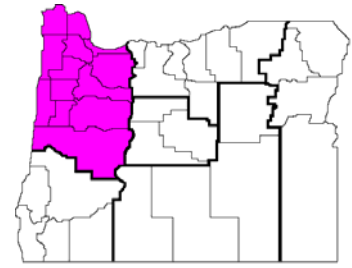


Enterprise Budget

Red Clover Seed, Establishment and Production Willamette Valley Region

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This enterprise budget estimates the typical costs of establishing and producing red clover seed in the Willamette Valley of Oregon. Red clover is a perennial forage seed crop that can be produced with the machinery and equipment typically used by grass seed and grain producers. While efforts were made to reflect common practices, this budget does not represent any particular farm and thus should be used only as a guide to estimating actual costs. Assistance provided by area producers is greatly appreciated.

Several Willamette Valley seed, grain and forage budgets were estimated as a group and are presented in a similar, consistent format. Table 1 shows the summary returns and cost information, with inputs grouped by various categories. For perennials, this is divided into two sub-tables, A for the establishment year and B for all subsequent full production years. Table 2, again divided into A and B sections if the crop is perennial, shows itemized details about the cultural operations performed, and their costs, in a chronological sequence. Table 3, again divided into A and B sections, shows break-even prices and net returns around the assumed price and yield for the crop. Red clover, as well as white clover, are somewhat unique amongst Oregon perennial crops in that they produce a crop during the establishment year and are typically only harvested twice, so the full production budget (i.e., the B tables) only represents one year and is therefore labeled as year 2 production. In most other perennial budgets, several years are represented by these tables.

Land and Cropping Pattern

This budget is based on a farm with 1200 acres in continuous production of grass seeds or related, similar crops such as small grains, oil seeds and forage seeds. The budget estimates establishment costs on a per-acre basis. The established stand is assumed to have a 2-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 and Capital

Hired labor typically costs approximately \$16 per hour including worker's compensation, FICA, and other payroll expenses. For this study, all labor is treated as owner/operator labor valued at \$16 per hour, and is assumed to be a cash cost. For mechanized operations, labor hours are calculated based on machinery hours. Opportunity costs of capital are charged at a rate of 10 percent for current and intermediate capital provided by the owner/operator.

Machinery and Equipment

The machinery complement is sufficient to farm 1200 production acres. Late 2010 replacement costs

are used, assuming the machinery is half depreciated. Table 4 (subdivided into A, B, C and D sections) shows the cost of operating owned machinery in the cultural practices used in this and several related Willamette Valley seed, grain and forage budgets. Your machinery costs may differ.

Cultural Practices

The budget shows farming operations in the order they typically are performed. See Tables 2.A and 2.B, respectively, for details of operations in the establishment and first year production, and second production years.

Establishment Cost

Red clover has a full harvest in the first or seedling year, but since the fertilizer and herbicide costs associated with this harvest are different than those in post-seedling production years, this first harvest was included in the establishment budget. The value of the seedling year harvest is credited against the costs. The net return from the establishment year is amortized, with interest included, as an annual fixed cost in the full production year budget which is assumed to represent a stand life of only one year. In the event that net return in the establishment year is positive, the amortized net establishment cost would be a negative cost in the production year budget. This, in fact, occurs in this budget at the assumed prices and yields.

Results

Tables 1.A and 1.B show the costs and returns for establishment and first year production and second year production, respectively. The field operations and their costs are detailed in Tables 2.A and 2.B. The break-even price needed to cover the total cost of production is given in Tables 3.A and B. The break-even price is given at the top of the middle column. Please note that at the break-even price, returns over total costs at the assumed (100%) budget yield are zero—by definition all costs would be covered. Since there is a harvest in the establishment year, this Table 3.B requires an assumption that yields and prices do not vary from the assumed budget price in the establishment year. The break even price shown in Table 3.A is the price that would cover all establishment costs during the first, or establishment year. Obviously, higher or lower prices or yields affect the establishment cost that must be amortized in the second production year. Table 3 also shows the sensitivity of returns over variable (or operating costs) and returns over total costs (net profit) as either prices or crop yields are varied. If the assumed prices and yields are taken as given during the establishment year, then the break even price for the second production year is \$0.86 per pound. The price needed to break even during the first, or establishment, year is \$1.28 per pound. To simplify, if we just lump both years together, ignore the interest cost of amortization and treat the secondary product as a reduction to costs, the break even price over both years would be \$1.16 per pound.

Table 1.A Estimated costs and returns per acre
 Red Clover Seed, Establishment & 1st Year Production
 Willamette Valley, 2010

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
INCOME					
Cert Red Clover Seed	lb	1.40	600.0000	840.00	_____
Green Chop	ton	10.00	9.0000	90.00	_____

TOTAL INCOME				930.00	_____
DIRECT EXPENSES					
CHEM--FERTILIZER					
Boron	lb	0.43	1.0000	0.44	_____
21-0-0-24	lb	0.15	42.0000	6.30	_____
11-52-0	lb	0.24	77.0000	18.48	_____
0-0-60 LB	lb	0.33	67.0000	22.11	_____
MISC BUS EXP					
Misc. business exp	acre	30.00	1.0000	30.00	_____
FEES, FLAT RATE					
Field Registration	acre	1.00	1.0000	1.00	_____
Seedling Inspection	acre	1.00	1.0000	1.00	_____
Seed Crop Inspection	acre	3.00	1.0000	3.00	_____
CUSTOM, FLAT RATE					
Grid Sample	ac.	1.30	1.0000	1.30	_____
Lime	ton	56.00	1.5000	84.00	_____
Rodent Control RC	acre	5.00	1.0000	5.00	_____
Bee Pollination	hives	40.00	2.0000	80.00	_____
CHEM--HERBICIDE					
Kerb	lb.	39.00	1.5000	58.50	_____
MCPA Amine	gal	18.00	0.0625	1.13	_____
Basagran	gal	91.00	0.0156	1.42	_____
Raptor	gal	500.00	0.0048	2.44	_____
CHEM--INSECTICIDE					
Capture	gal.	271.00	0.1250	33.88	_____
SEEDS & PLANTS					
Red Clover Seed	lb	3.00	7.5000	22.50	_____
CUSTOM, YIELD PROP.					
Seed Cleaning RC	lb	0.08	600.0000	48.00	_____
Bag Clover Seed	lb.	0.02	600.0000	12.00	_____
CHEM--PESTICIDE					
Slug Bait	lb	1.48	12.0000	17.76	_____
FEES, PROPORTIONAL					
Commission Assess RC	cwt	0.70	6.0000	4.20	_____
Seed Test Clover	cwt	0.15	6.0000	0.90	_____
Operator Labor					
Self-Propelled	hour	8.65	0.2104	1.82	_____
Machinery Labor					
Tractors	hour	16.00	0.6775	10.84	_____
Self-Propelled	hour	16.00	0.4141	6.63	_____
Pickup	hour	16.00	0.1150	1.84	_____
Truck w/ Tank	hour	16.00	0.0492	0.79	_____
Harvest Truck	hour	16.00	0.0164	0.26	_____
DIESEL FUEL					
Tractors	gal	3.00	7.6573	22.97	_____
Self-Propelled	gal	3.00	4.2512	12.75	_____
Pickup	gal	3.00	0.5000	1.50	_____
Truck w/ Tank	gal	3.00	0.1499	0.45	_____
Harvest Truck	gal	3.00	0.0499	0.15	_____
REPAIR & MAINTENANCE					

Implements	acre	4.43	1.0000	4.43	_____
Tractors	acre	9.69	1.0000	9.69	_____
Self-Propelled	acre	23.58	1.0000	23.58	_____
Pickup	mile	0.16	5.0000	0.83	_____
Truck w/ Tank	mile	1.20	1.5000	1.80	_____
Harvest Truck	mile	1.50	0.5000	0.75	_____
INTEREST ON OP. CAP.	acre	25.99	1.0000	25.99	_____

TOTAL DIRECT EXPENSES				582.43	_____
RETURNS ABOVE DIRECT EXPENSES				347.57	_____
FIXED EXPENSES					
Implements	acre	10.76	1.0000	10.76	_____
Tractors	acre	27.58	1.0000	27.58	_____
Self-Propelled	acre	62.48	1.0000	62.48	_____
Pickup	each	6721.63	0.0008	5.60	_____
Truck w/ Tank	each	5407.06	0.0008	4.51	_____
Harvest Truck	each	4505.88	0.0008	3.75	_____
Mach/Equip Ins, Hi	each	6.95	1.0000	13.90	_____
Land Rent NV Clover	each	149.99	1.0000	150.00	_____

TOTAL FIXED EXPENSES				278.58	_____

TOTAL SPECIFIED EXPENSES				861.01	_____
RETURNS ABOVE TOTAL SPECIFIED EXPENSES				68.99	_____

Table 1.B Estimated costs and returns per acre
 Red Clover, Year 2 Production
 Willamette Valley, 2010

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
INCOME					
Cert Red Clover Seed	lb	1.40	500.0000	700.00	_____
Green Chop	ton	10.00	8.0000	80.00	_____

TOTAL INCOME				780.00	_____
DIRECT EXPENSES					
CHEM--FERTILIZER					
Boron	lb	0.43	1.5000	0.66	_____
10-20-20 LB	lb	0.26	250.0000	65.00	_____
MISC BUS EXP					
Misc. business exp	acre	30.00	1.0000	30.00	_____
FEES, FLAT RATE					
Seed Crop Inspection	acre	3.00	1.0000	3.00	_____
CUSTOM, FLAT RATE					
Rodent Control	acre	3.00	1.0000	3.00	_____
Bee Pollination	hives	40.00	2.0000	80.00	_____
CHEM--HERBICIDE					
Goal	gal	82.75	0.0234	1.94	_____
MCPA Amine	gal	18.00	0.1250	2.25	_____
Diuron	lb	4.50	1.0000	4.50	_____
Basagran	gal	91.00	0.0156	1.42	_____
Raptor	gal	500.00	0.0048	2.44	_____
CHEM--INSECTICIDE					
Capture	gal.	271.00	0.1250	33.88	_____
CUSTOM, YIELD PROP.					
Seed Cleaning RC	lb	0.08	500.0000	40.00	_____
Bag Clover Seed	lb.	0.02	500.0000	10.00	_____
CHEM--PESTICIDE					
Slug Bait	lb	1.48	3.0000	4.44	_____
FEES, PROPORTIONAL					
Commission Assess RC	cwt	0.70	5.0000	3.50	_____
Seed Test Pur/Ger CL	cwt	0.15	5.0000	0.75	_____
Operator Labor					
Self-Propelled	hour	8.65	0.2104	1.82	_____
Machinery Labor					
Self-Propelled	hour	16.00	0.3871	6.20	_____
Pickup	hour	16.00	0.1150	1.84	_____
Truck w/ Tank	hour	16.00	0.0492	0.79	_____
Harvest Truck	hour	16.00	0.0164	0.26	_____
DIESEL FUEL					
Self-Propelled	gal	3.00	4.0984	12.29	_____
Pickup	gal	3.00	0.5000	1.50	_____
Truck w/ Tank	gal	3.00	0.1499	0.45	_____
Harvest Truck	gal	3.00	0.0499	0.15	_____
REPAIR & MAINTENANCE					
Self-Propelled	acre	23.32	1.0000	23.32	_____
Pickup	mile	0.16	5.0000	0.83	_____
Truck w/ Tank	mile	1.20	1.5000	1.80	_____
Harvest Truck	mile	1.50	0.5000	0.75	_____
INTEREST ON OP. CAP.	acre	11.73	1.0000	11.73	_____

TOTAL DIRECT EXPENSES				350.51	_____
RETURNS ABOVE DIRECT EXPENSES				429.49	_____

FIXED EXPENSES					
Self-Propelled	acre	61.89	1.0000	61.89	_____
Pickup	each	6721.63	0.0008	5.60	_____
Truck w/ Tank	each	5407.06	0.0008	4.51	_____
Harvest Truck	each	4505.88	0.0008	3.75	_____
Mach/Equip Ins, Hi	each	6.95	1.0000	13.90	_____
Land Rent NV Clover	each	149.99	1.0000	150.00	_____
AMORT. EST. COST	acre	-75.89	1.0000	-75.89	_____

TOTAL FIXED EXPENSES				163.76	_____

TOTAL SPECIFIED EXPENSES				514.27	_____
RETURNS ABOVE TOTAL SPECIFIED EXPENSES				265.73	_____

Table 2.A Estimated resource use and costs for field operations, per acre
 Red Clover Seed, Establishment & 1st Year Production
 Willamette Valley, 2010

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST		EQUIPMENT COST		ALLOC LABOR		OPERATING/DURABLE INPUT			TOTAL COST
						DIRECT	FIXED	DIRECT	FIXED	HOURS	COST	AMOUNT	PRICE	COST	
						-----dollars-----				dollars		-----dollars-----			
SOIL SAMPLE				1.00	Oct										
Grid Sample	ac.											1.0000	1.30	1.30	1.30
PLOW				1.00	Oct										
Moldboard Plow	6 bottom	215	0.196			14.91	14.78	1.77	2.66	0.22	3.61				37.73
LAND LEVEL				1.00	Oct										
Land Leveler	24 ft	180	0.114			6.01	3.73	0.79	4.25	0.13	2.11				16.89
LIME				1.00	Oct										
Lime	ton											1.5000	56.00	84.00	84.00
CULTIPACK & HARROW				1.00	Oct										
Cultipacker	20 ft.	180	0.138			5.38	4.52	0.55	1.04	0.15	2.55				14.04
Harrow	20 ft		0.138					0.36	0.89						1.25
PLANT				1.00	Oct										
Drill	13 ft	180	0.139			6.36	4.55	0.96	1.92	0.16	2.57				16.36
Red Clover Seed	lb											7.5000	3.00	22.50	22.50
SLUG CONTROL				1.00	Nov										
Fertilizer Buggy	30		0.047			1.44	1.18			0.05	0.86				3.48
Slug Bait	lb											12.0000	1.48	17.76	17.76
WINTER BROADLEAF CTL				1.00	Dec										
Spray Bug60 7 mph	60'		0.030			1.22	1.93			0.03	0.56				3.71
Kerb	lb.											1.5000	39.00	58.50	58.50
MCPA Amine	gal											0.0625	18.00	1.13	1.13
WINTER FERTILIZER				1.00	Feb										
Fertilizer Buggy	20		0.070			1.79	1.41			0.08	1.30				4.50
Boron	lb											1.0000	0.43	0.44	0.44
21-0-0-24	lb											42.0000	0.15	6.30	6.30
11-52-0	lb											77.0000	0.24	18.48	18.48
0-0-60 LB	lb											67.0000	0.33	22.11	22.11
RODENT CONTROL				1.00	Feb										
Rodent Control RC	acre											1.0000	5.00	5.00	5.00
SPRING BROADLEAF CTL				0.25	Apr										
Spray Bug60 7 mph	60'		0.030			0.31	0.48			0.00	0.14				0.93
Basagran	gal											0.0156	91.00	1.42	1.42
Raptor	gal											0.0048	500.00	2.44	2.44
BLOOM SPRAY				1.00	Apr										
Spray Bug60 7 mph	60'		0.030			1.22	1.93			0.03	0.56				3.71
Capture	gal.											0.1250	271.00	33.88	33.88
BEE POLLINATION				1.00	May										
Bee Pollination	hives											2.0000	40.00	80.00	80.00
SWATH				1.00	Jun										
Swather	15'		0.174			6.36	8.13			0.20	3.21				17.70
COMBINE				1.00	Jul										
Combine 300 slow	300 hp		0.210			23.99	47.42			0.21	1.82				73.23
CLEAN & BAG SEED				1.00	Jul										
Seed Cleaning RC	lb											600.0000	0.08	48.00	48.00
Bag Clover Seed	lb.											600.0000	0.02	12.00	12.00
MISCELLANEOUS				1.00	Jul										
Misc. business exp	acre											1.0000	30.00	30.00	30.00
FEES, CERT/TEST/INSP				1.00	Jul										

Field Registration	acre							1.0000	1.00	1.00	1.00		
Seedling Inspection	acre							1.0000	1.00	1.00	1.00		
Seed Crop Inspection	acre							1.0000	3.00	3.00	3.00		
Commission Assess RC	cwt							6.0000	0.70	4.20	4.20		
Seed Test Clover	cwt							6.0000	0.15	0.90	0.90		
Truck w/ Tank	each	1.00	Jul				4.51	0.0008			4.51		
Application 1	mile					2.25		0.04	0.79		3.04		
Pickup	each	1.00	Jul				5.60	0.0008			5.60		
Application 1	mile					2.33		0.11	1.84		4.17		
Land Rent NV Clover	each	1.00	Jul				150.00	1.0000			150.00		
Harvest Truck	each	1.00	Jul				3.75	0.0008			3.75		
HAUL SEED	mile					0.90		0.01	0.26		1.16		
Mach/Equip Ins, Hi	each	1.00	Jul				6.95	1.0000			6.95		
Mach/Equip Ins, Hi	each	1.00	Jul				6.95	1.0000			6.95		
TOTALS						68.99	90.06	9.91	188.52	1.48	22.18	455.36	835.02
INTEREST ON OPERATING CAPITAL													25.99
UNALLOCATED LABOR													0.00
TOTAL SPECIFIED COST													861.01

Table 2.B Estimated resource use and costs for field operations, per acre
 Red Clover, Year 2 Production
 Willamette Valley, 2010

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST		EQUIPMENT COST		ALLOC LABOR		OPERATING/DURABLE INPUT			TOTAL COST
						DIRECT	FIXED	DIRECT	FIXED	HOURS	COST	AMOUNT	PRICE	COST	
						-----dollars-----				dollars		-----dollars-----			
SLUG CONTROL				0.50	Oct										
Fertilizer Buggy	30		0.047			0.72	0.59			0.02	0.43				1.74
Slug Bait	lb											3.0000	1.48	4.44	4.44
WINTER BROADLEAF CTL				1.00	Dec										
Spray Bug60 7 mph	60'		0.030			1.22	1.93			0.03	0.56				3.71
Goal	gal											0.0234	82.75	1.94	1.94
MCPA Amine	gal											0.1250	18.00	2.25	2.25
Diuron	lb											1.0000	4.50	4.50	4.50
WINTER FERTILIZER				1.00	Feb										
Fertilizer Buggy	20		0.070			1.79	1.41			0.08	1.30				4.50
Boron	lb											1.5000	0.43	0.66	0.66
10-20-20 LB	lb											250.0000	0.26	65.00	65.00
RODENT CONTROL				1.00	Feb										
Rodent Control	acre											1.0000	3.00	3.00	3.00
SPRING BROADLEAF CTL				0.25	Apr										
Spray Bug60 7 mph	60'		0.030			0.31	0.48			0.00	0.14				0.93
Basagran	gal											0.0156	91.00	1.42	1.42
Raptor	gal											0.0048	500.00	2.44	2.44
BLOOM SPRAY				1.00	May										
Spray Bug60 7 mph	60'		0.030			1.22	1.93			0.03	0.56				3.71
Capture	gal.											0.1250	271.00	33.88	33.88
BEE POLLINATION				1.00	May										
Bee Pollination	hives											2.0000	40.00	80.00	80.00
SWATH				1.00	Jul										
Swather	15'		0.174			6.36	8.13			0.20	3.21				17.70
COMBINE				1.00	Jul										
Combine 300 slow	300 hp		0.210			23.99	47.42			0.21	1.82				73.23
MISCELLANEOUS				1.00	Jul										
Misc. business exp	acre											1.0000	30.00	30.00	30.00
CLEAN & BAG SEED				1.00	Jul										
Seed Cleaning RC	lb											500.0000	0.08	40.00	40.00
Bag Clover Seed	lb.											500.0000	0.02	10.00	10.00
FEES, CERT/TEST/INSP				1.00	Jul										
Seed Crop Inspection	acre											1.0000	3.00	3.00	3.00
Commission Assess RC	cwt											5.0000	0.70	3.50	3.50
Seed Test Pur/Ger CL	cwt											5.0000	0.15	0.75	0.75
Truck w/ Tank	each			1.00	Jul				4.51			0.0008			4.51
Application 1	mile									2.25	0.79	1.5000			3.04
Pickup	each			1.00	Jul				5.60			0.0008			5.60
Application 1	mile									2.33	1.84	5.0000			4.17
Land Rent NV Clover	each			1.00	Jul				150.00			1.0000			150.00
Harvest Truck	each			1.00	Jul				3.75			0.0008			3.75
HAUL SEED	mile									0.90	0.26	0.5000			1.16
Mach/Equip Ins, Hi	each			1.00	Jul				6.95			1.0000			6.95
Mach/Equip Ins, Hi	each			1.00	Jul				6.95			1.0000			6.95
AMORT. EST. COST	acre				Jul							1.0000			-75.89
TOTALS						35.61	61.89	5.48	177.76	0.77	10.91			286.78	502.54

INTEREST ON OPERATING CAPITAL	11.73
UNALLOCATED LABOR	0.00
TOTAL SPECIFIED COST	514.27

Table 3.A Breakeven price above total expenses and net returns for price/yield combinations, per acre
 Red Clover Seed, Establishment & 1st Year Production
 Willamette Valley, 2010

			-----BREAKEVEN PRICE-----										
Cert Red Clover Seed			0.91	0.96	1.02	1.09	1.18	1.28 ³	1.40	1.56	1.76	2.02	2.40
PERCENT	YIELD	UNIT	-----dollars-----										
50	300.00	lb	-168 ¹ -446 ²	-152 -430	-133 -412	-112 -391	-87 -365	-56 -335	-19 -297	27 -251	87 -191	166 -111	278 0
60	360.00	lb	-123 -402	-104 -383	-82 -360	-56 -335	-26 -304	10 -268	55 -223	110 -167	182 -95	278 0	412 134
70	420.00	lb	-78 -357	-56 -335	-30 -309	-0 -279	34 -243	77 -201	129 -148	194 -83	278 0	390 111	546 268
80	480.00	lb	-34 -312	-8 -287	20 -257	55 -223	95 -182	144 -134	204 -74	278 0	374 95	502 223	680 402
90	540.00	lb	10 -268	39 -239	72 -206	110 -167	156 -121	211 -67	278 0	362 83	470 191	613 335	814 536
100	600.00	lb	55 -223	87 -191	123 -154	166 -111	217 -60	278 0	353 74	446 167	565 287	725 446	948 670
110	660.00	lb	99 -178	134 -143	175 -103	222 -55	278 0	345 67	427 148	529 251	661 383	837 558	1083 804
120	720.00	lb	144 -134	182 -95	227 -51	278 0	339 60	412 134	502 223	613 335	757 478	948 670	1217 938
130	780.00	lb	189 -89	230 -47	278 0	334 55	400 121	479 201	576 297	697 418	853 574	1060 782	1351 1072
140	840.00	lb	233 -44	278 0	330 51	390 111	461 182	546 268	650 372	781 502	948 670	1172 893	1485 1206
150	900.00	lb	278 0	326 47	381 103	446 167	522 243	613 335	725 446	865 586	1044 766	1284 1005	1619 1340

¹The top number in each cell is Returns Above Direct Expenses.

²The bottom number in each cell is Returns Above Total Specified Expenses.

³ For the establishment year, the break even price is what is needed to recover costs during the establishment year. Only the product listed has been varied to calculate net returns.

Table 3.B Breakeven price above total expenses and net returns for price/yield combinations, per acre
 Red Clover, Year 2 Production
 Willamette Valley, 2010

			-----BREAKEVEN PRICE-----										
Cert Red Clover Seed			0.63	0.67	0.70	0.75	0.80	0.86 ³	0.94	1.04	1.16	1.32	1.55
PERCENT	YIELD	UNIT	-----dollars-----										
50	250.00	lb	-65 ¹	-57	-47	-36	-23	-8	10	34	65	106	163
			-229 ²	-221	-211	-200	-187	-172	-152	-129	-98	-57	0
60	300.00	lb	-42	-32	-21	-8	7	26	49	77	114	163	232
			-206	-196	-185	-172	-156	-137	-114	-86	-49	0	68
70	350.00	lb	-19	-8	4	20	38	60	87	120	163	221	301
			-183	-172	-158	-143	-125	-103	-76	-43	0	57	137
80	400.00	lb	3	16	31	49	69	94	125	163	212	278	370
			-160	-147	-132	-114	-93	-68	-38	0	49	114	206
90	450.00	lb	26	40	57	77	101	129	163	206	262	335	439
			-137	-122	-105	-86	-62	-34	0	43	98	172	275
100	500.00	lb	49	65	84	106	132	163	201	249	311	393	507
			-114	-98	-79	-57	-31	0	38	86	147	229	344
110	550.00	lb	72	90	110	135	163	198	240	292	360	450	576
			-91	-73	-52	-28	0	34	76	129	196	286	412
120	600.00	lb	94	114	137	163	195	232	278	335	409	507	645
			-68	-49	-26	0	31	68	114	172	245	344	481
130	650.00	lb	117	139	163	192	226	266	316	378	458	565	714
			-45	-24	0	28	62	103	152	215	294	401	550
140	700.00	lb	140	163	190	221	257	301	354	421	507	622	783
			-22	0	26	57	93	137	191	258	344	458	619
150	750.00	lb	163	188	216	249	288	335	393	464	557	679	851
			0	24	52	86	125	172	229	301	393	516	688

¹The top number in each cell is Returns Above Direct Expenses.

²The bottom number in each cell is Returns Above Total Specified Expenses.

³For the production year, the break even price is what is needed to recover costs during the second year, with the price during the establishment year being what was assumed in the base budgets. Only the product listed has been varied to calculate net returns.

Table 4.A Tractors/Harvesters: estimated purchase price, annual use, useful life, fuel use, and direct and fixed cost per hour, 2010

Item Name	Size	Purchase	Annual	Useful	Fuel	Labor	Fuel	R&M	Total	Fixed	Total
		Price	Use	Life	Use				Direct	Cost	
		dollars	hours	years	gal/hr	-----\$/hour-----					
Tractor 130	130	95,700	400	20	6.57	16.00	19.73	11.96	47.69	27.26	74.96
Tractor 140	140	121,000	500	20	6.50	16.00	19.50	12.10	47.60	27.58	75.18
Tractor 160	160	113,000	470	20	11.00	16.00	33.00	9.61	58.61	27.40	86.01
Tractor 180 Oper.	180	143,000	500	20	9.10	16.00	27.32	11.44	54.76	32.59	87.35
Tractor 200	200	154,000	550	20	10.12	16.00	30.36	11.20	57.56	31.91	89.47
Tractor 215	215	165,000	250	20	11.00	16.00	33.00	26.40	75.40	75.21	150.61
Tractor 250	250	220,000	250	20	11.00	16.00	33.00	35.20	84.20	100.29	184.49
Tractor 310	310	231,000	500	20	15.68	16.00	47.05	18.48	81.53	52.65	134.19

Notes:

Labor: Includes allocated labor from power unit.

Total Direct: Does not include interest on operating capital.

Table 4.B Self-propelled machines: estimated purchase price, annual use, useful life, fuel use, performance rate, and direct and fixed cost per acre, 2010

Item Name	Size	Purchase	Annual	Useful	Fuel	Perf	Labor	Fuel	R&M	Total	Fixed	Total
		Price	Use	Life	Use	Rate				Direct	Cost	
		dollars	hours	years	gal/hr	hr/ac	-----\$/acre-----					
ATV	20 hp	5,600	200	10	1.38	0.050	0.92	0.20	0.14	1.26	0.21	1.47
Combine 300	300 hp	300,000	200	10	8.00	0.168	1.67	4.04	15.15	20.86	37.93	58.80
Combine 300 slow	300 hp	300,000	200	10	8.00	0.210	1.82	5.05	18.94	25.81	47.41	73.22
Fertilizer Buggy	20	35,000	200	20	5.52	0.070	1.29	1.16	0.61	3.08	1.40	4.48
Fertilizer Buggy	30	44,000	200	20	6.50	0.047	0.86	0.91	0.51	2.29	1.17	3.47
Fertilizer Buggy OB	80	35,000	200	20	5.52	0.056	1.03	0.92	0.49	2.44	1.11	3.56
Spray Bug100 7mph	100'	190,000	300	20	8.00	0.014	0.14	0.35	0.32	0.82	1.06	1.88
Spray Bug40 4mph	40'	60,000	250	20	7.00	0.079	1.45	1.66	0.66	3.79	2.16	5.96
Spray Bug60 10mph	60'	140,000	250	20	7.00	0.021	0.38	0.44	0.41	1.24	1.34	2.59
Spray Bug60 7 mph	60'	140,000	250	20	7.00	0.030	0.55	0.63	0.59	1.78	1.92	3.71
Spray Bug80 7 mph	80'	163,000	300	20	5.52	0.021	0.38	0.34	0.40	1.13	1.30	2.43
Swather	15'	62,000	200	10	8.00	0.174	3.21	4.19	2.16	9.56	8.12	17.69

Notes:

Labor: includes allocated labor plus any additional labor from self-propelled machine.

Direct: Does not include interest on operating capital.

Table 4.C Implements: estimated purchase price, annual use, useful life, performance rate, and direct and fixed cost per acre, 2010

Item Name	Size	Power Unit	Purchase Price	Annual Use	Useful Life	Perf Rate	Labor	Fuel	---R&M---		Total Direct	--Fixed--		Total Cost
									Imp.	P.U.		Imp.	P.U.	
			dollars	hours	years	hr/ac	-----\$/acre-----							
3-Point Blade	10 ft	140	3,500	100	20	0.050	0.80	0.97	0.00	0.60	2.38	0.19	1.37	3.96
Chisel Plow	21 ft	310	20,000	100	20	0.143	2.28	6.73	1.07	2.64	12.73	3.26	7.53	23.53
Cultimulcher	12 ft	140	7,000	150	10	0.140	2.24	2.73	0.13	1.69	6.79	0.98	3.86	11.63
Cultipacker	20 ft.	180	10,000	200	10	0.097	1.55	2.65	0.38	1.11	5.70	0.72	3.16	9.59
Disk	20	215	28,000	200	10	0.097	1.55	3.20	0.81	2.56	8.13	2.04	7.30	17.47
Disk	27	310	35,000	200	10	0.071	1.15	3.38	0.75	1.32	6.61	1.88	3.78	12.29
Ditcher		140	2,000	100	20	0.050	0.80	0.97	0.02	0.60	2.40	0.11	1.37	3.89
Dixon Harrow MF	16 ft	180	3,000	350	10	0.350	5.60	9.45	0.18	3.53	18.76	0.45	10.06	29.27
Drill	13 ft	140	11,000	120	10	0.139	2.23	2.71	0.95	1.68	7.59	1.92	3.84	13.36
Field Cultivator	45 ft	130	27,000	120	20	0.066	1.07	1.32	0.52	0.80	3.72	1.71	1.82	7.26
Flail	14 ft	140	14,500	180	20	0.157	2.51	3.06	0.94	1.90	8.42	1.44	4.33	14.20
Flail J Knife	15 ft	180	13,500	180	12	0.132	2.12	3.63	1.24	1.52	8.52	1.37	4.33	14.23
Harrow	20 ft	180	15,000	350	10	0.138	2.21	3.74	0.35	1.39	7.71	0.89	3.98	12.59
Harrow/Cultipacker	16ft	160	15,000	200	10	0.125	2.00	4.12	0.56	1.20	7.88	1.40	3.42	12.72
Land Leveler	24 ft	140	12,000	35	25	0.114	1.83	2.23	0.78	1.38	6.23	4.24	3.16	13.64
Land Leveler MF	16 ft	140	8,000	35	10	0.040	0.64	0.78	0.18	0.48	2.08	1.37	1.10	4.56
Moldboard Plow	6 bottom	215	18,000	200	10	0.196	3.14	6.48	1.76	5.18	16.57	2.65	14.77	34.00
No-Till Drill	15 ft	160	37,000	80	15	0.100	1.60	3.30	2.31	0.96	8.17	5.78	2.74	16.70
Ripper	12 ft	180	12,000	200	10	0.207	3.32	5.68	0.93	2.37	12.32	1.87	6.77	20.97
Rol-Har/Dix/Rol	21 ft	200	43,000	200	10	0.076	1.23	2.33	0.99	0.86	5.42	2.48	2.45	10.36
Roller	20 ft	180	10,000	200	10	0.114	1.83	3.09	0.22	1.15	6.31	0.86	3.29	10.46
Roller MF	18 ft	180	8,500	200	10	0.200	3.20	5.40	0.34	2.01	10.95	1.27	5.75	17.98
Roller-Harrow	21 ft	200	21,000	200	10	0.076	1.23	2.33	0.48	0.86	4.91	1.21	2.45	8.58

Notes:

Labor: Includes labor from Power unit plus additional labor from the implement.

Total Direct: Does not include interest on operating capital.

Table 4.D Single durable inputs: estimated purchase price, annual use, useful life, fuel consumption rate, labor, fuel, R&M, total direct, fixed and total cost per year, , 2010

Item Name	Unit of Measure	Purchase Price	Annual Use	Useful Life	Fuel Use	Operation Time	Labor	Fuel	R&M	Total Direct	Fixed	Total Cost
ATV	mi	4,500	2000	10	1.00	0.0333	663.10	189.98	225.00	1078.08	675.88	1753.96
Harvest Truck	mile	30,000	1000	10	3.50	0.0285	525.68	299.98	1500.00	2325.67	4505.88	6831.56
Pickup	mile	33,000	10000	6	5.00	0.0200	3680.00	3000.00	1650.00	8330.00	6721.63	15051.63
Truck w/ Tank	mile	36,000	1500	10	3.50	0.0285	788.53	449.97	1800.00	3038.50	5407.06	8445.57

Notes:

Labor: Includes allocated labor from the durable input.

Total Direct: Does not include interest on operating capital.

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