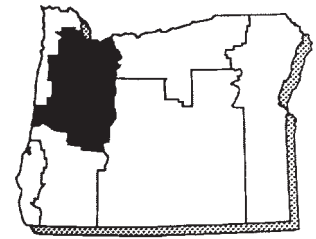


# Enterprise Budget

## Perennial Ryegrass Seed Establishment, North Willamette Valley Region

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**EM 8628, October 1995**

This enterprise budget estimates the typical costs of establishing perennial ryegrass seed production in the northern portion of the Willamette Valley of Oregon. While efforts were made to reflect common practices, it does not represent any particular farm and thus should be used only as a guide to estimating actual costs. The major assumptions used in constructing this budget are discussed below. Assistance provided by area producers is greatly appreciated.

For costs and returns associated with established perennial ryegrass seed production, see *EM 8629, Enterprise Budget: Perennial Ryegrass Seed Production, North Willamette Valley Region*.

### Land and Cropping Pattern

This budget is based on an 800-acre farm with 500 acres in continuous production of perennial ryegrass seed. The budget estimates establishment costs on a 1-acre basis. The established stand is assumed to have a 3-year life including the establishment period.

A land lease charge of \$150 per acre is included to represent the cost of leasing or owning land. Land cost varies depending on specific location and competition for production of alternate crops.

### Labor

Hired labor typically costs approximately \$10 per hour including worker's compensation, FICA, and other payroll expenses. For this study, all labor is treated as owner/operator labor valued at \$10 per hour, and is assumed to be a cash cost. Labor hours are calculated based on machinery hours.

### Capital

Opportunity costs of capital are charged at a rate of 12 percent for current and intermediate capital provided by the owner/operator.

### Machinery and Equipment

The machinery complement is sufficient to farm 800 production acres. A detailed breakdown of machinery values used in this budget is shown in Table 1. January 1995 replacement costs are used, assuming the machinery is half depreciated, with the exception of two of the three farm trucks, which are much older. Equipment cost calculations are shown in Table 2.

### Operations

The budget shows farming operations in the order they typically are performed. Early in the fall, the previous crop is disked twice to chop up the stubble. The field is ripped,

plowed, harrowed, and rolled, and 1.5 tons of lime are applied per acre. At this point, the field is prepared with a roller harrow. Five and one-half pounds of seed are planted per acre in the fall and banded with a charcoal/fertilizer solution. Two pre-emergence sprays are applied for seedling and broadleaf control. Following emergence, a final seedling herbicide is applied for weed control. Slug bait is spread over 10 percent of the land using an ATV and spreader. All tillage operations are performed using either a 100-hp, 2-wheel-drive tractor or a 175-hp, 4-wheel-drive tractor. Herbicides are applied using a spray buggy.

In the spring, ammonium nitrate and urea fertilizer are applied. The field borders are sprayed with herbicide to control weeds. Selective herbicides are applied to control broadleaf weeds. Off-type grasses are controlled by spot spraying. Rust control is provided by applying fungicides.

In the summer, perennial ryegrass is harvested using swathers and combines. Harvested seed is hauled to a commercial warehouse, where it is cleaned and bagged. The custom cleaning and bagging rate includes handling, insurance, tagging fees, seed testing, and the commission assessment.

Following seed harvest, the straw is custom baled and removed at no cost to the grower. The remaining stubble is flail chopped to prepare the field for the following production year.

### Establishment Cost

Perennial ryegrass has a full harvest in the first or seedling year, which is included in this establishment budget. The value of the seedling year harvest is credited against the costs. At an assumed yield of 1,600 lb per acre and a price of \$0.45 per lb, this resulted in a net establishment cost of \$152.80 per acre, which must be recovered during the 2 perennial ryegrass production years. At 12 percent interest, an annual payment of \$90.41 will just repay this amount, with interest, in 2 years. This annual payment is included as a noncash fixed cost in *EM 8629, Perennial Ryegrass Seed Production, North Willamette Valley Region*.

### Results

A numerical search procedure was used to calculate a long-run break-even price for the full production cycle using information from this budget as well as *EM 8629, Perennial Ryegrass Seed Production, North Willamette Valley Region*. A price of \$0.46 per lb was needed to cover all costs of production.



OREGON STATE UNIVERSITY EXTENSION SERVICE

## EM 8628 Enterprise Budget

### ECONOMIC COSTS and RETURNS

#### North Willamette Valley Region

Perennial Ryegrass Seed Establishment, 500 acres (\$/acre)

<u>GROSS INCOME Description</u>	<u>Quantity</u>	<u>Unit</u>	<u>\$/Unit</u>	<u>Total</u>	<u>Your Returns</u>
Certified Seed	1,600.00	lb	0.45	720.00	_____
Total GROSS Income				720.00	_____
<u>VARIABLE COST Description</u>	<u>Labor</u>	<u>Machinery</u>	<u>Materials</u>	<u>Total</u>	<u>Your Cost</u>
<b>ESTABLISHMENT</b>					
Soil Sample	0.00	0.00	0.80	0.80	_____
Test	1 ac x 0.80 = 0.80				_____
Disk (2x)	2.42	3.13	0.00	5.55	_____
Rip	2.42	2.29	0.00	4.71	_____
Disk	1.21	1.56	0.00	2.77	_____
Plow	2.42	3.34	0.00	5.76	_____
Harrow and Roll	0.81	1.16	0.00	1.97	_____
Custom Lime	0.00	0.00	60.00	60.00	_____
Custom	1.5 ac x 40.00 = 60.00				_____
Harrow and Roll	0.81	1.16	0.00	1.97	_____
Plant	2.42	2.22	69.75	74.39	_____
Ryegrass	5.5 lb x 2.50 = 13.75				_____
Charcoal/Fert.	1 ac x 56.00 = 56.00				_____
Seedling Weed Control	0.29	1.23	8.48	10.00	_____
Herbicide	0.19 gal x 42.00 = 7.98				_____
Spray Adjuvant	1 ac x 0.50 = 0.50				_____
Seedling Weed Control	0.29	1.23	11.25	12.77	_____
Herbicide	3 lb x 3.75 = 11.25				_____
Seedling Certification	0.00	0.00	1.00	1.00	_____
Inspection	1 ac x 1.00 = 1.00				_____
Postemerge Weed Control	0.00	0.00	44.50	44.50	_____
Herbicide	3 lb x 155.00 = 38.75				_____
Custom Application	1 ac x 5.75 = 5.75				_____
Slug Control	1.10	0.21	1.08	2.39	_____
Slug Bait (0.1 ac)	1.2 lb x 0.90 = 1.08				_____
Total ESTABLISHMENT				228.57	_____
<b>PREHARVEST</b>					
Fertilize - Spring	0.29	1.46	20.50	22.25	_____
33-0-0-12	0.1 tn x 205.00 = 20.50				_____
Fertilize - Spring	0.29	1.46	19.60	21.35	_____
Urea	0.08 tn x 245.00 = 19.60				_____
Border Spray (0.5x)	0.00	0.00	2.50	2.50	_____
Herbicide & Labor	0.5 ac x 50.00 = 2.50				_____
Broadleaf Weed Control	0.29	1.23	8.07	9.59	_____
Herbicide	0.19 gal x 13.33 = 2.53				_____
Herbicide	0.06 gal x 84.00 = 5.04				_____
Spray Adjuvant	1 ac x 0.50 = 0.50				_____
Rogue Weed (2x)	0.00	0.00	24.00	24.00	_____
Spot Spray	2 ac x 2.00 = 4.00				_____
Labor	2 ac x 10.00 = 20.00				_____
Certification Fee	0.00	0.00	2.00	2.00	_____
Crop Inspection	1 ac x 2.00 = 2.00				_____
Rust Control (3x)	0.86	3.69	42.30	46.86	_____
Fungicide	0.12 gal x 340.00 = 40.80				_____
Spray Adjuvant	3 ac x 0.50 = 1.50				_____
Total PREHARVEST				128.55	_____

## EM 8628 Enterprise Budget

### ECONOMIC COSTS and RETURNS North Willamette Valley Region

Perennial Ryegrass Seed Establishment, 500 acres (\$/acre)

<u>VARIABLE COST Description</u>	<u>Labor</u>	<u>Machinery</u>	<u>Materials</u>	<u>Total</u>	<u>Your Cost</u>
<b>HARVEST</b>					
Swath	2.68	11.32	0.00	14.00	_____
Combine	4.84	16.40	0.00	21.24	_____
Haul Seed	2.32	2.15	0.00	4.46	_____
Clean and Bag (Includes Seed Test, Insurance, etc.)	0.00	0.00	128.00	128.00	_____
Custom Charge     16 cwt x 8.00 = 128.00				_____	_____
<b>Total HARVEST</b>				<b>167.71</b>	_____
<b>POSTHARVEST</b>					
Custom Bale & Haul	0.00	0.00	0.00	0.00	_____
Chain Harrow	0.60	0.49	0.00	1.10	_____
Flail	1.51	1.52	0.00	3.03	_____
<b>Total POSTHARVEST</b>				<b>4.13</b>	_____
<b>MISCELLANEOUS</b>					
Pickup	2.50	0.82	0.00	3.32	_____
Operating Capital Interest	0.00	0.00	48.91	48.91	_____
<b>Total MISCELLANEOUS</b>				<b>52.23</b>	_____
<b>Total VARIABLE COST</b>				<b>581.19</b>	_____
<b>GROSS INCOME minus VARIABLE COST</b>				<b>141.79</b>	_____
<u>FIXED COST Description</u>	<u>Unit</u>	<u>Total</u>	<u>Your Cost</u>		
<b>CASH Cost</b>					
General Overhead	acre	45.00	_____		
Liability Insurance	acre	10.00	_____		
Machinery & Equipment Insurance	acre	6.49	_____		
Land Lease	acre	150.00	_____		
<b>Total CASH Cost</b>		<b>211.49</b>	_____		
<b>NONCASH Cost</b>					
Machinery & Equipment-Depreciation & Interest	acre	80.11	_____		
<b>Total NONCASH Cost</b>		<b>80.11</b>	_____		
<b>Total FIXED Cost</b>		<b>291.60</b>	_____		
<b>Total of ALL Cost</b>		<b>872.80</b>	_____		
<b>NET PROJECTED RETURNS</b>				<b>-152.80</b>	_____
Long-run Break-even Price, Total Cost		\$0.46 per lb	_____		

## EM 8628 Enterprise Budget

**Table 1. Machinery Cost Assumptions**

Machine	Size	List Price	Current	Salvage Value	Useful Life	Remaining Life	Annual Use on Enterprise	Total Annual Use
			Market Value					
Tractor	100 hp	\$55,000	\$33,000	\$11,000	6,000 hr	3,600 hr	206 hr	400 hr
Tractor	175 hp	100,000	60,000	20,000	6,000 hr	3,600 hr	458 hr	500 hr
ATV		4,000	2,400	800	2,000 hr	1,200 hr	50 hr	100 hr
Combine (2)	8,820	140,000	84,000	28,000	3,000 hr	1,800 hr	100 hr	200 hr
Spray Buggy		60,000	36,000	12,000	10,000 hr	6,000 hr	95 hr	250 hr
Swather (2)	8,400	56,000	33,600	11,200	2,000 hr	1,200 hr	56 hr	100 hr
Chain Harrow	18 ft	1,500	900	300	1,200 hr	720 hr	25 hr	100 hr
Disk	18 ft	18,000	10,800	3,600	2,000 hr	1,200 hr	150 hr	150 hr
Drill	13 ft	10,000	6,000	2,000	1,200 hr	720 hr	100 hr	100 hr
Flail	14 ft	17,500	10,500	3,500	2,000 hr	1,200 hr	63 hr	200 hr
Moldboard Plow	6-bottom	13,000	7,800	2,600	2,000 hr	1,200 hr	100 hr	150 hr
Roller-Harrow	21 ft	18,500	11,100	3,700	2,000 hr	1,200 hr	67 hr	250 hr
V-Ripper	12 ft	4,800	2,880	960	1,200 hr	720 hr	100 hr	100 hr
Spreader (Slug bait)		750	450	150	2,000 hr	1,200 hr	50 hr	50 hr
Pickup	3/4 ton	22,000	13,200	4,400	100,000 mi	60,000 mi	5,000 mi	15,000 mi
Truck 1	2 ton	27,000	16,200	5,400	100,000 mi	60,000 mi	3,125 mi	5,000 mi
Used Truck	2 ton	10,000	6,000	2,000	100,000 mi	20,000 mi	1,250 mi	2,000 mi
Used Truck	2 ton	7,500	4,500	1,500	100,000 mi	10,000 mi	1,250 mi	2,000 mi

**Table 2. Machinery Cost Calculations**

Machine	Size	Costs per Hour or Mile					Hours or Miles per Acre	Costs per Acre		
		Variable		Fixed		Total Cost		Variable	Fixed	Total
		Fuel & Lube	Repair & Maint.	Depr. & Interest	Insurance					
Tractor	100 hp	\$4.57	\$2.00	\$11.57	\$0.83	\$18.97	0.41 hr	\$2.71	\$5.11	\$7.82
Tractor	175 hp	9.14	1.59	18.62	1.20	30.54	0.92 hr	9.83	18.16	27.99
ATV		0.69	0.01	6.95	0.48	8.14	0.10 hr	0.07	0.74	0.81
Combine (2)	8,820	11.86	29.12	65.05	4.20	110.23	0.20 hr	8.20	13.85	22.05
Spray Buggy		9.49	42.22	19.45	1.44	72.60	0.19 hr	9.85	3.98	13.82
Swather (2)	8,400	11.86	39.08	45.16	3.36	99.46	0.11 hr	5.66	5.39	11.05
Chain Harrow	18 ft	0.00	0.26	1.33	0.09	1.67	0.05 hr	0.01	0.07	0.08
Disk	18 ft	0.00	5.02	9.49	0.72	15.22	0.30 hr	1.50	3.06	4.57
Drill	13 ft	0.00	3.39	8.03	0.06	12.02	0.20 hr	0.68	1.73	2.40
Flail	14 ft	0.00	2.52	5.65	0.38	8.54	0.13 hr	0.31	0.75	1.07
Moldboard Plow	6-bottom	0.00	6.10	6.64	0.52	13.26	0.20 hr	1.22	1.43	2.65
Roller-Harrow	21 ft	0.00	6.77	6.73	0.44	13.94	0.13 hr	0.90	0.96	1.86
V-Ripper	12 ft	0.00	0.83	4.24	0.29	5.35	0.20 hr	0.17	0.91	1.07
Spreader (Slug bait)		0.00	1.40	1.36	0.09	2.85	0.10 hr	0.14	0.15	0.29
Pickup	3/4 ton	0.07	0.02	0.27	0.04	0.39	10.00 mi	0.82	3.12	3.94
Truck 1	2 ton	0.12	0.12	0.59	0.07	0.89	6.25 mi	1.46	4.13	5.58
Used Truck	2 ton	0.12	0.12	0.59	0.17	0.99	2.50 mi	0.58	1.89	2.47
Used Truck	2 ton	0.12	0.12	0.61	0.17	1.01	2.50 mi	0.58	1.95	2.53
<b>Total</b>								<b>\$58.51</b>	<b>\$86.61</b>	<b>\$145.12</b>

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