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	<p>2003 Enterprise Budgets for Summer Fallow-Winter Wheat, Spring Barley and Spring Wheat Using Conventional Tillage Practices, Lincoln County, Washington</p>	
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PREFACE

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

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

Costs can also be calculated differently depending on the intended use of the cost estimate. The information in this publication provides cost of production estimates for wheat and barley producers in Lincoln County, Washington. To avoid drawing unwarranted conclusions for any particular farm or group of farms, the reader must closely examine the assumptions used. If they are not appropriate for the situation under consideration, adjustments in the costs and/or returns should be made.

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2003 Enterprise Budgets for Summer Fallow–Winter Wheat, Spring Barley, and Spring Wheat Using Conventional Tillage Practices Lincoln County, Washington

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INTRODUCTION

This publication presents projected costs and returns for summer fallow–winter wheat, spring barley, and spring wheat grown under two, three or four-year rotations using conventional tillage practices in Lincoln County, Washington. There are representative budgets for both the 12”-14” rainfall area and for the 14”-16” rainfall area of the county. These budgets do not represent a particular farm. They represent costs and returns anticipated under the specific assumptions adopted for the study. We recommend that individual growers use these budgets as a guide for developing budgets for their own farming operations².

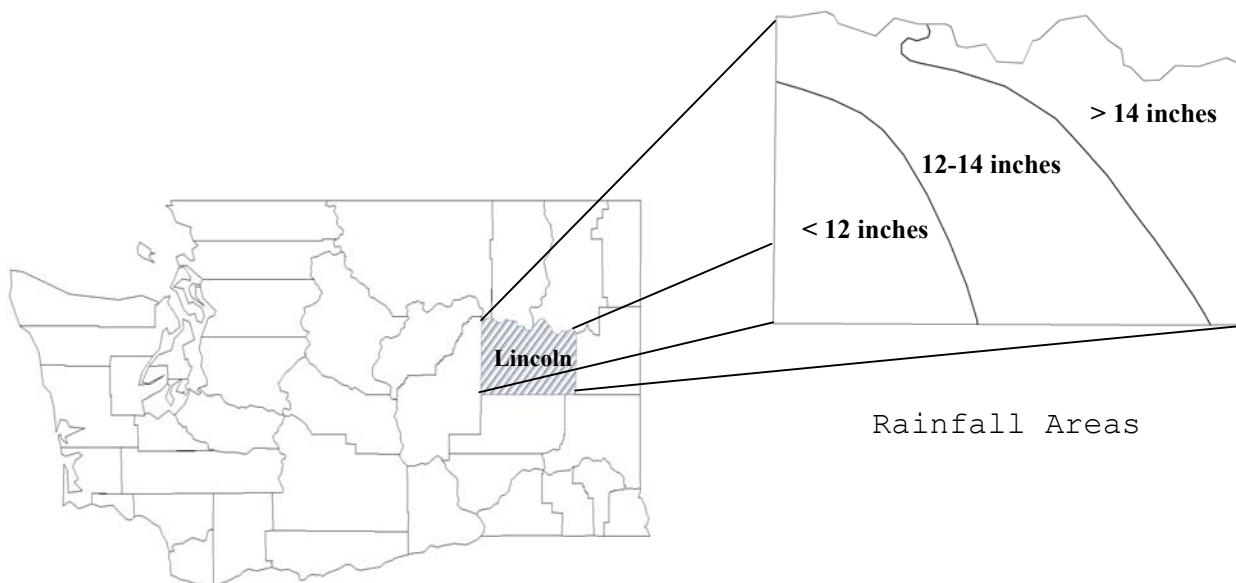


Figure 1. Lincoln, County, Washington

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² In order to get a better understanding of how to read and use crop budgets distributed by Washington State University, it is recommended that one goes to the WSU Farm Management web site <http://farm-mngt.wsu.edu/> and click on “Publication Links,” click on “Unpublished” and then click on and download the manuscript “Understanding and Using WSU Crop Enterprise Budgets.”

SOURCES OF INFORMATION

A committee of experienced Lincoln County grain producers was assembled at the request of the area extension agents. This committee identified the machinery complement, field operations, and inputs commonly used on well-managed operations. Local agricultural supply companies were contacted to obtain current price information on materials and services.

BUDGET ASSUMPTIONS

The committee assumed the following in developing the budgets:

1. The representative farms include 2,000 acres.
2. Since yield variability is quite common in Lincoln County, yields were varied for each enterprise to demonstrate the substantial impact yields can have on per unit costs.
3. Prices received for the budgeted crops, net of marketing costs, are \$3.75 per bushel for both spring and winter wheat, and \$100 per ton for barley.
4. Machinery values and costs vary widely from farm to farm in Lincoln County. When replacing machinery, many producers replace with used equipment. Thus, the machinery complement used in constructing these budgets is a representation of what a machinery complement might look like on a typical Lincoln County farm.
5. The interest rate is 8.5%.
6. The farm is owned, managed and operated by the same person.

The budgets should be viewed as “typical” or “representative,” rather than a mathematical average of a large number of producers. Where such factors as farm size, machinery complement and hourly use, cultural practices, and yield differ from those assumed in this publication, substantially different enterprise costs and returns may result. Also, this budget includes only production costs and does not consider storage, handling, transportation and interest costs associated with marketing the crop.

DISCUSSION OF BUDGET INFORMATION

Summaries of the cost and return estimates per acre for two different scenarios of 2-year rotations of summer fallow-winter wheat in the 12”-14” rainfall area of Lincoln County are presented in Tables 1 and 2. The complete details of schedule of operations and inputs used for

each of the 2-year summer fallow-winter wheat scenarios analyzed for the 12"-14" rainfall area are presented in Appendix I. An explanation as to how to read the tables presented in the appendixes is presented in the following section "Detailed Results." For each scenario, costs and returns at four different yield levels are presented. Since a summer fallow-winter wheat rotation is a 2-year rotation, **the receipts and costs presented in Tables 1 and 2 cover a 2-year period.**

Table 1. Summary of Cost and Return Estimates per Acre for a 2-Year Summer Fallow-Winter Wheat Rotation Under a Conventional Tillage System, 12"-14" Rainfall Area. Scenario #1.

Production Level (Bushels)	45.00	50.00	55.00	60.00
Expected Price (\$/Bushel)	3.75	3.75	3.75	3.75
Summer Fallow:				
Variable Cost	63.91	63.91	63.91	63.91
Fixed Cost	27.39	27.39	27.39	27.39
Total Cost	91.30	91.30	91.30	91.30
Winter Wheat:				
Variable Cost	56.33	56.70	57.08	57.45
Fixed Cost (excl. land cost)	27.00	27.00	27.00	27.00
Total Cost (excl. land cost)	83.33	83.70	84.08	84.45
Sum Fal - Win Wht 2-Year Total				
Cost (excl. land cost)	174.63	175.00	175.38	175.75
2-Year Returns minus Costs	-5.88	12.50	30.88	49.25
Land Cost	37.39	43.64	49.89	56.14
Sum Fal - Win Wht 2-Year Total				
Cost (incl. land cost)	212.02	218.64	225.27	231.89
2-Year Returns minus Costs	-43.27	-31.14	-19.02	-6.89
Break-Even Price (\$/Bushel)	5.19	4.68	4.27	3.92

Receipts are broken down as to production levels and assumed price received. Costs are broken down as to variable and fixed cost (excluding land cost), total cost (excluding land cost), land cost and total cost (including land cost). The reason costs are broken down in this manner is to show that cost of production for similar production systems vary little, regardless of production level, when land costs are not taken into consideration. Land costs, included either as

real or as opportunity costs, are based on the share rental arrangement typical in the area. In this study, net land rental cost was calculated as:

$$1/3 \text{ Crop Value} - 1/3 \text{ Fertilizer Cost} - 1/3 \text{ Crop Insurance} - \text{Land Taxes.}$$

The operator pays all other costs of production.

Table 2. Summary of Cost and Return Estimates per Acre for a 2-Year Summer Fallow-Winter Wheat Rotation Under a Conventional Tillage System, 12"-14" Rainfall Area. Scenario #2.

Production Level (Bushels)	45.00	50.00	55.00	60.00
Expected Price (\$/Bushel)	3.75	3.75	3.75	3.75
Summer Fallow:				
Variable Cost	65.06	65.06	65.06	65.06
Fixed Cost	30.78	30.78	30.78	30.78
Total Cost	95.84	95.84	95.84	95.84
Winter Wheat:				
Variable Cost	47.82	48.19	48.57	48.94
Fixed Cost (excl. land cost)	26.11	26.11	26.11	26.11
Total Cost (excl. land cost)	73.93	74.30	74.68	75.05
Sum Fal - Win Wht 2-Year Total				
Cost (excl. land cost)	169.77	170.14	170.52	170.89
2-Year Returns minus Costs	-1.01	17.36	35.74	54.11
Land Cost	38.32	44.57	50.82	57.07
Sum Fal - Win Wht 2-Year Total				
Cost (incl. land cost)	208.09	214.71	221.34	227.96
2-Year Returns minus Costs	-39.34	-27.21	-15.09	-2.96
Break-Even Price (\$/Bushel)	5.06	4.57	4.16	3.82

Since the net land rental value is based on production level, land costs vary directly with production level that in turn directly affects the total cost value. For example, for each respective 2-year rotation in Tables 1 and 2, total costs (excluding land cost) are about the same regardless of production level. However, when land costs are included, significant differences in total cost emerge. Thus, by breaking out land costs and showing results with and without land costs one gains a better comparison as to the cost differences.

Summaries of the cost and return estimates per acre for summer fallow-winter wheat, spring barley and spring wheat in the 14"-16" rainfall area of Lincoln County are presented in Tables 3, 4 and 5, respectively. As for the 12"-14" rainfall area, for each crop, costs and returns at four different yield levels are presented. . The complete details of schedule of operations and inputs used for each of the crops in the 14"-16" rainfall area are presented in Appendix II. The details of the machinery complement used for these budgets are presented in Appendix III.

Table 3. Summary of Cost and Return Estimates per Acre for Summer Fallow-Winter Wheat in a 3- or 4-Year Rotation Under a Conventional Tillage System, 14"-16" Rainfall Area.

Production Level (Bushels)	50.00	55.00	60.00	65.00
Expected Price (\$/Bushel)	3.75	3.75	3.75	3.75
Summer Fallow:				
Variable Cost	61.29	61.29	61.29	61.29
Fixed Cost	24.06	24.06	24.06	24.06
Total Cost	85.35	85.35	85.35	85.35
Winter Wheat:				
Variable Cost	46.90	47.28	47.65	48.03
Fixed Cost (excl. land cost)	28.21	28.21	28.21	28.21
Total Cost (excl. land cost)	75.11	75.49	75.86	76.24
Sum Fal - Win Wht 2-Year Total Cost (excl. land cost)	160.46	160.84	161.21	161.59
2-Year Returns minus Costs	27.04	45.42	63.79	82.17
Land Cost	42.33	48.58	54.83	61.08
Sum Fal - Win Wht 2-Year Total Cost (incl. land cost)	202.79	209.42	216.04	222.67
2-Year Returns minus Costs	-15.29	-3.16	8.96	21.09
Break-Even Price (\$/Bushel)	4.21	3.84	3.53	3.26

Table 4. Summary of Cost and Return Estimates per Acre for Spring Barley Following Winter or Spring Wheat in a 3- or 4-Year Rotation Under a Conventional Tillage System, 14"-16" Rainfall Area.

Production Level (Tons)	1.25	1.50	1.75	2.00
Expected Price (\$/Ton)	100.00	100.00	100.00	100.00
Variable Cost	99.28	100.06	100.84	101.62
Fixed Cost (excl. land cost)	31.73	31.73	31.73	31.73
Total Cost (excl. land cost)	131.01	131.79	132.57	133.35
Returns minus Costs	-6.01	18.21	42.43	66.65
Land Cost	28.92	37.25	45.58	53.92
Total Cost (incl. land cost)	159.93	169.04	178.15	187.27
Returns minus Cost	-34.93	-19.04	-3.15	12.73
Break-Even Price (\$/Ton)	142.00	119.00	102.75	90.50

Table 5. Summary of Cost and Return Estimates per Acre for Soft White Spring Wheat Following Winter Wheat or Spring Barley in a 3- or 4-Year Rotation Under a Conventional Tillage System, 14"-16" Rainfall Area.

Production Level (Bushels)	35.00	40.00	45.00	50.00
Expected Price (\$/Bushel)	3.75	3.75	3.75	3.75
Variable Cost	89.52	89.89	90.27	90.64
Fixed Cost (excl. land cost)	31.73	31.73	31.73	31.73
Total Cost (excl. land cost)	121.25	121.62	122.00	122.37
Returns minus Costs	10.01	28.38	46.76	65.13
Land Cost	32.35	38.60	44.85	51.10
Total Cost (incl. land cost)	153.60	160.22	166.85	173.47
Returns minus Costs	-22.35	-10.22	1.90	14.03
Break-Even Price (\$/Bushel)	4.71	4.13	3.69	3.33

Detailed Results

The detailed budgets for each enterprise produced in each rainfall area are presented in the appendixes. Those for the 12"-14" rainfall area are presented in Appendix I and those for the 14"-16" rainfall area are presented in Appendix II.

For each enterprise analyzed there are two tables that outline the cost and returns for producing the crop in question.. The first table, "**Schedule of Operations and Estimated Costs Per Acre for . . .**," outlines the schedule of field operations by calendar month, the type of

machinery used and the hours used per acre for wheat or barley being produced. The costs are divided into two categories: machinery and land fixed costs, and variable costs associated with operating machinery, labor, and purchasing services and materials. Whenever services and/or materials are purchased, details are footnoted at the bottom of the table. Total cost is the sum of fixed and variable cost.

Machinery fixed cost includes depreciation, interest on the investment, property taxes, insurance and housing. For the overall farm operation, these costs do not vary with the crops produced and are incurred whether or not crops are grown. Machinery fixed costs for a specific field operation are determined by multiplying the machine hours per acre times the per hour fixed cost (Appendix III, Table 23). The hourly fixed costs are determined by dividing the total fixed cost by the annual hours of machinery use for the representative farm.

Land fixed costs include taxes and net rent which is based on a one-third land owner and two-third tenant crop share with the land owner paying the land taxes and one-third the cost of fertilizer and crop insurance. The tenant pays all other production costs. While the owner-operator will not actually experience a land rental cost, the cost represents a fair market return for land ownership. In addition to “net rent return,” an owner-operator also accrues long term land appreciation which occurs whether or not the owner rents land to a tenant farmer or operates the farm him/herself. To determine the profitability of crop production relative to other business activities, the owner-operator may want to consider these land costs along with the usual production expenses.

Variable costs vary directly with the crop grown and the number of acres produced. Variable costs include fuel, oil, repairs, fertilizer, chemicals, custom work, overhead, and interest on operating capital. Labor, including that provided by the owner-operator, is also included as a variable cost.

The second table, “**Itemized Cost Per Acre for . . .**” itemizes the costs appearing in the “**Schedule of Operations and Estimated Cost Per Acre for . . .**” the respective crop enterprise. Most of the items are self-explanatory or have been explained previously. The entry “Machinery Interest,” does, however, warrant some additional explanation. Machinery interest costs are calculated on the average annual investment in the machine. The formula used to calculate the average machine investment is:

$$\frac{\text{Purchase cost} + \text{Salvage value}}{2}$$

The 8.5% interest charge made against this average investment represents an opportunity cost (returns foregone by investing in a given machine implement rather than in an alternative investment) or interest paid on money borrowed to finance machine purchases, or both. Machinery interest cost for one acre of the crop enterprise being analyzed is determined by multiplying the respective machine hours per acre times the per hour interest costs shown in the respective appendix table (Appendix III, Table 23).

It should also be noted, that in the winter wheat budgets there is a “Summer Fallow” entry that represents the cost of the previous years summer fallow plus an 8.5% interest charge. Thus, the total cost figure shown on the winter wheat budgets represents the 2-year total cost for the 2-year rotation.

APPENDIX I

2003 COST OF PRODUCING WINTER WHEAT

UNDER CONVENTIONAL

2-YEAR TILLAGE SYSTEMS

LINCOLN COUNTY, WASHINGTON

12" – 14" RAINFALL AREA

TABLE 7. ITEMIZED COST PER ACRE FOR **SUMMER FALLOW** FOLLOWING
WINTER WHEAT IN A 2-YEAR ROTATION, SCENARIO #1, LINCOLN
COUNTY, WASHINGTON, 12"-14" RAINFALL AREA.

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM

VARIABLE COSTS		\$		\$	
90' SPRAYER	ACRE	1.00	1.33	1.33	_____
SUREFIRE	PINT	4.80	.33	1.60	_____
GLYPHOSPHATE	OZ.	.22	14.00	3.08	_____
SURFACTANT	OZ.	.14	6.40	.93	_____
AMMONIA SULFATE	LB.	.12	1.70	.20	_____
NITROGEN	LB.	.28	70.00	19.60	_____
PHOSPHORUS	LB.	.41	10.00	4.10	_____
SULFUR	LB.	.32	10.00	3.20	_____
MACHINERY REPAIRS	ACRE	5.61	1.00	5.61	_____
MACHINE FUEL/LUBE	ACRE	6.12	1.00	6.12	_____
LABOR (TRAC/MACH)	HOUR	16.50	.80	13.24	_____
OVERHEAD	ACRE	3.04	1.00	3.04	_____
INTEREST ON OP. CAP.	ACRE	1.85	1.00	1.85	_____

TOTAL VARIABLE COST				63.91	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	11.45	1.00	11.45	_____
MACHINE INTEREST	ACRE	8.61	1.00	8.61	_____
MACHINE INSURANCE	ACRE	.61	1.00	.61	_____
MACHINE TAXES	ACRE	1.82	1.00	1.82	_____
MACHINE HOUSING	ACRE	1.01	1.00	1.01	_____
LAND TAXES	ACRE	3.90	1.00	3.90	_____

TOTAL FIXED COST				27.39	_____
TOTAL COST				91.30	_____

TABLE 9. ITEMIZED COST PER ACRE FOR **WINTER WHEAT** FOLLOWING
 SUMMER FALLOW IN A 2-YEAR ROTATION, SCENARIO #1, LINCOLN
 COUNTY, WASHINGTON, 12"-14" RAINFALL AREA.

		PRICE OR	QUANTITY	VALUE OR	YOUR
		UNIT COST/UNIT		COST	FARM

VARIABLE COSTS		\$		\$	
WHEAT SEED	LB.	.13	60.00	7.50	_____
90' SPRAYER	ACRE	1.00	1.00	1.00	_____
MAVERICK	OZ.	18.42	.67	12.34	_____
2,4-D	OZ.	.09	10.00	.90	_____
ALLY	OZ.	24.81	.10	2.48	_____
NITROGEN	LB.	.28	10.00	2.80	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
HAUL WHEAT	BU.	.075	52.00	3.90	_____
MACHINERY REPAIRS	ACRE	4.21	1.00	4.21	_____
MACHINE FUEL/LUBE	ACRE	4.27	1.00	4.27	_____
LABOR (TRAC/MACH)	HOUR	16.50	.66	10.84	_____
OVERHEAD	ACRE	2.71	1.00	2.71	_____
INTEREST ON OP. CAP.	ACRE	1.41	1.00	1.41	_____

TOTAL VARIABLE COST				56.85	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	8.04	1.00	8.04	_____
MACHINE INTEREST	ACRE	5.21	1.00	5.21	_____
MACHINE INSURANCE	ACRE	.37	1.00	.37	_____
MACHINE TAXES	ACRE	1.10	1.00	1.10	_____
MACHINE HOUSING	ACRE	.61	1.00	.61	_____
LAND TAXES	ACRE	3.90	1.00	3.90	_____
SUMMER FALLOW	ACRE	1.085	91.30	99.06	_____
NET LAND RENT[1]	ACRE	46.14	1.00	46.14	_____

TOTAL FIXED COST				164.44	_____
TOTAL COST				221.29	_____

[1] 1/3 CROP VALUE - 1/3 FERTILIZER COST - 1/3 CROP INSURANCE
 - LAND TAXES

GROSS RETURNS = 52 BUSHELS @ \$3.75/BU.

BREAK-EVEN PRICE = \$4.51/BU.

TABLE 10. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR **SUMMER FALLOW** FOLLOWING WINTER WHEAT IN A 2-YEAR ROTATION, SCENARIO #2, LINCOLN COUNTY, WASHINGTON, 12"-14" RAINFALL AREA.

OPERATION	TOOLING	MTH	YEAR	MACH HOURS	LABOR HOURS	TOTAL FIXED COST	VARIABLE COST					TOTAL VARIABLE COST	TOTAL COST
							FUEL, LUBE, & REPAIRS	MACH LABOR	SERVICE	MATER.	INTER.		
						\$	\$	\$	\$	\$	\$	\$	
SPRAY (10%) [1]	CUSTOM AERIAL	OCT	2002	.00	.00	.00	.00	.00	.43	.47	.00	.89	.89
HARROW	310HP-WT W/72' SUPER HARROW	OCT	2002	.03	.03	1.41	.65	.45	.00	.00	.00	1.10	2.50
SUBSOIL	310HP-WT W/20' SUBSOILER	OCT	2002	.13	.14	6.60	3.91	2.27	.00	.00	.00	6.18	12.78
SPRAY (50%) [2]	CUSTOM TERA GATOR SPRAYER	APR	2003	.00	.00	.00	.00	.00	2.00	2.07	.17	4.24	4.24
HARROW (1.5X)	310HP-WT W/72' SUPER HARROW	APR	2003	.04	.04	2.11	.97	.68	.00	.00	.07	1.72	3.83
SWEEP	310HP-WT W/35' SWEEP	MAY	2003	.05	.06	2.52	1.40	.91	.00	.00	.08	2.39	4.91
CULTI/FERT [3]	310HP-WT W/30' CULTWD/FERT BP	JUN	2003	.06	.08	3.88	1.44	1.24	.00	26.90	.84	30.42	34.30
CULTIWEED	310HP-WT W/52' CULTIWEEDER	JUL	2003	.04	.04	3.37	.96	.73	.00	.00	.04	1.72	5.09
RODWEED	310HP-WT W/60' RODWEEDER	JUL	2003	.03	.04	1.70	.64	.60	.00	.00	.03	1.27	2.97
RODWEED	310HP-WT W/60' RODWEEDER	AUG	2003	.03	.04	1.70	.64	.60	.00	.00	.02	1.26	2.97
MISC USE	TRAP WAGON	ANN	2003	.05	.05	.73	.56	.83	.00	.00	.06	1.44	2.17
MISC USE	4WD-ATV	ANN	2003	.04	.04	.27	.10	.73	.00	.00	.04	.87	1.13
MISC USE	TRUCKS	ANN	2003	.04	.04	.43	.57	.73	.00	.00	.06	1.35	1.79
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.84	.36	.91	.00	.00	.05	1.32	2.16
MISC USE	3/4 TON PICKUP	ANN	2003	.20	.22	1.31	1.92	3.63	.00	.00	.24	5.79	7.10
OVERHEAD	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	3.10	.00	.00	3.10	3.10
TAXES	LAND TAXES	ANN	2003	.00	.00	3.90	.00	.00	.00	.00	.00	.00	3.90
TOTAL PER ACRE				.79	.87	30.78	14.12	14.30	5.52	29.43	1.68	65.06	95.84

[1] SPRAYED 10% OF THE GROUND. AERIAL APPLICATION @ \$4.25/ACRE. 16 OUNCES OF GLYPHOSPHATE @ 22¢/OZ., 6.4 OZS. SURFACTANT @ 14.5¢/OZ. AND 1.7 LBS. AMMONIA SULFATE @ 12¢/LB. PER APPLIED ACRE.

[2] CUSTOM TERA GATOR SPRAYER @ \$4.00/ACRE. 14 OUNCES OF GLYPHOSPHATE @ 22¢/OZ., 6.4 OZS. SURFACTANT @ 14.5¢/OZ. AND 1.7 LBS. AMMONIA SULFATE

@ 12¢/LB. PER APPLIED ACRE.

[3] 70 LBS. NITROGEN @ 28¢/LB., 10 LBS. PHOSPHOROUS @ 41¢/LB., 10 LBS. SULFUR @ 32¢/LB.

TABLE 11. ITEMIZED COST PER ACRE FOR **SUMMER FALLOW** FOLLOWING
WINTER WHEAT IN A 2-YEAR ROTATION, SCENARIO #2, LINCOLN
COUNTY, WASHINGTON, 12"-14" RAINFALL AREA.

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM

VARIABLE COSTS		\$		\$	
AERIAL APPLICATION	ACRE	4.25	.10	.43	_____
TERA GATOR SPRAYER	ACRE	4.00	.50	2.00	_____
GLYPHOSPHATE	OZ.	.22	8.60	1.89	_____
SURFACTANT	OZ.	.14	3.84	.55	_____
AMMONIA SULFATE	LB.	.12	.71	.08	_____
NITROGEN	LB.	.28	70.00	19.60	_____
PHOSPHORUS	LB.	.41	10.00	4.10	_____
SULFUR	LB.	.32	10.00	3.20	_____
MACHINERY REPAIRS	ACRE	7.08	1.00	7.08	_____
MACHINE FUEL/LUBE	ACRE	7.04	1.00	7.04	_____
LABOR (TRAC/MACH)	HOURL	16.50	.87	14.30	_____
OVERHEAD	ACRE	3.10	1.00	3.10	_____
INTEREST ON OP. CAP.	ACRE	1.68	1.00	1.68	_____

TOTAL VARIABLE COST				65.06	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	12.85	1.00	12.85	_____
MACHINE INTEREST	ACRE	10.02	1.00	10.02	_____
MACHINE INSURANCE	ACRE	.71	1.00	.71	_____
MACHINE TAXES	ACRE	2.13	1.00	2.13	_____
MACHINE HOUSING	ACRE	1.18	1.00	1.18	_____
LAND TAXES	ACRE	3.90	1.00	3.90	_____

TOTAL FIXED COST				30.78	_____
TOTAL COST				95.84	_____

TABLE 12. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR **WINTER WHEAT** FOLLOWING SUMMER FALLOW IN A 2-YEAR ROTATION, SCENARIO #2, LINCOLN COUNTY, WASHINGTON, 12"-14" RAINFALL AREA.

OPERATION	TOOLING	MTH	YEAR	MACH HOURS	LABOR HOURS	TOTAL FIXED COST	VARIABLE COST					TOTAL VARIABLE COST	TOTAL COST
							FUEL, LUBE, & REPAIRS	MACH LABOR	SERVICE	MATER.	INTER.		
						\$	\$	\$	\$	\$	\$	\$	
HAUL SEED	2-TON TRUCK	OCT	2002	.03	.03	.33	.43	.54	.00	.00	.00	.97	1.30
SEED[1]	310HP-WT W/48'-10" HOE DRILL	OCT	2002	.06	.07	3.10	1.89	1.10	.00	6.25	.00	9.24	12.34
SPRAY (25%) [2]	CUSTOM AERIAL	APR	2003	.00	.00	.00	.00	.00	1.06	3.07	.18	4.31	4.31
SPRAY[3]	CUSTOM AERIAL	MAY	2003	.00	.00	.00	.00	.00	4.25	6.23	.37	10.85	10.85
CROP INSURANCE	FIRE AND HAIL	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.09	2.59	2.59
HARVEST	25' ROTARY LEVEL LAND COMBINE	JUL	2003	.07	.09	7.05	1.83	1.43	.00	.00	.07	3.33	10.38
HAUL WHEAT[4]	7.5 CENTS/BU.	JUL	2003	.00	.00	.00	.00	.00	3.90	.00	.08	3.98	3.98
MISC USE	TRUCKS	ANN	2003	.04	.04	.43	.57	.73	.00	.00	.06	1.35	1.79
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.84	.36	.91	.00	.00	.05	1.32	2.16
MISC USE	3/4 TON PICKUP	ANN	2003	.20	.22	1.31	1.92	3.63	.00	.00	.24	5.79	7.10
MISC USE	4WD-ATV	ANN	2003	.04	.04	.27	.10	.73	.00	.00	.04	.87	1.13
MISC USE	TRAP WAGON	ANN	2003	.05	.05	.73	.56	.83	.00	.00	.06	1.44	2.17
OVERHEAD	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	2.30	.00	.00	2.30	2.30
SUMMER FAL COST	SUMMER FALLOW COST + INTEREST	ANN	2003	.00	.00	103.99	.00	.00	.00	.00	.00	.00	103.99
TAXES	LAND TAXES	ANN	2003	.00	.00	3.90	.00	.00	.00	.00	.00	.00	3.90
LAND COST	NET LAND RENT	ANN	2003	.00	.00	47.07	.00	.00	.00	.00	.00	.00	47.07
TOTAL PER ACRE				.53	.60	169.02	7.66	9.89	14.01	15.55	1.23	48.34	217.36

[1]50 LBS. @ 12.5¢/LB.

[2]25% OF THE GROUND SPRAYED. CUSTOM AERIAL @ \$4.25/ACRE. 0.67 OUNCE MAVERICK @ \$18.42/OZ. PER APPLIED ACRE.

[3]CUSTOM AERIAL @ \$4.25/ACRE. 0.3 OUNCE HARMONY EXTRA @ \$13.22/OZ. AND 1 PINT OF MCPA @ \$2.26/PINT.

[4]52 BUSHEL @ 7.5¢/BU.

TABLE 13. ITEMIZED COST PER ACRE FOR **WINTER WHEAT** FOLLOWING
 SUMMER FALLOW IN A 2-YEAR ROTATION, SCENARIO #2, LINCOLN
 COUNTY, WASHINGTON, 12"-14" RAINFALL AREA.

		PRICE OR	QUANTITY	VALUE OR	YOUR
		UNIT COST/UNIT		COST	FARM

VARIABLE COSTS		\$		\$	
WHEAT SEED	LB.	.13	50.00	6.25	_____
AERIAL APPLICATION	ACRE	4.25	1.25	5.31	_____
MAVERICK	OZ.	18.42	.17	3.07	_____
HARMONY EXTRA	OZ.	13.22	.30	3.97	_____
MCPA	PINT	2.26	1.00	2.26	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
HAUL WHEAT	BU.	.075	52.00	3.90	_____
MACHINERY REPAIRS	ACRE	3.81	1.00	3.81	_____
MACHINE FUEL/LUBE	ACRE	3.86	1.00	3.86	_____
LABOR (TRAC/MACH)	HOUR	16.50	.60	9.89	_____
OVERHEAD	ACRE	2.30	1.00	2.30	_____
INTEREST ON OP. CAP.	ACRE	1.23	1.00	1.23	_____

TOTAL VARIABLE COST				48.34	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	7.43	1.00	7.43	_____
MACHINE INTEREST	ACRE	4.74	1.00	4.74	_____
MACHINE INSURANCE	ACRE	.34	1.00	.34	_____
MACHINE TAXES	ACRE	1.01	1.00	1.01	_____
MACHINE HOUSING	ACRE	.56	1.00	.56	_____
LAND TAXES	ACRE	3.90	1.00	3.90	_____
SUMMER FALLOW	ACRE	1.085	95.84	103.99	_____
NET LAND RENT[1]	ACRE	47.07	1.00	47.07	_____

TOTAL FIXED COST				169.02	_____
TOTAL COST				217.36	_____

[1] 1/3 CROP VALUE - 1/3 FERTILIZER COST - 1/3 CROP INSURANCE
 - LAND TAXES

GROSS RETURNS = 52 BUSHEL X \$3.75/BU.

BREAK-EVEN PRICE = \$4.40/BU.

APPENDIX II

2003 COST OF PRODUCING WHEAT AND BARLEY

UNDER CONVENTIONAL

3- & 4-YEAR TILLAGE SYSTEMS

LINCOLN COUNTY, WASHINGTON

14" – 16" RAINFALL AREA

TABLE 14. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR **SUMMER FALLOW** FOLLOWING SPRING BARLEY OR SPRING WHEAT IN A 3- OR 4-YEAR ROTATION, LINCOLN COUNTY, WASHINGTON, 14"-16" RAINFALL AREA.

OPERATION	TOOLING	MTH	YEAR	MACH HOURS	LABOR HOURS	TOTAL FIXED COST	VARIABLE COST					TOTAL VARIABLE COST	TOTAL COST
							FUEL, LUBE, & REPAIRS	MACH LABOR	SERVICE	MATER.	INTER.		
						\$	\$	\$	\$	\$	\$	\$	
HARROW	310HP-WT W/72' SUPER HARROW	OCT	2002	.03	.03	1.41	.65	.45	.00	.00	.00	1.10	2.50
HARROW	310HP-WT W/70' SUPER HARROW	MAY	2003	.03	.03	1.41	.65	.45	.00	.00	.04	1.14	2.54
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAY	2003	.01	.02	.15	.15	.33	.00	.00	.02	.49	.64
SPRAY[1]	310HP-WT W/90' SPRAYER	MAY	2003	.02	.02	.51	.29	.40	1.00	4.65	.22	6.56	7.07
CULTIVATE (2X)	310HP-WT W/40' CULTIVATOR	MAY	2003	.10	.11	3.73	2.27	1.81	.00	.00	.14	4.23	7.96
CULTI/FERT[2]	310HP-WT W/36' CULT/FERT BKPK	JUN	2003	.06	.08	3.88	1.44	1.24	.00	26.72	.83	30.23	34.12
RODWEED	310HP-WT W/60' RODWEEDER	JUN	2003	.03	.04	1.83	.65	.61	.00	.00	.04	1.29	3.12
RODWEED	310HP-WT W/60' RODWEEDER	JUL	2003	.03	.37	1.83	.65	.61	.00	.00	.03	1.28	3.12
RODWEED	310HP-WT W/60' RODWEEDER	AUG	2003	.03	.04	1.83	.65	.61	.00	.00	.02	1.27	3.11
MISC USE	4WD-ATV	ANN	2003	.04	.04	.27	.10	.73	.00	.00	.04	.87	1.13
MISC USE	TRUCKS	ANN	2003	.04	.04	.43	.57	.73	.00	.00	.06	1.35	1.79
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.84	.36	.91	.00	.00	.05	1.32	2.16
MISC USE	3/4 TON PICKUP	ANN	2003	.20	.22	1.31	1.92	3.63	.00	.00	.24	5.79	7.10
MISC USE	TRAP WAGON	ANN	2003	.05	.05	.73	.56	.83	.00	.00	.06	1.44	2.17
OVERHEAD	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	2.92	.00	.00	2.92	2.92
TAXES	LAND TAXES	ANN	2003	.00	.00	3.90	.00	.00	.00	.00	.00	.00	3.90
TOTAL PER ACRE				.72	1.14	24.06	10.91	13.32	3.92	31.37	1.78	61.29	85.35

[1] SPRAYER RENTAL @ \$1.00/ACRE. 16 OUNCES OF GLYPHOSPHATE @ 22¢/OZ. 6.4 OZS. SURFACTANT @ 14.5¢/OZ. AND 1.7 LBS. AMMONIA SULFATE @ 12¢/LB.

[2] 70 LBS. NITROGEN @ 28¢/LB. 8 LBS. PHOSPHOROUS @ 41¢/LB. 12 LBS. SULFUR @ 32¢/LB.

TABLE 15. ITEMIZED COST PER ACRE FOR **SUMMER FALLOW** FOLLOWING
 SPRING BARLEY OR SPRING WHEAT IN A 3- OR 4-YEAR ROTATION,
 LINCOLN COUNTY, WASHINGTON, 14"-16" RAINFALL AREA.

		PRICE OR UNIT COST/UNIT	QUANTITY	VALUE OR COST	YOUR FARM

VARIABLE COSTS		\$		\$	
90' SPRAYER	ACRE	1.00	1.00	1.00	_____
GLYPHOSPHATE	OZ.	.22	16.00	3.52	_____
SURFACTANT	OZ.	.14	6.40	.93	_____
AMMONIA SULFATE	LB.	.12	1.70	.20	_____
NITROGEN	LB.	.28	70.00	19.60	_____
PHOSPHORUS	LB.	.41	8.00	3.28	_____
SULFUR	LB.	.32	12.00	3.84	_____
MACHINERY REPAIRS	ACRE	5.24	1.00	5.24	_____
MACHINE FUEL/LUBE	ACRE	5.67	1.00	5.67	_____
LABOR (TRAC/MACH)	HOUR	16.50	.81	13.32	_____
OVERHEAD	ACRE	2.92	1.00	2.92	_____
INTEREST ON OP. CAP.	ACRE	1.78	1.00	1.78	_____

TOTAL VARIABLE COST				61.29	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	9.70	1.00	9.70	_____
MACHINE INTEREST	ACRE	7.47	1.00	7.47	_____
MACHINE INSURANCE	ACRE	.53	1.00	.53	_____
MACHINE TAXES	ACRE	1.59	1.00	1.59	_____
MACHINE HOUSING	ACRE	.88	1.00	.88	_____
LAND TAXES	ACRE	3.90	1.00	3.90	_____

TOTAL FIXED COST				24.06	_____
TOTAL COST				85.35	_____

TABLE 16. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR **WINTER WHEAT** FOLLOWING SUMMER FALLOW IN A 3- OR 4-YEAR ROTATION, LINCOLN COUNTY, WASHINGTON, 14"-16" RAINFALL AREA.

OPERATION	TOOLING	MTH	YEAR	MACH HOURS	LABOR HOURS	TOTAL FIXED COST	VARIABLE COST					TOTAL VARIABLE COST	TOTAL COST
							FUEL, LUBE, & REPAIRS	MACH LABOR	SERVICE	MATER.	INTER.		
						\$	\$	\$	\$	\$	\$	\$	
HAUL SEED	2-TON TRUCK	OCT	2002	.03	.03	.33	.43	.54	.00	.00	.00	.97	1.30
SEED/FERT[1]	310HP-WT W/48'-10" HOE DRILL	OCT	2002	.06	.07	3.11	1.89	1.10	.00	14.40	.00	17.39	20.49
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAY	2003	.01	.02	.15	.15	.33	.00	.00	.02	.49	.64
SPRAY[2]	310HP-WT W/90' SPRAYER	MAY	2003	.02	.02	.51	.29	.40	1.00	3.38	.18	5.25	5.76
CROP INSURANCE	FIRE AND HAIL	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.09	2.59	2.59
HARVEST	25' ROTARY LEVEL LAND COMBINE	JUL	2003	.03	.04	3.53	.91	.71	.00	.00	.03	1.66	5.19
HARVEST	25' ROTARY HILL-SIDE COMBINE	JUL	2003	.03	.04	5.87	.91	.71	.00	.00	.03	1.66	7.53
HAUL WHEAT[3]	7.5 CENTS/BU.	JUL	2003	.00	.00	.00	.00	.00	4.50	.00	.10	4.60	4.60
MISC USE	TRUCKS	ANN	2003	.04	.04	.43	.57	.73	.00	.00	.06	1.35	1.79
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.84	.36	.91	.00	.00	.05	1.32	2.16
MISC USE	3/4 TON PICKUP	ANN	2003	.20	.22	1.31	1.92	3.63	.00	.00	.24	5.79	7.10
MISC USE	4WD-ATV	ANN	2003	.04	.04	.27	.10	.73	.00	.00	.04	.87	1.13
MISC USE	TRAP WAGON	ANN	2003	.05	.05	.73	.56	.83	.00	.00	.06	1.44	2.17
OVERHEAD	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	2.27	.00	.00	2.27	2.27
SUMMER FAL COST	SUMMER FALLOW COST + INTEREST	ANN	2003	.00	.00	92.60	.00	.00	.00	.00	.00	.00	92.60
TAXES	LAND TAXES	ANN	2003	.00	.00	3.90	.00	.00	.00	.00	.00	.00	3.90
LAND COST	NET LAND RENT	ANN	2003	.00	.00	54.83	.00	.00	.00	.00	.00	.00	54.83
TOTAL PER ACRE				.56	.64	168.39	8.10	10.62	10.27	17.78	.89	47.66	216.05

[1]60 LBS. SEED @ 12.5¢/LB., 10 LBS. NITROGEN @ 28¢/LB., 10 LBS.PHOSPHOROUS @ 41¢/LB.

[2]SPRAYER RENTAL @ \$1.00/ACRE. 10 OUNCES OF 2,4-D @ 9¢/OZ., 0.1 OUNCE ALLY @ \$24.81/OZ.

[3]60 BUSHEL @ 7.5¢/BU.

TABLE 17. ITEMIZED COST PER ACRE FOR **WINTER WHEAT** FOLLOWING
 SUMMER FALLOW IN A 3- OR 4-YEAR ROTATION, LINCOLN COUNTY,
 WASHINGTON, 14"-16" RAINFALL AREA.

		PRICE OR	QUANTITY	VALUE OR	YOUR
		UNIT COST/UNIT		COST	FARM

VARIABLE COSTS		\$		\$	
WHEAT SEED	LB.	.13	60.00	7.50	_____
NITROGEN	LB.	.28	10.00	2.80	_____
PHOSPHORUS	LB.	.41	10.00	4.10	_____
90' SPRAYER	ACRE	1.00	1.00	1.00	_____
2,4-D	OZ.	.09	10.00	.90	_____
ALLY	OZ.	24.81	.10	2.48	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
HAUL WHEAT	BU.	.075	60.00	4.50	_____
MACHINERY REPAIRS	ACRE	3.98	1.00	3.98	_____
MACHINE FUEL/LUBE	ACRE	4.11	1.00	4.11	_____
LABOR (TRAC/MACH)	HOURL	16.50	.64	10.62	_____
OVERHEAD	ACRE	2.27	1.00	2.27	_____
INTEREST ON OP. CAP.	ACRE	.89	1.00	.89	_____

TOTAL VARIABLE COST				47.66	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	9.08	1.00	9.08	_____
MACHINE INTEREST	ACRE	5.71	1.00	5.71	_____
MACHINE INSURANCE	ACRE	.40	1.00	.40	_____
MACHINE TAXES	ACRE	1.21	1.00	1.21	_____
MACHINE HOUSING	ACRE	.67	1.00	.67	_____
SUMMER FALLOW COST	ACRE	1.085	85.35	92.60	_____
LAND TAXES	ACRE	3.90	1.00	3.90	_____
NET LAND RENT[1]	ACRE	54.83	1.00	54.83	_____

TOTAL FIXED COST				168.39	_____
TOTAL COST				216.05	_____

[1] 1/3 CROP VALUE - 1/3 FERTILIZER COST - 1/3 CROP INSURANCE
 - LAND TAXES.

GROSS RETURNS = 60 BUSHEL X \$3.75/BU.

BREAK-EVEN PRICE = \$3.53/BU.

TABLE 18. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR **SPRING BARLEY** FOLLOWING WINTER OR SPRING WHEAT IN A 3- OR 4-YEAR ROTATION, LINCOLN COUNTY, WASHINGTON, 14"-16" RAINFALL AREA.

OPERATION	TOOLING	MTH	YEAR	MACH HOURS	LABOR HOURS	VARIABLE COST						TOTAL VARIABLE COST	TOTAL COST						
						TOTAL FIXED COST	FUEL, LUBE, & REPAIRS	MACH LABOR	SERVICE	MATER.	INTER.								
													\$	\$	\$	\$	\$	\$	\$
HARROW	310HP-WT W/72' SUPER HARROW	OCT	2002	.03	.03	1.41	.65	.45	.00	.00	.00	1.10	2.50						
CHL/HAR/FERT[1]	310HP-WT W/26'CHISEL/HARR/FERT	OCT	2002	.08	.10	4.04	2.19	1.65	.00	20.00	.00	23.84	27.88						
HARROW (2X)	310HP-WT W/72' SUPER HARROW	APR	2003	.05	.06	2.81	1.29	.91	.00	.00	.09	2.29	5.10						
CULTIVATE	310HP-WT W/40' CULTIVATOR	APR	2003	.05	.06	1.87	1.13	.91	.00	.00	.09	2.13	4.00						
HAUL SEED	2-TON TRUCK	MAY	2003	.03	.03	.33	.43	.54	.00	.00	.03	1.01	1.33						
SEED/FERT[2]	310HP-WT W/48'-10" HOE DRILL	MAY	2003	.06	.07	3.11	1.89	1.10	.00	13.20	.57	16.76	19.87						
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAY	2003	.01	.02	.15	.15	.33	.00	.00	.02	.49	.64						
SPRAY[3]	310HP-WT W/90' SPRAYER	MAY	2003	.02	.02	.51	.29	.40	1.00	4.79	.23	6.71	7.22						
CROP INSURANCE	FIRE AND HAIL	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.09	2.59	2.59						
HAUL WATER	2-TON TRUCK W/SLIP TANK	JUN	2003	.01	.02	.15	.15	.33	.00	.00	.01	.49	.64						
SPRAY[4]	310HP-WT W/90' SPRAYER	JUN	2003	.02	.02	.51	.29	.40	1.00	16.90	.53	19.11	19.62						
HARVEST (50%)	25' ROTARY LEVEL LAND COMBINE	AUG	2003	.03	.04	3.53	.91	.71	.00	.00	.02	1.65	5.18						
HARVEST (50%)	25' ROTARY HILL-SIDE COMBINE	AUG	2003	.03	.04	5.87	.91	.71	.00	.00	.02	1.65	7.52						
HAUL BARLEY[5]	7.5 CENTS/BU.	AUG	2003	.00	.00	.00	.00	.00	3.90	.00	.06	3.96	3.96						
MISC USE	3/4 TON PICKUP	ANN	2003	.20	.22	1.31	1.92	3.63	.00	.00	.24	5.79	7.10						
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.84	.36	.91	.00	.00	.05	1.32	2.16						
MISC USE	TRUCKS	ANN	2003	.04	.04	.43	.57	.73	.00	.00	.06	1.35	1.79						
MISC USE	4WD-ATV	ANN	2003	.04	.04	.27	.10	.73	.00	.00	.04	.87	1.13						
MISC USE	TRAP WAGON	ANN	2003	.05	.05	.73	.56	.83	.00	.00	.06	1.44	2.17						
OVERHEAD	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	4.73	.00	.00	4.73	4.73						
TAXES	LAND TAXES	ANN	2003	.00	.00	3.90	.00	.00	.00	.00	.00	.00	3.90						
LAND COST	NET LAND RENT	ANN	2003	.00	.00	28.91	.00	.00	.00	.00	.00	.00	28.91						
TOTAL PER ACRE				.80	.92	60.64	13.80	15.26	13.13	54.89	2.20	99.28	159.93						

[1]60 LBS. N @ 28¢/LB., 10 LBS. SULFUR @ 32¢/LB.

[2]70 LBS. OF SEED @ 13¢/LB. 10 LBS. PHOSPHOROUS @ 41¢/LB.

[3]SPRAYER RENTAL @ \$1.00/ACRE. 12 OUNCES OF 2,4-D @ 9¢/OZ., 0.24 OUNCES OF FINESSE @ \$15.47/OZ.

[4]SPRAYER RENTAL @ \$1.00/ACRE. .52 LB. ACHIEVE @ \$32.50/LB.

[5]52 BU. (1.25 TONS) @ 7.5¢/BU.

TABLE 19. ITEMIZED COST PER ACRE FOR **SPRING BARLEY** FOLLOWING
WINTER OR SPRING WHEAT IN A 3- OR 4-YEAR ROTATION,
LINCOLN COUNTY, WASHINGTON, 14"-16" RAINFALL AREA.

		PRICE OR	QUANTITY	VALUE OR	YOUR
		UNIT COST/UNIT		COST	FARM

VARIABLE COSTS		\$		\$	
NITROGEN	LB.	.28	60.00	16.80	_____
SULFUR	LB.	.32	10.00	3.20	_____
BARLEY SEED	LB.	.13	70.00	9.10	_____
PHOSPHORUS	LB.	.41	10.00	4.10	_____
90' SPRAYER	ACRE	1.00	2.00	2.00	_____
2,4-D	OZ.	.09	12.00	1.08	_____
FINESSE	OZ.	15.47	.24	3.71	_____
ACHIEVE	LB.	32.50	.52	16.90	_____
HAUL BARLEY	BU.	.075	52.00	3.90	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
MACHINERY REPAIRS	ACRE	6.73	1.00	6.73	_____
MACHINE FUEL/LUBE	ACRE	7.07	1.00	7.07	_____
LABOR (TRAC/MACH)	ACRE	16.50	.92	15.26	_____
OVERHEAD	ACRE	4.73	1.00	4.73	_____
INTEREST ON OP. CAP.	ACRE	2.20	1.00	2.20	_____

TOTAL VARIABLE COST				99.28	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	14.27	1.00	14.27	_____
MACHINE INTEREST	ACRE	9.69	1.00	9.69	_____
MACHINE INSURANCE	ACRE	.68	1.00	.68	_____
MACHINE TAXES	ACRE	2.05	1.00	2.05	_____
MACHINE HOUSING	ACRE	1.14	1.00	1.14	_____
LAND TAXES	ACRE	3.90	1.00	3.90	_____
NET LAND RENT [1]	ACRE	28.91	1.00	28.91	_____

TOTAL FIXED COST				60.64	_____
TOTAL COST				159.93	_____

[1] 1/3 CROP VALUE - 1/3 FERTILIZER COST - 1/3 CROP INSURANCE
- LAND TAXES.

GROSS RETURNS = 1.25 TONS @ \$100/TON.

BREAK-EVEN PRICE = \$142/TON

TABLE 20. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR **SOFT WHITE SPRING WHEAT** FOLLOWING WINTER WHEAT OR SPRING BARLEY IN A 3- OR 4-YEAR ROTATION, LINCOLN COUNTY, WASHINGTON, 14"-16" RAINFALL AREA.

OPERATION	TOOLING	MTH	YEAR	MACH HOURS	LABOR HOURS	VARIABLE COST						TOTAL VARIABLE COST	TOTAL COST							
						TOTAL FIXED COST	FUEL, LUBE, & REPAIRS	MACH LABOR	SERVICE	MATER.	INTER.									
													\$	\$	\$	\$	\$	\$	\$	\$
HARROW	310HP-WT W/72' SUPER HARROW	OCT	2002	.03	.03	1.41	.65	.45	.00	.00	.00	1.10	2.50							
CHL/HAR/FERT[1]	310HP-WT W/26'CHISEL/HARR/FERT	OCT	2002	.08	.10	4.04	2.19	1.65	.00	20.00	.00	23.84	27.88							
HARROW (2X)	310HP-WT W/72' SUPER HARROW	APR	2003	.05	.06	2.81	1.29	.91	.00	.00	.09	2.29	5.10							
CULTIVATE	310HP-WT W/40' CULTIVATOR	APR	2003	.05	.06	1.87	1.13	.91	.00	.00	.09	2.13	4.00							
HAUL SEED	2-TON TRUCK	MAY	2003	.03	.03	.33	.43	.54	.00	.00	.03	1.01	1.33							
SEED[2]	310HP-WT W/48'-10" HOE DRILL	MAY	2003	.06	.07	3.11	1.89	1.10	.00	8.75	.42	12.15	15.26							
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAY	2003	.01	.02	.15	.15	.33	.00	.00	.02	.49	.64							
SPRAY[3]	310HP-WT W/90' SPRAYER	MAY	2003	.02	.02	.51	.29	.40	1.00	3.38	.18	5.25	5.76							
CROP INSURANCE	FIRE AND HAIL	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.09	2.59	2.59							
HAUL WATER	2-TON TRUCK W/SLIP TANK	JUN	2003	.01	.02	.15	.15	.33	.00	.00	.01	.49	.64							
SPRAY[4]	310HP-WT W/90' SPRAYER	JUN	2003	.02	.02	.51	.29	.40	1.00	14.98	.47	17.13	17.64							
HARVEST (50%)	25' ROTARY LEVEL LAND COMBINE	AUG	2003	.03	.04	3.53	.91	.71	.00	.00	.02	1.65	5.18							
HARVEST (50%)	25' ROTARY HILL-SIDE COMBINE	AUG	2003	.03	.04	5.87	.91	.71	.00	.00	.02	1.65	7.52							
HAUL WHEAT[5]	7.5 CENTS/BU.	AUG	2003	.00	.00	.00	.00	.00	3.15	.00	.04	3.19	3.19							
MISC USE	3/4 TON PICKUP	ANN	2003	.20	.22	1.31	1.92	3.63	.00	.00	.24	5.79	7.10							
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.84	.36	.91	.00	.00	.05	1.32	2.16							
MISC USE	TRUCKS	ANN	2003	.04	.04	.43	.57	.73	.00	.00	.06	1.35	1.79							
MISC USE	4WD-ATV	ANN	2003	.04	.04	.27	.10	.73	.00	.00	.04	.87	1.13							
MISC USE	TRAP WAGON	ANN	2003	.05	.05	.73	.56	.83	.00	.00	.06	1.44	2.17							
OVERHEAD	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	4.29	.00	.00	4.29	4.29							
TAXES	LAND TAXES	ANN	2003	.00	.00	3.90	.00	.00	.00	.00	.00	.00	3.90							
LAND COST	NET LAND RENT	ANN	2003	.00	.00	41.10	.00	.00	.00	.00	.00	.00	41.10							
TOTAL PER ACRE				.80	.92	72.83	13.80	15.26	11.94	47.11	1.93	90.04	162.87							

[1]60 LBS. N @ 28¢/LB., 10 LBS. SULFUR @ 32¢/LB.

[2]70 LBS. OF SEED @ 12.5¢/LB.

[3]SPRAYER RENTAL @ \$1.00/ACRE. 10 OUNCES OF 2,4-D @ 9¢/OZ., 0.1 OUNCE ALLY @ \$24.81/OZ.

[4]SPRAYER RENTAL @ \$1.00/ACRE. 3.2 OZS. DISCOVER @ \$4.68/OZ.

[5]42 BU. @ 7.5¢/BU.

TABLE 21. ITEMIZED COST PER ACRE FOR **SOFT WHITE SPRING WHEAT**
 FOLLOWING WINTER WHEAT OR SPRING BARLEY IN A 3- OR
 4-YEAR ROTATION, LINCOLN COUNTY, WASHINGTON, 14"-16"
 RAINFALL AREA.

		PRICE OR	QUANTITY	VALUE OR	YOUR
		UNIT COST/UNIT		COST	FARM

VARIABLE COSTS		\$		\$	
NITROGEN	LB.	.28	60.00	16.80	_____
SULFUR	LB.	.32	10.00	3.20	_____
WHEAT SEED	LB.	.13	70.00	8.75	_____
90' SPRAYER	ACRE	1.00	2.00	2.00	_____
2.4-D	OZ.	.09	10.00	.90	_____
ALLY	OZ.	24.81	.10	2.48	_____
DISCOVER	OZ.	4.68	3.20	14.98	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
HAUL WHEAT	BU.	.075	42.00	3.15	_____
MACHINERY REPAIRS	ACRE	6.73	1.00	6.73	_____
MACHINE FUEL/LUBE	ACRE	7.07	1.00	7.07	_____
LABOR (TRAC/MACH)	HOUR	16.50	.92	15.26	_____
OVERHEAD	ACRE	4.29	1.00	4.29	_____
INTEREST ON OP. CAP.	ACRE	1.93	1.00	1.93	_____

TOTAL VARIABLE COST				90.04	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	14.27	1.00	14.27	_____
MACHINE INTEREST	ACRE	9.69	1.00	9.69	_____
MACHINE INSURANCE	ACRE	.68	1.00	.68	_____
MACHINE TAXES	ACRE	2.05	1.00	2.05	_____
MACHINE HOUSING	ACRE	1.14	1.00	1.14	_____
LAND TAXES	ACRE	3.90	1.00	3.90	_____
NET LAND RENT [1]	ACRE	41.10	1.00	41.10	_____

TOTAL FIXED COST				72.83	_____
TOTAL COST				162.87	_____

[1] 1/3 CROP VALUE - 1/3 FERTILIZER COST - 1/3 CROP INSURANCE
 - LAND TAXES.

GROSS RETURNS = 42 BUSHELS @ \$3.75/BU.

BREAK-EVEN PRICE = \$3.94/BU.

MACHINERY COMPLEMENT
FOR PRODUCING WHEAT AND BARLEY
UNDER CONVENTIONAL TILLAGE SYSTEMS
LINCOLN COUNTY, WASHINGTON

Table 22. Machinery Complement for Conventional Tillage Budgets.

Type of Machine	Current Replacement Value (used) \$	Remaining Years of Life	Annual Hours of Use	Salvage Value \$	Annual Repairs \$
310HP Wheel Tractor, 1997, 3600 hrs, salvage at 8400 hrs, new \$155,000 (all values below include tax)	\$100,000	9	600	\$35,000	\$2,500
72' Super Harrow. Used 12 years. \$24,500 new, 20-30 yr life, 35 a/hr, 1.5x fall, 1x spring, 40 a/hr	\$15,500	12	70	\$2,500	\$550
35' Tandem disk, used 12 years, \$35,000 new, 20-30 yr life, 15 a/hr, 1x fall	\$19,000	12	75	\$3,000	\$700
30' Chisel, used 12 years, \$21,600 new, 20-30 yr life, 12 a/hr, 1x fall	\$13,500	12	90	\$3,000	\$750
26' Chisel / 3-bar Harrow, backback fertilizer, used 12 yrs, \$24,600 new, 20-30 yr life, 1/3 acres in fall	\$15,000	12	90	\$3,000	\$750
40' Cultivator, used 12 yrs, \$21,600 new, 20-30 yr life	\$9,500	12	110	\$2,000	\$900
50' Cultivator/ fertilizer applicator, used 12 yrs, \$38,000 new, 20-30 yr life, 20 a/hr, 1x spring	\$14,000	12	55	\$3,000	\$550
48' Skewtread, new, 12 yr life, \$32,500 new, 20 a/hr, 1x spring	\$32,500	12	55	\$4,000	\$700
60' Rodweeder, used 12 yrs, \$27,000 new, 20-30 yr life, 1x spring,	\$14,000	12	75	\$3,000	\$350
70' Rodweeder, used 12 yrs, \$30,000 new, 20-30 yr life, 35 a/hr, 1x spring, 1x summer	\$15,000	12	70	\$3,000	\$350
48' Split Packer Drill, used 12 yrs, \$55,000 new, 20-30 yr life, 15a/hr	\$16,500	12	75	\$3,000	\$1,200
48' - 10" Hoe Drill, used 12 yrs, \$55,000 new, 20-30 yr life	\$16,500	12	75	\$3,000	\$1,200
20' - 4 shank subsoiler, used 12 yrs, \$20,000 new, 20-30 yr life	\$12,000	12	60	\$3,000	\$800
35' Sweep, used 12 years, \$21,600 new, 20-30 yr life	\$13,500	12	75	\$2,000	\$750
36' Cultiweeder/ fertilizer backpack, used 12 years, \$32,500 new, 20-30 yr life	\$18,500	12	70	\$3,000	\$600
52' Cultiweeder, used 12 years, \$50,000 new, 20-30 yr life	\$18,000	12	45	\$4,000	\$400
25' Rotary non-hillside combine, 1993, 2500 hrs, 5000 hour life, 15 a/hr	\$75,000	10	110	\$8,000	\$1,500

Table 22. Machinery Complement for Conventional Tillage Budgets
) (continued

25' Rotary hillside combine, ditto above w/leveler, 2500 hours, 5000 hour life	\$125,000	10	110	\$14,000	\$1,500
Truck #1: Seed truck, 18 foot dump box, used 15 years, 25 year life	\$8,000	10	110	\$2,000	\$1,000
Truck #2 ditto	\$8,000	10	110	\$2,000	\$1,000
Pickup: 5 years old, 60,000 miles, 150,000 life	\$15,000	7	400	\$5,000	\$1,500
4WD ATV, new, 15 year life	\$6,500	10	150	\$1,000	\$100
Trap Wagon, used 12 years, 20 year life	\$7,000	8	75	\$3,000	\$400
2000 Gallon Slip Tank	\$1,500	15	50	0	\$25
50HP Wheel Tractor w/Bucket	\$15,000	20	100	\$3,500	\$200
Hired trucking for hauling grain to elevator is approximately \$.075/bu, similar for rented or owned truck and hired driver					

TABLE 23. 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				
310HP-WT[1]	100,000.00	9	600	12.04	9.56	.68	2.03	1.13	25.42	4.17	10.35	14.52	39.94
310HP-WT[2]	100,000.00	9	600	12.04	9.56	.68	2.03	1.13	25.42	4.17	13.80	17.97	43.39
72' SUPER HARROW	15,500.00	12	70	15.48	10.93	.77	2.31	1.29	30.78	7.86	.00	7.86	38.63
35' TANDEM DISK	19,000.00	12	75	17.78	12.47	.88	2.64	1.47	35.23	9.33	.00	9.33	44.56
30' CHISEL	13,500.00	12	90	9.72	7.79	.55	1.65	.92	20.63	8.33	.00	8.33	28.96
26' CHISEL/HARROW	15,000.00	12	90	11.11	8.50	.60	1.80	1.00	23.01	8.33	.00	8.33	31.34
20' SUBSOILER	12,000.00	12	60	12.50	10.63	.75	2.25	1.25	27.38	13.33	.00	13.33	40.71
40' CULTIVATOR	9,500.00	12	110	5.68	4.44	.31	.94	.52	11.90	8.18	.00	8.18	20.08
50' CULT/FERT APP	14,000.00	12	55	16.67	13.14	.93	2.78	1.55	35.06	10.00	.00	10.00	45.06
48' SKEWTREAD	32,500.00	12	55	43.18	28.20	1.99	5.97	3.32	82.67	12.73	.00	12.73	95.40
60' RODWEEDER	14,000.00	12	75	12.22	9.63	.68	2.04	1.13	25.71	4.67	.00	4.67	30.38
70' RODWEEDER	15,000.00	12	70	14.29	10.93	.77	2.31	1.29	29.59	5.00	.00	5.00	34.59
48' SPLT PK DRILL	16,500.00	12	75	15.00	11.05	.78	2.34	1.30	30.47	16.00	.00	16.00	46.47
48' 10"HOE DRILL	16,500.00	12	75	15.00	11.05	.78	2.34	1.30	30.47	16.00	.00	16.00	46.47
35' SWEEP	13,500.00	12	75	12.78	8.78	.62	1.86	1.03	25.07	10.00	.00	10.00	35.07
36' CULTIWD/FERT	18,500.00	12	70	18.45	13.05	.92	2.76	1.54	36.73	8.57	.00	8.57	45.30
52' CULTIWEEDER	18,000.00	12	45	25.93	20.78	1.47	4.40	2.44	55.01	8.89	.00	8.89	63.90
25' LVL LAND COMB	75,000.00	10	110	60.91	32.07	2.26	6.79	3.77	105.80	13.64	13.80	27.44	133.24
25' HILLSD COMB.	125,000.00	10	110	100.91	53.70	3.79	11.37	6.32	176.10	13.64	13.80	27.44	203.53
TRUCK #1	8,000.00	10	110	5.45	3.86	.27	.82	.45	10.86	9.09	5.18	14.27	25.13
TRUCK #2	8,000.00	10	110	5.45	3.86	.27	.82	.45	10.86	9.09	5.18	14.27	25.13
PICKUP	15,000.00	7	400	3.57	2.13	.15	.45	.25	6.55	3.75	5.87	9.62	16.16
4WD ATV	6,500.00	10	150	3.67	2.13	.15	.45	.25	6.64	.67	1.96	2.62	9.26
TRAP WAGON	7,000.00	8	75	6.67	5.67	.40	1.20	.67	14.60	5.33	5.87	11.20	25.80
SLIP TANK	1,500.00	15	50	2.00	1.28	.09	.27	.15	3.79	.50	.00	.50	4.29
50HP-WT W/BUCKET	15,000.00	20	100	5.75	7.86	.56	1.67	.93	16.76	2.00	5.18	7.18	23.93

[1] FUEL CONSUMPTION, 6 GALLONS PER HOUR.

[2] FUEL CONSUMPTION, 8 GALLONS PER HOUR

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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