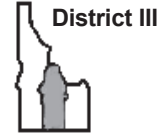


## Spring Wheat Blaine and Lincoln Counties

Robert L. Smathers, Steven Hines, Ron Thaemert, and C. Wilson Gray



University of Idaho  
College of Agricultural and Life Sciences

### 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 wheat in Blaine and Lincoln counties. Production practices are based on producer surveys conducted in the two 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 600-acre farm with 200 acres in grain and 400 acres in alfalfa hay. The farm uses center pivot irrigation and surface water delivered from an irrigation district. The district charges a flat fee per acre for water.

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

Wheat acreage is disked, roller harrowed twice, and planted in the spring. A packer is pulled behind the grain drill for seedbed preparation. The wheat crop is custom combined in September, then hauled to on-farm storage by the farm operator. Dry fertilizer is custom applied in the spring before planting. Liquid fertilizer is applied through the sprinkler system in June and July. The farm operator performs weed control using tillage, cultivation, and herbicides. A post-emergence herbicide is applied in the spring for control of broadleaf weeds. No costs are included in this budget for insect or wild oat control. Wheat receives about 20 inches of water during the growing season from approximately 40 irrigations (pivot rotations): 8 inches in May, 9 inches in June, and 3 inches in July. Each irrigation generally applies .5 inch of water.

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

Table 3 lists the tractors, trucks, and other equipment used for wheat, along with their operating and ownership costs. All machinery except trucks is valued at 75 percent of new prices. 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 labor charge is made for all labor pertaining to field operations and includes a base rate plus overhead expenses. Custom charges account for those field operations that are contracted out. A management charge, 5 percent of gross returns, is included as an ownership cost.

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. The non-machine rate accounts for extra planting labor. 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.

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 Wheat  
CI Blaine/Lincoln - Spring**

**EBB5-SW-05**

	Quantity Per Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
<b>Gross Returns</b>					
Wheat	90.00	bu	2.95	265.50	_____
<b>Total Gross Returns For Wheat</b>				<b>265.50</b>	_____
<b>Operating Costs</b>					
<b>Irrigation:</b>					
Irrigation Repairs	20.00	acin	0.55	11.00	_____
Water Assessment	1.00	acre	17.00	17.00	_____
Irrigation Power	20.00	acin	1.39	27.80	_____
Labor (irrigation)	1.17	hr	8.75	10.24	_____
<b>Custom:</b>					
Custom Fertilize	1.00	acre	5.70	5.70	_____
Custom Combine	1.00	acre	28.00	28.00	_____
<b>Fertilizer:</b>					
Dry Nitrogen	60.00	lb	0.39	23.40	_____
Liquid Nitrogen	40.00	lb	0.45	18.00	_____
<b>Seed:</b>					
SWWW Seed	100.00	lb	0.14	14.00	_____
<b>Other:</b>					
Crop Insurance	1.00	acre	5.00	5.00	_____
<b>Pesticide:</b>					
Harmony Extra	0.50	oz	14.55	7.28	_____
Labor (machine)	3.20	hrs	13.15	42.10	_____
Labor (non-machine)	0.29	hrs	7.70	2.23	_____
Fuel - Gas	1.56	gal	2.26	3.52	_____
Fuel - Diesel	10.12	gal	2.07	20.94	_____
Lube				3.67	_____
Machinery Repair				9.77	_____
Interest on Operating Capital @ 7.50%				5.92	_____
<b>Total Operating Costs per Acre</b>				<b>255.57</b>	_____
<b>Net Returns Above Operating Costs</b>				<b>9.93</b>	_____
<b>Cash Ownership Costs</b>					
General Overhead				6.50	_____
Land Rent				90.00	_____
Management Fee				13.00	_____
Property Taxes (machinery)				0.00	_____
Property Insurance				1.71	_____
<b>Total Cash Ownership Costs per Acre</b>				<b>111.21</b>	_____
<b>Non-Cash Ownership Costs (depreciation and interest)</b>					
Equipment				65.00	_____
<b>Total Non-Cash Ownership Costs per Acre</b>				<b>65.00</b>	_____
<b>Total Costs per Acre</b>				<b>431.78</b>	_____
<b>Returns to Risk</b>				<b>-166.28</b>	_____

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

**EBB5-SW-05**

	Mar 05	Apr 05	May 05	Jun 05	Jul 05	Aug 05	Sep 05	Oct 05	Nov 05	Dec 05	Jan 06	Feb 06	Total
<b>Preharvest:</b>													
Repairs		11.00											11.00
Assessments		17.00											17.00
Disk			7.33										7.33
Fertilize			29.10										29.10
Harrow			16.41										16.41
Seed Hauling			8.96										8.96
Plant			20.09										20.09
Irrigate			24.32	26.23	5.48								56.04
Crop Insurance				5.00									5.00
Ground Spray				9.02									9.02
General Truck Use	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61	19.36
<b>Total Preharvest Costs</b>	<b>1.61</b>	<b>29.61</b>	<b>107.81</b>	<b>41.87</b>	<b>7.10</b>	<b>1.61</b>	<b>1.61</b>	<b>1.61</b>	<b>1.61</b>	<b>1.61</b>	<b>1.61</b>	<b>1.61</b>	<b>199.30</b>
<b>Harvest:</b>													
Combine							28.00						28.00
Crop Hauling							22.35						22.35
<b>Total Harvest Costs</b>							<b>50.35</b>						<b>50.35</b>
Interest on Operating Capital	0.01	0.20	0.87	1.13	1.18	1.19	1.51	-0.01	-0.02	-0.03	-0.04	-0.05	5.92
<b>Operating Costs per Acre</b>	<b>1.62</b>	<b>29.81</b>	<b>108.68</b>	<b>43.00</b>	<b>8.27</b>	<b>2.80</b>	<b>53.48</b>	<b>1.60</b>	<b>1.59</b>	<b>1.58</b>	<b>1.57</b>	<b>1.56</b>	<b>255.57</b>
<b>Cash Ownership</b>													
General Overhead	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	6.50
Land Rent	90.00												90.00
Management Fee	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	13.00
Property Insurance		1.71											1.71
<b>Cash Ownership Costs</b>	<b>91.63</b>	<b>3.33</b>	<b>1.63</b>	<b>1.63</b>	<b>1.63</b>	<b>1.63</b>	<b>1.63</b>	<b>1.63</b>	<b>1.63</b>	<b>1.63</b>	<b>1.63</b>	<b>1.63</b>	<b>111.21</b>
<b>Total Cash Costs per Acre</b>	<b>93.25</b>	<b>33.14</b>	<b>110.31</b>	<b>44.62</b>	<b>9.90</b>	<b>4.42</b>	<b>55.10</b>	<b>3.23</b>	<b>3.22</b>	<b>3.21</b>	<b>3.20</b>	<b>3.19</b>	<b>366.78</b>

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

Description	Purchase Price	Years to Trade	Salvage Value	Hours Used	<-Non-Cash-> Ownership		<-----Cash-----> Ownership		<-----Operating----->			Total Costs/Hr.
					Cap. Rec.	Insur.	Taxes	Repairs	Fuel & Lube	Total Oper.		
Grain Drill - 24'	22000	12	3047	40	51.10	1.18	0.00	1.99	0.00	1.99	54.27	
Packer - 21'	6000	15	576	40	12.57	0.31	0.00	0.57	0.00	0.57	13.45	
Pickup 1 - 3/4 ton	37000	8	12913	300	12.88	0.31	0.00	3.59	9.52	13.11	26.31	
Roller-harrow -12'	17000	15	1632	120	11.82	0.29	0.00	2.96	0.00	2.96	15.07	
Sprayer - 50'	7500	15	720	15	41.52	1.02	0.00	1.36	0.00	1.36	43.90	
Tandem Disk - 13'	16300	15	1565	55	24.95	0.61	0.00	1.65	0.00	1.65	27.22	
Tractor - 105hp	77000	15	14991	200	31.17	0.86	0.00	0.99	14.51	15.50	47.54	
Tractor - 145hp	102000	15	19858	300	27.44	0.76	0.00	1.97	20.03	22.00	50.20	
Truck 1 - 2 ton	33000	15	6425	192	13.89	0.39	0.00	3.28	8.93	12.21	26.49	
Truck 2 - 2 ton	33000	15	6425	192	13.89	0.39	0.00	3.28	4.22	7.51	21.78	

Table 4. Ranging Analysis

		Net Returns Per Acre Above Operating Costs For Wheat Yield (bu/acre)						
		63.00	72.00	81.00	90.00	99.00	108.00	117.00
Price (dollars/bu)	2.06	-119	-103	-86	-70	-54	-38	-21
	2.36	-100	-81	-62	-43	-24	-5	14
	2.65	-82	-60	-39	-17	5	26	48
	2.95	-63	-39	-14	10	34	59	83
	3.25	-44	-17	10	37	64	91	118
	3.54	-26	4	33	63	93	122	152
	3.83	-8	25	57	89	121	154	186

		Net Returns Per Acre Above Cash Costs For Wheat Yield (bu/acre)						
		63.00	72.00	81.00	90.00	99.00	108.00	117.00
Price (dollars/bu)	2.06	-230	-214	-198	-181	-165	-149	-133
	2.36	-211	-192	-173	-154	-135	-116	-97
	2.65	-193	-171	-150	-128	-107	-85	-64
	2.95	-174	-150	-126	-101	-77	-53	-28
	3.25	-155	-128	-101	-74	-47	-20	7
	3.54	-137	-107	-78	-48	-19	11	41
	3.83	-119	-86	-54	-22	10	42	75

		Net Returns Per Acre Above Total Costs For Wheat Yield (bu/acre)						
		63.00	72.00	81.00	90.00	99.00	108.00	117.00
Price (dollars/bu)	2.06	-293	-277	-262	-246	-231	-215	-199
	2.36	-274	-256	-238	-219	-201	-183	-164
	2.65	-256	-235	-214	-193	-172	-151	-130
	2.95	-237	-213	-190	-166	-143	-119	-95
	3.25	-218	-192	-166	-139	-113	-87	-60
	3.54	-200	-171	-142	-113	-84	-55	-26
	3.83	-181	-150	-119	-87	-56	-24	8

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.

**The Authors** - Robert L. Smathers is a farm and ranch economics specialist in the UI Department of Agricultural Economics and Rural Sociology, Moscow. Steven Hines is Extension educator in Lincoln County at Shoshone. Ron Thaemert is Extension educator in Blaine County at Hailey. C. Wilson Gray is Extension agricultural economist in the University of Idaho District 3 Extension Office, Twin Falls.



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