Enterprise Budget

White Clover Seed, Establishment and Production
Willamette Valley Region

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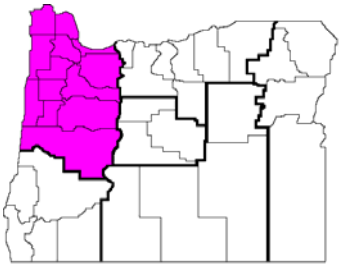

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This enterprise budget estimates the typical costs of establishing and producing white clover seed in the Willamette Valley of Oregon. White clover is a perennial forage seed crop that can be produced with the machinery and equipment typically used 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. White clover, as well as red clover, are somewhat unique amongst Oregon perennial crops in that they produces 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 $90 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

White clover has a small harvest in the first or seedling year, and 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 does not occur in this budget because crop yield is significantly lower, and production cost significantly higher in the first year than in the second.

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 years. 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 remaining production years is $0.85 per pound. The price needed to break even during the first, or establishment, year is $2.58 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 $1.60 per pound.

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

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
INCOME					
White Clover Seed	lb.	1.90	350.0000	665.00	_____
Sheep Pasture	head	0.03	100.0000	3.00	_____

TOTAL INCOME				668.00	_____
DIRECT EXPENSES					
CHEM--FERTILIZER					
10-34-0 LB	lb	0.22	162.0000	35.64	_____
32 Solution LB	lb	0.14	120.0000	16.80	_____
16-20-0-14 LB	lb	0.37	11.0000	4.07	_____
0-0-60 LB	lb	0.33	13.0000	4.29	_____
0-0-21-21S-10.5Mg	lb.	0.26	76.0000	19.76	_____
46-0-0 Urea LB	lb	0.22	51.0000	11.22	_____
Boron	lb	0.43	1.0000	0.44	_____
CHEMI--OTHER					
Lorsban	gal	38.90	0.1250	4.86	_____
Surfactant	gal	17.00	0.3125	5.31	_____
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					
Select	gal	194.00	0.1406	27.28	_____
Kerb	lb.	39.00	1.0000	39.00	_____
MCPA Amine	gal	18.00	0.0625	1.13	_____
Basagran	gal	91.00	0.1250	11.38	_____
Raptor	gal	500.00	0.0390	19.53	_____
CHEM--INSECTICIDE					
Capture	gal.	271.00	0.0390	10.59	_____
SEEDS & PLANTS					
White clover seed	lb	2.50	3.0000	7.50	_____
CUSTOM, YIELD PROP.					
Seed Cleaning RC	lb	0.08	350.0000	28.00	_____
Bag Clover Seed	lb.	0.02	350.0000	7.00	_____
CHEM--PESTICIDE					
Slug Bait	lb	1.48	24.0000	35.52	_____
FEES, PROPORTIONAL					
Commission Assess WC	cwt	0.95	3.5000	3.33	_____
Seed Test Pur/Ger CL	cwt	0.15	3.5000	0.53	_____
Operator Labor					
Self-Propelled	hour	8.65	0.1936	1.67	_____
Machinery Labor					
Tractors	hour	16.00	0.9470	15.17	_____
Self-Propelled	hour	16.00	0.4404	7.05	_____
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	14.8883	44.65	
Self-Propelled	gal	3.00	4.0312	12.10	
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	5.97	1.0000	5.97	
Tractors	acre	17.30	1.0000	17.30	
Self-Propelled	acre	20.55	1.0000	20.55	
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	34.89	1.0000	34.89	

TOTAL DIRECT EXPENSES				666.21	
RETURNS ABOVE DIRECT EXPENSES				1.79	
FIXED EXPENSES					
Implements	acre	18.62	1.0000	18.62	
Tractors	acre	49.28	1.0000	49.28	
Self-Propelled	acre	55.55	1.0000	55.55	
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 SV Clover	each	90.00	1.0000	90.00	

TOTAL FIXED EXPENSES				241.21	

TOTAL SPECIFIED EXPENSES				907.42	
RETURNS ABOVE TOTAL SPECIFIED EXPENSES				-239.42	

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

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
INCOME					
White Clover Seed	lb.	1.90	600.0000	1140.00	_____
Sheep Pasture	head	0.03	300.0000	9.00	_____
TOTAL INCOME				1149.00	_____
DIRECT EXPENSES					
CHEM--FERTILIZER					
0-0-60 LB	lb	0.33	28.0000	9.24	_____
16-20-0-14 LB	lb	0.37	12.0000	4.44	_____
0-0-21-21S-10.5Mg	lb.	0.26	91.0000	23.66	_____
11-52-0	lb	0.24	65.0000	15.60	_____
Boron	lb	0.43	1.0000	0.44	_____
CHEMI--OTHER					
Surfactant	gal	17.00	0.3750	6.38	_____
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 RC	acre	5.00	1.0000	5.00	_____
Bee Pollination	hives	40.00	2.0000	80.00	_____
CHEM--HERBICIDE					
Kerb	lb.	39.00	1.0000	39.00	_____
Goal	gal	82.75	0.0468	3.88	_____
Gramoxone Inteon	gal	31.00	0.1875	5.81	_____
MCPA Amine	gal	18.00	0.0625	1.13	_____
Basagran	gal	91.00	0.1250	11.38	_____
Raptor	gal	500.00	0.0390	19.53	_____
Select	gal	194.00	0.0937	18.19	_____
CHEM--INSECTICIDE					
Capture	gal.	271.00	0.0390	10.59	_____
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	6.0000	8.88	_____
FEES, PROPORTIONAL					
Commission Assess WC	cwt	0.95	6.0000	5.70	_____
Seed Test Pur/Ger CL	cwt	0.15	6.0000	0.90	_____
Operator Labor					
Self-Propelled	hour	8.65	0.1936	1.67	_____
Machinery Labor					
Self-Propelled	hour	16.00	0.4134	6.62	_____
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	3.8784	11.64	_____
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	20.29	1.0000	20.29	_____
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	12.50	1.0000	12.50	

TOTAL DIRECT EXPENSES				423.85	
RETURNS ABOVE DIRECT EXPENSES				725.15	
FIXED EXPENSES					
Self-Propelled	acre	54.96	1.0000	54.96	
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 SV Clover	each	90.00	1.0000	90.00	
AMORT. EST. COST	acre	263.36	1.0000	263.36	

TOTAL FIXED EXPENSES				436.08	

TOTAL SPECIFIED EXPENSES				859.93	
RETURNS ABOVE TOTAL SPECIFIED EXPENSES				289.07	

Table 2.A Estimated resource use and costs for field operations, per acre
White Clover Seed, Establishment & Year 1 Production
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	
SOIL SAMPLE				1.00	Aug										
Grid Sample	ac.											1.0000	1.30	1.30	1.30
FLAIL				1.00	Aug										
Flail	14 ft	215	0.157			11.93	11.82	0.95	1.44	0.18	2.89				29.03
DISK				2.00	Aug										
Disk	27	310	0.071			16.19	7.57	1.51	3.78	0.16	2.65				31.70
LIME				1.00	Sep										
Lime	ton											1.5000	56.00	84.00	84.00
HARROW & ROLL				1.00	Sep										
Roller-Harrow	21 ft	310	0.076			5.04	4.05	0.48	1.21	0.08	1.42				12.20
LAND LEVEL				2.00	Sep										
Land Leveler	24 ft	215	0.114			17.39	17.24	1.57	8.50	0.26	4.22				48.92
HARROW & ROLL				1.00	Sep										
Roller-Harrow	21 ft	310	0.076			5.04	4.05	0.48	1.21	0.08	1.42				12.20
PLANT				1.00	Sep										
Drill	13 ft	180	0.139			6.36	4.55	0.96	1.92	0.16	2.57				16.36
3-Point Blade	10 ft		0.139					0.02	0.56						0.58
White clover seed	lb											3.0000	2.50	7.50	7.50
10-34-0 LB	lb											120.0000	0.22	26.40	26.40
Slug Bait	lb											12.0000	1.48	17.76	17.76
32 Solution LB	lb											120.0000	0.14	16.80	16.80
SLUG CONTROL				1.00	Oct										
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
FALL GRASS & INSECT				1.00	Nov										
Spray Bug80 7 mph	80'		0.021			0.75	1.30			0.02	0.39				2.44
Select	gal											0.0468	194.00	9.09	9.09
Lorsban	gal											0.1250	38.90	4.86	4.86
Surfactant	gal											0.0312	17.00	0.53	0.53
SPRING FERTILIZER				1.00	Feb										
Fertilizer Buggy	30		0.047			1.44	1.18			0.05	0.86				3.48
16-20-0-14 LB	lb											11.0000	0.37	4.07	4.07
0-0-60 LB	lb											13.0000	0.33	4.29	4.29
0-0-21-21S-10.5Mg	lb.											76.0000	0.26	19.76	19.76
46-0-0 Urea LB	lb											51.0000	0.22	11.22	11.22
10-34-0 LB	lb											42.0000	0.22	9.24	9.24
Boron	lb											1.0000	0.43	0.44	0.44
RODENT CONTROL				1.00	Feb										
Rodent Control RC	acre											1.0000	5.00	5.00	5.00
SPRING HERBICIDE				1.00	Feb										
Spray Bug80 7 mph	80'		0.021			0.75	1.30			0.02	0.39				2.44
Kerb	lb.											1.0000	39.00	39.00	39.00
MCPA Amine	gal											0.0625	18.00	1.13	1.13
Surfactant	gal											0.0312	17.00	0.53	0.53
SPRING GRASS CTL				1.00	Apr										
Spray Bug80 7 mph	80'		0.021			0.75	1.30			0.02	0.39				2.44
Select	gal											0.0937	194.00	18.19	18.19
Surfactant	gal											0.1250	17.00	2.13	2.13

SPRING BROADLEAF CTL			1.00	Apr										
Spray Bug60 7 mph	60'	0.030			1.22	1.93			0.03	0.56				3.71
Basagran	gal										0.1250	91.00	11.38	11.38
Raptor	gal										0.0390	500.00	19.53	19.53
Surfactant	gal										0.1250	17.00	2.13	2.13
BEE POLLINATION			1.00	May										
Bee Pollination	hives										2.0000	40.00	80.00	80.00
INSECT CONTROL			1.00	Jun										
Spray Bug80 7 mph	80'	0.021			0.75	1.30			0.02	0.39				2.44
Capture	gal.										0.0390	271.00	10.59	10.59
SWATH			1.00	Jun										
Swather	15'	0.174			6.36	8.13			0.20	3.21				17.70
COMBINE			1.00	Jul										
Combine 300	300 hp	0.168			19.19	37.93			0.19	1.67				58.79
CLEAN & BAG SEED			1.00	Jul										
Seed Cleaning RC	lb										350.0000	0.08	28.00	28.00
Bag Clover Seed	lb.										350.0000	0.02	7.00	7.00
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 WC	cwt										3.5000	0.95	3.33	3.33
Seed Test Pur/Ger CL	cwt										3.5000	0.15	0.53	0.53
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
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 SV Clover	each		1.00	Jul				90.00			1.0000			90.00
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
Mach/Equip Ins, Hi	each		1.00	Jul				6.95			1.0000			6.95
TOTALS					94.60	104.83	11.45	136.38	1.76	26.78			498.49	872.53
INTEREST ON OPERATING CAPITAL														34.89
UNALLOCATED LABOR														0.00
TOTAL SPECIFIED COST														907.42

Table 2.B Estimated resource use and costs for field operations, per acre
White Clover Seed, Year 2 Production
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	
SLUG CONTROL				0.50	Oct										
Fertilizer Buggy	30		0.047			0.72	0.59			0.02	0.43				1.74
Slug Bait	lb											6.0000	1.48	8.88	8.88
WINTER BROADLEAF CTL				1.00	Dec										
Spray Bug80 7 mph	80'		0.021			0.75	1.30			0.02	0.39				2.44
Kerb	lb.											1.0000	39.00	39.00	39.00
RODENT CONTROL				1.00	Feb										
Rodent Control RC	acre											1.0000	5.00	5.00	5.00
SPRING FERTILIZER				1.00	Feb										
Fertilizer Buggy	30		0.047			1.44	1.18			0.05	0.86				3.48
0-0-60 LB	lb											28.0000	0.33	9.24	9.24
16-20-0-14 LB	lb											12.0000	0.37	4.44	4.44
0-0-21-21S-10.5Mg	lb.											91.0000	0.26	23.66	23.66
11-52-0	lb											65.0000	0.24	15.60	15.60
Boron	lb											1.0000	0.43	0.44	0.44
SPRING HERBICIDE				1.00	Feb										
Spray Bug80 7 mph	80'		0.021			0.75	1.30			0.02	0.39				2.44
Goal	gal											0.0468	82.75	3.88	3.88
Gramoxone Inteon	gal											0.1875	31.00	5.81	5.81
MCPA Amine	gal											0.0625	18.00	1.13	1.13
Surfactant	gal											0.1250	17.00	2.13	2.13
SPRING BROADLEAF CTL				1.00	Apr										
Spray Bug60 7 mph	60'		0.030			1.22	1.93			0.03	0.56				3.71
Basagran	gal											0.1250	91.00	11.38	11.38
Raptor	gal											0.0390	500.00	19.53	19.53
Surfactant	gal											0.1250	17.00	2.13	2.13
SPRING GRASS CTL				1.00	Apr										
Spray Bug80 7 mph	80'		0.021			0.75	1.30			0.02	0.39				2.44
Select	gal											0.0937	194.00	18.19	18.19
Surfactant	gal											0.1250	17.00	2.13	2.13
BEE POLLINATION				1.00	May										
Bee Pollination	hives											2.0000	40.00	80.00	80.00
INSECT CONTROL				1.00	Jun										
Spray Bug80 7 mph	80'		0.021			0.75	1.30			0.02	0.39				2.44
Capture	gal.											0.0390	271.00	10.59	10.59
SWATH				1.00	Jul										
Swather	15'		0.174			6.36	8.13			0.20	3.21				17.70
COMBINE				1.00	Jul										
Combine 300	300 hp		0.168			19.19	37.93			0.19	1.67				58.79
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											600.0000	0.08	48.00	48.00
Bag Clover Seed	lb.											600.0000	0.02	12.00	12.00
FEES, CERT/TEST/INSP				1.00	Jul										
Seed Crop Inspection	acre											1.0000	3.00	3.00	3.00
Commission Assess WC	cwt											6.0000	0.95	5.70	5.70
Seed Test Pur/Ger CL	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	1.5000		3.04
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 SV Clover	each	1.00	Jul			90.00			1.0000		90.00
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
Mach/Equip Ins, Hi	each	1.00	Jul			6.95			1.0000		6.95
AMORT. EST. COST	acre		Jul						1.0000		263.36
TOTALS				31.93	54.96	5.48	117.76	0.78	11.18	362.76	847.43
INTEREST ON OPERATING CAPITAL											12.50
UNALLOCATED LABOR											0.00
TOTAL SPECIFIED COST											859.93

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

White Clover Seed			BREAKEVEN PRICE									
			1.79	1.90	2.03	2.19	2.36	2.58[3]	2.84	3.17	3.59	4.15	4.94
PERCENT	YIELD	UNIT	dollars										
50	175.00	lb.	-309[1]	-289	-267	-240	-209	-171	-125	-68	5	103	241
			-550[2]	-530	-508	-481	-450	-412	-367	-309	-235	-137	0
60	210.00	lb.	-254	-230	-203	-171	-134	-89	-34	34	123	241	406
			-495	-471	-444	-412	-375	-330	-275	-206	-117	0	165
70	245.00	lb.	-199	-171	-139	-102	-59	-6	57	137	241	378	571
			-440	-412	-381	-344	-300	-247	-183	-103	0	137	330
80	280.00	lb.	-144	-112	-76	-34	15	76	149	241	359	516	736
			-385	-353	-317	-275	-225	-165	-91	0	117	275	495
90	315.00	lb.	-89	-53	-12	34	91	158	241	344	477	654	901
			-330	-294	-254	-206	-150	-82	0	103	235	412	660
100	350.00	lb.	-34	5	50	103	166	241	332	447	595	791	1067
			-275	-235	-190	-137	-75	0	91	206	353	550	825
110	385.00	lb.	20	64	114	172	241	323	424	550	713	929	1232
			-220	-176	-127	-68	0	82	183	309	471	688	991
120	420.00	lb.	76	123	177	241	316	406	516	654	831	1067	1397
			-165	-117	-63	0	75	165	275	412	589	825	1156
130	455.00	lb.	131	182	241	310	391	488	608	757	949	1204	1562
			-110	-58	0	68	150	247	367	516	707	963	1321
140	490.00	lb.	186	241	304	378	466	571	700	860	1067	1342	1727
			-55	0	63	137	225	330	458	619	825	1101	1486
150	525.00	lb.	241	300	368	447	541	654	791	963	1185	1480	1893
			0	58	127	206	300	412	550	722	943	1238	1651

[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] 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
White Clover Seed, Year 2 Production
Willamette Valley, 2010

White Clover Seed			BREAKEVEN PRICE									
			0.62	0.65	0.69	0.73	0.78	0.85[3]	0.92	1.02	1.14	1.31	1.54
PERCENT	YIELD	UNIT	dollars										
50	300.00	lb.	-179[1]	-169	-158	-145	-129	-110	-87	-58	-21	27	96
			-276[2]	-266	-255	-242	-226	-207	-184	-155	-118	-69	0
60	360.00	lb.	-152	-140	-126	-110	-91	-69	-41	-6	37	96	179
			-248	-237	-223	-207	-188	-165	-138	-103	-59	0	82
70	420.00	lb.	-124	-110	-94	-76	-54	-27	4	44	96	165	262
			-221	-207	-191	-172	-150	-124	-92	-51	0	69	165
80	480.00	lb.	-96	-81	-62	-41	-16	13	50	96	156	235	345
			-193	-177	-159	-138	-113	-82	-46	0	59	138	248
90	540.00	lb.	-69	-51	-30	-6	21	55	96	148	215	304	428
			-165	-148	-127	-103	-75	-41	0	51	118	207	331
100	600.00	lb.	-41	-21	1	27	59	96	142	200	274	373	511
			-138	-118	-95	-69	-37	0	46	103	177	276	414
110	660.00	lb.	-13	7	32	62	96	138	189	252	333	442	594
			-110	-88	-63	-34	0	41	92	155	237	345	497
120	720.00	lb.	13	37	64	96	134	179	235	304	393	511	677
			-82	-59	-31	0	37	82	138	207	296	414	580
130	780.00	lb.	41	67	96	131	172	221	281	356	452	580	760
			-55	-29	0	34	75	124	184	259	355	484	663
140	840.00	lb.	69	96	128	165	209	262	327	408	511	650	843
			-27	0	31	69	113	165	230	311	414	553	746
150	900.00	lb.	96	126	160	200	247	304	373	459	571	719	926
			0	29	63	103	150	207	276	363	474	622	829

[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]For the production years, 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 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.