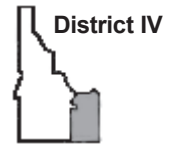


## Spring Canola

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### Background and Assumptions

Economic costs are used in the University of Idaho costs and returns estimates. All resources are valued based on market price or opportunity cost. Input prices are based on the U of I's annual survey of agricultural supply companies. Except for contract crops, the selling price is a 10-year average. The costs and returns estimate shown here is typical for growing irrigated spring canola in southeastern Idaho. Production practices are based on producer surveys conducted in Bonneville, Jefferson, and Madison counties. Although production practices may be similar for individual farms, each has a unique set of resources with different levels of productivity, different production problems, and therefore different costs. Farm size, crop rotation, age and type of equipment, and quality of management are all crucial factors that influence costs.

#### The Model Farm

This costs and returns estimate models a 1,500-acre farm with 150 acres in spring canola, 850 acres in grain, and 500 acres in potatoes. The crop rotation is one year of potatoes followed by two years of grain, dry peas or a canola crop. The farm uses a center pivot irrigation system and surface water delivered to the farm from an irrigation district. The irrigation district charges a flat fee per acre for water.

#### Tillage, Fertilization, Pest Control, and Irrigation

After the stubble from the preceding grain crop is chopped, the canola ground is irrigated, disked, and ripped in the fall, then disked once and harrowed in the spring. Canola is planted in April using a grain drill. Because of the extremely small seed size, and because growers are seeding with a grain drill, a filler is commonly mixed with the canola seed to get the proper seeding rate. Generally, there is no cost for the filler. Canola is swathed before harvest because it tends to mature irregularly. In September, canola is harvested and hauled to commercial storage by a custom operator. The processor hauls the canola to a crushing plant. All fertilizer is custom applied in April before spring tillage. A preplant herbicide for control of

annual grasses and broadleaf weeds is applied and incorporated with the fertilizer. An insecticide is applied by a custom aerial applicator in July. Canola receives 17 inches of water during the growing season including 2 inches in May, 6 inches in June, 7 inches in July, and 2 inches in August, using approximately 34 irrigations (pivot rotations). An additional 2 inches of water applied to the grain stubble is also credited to canola, for a total of 19 inches.

#### Resources: Machinery, Land, Labor, and Capital

Table 3 lists the tractors, trucks, and other equipment used for canola, along with their operating and ownership costs. All machinery except trucks is valued at 75 percent of replacement cost new prices shown in Table 3. This adjustment reduces the machinery repair operating cost and the depreciation and interest ownership costs on equipment by 25 percent. Each truck's price includes the cost of a used truck and a new self-unloading bed. The land charge is cash rent and covers the ownership costs (depreciation, interest, and insurance) on the irrigation system. A machine labor charge is made for all field operations except those performed on a custom basis. Custom operations are listed separately. The non-machine labor accounts for extra planting labor. Labor to operate machinery is valued at \$13.15 per hour, while irrigation and non-machine labor are valued at \$8.75 and \$7.70, respectively. Labor rates include a base wage plus a percentage for Social Security, Medicare, unemployment insurance, and other labor overhead expenses. Labor overhead amounts to 15 percent for non-machine labor, 25 percent for irrigation labor, and 30 percent for machinery labor. A management fee, 5 percent of gross returns, is included as an ownership cost. Interest on operating capital is charged from the time an input is applied until the month of harvest and calculated at a nominal rate of 7.5 percent. Interest on intermediate term capital is calculated using a rate of 7.75 percent. A general overhead charge of 2.5 percent of operating expenses is included to cover unallocated costs such as office expenses, legal and accounting fees, and utilities.

**Table 1. Costs And Returns Per Acre to Produce Canola  
SEI Spring**

**EBB4-SC-05**

	Quantity Per Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
<b>Gross Returns</b>					
Canola	24.00	cwt	10.30	247.20	_____
<b>Total Gross Returns For Canola</b>				<b>247.20</b>	_____
<b>Operating Costs</b>					
<b>Irrigation:</b>					
Irrigation Power - cp	20.00	acin	1.39	27.80	_____
Labor (irrigation)	1.00	hr	8.75	8.75	_____
Water Assessment	1.00	acre	12.40	12.40	_____
Irrigation Repairs - cp	20.00	acin	0.55	11.00	_____
<b>Custom:</b>					
Custom Fertilize	1.00	acre	4.95	4.95	_____
Custom Air Spray-3g	1.00	acre	5.75	5.75	_____
Custom Swath-Canola	1.00	acre	15.00	15.00	_____
Custom Combine	1.00	acre	28.00	28.00	_____
Custom Haul	24.00	cwt	0.25	6.00	_____
<b>Fertilizer:</b>					
Dry Nitrogen	100.00	lb	0.39	39.00	_____
Dry P2O5	40.00	lb	0.24	9.60	_____
Sulfur	20.00	lb	0.12	2.40	_____
<b>Pesticide:</b>					
Treflan HFP	0.75	qt	4.90	3.68	_____
Methyl Parathion	0.50	qt	8.40	4.20	_____
<b>Seed:</b>					
Canola Seed	6.00	lb	3.50	21.00	_____
<b>Other:</b>					
Crop Insurance	1.00	acre	7.50	7.50	_____
Labor (machine)	1.75	hrs	13.15	23.02	_____
Labor (non-machine)	0.29	hrs	7.70	2.23	_____
Fuel - Gas	0.19	gal	2.29	0.44	_____
Fuel - Diesel	11.73	gal	2.08	24.39	_____
Lube				3.73	_____
Machinery Repair				7.05	_____
Interest on Operating Capital @ 7.50%				7.61	_____
<b>Total Operating Costs per Acre</b>				<b>275.50</b>	_____
<b>Net Returns Above Operating Costs</b>				<b>-28.30</b>	_____
<b>Cash Ownership Costs</b>					
General Overhead				7.00	_____
Land Rent				90.00	_____
Management Fee				12.50	_____
Property Taxes (machinery)				0.00	_____
Property Insurance				0.87	_____
<b>Total Cash Ownership Costs per Acre</b>				<b>110.37</b>	_____
<b>Non-Cash Ownership Costs (depreciation and interest)</b>					
Equipment				35.08	_____
<b>Total Non-Cash Ownership Costs per Acre</b>				<b>35.08</b>	_____
<b>Total Costs per Acre</b>				<b>420.95</b>	_____
<b>Returns to Risk</b>				<b>-173.75</b>	_____

**Table 2. Monthly Summary of Cash Expenses per Acre**

**EBB4-SC-05**

	Oct 04	Nov 04	Dec 04	Jan 05	Feb 05	Mar 05	Apr 05	May 05	Jun 05	Jul 05	Aug 05	Sep 05	Total
<b>Preharvest:</b>													
Chop Straw	8.96												8.96
Irrigate	5.48							3.65	10.96	12.79	3.65		36.55
Disk	5.25						5.25						10.49
Rip	9.59												9.59
Fertilize							59.63						59.63
Harrow							6.54						6.54
Seed Hauling							2.85						2.85
Plant							27.70						27.70
Assessments							12.40						12.40
Repairs							11.00						11.00
Crop Insurance							7.50						7.50
Aerial Application										9.95			9.95
General Pickup Use	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	15.74
<b>Total Preharvest Costs</b>	<b>30.59</b>	<b>1.31</b>	<b>1.31</b>	<b>1.31</b>	<b>1.31</b>	<b>1.31</b>	<b>134.17</b>	<b>4.97</b>	<b>12.28</b>	<b>24.05</b>	<b>4.97</b>	<b>1.31</b>	<b>218.89</b>
<b>Harvest:</b>													
Swath											15.00		15.00
Combine											28.00		28.00
Crop Hauling											6.00		6.00
<b>Total Harvest Costs</b>											<b>49.00</b>		<b>49.00</b>
Interest on Operating Capital	0.19	0.20	0.21	0.22	0.22	0.23	1.07	1.10	1.18	1.33	1.67	-0.01	7.61
<b>Operating Costs per Acre</b>	<b>30.78</b>	<b>1.51</b>	<b>1.52</b>	<b>1.53</b>	<b>1.54</b>	<b>1.54</b>	<b>135.24</b>	<b>6.07</b>	<b>13.46</b>	<b>25.38</b>	<b>55.63</b>	<b>1.30</b>	<b>275.50</b>
<b>Cash Ownership</b>													
General Overhead	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.58	7.00
Land Rent						90.00							90.00
Management Fee	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	12.50
Property Insurance							0.87						0.87
<b>Cash Ownership Costs</b>	<b>1.63</b>	<b>1.63</b>	<b>1.63</b>	<b>1.63</b>	<b>1.63</b>	<b>91.63</b>	<b>2.50</b>	<b>1.63</b>	<b>1.63</b>	<b>1.63</b>	<b>1.63</b>	<b>1.63</b>	<b>110.37</b>
<b>Total Cash Costs per Acre</b>	<b>32.40</b>	<b>3.14</b>	<b>3.14</b>	<b>3.15</b>	<b>3.16</b>	<b>93.17</b>	<b>137.74</b>	<b>7.69</b>	<b>15.08</b>	<b>27.01</b>	<b>57.26</b>	<b>2.93</b>	<b>385.87</b>

**Table 3. Machinery and Equipment Costs per Hour**

Description	Purchase Price	Years to Trade	Salvage Value	Hours Used	<-Non-Cash->		<----Cash---->		<-----Operating----->			Total Costs/Hr.
					Ownership Cap. Rec.	Insur.	Ownership Taxes	Repairs	Fuel & Lube	Total Oper.		
4-wheeler	6500	10	1920	225	2.75	0.07	0.00	0.07	3.45	3.52	6.33	
Grain Drill - 24'	22000	10	3891	85	26.11	0.57	0.00	3.84	0.00	3.84	30.52	
Offset Disk - 20'	22800	15	2189	100	19.04	0.47	0.00	3.50	0.00	3.50	23.01	
Pickup - used 3/4t	11000	8	2500	200	6.22	0.13	0.00	0.91	5.98	6.89	13.23	
Pickup 1 - 3/4 ton	37000	8	5000	300	14.75	0.26	0.00	3.59	9.57	13.16	28.18	
Pickup 2 - 3/4 ton	37000	8	5000	300	14.75	0.26	0.00	3.59	9.57	13.16	28.18	
Ripper - 15'	9900	12	1371	245	3.74	0.09	0.00	3.17	0.00	3.17	7.00	
Spike Harrow - 15'	800	15	77	65	1.02	0.03	0.00	0.09	0.00	0.09	1.14	
Straw Chopper	17000	12	2355	85	18.49	0.43	0.00	2.74	0.00	2.74	21.66	
Tractor - 200hp	134000	15	26087	450	24.09	0.67	0.00	3.89	27.76	31.65	56.40	
Tractor - 250hp	134000	15	26087	500	21.67	0.60	0.00	1.85	34.71	36.56	58.83	
Truck 1 - 5 ton	55000	15	10708	400	11.10	0.31	0.00	7.35	1.59	8.94	20.35	

Net Returns Per Acre Above Operating Costs For Canola  
Yield (cwt/acre)

	16.80	19.20	21.60	24.00	26.40	28.80	31.20
7.21	-153	-136	-119	-102	-86	-69	-52
8.24	-135	-116	-97	-78	-59	-39	-20
9.27	-118	-96	-75	-53	-31	-10	12
10.30	-101	-77	-52	-28	-4	20	44
11.33	-83	-57	-30	-4	23	50	76
12.36	-66	-37	-8	21	50	79	108
13.39	-49	-17	14	46	77	109	140

Net Returns Per Acre Above Cash Costs For Canola  
Yield (cwt/acre)

	16.80	19.20	21.60	24.00	26.40	28.80	31.20
7.21	-263	-246	-230	-213	-196	-179	-163
8.24	-246	-226	-207	-188	-169	-150	-131
9.27	-228	-207	-185	-163	-142	-120	-98
10.30	-211	-187	-163	-139	-115	-90	-66
11.33	-194	-167	-141	-114	-87	-61	-34
12.36	-176	-147	-118	-89	-60	-31	-2
13.39	-159	-128	-96	-65	-33	-1	30

Net Returns Per Acre Above Total Costs For Canola  
Yield (cwt/acre)

	16.80	19.20	21.60	24.00	26.40	28.80	31.20
7.21	-298	-281	-265	-248	-231	-215	-198
8.24	-281	-262	-242	-223	-204	-185	-166
9.27	-263	-242	-220	-198	-177	-155	-134
10.30	-246	-222	-198	-174	-150	-126	-101
11.33	-229	-202	-176	-149	-122	-96	-69
12.36	-211	-182	-153	-124	-95	-66	-37
13.39	-194	-163	-131	-100	-68	-37	-5

The practices and chemicals specified here are based on survey information representative of typical operations. They are not recommendations. Because of constantly changing labels, laws, and regulations, the University of Idaho can assume no liability for the consequences of use of chemicals specified here. In all cases, read and follow the directions and precautionary statements on the specific pesticide product label. To simplify information, trade names have been used. No endorsement of named products is intended nor is criticism implied of similar products not mentioned.

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