Eastern Idaho
Spring Malting Barley

Ben Eborn, Terrell Sorensen and Jon Hogge

Eastern Idaho

Introduction to Costs & Returns Estimates

The University of Idaho Extension produces crop costs and returns estimates every other year. The overall goal of this project is to provide the Idaho agricultural industry with an unbiased and consistently calculated estimate of the cost of producing various crops and to track the change in production costs per acre and per unit over time.

The University of Idaho's costs and returns estimates are based on economic costs, not just accounting costs. All resources are valued at a market rate or "opportunity cost". Input prices are taken from the U of I's annual survey of agricultural supply companies. The selling price is a historical average, not a current year's price. Production practices are based on data from growers, crop consultants, and extension personnel throughout Idaho. Although production practices may be similar for individual farms, each farm 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 the quality and intensity of management are all crucial factors that influence costs. The cost of production estimates show the typical or representative production costs by region based on documented production practices. These production costs are not area averages, rather they are based on model farms for four areas of the state.

University of Idaho costs and returns estimates can be used as a management tool to help producers in three ways:

1. **Templates.** Excel spreadsheets have been created by the University of Idaho to make enterprise budgeting and record keeping an easy task. You can start by substituting our costs and returns estimates with your own numbers. You can also enter them in the "Your Cost" column.
2. **Marketing.** Estimating production costs on a per acre or per unit basis can help you calculate your farm's break-even prices. Knowing your break-even price to cover operating costs and total costs can help with contract negotiations and selling on the open market.
3. **Benchmarks.** The University of Idaho costs and returns estimates are based on a typical or model farm and are calculated annually using consistent methodology. You can use these estimates as benchmarks by comparing your own total costs or specific cost categories to our estimates. This is a good way to find strengths and weaknesses in your production practices.

It's important to remember, just because your production costs are similar to our estimates, that isn't necessarily a good thing. Our model farms are also typically unprofitable! Average producers usually don't make an economic profit (which includes opportunity costs and non-cash costs such as depreciation). Being profitable requires fine-tuned management and a competitive advantage that the average producer doesn't have. (Being average is not okay in farming)

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Background and Assumptions

The University of Idaho's costs and returns estimates are based on economic costs, not accounting costs. All resources are valued at a market rate or "opportunity cost". Input prices are based on the data collected annually by the University of Idaho from agricultural supply companies. The selling price for the commodity is typically an historical average, not a current year's price. The cost estimate shown here is typical for growing spring malting barley under irrigation in eastern Idaho. Production practices are based on data from farmers, crop consultants, and extension personnel in eastern Idaho. These aren't University of Idaho recommendations. The practices most closely represent those in Bingham, Bonneville, Jefferson, Madison, and Power counties. Although production practices may be similar for individual farms, each farm 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 the quality and intensity of management are all crucial factors that influence production costs.

The Model Farm

The model farm for this costs and returns estimate is a 2,400-acre irrigated farm with 1,600 acres in grain and 800 acres in potatoes. The typical crop rotation is one year of potatoes followed by two years of grain. Corn or an oil seed crop may substitute for grain, and alfalfa hay may be grown in longer rotations.

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. Irrigation power use is based only on pressurization (no lift). Power costs per acre-inch of water applied are calculated using 2017 Idaho Power Schedule 24 Agricultural Irrigation Service rates.

Production Practices

After harvest of the previous crop (potatoes), the ground is deep ripped and disk-ripped in the fall. Only the cost of the disk-ripping is assigned to the grain crop. The ground is roller harrowed and planted in April as a single-pass operation. Barley is harvested by the farm operator in August and hauled to a grain elevator and sold. Storage costs are not included. Harvest cost in grain budgets published prior to 2013 was based on a custom rate.

All fertilizer is custom applied in March before planting. A 3-way herbicide mix is ground applied post emergence to control wild oats and broadleaf weeds. A foliar fungicide is applied by air, but may not be needed every year. While an insecticide may be needed in some years, none is included because treatment is infrequent and unpredictable. Spring malting barley receives 18 inches of water during the growing season from May through July; 5 inches in May, 7 inches in June, and 6 inches in July. Two inches of water applied the previous fall are also credited to barley for a total of 20 inches.

Machinery

Equipment used to produce spring grain is shown in Tables 4 and 5. Table 4 lists the equipment and their hourly operating and ownership costs, while Table 5 lists the equipment and their annual ownership costs. Machinery ownership cost (capital recovery) is based on 75% of the replacement cost of a new piece of equipment, except for trucks. Truck prices are for a used vehicle with a new bed. Capital recovery combines depreciation and interest into a single value. Equipment capital recovery (depreciation and interest) is calculated as a cost per acre. This non-cash overhead is shown in the lower part of Table 1. It comes from the Budget Planner program and is automatically calculated

using the information from Table 4, taking into account the hours used and the number of acres for each piece of machinery. To keep machinery prices current between years in which a comprehensive survey is conducted, machinery prices are adjusted using USDA's Farm Machinery Prices Paid Index. Equipment prices are collected approximately every five years.

The University of Idaho uses the budget generator program *Budget Planner* from the University of California-Davis to produce the various tables shown in this publication. Machinery operating and ownership costs are calculated based on engineering equations in this program. Machinery operating costs include fuel, lubricants and repairs.

Labor and Management

The cost of labor used in this study includes a base wage, plus a percentage to account for various payroll taxes (FICA, SUTA & FUTA), and workman's compensation, as well as benefits such as paid vacation/personal leave days, health insurance and bonuses. Labor is classified by the type of work performed. Labor classifications, labor rates and payroll overhead are shown below.

Labor Values

Labor Class	Base Rate	Payroll Overhead	Effective Rate
General Farm Labor	$14.00	15%	$17.55
Truck Drivers	$14.00	15%	$17.55
Equipment Operators	$18.00	25%	$22.50
Irrigation Labor			
Set Move: HL & WL	$14.00	30%	$17.55
Continuous Move: CP & L	$18.00	25%	$22.50

Set Move includes: handlines and wheellines
Continuous Move includes: center pivots and linear move
Payroll overhead for set move systems includes housing

Based on the speed, width and overall field efficiency, *Budget Planner* calculates equipment operator labor hours for all field operations except those performed on a custom basis. Custom operations are listed separately. General farm labor accounts for extra field labor used during planting or harvest. A management fee based on approximately 5% of the total production costs is included. Prior to 2013, the basis of the 5% charge was expected revenue.

Capital, Land and Overhead Costs

Interest on operating capital is charged from the time an input is applied until harvest and is calculated at a nominal rate of 7.00 percent. Interest on intermediate term capital, primarily equipment, is calculated using a nominal rate of 6.75 percent. A general overhead charge, calculated at approximately 2.5 percent of operating expenses, is included to cover unallocated whole-farm costs such as office expenses, legal and accounting fees, cell phones, internet service and utilities. Irrigation power is not included as part of general farm utilities.

Land rent is based on a one-year cash lease for grain and covers the ownership costs (depreciation, interest, and insurance) of the irrigation system. Because the charge for water, irrigation system repairs and irrigation power costs are listed separately, the land rent may appear low because the landowner in many circumstances pays some or even all these expenses.

Budget Format

In addition to the Background and Assumption pages, this publication has six tables presenting a variety of cost and returns information.

Table 1 shows both expected revenue, based on a specified yield and price, and expenses. Expenses are broken into two main categories: operating and ownership. Operating expenses are those that typically vary with the level of production and involve inputs that are used in a single production cycle. Ownership expenses include a systematic cost recovery over the useful life for inputs used in the production process that have a useful life of more than one year. Machinery and land fall into this category. Operating inputs are organized by category. In addition to the cost per unit and cost per acre for each input, a total cost is given for each

category. Table 1 also gives a total of all operating, ownership and total costs per acre, as well as these same categories on a yield basis (per bushel, cwt, ton, etc.).

Table 2 has most of the same cost information presented in Table 1 but the data is organized by operation for both pre-harvest and harvest costs. Operations can define a single activity, such as seed hauling, or multiple activities as in the case of tillage. The quantity of labor is shown for each operation. The cash costs per acre for labor, machinery costs, materials and custom are also specified. Cash overhead expenses are listed separately as are the non-cash overhead.

Table 3 is a monthly cash flow of expenses based on when the operation occurs and when inputs are applied. Field operations are classified as pre-harvest, harvest and post-harvest.

Table 4 lists the equipment used to produce this crop and the costs per hour to operate this equipment. Total annual hours of use for the current crop and for all crops on the farm is also shown.

Table 5 lists the purchase price and salvage value of equipment used to produce this crop, as well annual capital recovery and cash overhead expenses.

Table 6 provides a ranging analysis, sometime referred to as a sensitivity analysis. It shows how the costs and returns per acre will vary as the yield and/or price ranges above and below the base values from Table 1.

Authors

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Disclaimer

The practices and chemicals specified in the publication are not recommendations. Always read and follow the directions printed on the pesticide label. Due to constantly changing pesticide laws and labels, some pesticides may have been cancelled or had certain uses prohibited. The use of trade names for various products simplifies presentation of this material and should not be considered an endorsement, nor is any criticism implied of similar products not mentioned.

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TABLE 1. COSTS AND RETURNS PER ACRE TO PRODUCE MALTING BARLEY

	Quantity/ Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
GROSS RETURNS					
Malting Barley	125.00	bu	4.00	500.00	
TOTAL GROSS RETURNS	125.00	bu		500.00	
OPERATING COSTS					
Seed:				**25.65**	
Malting Barley Seed - Spring	95.00	lb	0.27	25.65	
Fertilizer:				**59.35**	
Dry Nitrogen - Pre-plant	90.00	lb	0.42	37.80	
Dry P2O5	45.00	lb	0.41	18.45	
K2O	10.00	lb	0.31	3.10	
Pesticides/Chemicals:				**36.36**	
Axial XL	16.40	fl oz	0.85	13.94	
Affinity Tank Mix 50SG	0.60	oz	7.00	4.20	
Starane Ultra	0.30	pint	22.25	6.68	
TwinLine	7.00	fl oz	1.65	11.55	
Custom:				**60.10**	
Custom Fertilize: 0 - 400 lbs	1.00	acre	7.35	7.35	
Custom Air Spray - 5 gal. rate	1.00	acre	9.00	9.00	
Custom Haul: barley	125.00	bu	0.35	43.75	
Irrigation:				**64.74**	
Irrigation Water Assessment - Al	1.00	acre	19.00	19.00	
Irrigation Repairs - CP	20.00	ac-in	0.55	11.00	
Irrigation Power - Center Pivot	18.00	ac-in	1.93	34.74	
Other:				**28.00**	
Crop Insurance	1.00	acre	28.00	28.00	
Labor				**61.47**	
Equipment Operator Labor	1.66	hrs	22.50	37.43	
Irrigation Labor - CP	0.80	hrs	22.50	18.00	
General Farm Labor	0.34	hrs	17.55	6.04	
Machinery				**43.87**	
Fuel-Gas	2.88	gal	3.15	9.07	
Fuel-Diesel	5.32	gal	2.90	15.44	
Fuel-Road Diesel	0.16	gal	3.40	0.53	
Lube				3.76	
Machinery Repair				15.07	
Interest on Operating Capital @ 7.00%				10.04	
TOTAL OPERATING COSTS/ACRE				389.59	
TOTAL OPERATING COSTS/BU				3.12	
NET RETURNS ABOVE OPERATING COSTS				110.41	

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EBB4-MB-19

TABLE 1. CONTINUED

	Quantity/ Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
CASH OVERHEAD COSTS					
General Overhead				10.00	
Land Rent				210.00	
Management Fee				34.00	
Property Taxes				0.00	
Property Insurance				1.49	
Investment Repairs				0.00	
TOTAL CASH OVERHEAD COSTS/ACRE				255.49	
TOTAL CASH OVERHEAD COSTS/BU				2.04	
TOTAL CASH COSTS/ACRE				645.08	
TOTAL CASH COSTS/BU				5.16	
NET RETURNS ABOVE CASH COSTS				-145.08	
NON-CASH OVERHEAD COSTS (Capital Recovery)					
Equipment				60.27	
TOTAL NON-CASH OVERHEAD COSTS/ACRE				60.27	
TOTAL NON-CASH OVERHEAD COSTS/BU				0.48	
TOTAL COST/ACRE				705.36	
TOTAL COST/BU				5.64	
NET RETURNS ABOVE TOTAL COST				-205.36	

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EBB4-MB-19

TABLE 2. COSTS PER ACRE TO PRODUCE MALTING BARLEY

Operation	Operation Time (Hrs/A)	Cash and Labor Costs per Acre						
		Labor Cost	Fuel	Lube &Repairs	Material Cost	Custom/ Rent	Total Cost	Your Cost
Preharvest:								
Irrigation	0.00	18.00	0.00	0.00	34.74	0.00	52.74	
Tillage	0.13	6.10	6.79	5.43	0.00	0.00	18.31	
Applying Fertililzer	0.00	0.00	0.00	0.00	59.35	7.35	66.70	
Seed Hauling	0.03	0.90	0.11	0.16	0.00	0.00	1.17	
Roller Harrow & Plant	0.11	5.25	3.44	4.28	25.65	0.00	38.62	
Crop Insurance	0.00	0.00	0.00	0.00	28.00	0.00	28.00	
Irrigation Water Assessment	0.00	0.00	0.00	0.00	19.00	0.00	19.00	
Irrigation Repairs	0.00	0.00	0.00	0.00	11.00	0.00	11.00	
Applying Pesticides	0.04	2.05	0.91	0.43	36.36	9.00	48.76	
General Pickup Use	0.86	23.29	9.05	3.15	0.00	0.00	35.48	
4-Wheeler Use	0.03	0.90	0.03	0.02	0.00	0.00	0.95	
Service Truck Use	0.03	0.68	0.21	0.08	0.00	0.00	0.97	
Fuel Truck Use	0.03	0.68	0.21	0.09	0.00	0.00	0.98	
TOTAL PREHARVEST COSTS	1.25	57.83	20.75	13.64	214.11	16.35	322.67	
Harvest:								
Harvest	0.13	3.64	4.30	5.18	0.00	0.00	13.12	
Crop Hauling	0.00	0.00	0.00	0.00	0.00	43.75	43.75	
TOTAL HARVEST COSTS	0.13	3.64	4.30	5.18	0.00	43.75	56.87	
Interest on Operating Capital at 7.00%							10.04	
TOTAL OPERATING COSTS/ACRE	1.39	61.47	25.05	18.82	214.11	60.10	389.59	

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EBB4-MB-19

TABLE 2. CONTINUED

Operation	Operation Time (Hrs/A)	Cash and Labor Costs per Acre						
		Labor Cost	Fuel	Lube &Repairs	Material Cost	Custom/ Rent	Total Cost	Your Cost
CASH OVERHEAD:								
General Overhead							10.00	
Land Rent							210.00	
Management Fee							34.00	
Property Taxes							0.00	
Property Insurance							1.49	
Investment Repairs							0.00	
TOTAL CASH OVERHEAD COSTS/ACRE							255.49	
TOTAL CASH COSTS/ACRE							645.08	
NON-CASH OVERHEAD:		Per Producing Acre		Annual Cost Capital Recovery				
Equipment		510.25		60.27			60.27	
TOTAL NON-CASH OVERHEAD COSTS		510.25		60.27			60.27	
TOTAL COSTS/ACRE							705.36	

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EBB4-MB-19

TABLE 3. MONTHLY COSTS PER ACRE TO PRODUCE MALTING BARLEY

	OCT 14	NOV 14	DEC 14	JAN 15	FEB 15	MAR 15	APR 15	MAY 15	JUN 15	JUL 15	AUG 15	Total
Preharvest:												
Irrigation	1.80							14.15	19.81	16.98		52.74
Tillage	18.31											18.31
Applying Fertililzer						66.70						66.70
Seed Hauling							1.17					1.17
Roller Harrow & Plant							38.62					38.62
Crop Insurance							28.00					28.00
Irrigation Water Assessment							19.00					19.00
Irrigation Repairs							11.00					11.00
Applying Pesticides								28.21	20.55			48.76
General Pickup Use	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	3.23	35.48
4-Wheeler Use	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.95
Service Truck Use	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.97
Fuel Truck Use	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.98
TOTAL PREHARVEST COSTS	23.60	3.49	3.49	3.49	3.49	70.19	101.28	45.85	43.85	20.47	3.49	322.67
Harvest:												
Harvest											13.12	13.12
Crop Hauling											43.75	43.75
TOTAL HARVEST COSTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	56.87	56.87
Interest on Operating Capital @7.00%	0.14	0.16	0.18	0.20	0.22	0.63	1.22	1.49	1.74	1.86	2.21	10.04
TOTAL OPERATING COSTS/ACRE	23.74	3.65	3.67	3.69	3.71	70.82	102.50	47.34	45.59	22.33	62.57	389.59
CASH OVERHEAD												
General Overhead	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	10.00
Land Rent						210.00						210.00
Management Fee	3.09	3.09	3.09	3.09	3.09	3.09	3.09	3.09	3.09	3.09	3.09	34.00
Property Taxes												0.00
Property Insurance							1.49					1.49
Investment Repairs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OVERHEAD COSTS	4.00	4.00	4.00	4.00	4.00	214.00	5.49	4.00	4.00	4.00	4.00	255.49
TOTAL CASH COSTS/ACRE	27.74	7.65	7.67	7.69	7.71	284.82	107.99	51.34	49.59	26.33	66.57	645.08

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EBB4-MB-19

TABLE 4. HOURLY EQUIPMENT COSTS

Yr	Description	Malting Barley Hours Used	Total Hours Used	Capital Recovery	Cash Overhead Insur-ance	Cash Overhead Taxes	Operating Lube& Repairs	Operating Fuel	Operating Total Oper.	Total Costs/Hr.
15	4-wheeler	53	90	7.35	0.19	0.00	0.59	0.79	1.38	8.91
15	Grain Drill - 24'	175	175	28.86	0.62	0.00	10.72	0.00	10.72	40.20
15	Pickup 1 - 3/4 ton	400	800	8.74	0.16	0.00	3.65	10.49	14.14	23.04
15	Pickup 2 - 3/4 ton	400	800	8.74	0.16	0.00	3.65	10.49	14.14	23.04
15	Roller-harrow -24'	175	175	35.92	0.88	0.00	11.31	0.00	11.31	48.10
15	Tractor - 160hp	64	350	28.64	0.94	0.00	8.94	22.91	31.85	61.43
15	Truck 1P 10-Wheeler	53	345	23.16	0.66	0.00	4.86	3.30	8.16	31.98
15	Sprayer - 50' 200 gal.	58	100	5.16	0.14	0.00	2.14	0.00	2.14	7.44
15	Tractor 2 - 200hp	192	500	26.05	0.82	0.00	12.34	28.62	40.97	67.84
15	Service Truck	40	80	41.85	1.24	0.00	3.12	8.50	11.62	54.71
15	Disk-Ripper - 17'	203	250	33.25	0.71	0.00	27.08	0.00	27.08	61.04
15	RT Tractor - 340hp	223	500	52.59	1.66	0.00	14.26	48.63	62.89	117.14
15	Pickup 3 - 3/4ton	193	375	12.60	0.31	0.00	3.65	10.49	14.14	27.05
15	Pickup 4 - 3/4ton	193	375	12.60	0.31	0.00	3.65	10.49	14.14	27.05
15	Pickup 5 - 3/4ton	193	375	12.60	0.31	0.00	3.65	10.49	14.14	27.05
15	Fuel Truck	40	80	52.26	1.52	0.00	3.57	8.50	12.07	65.85
15	Combine 25' Grain	237	250	159.92	3.74	0.00	34.95	29.00	63.95	227.62

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EBB4-MB-19

TABLE 5. WHOLE FARM ANNUAL EQUIPMENT, INVESTMENT, AND BUSINESS OVERHEAD COSTS

ANNUAL EQUIPMENT COSTS

						Cash Overhead		
Yr	Description	Price	Yrs Life	Salvage Value	Capital Recovery	Insur-ance	Taxes	Total
15	4-wheeler	6,000.00	10	1,500.00	734.56	18.75	0.00	753.31
15	Grain Drill - 24'	39,000.00	8	8,805.66	5,602.08	119.51	0.00	5,721.59
15	Pickup 1 - 3/4 ton	42,000.00	5	13,750.00	7,771.98	139.38	0.00	7,911.36
15	Pickup 2 - 3/4 ton	42,000.00	5	13,750.00	7,771.98	139.38	0.00	7,911.36
15	Roller-harrow -24'	59,900.00	12	8,296.54	6,970.70	170.49	0.00	7,141.19
15	Tractor - 160hp	135,000.00	25	11,416.65	11,137.65	366.04	0.00	11,503.69
15	Truck 1P 10-Wheeler	97,000.00	20	4,000.00	8,878.70	252.50	0.00	9,131.20
15	Sprayer - 50' 200 gal.	5,500.00	15	528.04	572.95	15.07	0.00	588.02
15	Tractor 2 - 200hp	162,000.00	20	20,786.46	14,474.76	456.97	0.00	14,931.72
15	Service Truck	41,000.00	20	3,000.00	3,720.03	110.00	0.00	3,830.03
15	Disk-Ripper - 17'	64,300.00	8	14,518.05	9,236.25	197.05	0.00	9,433.30
15	RT Tractor - 340hp	327,000.00	20	41,957.86	29,217.56	922.39	0.00	30,139.96
15	Pickup 3 - 3/4ton	42,000.00	10	9,000.00	5,251.81	127.50	0.00	5,379.31
15	Pickup 4 - 3/4ton	42,000.00	10	9,000.00	5,251.81	127.50	0.00	5,379.31
15	Pickup 5 - 3/4ton	42,000.00	10	9,000.00	5,251.81	127.50	0.00	5,379.31
15	Fuel Truck	51,000.00	20	3,000.00	4,645.70	135.00	0.00	4,780.70
15	Combine 25' Grain	350,000.00	10	66,020.78	44,422.68	1,040.05	0.00	45,462.73
	TOTAL	1,547,700.00	-	238,330.05	170,913.02	4,465.08	0.00	175,378.09
	90% of New Cost*	1,392,930.00	-	214,497.05	153,821.72	4,018.57	0.00	157,840.28

*Used to reflect a mix of new and used equipment

ANNUAL INVESTMENT COSTS

					Cash Overhead			
Description	Price	Yrs Life	Salvage Value	Capital Recovery	Insur-ance	Taxes	Repairs	Total
INVESTMENT								
TOTAL INVESTMENT	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00

ANNUAL BUSINESS OVERHEAD COSTS

Description	Units/ Farm	Unit	Price/ Unit	Total Cost
General Overhead	1600	acre	10.00	16,000.00
Land Rent	1600	acre	210.00	336,000.00
Management Fee	1600	acre	34.00	54,400.00

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EASTERN IDAHO

EBB4-MB-19

TABLE 6. RANGING ANALYSIS - MALTING BARLEY

COSTS PER ACRE AND PER BU AT VARYING YIELDS TO PRODUCE MALTING BARLEY

	YIELD(BU)						
	110.00	115.00	120.00	125.00	130.00	135.00	140.00
OPERATING COSTS/ACRE:							
Preharvest	322.67	322.67	322.67	322.67	322.67	322.67	322.67
Harvest	56.87	56.87	56.87	56.87	56.87	56.87	56.87
Interest on Operating Capital @ 7.00%	10.04	10.04	10.04	10.04	10.04	10.04	10.04
TOTAL OPERATING COSTS/ACRE	389.59	389.59	389.59	389.59	389.59	389.59	389.59
TOTAL OPERATING COSTS/BU	3.54	3.39	3.25	3.12	3.00	2.89	2.78
CASH OVERHEAD COSTS/ACRE	255.49	255.49	255.49	255.49	255.49	255.49	255.49
TOTAL CASH COSTS/ACRE	645.08	645.08	645.08	645.08	645.08	645.08	645.08
TOTAL CASH COSTS/BU	5.86	5.61	5.38	5.16	4.96	4.78	4.61
NON-CASH OVERHEAD COSTS/ACRE	60.27	60.27	60.27	60.27	60.27	60.27	60.27
TOTAL COSTS/ACRE	705.36	705.36	705.36	705.36	705.36	705.36	705.36
TOTAL COSTS/BU	6.41	6.13	5.88	5.64	5.43	5.22	5.04

Net Return Per Acre Above Operating Costs For Malting Barley

PRICE ($/bu)	YIELD (bu/acre)						
Malting Barley	110.00	115.00	120.00	125.00	130.00	135.00	140.00
3.75	22.91	41.66	60.41	79.16	97.91	116.66	135.41
4.00	50.41	70.41	90.41	110.41	130.41	150.41	170.41
4.25	77.91	99.16	120.41	141.66	162.91	184.16	205.41
4.50	105.41	127.91	150.41	172.91	195.41	217.91	240.41
4.75	132.91	156.66	180.41	204.16	227.91	251.66	275.41
5.00	160.41	185.41	210.41	235.41	260.41	285.41	310.41
5.25	187.91	214.16	240.41	266.66	292.91	319.16	345.41

Net Return Per Acre Above Cash Costs For Malting Barley

PRICE ($/bu)	YIELD (bu/acre)						
Malting Barley	110.00	115.00	120.00	125.00	130.00	135.00	140.00
3.75	-232.58	-213.83	-195.08	-176.33	-157.58	-138.83	-120.08
4.00	-205.08	-185.08	-165.08	-145.08	-125.08	-105.08	-85.08
4.25	-177.58	-156.33	-135.08	-113.83	-92.58	-71.33	-50.08
4.50	-150.08	-127.58	-105.08	-82.58	-60.08	-37.58	-15.08
4.75	-122.58	-98.83	-75.08	-51.33	-27.58	-3.83	19.92
5.00	-95.08	-70.08	-45.08	-20.08	4.92	29.92	54.92
5.25	-67.58	-41.33	-15.08	11.17	37.42	63.67	89.92

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EBB4-MB-19

TABLE 6. RANGING ANALYSIS CONTINUED

Net Return Per Acre Above Total Costs For Malting Barley

PRICE ($/bu)	YIELD (bu/acre)						
Malting Barley	110.00	115.00	120.00	125.00	130.00	135.00	140.00
3.75	-292.86	-274.11	-255.36	-236.61	-217.86	-199.11	-180.36
4.00	-265.36	-245.36	-225.36	-205.36	-185.36	-165.36	-145.36
4.25	-237.86	-216.61	-195.36	-174.11	-152.86	-131.61	-110.36
4.50	-210.36	-187.86	-165.36	-142.86	-120.36	-97.86	-75.36
4.75	-182.86	-159.11	-135.36	-111.61	-87.86	-64.11	-40.36
5.00	-155.36	-130.36	-105.36	-80.36	-55.36	-30.36	-5.36
5.25	-127.86	-101.61	-75.36	-49.11	-22.86	3.39	29.64