


<p>Farm Business Management Reports</p>		<p>EB 1906</p>
	<p>2001 COST OF PRODUCING PROCESSING AND FRESH POTATOES UNDER CENTER PIVOT IRRIGATION COLUMBIA BASIN, WASHINGTON</p>	
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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, land, 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 potatoes grown on a modern, well-managed Columbia Basin farm. To avoid drawing unwarranted conclusions for any particular enterprise, the reader must closely examine the assumptions used. If they are not appropriate for the situation at hand, you should adjust the costs and/or returns.

2001 COST OF PRODUCING PROCESSING AND FRESH POTATOES UNDER CENTER PIVOT IRRIGATION, COLUMBIA BASIN, WASHINGTON

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INTRODUCTION

The enterprise budgets presented in this publication are based on potatoes produced in the Bureau of Reclamation's Columbia Basin Project. The project area is in the "big bend" of the Columbia River in south central Washington. Rainfall ranges from 6-10 inches annually; thus, crops depend on irrigation water pumped from behind the Grand Coulee Dam. Irrigation water availability, coupled with a growing season of 140 to 200 days, makes it possible to grow a multitude of crops.

In the year 2000, Washington State produced 108.0 million cwt. of potatoes on 180,000 acres. This was the largest yearly production of potatoes ever within Washington, an increase of 13 percent from the 1999 production of 95.2 million cwt.² Of the potatoes sold in Washington, in the year 2000, approximately 12% were sold on the fresh market with the remaining 88% being sold on the processing market.³

The general objective of this study was to develop enterprise budgets for both fresh and processing fall potatoes. The specific objectives were:

1. Identify production practices representative of well-managed potato enterprises grown under center pivot irrigation in the Columbia Basin.
2. Provide estimates of capital requirements, production costs, and break-even prices.
3. Provide current and prospective producers with a procedure for analyzing the profitability of producing potatoes.

SOURCES OF INFORMATION

The primary information for this study was obtained from a group of Columbia Basin potato producers. These producers were considered representative of well-managed farms. Their production practices and requirements for labor, equipment, and supplies are the basis for the assumptions used in this study and represent what this group of producers consider to be the latest developments. Local farm suppliers provided 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 typical by the producer committee.

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²Washington Agricultural Statistics Service

³State of Washington Potato Committee, "Potato Disposition Report," March 31, 2001.

BUDGET ASSUMPTIONS

The following assumptions were made in developing the potato enterprise data:

1. The enterprise budgets reported are for potatoes grown under one or more 125-acre center pivot irrigation systems.
2. All land is assumed to be rented at \$450 per acre.
3. The landowner furnishes the center pivot system and the operator pays the irrigation charge amounting to \$38 per acre. For processing potatoes, annual irrigation repairs are estimated at \$12 per acre and irrigation power charges are estimated at \$50 per acre (28 acre inches). For fresh potatoes, annual irrigation repairs are estimated at \$10 per acre and irrigation power charges are estimated to be \$50 per acre (22.5 acre inches). These power costs are representative of those farmers in Grant County, Washington. Costs are generally higher in other Columbia Basin counties.
4. Estimated annual yield per acre is estimated at 29.5 tons for processing potatoes and 27 tons for fresh potatoes.
5. The interest rate is 9.5%.
6. There are no storage costs included in these budgets.

DISCUSSION OF BUDGET INFORMATION

The budget information for each crop is reported in a set of eight tables. Tables 1 through 5 that are followed by a “P” are budget tables for “processed” potatoes. Tables 1 through 5 followed by an “F” are budget tables for “fresh” marketed potatoes. Tables 6, 7, and 8 refer to both processing and fresh potatoes. A summary of the information in each table follows.

Tables 1P and 1F. Schedule of Operations and Costs Per Acre

Tables 1P and 1F outline the schedule of field operations by month, the type of machinery and labor use, the hours of machine use per acre, and total production costs for processed and fresh potatoes, respectively.

Production costs are divided into two categories: (1) fixed costs, which include machinery ownership, land costs, and management, and (2) variable costs, which are 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, insurance, and housing costs. These costs are incurred whether or not a crop is grown and do not vary with the size of the enterprise, given the ownership of a specific machinery complement. Machinery fixed costs for a specific field operation are determined by multiplying the machine hours per acre times the per-hour fixed cost. The per-hour fixed costs, shown in Table 7, are determined by dividing the total annual fixed cost by the annual hours of machinery use over all enterprises for the representative farm.

Land fixed cost is equal to the cash rent typical of the area – \$450 per acre for land eligible to grow potatoes. Much of the land used for potato production is rented. Even if a crop is produced on owned land, the prevailing rental rate is an opportunity cost or foregone return for not renting out the land.

An opportunity cost of \$150 per acre for management is also listed in Tables 1P and 1F. This is representative of what the producer committee felt was a fair return to their management. Management is regarded as a fixed rather than a variable cost because one either uses management skills or loses them during the production year.

Variable costs depend directly on the number of crop acres and type of enterprise. These costs include labor, fuel, oil, repairs, fertilizer, chemicals, custom work, interest on operating capital, and overhead (telephone, utilities, legal, accounting, organization dues, etc.).

Tables 2P and 2F. Materials and Services Used by Operation

Tables 1P and 1F list the “Schedule of Operations and Estimated Cost per Acre...,” for the production year. The “Service” and “Materials” columns of this table list dollar amounts spent on services and materials used with individual operations. Tables 2P and 2F list, by operation, the specific services and/or materials used, the quantities used, and the estimated prices to be paid during the production year analyzed in this study for processed and fresh potatoes, respectively.

Tables 3P and 3F. Itemized Costs per Acre

Tables 3P and 3F are itemized summaries of the costs presented by field operation in Tables 1P and 1F, respectively. Most items are self-explanatory. However, "Tractor Interest" and "Machinery Interest" warrant explanations. These costs represent the opportunity cost (returns foregone by investing in machinery rather than in alternative investments) or interest paid to finance this equipment. The cost is calculated on the average annual value of the machinery over its lifetime multiplied times a 9.5% interest rate:

$$\frac{\text{Purchase Price} + \text{Salvage Value}}{2} \times 9.5\%$$

Tables 4P and 4F. Break-Even Selling Price per Ton

Tables 4P and 4F present four selling price levels needed for different levels of cost recovery for processing and fresh potatoes, respectively.

The first break-even price is that necessary to cover total variable costs – those costs that occur only if the crop is produced. If the price is below this level, the crop is uneconomic to produce, even in the short run, because the added costs of production are greater than the added returns.

The second break-even price is that price necessary to cover total cash costs, including land rent. If the land is owned, its rental value would not be listed as a cash cost, but as an opportunity cost as discussed below. This price may be viewed as that price necessary to survive in the short run.

The third break-even price is the price required to cover total cash cost plus depreciation on machinery. This price allows the producer to stay in business over the long run. However, when farmers fail to include the opportunity costs associated with the investment in land and machinery when calculating their total cost break-even price, they are overstating the profitability of farming relative to alternative uses of their own resources.

The fourth break-even price is the price the owner-operator must receive to cover all out-of-pocket expenses, plus realize a fair return to labor, operating capital, and equity capital invested in land and machinery. At prices below this level the owner-operator will not earn a return on labor and capital contributions equivalent to that assumed for this study. Realization of a price above this break-even level means that in addition to covering all cash and opportunity costs, the operator will get a return to the risk taken in producing the crop.

Table 5P and 5F. Break-Even Selling Price per Ton of Potatoes Produced at Different Yield Levels.

Tables 5P and 5F are summaries of prices producers would need to receive at different yield levels if they were to break even by covering all cash and opportunity costs.

Table 6. Machinery Complement

Table 6 identifies the machinery complement used to derive machinery costs. It includes the type of machines used on the representative farm, their current replacement value (new or used), years of use before trade-in, salvage value at trade-in, annual repair cost and annual hours of use.

Table 7. Hourly Machinery Costs

The data in Table 6 are used to estimate per-hour fixed and variable costs appearing in Table 7. Machinery fixed costs include depreciation and interest on investment, property taxes, and insurance – costs that do not vary with the crop grown or the number of acres produced. Current replacement costs are used for all machinery and equipment. While this assumption may result in an overstatement of production costs, it is an indication of the enterprise's ability to generate the earnings needed to replace depreciable assets. Continuing increases in prices paid for machinery

and equipment mean that depreciation claimed on assets purchased before price advances understates the amount of capital currently required to replace assets. When an enterprise is evaluated to determine its long-run viability, it is important to consider its ability to replace depreciable assets. Note that interest on investment represents an 9.5% opportunity cost to the enterprise. These are earnings foregone by investing money in the machinery complement rather than the next best alternative. This may also represent the interest paid on funds borrowed to finance machinery purchases.

Machinery variable costs include machine repair, fuel, and lubrication – costs that vary with the crop grown or the number of acres of crop produced.

Table 8. Input Prices

Prices used for fuel, fertilizer, chemicals, seed, custom services, labor and other inputs are listed in Table 8.

TABLE 1P. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR PROCESSING POTATOES FOLLOWING ALFALFA UNDER CENTER PIVOT IRRIGATION, COLUMBIA BASIN, WASHINGTON.*

OPERATION	TOOLING	MTH	YEAR	MACH HOURS	LABOR HOURS	TOTAL FIXED COST	VARIABLE COSTS					TOTAL VARIABLE COST	TOTAL COST
							FUEL, LUBE, & REPAIRS	LABOR	SERVICE	MATER.	INTER.		
							\$	\$	\$	\$	\$	\$	\$
NEMA & SOIL TEST	CUSTOM TEST	OCT	2000	.00	.00	.00	.00	1.00	.00	.09	1.09	1.09	
RIP FIELD	300HP-WT, 7 SHANK RIPPER	OCT	2000	.14	.17	4.80	4.66	2.05	.00	.62	7.33	12.13	
FUMIGATE**	THROUGH SPRINKLER	OCT	2000	.00	.00	.00	.00	15.00	125.63	12.89	153.52	153.52	
NEMA TEST	CUSTOM TEST	NOV	2000	.00	.00	.00	.00	.55	.00	.05	.60	.60	
MONITOR CROP***	CONSULTANT	SEA	2001	.00	.00	.00	.00	22.40	.00	1.12	23.52	23.52	
FERTILIZE	CUSTOM DOUBLE SPREAD APPLIC.	MAR	2001	.00	.00	.00	.00	10.50	192.24	10.14	212.87	212.87	
TILL FIELD	300HP-WT, 17'CHISEL/18'PACKER	APR	2001	.14	.17	6.92	5.59	2.05	.00	.32	7.96	14.89	
MARK OUT FIELD	150HP-WT, 6-ROW MARKER BAR	APR	2001	.14	.17	5.96	2.38	2.05	.00	.18	4.61	10.57	
HAUL SEED	CUSTOM HAULING	APR	2001	.00	.00	.00	.00	8.05	.00	.34	8.39	8.39	
LOAD SEED	SEED LOADER	APR	2001	.23	.28	5.01	2.06	2.82	.00	.20	5.08	10.09	
PLANT****	200HP-WT, 6R-POTATO PLANTER	APR	2001	.23	.28	31.90	14.39	3.38	.00	299.00	329.97	361.87	
INSECTICIDE	INSECTICIDE APPLICATOR W/PLANT	APR	2001	.23	.00	.98	.49	.00	.00	75.00	3.15	79.62	
FUNGICIDE	FERT/FUNG APPLIC. W/PLANTING	APR	2001	.23	.00	1.31	.59	.00	.00	38.38	1.62	41.90	
IRRIGATE	CENTER PIVOT, 28 AC. IN.	SEA	2001	.00	1.00	.00	.00	12.00	101.00	.00	5.65	118.65	
DRAG OFF	150HP-WT, 24' HARROW	MAY	2001	.07	.08	3.52	1.60	1.01	.00	.09	2.70	6.22	
RESERVOIR TILL	200HP-WT, 6R-DAMMER/DIKER	MAY	2001	.16	.19	8.19	3.77	2.30	.00	.20	6.28	14.46	
COVER SPRAY	CUSTOM AERIAL	MAY	2001	.00	.00	.00	.00	.00	7.50	16.34	.79	24.63	
HERBIGATE	THROUGH SPRINKLERS	JUN	2001	.00	.00	.00	.00	.00	4.00	11.25	.38	15.63	
FERTIGATE	THROUGH SPRINKLERS	JUN	2001	.00	.00	.00	.00	.00	.00	56.91	1.42	58.33	
FUNGIGATE	THROUGH SPRINKLERS	JUN	2001	.00	.00	.00	.00	.00	4.00	10.77	.37	15.14	
COVER SPRAY	CUSTOM AERIAL	JUN	2001	.00	.00	.00	.00	.00	7.50	16.60	.60	24.70	
FERTIGATE	THROUGH SPRINKLERS	JUL	2001	.00	.00	.00	.00	.00	.00	47.43	.79	48.22	
FUNGIGATE	THROUGH SPRINKLERS	JUL	2001	.00	.00	.00	.00	.00	4.00	62.39	1.11	67.50	
COVER SPRAY	CUSTOM AERIAL	JUL	2001	.00	.00	.00	.00	.00	7.50	40.17	.79	48.46	
COVER SPRAY	CUSTOM AERIAL	JUL	2001	.00	.00	.00	.00	.00	7.50	44.22	.86	52.58	
BORDER MAINTENCE	150HP-WT, 13' TANDEM DISK	JUL	2001	.01	.01	.53	.20	.18	.00	.01	.39	.91	
FERTIGATE	THROUGH SPRINKLERS	AUG	2001	.00	.00	.00	.00	.00	.00	47.43	.40	47.83	
FUNGIGATE	THROUGH SPRINKLERS	AUG	2001	.00	.00	.00	.00	.00	4.00	16.51	.17	20.68	
MITICIDE	CUSTOM AERIAL	AUG	2001	.00	.00	.00	.00	.00	7.50	29.08	.30	36.88	
COVER SPRAY	CUSTOM AERIAL	AUG	2001	.00	.00	.00	.00	.00	7.50	37.92	.38	45.80	
FUNGIGATE	THROUGH SPRINKLERS	AUG	2001	.00	.00	.00	.00	.00	4.00	16.25	.17	20.41	
BORDER MAINTENCE	150HP-WT, 13' TANDEM DISK	AUG	2001	.01	.01	.53	.20	.18	.00	.00	.38	.91	
DEFOLIATE	CUSTOM GROUND APPLICATION	SEP	2001	.00	.00	.00	.00	.00	8.00	24.41	.00	32.41	
PULL/PACK	300HP-WT	SEP	2001	.50	.60	10.70	12.55	7.20	.00	.00	19.76	30.45	
DIG POTATOES	200HP-WT, 3R-POTATO HARVESTER	SEP	2001	.50	1.20	38.84	18.94	14.40	.00	.00	33.34	72.18	
HAUL POTATOES	CUSTOM HAUL	SEP	2001	.00	.00	.00	.00	.00	217.00	.00	217.00	217.00	
PICKUP, MANAGEMT	3/4 TON	ANN	2001	.80	.00	7.31	4.31	.00	.00	.22	4.53	11.84	
PICKUP, IRRIGATN	3/4 TON	ANN	2001	.40	.00	2.55	2.31	.00	.00	.12	2.43	4.98	
OVERHEAD	UTILITIES, LEGAL, ACCT., ETC.	ANN	2001	.00	.00	.00	.00	.00	91.94	.00	91.94	91.94	
LAND COST	NET RENT	ANN	2001	.00	.00	450.00	.00	.00	.00	.00	.00	450.00	
MANAGEMENT	\$150 PER ACRE	ANN	2001	.00	.00	150.00	.00	.00	.00	.00	.00	150.00	
TOTAL PER ACRE				3.82	4.18	729.06	74.04	49.63	540.44	1207.90	58.73	1930.74	2659.80

*STORAGE COSTS NOT INCLUDED.

**GROUND APPLICATION WOULD RESULT IN AN INCREASE OF APPROXIMATELY \$25 PER ACRE. WHEN A NEMATODE PROBLEM EXISTS, AN ADDITIONAL FUMIGATION OF 20 GALLONS OF TELONE II @ \$10.25 PLUS \$40 GROUND APPLICATION, PER ACRE, WILL BE REQUIRED.

***CONSULTANT INCLUDES PEST, NUTRIENT AND SOIL MOISTURE MONITORING AND PETIOLE ANALYSIS.

****SEED INCLUDES FUNGICIDE TREATMENT AND CUTTING.

Table 2P. Materials and Services Used by Operation for Producing Fall Processing Potatoes.

Operation		Material and/or Service
Nema&Soil Test	September	Custom test @ \$1.00/acre
Fumigate	October	Application cost @ \$15.00/acre 37.5 gals. of metham sodium @ \$3.35/gal.
Nema Test	November	Custom test @ \$0.55/acre
Monitor Crop ¹	Season	Private consultant @ \$22.40/acre
Fertilize	March	Custom double spread application @ \$10.50/acre 125 lbs. of nitrogen (dry) @ \$.355/lb. 230 lbs. of phosphate (dry) @ \$.238/lb. 350 lbs. of potash @ \$.205/lb. 80 lbs. of sulfur @ \$.11/lb. 5 lbs. of zinc @ \$1.67/lb. 1.5 lbs. of boron @ \$2.81/lb.
Haul Seed	April	1.15 tons of seed per acre @ \$7.00/ton
Plant	April	23.0 cwt. of seed per acre @ \$13.00/cwt. ²
Insecticide	April	20 lbs. of Temik @ \$3.75/lb.
Fungicide	April	6.2 oz. of Ridomil Gold @ \$6.19/oz.
Irrigate	Season	Irrigation water @ \$38.00/acre Irrigation power @ \$50.00/acre Irrigation repair @ \$12.00/acre Fertigator rent @ \$1.00/acre
Cover Spray	May	Aerial application @ \$7.50/acre 2 lbs. of mancozeb @ \$3.36/lb. 4 lbs. of sulfur fungicide @ \$.83/lb. 5 lbs. of foliar nutrient @ \$1.26/lb.
Herbigation	June	Application cost @ \$4.00/acre 0.5 lbs. of metribuzin @ \$22.50/lb.

Table 2P. Materials and Services Used by Operation for Producing

Fall Processing Potatoes (continued).

Operation		Material and/or Service
Fertigate	June	100 lbs. of nitrogen (liq.) @ \$.441/lb. 30 lbs. of phosphate (liq.) @ \$.334/lb. 17 lbs. of sulfur (liq.) @ \$.164/lb.
Fungigate	June	Application cost @ \$4.00/acre 1.5 pints of chlorothalonil @ \$7.18/pint
Cover Spray	June	Aerial application @ \$7.50/acre 2 lbs. of Polyram @ \$3.49/lb. 5 lbs. of foliar nutrient @ \$1.26/lb. 4 lbs. of sulfur fungicide @ \$.83/lb.
Fertigate	July	80 lbs. of nitrogen (liq.) @ \$.441/lb. 30 lbs. of phosphate (liq.) @ \$.334/lb. 13 lbs. of sulfur (liq.) @ \$.164/lb.
Fungigate	July	Application cost @ \$4.00/acre 2 qts. of Rovral @ \$25.81/qt. 1.5 pints of chlorothalonil @ \$7.18/pint
Cover Spray	July	Aerial application @ \$7.50/acre 2 lbs. of mancozeb @ \$3.36/lb. 1 qt. of Monitor @ \$23.83/qt. 4 lbs. of sulfur fungicide @ \$.83/lb. 5 lbs. of foliar nutrient @ \$1.26/lb.
Cover Spray	July	Aerial application @ \$7.50/acre 1.5 pints of chlorothalonil @ \$7.18/pint 1 qt. of Monitor @ \$23.83/qt. 4 lbs. of sulfur fungicide @ \$.83/lb. 5 lbs. of foliar nutrient @ \$1.26/lb.

Table 2P. Materials and Services Used by Operation for Producing
Fall Processing Potatoes (continued).

Operation		Material and/or Service
Fertigate	August	80 lbs. of nitrogen (liq.) @ \$.441/lb. 30 lbs. of phosphate (liq.) @ \$.334/lb. 13 lbs. of sulfur (liq.) @ \$.164/lb.
Fungigate	August	Application cost @ \$4.00/acre 2 lbs. of Polyram @ \$3.49/lb. 0.25 lbs. of Super-Tin @ \$38.10/lb.
Miticide	August	Aerial application @ \$7.50/acre 2.5 pints of Comite @ \$11.63/pint
Cover Spray	August	Aerial application @ \$7.50/acre 1.5 pints of chlorothalonil @ \$7.18/pint 1 qt. of Monitor @ \$23.83/qt. 4 lbs. of sulfur fungicide @ \$.83/lb.
Fungigate	August	Application cost @ \$4.00/acre 2 lbs. of mancozeb @ \$3.36/lb. 0.25 lbs. of Super-Tin @ \$38.10/lb.
Defoliate	September/ October	Ground application @ \$8.00/acre 1 qt. of Reglone @ \$24.41/qt.
Haul	September/ October	Custom haul @ \$7.00/ton (29.5 ton yield + 5% dirt)
Overhead	Annual	5.0% of variable cost

¹Consultant includes pest, nutrient and soil moisture monitoring and petiole analysis.

²Seed includes fungicide treatment and cutting.

TABLE 3P. ITEMIZED COST PER ACRE FOR PROCESSING POTATOES FOLLOWING ALFALFA UNDER CENTER PIVOT IRRIGATION, COLUMBIA BASIN, WASHINGTON.*

		PRICE OR		VALUE OR	YOUR
	UNIT	COST/UNIT	QUANTITY	COST	FARM
VARIABLE COSTS		\$		\$	
NEMA & SOIL TEST	ACRE	1.00	1.00	1.00	_____
METHAM SODIUM	GAL.	3.35	37.50	125.63	_____
FUMIGATE APPLICATION	ACRE	15.00	1.00	15.00	_____
NEMA TEST	ACRE	.55	1.00	.55	_____
CONSULTANT	ACRE	22.40	1.00	22.40	_____
NITROGEN (DRY)	LB.	.35	125.00	44.37	_____
PHOSPHATE (DRY)	LB.	.24	230.00	54.74	_____
POTASH (DRY)	LB.	.20	350.00	71.75	_____
ZINC (DRY)	LB.	1.67	5.00	8.35	_____
BORON (DRY)	LB.	2.81	1.50	4.21	_____
SULFUR (DRY)	LB.	.11	80.00	8.80	_____
CUSTOM FERTILIZATION	ACRE	10.50	1.00	10.50	_____
POTATO SEED	CWT.	13.00	23.00	299.00	_____
CUSTOM HAULING	TON	7.00	1.15	8.05	_____
NITROGEN (LIQ)	LB.	.44	260.00	114.66	_____
PHOSPHATE (LIQ)	LB.	.33	90.00	30.06	_____
SULFUR (LIQ)	LB.	.16	43.00	7.05	_____
FERTIGATOR RENT	ACRE	1.00	1.00	1.00	_____
TEMIK	LB.	3.75	20.00	75.00	_____
RIDOMIL GOLD	OZ.	6.19	6.20	38.38	_____
MANCOZEB	LB.	3.36	6.00	20.16	_____
FOLIAR NUTRIANT	LB.	1.26	20.00	25.20	_____
SULFUR FUNGICIDE	LB.	.83	20.00	16.60	_____
POLYRAM	LB.	3.49	4.00	13.96	_____
CHLOROTHALONIL	PT.	7.18	6.00	43.08	_____
METRIBUZIN	LB.	22.50	.50	11.25	_____
MONITOR	QT.	23.83	3.00	71.49	_____
ROVRAL	PT.	25.81	2.00	51.62	_____
COMITE	PT.	11.63	2.50	29.08	_____
SUPER-TIN	LB.	38.10	.50	19.05	_____
CUSTOM AERIAL	ACRE	7.50	6.00	45.00	_____
FUNGIGATE APPLICATION	ACRE	4.00	4.00	16.00	_____
HERBIGATE APPLICATION	ACRE	4.00	1.00	4.00	_____
REGLONE	QT.	24.41	1.00	24.41	_____
DEFOLIANT APPLICATION	ACRE	8.00	1.00	8.00	_____
CUSTOM HAULING	TON	7.00	31.00	217.00	_____
HAND LABOR	HOURL	10.00	.28	2.82	_____
LABOR (TRAC/MACH)	HOURL	12.00	3.90	46.81	_____
IRRIGATION WATER	ACRE	38.00	1.00	38.00	_____
IRRIGATION POWER	ACRE	50.00	1.00	50.00	_____
IRRIGATION REPAIR	ACRE	12.00	1.00	12.00	_____
TRACTOR REPAIR	ACRE	17.22	1.00	17.22	_____
TRACTOR FUEL/LUBE	ACRE	22.73	1.00	22.73	_____
MACHINERY REPAIRS	ACRE	29.38	1.00	29.38	_____
MACHINE FUEL/LUBE	ACRE	4.72	1.00	4.72	_____
INTEREST ON OP. CAP.	ACRE	58.73	1.00	58.73	_____
OVERHEAD	ACRE	91.94	1.00	91.94	_____
TOTAL VARIABLE COST				1930.74	_____

TABLE 3P. CONTINUED

	UNIT	PRICE OR COST/UNIT	QUANTITY	VALUE OR COST	YOUR FARM
FIXED COSTS		\$		\$	
TRACTOR DEPRECIATION	ACRE	21.26	1.00	21.26	_____
TRACTOR INTEREST	ACRE	22.35	1.00	22.35	_____
TRACTOR INSURANCE	ACRE	1.34	1.00	1.34	_____
TRACTOR TAXES	ACRE	4.02	1.00	4.02	_____
TRACTOR HOUSING	ACRE	2.24	1.00	2.24	_____
MACHINE DEPRECIATION	ACRE	43.75	1.00	43.75	_____
MACHINE INTEREST	ACRE	25.44	1.00	25.44	_____
MACHINE INSURANCE	ACRE	1.53	1.00	1.53	_____
MACHINE TAXES	ACRE	4.58	1.00	4.58	_____
MACHINE HOUSING	ACRE	2.54	1.00	2.54	_____
MANAGEMENT FEE*	ACRE	150.00	1.00	150.00	_____
LAND RENT	ACRE	450.00	1.00	450.00	_____

TOTAL FIXED COST				729.06	_____
TOTAL COST				2659.80	_____

*STORAGE COSTS NOT INCLUDED.

TABLE 4P. BREAK-EVEN SELLING PRICE PER TON OF PROCESSING POTATOES PRODUCED IN THE COLUMBIA BASIN UNDER CENTER PIVOT IRRIGATION.*

	COST PER ACRE	YOUR FARM	BREAK-EVEN PRICE (\$/TON)	YOUR FARM
	\$	\$	(29.5 TONS)	\$
1. TOTAL VARIABLE COST	1,930.74	_____	65.45	_____
PLUS: TRACTOR & MACHINERY INSURANCE	2.87	_____		
TRACTOR & MACHINERY TAXES	8.60	_____		
LAND RENT	450.00			
2. TOTAL CASH COSTS	2,392.21	_____	81.09	_____
PLUS: TRACTOR & MACHINERY DEPRECIATION	65.02	_____		
3. TOTAL CASH COST & DEPRECIATION	2,457.23	_____	83.30	_____
PLUS: TRACTOR & MACHINERY INTEREST	47.79	_____		
TRACTOR & MACHINERY HOUSING	4.78	_____		
MANAGEMENT	150.00	_____		
4. TOTAL COST	2,659.80	_____	90.16	_____

*STORAGE COSTS NOT INCLUDED IN THESE CALCULATIONS.

TABLE 5P. BREAK-EVEN SELLING PRICE PER TON OF PROCESSING POTATOES PRODUCED AT DIFFERENT YIELD LEVELS.*

YIELD LEVEL (TONS/ACRE)	BREAK-EVEN PRICE (\$/TON)
25	105.00
27	97.79
29	91.58
31	86.17
33	81.41
35	77.20

* STORAGE COSTS NOT INCLUDED IN THESE CALCULATIONS.

TABLE 1F. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR FRESH POTATOES FOLLOWING ALFALFA UNDER CENTER PIVOT IRRIGATION, COLUMBIA BASIN, WASHINGTON.*

OPERATION	TOOLING	MTH	YEAR	MACH HOURS	LABOR HOURS	TOTAL FIXED COST	VARIABLE COSTS					TOTAL VARIABLE COST	TOTAL COST
							FUEL, LUBE, & REPAIRS	LABOR	SERVICE	MATER.	INTER.		
							\$	\$	\$	\$	\$	\$	\$
NEMA & SOIL TEST	CUSTOM TEST	OCT	2000	.00	.00	.00	.00	.00	1.00	.00	.09	1.09	1.09
RIP FIELD	300HP-WT, 7 SHANK RIPPER	OCT	2000	.14	.17	4.80	4.66	2.05	.00	.00	.62	7.33	12.13
FUMIGATE**	THROUGH SPRINKLER	OCT	2000	.00	.00	.00	.00	.00	15.00	125.63	12.89	153.52	153.52
NEMA TEST	CUSTOM TEST	NOV	2000	.00	.00	.00	.00	.00	.55	.00	.05	.60	.60
MONITOR CROP***	CONSULTANT	SEA	2001	.00	.00	.00	.00	.00	22.40	.00	1.12	23.52	23.52
FERTILIZE	CUSTOM DOUBLE SPREAD APPLIC.	MAR	2001	.00	.00	.00	.00	.00	10.50	192.24	9.49	212.87	212.87
TILL FIELD	300HP-WT, 17'CHISEL/18'PACKER	APR	2001	.14	.17	6.92	5.59	2.05	.00	.00	.32	7.96	14.89
MARK OUT FIELD	150HP-WT, 6-ROW MARKER BAR	APR	2001	.14	.17	5.96	2.38	2.05	.00	.00	.18	4.61	10.57
HAUL SEED	CUSTOM HAULING	APR	2001	.00	.00	.00	.00	.00	8.05	.00	.34	8.39	8.39
LOAD SEED	SEED LOADER	APR	2001	.23	.28	5.01	2.06	2.82	.00	.00	.20	5.08	10.09
PLANT****	200HP-WT, 6R-POTATO PLANTER	APR	2001	.23	.28	31.90	14.39	3.38	.00	299.00	13.20	329.97	361.87
INSECTICIDE	INSECTICIDE APPLICATOR W/PLANT	APR	2001	.23	.00	.98	.49	.00	.00	29.55	1.25	31.30	32.28
FUNGICIDE	FERT/FUNG APPLIC. W/PLANTING	APR	2001	.23	.00	1.31	.59	.00	.00	38.38	1.62	40.59	41.90
IRRIGATE	CENTER PIVOT, 28 AC. IN.	SEA	2001	.00	1.00	.00	.00	12.00	89.00	.00	5.05	106.05	106.05
DRAG OFF	150HP-WT, 24' HARROW	MAY	2001	.07	.08	3.52	1.60	1.01	.00	.00	.09	2.70	6.22
RESERVOIR TILL	200HP-WT, 6R-DAMMER/DIKER	MAY	2001	.16	.19	8.19	3.77	2.30	.00	.00	.20	6.28	14.46
HERBIGATE	THROUGH SPRINKLERS	JUN	2001	.00	.00	.00	.00	.00	4.00	11.25	.38	15.63	15.63
FERTIGATE	THROUGH SPRINKLERS	JUN	2001	.00	.00	.00	.00	.00	.00	56.91	1.42	58.33	58.33
COVER SPRAY	CUSTOM AERIAL	JUN	2001	.00	.00	.00	.00	.00	7.50	16.60	.60	24.70	24.70
FUNGIGATE	THROUGH SPRINKLERS	JUN	2001	.00	.00	.00	.00	.00	4.00	10.77	.37	15.14	15.14
FERTIGATE	THROUGH SPRINKLERS	JUL	2001	.00	.00	.00	.00	.00	.00	47.43	.79	48.22	48.22
COVER SPRAY	CUSTOM AERIAL	JUL	2001	.00	.00	.00	.00	.00	7.50	40.17	.79	48.46	48.46
COVER SPRAY	CUSTOM AERIAL	JUL	2001	.00	.00	.00	.00	.00	7.50	44.22	.86	52.58	52.58
BORDER MAINTENCE	150HP-WT, 13' TANDEM DISK	JUL	2001	.01	.01	.53	.20	.18	.00	.00	.01	.39	.91
FERTIGATE	THROUGH SPRINKLERS	AUG	2001	.00	.00	.00	.00	.00	.00	47.43	.40	47.83	47.83
FUNGIGATE	THROUGH SPRINKLERS	AUG	2001	.00	.00	.00	.00	.00	4.00	16.51	.17	20.68	20.68
BORDER MAINTENCE	150HP-WT, 13' TANDEM DISK	AUG	2001	.01	.01	.53	.20	.18	.00	.00	.00	.38	.91
DEFOLIATE*****	CUSTOM GROUND APPLICATION	SEP	2001	.00	.00	.00	.00	.00	8.00	24.41	.00	32.41	32.41
PULL/PACK	300HP-WT	SEP	2001	.50	.60	10.70	12.55	7.20	.00	.00	.00	19.76	30.45
DIG POTATOES	200HP-WT, 3R-POTATO HARVESTER	SEP	2001	.50	1.20	38.84	18.94	14.40	.00	.00	.00	33.34	72.18
HAUL POTATOES	CUSTOM HAUL	SEP	2001	.00	.00	.00	.00	.00	199.50	.00	.00	199.50	199.50
PICKUP, MANAGEMT	3/4 TON	ANN	2001	.80	.00	7.31	4.31	.00	.00	.00	.22	4.53	11.84
PICKUP, IRRIGATN	3/4 TON	ANN	2001	.40	.00	2.55	2.31	.00	.00	.00	.12	2.43	4.98
OVERHEAD	UTILITIES,LEGAL,ACCT.,ETC.	ANN	2001	.00	.00	.00	.00	.00	78.31	.00	.00	78.31	78.31
LAND COST	NET RENT	ANN	2001	.00	.00	450.00	.00	.00	.00	.00	.00	.00	450.00
MANAGEMENT	\$150 PER ACRE	ANN	2001	.00	.00	150.00	.00	.00	.00	.00	.00	.00	150.00
TOTAL PER ACRE				3.82	4.18	729.06	74.04	49.63	466.80	1003.49	53.49	1644.45	2373.51

*STORAGE COSTS NOT INCLUDED.

**GROUND APPLICATION WOULD RESULT IN AN INCREASE OF APPROXIMATELY \$25 PER ACRE. WHEN A NEMATODE PROBLEM EXISTS, AN ADDITIONAL FUMIGATION OF 20 GALLONS OF TELONE II @ \$10.25 PLUS \$40 GROUND APPLICATION, PER ACRE, WILL BE REQUIRED.

***CONSULTANT INCLUDES PEST, NUTRIENT AND SOIL MOISTURE MONITORING AND PETIOLE ANALYSIS.

****SEED INCLUDES FUNGICIDE TREATMENT AND CUTTING.

*****DEFOLIATION REQUIRED ABOUT 50% OF THE TIME.

Table 2F. Materials and Services Used by Operation for Producing Fall Fresh Potatoes.

Operation		Material and/or Service
Nema&Soil Test	September	Custom test @ \$1.00/acre
Fumigate	October	Application cost @ \$15.00/acre 37.5 gals. of metham sodium @ \$3.35/gal.
Nema Test	November	Custom test @ \$0.55/acre
Monitor Crop ¹	Season	Private consultant @ \$22.40/acre
Fertilize	March	Custom double spread application @ \$10.50/acre 125 lbs. of nitrogen (dry) @ \$.355/lb. 230 lbs. of phosphate (dry) @ \$.238/lb. 350 lbs. of potash @ \$.205/lb. 80 lbs. of sulfur @ \$.11/lb. 5 lbs. of zinc @ \$1.67/lb. 1.5 lbs. of boron @ \$2.81/lb.
Haul Seed	April	1.15 tons of seed per acre @ \$7.00/ton
Plant	April	23.0 cwt. of seed per acre @ \$13.00/cwt. ²
Insecticide	April	11.5 lbs. of Thimet 20G @ \$2.57/lb.
Fungicide	April	6.2 oz. of Ridomil Gold @ \$6.19/oz.
Irrigate	Season	Irrigation water @ \$38.00/acre Irrigation power @ \$40.00/acre Irrigation repair @ \$10.00/acre Fertigator rent @ \$1.00/acre
Herbigation	June	Application cost @ \$4.00/acre 0.5 lbs. of metribuzin @ \$22.50/lb.

Table 2F. Materials and Services Used by Operation for Producing Fall Fresh Potatoes (continued).

Operation		Material and/or Service
Fertigate	June	100 lbs. of nitrogen (liq.) @ \$.441/lb. 30 lbs. of phosphate (liq.) @ \$.334/lb. 17 lbs. of sulfur (liq.) @ \$.164/lb.
Cover Spray	June	Aerial application @ \$7.50/acre 2 lbs. of Polyram @ \$3.49/lb. 5 lbs. of foliar nutrient @ \$1.26/lb. 4 lbs. of sulfur fungicide @ \$.83/lb.
Fungigate	June	Application cost @ \$4.00/acre 1.5 pints of chlorothalonil @ \$7.18/pint
Fertigate	July	80 lbs. of nitrogen (liq.) @ \$.441/lb. 30 lbs. of phosphate (liq.) @ \$.334/lb. 13 lbs. of sulfur (liq.) @ \$.164/lb.
Cover Spray	July	Aerial application @ \$7.50/acre 2 lbs. of mancozeb @ \$3.36/lb. 1 qt. of Monitor @ \$23.83/qt. 4 lbs. of sulfur fungicide @ \$.83/lb. 5 lbs. of foliar nutrient @ \$1.26/lb.
Cover Spray	July	Aerial application @ \$7.50/acre 1.5 pints of chlorothalonil @ \$7.18/pint 1 qt. of Monitor @ \$23.83/qt. 4 lbs. of sulfur fungicide @ \$.83/lb. 5 lbs. of foliar nutrient @ \$1.26/lb.

Table 2F. Materials and Services Used by Operation for Producing Fall Fresh Potatoes (continued).

Operation		Material and/or Service
Fertigate	August	80 lbs. of nitrogen (liq.) @ \$.441/lb. 30 lbs. of phosphate (liq.) @ \$.334/lb. 13 lbs. of sulfur (liq.) @ \$.164/lb.
Fungigate	August	Application cost @ \$4.00/acre 2 lbs. of Polyram @ \$3.49/lb. 0.25 lbs. of Super-Tin @ \$38.10/lb.
Defoliate ³	September/ October	Ground application @ \$8.00/acre 1 qt. of Reglone @ \$24.41/qt.
Haul	September/ October	Custom haul @ \$7.00/ton (27 ton yield + 5% dirt)
Overhead	Annual	5.0% of variable cost

¹Consultant includes pest, nutrient and soil moisture monitoring and petiole analysis.

²Seed includes fungicide treatment and cutting.

³Defoliation required about 50% of the time.

TABLE 3F. ITEMIZED COST PER ACRE FOR FRESH POTATOES FOLLOWING ALFALFA UNDER CENTER PIVOT IRRIGATION, COLUMBIA BASIN, WASHINGTON.*

		PRICE OR		VALUE OR	YOUR
	UNIT	COST/UNIT	QUANTITY	COST	FARM
VARIABLE COSTS		\$		\$	
NEMA & SOIL TEST	ACRE	1.00	1.00	1.00	_____
METHAM SODIUM	GAL.	3.35	37.50	125.63	_____
FUMIGATE APPLICATION	ACRE	15.00	1.00	15.00	_____
NEMA TEST	ACRE	.55	1.00	.55	_____
CONSULTANT	ACRE	22.40	1.00	22.40	_____
NITROGEN (DRY)	LB.	.35	125.00	44.37	_____
PHOSPHATE (DRY)	LB.	.24	230.00	54.74	_____
POTASH (DRY)	LB.	.20	350.00	71.75	_____
ZINC (DRY)	LB.	1.67	5.00	8.35	_____
BORON (DRY)	LB.	2.81	1.50	4.21	_____
SULFUR (DRY)	LB.	.11	80.00	8.80	_____
CUSTOM FERTILIZATION	ACRE	10.50	1.00	10.50	_____
POTATO SEED	CWT.	13.00	23.00	299.00	_____
CUSTOM HAULING	TON	7.00	1.15	8.05	_____
NITROGEN (LIQ)	LB.	.44	260.00	114.66	_____
PHOSPHATE (LIQ)	LB.	.33	90.00	30.06	_____
SULFUR (LIQ)	LB.	.16	43.00	7.05	_____
FERTIGATOR RENT	ACRE	1.00	1.00	1.00	_____
THIMET	LB.	2.57	11.50	29.55	_____
RIDOMIL GOLD	OZ.	6.19	6.20	38.38	_____
MANCOZEB	LB.	3.36	2.00	6.72	_____
FOLIAR NUTRIANT	LB.	1.26	15.00	18.90	_____
SULFUR FUNGICIDE	LB.	.83	12.00	9.96	_____
POLYRAM	LB.	3.49	4.00	13.96	_____
CHLOROTHALONIL	PT.	7.18	3.00	21.54	_____
METRIBUZIN	LB.	22.50	.50	11.25	_____
MONITOR	QT.	23.83	2.00	47.66	_____
SUPER-TIN	LB.	38.10	.25	9.53	_____
CUSTOM AERIAL	ACRE	7.50	3.00	22.50	_____
FUNGIGATE APPLICATION	ACRE	4.00	2.00	8.00	_____
HERBIGATE APPLICATION	ACRE	4.00	1.00	4.00	_____
REGLONE	QT.	24.41	1.00	24.41	_____
DEFOLIANT APPLICATION	ACRE	8.00	1.00	8.00	_____
CUSTOM HAULING	TON	7.00	28.50	199.50	_____
HAND LABOR	HOUR	10.00	.28	2.82	_____
LABOR (TRAC/MACH)	HOUR	12.00	3.90	46.81	_____
IRRIGATION WATER	ACRE	38.00	1.00	38.00	_____
IRRIGATION POWER	ACRE	40.00	1.00	40.00	_____
IRRIGATION REPAIR	ACRE	10.00	1.00	10.00	_____
TRACTOR REPAIR	ACRE	17.22	1.00	17.22	_____
TRACTOR FUEL/LUBE	ACRE	22.73	1.00	22.73	_____
MACHINERY REPAIRS	ACRE	29.38	1.00	29.38	_____
MACHINE FUEL/LUBE	ACRE	4.72	1.00	4.72	_____
INTEREST ON OP. CAP.	ACRE	53.49	1.00	53.49	_____
OVERHEAD	ACRE	78.31	1.00	78.31	_____
TOTAL VARIABLE COST				1644.45	_____

TABLE 3F. CONTINUED.

	UNIT	PRICE OR COST/UNIT	QUANTITY	VALUE OR COST	YOUR FARM
FIXED COSTS		\$		\$	
TRACTOR DEPRECIATION	ACRE	21.26	1.00	21.26	_____
TRACTOR INTEREST	ACRE	22.35	1.00	22.35	_____
TRACTOR INSURANCE	ACRE	1.34	1.00	1.34	_____
TRACTOR TAXES	ACRE	4.02	1.00	4.02	_____
TRACTOR HOUSING	ACRE	2.24	1.00	2.24	_____
MACHINE DEPRECIATION	ACRE	43.75	1.00	43.75	_____
MACHINE INTEREST	ACRE	25.44	1.00	25.44	_____
MACHINE INSURANCE	ACRE	1.53	1.00	1.53	_____
MACHINE TAXES	ACRE	4.58	1.00	4.58	_____
MACHINE HOUSING	ACRE	2.54	1.00	2.54	_____
MANAGEMENT FEE	ACRE	150.00	1.00	150.00	_____
LAND RENT	ACRE	450.00	1.00	450.00	_____

TOTAL FIXED COST				729.06	_____
TOTAL COST				2373.51	_____

*STORAGE COST NOT INCLUDED.

TABLE 4F. BREAK-EVEN SELLING PRICE PER TON OF FRESH POTATOES PRODUCED IN THE COLUMBIA BASIN UNDER CENTER PIVOT IRRIGATION.

	COST PER ACRE	YOUR FARM	BREAK-EVEN PRICE (\$/TON)	YOUR FARM
	\$	\$	(27 TONS)	_____ \$
1. TOTAL VARIABLE COST	1,644.45	_____	60.91	
PLUS: TRACTOR & MACHINERY INSURANCE	2.87	=====		
TRACTOR & MACHINERY TAXES	8.60	_____		
LAND RENT	450.00			
2. TOTAL CASH COSTS	2,105.92	_____	78.00	=====
PLUS: TRACTOR & MACHINERY DEPRECIATION	65.02	_____		
3. TOTAL CASH COST & DEPRECIATION	2,170.94	_____	80.41	=====
PLUS: TRACTOR & MACHINERY INTEREST	47.79	_____		
TRACTOR & MACHINERY HOUSING	4.78	_____		
MANAGEMENT	150.00	_____		
4. TOTAL COST	2,373.51	_____	87.91	=====

* STORAGE COSTS NOT INCLUDED IN THESE CALCULATIONS.

TABLE 5F. BREAK-EVEN SELLING PRICE PER TON OF FRESH POTATOES PRODUCED AT DIFFERENT YIELD LEVELS.*

YIELD LEVEL (TONS/ACRE)	BREAK-EVEN PRICE (\$/TON)
23	101.81
25	94.28
27	87.87
29	82.34
31	77.52
33	73.29

* STORAGE COSTS NOT INCLUDED IN THESE CALCULATIONS.

Table 6. Machine Data.

Machine Name	Purchase Price	Years of Use	Salvage Value	Annual Repair Cost	Annual Hours of Use	Fuel Use per Hour
300HP-WT	138,000	10	50,000	12,000	1,000	12D
200HP-WT	119,000	10	45,000	4,500	700	9D
150HP-WT	90,000	10	20,000	1,500	450	8D
Seed Loader	16,000	10	3,500	1,000	120	.3G
Pickup, Management	30,000	4	12,000	1,000	800	3G
Pickup, Irrigation	12,000	6	2,500	1,000	400	3G
14' Ripper	15,000	15	1,000	1,000	200	
18' Packer	10,000	10	1,200	800	200	
24' Harrow	8,000	15	400	250	50	
17' Chisel Chopper	25,000	15	4,000	1,500	200	
13' Tandum Disc	9,000	10	1,800	525	200	
6R-Marker Bar	6,000	10	500	500	150	
6R-Dammer/Diker	25,000	15	3,000	850	150	
6R-Potato Planter	60,000	6	12,000	5,200	120	
3R-Potato Harvester	75,000	10	10,000	5,000	250	
Insecticide Applicator	3,000	10	0	250	120	
Fertilizer/ Fungicide Liquid Applicator	4,000	10	0	300	120	

TABLE 7. HOURLY MACHINERY COSTS.

MACHINERY	PURCHASE PRICE	YEARS TO TRADE	ANNUAL HOURS	DEPREC-IATION	INTER-EST	INSUR-ANCE	TAXES	HOUSING	TOTAL FIXED COST	REPAIR	FUEL AND LUBE	TOTAL VARIABLE COST	TOTAL COST
	\$												
									-----COST PER HOUR-----				
300HP-WT	138,000.00	10	1000	8.80	9.40	.56	1.69	.94	21.40	12.00	13.11	25.11	46.51
200HP-WT	119,000.00	10	700	10.57	11.71	.70	2.11	1.17	26.27	6.43	9.83	16.26	42.53
150HP-WT	90,000.00	10	450	15.56	12.22	.73	2.20	1.22	31.93	3.33	8.74	12.07	44.01
SEED LOADER	16,000.00	10	120	10.42	8.13	.49	1.46	.81	21.30	8.33	.41	8.75	30.05
PICKUP, MANAGEMT	30,000.00	4	800	5.63	2.63	.16	.47	.26	9.14	1.25	4.14	5.39	14.53
PICKUP, IRRIGATN	12,000.00	6	400	3.96	1.81	.11	.33	.18	6.39	2.50	3.28	5.78	12.16
14' RIPPER	15,000.00	15	200	4.67	4.00	.24	.72	.40	10.03	5.00	.00	5.00	15.03
18' PACKER	10,000.00	10	200	4.40	2.80	.17	.50	.28	8.15	4.00	.00	4.00	12.15
24' HARROW	8,000.00	15	50	10.13	8.40	.50	1.51	.84	21.39	5.00	.00	5.00	26.39
17' CHISEL CHOPPER	25,000.00	15	200	7.00	7.25	.44	1.31	.73	16.72	7.50	.00	7.50	24.22
13' TANDUM DISK	9,000.00	10	200	3.60	2.70	.16	.49	.27	7.22	2.63	.00	2.63	9.84
6R-MARKER BAR	6,000.00	10	150	3.67	2.17	.13	.39	.22	6.57	3.33	.00	3.33	9.90
6R-DAMMER/DIKER	25,000.00	15	150	9.78	9.33	.56	1.68	.93	22.28	5.67	.00	5.67	27.95
6R-POTATO PLANTER	60,000.00	6	120	66.67	30.00	1.80	5.40	3.00	106.87	43.33	.00	43.33	150.20
3R-POTATO HARVESTER	75,000.00	10	250	26.00	17.00	1.02	3.06	1.70	48.78	20.00	.00	20.00	68.78
INSECTICIDE APPLIC.	3,000.00	10	120	2.50	1.25	.08	.23	.13	4.18	2.08	.00	2.08	6.26
FERT/FUNG APPLIC.	4,000.00	10	120	3.33	1.67	.10	.30	.17	5.57	2.50	.00	2.50	8.07

Table 8. Input Prices.

Item	Unit	Price
		\$
<u>Fuel</u>		
Gasoline	Gallon	1.60
Diesel	Gallon	1.36
<u>Fertilizer</u>		
Nitrogen (dry)	Pound	.355
Nitrogen (liquid)	Pound	.441
Phosphate (dry)	Pound	.238
Phosphate (liquid)	Pound	.334
Potash (dry)	Pound	.205
Sulfur (dry)	Pound	.11
Sulfur (liquid)	Pound	.164
Zinc (dry)	Pound	1.67
Boron (dry)	Pound	2.81
Foliar Nutrient (dry)	Pound	1.26
<u>Chemicals</u>		
Metham Sodium	Gallon	3.35
Metribuzin	Pound	22.50
Mancozeb	Pound	3.36
Chlorothalonil	Pint	7.18
Monitor	Quart	23.83
Sulfur Fungicide	Pound	.83
Comite	Pint	11.63
Rovral	Pint	25.81
Temik	Pound	3.75
Thimet	Pound	2.57
Polyram	Pound	3.49
Super-Tin	Pound	38.10
Reglone	Quart	24.41
Ridomil Gold	Ounce	6.19
Telone II	Gallon	10.25
<u>Custom Rates</u>		
Fertilizer Double Spread		
Application	Acre	10.50
Aerial Application	Acre	7.50
Herbigate Application	Acre	4.00
Fungigate Application	Acre	4.00
Fumigant Application (water)	Acre	15.00
Fumigant Application (ground)	Acre	40.00
Defoliant Application (ground)	Acre	8.00

Table 8. Input Prices. (continued)

Item	Unit	Price
		\$
Hauling:		
Potato Seed	Ton	7.00
Potatoes	Ton	7.00
<u>Irrigation</u>		
Irrigation Water	Acre	38.00
Irrigation Repair (Processing Potatoes)	Acre	12.00
Irrigation Power (28 ac. in.)	Acre	50.00
Irrigation Repair (Fresh Potatoes)	Acre	10.00
Irrigation Power (22.5 ac. in.)	Acre	40.00
Rental of Fertigation Equipment	Acre	1.00
<u>Misc. Inputs</u>		
Land Rent	Acre	450.00
Potato Seed ¹	Cwt.	13.00
Nema & Soil Test	Acre	1.00
Nema Test	Acre	0.55
Consultant ²	Acre	22.40
Operator Labor	Hour	12.00
Hand Labor	Hour	10.00

¹Seed includes fungicide treatment and cutting.

²Consultant includes pest, nutrient and soil moisture monitoring, and petiole analysis.

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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