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	<p>1999 WINTER WHEAT AND GREEN PEA ENTERPRISE BUDGETS FOR WALLA WALLA COUNTY, WASHINGTON</p>	
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## **PREFACE**

Enterprise costs and returns vary from one farm to the next and over time for any particular farm. Variability stems from differences in:

- Capital, labor, and management resources
- Type and size of machinery complement
- Cultural practices
- Size of farm and enterprise
- Crop yields
- Input prices
- Commodity prices

Costs can also be calculated differently depending on the intended use of the cost estimate. The information in this publication serves as a general guide for analyzing the economics of winter wheat and green pea enterprises for a well-managed Walla Walla County dryland farm. To avoid drawing unwarranted conclusions for any particular farm or group of farms, you must examine closely the assumptions used. If they are not appropriate for your situation, adjust the costs and/or returns to fit.

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# **1999 WINTER WHEAT AND GREEN PEA ENTERPRISE BUDGETS FOR WALLA WALLA COUNTY, WASHINGTON**

By

Walter J. Gary and Gayle S. Willett\*

## **Introduction**

This publication presents estimated revenues, costs, and various measures of net returns for selected dryland crops produced in Walla Walla County of southeastern Washington. The specific enterprises included in the study are soft white winter wheat and green peas.

Producers, agricultural lenders, and others should find this information helpful in identifying enterprise strengths and weaknesses, adjusting production practices to increase profit, determining financing requirements, making marketing decisions, and resolving numerous other business management problems.

The enterprise data do not represent a particular farm. Instead, they represent costs and returns under the specific assumptions adopted for the study. We recommend that the blank space provided on the right-hand side of the various budget tables be used to estimate costs and returns for individual growers. Also, local Cooperative Extension agents and field persons should be consulted for recommendations on field operations and operating inputs.

## **SOURCES OF INFORMATION**

Personal interviews with selected area producers were used to identify the field operations and machinery complement commonly used. These producers were considered to be representative of well-managed farms. The quantities and types of inputs, including seed, fertilizer, herbicides, and insecticides, were based on recommended and widely used practices. Local farm suppliers were contacted to obtain price information on materials and other services commonly used by farmers. Machinery costs were based on current purchase prices and rates of annual use considered to be typical.

## **BUDGET ASSUMPTIONS**

The following assumptions were used in developing the enterprise information:

1. The representative farm in Walla Walla County is 2,000 acres, with a first year crop mix of 1,500 acres in winter wheat and 500 acres in green peas. The second year would likely consist of 500 acres of winter wheat on land not seeded to wheat the

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previous year, 500 acres of green peas, and 1,000 acres of either garbanzos, barley, canola, dry peas or lentils. The farm is a dry-land operation in an area of 18-24 inches of annual rainfall.

2. Per acre yields are as follows:

Green Peas	2,600 lbs.
Winter Wheat	85 bu.

3. Assumed prices are:

Green Peas	\$195.00/ton
Winter Wheat	\$ 2.85/bu.

4. For the purpose of computing machinery costs, machinery is valued at current replacement prices. The replacement price may be either a new or used machinery price depending on the replacement policy for a particular machine assumed for the consensus producer. While valuing machinery at replacement cost rather than original cost may overstate current production costs, it indicates the enterprise's ability to generate earnings needed to replace depreciable assets. Increases in prices mean that depreciation claimed on assets purchased before price advances understates the amount of capital required for asset replacement. When an enterprise is evaluated to determine its long-run viability, it is important to consider its ability to replace depreciable assets on a replacement cost basis.

Machinery fixed costs (depreciation, interest, property taxes, housing, and insurance) and variable costs (repairs, fuel, and lubrication) are calculated by the computer program MACHCOST, developed by L. Stodick and R. Smathers, University of Idaho. The same cost calculation procedures appear in G. Willett's and R. Smathers' "The Cost of Owning and Operating Farm Machinery in the Pacific Northwest," PNW 346, Washington State University. Producers wishing to estimate machinery costs specific to their operation may find these sources useful.

5. The farm is owned, managed, and operated by the same person(s).

The enterprise information reflects a consensus for an above average farm rather than a mathematical average of a large number of producers. Quite different enterprise costs and returns may result where factors such as farm size, machinery complement and use, cultural practices, and yields differ from those assumed in this publication. Note that blank spaces are provided in many of the following tables. Readers are encouraged to use these spaces to enter cost and revenue estimates that may differ from those identified by the study.

## **DISCUSSION OF BUDGET INFORMATION**

Budget information for each crop is reported in four tables. A summary of the data in each table is presented below.

### Tables 1A and 2A. Schedule of Operations and Costs per Acre

These tables outline the schedule of field operations by calendar month, the type of machinery and labor used, the hours used per acre, and the associated costs.

Costs are divided into two categories. The first is fixed costs which includes machinery ownership, land ownership, and management. The second category, variable costs, is associated with operating machinery, hiring labor, and purchasing services and materials. Total cost is the sum of fixed and variable costs.

Machinery fixed costs include depreciation, interest on the investment, property taxes, housing and insurance. These costs are incurred whether or not a crop is grown and do not vary with the enterprise, given the ownership of a specific equipment complement. Machinery fixed costs for a specific field operation are determined by multiplying the machine hours per acre times the per-hour fixed cost (Table 3). Thus, machinery fixed costs are allocated to individual enterprises on the basis of hours of machine use.

Land fixed costs include net rent, which is based on rental rates typical of the area minus property taxes and expenses typically incurred by the landowner. While the owner-operator obviously will not experience a land rental cost, the cost represents the minimum return the owner-operator must have to justify growing the crop on the land rather than renting it out. As a result of investing capital in land, the farmer realizes current returns from crop production and long-term appreciation (depreciation) in land value. However, the farmer continues to realize land value appreciation (depreciation) even if the land is rented out. Consequently, the appropriate land charge for growing the crop is only the foregone net rent. As used in this publication, land cost is termed an opportunity cost, to indicate that it is not an out-of-pocket expense, but rather a return that is foregone by the producer as a result of choosing to grow the crop. The individual producer may wish to substitute interest payments on loans used to buy the land and/or a desired return on the equity investment, or rent payments if the land is rented.

These tables also include management as a fixed cost. A management charge of 7% of gross receipts is used. This is representative of management fees charged by professional farm managers in Washington and is an estimation of the value of the operator's management skills.

Variable costs depend directly on the number of crop acres and type of enterprise. These costs include fuel, oil, repairs, fertilizer, chemicals, custom work, miscellaneous (telephone, utilities, legal, accounting, organization dues, etc.), and interest on operating capital. Machinery operating labor is also included as a variable cost.

### Tables 1B and 2B. Summary of Production Costs

A more detailed summary of the costs in Tables 1A and 2A is presented in these tables. This added detail includes the quantities and per-unit prices for most inputs. Most items are self-explanatory. However, machinery interest warrants an additional explanation. This item represents the cost of investing debt and/or equity capital in machinery.

The interest cost is calculated by multiplying the average machinery investment:

$$\left( \frac{\text{New Cost} + \text{Salvage Value}}{2} \right) \text{ times } 10\%.$$

#### Tables 1C and 2C. Break-Even Selling Price per Unit

These tables show break-even selling prices for different levels of enterprise costs. The first is the price needed to cover total variable costs—those costs that occur only if the crop is produced. If the price received does not equal or exceed variable costs, the crop becomes uneconomical to produce, even in the short run, for the added costs of production are greater than the added returns.

The second break-even price is the price required to cover total cash costs, except interest on land or machinery loans. If other cash costs exist on an individual's farm, these costs must be identified and included in the cash cost break-even calculation. A cash cost has been attributed to all labor, including operator/family labor.

The third break-even price is the price needed to cover total cash cost, plus depreciation on machinery. This price must be realized to stay in business over the long run.

The fourth break-even price is the price farmers must receive to recover total costs including cash costs, depreciation, and the opportunity costs for their management, labor, and investments in land, equipment, and buildings. Failure to receive this break-even price means that the owner-operator will not realize a return on management, labor, and capital contributions equivalent to what could be earned in an alternative use. Realization of a price above the break-even level means that in addition to covering all costs, the operator will earn a premium for the risk assumed in producing the crop.

#### Tables 1D and 2D. Summary of Revenues, Costs, and Net Return

Revenues, costs, and various measures of net return for the crop enterprise are summarized in these tables. The assumed commodity price represents an estimate of 1999 prices and is by no means a "predicted" price. Since net returns depend highly upon price received, readers using these tables should recalculate net returns using their estimated price.

The first net return measure is returns over variable costs, which is calculated by subtracting total variable costs from total revenues. An important use for returns over variable costs is selecting the most profitable crop mix. By selecting the crop(s) with the greatest return over variable costs, farm profits are maximized (or losses minimized). A second net returns measure, returns to land and management, is calculated by subtracting machinery fixed expenses from returns over variable cost. Return realized on capital invested in land is another net return measure. To obtain that return, all crop costs (including a management charge and real estate taxes), except the land rent, are subtracted from total receipts. The rate of return on land investment is calculated by dividing the return to land by the land's market price.

### Table 3. Machinery Complement

Table 3 identifies the machinery complement used to derive the cost estimates. It includes current purchase prices, annual hours of use, and per-hour fixed and variable costs. Fixed costs include depreciation and interest (10%) on investment, property taxes, housing, and insurance—costs that do not vary with the extent of equipment use. Variable costs include machine repair, fuel, and lubrication costs—costs that vary with the hours of machine use.

### Table 4. Prices for Selected Inputs

The prices used for fuel, chemicals, and other inputs are presented in Table 4.



Table 1A. Schedule of operations and costs per acre for winter wheat following green peas, Walla Walla County, WA.

Operation	Tooling	Month	Mach. Hr.	Labor Hr.	Total Fixed Costs <sup>1</sup>	Variable Costs						Total Costs	Comments
						Fuel, Lubr., & Repairs	Machine Labor	Service	Materials	Interest @10%	Total Variable Costs		
						— \$ Per Acre —							
Chisel Plow	350 HP-WT, 17' Chisel Plow	July	0.231	0.254	5.31	7.60	3.05	—	—	1.15	11.80	17.11	
Fertilize	350 HP-WT, Rented Applicator	Aug.	0.100	0.110	1.84	2.82	1.32	1.50	26.50	3.21	35.35	37.19	100 Lbs. N, 10 Lbs. S.
Herbicide	C. Tractor, Rented Applicator	Aug.	0.070	0.080	2.48	1.29	0.96	1.50	6.82	1.06	11.63	14.11	15 Lbs. Fargo, ½ acre
Cultivate	350 HP-WT, 35.5' Cultivator	Aug.	0.052	0.058	1.58	1.93	0.69	—	—	0.26	2.88	4.46	
Seed	C. Tractor, 36' Drills	Oct.	0.082	0.090	4.63	6.77	1.08	—	10.60	1.54	19.99	24.62	100 Lbs. Seed
Herbicide	Custom, Air	Apr.	—	—	—	—	—	4.75	10.49	0.50	15.74	15.74	12 oz. Buctril, .3 oz. Harmony Extra
Harvest	24' HS Combine	Aug.	0.123	0.148	11.65	13.56	1.77	—	—	—	15.33	26.98	
Haul Grain	2 ½ T. Truck	Aug.	0.123	0.148	4.08	2.24	1.77	—	—	—	4.01	8.09	
Crop Insurance	Multi-Peril	Aug.	—	—	—	—	—	6.00	—	—	6.00	6.00	
Pickup	3/4 Ton	Annual	0.250	0.300	3.81	1.43	3.60	—	—	—	5.03	8.84	
Miscellaneous	Utilities, Legal, Acct, Etc.	Annual	—	—	—	—	—	7.22	—	—	7.22	7.22	
Real Estate Tax		Annual	—	—	13.00	—	—	—	—	—	—	13.00	
Land Rent <sup>2</sup>	Net Rent	Annual	—	—	70.90	—	—	—	—	—	—	70.90	
Management <sup>3</sup>		Annual	—	—	16.96	—	—	—	—	—	—	16.96	
TOTAL PER ACRE			1.001	1.188	136.24	37.64	14.24	20.97	54.41	7.72	134.98	271.22	

<sup>1</sup>Includes depreciation, interest (10%), property taxes, housing and insurance on machinery.

<sup>2</sup>Net rent = Forty % of crop value (85 bu. x \$2.85) - 40% of fertilizer costs (\$26.50) - 40% of crop insurance (\$6.00) - real estate tax (\$13.00).

<sup>3</sup>Management = 7% x crop value (85 bu. x \$2.85)

Table 1B. Summary of costs per acre for winter wheat following green peas, Walla Walla County, WA.

Item	Unit	Price or Cost Per Unit	Quantity	Cost	Your Farm
Variable Costs:					
Nitrogen	Lb.	\$0.25	100	\$25.00	
Sulfur	Lb.	0.15	10	1.50	
Fargo Granular	Lb.	0.91	7.5	6.82	
Buctril	Oz.	0.52	12	6.24	
Harmony Extra	Oz.	14.17	0.3	4.25	
Seed	Lb.	0.106	100	10.60	
Rented Applicator	Acre	1.50	2	3.00	
Custom, Aerial	Acre	4.75	1	4.75	
Crop Insurance	Acre	6.00	1	6.00	
Miscellaneous	Acre	7.22	1	7.22	
Interest on Op. Capital (10%)	Acre	7.72	1	7.72	
Machinery (Fuel, Lubr., Repairs)	Acre	37.64	1	37.64	
Labor	Acre	14.24	1	14.24	
Total Variable Costs				\$134.98	
Fixed Costs:					
Depreciation on Machinery	Acre	15.65	1	\$15.65	
Interest on Machinery (10%)	Acre	13.73	1	13.73	
Taxes, Housing, & Insur. on Machinery	Acre	6.00	1	6.00	
Real Estate Tax	Acre	13.00	1	13.00	
Land (net rent) <sup>1</sup>	Acre	70.90	1	70.90	
Management <sup>2</sup>	Acre	16.96	1	16.96	
Total Fixed Costs				\$136.24	
TOTAL COST: Per Acre				\$271.22	
Per Bushel at 85 Bushels Per Acre				\$3.19	

<sup>1</sup> Net rent = Forty % of crop value (85 bu. x \$2.85) - 40% of fertilizer costs (\$26.50) - 40% of crop insurance (\$6.00) - real estate tax (\$13.00).

<sup>2</sup> Management = 7% x crop value (85 bu. x \$2.85)

Table 1C. Break-even sales prices (\$ per bushel) for winter wheat following green peas, Walla Walla County, WA.

Item	Cost Per Acre	Your Farm	Break-Even Prices <sup>1</sup>	Your Farm
Total Variable Cost	\$134.98	_____	\$1.59	_____
Plus: Mach. Taxes, Insur. & Housing	+ 6.00	_____		_____
Real Estate Tax	+ 13.00	_____		
Total Cash Cost	=153.98	_____	1.81	_____
Plus Mach. Depreciation	+ 15.65	_____		
Total Cash Cost + Depreciation	=169.63	_____	2.00	_____
Plus: Machinery Interest	+ 13.73	_____		
Land (Net Rent)	+ 70.90	_____		
Management	+ 16.96	_____		
TOTAL COST	=\$271.22	_____	\$3.19	_____

<sup>1</sup> Assumes a yield of 85 bushels per acre.

Table 1D. Summary of revenues, costs, and returns per acre for winter wheat following green peas, Walla Walla County, WA.

Item	Amount \$
Gross Revenues:	
Wheat Sales (85 bushels x \$2.85 <sup>1</sup> )	242.25
Less: Total Variable Costs	! 134.98
1. Returns over Variable Costs	= 107.27
Less: Machinery fixed costs	! 35.38
Real Estate Tax	! 13.00
2. Returns to Land and Management	= 58.89
Less: Management	! 16.96
3. Net Returns to Land:   \$ Per Acre	= 41.93
Rate of Return ( $\$41.93 \div \$1,200 \text{ Mkt. Value} \times 100$ )	= 3.5%

<sup>1</sup> Includes loan deficiency payment if market price is below \$2.85 loan rate.

Table 2A. Schedule of operations and costs per acre for green peas following winter wheat, Walla Walla County, WA.

Variable Costs													
Operation	Tooling	Month	Mach. Hr.	Labor Hr.	Total Fixed Costs <sup>1</sup>	Fuel, Lubr., & Repairs	Machine Labor	Service	Materials	Interest @ 10%	Total Variable Costs	Total Costs	Comments
– \$ Per Acre –													
Disk	350 HP-WT, 20' Disk	Aug.	0.129	0.142	6.70	4.14	1.70	—	—	0.54	6.38	13.08	
Harrow (2x)	350 HP-WT, 60' T. Harrow	Aug.	0.068	0.076	2.28	2.12	0.90	—	—	0.28	3.30	5.58	
MB Plow	350 HP-WT, 10 BTM Plow	Sept.	0.198	0.218	9.89	8.55	2.62	—	—	0.93	12.10	21.99	
Cultivate (2x)	350 HP-WT, 35.5' Cultivator	March	0.104	0.116	3.16	3.86	1.38	—	—	0.18	5.42	8.58	
Fertilize	350 HP-WT, Rented Applicator	March	0.100	0.110	1.84	2.82	1.32	1.50	6.50	0.40	12.54	14.38	20 Lbs.N, 10 Lbs. S
Cultivate	350 HP-WT, 35.5' Cultivator	March	0.052	0.058	1.58	1.93	0.69	—	—	0.09	2.71	4.29	
Herbicide	C. Tractor, Rented Applicator	April	0.070	0.080	2.48	1.29	0.96	1.50	6.17 <sup>2</sup>	0.25	10.17	12.65	20 oz. Pursuit+
Cultivate	350 HP-WT, 35.5' Cultivator	April	0.052	0.058	1.58	1.93	0.69	—	—	0.07	2.69	4.27	
Seed	C. Tractor, 36' Drills	April	0.082	0.090	4.63	6.77	1.08	—	48.00	1.40	57.25	61.88	200 Lbs. Seed
Harrow	350 HP-WT, 60' T. Harrow	April	0.034	0.038	1.14	1.06	0.45	—	—	0.04	1.55	2.69	
Pack	C. Tractor, 40' Packer	April	0.064	0.071	4.06	1.26	0.85	—	—	0.05	2.16	6.22	
Insecticide	Custom, Air	May	—	—	—	—	—	2.37 <sup>2</sup>	3.69 <sup>2</sup>	0.10	6.16	6.16	6 oz. ASANA
Harvest	By Processor	June	—	—	—	—	—	—	—	—	—	—	
Crop Insurance	Multi-Peril	June	—	—	—	—	—	9.25	—	—	9.25	9.25	
Pickup	3/4 Ton	Annual	0.250	0.300	3.81	1.37	3.60	—	—	—	4.97	8.78	
Miscellaneous	Utilities, Legal, Accnt., Etc.	Annual	—	—	—	—	—	7.45	—	—	7.45	7.45	
Real Estate Tax		Annual	—	—	13.00	—	—	—	—	—	—	13.00	
Land Rent <sup>3</sup>	Net Rent	Annual	—	—	36.40	—	—	—	—	—	—	36.40	
Management <sup>4</sup>		Annual	—	—	17.75	—	—	—	—	—	—	17.75	
TOTAL PER ACRE			1.203	1.357	110.30	37.10	16.24	22.07	64.36	4.33	144.10	254.40	

<sup>1</sup>Includes depreciation, interest (10%), property taxes, housing and insurance on machinery.<sup>2</sup>Processor pays 50% of cost.<sup>3</sup>Net Rent = one-fifth of crop value (1.3 T x \$195) - 20% of fertilizer (\$6.50) - real estate tax (\$13.00).<sup>4</sup>Management = 7% x crop value (1.3T x \$195).

Table 2B. Summary of costs per acre for green peas following winter wheat, Walla Walla County, WA.

Item	Unit	Price or Cost Per Unit	Quantity	Cost	Your Farm
Variable Costs:					
Nitrogen	Lb.	\$ 0.25	20	\$5.00	
Sulfur	Lb.	0.15	10	1.50	
Pursuit Plus	Oz.	0.617	10 <sup>1</sup>	6.17	
Seed	Lb.	0.24	200	48.00	
ASANA	Oz.	1.23	3 <sup>1</sup>	3.69	
Rented Applicator	Acre	1.50	2	3.00	
Custom, Aerial	Acre	4.75	5 <sup>1</sup>	2.37	
Crop Insurance	Acre	9.25	1	9.25	
Miscellaneous	Acre	7.22	1	7.45	
Interest on Op. Capital (10%)	Acre	4.33	1	4.33	
Machinery (Fuel, Lubr., Repairs)	Acre	37.10	1	37.10	
Labor	Acre	16.24	1	16.24	
Total Variable Costs				\$144.10	
Fixed Costs:					
Depreciation on Machinery	Acre	17.90	1	\$17.90	
Interest on Machinery (10%)	Acre	19.70	1	19.70	
Taxes, Housing & Insur. on Machinery	Acre	5.55	1	5.55	
Real Estate Tax	Acre	13.00	1	13.00	
Land (Net rent) <sup>2</sup>	Acre	36.40	1	36.40	
Management <sup>3</sup>	Acre	17.75	1	17.75	
Total Fixed Costs				\$110.30	
TOTAL COST: Per Acre				\$254.40	
Per Ton at 1.3 Tons Per Acre				\$195.69	

<sup>1</sup> Processor pays 50% of cost.

<sup>2</sup> Net rent = One-fifth of crop value (1.3T x \$195) - 20% of fertilizer (\$6.50) -real estate tax (\$13.00).

<sup>3</sup> Management = 7% x crop value (1.3 T x \$195).

Table 2C. Break-even sales prices (\$ per ton) for green peas following winter wheat, Walla Walla County, WA.

Item	Cost Per Acre	Your Farm	Break-Even Prices <sup>1</sup>	Your Farm
Total Variable Cost	\$144.10	_____	\$110.85	_____
Plus: Mach., Taxes, Insurance & Housing	+ 5.55	_____		
Real Estate Tax	+ 13.00	_____		
Total Cash Cost	= 162.65	_____	125.11	_____
Plus Mach. Depreciation	+ 17.90	_____		
Total Cash Cost + Depreciation	= 180.55	_____	138.88	_____
Plus: Machinery Interest	+ 19.70	_____		
Land (Net Rent)	+ 36.40	_____		
Management	+ 17.75	_____		
TOTAL COST	= \$254.40	_____	\$195.69	_____

<sup>1</sup> Assumes a yield of 1.3 tons (2,600 Lbs.) per acre.

Table 2D. Summary of revenues, costs, and returns per acre for green peas following winter wheat, Walla Walla County WA.

Item	Amount \$
Gross Revenues:	
Pea Sales (1.3 Ton x \$195)	\$253.50
Less: Total Variable Costs	! 144.10
1. Returns Over Variable Costs	= 109.40
Less: Machinery Fixed Costs	! 43.15
Real Estate Tax	! 13.00
2. Returns to Land and Management	= 53.25
Less Management	! 17.75
3. Returns to Land: Per Acre	= 35.50
Rate of Return ( $\$35.50 \div \$1,200 \text{ Mkt. Value} \times 100$ )	= 3.0%



Table 3. Machinery complement, capital investment, annual use, and hourly costs, Walla Walla County, 1999.

Machine Item	Purchase Price	Years to Trade	Annual Hours	Fixed Costs				Variable Costs			Total Costs
				Depr.	Interest @ 10%	Taxes, Housing, Insurance	Total	Repair	Fuel & Lubrication	Total	
— \$ Per Hour —											
350 HP - W. Tractor	\$120,000	20	750	6.97	9.03	2.35	18.35	18.00	10.22	28.22	46.57
C.Tractor-Challenger 65	140,000	20	450	13.56	17.55	4.39	35.50	12.60	5.84	18.44	53.94
24' HS Combine, used	100,000	8	200	56.51	27.40	10.96	94.87	105.75	4.67	110.42	205.29
10 BTM, MB Plow	25,000	15	100	15.07	13.70	2.74	31.51	14.87	!	14.87	46.38
17' Chisel Plow	9,200	15	250	2.22	2.02	0.40	4.64	4.68	!	4.68	9.32
20' Disk	20,000	15	75	16.07	14.61	2.92	33.60	3.91	!	3.91	37.51
35.5 Cultivator	18,900	15	200	5.70	5.18	1.04	11.92	8.80	!	8.80	20.72
36' Drills	30,000	20	175	12.40	11.27	4.96	28.63	56.20	!	56.20	84.83
60' Tine Harrow	8,000	20	60	6.32	7.01	1.40	14.73	2.58	!	2.58	17.31
40' Packer	9,000	10	50	14.82	10.59	2.12	27.53	1.17	!	1.17	28.70
2 ½ Ton Truck	40,000	10	250	9.95	11.03	12.24	33.21	8.00	10.22	18.22	51.43
3/4 Ton Pickup	22,000	10	300	5.13	5.68	4.43	15.24	2.25	3.45	5.70	20.94

Source: The hourly costs appearing in this table were generated by a microcomputer program, MACHCOST, developed by L. Stodick and R. Smathers, Department of Agricultural Economics and Rural Sociology, University of Idaho, Moscow, ID.

Table 4. Prices of selected inputs.

Item	Unit	Price
Diesel, Off-Road	Gal.	\$ 0.58
Diesel, On-Road	Gal.	1.20
Nitrogen	Lb.	0.25
Sulfur	Lb.	0.15
Pursuit Plus	Gal.	80.24
Fargo Granular	Lb.	0.91
Buctril	Gal.	62.39
Harmony Extra	10 oz.	141.70
Tilt Plus	Jug	168.06
ASANA	Gal.	147.65
Wheat Seed	Lb.	0.106
Pea Seed	Lb.	0.24
Custom, Aerial	Acre	4.75
Rental, Fertilizer/Spray Applications	Acre	1.50
Labor	Hr.	12.00
Interest Rates:     Machinery	%	10
Operating Capital	%	10

Use pesticides with care. Apply them only to plants, animals, or sites listed on the label. When mixing and applying pesticides, follow all label precautions to protect yourself and others around you. It is violation of law to disregard label directions . If pesticides are spilled on skin or clothing, remove clothing and wash skin thoroughly. Store pesticides in their original containers and keep them out of the reach of children, pets, and livestock.

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