A land lease charge of \$120 per acre is included to represent the cost of leasing or owning the land. The charge is based on the cost of a long-term lease for good-quality irrigated land. A water charge of \$2.26 per acre-inch covers the cost of irrigation water and canal maintenance. Calculations are based on the North Unit Irrigation District rates for Deschutes River water rights. This budget assumes that the crop is irrigated using a 7-foot wheel-line. \$81.00 per acre covers interest and depreciation on the wheel-line.

Labor

Hand labor, irrigation labor, and rogue labor cost \$11.50 per hour, and operator labor costs \$15.00 per hour. All include worker's compensation, social security taxes, and other labor overhead expenses. Labor hours for machinery operation are calculated by multiplying 1.21 times machine hours to allow for machinery setup, movement, and adjustments.

Capital

Opportunity costs of capital are charged at a rate of 8 percent for current, intermediate, and long-term capital provided by the owner.

Operations

The cultural operations are listed in the budget in the approximate order in which they typically are performed.

Table 3 shows the cost of establishment year field operations with owned machinery, and the operations are summarized below. Land preparation includes burning wheat stubble, a fertilizer

application, tillage, and an irrigation set. Kentucky bluegrass seed is planted in August followed by six irrigation sets amounting to 9 acre-inches. Herbicides are applied as necessary and another fertilizer application occurs in October.

In the spring, pesticide applications are made as necessary and the grass field is rolled. Six sets of irrigation are applied and the field is rogued (spot spraying, clipping heads, and hoeing) as necessary. The roguing requires 4 hours of rogue labor. A seed certification inspection in June costs \$3.50 per acre.

The grass is swathed and combined by the owner/operator. Hired labor hauls the seed, utilizing two 2-ton trucks. Seed cleaning costs \$0.10 per pound. Straw is sold in the swath at \$20 per acre.

Table 4 shows the cost of a production year's field operations with owned machinery, and the operations are summarized below. Following harvest, the bluegrass is open field burned. The field then is harrowed and flamed. Fertilizer is applied, and the field is irrigated with approximately 7.5 inches of water in five sets. Pesticides are applied as necessary and another fertilizer application occurs in October.

In the spring, pesticides are applied as necessary, and cultural operations include roguing (spot spraying, clipping heads, and hoeing), and irrigation. The roguing requires 5 hours of rogue labor. A seed certification inspection in June costs \$3.50 per acre.

The grass is swathed and combined by the owner/operator. Hired labor hauls the seed, utilizing two 2-ton trucks. Seed cleaning costs \$0.10 per pound. Straw is sold in the swath at \$20 per acre.

Machinery and Equipment

The machinery complement is sufficient for producing grass seed. A detailed breakdown of machinery values and costs used in this budget is shown in Table 5. The machinery costs are estimated. Fixed costs for machinery and equipment include the cost of interest and depreciation.

Other

A miscellaneous charge of \$30 per acre is included to cover general insurance, tools, office supplies, and other expenses. A pickup and ATV are utilized for hauling supplies, checking irrigation, and other activities related to Kentucky bluegrass seed production.

The total establishment cost of \$1573.70 per acre is partially offset by a first-year harvest of 1,000 lbs. of seed per acre. The remaining \$323.70 must be recovered during the 3 additional production years. At 8 percent interest an annual payment of \$125.61 will repay this amount, plus interest, in three years.

Total variable cost for the establishment year is \$1073.08, and the break-even price over variable costs is \$1.05 per lb. The total of all costs for the establishment year is \$1,573.70, with a break-even price over total costs of \$1.55 per lb.

Total variable cost for a production year is \$929.48, and the break-even price over variable costs is \$0.74 per lb. The total of all costs for the production year is \$1,513.16, with a break-even price over total costs of \$1.21 per lb.

Table 1. Kentucky bluegrass establishment year: Summary of estimated costs per acre.

Item	Unit	Price	Quantity	Amount	Your Farm
		\$		\$	
INCOME					
Peppermint Leaf	Acre	20.00	1.00	20.00	
Kentucky Bluegrass Seed	Pound	1.23	1000.00	1230.00	
TOTAL INCOME				1250.00	
VARIABLE COSTS					
Insecticides	Acre	4.74	1.00	4.74	
Herbicides	Acre	50.69	1.00	50.69	
Fungicides	Acre	45.59	1.00	45.59	
Fertilizer	Acre	143.06	1.00	143.06	
Other	Acre	157.25	1.00	157.25	
Custom Applications	Acre	50.00	1.00	50.00	
Seed	Acre	244.00	1.00	244.00	
Water	Acre	44.03	1.00	44.03	
Hand Labor	Hour	11.50	0.65	7.48	
Irrigation Labor	Hour	11.50	6.50	74.75	
Operator Labor	Hour	15.00	4.62	69.29	
Roguing Labor	Hour	11.50	4.00	46.00	
Diesel Fuel	Gal	2.85	15.96	45.48	
Gasoline	Gal	3.00	4.58	13.73	
Repair & Maintenance	Acre	64.37	1.00	64.37	
Interest on Operating Capital	Acre	12.62	1.00	12.62	
TOTAL VARIABLE COSTS				1073.08	
INCOME ABOVE VARIABLE COSTS				176.92	
FIXED COSTS					
Implements	Acre	2.53	1.00	2.53	
Tractors	Acre	52.01	1.00	52.01	
Self-propelled Equipment	Acre	168.91	1.00	168.91	
Trucks	Acre	13.17	1.00	13.17	
Pickups & Miscellaneous Exp.	Acre	63.00	1.00	63.00	
Land Costs	Acre	120.00	1.00	120.00	
Irrigation Systems	Acre	81.00	1.00	81.00	
TOTAL FIXED COSTS				500.62	
TOTAL OF ALL COSTS				1573.70	
NET INCOME				-323.70	

Table 2. Kentucky bluegrass production year: Summary of estimated costs per acre.

Item	Unit	Price \$	Quantity	Amount \$	Your Farm
INCOME					
Grass Straw	Acre	20.00	1.00	20.00	
Kentucky Bluegrass Seed	Pounds	1.23	1250.00	1537.50	
TOTAL INCOME				1557.50	
VARIABLE COSTS					
Insecticides	Acre	16.08	1.00	16.08	
Herbicides	Acre	79.24	1.00	79.24	
Fungicides	Acre	45.16		45.16	
Fertilizer	Acre	217.65	1.00	217.65	
Other	Acre	203.24	1.00	203.24	
Custom Applications	Acre	60.00	1.00	60.00	
Water	Acre	37.25	1.00	37.25	
Hand Labor	Hour	11.50	0.80	9.20	
Irrigation Labor	Hour	11.50	8.80	101.20	
Operator Labor	Hour	15.00	2.12	31.72	
Roguing Labor	Hour	11.50	5.00	57.50	
Diesel Fuel	Gal	2.85	2.24	6.39	
Gasoline	Gal	3.00	4.48	13.45	
Repair & Maintenance	Acre	42.62	1.00	42.62	
Interest on Operating Capital	Acre	8.78	1.00	8.78	
TOTAL VARIABLE COSTS				929.48	
INCOME ABOVE VARIABLE COSTS				628.02	
FIXED COSTS					
Implements	Acre	2.36	1.00	2.36	
Tractors	Acre	5.84	1.00	5.84	
Self-propelled Equipment	Acre	270.90	1.00	270.90	
Trucks	Acre	5.69	1.00	5.69	
Pickups & Miscellaneous Exp.	Acre	63.00	1.00	63.00	
Land Costs	Acre	120.00	1.00	120.00	
Irrigation Systems	Acre	60.00	1.00	60.00	
Establishment Year	Acre	125.61	1.00	125.61	
TOTAL FIXED COSTS				584.18	
TOTAL OF ALL COSTS				1513.66	
NET INCOME				43.84	

Table 3. Kentucky bluegrass establishment year: Estimated resource use and costs for field operations.

Operation	Perf. Rate	Times Over	Month	Power Unit Cost		Equipment Cost		Labor		Operating Input	Total Cost
	Hours/acre			Variable	Fixed	Variable	Fixed	Hours	\$		
Open Field Burn	---	1	Aug	0.24	0.13	---	---	0.13	1.50	18.71	20.21
Fertilize Field	---	1	Aug	---	---	---	---	---	---	43.36	43.36
Cultimulch Field	0.100	1	Aug	3.63	2.65	0.24	1.17	0.14	2.20	---	9.89
Irrigation	---	1	Aug	---	---	---	---	0.53	6.21	6.86	13.44
Harrow Field	0.080	1	Aug	2.40	2.57	0.18	0.73	0.10	1.60	---	7.48
Grass Planting	2.000	1	Aug	59.95	43.87	---	0.02	2.42	36.30	244.00	384.14
Irrigation	---	6	Aug-Oct	---	---	---	---	3.23	37.26	43.32	80.58
Weed Control	---	1	Aug	---	---	---	---	---	---	20.46	20.46
Weed Control	---	1	Aug	---	---	---	---	---	---	35.35	35.35
Fertilize Field	---	1	Oct	---	---	---	---	---	---	99.60	99.60
Insect Control	---	1	Feb	---	---	---	---	---	---	14.74	14.74
Roll Grass Field	0.100	1	Mar	2.37	2.92	0.11	0.12	0.12	1.82	---	8.19
Weed Control	---	1	Apr	---	---	---	---	---	---	24.88	24.88
Disease Control	---	1	Apr	---	---	---	---	---	---	55.59	55.59
Irrigation	---	1	May-June	---	---	---	---	3.23	37.26	43.32	80.58
Seed Certification	---	1	June	---	---	---	---	---	---	3.50	3.50
Roguing	---	1	June	---	---	---	---	4.00	46.00	---	46.00
Swath Grass Field	0.300	1	July	11.33	30.71	---	---	0.36	5.45	---	47.49
Combine Grass Field	0.500	1	July	39.39	136.47	---	---	0.60	9.07	---	187.07
Seed Cleaning	---	1	Aug	---	---	---	---	---	---	100.00	100.00

Table 4. Kentucky bluegrass production year: Estimated resource use and costs for field operations.

Operation	Perf. Rate	Times Over	Month	Power Unit Cost		Equipment Cost		Labor		Operating Input	Total Cost
	Hours/acre			Variable	Fixed	Variable	Fixed	Hours	\$		
Open Field Burn	---	1	Aug	---	---	---	---	0.36	4.14	18.71	22.85
Harrow Field	0.080	1	Aug	2.18	2.34	0.03	0.12	0.09	1.45	---	6.12
Flame Field	0.160	1	Aug	4.36	4.68	2.02	5.61	0.19	2.90	21.00	40.57
Fertilize Field	---	1	Aug	---	---	---	---	---	---	105.60	105.60
Irrigation	---	1	Aug-Oct	---	---	---	---	4.19	48.30	39.25	87.55
Weed Control	---	1	Sept	---	---	---	---	---	---	39.92	39.92
Fertilize Field	---	1	Oct	---	---	---	---	---	---	112.50	112.50
Weed/Insect Control	---	1	Nov	---	---	---	---	---	---	45.85	45.85
Insect Control	---	1	Feb	---	---	---	---	---	---	19.72	19.72
Disease Control	---	1	Apr	---	---	---	---	---	---	34.96	34.96
Weed Control	---	1	Apr	---	---	---	---	---	---	39.79	39.79
Irrigation	---	1	May-June	---	---	---	---	5.03	57.96	47.10	105.06
Disease Control	---	1	May	---	---	---	---	---	---	30.20	30.20
Roguing	---	2	June	---	---	---	---	5.00	57.50	---	57.50
Seed Certification	---	1	June	---	---	---	---	---	---	3.50	3.50
Swath Grass Field	0.300	1	July	11.33	30.71	---	---	0.36	5.45	---	47.49
Combine Grass Field	0.500	1	July	39.39	136.47	---	---	0.60	9.07	---	187.07
Seed Cleaning	---	1	Aug	---	---	---	---	---	---	125.00	125.00

Table 5. Self-propelled machines, tractors, and implements: Estimated performance rating, useful life, annual use, purchase price, repair cost, fuel consumption rating, and direct and fixed cost per hour and acre.

Item Name	Size	Purchase Price	Annual Use	Useful Life	Fuel Use	Perf. Rate	Variable Cost		Fixed Cost		Total Cost	
		\$	Hours	Years	Gallons/ hour	Hours/ acre	\$/hour	\$/acre	\$/hour	\$/acre	\$/hour	\$/acre
Combine w/ pickup	14 ft	280,000	100	20	7.59	0.500	---	48.46	---	136.47	---	184.93
Swather	12 ft	126,000	120	20	4.04	0.300	---	16.77	---	30.70	---	47.48
ATV	20 hp	6,000	200	10	1.38	0.033	---	0.69	---	0.13	---	0.82
2wd Cab tractor	130 hp	90,000	400	20	6.57	---	44.97	---	21.93	---	66.90	---
2wd tractor	50 hp	40,000	200	20	2.7	---	30.69	---	19.05	---	49.75	---
2wd tractor	80 hp	90,000	300	20	4.3	---	42.25	---	29.24	---	71.49	---
4wd Cab tractor	180 hp	165,000	500	20	9.1	---	54.13	---	32.16	---	86.30	---
Tractor w/ Loader	80 hp	89,000	100	25	1	---	35.65	---	80.93	---	116.58	---
Bedder bar	12 ft	3,500	100	10	---	0.2	---	8.59	---	6.78	---	15.38
Carrot roller	4 row	3,000	20	20	---	0.16	---	5.15	---	5.37	---	10.54
Chisel	10 ft	12,500	100	20	---	0.2	---	10.51	---	6.81	---	17.34
Cultimulcher	12 ft	12,000	100	20	---	0.1	---	5.68	---	3.35	---	9.04
Cultipacker	12 ft	3,000	100	20	---	0.15	---	8.25	---	3.72	---	11.98
Disk	15 ft	26,000	50	20	---	0.1	---	6.5	---	7.25	---	13.76
Drip Tape Installer	4 row	1	1	1	---	0.8	---	33.81	---	24.24	---	58.06
Electric thinner	4 row	3,800	20	10	---	1	---	32.59	---	44.74	---	77.34
Fertilizer sidedress	10 ft	1	100	1	---	0.25	---	10.56	---	7.31	---	17.87
Flail Mower	15 ft	18,000	100	20	---	0.1	---	3.51	---	3.65	---	7.18
Flamer	30 ft	18,000	50	20	---	0.16	---	6.92	---	8.65	---	15.59
Flex harrow	20 ft	10,000	100	25	---	0.08	---	2.87	---	2.24	---	5.12
Land leveler	20 ft	18,000	25	20	---	0.16	---	10.07	---	14.72	---	24.81
Mint planter	16 ft	12,000	20	25	---	0.5	---	37.14	---	41.36	---	78.51
Mint Rake	12 ft	5,000	20	20	---	0.01	---	0.33	---	0.43	---	0.77
Paper roller	10 ft	3,000	20	20	---	0.5	---	16.09	---	16.83	---	32.93
Pasture harrow	12 ft	1,600	100	20	---	0.08	---	3.41	---	2.45	---	5.87
Precision planter	20 ft	9,800	75	20	---	0.2	---	8.02	---	6.35	---	14.37
Roller	20 ft	9,000	200	10	---	0.1	---	4.33	---	3.52	---	7.87
Rolling cultivator	20 ft	6,500	50	20	---	0.25	---	10.88	---	10.47	---	21.36
Row sprayer	12.5 ft	13,000	75	20	---	0.2	---	9.66	---	9.21	---	18.89
Tool bar w/shovels	20 ft	6,500	50	25	---	0.2	---	6.91	---	6.17	---	13.09