
UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION

2000

SAMPLE COSTS TO PRODUCE

WHEAT



Sacramento Valley – Yolo County
Irrigated

Prepared by

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INTRODUCTION

The sample costs to produce wheat in the Sacramento Valley - Yolo County are presented in this study. The study is intended as a guide only, and can be used in making production decisions, determining potential returns, preparing budgets and evaluating production loans. The practices described are based on production procedures considered typical for this crop and area, but will not apply to every situation. Sample costs for labor, materials, equipment and custom services are based on current figures. A blank column, “*Your Costs*”, is provided to enter your actual costs on Tables 1 and 2.

The hypothetical farm operation, production practices, overhead, and calculations are described under the assumptions. For additional information or explanation of calculations used in the study call the Department of Agricultural and Resource Economics, University of California, Davis, California, (530) 752-3589 or the Yolo County UC Cooperative Extension office.

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Sample Cost of Production Studies for many commodities are available and can be requested through the Department of Agricultural Economics, UC Davis, (530) 752-1515. Current studies, those produced during the last five years, can be downloaded from the department website www.agecon.ucdavis.edu or obtained from selected county Cooperative Extension offices.

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ASSUMPTIONS

The following assumptions pertain to sample costs for irrigated wheat production in the Sacramento Valley - Yolo County. Practices described should not be considered recommendations by the University of California, but represent production procedures considered typical for this crop in Yolo county. Some of the costs and practices may not be applicable to your situation nor used during every production year and/or additional ones not indicated may be needed. Cultural practices for the production of wheat vary by grower and region, and can be significant. The practices and inputs used in the cost study serve as a sample or guide, only. The costs are presented on an annual, per acre basis. *The use of trade names in this report does not constitute an endorsement or recommendation by the University of California nor is any criticism implied by omission of other similar products.*

Land. This report is based on a 2,900-acre field and row crop farm. Wheat is planted on noncontiguous fields totaling 900 acres, therefore farming practices can vary among fields. The other 2,000 acres, planted in rotation with the wheat, may be processing tomatoes, alfalfa hay, safflower, sunflower, dry beans and/or corn. The land rented includes developed wells and an irrigation system. All costs associated with the land and the irrigation system are incurred by the landowner. The grower also owns land, a shop, and an equipment yard.

Cultural Practices and Material Inputs

Land Preparation. Primary tillage and planting groundwork operations, which include discing, preplant fertilization, listing beds, ridging, harrowing and rolling, are done from August through October. Operations are done on all of the acreage unless noted. Beginning in August, 50% of the acres are stubble disced followed by two discings with a finish disc over 100% of the acres. Wheat is planted on raised beds or flat with irrigation border checks. Both practices are incorporated in this study. Thirty-inch beds are made with a six-row lister on 50% of the acres and irrigation border levees are made on the remaining 50%. The last operation prior to planting is to firm and smooth the ground with a harrow and roller.

Stand Establishment: Wheat is planted from late October to mid-December. In this study, 125 pounds per acre of seed is planted in November with a grain drill.

Pest Management. The pesticides and rates mentioned in this cost study are listed in UC *Integrated Pest Management Guidelines, Wheat*. For more information on pest identification, monitoring, and management visit the UC IPM website at www.ipm.ucdavis.edu. Written recommendations are required for many pesticides, and are made by licensed pest control advisors. For information on pesticide use permits, contact the local county Agricultural Commissioner's office.

Weeds. In February, a postemergence herbicide (2,4-D) is applied to 75% of the acreage to control emerged winter weeds. Application may be made by air and/or ground. In this study the herbicide is applied on 50% of the acres by a grower-owned tractor-mounted sprayer, and on 25% of the acres by a custom air applicator.

Fertilization. Because of field locations, soil types, and previous crops, fertilizer requirements between fields will exist. Preplant nitrogen as aqua ammonia (20-0-0) at 80 pounds of N per acre is applied in October to all of the fields. In February, 40 pounds of N as ammonium nitrate is topdressed on 50% of the acres. Phosphorous as 11-52-00 at 75 pounds per acre is drilled with the wheat seed on 25% of the acres.

Irrigation. In this study, water is calculated to cost \$18.83 per acre-foot and is a combination of 1/2 well water and 1/2 canal delivered surface water. The irrigation costs shown in Tables 1, 2, and 3 include water, pumping, and labor charges. In April 6 acre-inches is applied to the crop.

Harvest. It is assumed that the farm owns two combines and three bankout wagons to harvest the 900 acres. The wheat is dumped from the combine directly into the tractor-pulled bankout wagons that deliver the grain to grain trailers for transport to the buyer. Transportation from the field to the buyer is paid by the grower.

Costs for harvest operations are shown in Tables 1 and 3, and the equipment is listed in Tables 4 and 5. If a grower has the wheat custom harvested, related costs should be subtracted from harvest costs in Tables 1 and 3, and the equipment should be subtracted from investment costs in Table 4. A custom harvest charge should be added to harvest costs in Tables 1 and 3.

Growers may choose to own harvesting equipment, purchased either new or used, or hire a custom harvester. Many factors are important in deciding which harvesting option a grower uses. These considerations and an appropriate method of analysis are discussed in *"Acquiring Alfalfa Hay Harvest Equipment: A Financial Analysis of Alternatives"*.

Yields. Average wheat yields in Yolo County over the past five years ranged from 1.88 to 2.41 tons per acre and are shown in Table A. In this study, 3.00 tons per acre is used.

Returns. Growers in Yolo County received prices averaging from \$90.21 to \$142.67 per ton during the last five years. The average return prices to growers from 1995 to 1999 are shown in Table A. In this study, growers are paid \$118.25 per ton.

Table A. Average Yield and Returns for Wheat, Yolo County, 1995 - 1999¹

Year	Tons Per Acre	\$ Per Ton
1999	2.41	90.21
1998	1.98	92.36
1997	2.31	136.92
1996	2.26	142.67
1995	1.88	129.39

¹Agricultural Commissioner, Yolo County Annual Crop Reports, 1995 - 1999

Assessments. Under a state marketing order, a mandatory assessment fee of \$0.60 per ton is collected and administered by the California Wheat Commission (CWC). The CWC conducts research and market development for California wheat growers.

Labor. Basic hourly wages for workers are \$8.50 and \$6.25 per hour for machine operators and non-machine (irrigators and manual laborers) workers, respectively. Adding 34% for the employer's share of federal and state payroll taxes, insurance and other benefits raises the total labor costs to \$11.39 per hour for machine operators and \$8.38 per hour for non-machine labor. The labor for operations involving machinery is 20% higher than the operation time to account for the additional time involved in equipment set up, moving, maintenance and repair.

Risk. Risks associated with wheat production are not assigned a production cost. While this study makes an effort to model a production system based on typical, real world practices, it cannot fully represent financial, agronomic and market risks which affect the profitability and economic viability of wheat production. Because of the risk involved, growers should consider all of the agronomic and economic risks before committing resources to wheat production in Yolo County.

Overhead

Cash Overhead. Cash overhead consists of various cash expenses paid out during the year that are assigned to the whole farm and not to a particular operation. These costs include property taxes, interest on operating capital, office expense, field sanitation, liability and property insurance, supervisors salary, share rent, and investment repairs.

Property Taxes. Counties charge a base property tax rate of 1% on the assessed value of the property. In some counties special assessment districts exist and charge additional taxes on property including equipment, buildings, and improvements. For this study, county taxes are calculated as 1% of the average value of the property. Average value equals new cost plus salvage value divided by 2 on a per acre basis.

Interest On Operating Capital. Interest on operating capital is based on cash operating costs and is calculated monthly until harvest at a nominal rate of 10.71% per year. A nominal interest rate is the typical market cost of borrowed funds.

Insurance. Insurance for farm investments varies depending on the assets included and the amount of coverage. Property insurance provides coverage for property loss and is charged at 0.723% of the average value of the assets over their useful life. Liability insurance covers accidents on the farm and costs \$1,049 for the entire farm or \$0.36 per acre.

Office Expense. Office and business expenses are estimated at \$15 per acre. These expenses include office supplies, telephones, bookkeeping, accounting, legal fees, road maintenance, etc. Cash overhead costs are found in Tables 1, 2, 3 and 4.

Share Rent. Leasing practices and rental rates for agricultural property are continually being adjusted due to production changes, market economics, land values, and relative bargaining positions of the landlord and tenant. Land used for wheat production in Yolo County is commonly rented on a tenant-landowner basis with the landowner receiving 25% of the gross income.

Supervisor Salary. Wages for supervisors are included as a cash overhead cost. Supervisor salaries, including benefits, are \$100,000 per year for two supervisors and are allocated amongst the farm's other crops on a gross returns basis. Wheat is assumed to provide 14% of the farm's gross returns. Therefore, the supervisors salary for wheat is \$14,004 per year of \$15.56 per acre. Any returns above total costs are considered returns to investment.

Field Sanitation. Sanitation services provide portable toilets and washing facilities and cost the farm \$1,885 annually or \$0.65 per acre. The cost includes delivery and regular servicing of the units.

Non-cash Overhead. Non-cash overhead is calculated as the capital recovery cost for equipment and other farm investments. Although farm equipment used for wheat may be purchased new or used, this study shows the current purchase price for new equipment. The new purchase price is adjusted to 60% to indicate a mix of new and used equipment. Annual ownership costs (Equipment and Investments) are shown in Tables 1, 2, 3, and 5. They represent the capital recovery cost for investments on an annual per acre basis.

Capital Recovery Costs. Capital recovery cost is the annual depreciation and interest costs for a capital investment. It is the amount of money required each year to recover the difference between the purchase price and salvage value (unrecovered capital). Put another way, it is equivalent to the annual payment on a loan for the investment with the down payment equal to the discounted salvage value. This is a more complex method of calculating ownership costs than straight-line depreciation and opportunity costs, but more accurately represents the annual costs of ownership because it takes the time value of money into account. The calculation for the annual capital recovery costs is as follows:

$$\frac{\text{Purchase Price} - \text{Salvage Value}}{\text{Value}} \times \frac{\text{Capital Recovery}}{\text{Factor}} + \frac{\text{Salvage Value}}{\text{Value}} \times \frac{\text{Interest Rate}}{\text{Rate}}$$

Salvage Value. Salvage value is an estimate of the remaining value of an investment at the end of its useful life. For farm machinery (e.g., tractors and implements) the remaining value is a percentage of

the new cost of the investment (Boehlje and Eidman). The percent remaining value is calculated from equations developed by the American Society of Agricultural Engineers (ASAE) based on equipment type and years of life. The life in years is estimated by dividing the wearout life, as given by ASAE by the annual hours of use in this operation. For other investments including irrigation systems, buildings, and miscellaneous equipment, the value at the end of its useful life is zero. The salvage value for land is equal to the purchase price because land does not depreciate. The purchase price and salvage value for certain equipment and investments are shown in Table 5.

Capital Recovery Factor. Capital recovery factor is the amortization factor or annual payment whose present value at compound interest is 1. It is the function of the interest rate and years of life of the equipment.

Interest Rate. The interest rate of 7.08% used to calculate capital recovery cost is the United States Department of Agriculture-Economic Reporting Service's (USDA-ERS) ten-year average of California's agricultural sector long run rate of return to production assets from current income. It is used to reflect the long-term realized rate of return to these specialized resources that can only be used effectively in the agricultural sector. In other words, the next best alternative use for these resources is in another agricultural enterprise.

Equipment Costs. Equipment costs are composed of three parts: non-cash overhead, cash overhead, and operating costs. Both of the overhead factors have been discussed in previous sections. The operating costs consist of repairs, fuel, and lubrication. The fuel, lube, and repair cost per acre for each operation in Table 1 is determined by multiplying the total hourly operating cost in Table 5 for each piece of equipment used for the selected operation by the hours per acre. Tractor time is 10% higher than implement time for a given operation to account for setup, travel and down time.

Repairs, Fuel and Lube. Repair costs are based on purchase price, annual hours of use, total hours of life, and repair coefficients formulated by the American Society of Agricultural Engineers (ASAE). Fuel and lubrication costs are also determined by ASAE equations based on maximum PTO horsepower, and fuel type. Prices for on-farm delivery of diesel and gasoline are \$1.26 and \$1.49 per gallon, respectively.

Table Values. Due to rounding, the totals may be slightly different from the sum of the components.

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Table 1.

UC COOPERATIVE EXTENSION
COSTS PER ACRE TO PRODUCE WHEAT
SACRAMENTO VALLEY - YOLO COUNTY 2000

Operation	Operation Time (Hrs/A)	Cash and Labor Costs per acre					Total Cost	Your Cost
		Labor Cost	Fuel, Lube & Repairs	Material Cost	Custom/ Rent			
Cultural:								
Stubble Disc - 50% acres	0.06	1	3	0	0	4		
Disc 2X	0.22	3	8	0	0	11		
Fertilize - Preplant N	0.10	1	2	19	3	24		
Border Disc - 50% acres	0.03	0	0	0	0	1		
List Beds 50% acres	0.13	2	2	0	0	4		
Harrow & Roll Beds	0.08	1	1	0	0	2		
Plant Wheat & Apply P ₂ O ₅ 25% acres	0.13	2	2	22	0	25		
Weed Control - 75% acres	0.06	1	1	2	2	6		
Fertilize - Topdress N 50% acres	0.00	0	0	7	4	10		
Open Ditch	0.03	0	1	0	0	1		
Irrigate	1.25	10	0	9	0	19		
Close Ditch	0.03	0	0	0	0	1		
Pickup Truck Use	0.10	2	1	0	0	4		
ATV Use	0.10	1	0	0	0	1		
TOTAL CULTURAL COSTS	2.31	25	22	59	8	113		
Harvest:								
Harvest	0.23	3	7	0	0	10		
Bank Out Grain	0.23	3	4	0	0	7		
TOTAL HARVEST COSTS	0.46	6	11	0	0	17		
Postharvest:								
Stubble Disc - 50% acres	0.06	1	3	0	0	4		
TOTAL POSTHARVEST COSTS	0.06	1	3	0	0	4		
Interest on operating capital @ 10.71%						7		
TOTAL OPERATING COSTS/ACRE		31	36	59	8	141		
CASH OVERHEAD:								
Liability Insurance						0		
Office Expense						15		
Field Sanitation						1		
Share Rent @ 25% gross						89		
Supervisors Salary						16		
Property Taxes						2		
Property Insurance						1		
Investment Repairs						2		
TOTAL CASH OVERHEAD COSTS						126		
TOTAL CASH COSTS/ACRE						267		
NON-CASH OVERHEAD								
Investment		Per producing Acre		Annual Cost Capital Recovery				
Fuel Tanks & Pumps		7		1		1		
Fuel Wagon		1		0		0		
Truck Tractor		15		2		2		
Trailer - Lowbed		3		0		0		
Shop Building		22		2		2		
Shop Tools		5		0		0		
Storage Building		9		1		1		
Closed Mix System		1		0		0		
Siphon Tubes		3		0		0		
PipeMnLine10"1/4mi		15		2		2		
Tool Carrier		5		1		1		
Portable Pump		7		1		1		
Forklift - 4 Ton		3		0		0		
Equipment		252		31		31		
TOTAL NON-CASH OVERHEAD COSTS		349		41		41		
TOTAL COSTS/ACRE						308		

Table 2

UC COOPERATIVE EXTENSION
COSTS AND RETURNS PER ACRE TO PRODUCE WHEAT
SACRAMENTO VALLEY - YOLO COUNTY 2000

	Quantitv/ Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
GROSS RETURNS					
Wheat	3.00	ton	118.25	355	
OPERATING COSTS					
Fertilizer:					
20-0-0 (Aqua)	80.00	lb N	0.24	19	
11-52-0	18.75	lb	0.17	3	
34-0-0	20.00	lb N	0.33	7	
Rent:					
Aqua Applicator	1.00	acre	2.50	3	
Seed:					
Wheat Seed	125.00	lb	0.15	19	
Herbicide:					
Weedar 64	1.25	pint	1.81	2	
Custom:					
Air Application	0.75	acre	7.50	6	
Irrigation:					
Water	6.00	acin	1.57	9	
Labor (machine)	2.02	hr	10.39	21	
Labor (non-machine)	1.25	hr	8.04	10	
Fuel - Gas	0.64	gal	1.49	1	
Fuel - Diesel	16.93	gal	1.26	21	
Lube				3	
Machinery repair				10	
Interest on operating capital @ 10.71%				7	
TOTAL OPERATING COSTS/ACRE				141	
NET RETURNS ABOVE OPERATING COSTS				213	
CASH OVERHEAD COSTS:					
Liability Insurance				0	
Office Expense				15	
Field Sanitation				1	
Share Rent @ 25% gross				89	
Supervisor Salary				16	
Property Taxes				2	
Property Insurance				1	
Investment Repairs				2	
TOTAL CASH OVERHEAD COSTS/ACRE				126	
TOTAL CASH COSTS/ACRE				267	
NON-CASH OVERHEAD COSTS (Capital Recovery)					
Fuel Tanks & Pumps				1	
Fuel Wagon				0	
Truck Tractor				2	
Trailer - Lowbed				0	
Shop Building				2	
Shop Tools				0	
Storage Building				1	
Closed Mix System				0	
Siphon Tubes				0	
PipeMnLine 10" 1/4mi				2	
Tool Carrier				1	
Portable Pump				1	
Forklift - 4 Ton				0	
Equipment				31	
TOTAL NON-CASH OVERHEAD COSTS/ACRE				41	
TOTAL COSTS/ACRE				308	
NET RETURNS ABOVE TOTAL COSTS				46	

Table 3

UC COOPERATIVE EXTENSION
MONTHLY CASH COSTS
SACRAMENTO VALLEY - YOLO COUNTY 2000

Beginning AUG 99	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	TOTAL
Ending JUL 00	99	99	99	99	99	00	00	00	00	00	00	00	
Cultural:													
Stubble Disc - 50% acres	4												4
Disc 2X	5		5										11
Fertilize - Preplant N			24										24
Border Disc - 50% acres			1										1
List Beds 50% acres			4										4
Harrow & Roll Beds			2										2
Plant Wheat & Apply P2O5				25									25
Weed Control - 75% acres							6						6
Fertilize - Topdress N							10						10
Open Ditch									1				1
Irrigate									19				19
Close Ditch									1				1
Pickup Truck Use	0	0	0	0	0	0	0	0	0	0	0	0	4
ATV Use	0	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL CULTURAL COSTS	10	0	36	26	0	0	17	0	22	0	0	0	113
Harvest:													
Harvest											10		10
Bank Out Grain											7		7
TOTAL HARVEST COSTS											17		17
Postharvest:													
Stubble Disc - 50% acres											4		4
TOTAL POSTHARVEST COSTS											4		4
Interest on operating capital	0	0	0	1	1	1	1	1	1	1	1	1	7
TOTAL OPERATING COSTS/ACRE	10	1	37	27	1	1	17	1	23	1	22	0	141
OVERHEAD:													
Liability Insurance						0							0
Office Expense	1	1	1	1	1	1	1	1	1	1	1	1	15
Field Sanitation	0	0	0	0	0	0	0	0	0	0	0	0	1
Share Rent @ 25% gross												89	89
Supervisors Salary	1	1	1	1	1	1	1	1	1	1	1	1	16
Property Taxes						1							2
Property Insurance						1							1
Investment Repairs	0	0	0	0	0	0	0	0	0	0	0	0	2
TOTAL CASH OVERHEAD COSTS	3	3	3	3	3	5	3	3	3	3	3	93	126
TOTAL CASH COSTS/ACRE	13	3	39	29	4	6	20	4	25	4	25	94	267

Table 4

UC COOPERATIVE EXTENSION
WHOLE FARM ANNUAL EQUIPMENT, INVESTMENT, AND BUSINESS OVERHEAD COSTS
SACRAMENTO VALLEY - YOLO COUNTY 2000

ANNUAL EQUIPMENT COSTS

Yr	Description	Price	Yrs Life	Salvage Value	Capital Recovery	Cash Overhead		Total
						Insur- ance	Taxes	
00	130 HP 2WD Tractor	62,500	10	18,462	7,600	293	405	8,298
00	250 HP Crawler	166,238	10	16,624	22,557	661	914	24,133
00	425Hp 9400T Track	199,889	10	59,044	24,308	936	1,295	26,538
00	92 HP 2WD Tractor	39,775	10	11,749	4,837	186	258	5,281
00	ATV	10,095	5	4,524	1,682	53	73	1,808
00	Bankout Wagon 30 T	11,127	15	1,113	1,184	44	61	1,289
00	Combine-No Header #1	157,336	15	16,112	16,725	627	867	18,219
00	Combine-No Header #2	129,773	10	12,977	17,609	516	714	18,839
00	Disc - Finish 18'	16,088	12	2,228	1,910	66	92	2,068
00	Disc - Stubble 18' #1	45,045	10	7,966	5,863	192	265	6,319
00	Disc Finish 25'	40,433	12	5,600	4,801	166	230	5,197
00	Disc Ridger	916	12	127	109	4	5	118
00	Disc-Stubble 18' #2	45,045	10	7,966	5,863	192	265	6,319
00	Ditcher - V	7,800	12	1,080	926	32	44	1,003
00	Grain Drill - 20'	22,733	10	4,020	2,959	97	134	3,189
00	Grain Platform 20' #1	13,943	10	1,394	1,892	55	77	2,024
00	Grain Platform 20' #2	13,943	10	1,394	1,892	55	77	2,024
00	Harrow - Spike 32'	9,891	12	1,370	1,174	41	56	1,271
00	Lister - 6 Row	1,565	12	217	186	6	9	201
00	Pickup 1/2 Ton	20,565	5	9,217	3,426	108	149	3,683
00	Pickup 3/4 Ton	24,500	5	10,980	4,082	128	177	4,388
00	Rear Blade - 8'	2,050	18	136	201	8	11	220
00	Ringroller - 32'	7,132	12	988	847	29	41	917
00	Saddle Tank 300 #3	2,145	10	379	279	9	13	301
00	Spray Boom - 25'	1,609	10	285	209	7	9	226
TOTAL		1,052,136		195,952	133,121	4,512	6,240	143,873
60% of New Cost*		631,282		117,571	79,873	2,707	3,744	86,324

*Used to reflect a mix of new and used equipment

ANNUAL INVESTMENT COSTS

Description	Price	Yrs Life	Salvage Value	Capital Recovery	Cash Overhead			Total
					Insur- ance	Taxes	Repairs	
INVESTMENT								
Closed Mix System	3,987	10	399	541	16	22	200	779
Forklift - 4 Ton	9,116	10	912	1,237	36	50	456	1,779
Fuel Tanks & Pumps	19,835	20	1,984	1,836	79	109	397	2,421
Fuel Wagon	1,808	10	181	245	7	10	52	314
PipeMnLine 10" 1/4mi	13,446	10	5,700	1,511	69	96	358	2,033
Portable Pump	19,554	10	1,955	2,653	78	108	978	3,817
Shop Building	65,216	25	6,522	5,535	259	359	652	6,805
Shop Tools	13,072	20	1,307	1,210	52	72	131	1,465
Siphon Tubes	10,000	15	250	1,094	37	51	283	1,465
Storage Building	26,308	20	2,631	2,435	105	145	526	3,210
Tool Carrier	15,118	15	1,512	1,608	60	83	756	2,508
Trailer - Lowbed	7,695	15	769	819	31	42	103	995
Truck Tractor	44,704	15	4,470	4,756	178	246	309	5,489
TOTAL INVESTMENT	249,859		28,592	25,480	1,007	1,392	5,200	33,079

UC COOPERATIVE EXTENSION
Table 4 continued

ANNUAL BUSINESS OVERHEAD COSTS

Description	Units/		Price/	Total
	Farm	Unit	Unit	Cost
Field Sanitation	2900	acre	0.65	1885
Liability Insurance	2900	acre	0.36	1,044
Office Expense	2900	acre	15.00	43,500
Share Rent @ 25% gross	900	acre	88.75	79,875
Supervisor Salary	900	acre	15.56	14,004

Table 5

UC COOPERATIVE EXTENSION
HOURLY EQUIPMENT COSTS - WHEAT
SACRAMENTO VALLEY - YOLO COUNTY 2000

Yr	Description	COSTS PER HOUR							
		Actual Hours Used	Cash Overhead			Operating			Total Costs/Hr.
			Capital Recovery	Insur- ance	Taxes	Repairs	Fuel & Lube	Total Oper.	
00	130 HP 2WD Tractor	1,214.50	3.75	0.14	0.20	2.80	10.93	13.73	17.83
00	250 HP Crawler	852.70	15.87	0.47	0.64	3.19	21.02	24.21	41.19
00	425Hp 9400T Track	858.90	16.98	0.65	0.90	5.11	35.74	40.85	59.39
00	92 HP 2WD Tractor	1,199.90	2.42	0.09	0.13	1.78	6.55	8.33	10.97
00	ATV	200.40	5.04	0.16	0.22	0.56	1.71	2.27	7.69
00	Bankout Wagon 30 T	339.00	2.10	0.08	0.11	1.91	0.00	1.91	4.20
00	Combine-No Header #1	199.90	50.21	1.88	2.60	10.40	18.08	28.48	83.18
00	Combine-No Header #2	199.90	52.87	1.55	2.14	5.88	18.08	23.96	80.52
00	Disc - Finish 18'	249.00	4.60	0.16	0.22	2.52	0.00	2.52	7.50
00	Disc - Stubble 18' #1	210.00	16.75	0.55	0.76	7.21	0.00	7.21	25.27
00	Disc Finish 25'	177.40	16.24	0.56	0.78	6.33	0.00	6.33	23.91
00	Disc Ridger	166.00	0.39	0.01	0.02	0.25	0.00	0.25	0.67
00	Disc-Stubble 18' #2	200.00	17.59	0.57	0.80	7.21	0.00	7.21	26.17
00	Ditcher - V	166.00	3.35	0.12	0.16	2.08	0.00	2.08	5.71
00	Grain Drill - 20'	150.00	11.84	0.39	0.54	6.01	0.00	6.01	18.76
00	Grain Platform 20' #1	199.50	5.69	0.17	0.23	2.50	0.00	2.50	8.59
00	Grain Platform 20' #2	199.50	5.69	0.17	0.23	2.50	0.00	2.50	8.59
00	Harrow - Spike 32'	166.00	4.24	0.15	0.20	1.10	0.00	1.10	5.70
00	Lister - 6 Row	166.00	0.67	0.02	0.03	0.31	0.00	0.31	1.04
00	Pickup 1/2 Ton	284.40	7.23	0.23	0.31	1.33	4.28	5.61	13.38
00	Pickup 3/4 Ton	284.40	8.61	0.27	0.37	1.58	5.14	6.72	15.98
00	Rear Blade - 8'	166.00	0.73	0.03	0.04	0.30	0.00	0.30	1.09
00	Ringroller - 32'	166.00	3.06	0.11	0.15	0.80	0.00	0.80	4.11
00	Saddle Tank 300 #3	119.50	1.40	0.05	0.06	0.57	0.00	0.57	2.08
00	Spray Boom - 25'	119.50	1.05	0.03	0.05	0.43	0.00	0.43	1.56

Table 6

UC COOPERATIVE EXTENSION
RANGING ANALYSIS
SACRAMENTO VALLEY - YOLO COUNTY

COSTS PER ACRE AT VARYING YIELDS TO PRODUCE WHEAT

	YIELD (ton/acre)						
	2.10	2.40	2.70	3.00	3.30	3.60	3.90
OPERATING COSTS/ACRE:							
Cultural Cost	113	113	113	113	113	113	113
Harvest Cost	12	13	15	17	19	20	22
Postharvest Cost	4	4	4	4	4	4	4
Interest on operating capital	7	7	7	7	7	7	7
TOTAL OPERATING COSTS/ACRE	136	138	140	141	143	145	146
TOTAL OPERATING COSTS/TON	65	58	52	47	43	40	37
TOTAL CASH OVERHEAD COSTS/ACRE	99	108	117	126	135	143	152
TOTAL CASH COSTS/ACRE	235	246	257	267	278	288	298
TOTAL CASH COSTS/TON	112	102	95	89	84	80	76
NON-CASH OVERHEAD COSTS/ACRE	39	40	41	41	42	43	43
TOTAL COSTS/ACRE	274	286	298	308	320	331	341
TOTAL COSTS/TON	131	119	110	103	97	92	88

NET RETURNS PER ACRE ABOVE OPERATING COSTS FOR WHEAT

PRICE \$/TON	YIELD (ton/acre)						
	2.10	2.40	2.70	3.00	3.30	3.60	3.90
82.78	38	61	84	107	130	153	176
94.60	63	89	116	143	169	196	223
106.42	87	118	148	178	208	238	269
118.25	112	146	180	213	247	281	315
130.08	137	174	212	249	286	324	361
141.90	162	203	244	284	325	366	407
153.72	187	231	275	320	364	409	453

NET RETURN PER ACRE ABOVE CASH COST FOR WHEAT

PRICE \$/TON	YIELD (ton/acre)						
	2.10	2.40	2.70	3.00	3.30	3.60	3.90
82.78	-61	-47	-33	-18	-4	10	25
94.60	-36	-19	-1	17	35	52	71
106.42	-12	9	31	53	74	95	117
118.25	13	38	62	88	113	137	163
130.08	38	66	94	124	152	180	209
141.90	63	95	126	159	191	222	255
153.72	88	123	158	194	230	265	301

NET RETURNS PER ACRE ABOVE TOTAL COST FOR WHEAT

PRICE \$/TON	YIELD (ton/acre)						
	2.10	2.40	2.70	3.00	3.30	3.60	3.90
82.78	-100	-87	-74	-59	-46	-33	-18
94.60	-75	-59	-42	-24	-7	9	28
106.42	-51	-31	-10	12	32	52	74
118.25	-26	-2	21	47	71	94	120
130.08	-1	26	53	83	110	137	166
141.90	24	55	85	118	149	179	212
153.72	49	83	117	153	188	222	258