Enterprise Budget

Crimson Clover Seed, Willamette Valley Region

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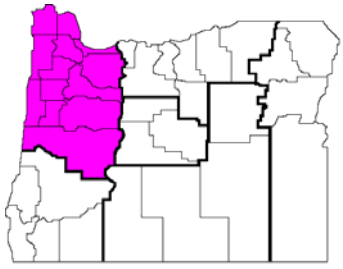

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This enterprise budget estimates the typical costs of producing crimson clover seed in the Willamette Valley of Oregon. Crimson clover is a forage seed crop that is typically grown as an annual crop and can be produced with the machinery and equipment 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. Table 2 shows itemized details about the cultural operations performed, and their costs, in a chronological sequence. Table 3 shows break-even prices and net returns around the assumed price and yield for the crop.

Land and Cropping Pattern

This budget is based on a farm with 1200 acres in continuous production of grass seeds or related, similar technology crops such as small grains, oil seeds and forage seeds. Historically, most of the acreage in the Willamette Valley has been in grass seeds, with wheat as a rotation crop, but with the declining grass seed prices and several recent years with strong grain prices, grains, oil seed and forage seed crops have been much more widely planted. The budget estimates establishment costs on a per-acre basis.

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 Table 2, for details of operations,

Results

Table 1 shows the costs and returns for crimson clover production. The negative net returns do not necessarily translate into as large a loss, in the common interpretation of the word, as it might appear. This budget includes investment costs for all owned resources, such as land and machinery as well as the cost of owner labor. These may not be cash costs for many operators.

The field operations and their costs are detailed in Table 2. The break-even prices needed to cover the total cost of production is given in Table 3. The break-even price of $1.22 per pound is considerably higher than the $0.35 price per pound assumed in the budget. At that price, not even variable or direct costs are covered, which means that less money would be lost by not producing a crop at all. 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. 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.

Table 1 Estimated costs and returns per acre
Crimson Clover Seed, Annual Cropping
Willamette Valley, 2010

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
INCOME					
Crimson Clover Seed	lb	0.35	700.0000	245.00	_____
TOTAL INCOME				245.00	_____
DIRECT EXPENSES					
CHEM--FERTILIZER					
16-20-0-14 LB	lb	0.37	120.0000	44.40	_____
Boron	lb	0.43	1.0000	0.44	_____
10-20-20 LB	lb	0.26	150.0000	39.00	_____
MISC BUS EXP					
Misc. business exp	acre	30.00	1.0000	30.00	_____
CUSTOM, FLAT RATE					
Lime	ton	56.00	1.0000	56.00	_____
Rodent Control RC	acre	5.00	1.0000	5.00	_____
Bee Pollination	hives	40.00	2.0000	80.00	_____
CHEM--HERBICIDE					
MCPA Amine	gal	18.00	0.0833	1.50	_____
Kerb	lb.	39.00	2.0000	78.00	_____
SEEDS & PLANTS					
Crimson Clover Seed	lb	0.70	20.0000	14.00	_____
CUSTOM, YIELD PROP.					
Seed Cleaning CC	lb	0.06	700.0000	42.00	_____
Seed Bags	bag	0.35	14.0000	4.90	_____
CHEM--PESTICIDE					
Slug Bait	lb	1.48	18.0000	26.64	_____
FEES, PROPORTIONAL					
Commission Assess CC	cwt	0.17	7.0000	1.22	_____
Seed Test Pur/Ger CL	cwt	0.15	7.0000	1.05	_____
Operator Labor					
Self-Propelled	hour	8.65	0.2104	1.82	_____
Machinery Labor					
Tractors	hour	16.00	0.9049	14.49	_____
Self-Propelled	hour	16.00	0.4569	7.31	_____
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	10.4559	31.38	_____
Self-Propelled	gal	3.00	4.0903	12.27	_____
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	5.78	1.0000	5.78	_____
Tractors	acre	14.97	1.0000	14.97	_____
Self-Propelled	acre	23.05	1.0000	23.05	_____
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	25.18	1.0000	25.18	_____
TOTAL DIRECT EXPENSES				568.77	_____
RETURNS ABOVE DIRECT EXPENSES				-323.77	_____

FIXED EXPENSES					
Implements	acre	13.36	1.0000	13.36	_____
Tractors	acre	41.69	1.0000	41.69	_____
Self-Propelled	acre	60.39	1.0000	60.39	_____
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	6.95	_____
Land Rent NV Clover	each	149.99	1.0000	150.00	_____
TOTAL FIXED EXPENSES				286.25	_____
TOTAL SPECIFIED EXPENSES				855.02	_____
RETURNS ABOVE TOTAL SPECIFIED EXPENSES				-610.02	_____

Table 2 Estimated resource use and costs for field operations, per acre
Crimson Clover Seed, Annual Cropping
Willamette Valley, 2010

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
PLOW				2.00	Aug										
Moldboard Plow	6 bottom	215	0.196			29.82	29.55	3.54	5.31	0.45	7.23				75.45
LAND LEVEL				1.00	Sep										
Land Leveler	24 ft	180	0.114			6.01	3.73	0.79	4.25	0.13	2.11				16.89
LIME				1.00	Sep										
Lime	ton											1.0000	56.00	56.00	56.00
HARROW & CULTIMULCH				1.00	Sep										
Cultimulcher	12 ft	180	0.140			5.43	4.56	0.13	0.98	0.16	2.58				13.68
Harrow	20 ft		0.140					0.36	0.90						1.26
PLANT				1.00	Sep										
Drill	13 ft	140	0.139			5.09	3.85	0.96	1.92	0.16	2.57				14.39
Crimson Clover Seed	lb											20.0000	0.70	14.00	14.00
16-20-0-14 LB	lb											120.0000	0.37	44.40	44.40
SLUG CONTROL				1.50	Nov										
ATV	20 hp		0.050			0.52	0.32			0.08	1.38				2.22
Slug Bait	lb											18.0000	1.48	26.64	26.64
WINTER BROADLEAF CTL				1.00	Dec										
Fertilizer Buggy	20		0.070			1.79	1.41			0.08	1.30				4.50
MCPA Amine	gal											0.0833	18.00	1.50	1.50
RODENT CONTROL				1.00	Jan										
Rodent Control RC	acre											1.0000	5.00	5.00	5.00
WINTER FERTILIZER				1.00	Feb										
Fertilizer Buggy	30		0.047			1.44	1.18			0.05	0.86				3.48
Boron	lb											1.0000	0.43	0.44	0.44
10-20-20 LB	lb											150.0000	0.26	39.00	39.00
SPRING GRASS CTL				1.00	Mar										
Spray Bug60 7 mph	60'		0.030			1.22	1.93			0.03	0.56				3.71
Kerb	lb.											2.0000	39.00	78.00	78.00
Bee Pollination	hives			1.00	Apr							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 CC	lb											700.0000	0.06	42.00	42.00
Seed Bags	bag											14.0000	0.35	4.90	4.90
MISCELLANEOUS				1.00	Jul										
Misc. business exp	acre											1.0000	30.00	30.00	30.00
FEES, CERT/TEST/INSP				1.00	Jul										
Commission Assess CC	cwt											7.0000	0.17	1.22	1.22
Seed Test Pur/Ger CL	cwt											7.0000	0.15	1.05	1.05
Truck w/ Tank	each			1.00	Jul				4.51			0.0008			4.51
Application 1	mile							2.25		0.04	0.79	1.5000			3.04
Harvest Truck	each			1.00	Jul				3.75			0.0008			3.75
HAUL SEED	mile							0.90		0.01	0.26	0.5000			1.16
Mach/Equip Ins, Hi	each			1.00	Jul				6.95			1.0000			6.95
Pickup	each			1.00	Jul				5.60			0.0008			5.60
Application 1	mile							2.33		0.11	1.84	5.0000			4.17

Land Rent NV Clover each	1.00	Jul				150.00			1.0000		150.00
TOTALS			81.67	102.08	11.26	184.17	1.75	26.51		424.15	829.84
INTEREST ON OPERATING CAPITAL											25.18
UNALLOCATED LABOR											0.00
TOTAL SPECIFIED COST											855.02

Table 3 Breakeven price above total expenses and net returns for price/yield combinations, per acre
Crimson Clover Seed, Annual Cropping
Willamette Valley, 2010

			BREAKEVEN PRICE									
Crimson Clover Seed			0.83	0.89	0.95	1.02	1.11	1.22[3]	1.34	1.50	1.71	1.98	2.37
PERCENT	YIELD	UNIT	dollars										
50	350.00	lb	-250[1]	-231	-209	-183	-153	-116	-71	-15	56	152	286
			-536[2]	-517	-495	-469	-439	-402	-357	-302	-230	-134	0
60	420.00	lb	-197	-174	-147	-116	-79	-35	17	84	171	286	447
			-483	-460	-433	-402	-366	-322	-268	-201	-115	0	161
70	490.00	lb	-143	-116	-85	-49	-6	44	107	185	286	420	608
			-429	-402	-371	-335	-292	-241	-178	-100	0	134	322
80	560.00	lb	-89	-58	-23	17	66	125	196	286	401	554	769
			-375	-345	-309	-268	-219	-161	-89	0	115	268	483
90	630.00	lb	-35	-1	38	84	139	205	286	386	516	688	930
			-322	-287	-247	-201	-146	-80	0	100	230	402	644
100	700.00	lb	17	56	100	152	213	286	375	487	631	823	1091
			-268	-230	-185	-134	-73	0	89	201	345	536	805
110	770.00	lb	71	113	162	219	286	366	465	588	746	957	1252
			-214	-172	-123	-67	0	80	178	302	460	671	966
120	840.00	lb	125	171	224	286	359	447	554	688	861	1091	1413
			-161	-115	-61	0	73	161	268	402	575	805	1127
130	910.00	lb	178	228	286	353	432	527	644	789	976	1225	1574
			-107	-57	0	67	146	241	357	503	690	939	1288
140	980.00	lb	232	286	348	420	505	608	733	890	1091	1360	1736
			-53	0	61	134	219	322	447	604	805	1073	1449
150	1050.00	lb	286	343	410	487	579	688	823	991	1206	1494	1897
			0	57	123	201	292	402	536	704	920	1208	1610

[1]The top number in each cell is Returns Above Direct Expenses.
[2]The bottom number in each cell is Returns Above Total Specified Expenses.
[3] This is the breakeven price at the assumed (100%) budget yield. Prices to the left and right are for higher and lower yield levels.
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 Price	Annual Use	Useful Life	Fuel Use	Labor	Fuel	R&M	Total Direct	Fixed	Total 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 Price	Annual Use	Useful Life	Fuel Use	Perf Rate	Labor	Fuel	R&M	Total Direct	Fixed	Total 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---- Imp.	P.U.	Total Direct	--Fixed--- Imp.	P.U.	Total Cost
			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
		dollars	miles	years	gal/hr	hr/mile	$/yr	$/yr	$/yr	$/yr	$/yr	$/yr
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.