

<p>Farm Business Management Reports</p>		<p>EB1960E</p>
	<p><b>COST OF PRODUCING CANOLA AND MUSTARD OILSEEDS IN EASTERN WASHINGTON AND NORTH CENTRAL IDAHO</b></p>	
	<p>Herbert Hinman Dennis Pittmann Dennis Roe</p>	
<p>COOPERATIVE EXTENSION <b>WASHINGTON STATE UNIVERSITY</b>  <i>World Class. Face to Face.</i></p>	<p><b>Project sponsored by the Whitman Conservation District and funded by Whitman County and the Washington Oilseed Commission</b></p>	

## 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 a cross-section of experienced oilseed producers, twelve in Washington and three in Idaho, that used no-till/direct seed or minimum-tillage as their tillage practice to produce canola or mustard. 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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# **COST OF PRODUCING CANOLA AND MUSTARD OILSEEDS IN EASTERN WASHINGTON AND NORTH CENTRAL IDAHO**

Herbert Hinman, Dennis Pittmann and Dennis Roe<sup>1</sup>

## **INTRODUCTION**

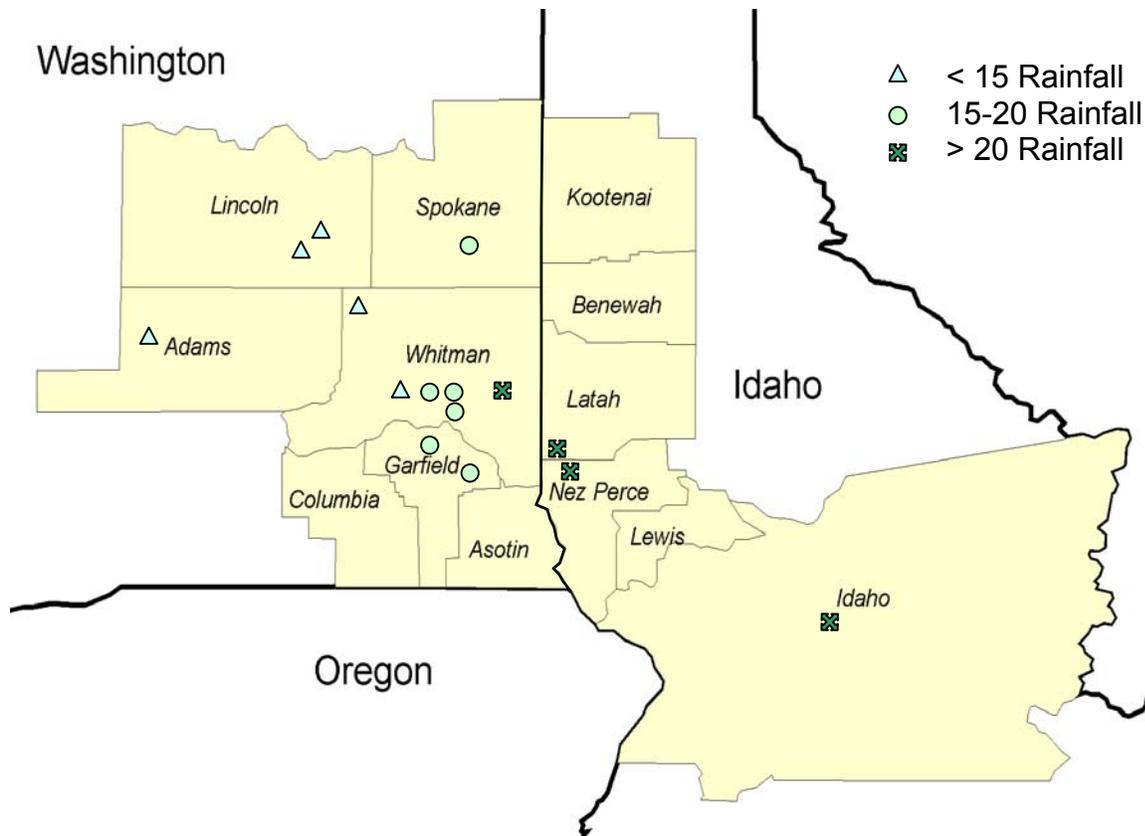
Pacific Northwest growers of wheat and barley have found benefits from using alternative crops in their rotation with wheat and barley. Oilseed crops, such as rapeseed, canola and mustard, have been rotated with wheat and barley in the region since the late 1970s. Including oilseeds in a cereal grain rotation provides a much greater choice of herbicide use in the battle against unwanted grasses, thus providing for better weed control. The addition of an oilseed crop also helps break up hardpan within the soil and may break up disease cycles. Although these alternative crops potentially improve yields of the subsequent wheat or barley crop, the market price for these oilseed crops during the past several years has caused some producers to produce these crops at a loss.

The objective of this project is to assist growers of oilseed crops in knowing what it costs to produce oilseeds, and provide a basis for them and their neighbors who are considering oilseed crops to know what prices and/or yields they must receive to produce oilseeds at a profit. The scope of the project is eastern Washington and north central Idaho. To provide a cross-section of growers, fifteen growers were interviewed, twelve in Washington and three in Idaho. All producers interviewed were experienced oilseed producers who used no-till/direct seed or minimum-tillage as their tillage practice. The growers were divided into three different production areas based on the similarity of rainfall; greater than 20 inches of rainfall, between 15 and 20 inches of rainfall and less than 15 inches of rainfall. The project was sponsored by the Whitman Conservation District and funded by Whitman County and the Washington Oilseed Commission. The map on the following page shows where these growers are located.

A crop enterprise budget was derived for each of the producers in the three production areas for each crop, tillage system and production level obtained. The oilseed crops for which budgets were completed were canola and mustard. The tillage systems were either no-till/direct seed or minimum till and the production levels were those actually obtained by the producers. The machinery complement used in this study was representative of machinery used in each of the production areas.

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<sup>1</sup>Herbert Hinman is a farm management specialist and Dennis Pittmann is a research technician for Cooperative Extension, WSU. Dennis Roe is a resource conservationist, Natural Resources Conservation Service/USDA and adjunct crop scientist with the Department of Crops and Soils, WSU. Authorship is shared equally.



**Figure 1. Location of Cooperator Farm Sites**

## **DISCUSSION OF BUDGET INFORMATION**

From the greater than 20" annual rainfall area, four cost and return estimates were derived from the results obtained from four different producers for the year 2002. Two of the producers used no-till/direct seeding and produced canola oilseeds. The other two producers used a minimum-tillage system to produce mustard oilseeds. A summary of these results is presented in Table 1.

Returns are broken down as to production level and the approximate average price received by each producer. The approximate average price received by all producers was used as the price received to eliminate price difference influences when comparing crop values and returns among producers. Likewise, in calculating machinery costs, the same machinery complement was used for all producers to eliminate the effect of different values and size of machinery among producers upon the total cost comparisons. The machinery complement used for this study was derived from the list of equipment producers listed for their individual farming operations. The detailed list of machinery and individual machinery data that went into making up the machinery complement used in this study is outlined in Appendix IV.

Table 1. Summary of Oilseed Cost and Return Estimates from the Greater than 20” Rainfall Area.

	No-Till/ Direct Seed Canola	No-Till/ Direct Seed Canola	Min-Till Mustard	Min-Till Mustard
Production Level (lbs.)	1,200.00	1,500.00	1,000.00	1,650.00
Price Received (¢/lb.)	11.00	11.00	13.00	13.00
Variable Cost	124.75	125.23	105.50	106.53
Fixed Cost (excl. land cost)	25.06	25.06	27.64	27.64
Total Cost (excl. land cost)	149.81	150.29	133.14	134.17
Returns – Cost	-17.81	14.71	-3.14	80.33
B-E Price (excl land cost) [¢/lb.]	12.48	10.02	13.31	8.13
Land Cost	14.32	25.32	18.73	46.90
Total Cost (incl. land cost)	164.13	175.61	151.87	181.07
Returns – Cost	-32.13	-10.61	-21.87	33.43
Break-Even Price (¢/lb.)	15.02	12.06	16.28	9.96
Break-Even Production Level @ Price Received	1,650.00	1,650.00	1,250.00	1,250.00

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 among producers using similar production systems oftentimes varies 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 our study, net land rental cost was calculated as:

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

Since the net land rental value is based on production level, land cost varies directly with production level that in turn directly affects total cost. For example, canola and mustard grown in the greater than 20” annual rainfall area, but produced by different producers, have similar total costs (excluding land cost) 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 gives one a better comparison as to the cost differences among producers. The complete details as to the schedule of operations and input costs are presented in Appendix I. An explanation as to how to read the tables presented in the appendices are presented in the section on “Detailed Results” on page 4.

Under the given assumptions and production levels achieved by the producers participating in this study, only one producer, the min-till producer producing mustard seed at a production level of 1,650 pounds of mustard seed, was able to show a profit. At the given prices of 11¢ per pound of canola seed and 13¢ per pound of mustard seed, producers in the high rainfall area had to produce approximately 1,650 pounds of canola or 1,250 pounds of mustard in order to break even.

From the 15” to 20” annual rainfall area, six cost and return estimates were derived from six different producers in the area for the year 2002. Two producers used no-till/direct seeding and one used minimum tillage to produce canola oilseeds. Likewise, two producers used no-till/direct seeding and one used minimum tillage to produce mustard oilseeds. A summary of these results are presented in Table 2.

What was said about the format of Table 1 also holds true for Table 2. The 15” to 20” annual rainfall area produced the most interesting results in that the fertilizer and/or chemical use between the no-till/direct seed production practices for both canola oilseed and mustard oilseed varied giving a wider difference between the total cost (excluding land cost) than experienced in the greater than 20” annual rainfall area or with the less than 15” annual rainfall area. Of the six producers surveyed in the 15” to 20” annual rainfall area, three of the producers, two no-till producers and one min-till producer, were able to break even or make a profit at the given price levels. The three other producers lost money.

From the less than 15” annual rainfall area, five cost and return estimates were derived from the data obtained from five different producers in the area for the year 2002. Two producers used no-till/direct seeding to produce canola oilseeds. Two producers used no-till/direct seeding and one used minimum tillage to produce mustard oilseeds. A summary of these results are presented in Table 3. None of the five producers surveyed in the low rainfall area were able to break even given their production levels.

## DETAILED RESULTS

The detailed budget results for each producer’s situation are presented in the appendices. The budgets for the greater than 20” rainfall area are presented in Appendix I. The budgets for the 15” to 20” rainfall area are presented in Appendix II and the budgets for the less than 15” rainfall area is presented in Appendix III. Appendix IV contains information about the machinery complement used to complete this study.

The data for each producer are presented in two tables that outline the costs and returns for producing the oilseed 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 per acre for mustard or canola by type of tillage system. The costs are divided into two categories. The first category contains machinery and land fixed costs. The second category, variable costs, is associated with machinery operation, labor and purchased services and materials. Whenever services and/or materials are purchased, details are provided in footnotes to the table. Total cost is the sum of fixed and variable costs.

Table 2. Summary of Oilseed Cost and Return Estimates from the 15” to 20” Rainfall Area.

	No-Till/ Direct Seed Canola	No-Till/ Direct Seed Canola	Min-Till Canola	No-Till/ Direct Seed Mustard	No-Till/ Direct Seed Mustard	Min-Till Mustard
Production Level (lbs.)	1,100.00	1,991.00	1,650.00	1,100.00	1,300.00	1,000.00
Price Received (¢/lb.)	11.00	11.00	11.00	13.00	13.00	13.00
Variable Cost	100.08	113.89	119.39	104.13	92.05	96.57
Fixed Cost (excl. land cost)	22.91	22.91	25.64	22.91	22.91	25.35
Total Cost (excl. land cost)	122.99	136.80	145.03	127.04	114.96	121.92
Returns – Cost	-1.99	82.21	36.47	15.96	54.04	8.08
B-E Price (excl land cost) [¢/lb.]	11.18	6.87	8.79	11.55	8.84	12.19
Land Cost	20.90	49.77	37.27	25.35	37.81	24.81
Total Cost (incl. land cost)	143.89	186.57	182.30	152.39	152.77	146.73
Returns – Cost	-22.89	32.44	-.80	-9.39	16.23	-16.73
Break-Even Price (¢/lb.)	14.12	8.56	11.07	14.28	11.13	15.51
Break-Even Production Level @ Price Received	1,400.00	1,550.00	1,650.00	1,200.00	1,120.00	1,200.00

Table 3. Summary of Oilseed Cost and Return Estimates from the Under 15" Rainfall Area.

	No-Till/ Direct Seed Canola	No-Till/ Direct Seed Canola	No-Till/ Direct Seed Mustard	No-Till/ Direct Seed Mustard	Min-Till Mustard
Production Level (lbs.)	1,000.00	1,100.00	488.00	650.00	700.00
Price Received (¢/lb.)	11.00	11.00	13.00	13.00	13.00
Variable Cost	103.64	103.80	86.44	86.70	86.12
Fixed Cost (excl. land cost)	21.55	21.55	21.56	21.56	23.49
Total Cost (excl. land cost)	125.19	125.35	108.00	108.26	109.61
Returns – Cost	-15.19	-4.35	-44.56	-23.76	-18.61
B-E Price (excl land cost) [¢/lb.]	12.52	11.40	22.13	16.66	15.66
Land Cost	17.73	21.39	5.60	12.62	15.35
Total Cost (incl. land cost)	142.92	146.74	113.60	120.68	124.96
Returns – Cost	-32.92	-25.74	-50.16	-36.38	-33.96
Break-Even Price (¢/lb.)	15.93	14.51	28.42	21.40	20.28
Break-Even Production Level @ Price Received	1,450.00	1,450.00	1,070.00	1,070.00	1,090.00

Machinery fixed costs include depreciation, interest on the investment, property taxes, insurance and housing. For the overall farm operation, these costs do not vary with the crops produced, given the ownership of a specific machinery complement, 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 per hour fixed cost (Appendix IV, Table 35). Per hour fixed costs are determined by dividing the total fixed cost by the annual hours of machinery use for the representative firm.

Land fixed costs include taxes and net rent which are based on rental agreements typical for the area minus expenditures typically covered by the landlord. The typical lease agreement in the areas surveyed is a one-third land owner and two-third tenant crop share, with the land owner paying land taxes, one-third of the fertilizer cost, one-third of the chemical cost and one-third of the crop insurance. The tenant covers all other production expenses.

While the owner-operator will not actually experience a land rental cost, the cost represents the minimum returns the owner-operator must realize to justify growing the crop him or herself. This net rent return represents the income the owner-operator forgoes by producing the crop rather than renting to a tenant who produces the crop. As a result of owning land, the farmer receives both current returns from the farming operation and any long-term appreciation

in land value. However, the farmer would continue to realize land value appreciation even if the land is rented out. Consequently, the appropriate land charge for growing the crop is only the forgone net rent. As used in this publication, for land that is owned and not rented, land cost is termed an opportunity cost to indicate that it is not an out-of-pocket expense, but rather a return that is forgone as a result of choosing to use the land to grow this crop. To determine the profitability of crop production relative to other activities, the owner-operator may want to consider these forgone returns, or opportunity 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. “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 forgone 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 Appendix IV, Table 35.

Note that the “Cost Per Pound” figure shown at the bottom of the second table is the total cost of production for the respective crop divided by the level of production. It is not the same as the break-even prices shown in Tables 1, 2 and 3.

In order to better understand how to read and use crop budgets distributed by Washington State University, go to the WSU Farm Management Web site at <http://www.farm-mgmt.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.”

## Summary and Conclusions

The objective of this project is to assist growers of oilseed crops in knowing what it costs to produce oilseeds and provide a basis for them and their neighbors, who are considering oilseed crops, to know what prices and yields they must receive to produce oilseeds at a profit. In an effort to accomplish this objective fifteen experienced oilseed producers from north central Idaho and eastern Washington, producing in three different rainfall areas, were interviewed as to their production practices and yield outcomes. The results of the study showed that oilseed production is highly variable regardless of rainfall area, much more so than either barley or wheat. This was not only borne out by the results of the interviews, but was mentioned frequently by the producers who were interviewed.

The term “profit” used in the context of this publication means making a return over all costs including the opportunity cost of operator labor and capital invested. At the prices received for canola and mustard seeds over the past several years, of the four producers interviewed in the greater than 20” rainfall area, only one made a profit in 2002. In the 15” to 20” rainfall area, of the six producers interviewed, two made a profit and one broke even. The other three producers lost money. In the less than 15” rainfall area, none of the five producers interviewed broke even producing oilseeds in 2002. Furthermore, in the less than 15” rainfall area, producers sometimes have difficulty establishing a stand due to drought conditions and/or frost conditions in the area. This all leads to the general conclusion that if oilseeds crops are to become an economically viable crop in the eastern Washington and north central Idaho production areas, prices received by producers are going to have to increase and production levels are going to have to stabilize.

## **APPENDIX I**

Detailed Costs and Returns for Producers

Producing Oilseeds in the Greater than 20” Rainfall Area

TABLE 4. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR CANOLA GROWN USING NO-TILL/DIRECT SEEDING PRODUCTION PRACTICES IN THE GREATER THAN 20" RAINFALL ZONE (PRODUCTION LEVEL 1200 LBS.).

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[1]	300HP-WT W/60' FLEX HARROW	OCT	2002	.03	.03	1.03	.58	.44	.00	.00	.08	1.10	2.13
HAUL WATER	2-TON TRUCK W/SLIP TANK	OCT	2002	.01	.02	.16	.10	.28	.00	.00	.03	.41	.57
SPRAY[2]	300HP-WT W/60' SPRAYER	OCT	2002	.03	.03	.51	.34	.48	1.50	4.56	.54	7.42	7.93
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAR	2003	.01	.02	.16	.10	.28	.00	.00	.02	.39	.56
SPRAY[2]	300HP-WT W/60' SPRAYER	MAR	2003	.03	.03	.51	.34	.48	1.50	4.56	.29	7.18	7.69
HAUL FERTILIZER	TANDEM AXLE TRUCK	APR	2003	.03	.03	.66	.43	.46	.00	.00	.03	.92	1.58
HAUL SEED	2-TON TRUCK	APR	2003	.03	.03	.38	.28	.46	.00	.00	.03	.77	1.14
SEED/FERT[3]	300HP-WT W/35' GP BOX DRILL	APR	2003	.08	.10	4.47	1.32	1.40	.00	48.10	1.80	52.62	57.09
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAY	2003	.01	.02	.16	.10	.28	.00	.00	.01	.39	.55
SPRAY[4]	300HP-WT W/60' SPRAYER	MAY	2003	.03	.03	.51	.34	.48	1.50	12.00	.41	14.73	15.24
BUG SPRAY[5]	CUSTOM AERIAL	MAY	2003	.00	.00	.00	.00	.00	5.00	10.17	.43	15.60	15.60
CROP INSUR[6]	FIRE AND HAIL	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.07	2.57	2.57
HARVEST	25' COMBINE	AUG	2003	.17	.18	7.96	2.67	2.57	.00	.00	.04	5.27	13.23
HAUL CANOLA[7]	CALCULATED COST PER LB. BASIS	AUG	2003	.00	.00	.00	.00	.00	1.80	.00	.01	1.81	1.81
MISC USE	3/4-TON PICKUP	ANN	2003	.20	.22	1.60	1.49	3.08	.00	.00	.19	4.76	6.36
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.56	.22	.77	.00	.00	.04	1.03	1.59
MISC USE	TANDEM AXLE TRUCK	ANN	2003	.02	.02	.44	.29	.31	.00	.00	.03	.62	1.06
MISC USE	2-TON TRUCK	ANN	2003	.02	.02	.25	.19	.31	.00	.00	.02	.52	.77
MISC USE	ATV	ANN	2003	.04	.04	.20	.06	.62	.00	.00	.03	.70	.90
TAXES	LAND TAXES	ANN	2003	.00	.00	5.50	.00	.00	.00	.00	.00	.00	5.50
LAND COST	NET LAND RENT	ANN	2003	.00	.00	14.32	.00	.00	.00	.00	.00	.00	14.32
OVERHEAD[8]	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	5.94	.00	.00	5.94	5.94
TOTAL PER ACRE				.78	.91	39.38	8.83	12.69	19.74	79.40	4.09	124.75	164.13

[1] 50% OF PRODUCERS DO NOT FALL HARROW. 25% OF THE PRODUCERS HARROWED IN THE SPRING.

[2] SPRAYER RENTAL @ \$1.50/ACRE. 1 PINT OF ROUNDUP @ \$3.80/PINT, 50 OUNCES OF AMMONIA SULFATE @ 1.5¢/OUNCE, 1.5 OUNCES OF M-90 @ 1¢/OUNCE.

[3] 5.5 LBS. OF SEED @ \$1.70/LB. 100 LBS. N @ 20¢/LB., 15 LBS. P @ 76¢/LB., 15 LBS. S @ 49¢/LB.

[4] SPRAYER RENTAL @ \$1.50/ACRE. 10 OUNCES OF ASSURE II @ \$1.20/OUNCE.

[5] CUSTOM AERIAL @ \$5.00/ACRE. CAPTURE @ \$10.17 ACRE.

[6] CROP INSURANCE @ \$2.50/ACRE

[7] HAULING COST @ 15¢/CWT.

[8] OVERHEAD @ 5% OF VARIABLE COST.

TABLE 5. ITEMIZED COST PER ACRE FOR CANOLA GROWN USING  
NO-TILL/DIRECT SEEDING IN THE GREATER THAN 20" RAINFALL  
ZONE (PRODUCTION LEVEL 1200 POUNDS).

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
60' SPRAYER	ACRE	1.50	3.00	4.50	_____
ROUNDUP	QT.	7.60	1.00	7.60	_____
AMMONIA SULFATE	OZ.	.015	100.00	1.50	_____
M-90	OZ.	.01	1.50	.03	_____
CANOLA SEED	LB.	1.70	5.50	9.35	_____
DRY NITROGEN	LB.	.20	100.00	20.00	_____
DRY SULFUR	LB.	.49	15.00	7.35	_____
DRY PHOSPHORUS	LB.	.76	15.00	11.40	_____
ASSURE II	OZ.	1.20	10.00	12.00	_____
CUSTOM AERIAL	ACRE	5.00	1.00	5.00	_____
CAPTURE	ACRE	10.17	1.00	10.17	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
HAULING COST	CWT.	.15	12.00	1.80	_____
MACHINERY REPAIRS	ACRE	5.96	1.00	5.96	_____
MACHINE FUEL/LUBE	ACRE	2.87	1.00	2.87	_____
LABOR (TRAC/MACH)	HOURLY	14.00	.91	12.69	_____
OVERHEAD	ACRE	5.94	1.00	5.94	_____
INTEREST ON OP. CAP.	ACRE	4.09	1.00	4.09	_____
				-----	
TOTAL VARIABLE COST				124.75	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	10.12	1.00	10.12	_____
MACHINE INTEREST	ACRE	6.75	1.00	6.75	_____
MACHINE INSURANCE	ACRE	.47	1.00	.47	_____
MACHINE TAXES	ACRE	1.43	1.00	1.15	_____
MACHINE HOUSING	ACRE	.79	1.00	.79	_____
LAND TAXES	ACRE	5.50	1.00	5.50	_____
LAND RENT	ACRE	14.32	1.00	14.32	_____
				-----	
TOTAL FIXED COST				39.38	_____
TOTAL COST				164.13	_____
-----					

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

1200-LB. YIELD SELLING @ 11¢/LB.

COST PER POUND = 13.7¢

TABLE 6. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR CANOLA GROWN USING NO-TILL/DIRECT SEEDING PRODUCTION PRACTICES IN THE GREATER THAN 20" RAINFALL ZONE (PRODUCTION LEVEL 1500 LBS.).

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[1]	300HP-WT W/60' FLEX HARROW	OCT	2002	.03	.03	1.03	.58	.44	.00	.00	.08	1.10	2.13
HAUL WATER	2-TON TRUCK W/SLIP TANK	OCT	2002	.01	.02	.16	.10	.28	.00	.00	.03	.41	.57
SPRAY[2]	300HP-WT W/60' SPRAYER	OCT	2002	.03	.03	.51	.34	.48	1.50	4.56	.54	7.42	7.93
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAR	2003	.01	.02	.16	.10	.28	.00	.00	.02	.39	.56
SPRAY[2]	300HP-WT W/60' SPRAYER	MAR	2003	.03	.03	.51	.34	.48	1.50	4.56	.29	7.18	7.69
HAUL FERTILIZER	TANDEM AXLE TRUCK	APR	2003	.03	.03	.66	.43	.46	.00	.00	.03	.92	1.58
HAUL SEED	2-TON TRUCK	APR	2003	.03	.03	.38	.28	.46	.00	.00	.03	.77	1.14
SEED/FERT[3]	300HP-WT W/35' GP BOX DRILL	APR	2003	.08	.10	4.47	1.32	1.40	.00	48.10	1.80	52.62	57.09
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAY	2003	.01	.02	.16	.10	.28	.00	.00	.01	.39	.55
SPRAY[4]	300HP-WT W/60' SPRAYER	MAY	2003	.03	.03	.51	.34	.48	1.50	12.00	.41	14.73	15.24
BUG SPRAY[5]	CUSTOM AERIAL	MAY	2003	.00	.00	.00	.00	.00	5.00	10.17	.43	15.60	15.60
CROP INSUR[6]	FIRE AND HAIL	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.07	2.57	2.57
HARVEST	25' COMBINE	AUG	2003	.17	.18	7.96	2.67	2.57	.00	.00	.04	5.27	13.23
HAUL CANOLA[7]	CALCULATED COST PER CWT BASIS	AUG	2003	.00	.00	.00	.00	.00	2.25	.00	.02	2.27	2.27
MISC USE	3/4-TON PICKUP	ANN	2003	.20	.22	1.60	1.49	3.08	.00	.00	.19	4.76	6.36
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.56	.22	.77	.00	.00	.04	1.03	1.59
MISC USE	TANDEM AXLE TRUCK	ANN	2003	.02	.02	.44	.29	.31	.00	.00	.03	.62	1.06
MISC USE	2-TON TRUCK	ANN	2003	.02	.02	.25	.19	.31	.00	.00	.02	.52	.77
MISC USE	ATV	ANN	2003	.04	.04	.20	.06	.62	.00	.00	.03	.70	.90
TAXES	LAND TAXES	ANN	2003	.00	.00	5.50	.00	.00	.00	.00	.00	.00	5.50
LAND COST	NET LAND RENT	ANN	2003	.00	.00	25.32	.00	.00	.00	.00	.00	.00	25.32
OVERHEAD[8]	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	5.96	.00	.00	5.96	5.96
TOTAL PER ACRE				.78	.91	50.38	8.83	12.69	20.21	79.40	4.09	125.23	175.61

- [1] 50% OF PRODUCERS DO NOT FALL HARROW. 25% OF THE PRODUCERS HARROWED IN THE SPRING.
- [2] SPRAYER RENTAL @ \$1.50/ACRE. 1 PINT OF ROUNDUP @ \$3.80/PINT, 50 OUNCES OF AMMONIA SULFATE @ 1.5¢/OUNCE, 1.5 OUNCES OF M-90 @ 1¢/OUNCE.
- [3] 5.5 LBS. OF SEED @ \$1.70/LB. 100 LBS. N @ 20¢/LB., 15 LBS. P @ 76¢/LB., 15 LBS. S @ 49¢/LB.
- [4] SPRAYER RENTAL @ \$1.50/ACRE. 10 OUNCES OF ASSURE II @ \$1.20/OUNCE.
- [5] CUSTOM AERIAL @ \$5.00/ACRE. CAPTURE @ \$10.17 ACRE.
- [6] CROP INSURANCE @ \$2.50/ACRE
- [7] HAULING COST @ 15¢/CWT.
- [8] OVERHEAD @ 5% OF VARIABLE COST.

TABLE 7. ITEMIZED COST PER ACRE FOR CANOLA GROWN USING  
NO-TILL/DIRECT SEEDING IN THE GREATER THAN 20" RAINFALL  
ZONE (PRODUCTION LEVEL 1500 POUNDS).

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
60' SPRAYER	ACRE	1.50	3.00	4.50	_____
ROUNDUP	QT.	7.60	1.00	7.60	_____
AMMONIA SULFATE	OZ.	.015	100.00	1.50	_____
M-90	OZ.	.01	1.50	.03	_____
CANOLA SEED	LB.	1.70	5.50	9.35	_____
DRY NITROGEN	LB.	.20	100.00	20.00	_____
DRY SULFUR	LB.	.49	15.00	7.35	_____
DRY PHOSPHORUS	LB.	.76	15.00	11.40	_____
ASSURE II	OZ.	1.20	10.00	12.00	_____
CUSTOM AERIAL	ACRE	5.00	1.00	5.00	_____
CAPTURE	ACRE	10.17	1.00	10.17	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
HAULING COST	CWT.	.15	15.00	2.25	_____
MACHINERY REPAIRS	ACRE	5.96	1.00	5.96	_____
MACHINE FUEL/LUBE	ACRE	2.87	1.00	2.87	_____
LABOR (TRAC/MACH)	HOUR	14.00	.91	12.69	_____
OVERHEAD	ACRE	5.96	1.00	5.96	_____
INTEREST ON OP. CAP.	ACRE	4.09	1.00	4.09	_____
				-----	
TOTAL VARIABLE COST				125.23	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	10.12	1.00	10.12	_____
MACHINE INTEREST	ACRE	6.75	1.00	6.75	_____
MACHINE INSURANCE	ACRE	.47	1.00	.47	_____
MACHINE TAXES	ACRE	1.43	1.00	1.15	_____
MACHINE HOUSING	ACRE	.79	1.00	.79	_____
LAND TAXES	ACRE	5.50	1.00	5.50	_____
LAND RENT	ACRE	25.32	1.00	25.32	_____
				-----	
TOTAL FIXED COST				50.38	_____
TOTAL COST				175.61	_____
-----					

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

1500-LB. YIELD SELLING @ 11¢/LB.

COST PER POUND = 11.7¢

TABLE 8. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR MUSTARD GROWN USING MINIMUM TILLAGE PRODUCTION PRACTICES IN THE GREATER THAN 20" RAINFALL ZONE (1000 LBS. PRODUCTION LEVEL).

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.		
						\$	\$	\$	\$	\$	\$	\$	\$
CHISEL[1]	300HP-WT W/24' CHISEL	OCT	2002	.06	.06	2.09	1.44	.91	.00	.00	.18	2.52	4.61
HAUL WATER	2-TON TRUCK W/SLIP TANK	OCT	2002	.01	.02	.16	.10	.28	.00	.00	.03	.41	.57
SPRAY[2]	300HP-WT W/60' SPRAYER	OCT	2002	.03	.03	.51	.34	.48	1.50	3.14	.43	5.89	6.40
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAR	2003	.01	.02	.16	.10	.28	.00	.00	.02	.39	.56
SPRAY[3]	300HP-WT W/60' SPRAYER	MAR	2003	.03	.03	.51	.34	.48	1.50	3.61	.25	6.19	6.70
HEAVY HARROW	300HP-WT W/40' HEAVY HARROW	APR	2003	.05	.06	2.13	1.28	.81	.00	.00	.07	2.16	4.29
HAUL FERTILIZER	TANDEM AXLE TRUCK	APR	2003	.03	.03	.66	.43	.46	.00	.00	.03	.92	1.58
HAUL SEED	2-TON TRUCK	APR	2003	.03	.03	.38	.28	.46	.00	.00	.03	.77	1.14
SEED/FERT[4]	300HP-WT W/36' DBL DISK DRILL	APR	2003	.08	.10	3.87	1.49	1.40	.00	44.55	1.68	49.12	52.99
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAY	2003	.01	.02	.16	.10	.28	.00	.00	.01	.39	.55
SPRAY[5]	300HP-WT W/60' SPRAYER	MAY	2003	.03	.03	.51	.34	.48	1.50	12.00	.41	14.73	15.24
CROP INSUR[6]	FIRE AND HAIL	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.07	2.57	2.57
HARVEST	25' COMBINE	AUG	2003	.17	.18	7.96	2.67	2.57	.00	.00	.04	5.27	13.23
HAUL MUSTARD[7]	CALCULATED PER CWT COST	AUG	2003	.00	.00	.00	.00	.00	1.50	.00	.01	1.51	1.51
MISC USE	TANDEM AXLE TRUCK	ANN	2003	.02	.02	.44	.29	.31	.00	.00	.03	.62	1.06
MISC USE	2-TON TRUCK	ANN	2003	.02	.02	.25	.19	.31	.00	.00	.02	.52	.77
MISC USE	ATV	ANN	2003	.04	.04	.20	.06	.62	.00	.00	.03	.70	.90
MISC USE	3/4-TON PICKUP	ANN	2003	.20	.22	1.60	1.49	3.08	.00	.00	.19	4.76	6.36
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.56	.22	.77	.00	.00	.04	1.03	1.59
OVERHEAD[8]	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	5.02	.00	.00	5.02	5.02
TAXES	LAND TAXES	ANN	2003	.00	.00	5.50	.00	.00	.00	.00	.00	.00	5.50
LAND COST	NET LAND RENT	ANN	2003	.00	.00	18.73	.00	.00	.00	.00	.00	.00	18.73
TOTAL PER ACRE				.87	1.00	46.37	11.13	13.97	13.52	63.31	3.56	105.49	151.87

- [1] 25% OF PRODUCERS USE A DISK INSTEAD OF A CHISEL.
- [2] SPRAYER RENTAL @ \$1.50/ACRE. 10 OUNCES OF ROUNDUP @ \$3.80/PINT, 50 OUNCES OF AMMONIA SULFATE @ 1.5¢/OUNCE, 1.5 OUNCES OF M-90 @ 1¢/OUNCE.
- [3] SPRAYER RENTAL @ \$1.50/ACRE. 12 OUNCES OF ROUNDUP @ \$3.80/PINT, 50 OUNCES OF AMMONIA SULFATE @ 1.5¢/OUNCE, 1.5 OUNCES OF M-90 @ 1¢/OUNCE.
- [4] 5.0 LBS. OF SEED @ \$1.70/LB. 90 LBS. N @ 20¢/LB., 15 LBS. P 55¢/LB., 20 LBS. S @ 49¢/LB.
- [5] SPRAYER RENTAL @ \$1.50/ACRE. 10 OUNCES OF ASSURE II @ \$1.20/OUNCE.(50% OF THE PRODUCERS)  
25% OF THE PRODUCERS CUSTOM AERIAL @ \$5.00/ACRE. CAPTURE @ \$10.17 ACRE.
- [6] CROP INSURANCE @ \$2.50/ACRE
- [7] HAULING COST @ 15¢/CWT.
- [8] OVERHEAD @ 5% OF VARIABLE COST.

TABLE 9. ITEMIZED COST PER ACRE FOR MUSTARD GROWN USING MIN-TILL  
 PRODUCTION PRACTICES IN THE GREATER THAN 20" RAINFALL ZONE  
 (1000 LBS. PRODUCTION LEVEL).

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
60' SPRAYER	ACRE	1.50	3.00	4.50	_____
ROUNDUP	QT.	7.60	.69	5.22	_____
AMMONIA SULFATE	OZ.	.015	100.00	1.50	_____
M-90	OZ.	.01	3.00	.03	_____
BRASSICA SEED	LB.	1.70	5.00	8.50	_____
DRY NITROGEN	LB.	.20	90.00	18.00	_____
DRY SULFUR	LB.	.49	20.00	9.80	_____
DRY PHOSPHORUS	LB.	.55	15.00	8.25	_____
ASSURE II	OZ.	1.20	10.00	12.00	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
HAULING COST	CWT.	.15	10.00	1.50	_____
MACHINERY REPAIRS	ACRE	6.92	1.00	6.92	_____
MACHINE FUEL/LUBE	ACRE	4.21	1.00	4.21	_____
LABOR (TRAC/MACH)	HR.	14.00	1.00	13.97	_____
OVERHEAD	ACRE	5.02	1.00	5.02	_____
INTEREST ON OP. CAP.	ACRE	3.56	1.00	3.56	_____
				-----	
TOTAL VARIABLE COST				105.50	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	11.14	1.00	11.14	_____
MACHINE INTEREST	ACRE	7.86	1.00	7.86	_____
MACHINE INSURANCE	ACRE	.55	1.00	.55	_____
MACHINE TAXES	ACRE	1.49	1.00	1.49	_____
MACHINE HOUSING	ACRE	.71	1.00	.71	_____
LAND TAXES	ACRE	5.50	1.00	5.50	_____
NET LAND RENT	ACRE	18.73	1.00	18.73	_____
				-----	
TOTAL FIXED COST				46.37	_____
TOTAL COST				151.87	_____
-----					

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

ASSUMED 1000-LB. YIELD SELLING @ 13¢/LB.

COST PER POUND = 15.2¢

TABLE 10. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR MUSTARD GROWN USING MINIMUM TILLAGE PRODUCTION PRACTICES IN THE GREATER THAN 20" RAINFALL ZONE (1650 LBS. PRODUCTION LEVEL).

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.		
						\$	\$	\$	\$	\$	\$	\$	\$
CHISEL[1]	300HP-WT W/24' CHISEL	OCT	2002	.06	.06	2.09	1.44	.91	.00	.00	.18	2.52	4.61
HAUL WATER	2-TON TRUCK W/SLIP TANK	OCT	2002	.01	.02	.16	.10	.28	.00	.00	.03	.41	.57
SPRAY[2]	300HP-WT W/60' SPRAYER	OCT	2002	.03	.03	.51	.34	.48	1.50	3.14	.43	5.89	6.40
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAR	2003	.01	.02	.16	.10	.28	.00	.00	.02	.39	.56
SPRAY[3]	300HP-WT W/60' SPRAYER	MAR	2003	.03	.03	.51	.34	.48	1.50	3.61	.25	6.19	6.70
HEAVY HARROW	300HP-WT W/40' HEAVY HARROW	APR	2003	.05	.06	2.13	1.28	.81	.00	.00	.07	2.16	4.29
HAUL FERTILIZER	TANDEM AXLE TRUCK	APR	2003	.03	.03	.66	.43	.46	.00	.00	.03	.92	1.58
HAUL SEED	2-TON TRUCK	APR	2003	.03	.03	.38	.28	.46	.00	.00	.03	.77	1.14
SEED/FERT[4]	300HP-WT W/36' DBL DISK DRILL	APR	2003	.08	.10	3.87	1.49	1.40	.00	44.55	1.68	49.12	52.99
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAY	2003	.01	.02	.16	.10	.28	.00	.00	.01	.39	.55
SPRAY[5]	300HP-WT W/60' SPRAYER	MAY	2003	.03	.03	.51	.34	.48	1.50	12.00	.41	14.73	15.24
CROP INSUR[6]	FIRE AND HAIL	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.07	2.57	2.57
HARVEST	25' COMBINE	AUG	2003	.17	.18	7.96	2.67	2.57	.00	.00	.04	5.27	13.23
HAUL MUSTARD[7]	CALCULATED PER CWT COST	AUG	2003	.00	.00	.00	.00	.00	2.47	.00	.02	2.49	2.49
MISC USE	TANDEM AXLE TRUCK	ANN	2003	.02	.02	.44	.29	.31	.00	.00	.03	.62	1.06
MISC USE	2-TON TRUCK	ANN	2003	.02	.02	.25	.19	.31	.00	.00	.02	.52	.77
MISC USE	ATV	ANN	2003	.04	.04	.20	.06	.62	.00	.00	.03	.70	.90
MISC USE	3/4-TON PICKUP	ANN	2003	.20	.22	1.60	1.49	3.08	.00	.00	.19	4.76	6.36
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.56	.22	.77	.00	.00	.04	1.03	1.59
OVERHEAD[8]	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	5.07	.00	.00	5.07	5.07
TAXES	LAND TAXES	ANN	2003	.00	.00	5.50	.00	.00	.00	.00	.00	.00	5.50
LAND COST	NET LAND RENT	ANN	2003	.00	.00	46.90	.00	.00	.00	.00	.00	.00	46.90
TOTAL PER ACRE				.87	1.00	74.54	11.13	13.97	14.55	63.31	3.57	106.53	181.07

[1] 25% OF PRODUCERS USE A DISK INSTEAD OF A CHISEL.

[2] SPRAYER RENTAL @ \$1.50/ACRE. 10 OUNCES OF ROUNDUP @ \$3.80/PINT, 50 OUNCES OF AMMONIA SULFATE @ 1.5¢/OUNCE, 1.5 OUNCES OF M-90 @ 1¢/OUNCE.

[3] SPRAYER RENTAL @ \$1.50/ACRE. 12 OUNCES OF ROUNDUP @ \$3.80/PINT, 50 OUNCES OF AMMONIA SULFATE @ 1.5¢/OUNCE, 1.5 OUNCES OF M-90 @ 1¢/OUNCE.

[4] 5.0 LBS. OF SEED @ \$1.70/LB. 90 LBS. N @ 20¢/LB., 15 LBS. P 55¢/LB., 20 LBS. S @ 49¢/LB.

[5] SPRAYER RENTAL @ \$1.50/ACRE. 10 OUNCES OF ASSURE II @ \$1.20/OUNCE.(50% OF THE PRODUCERS)  
25% OF THE PRODUCERS CUSTOM AERIAL @ \$5.00/ACRE. CAPTURE @ \$10.17 ACRE.

[6] CROP INSURANCE @ \$2.50/ACRE

[7] HAULING COST @ 15¢/CWT.

[8] OVERHEAD @ 5% OF VARIABLE COST.

TABLE 11. ITEMIZED COST PER ACRE FOR MUSTARD GROWN USING MIN-TILL  
 PRODUCTION PRACTICES IN THE GREATER THAN 20" RAINFALL ZONE  
 (1650 LBS. PRODUCTION LEVEL).

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
60' SPRAYER	ACRE	1.50	3.00	4.50	_____
ROUNDUP	QT.	7.60	.69	5.22	_____
AMMONIA SULFATE	OZ.	.015	100.00	1.50	_____
M-90	OZ.	.01	3.00	.03	_____
BRASSICA SEED	LB.	1.70	5.00	8.50	_____
DRY NITROGEN	LB.	.20	90.00	18.00	_____
DRY SULFUR	LB.	.49	20.00	9.80	_____
DRY PHOSPHORUS	LB.	.55	15.00	8.25	_____
ASSURE II	OZ.	1.20	10.00	12.00	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
HAULING COST	CWT.	.15	16.50	2.47	_____
MACHINERY REPAIRS	ACRE	6.92	1.00	6.92	_____
MACHINE FUEL/LUBE	ACRE	4.21	1.00	4.21	_____
LABOR (TRAC/MACH)	HOUR	14.00	1.00	13.97	_____
OVERHEAD	ACRE	5.07	1.00	5.07	_____
INTEREST ON OP. CAP.	ACRE	3.57	1.00	3.57	_____
				-----	
TOTAL VARIABLE COST				106.53	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	11.14	1.00	11.14	_____
MACHINE INTEREST	ACRE	7.86	1.00	7.86	_____
MACHINE INSURANCE	ACRE	.55	1.00	.55	_____
MACHINE TAXES	ACRE	1.49	1.00	1.49	_____
MACHINE HOUSING	ACRE	.71	1.00	.71	_____
LAND TAXES	ACRE	5.50	1.00	5.50	_____
NET LAND RENT	ACRE	46.90	1.00	46.90	_____
				-----	
TOTAL FIXED COST				74.54	_____
TOTAL COST				181.07	_____
-----					

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

ASSUMED 1650-LB. YIELD SELLING @ 13¢/LB.

COST PER POUND = 11¢

## **APPENDIX II**

Detailed Costs and Returns for Producers

Producing Oilseeds in the 15” to 20” Rainfall Area

TABLE 12. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR CANOLA GROWN USING NO-TILL/DIRECT SEED PRODUCTION PRACTICES IN THE 15" TO 20" RAINFALL ZONE (PRODUCTION LEVEL 1100 LBS.).

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	250HP-WT W/60' FLEX HARROW	OCT	2002	.03	.03	.95	.58	.44	.00	.00	.08	1.10	2.05						
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAR	2003	.01	.02	.16	.10	.28	.00	.00	.02	.39	.56						
SPRAY[1]	250HP-WT W/60' SPRAYER	MAR	2003	.03	.03	.43	.34	.48	1.50	4.56	.29	7.18	7.61						
HAUL SEED	2-TON TRUCK	APR	2003	.03	.03	.38	.28	.46	.00	.00	.03	.77	1.14						
HAUL FERTILIZER	TANDEM AXLE TRUCK	APR	2003	.03	.03	.66	.43	.46	.00	.00	.03	.92	1.58						
SEED/FERT[2]	250HP-WT W/35' GP BOX DRILL	APR	2003	.08	.10	4.24	1.32	1.40	.00	40.50	1.53	44.76	48.99						
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAY	2003	.01	.02	.16	.10	.28	.00	.00	.01	.39	.55						
SPRAY[3]	250HP-WT W/60' SPRAYER	MAY	2003	.03	.03	.43	.34	.48	1.50	4.56	.20	7.08	7.51						
BUG SPRAY[4]	CUSTOM AERIAL	MAY	2003	.00	.00	.00	.00	.00	5.00	10.17	.43	15.60	15.60						
CROP INSUR[5]	FIRE AND HAIL	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.07	2.57	2.57						
HARVEST	25' COMBINE	AUG	2003	.17	.18	7.96	2.67	2.57	.00	.00	.04	5.27	13.23						
HAUL CANOLA[6]	CALCULATED COST PER LB. BASIS	AUG	2003	.00	.00	.00	.00	.00	1.65	.00	.01	1.66	1.66						
MISC USE	2-TON TRUCK	ANN	2003	.02	.02	.25	.19	.31	.00	.00	.02	.52	.77						
MISC USE	ATV	ANN	2003	.04	.04	.20	.06	.62	.00	.00	.03	.70	.90						
MISC USE	3/4-TON PICKUP	ANN	2003	.20	.22	1.60	1.49	3.08	.00	.00	.19	4.76	6.36						
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.56	.22	.77	.00	.00	.04	1.03	1.59						
MISC USE	TANDEM AXLE TRUCK	ANN	2003	.02	.02	.44	.29	.31	.00	.00	.03	.62	1.06						
OVERHEAD[7]	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	4.77	.00	.00	4.77	4.77						
TAXES	LAND TAXES	ANN	2003	.00	.00	4.50	.00	.00	.00	.00	.00	.00	4.50						
LAND COST	NET LAND RENT	ANN	2003	.00	.00	20.90	.00	.00	.00	.00	.00	.00	20.90						
TOTAL PER ACRE				.75	.85	43.81	8.39	11.93	16.92	59.80	3.04	100.08	143.89						

[1] SPRAYER RENTAL @ \$1.50/ACRE. 1 PINT OF ROUNDUP @ \$3.80/PINT, 50 OUNCES OF AMMONIA SULFATE @ 1.5¢/OUNCE, 1.5 OUNCES OF M-90 @ 1¢/OUNCE.

[2] 10 LBS. OF SEED @ \$1.75/LB. 90 LBS. N @ 16¢/LB., 20 LBS. S @ 43¢/LB.

[3] SPRAYER RENTAL @ \$1.50/ACRE. 1 PINT OF ROUNDUP @ \$3.80/PINT, 50 OUNCES OF AMMONIA SULFATE @ 1.5¢/OUNCE, 1.5 OUNCES OF M-90 @ 1¢/OUNCE.

[4] CUSTOM AERIAL @ \$5.00/ACRE. CAPTURE @ \$10.17 ACRE.

[5] CROP INSURANCE @ \$2.50/ACRE

[6] HAULING COST @ 15¢/CWT.

[7] OVERHEAD @ 5% OF VARIABLE COST.

TABLE 13. ITEMIZED COST PER ACRE FOR CANOLA GROWN USING  
NO-TILL/DIRECT SEED TILLAGE PRACTICES IN THE 15" TO 20"  
RAINFALL ZONE (PRODUCTION LEVEL 1100 POUNDS).

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
60' SPRAYER	ACRE	1.50	2.00	3.00	_____
ROUNDUP	QT.	7.60	1.00	7.60	_____
AMMONIA SULFATE	OZ.	.015	100.00	1.50	_____
M-90	OZ.	.01	3.00	.03	_____
BRASSICA SEED	LB.	1.75	10.00	17.50	_____
DRY NITROGEN	LB.	.16	90.00	14.40	_____
DRY SULFUR	LB.	.43	20.00	8.60	_____
CUSTOM AERIAL	ACRE	5.00	1.00	5.00	_____
CAPTURE	ACRE	10.17	1.00	10.17	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
HAULING COST	CWT.	.15	11.00	1.65	_____
MACHINERY REPAIRS	ACRE	5.77	1.00	5.77	_____
MACHINE FUEL/LUBE	ACRE	2.63	1.00	2.63	_____
LABOR (TRAC/MACH)	ACRE	14.00	.85	11.93	_____
OVERHEAD	ACRE	4.77	1.00	4.77	_____
INTEREST ON OP. CAP.	ACRE	3.04	1.00	3.04	_____
				-----	
TOTAL VARIABLE COST				100.08	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	9.61	1.00	9.61	_____
MACHINE INTEREST	ACRE	6.28	1.00	6.28	_____
MACHINE INSURANCE	ACRE	.44	1.00	.44	_____
MACHINE TAXES	ACRE	1.33	1.00	1.33	_____
MACHINE HOUSING	ACRE	.74	1.00	.64	_____
LAND TAXES	ACRE	4.50	1.00	4.50	_____
NET LAND RENT	ACRE	20.90	1.00	20.90	_____
				-----	
TOTAL FIXED COST				43.81	_____
TOTAL COST				143.89	_____
-----					

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

1100-LB. YIELD SELLING @ 11¢/LB.

COST PER POUND = 13.1¢

TABLE 14. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR CANOLA GROWN USING NO-TILL/DIRECT SEED PRODUCTION PRACTICES IN THE 15" TO 20" RAINFALL ZONE (PRODUCTION LEVEL 1991 LBS.).

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	250HP-WT W/60' FLEX HARROW	OCT	2002	.03	.03	.95	.58	.44	.00	.00	.08	1.10	2.05
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAR	2003	.01	.02	.16	.10	.28	.00	.00	.02	.39	.56
SPRAY[1]	250HP-WT W/60' SPRAYER	MAR	2003	.03	.03	.43	.34	.48	1.50	4.56	.29	7.18	7.61
HAUL SEED	2-TON TRUCK	APR	2003	.03	.03	.38	.28	.46	.00	.00	.03	.77	1.14
HAUL FERTILIZER	TANDEM AXLE TRUCK	APR	2003	.03	.03	.66	.43	.46	.00	.00	.03	.92	1.58
SEED/FERT[2]	250HP-WT W/35' GP BOX DRILL	APR	2003	.08	.10	4.24	1.32	1.40	.00	51.90	1.93	56.56	60.80
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAY	2003	.01	.02	.16	.10	.28	.00	.00	.01	.39	.55
SPRAY[3]	250HP-WT W/60' SPRAYER	MAY	2003	.03	.03	.43	.34	.48	1.50	4.56	.20	7.08	7.51
BUG SPRAY[4]	CUSTOM AERIAL	MAY	2003	.00	.00	.00	.00	.00	5.00	10.17	.43	15.60	15.60
CROP INSUR[5]	FIRE AND HAIL	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.07	2.57	2.57
HARVEST	25' COMBINE	AUG	2003	.17	.18	7.96	2.67	2.57	.00	.00	.04	5.27	13.23
HAUL CANOLA[6]	CALCULATED COST PER LB. BASIS	AUG	2003	.00	.00	.00	.00	.00	2.99	.00	.02	3.01	3.01
MISC USE	2-TON TRUCK	ANN	2003	.02	.02	.25	.19	.31	.00	.00	.02	.52	.77
MISC USE	ATV	ANN	2003	.04	.04	.20	.06	.62	.00	.00	.03	.70	.90
MISC USE	3/4-TON PICKUP	ANN	2003	.20	.22	1.60	1.49	3.08	.00	.00	.19	4.76	6.36
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.56	.22	.77	.00	.00	.04	1.03	1.59
MISC USE	TANDEM AXLE TRUCK	ANN	2003	.02	.02	.44	.29	.31	.00	.00	.03	.62	1.06
OVERHEAD[7]	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	5.42	.00	.00	5.42	5.42
TAXES	LAND TAXES	ANN	2003	.00	.00	4.50	.00	.00	.00	.00	.00	.00	4.50
LAND COST	NET LAND RENT	ANN	2003	.00	.00	49.77	.00	.00	.00	.00	.00	.00	49.77
TOTAL PER ACRE				.75	.85	72.68	8.39	11.93	18.91	71.20	3.46	113.89	186.57

[1] SPRAYER RENTAL @ \$1.50/ACRE. 1 PINT OF ROUNDUP @ \$3.80/PINT, 50 OUNCES OF AMMONIA SULFATE @ 1.5¢/OUNCE, 1.5 OUNCES OF M-90 @ 1¢/OUNCE.

[2] 10 LBS. OF SEED @ \$1.75/LB. 90 LBS. N @ 16¢/LB., 20 LBS. S @ 43¢/LB., 15 LBS. P @ 76¢/LB.

[3] SPRAYER RENTAL @ \$1.50/ACRE. 1 PINT OF ROUNDUP @ \$3.80/PINT, 50 OUNCES OF AMMONIA SULFATE @ 1.5¢/OUNCE, 1.5 OUNCES OF M-90 @ 1¢/OUNCE.

[4] CUSTOM AERIAL @ \$5.00/ACRE. CAPTURE @ \$10.17 ACRE.

[5] CROP INSURANCE @ \$2.50/ACRE

[6] HAULING COST @ 15¢/CWT.

[7] OVERHEAD @ 5% OF VARIABLE COST.

TABLE 15. ITEMIZED COST PER ACRE FOR CANOLA GROWN USING  
NO-TILL/DIRECT SEED TILLAGE PRACTICES IN THE 15" TO 20"  
RAINFALL ZONE (PRODUCTION LEVEL 1991 POUNDS).

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
60' SPRAYER	ACRE	1.50	2.00	3.00	_____
ROUNDUP	QT.	7.60	1.00	7.60	_____
AMMONIA SULFATE	OZ.	.015	100.00	1.50	_____
M-90	OZ.	.01	3.00	.03	_____
BRASSICA SEED	LB.	1.75	10.00	17.50	_____
DRY NITROGEN	LB.	.16	90.00	14.40	_____
DRY SULFUR	LB.	.43	20.00	8.60	_____
DRY PHOSPHORUS	LB.	.76	15.00	11.40	_____
CUSTOM AERIAL	ACRE	5.00	1.00	5.00	_____
CAPTURE	ACRE	10.17	1.00	10.17	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
HAULING COST	CWT.	.15	19.91	2.99	_____
MACHINERY REPAIRS	ACRE	5.77	1.00	5.77	_____
MACHINE FUEL/LUBE	ACRE	2.63	1.00	2.63	_____
LABOR (TRAC/MACH)	HOUR	14.00	.85	11.93	_____
OVERHEAD	ACRE	5.52	1.00	5.52	_____
INTEREST ON OP. CAP.	ACRE	3.46	1.00	3.46	_____
				-----	
TOTAL VARIABLE COST				113.89	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	9.61	1.00	9.61	_____
MACHINE INTEREST	ACRE	6.28	1.00	6.28	_____
MACHINE INSURANCE	ACRE	.44	1.00	.44	_____
MACHINE TAXES	ACRE	1.33	1.00	1.33	_____
MACHINE HOUSING	ACRE	.74	1.00	.64	_____
LAND TAXES	ACRE	4.50	1.00	4.50	_____
NET LAND RENT	ACRE	49.77	1.00	49.77	_____
				-----	
TOTAL FIXED COST				72.68	_____
TOTAL COST				186.57	_____
-----					

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

1991-LB. YIELD SELLING @ 11¢/LB.

COST PER POUND = 9.4¢

TABLE 16. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR CANOLA GROWN USING MINIMUM TILLAGE PRODUCTION PRACTICES IN THE 15" TO 20" RAINFALL ZONE (PRODUCTION LEVEL 1650 LBS.).

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	250HP-WT W/60' FLEX HARROW	OCT	2002	.03	.03	.95	.58	.44	.00	.00	.08	1.10	2.05
HAUL FERTILIZER	TANDEM AXLE TRUCK	OCT	2002	.03	.03	.66	.43	.46	.00	.00	.07	.96	1.62
CHISEL/FERT[1]	250HP-WT W/30' CHISEL&FERT BP	OCT	2002	.06	.08	2.38	1.74	1.06	.00	34.40	2.90	40.10	42.48
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAR	2003	.01	.02	.16	.10	.28	.00	.00	.02	.39	.56
SPRAY[2]	250HP-WT W/60' SPRAYER	MAR	2003	.03	.03	.43	.34	.48	1.50	4.56	.29	7.18	7.61
HARROW	250HP-WT W/60' FLEX HARROW	APR	2003	.03	.03	.95	.58	.44	.00	.00	.04	1.05	2.00
HAUL SEED	2-TON TRUCK	APR	2003	.03	.03	.38	.28	.46	.00	.00	.03	.77	1.14
SEED[3]	250HP-WT W/36' DBL DISC DRILL	APR	2003	.08	.10	3.63	1.49	1.40	.00	17.50	.72	21.11	24.75
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAY	2003	.01	.02	.16	.10	.28	.00	.00	.01	.39	.55
SPRAY[4]	250HP-WT W/60' SPRAYER	MAY	2003	.03	.03	.43	.34	.48	1.50	4.56	.20	7.08	7.51
BUG SPRAY[5]	CUSTOM AERIAL	MAY	2003	.00	.00	.00	.00	.00	5.00	10.17	.43	15.60	15.60
CROP INSUR[6]	FIRE AND HAIL	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.07	2.57	2.57
HARVEST	25' COMBINE	AUG	2003	.17	.18	7.96	2.67	2.57	.00	.00	.04	5.27	13.23
HAUL CANOLA	CALCULATED COST PER LB. BASIS	AUG	2003	.00	.00	.00	.00	.00	2.47	.00	.02	2.49	2.49
MISC USE	2-TON TRUCK	ANN	2003	.02	.02	.25	.19	.31	.00	.00	.02	.52	.77
MISC USE	ATV	ANN	2003	.04	.04	.20	.06	.62	.00	.00	.03	.70	.90
MISC USE	3/4-TON PICKUP	ANN	2003	.20	.22	1.60	1.49	3.08	.00	.00	.19	4.76	6.36
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.56	.22	.77	.00	.00	.04	1.03	1.59
MISC USE	TANDEM AXLE TRUCK	ANN	2003	.02	.02	.44	.29	.31	.00	.00	.03	.62	1.06
OVERHEAD[7]	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	5.69	.00	.00	5.69	5.69
TAXES	LAND TAXES	ANN	2003	.00	.00	4.50	.00	.00	.00	.00	.00	.00	4.50
LAND COST	NET LAND RENT	ANN	2003	.00	.00	37.27	.00	.00	.00	.00	.00	.00	37.27
TOTAL PER ACRE				.83	.96	62.91	10.88	13.43	18.66	71.20	5.21	119.39	182.30

[1] 90 LBS. N @ 16¢/LB., 20 LBS. S @ 43¢/LB., 15 LBS. P @ 76¢/LB.

[2] SPRAYER RENTAL @ \$1.50/ACRE. 1 PINT OF ROUNDUP @ \$3.80/PINT, 50 OUNCES OF AMMONIA SULFATE @ 1.5¢/OUNCE, 1.5 OUNCES OF M-90 @ 1¢/OUNCE.

[3] 10 LBS. OF SEED @ \$1.75/LB.

[4] SPRAYER RENTAL @ \$1.50/ACRE. 1 PINT OF ROUNDUP @ \$3.80/PINT, 50 OUNCES OF AMMONIA SULFATE @ 1.5¢/OUNCE, 1.5 OUNCES OF M-90 @ 1¢/OUNCE.

[5] CUSTOM AERIAL @ \$5.00/ACRE. CAPTURE @ \$10.17 ACRE.

[6] CROP INSURANCE @ \$2.50/ACRE

[7] HAULING COST @ 15¢/CWT.

[7] OVERHEAD @ 5% OF VARIABLE COST.

TABLE 17. ITEMIZED COST PER ACRE FOR CANOLA GROWN USING  
 MINIMUM TILLAGE PRODUCTION PRACTICES IN THE 15" TO 20"  
 RAINFALL ZONE (PRODUCTION LEVEL 1650 POUNDS).

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
DRY NITROGEN	LB.	.16	90.00	14.40	_____
DRY SULFUR	LB.	.43	20.00	8.60	_____
DRY PHOSPHORUS	LB.	.76	15.00	11.40	_____
60' SPRAYER	ACRE	1.50	2.00	3.00	_____
ROUNDUP	QT.	7.60	1.00	7.60	_____
AMMONIA SULFATE	OZ.	.015	100.00	1.50	_____
M-90	OZ.	.01	3.00	.03	_____
BRASSICA SEED	LB.	1.75	10.00	17.50	_____
CUSTOM AERIAL	ACRE	5.00	1.00	5.00	_____
CAPTURE	ACRE	10.17	1.00	10.17	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
HAULING COST	CWT.	.15	16.50	2.47	_____
MACHINERY REPAIRS	ACRE	7.14	1.00	7.14	_____
MACHINE FUEL/LUBE	ACRE	3.74	1.00	3.74	_____
LABOR (TRAC/MACH)	HOUR	14.00	.96	13.43	_____
OVERHEAD	ACRE	5.69	1.00	5.69	_____
INTEREST ON OP. CAP.	ACRE	5.21	1.00	5.21	_____
				-----	
TOTAL VARIABLE COST				119.39	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	10.96	1.00	10.96	_____
MACHINE INTEREST	ACRE	7.27	1.00	7.27	_____
MACHINE INSURANCE	ACRE	.51	1.00	.51	_____
MACHINE TAXES	ACRE	1.54	1.00	1.54	_____
MACHINE HOUSING	ACRE	.85	1.00	.85	_____
LAND TAXES	ACRE	4.50	1.00	4.50	_____
NET LAND RENT	ACRE	37.27	1.00	37.27	_____
				-----	
TOTAL FIXED COST				62.91	_____
TOTAL COST				182.30	_____
-----					

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

1650-LB. YIELD SELLING @ 11¢/LB.

COST PER POUND = 11¢

TABLE 18. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR MUSTARD GROWN USING NO-TILL/DIRECT SEED PRODUCTION PRACTICES IN THE 15" TO 20" RAINFALL ZONE (PRODUCTION LEVEL 1100 LBS.).

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	250HP-WT W/60' FLEX HARROW	OCT	2002	.03	.03	.95	.58	.44	.00	.00	.08	1.10	2.05
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAR	2003	.01	.02	.16	.10	.28	.00	.00	.02	.39	.56
SPRAY[1]	250HP-WT W/60' SPRAYER	MAR	2003	.03	.03	.43	.34	.48	1.50	4.56	.29	7.18	7.61
HAUL SEED	2-TON TRUCK	APR	2003	.03	.03	.38	.28	.46	.00	.00	.03	.77	1.14
HAUL FERTILIZER	TANDEM AXLE TRUCK	APR	2003	.03	.03	.66	.43	.46	.00	.00	.03	.92	1.58
SEED/FERT[2]	250HP-WT W/35' GP BOX DRILL	APR	2003	.08	.10	4.24	1.32	1.40	.00	51.90	1.93	56.56	60.80
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAY	2003	.01	.02	.16	.10	.28	.00	.00	.01	.39	.55
SPRAY[3]	250HP-WT W/60' SPRAYER	MAY	2003	.03	.03	.43	.34	.48	1.50	12.00	.41	14.73	15.16
CROP INSUR[4]	FIRE AND HAIL	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.07	2.57	2.57
HARVEST	25' COMBINE	AUG	2003	.17	.18	7.96	2.67	2.57	.00	.00	.04	5.27	13.23
HAUL MUSTARD[5]	CALCULATED COST PER LB. BASIS	AUG	2003	.00	.00	.00	.00	.00	1.65	.00	.01	1.66	1.66
MISC USE	2-TON TRUCK	ANN	2003	.02	.02	.25	.19	.31	.00	.00	.02	.52	.77
MISC USE	ATV	ANN	2003	.04	.04	.20	.06	.62	.00	.00	.03	.70	.90
MISC USE	3/4-TON PICKUP	ANN	2003	.20	.22	1.60	1.49	3.08	.00	.00	.19	4.76	6.36
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.56	.22	.77	.00	.00	.04	1.03	1.59
MISC USE	TANDEM AXLE TRUCK	ANN	2003	.02	.02	.44	.29	.31	.00	.00	.03	.62	1.06
OVERHEAD[6]	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	4.96	.00	.00	4.96	4.96
TAXES	LAND TAXES	ANN	2003	.00	.00	4.50	.00	.00	.00	.00	.00	.00	4.50
LAND COST	NET LAND RENT	ANN	2003	.00	.00	25.35	.00	.00	.00	.00	.00	.00	25.35
TOTAL PER ACRE				.75	.85	48.26	8.39	12.11	17.89	78.64	3.66	104.13	152.39

[1] SPRAYER RENTAL @ \$1.50/ACRE. 1 PINT OF ROUNDUP @ \$3.80/PINT, 50 OUNCES OF AMMONIA SULFATE @ 1.5¢/OUNCE, 1.5 OUNCES OF M-90 @ 1¢/OUNCE.

[2] 10 LBS. OF SEED @ \$1.75/LB. 90 LBS. N @ 16¢/LB., 20 LBS. S @ 43¢/LB., 15 LBS. P @ 76¢/LB.

[3] SPRAYER RENTAL @ \$1.50/ACRE. 10 OUNCES OF ASSURE II @ \$1.20/OUNCE.

[4] CROP INSURANCE @ \$2.50/ACRE

[5] HAULING COST @ 15¢/CWT.

[6] OVERHEAD @ 5% OF VARIABLE COST.

TABLE 19. ITEMIZED COST PER ACRE FOR MUSTARD GROWN USING  
NO-TILL/DIRECT SEED TILLAGE PRACTICES IN THE 15" TO 20"  
RAINFALL ZONE (PRODUCTION LEVEL 1100 POUNDS).

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
60' SPRAYER	ACRE	1.50	2.00	3.00	_____
ROUNDUP	QT.	7.60	.50	3.80	_____
AMMONIA SULFATE	OZ.	.01	50.00	.75	_____
M-90	OZ.	.01	1.50	.01	_____
BRASSICA SEED	LB.	1.75	10.00	17.50	_____
DRY NITROGEN	LB.	.16	90.00	14.40	_____
DRY SULFUR	LB.	.43	20.00	8.60	_____
DRY PHOSPHORUS	LB.	.76	15.00	11.40	_____
ASSURE II	OZ.	1.20	10.00	12.00	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
HAULING COST	CWT.	.15	11.00	1.65	_____
MACHINERY REPAIRS	ACRE	5.77	1.00	5.77	_____
MACHINE FUEL/LUBE	ACRE	2.63	1.00	2.63	_____
LABOR (TRAC/MACH)	HOOR	14.00	.85	11.93	_____
OVERHEAD	ACRE	4.96	1.00	4.96	_____
INTEREST ON OP. CAP.	ACRE	3.23	1.00	3.23	_____
				-----	
TOTAL VARIABLE COST				104.13	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	9.61	1.00	9.61	_____
MACHINE INTEREST	ACRE	6.28	1.00	6.28	_____
MACHINE INSURANCE	ACRE	.44	1.00	.44	_____
MACHINE TAXES	ACRE	1.33	1.00	1.33	_____
MACHINE HOUSING	ACRE	.74	1.00	.74	_____
LAND TAXES	ACRE	4.50	1.00	4.50	_____
NET LAND RENT	ACRE	25.35	1.00	25.35	_____
				-----	
TOTAL FIXED COST				48.26	_____
TOTAL COST				152.39	_____
-----					

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

1100-LB. YIELD SELLING @ 13¢/LB.

COST PER POUND = 13.85¢

TABLE 20. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR MUSTARD GROWN USING NO-TILL/DIRECT SEED PRODUCTION PRACTICES IN THE 15" TO 20" RAINFALL ZONE (PRODUCTION LEVEL 1300 LBS.).

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	250HP-WT W/60' FLEX HARROW	OCT	2002	.03	.03	.95	.58	.44	.00	.00	.08	1.10	2.05
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAR	2003	.01	.02	.16	.10	.28	.00	.00	.02	.39	.56
SPRAY[1]	250HP-WT W/60' SPRAYER	MAR	2003	.03	.03	.43	.34	.48	1.50	4.56	.29	7.18	7.61
HAUL SEED	2-TON TRUCK	APR	2003	.03	.03	.38	.28	.46	.00	.00	.03	.77	1.14
HAUL FERTILIZER	TANDEM AXLE TRUCK	APR	2003	.03	.03	.66	.43	.46	.00	.00	.03	.92	1.58
SEED/FERT[2]	250HP-WT W/35' GP BOX DRILL	APR	2003	.08	.10	4.24	1.32	1.40	.00	40.50	1.53	44.76	48.99
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAY	2003	.01	.02	.16	.10	.28	.00	.00	.01	.39	.55
SPRAY[3]	250HP-WT W/60' SPRAYER	MAY	2003	.03	.03	.43	.34	.48	1.50	12.00	.41	14.73	15.16
CROP INSUR[4]	FIRE AND HAIL	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.07	2.57	2.57
HARVEST	25' COMBINE	AUG	2003	.17	.18	7.96	2.67	2.57	.00	.00	.04	5.27	13.23
HAUL MUSTARD[5]	CALCULATED COST PER LB. BASIS	AUG	2003	.00	.00	.00	.00	.00	1.95	.00	.01	1.96	1.96
MISC USE	2-TON TRUCK	ANN	2003	.02	.02	.25	.19	.31	.00	.00	.02	.52	.77
MISC USE	ATV	ANN	2003	.04	.04	.20	.06	.62	.00	.00	.03	.70	.90
MISC USE	3/4-TON PICKUP	ANN	2003	.20	.22	1.60	1.49	3.08	.00	.00	.19	4.76	6.36
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.56	.22	.77	.00	.00	.04	1.03	1.59
MISC USE	TANDEM AXLE TRUCK	ANN	2003	.02	.02	.44	.29	.31	.00	.00	.03	.62	1.06
OVERHEAD[6]	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	4.38	.00	.00	4.38	4.38
TAXES	LAND TAXES	ANN	2003	.00	.00	4.50	.00	.00	.00	.00	.00	.00	4.50
LAND COST	NET LAND RENT	ANN	2003	.00	.00	37.81	.00	.00	.00	.00	.00	.00	37.81
TOTAL PER ACRE				.75	.85	60.72	8.39	11.93	11.83	57.06	2.83	92.05	152.77

[1] SPRAYER RENTAL @ \$1.50/ACRE. 1 PINT OF ROUNDUP @ \$3.80/PINT, 50 OUNCES OF AMMONIA SULFATE @ 1.5¢/OUNCE, 1.5 OUNCES OF M-90 @ 1¢/OUNCE.

[2] 10 LBS. OF SEED @ \$1.75/LB. 90 LBS. N @ 16¢/LB., 20 LBS. S @ 43¢/LB.

[3] SPRAYER RENTAL @ \$1.50/ACRE. 10 OUNCES OF ASSURE II @ \$1.20/OUNCE.

[4] CROP INSURANCE @ \$2.50/ACRE

[5] HAULING COST @ 15¢/CWT.

[6] OVERHEAD @ 5% OF VARIABLE COST.

TABLE 21. ITEMIZED COST PER ACRE FOR MUSTARD GROWN USING  
NO-TILL/DIRECT SEED TILLAGE PRACTICES IN THE 15" TO 20"  
RAINFALL ZONE (PRODUCTION LEVEL 1300 POUNDS).

		PRICE OR UNIT COST/UNIT	QUANTITY	VALUE OR COST	YOUR FARM
-----					
VARIABLE COSTS		\$		\$	
60' SPRAYER	ACRE	1.50	2.00	3.00	_____
ROUNDUP	QT.	7.60	.50	3.80	_____
AMMONIA SULFATE	OZ.	.01	50.00	.75	_____
M-90	OZ.	.01	1.50	.01	_____
BRASSICA SEED	LB.	1.75	10.00	17.50	_____
DRY NITROGEN	LB.	.16	90.00	14.40	_____
DRY SULFUR	LB.	.43	20.00	8.60	_____
ASSURE II	OZ.	1.20	10.00	12.00	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
HAULING COST	CWT.	.15	13.00	1.95	_____
MACHINERY REPAIRS	ACRE	5.77	1.00	5.77	_____
MACHINE FUEL/LUBE	ACRE	2.63	1.00	2.63	_____
LABOR (TRAC/MACH)	HOURL	11.93	.85	11.93	_____
OVERHEAD	ACRE	4.38	1.00	4.38	_____
INTEREST ON OP. CAP.	ACRE	2.83	1.00	2.83	_____
				-----	
TOTAL VARIABLE COST				92.05	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	9.61	1.00	9.61	_____
MACHINE INTEREST	ACRE	6.28	1.00	6.28	_____
MACHINE INSURANCE	ACRE	.44	1.00	.44	_____
MACHINE TAXES	ACRE	1.33	1.00	1.33	_____
MACHINE HOUSING	ACRE	.74	1.00	.74	_____
LAND TAXES	ACRE	4.50	1.00	4.50	_____
NET LAND RENT	ACRE	37.81	1.00	37.81	_____
				-----	
TOTAL FIXED COST				60.72	_____
TOTAL COST				152.77	_____
-----					

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

1300-LB. YIELD SELLING @ 13¢/LB.

COST PER POUND = 11.75¢

TABLE 22. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR MUSTARD GROWN USING MINIMUM TILLAGE PRACTICES IN THE 15" TO 20" RAINFALL ZONE (PRODUCTION LEVEL 1000 LBS.).

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.		
						\$	\$	\$	\$	\$	\$	\$	\$
DISK	250-HP WT W/25' TANDEM DISK	OCT	2002	.10	.11	3.04	2.75	1.54	.00	.00	.33	4.63	7.67
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAR	2003	.01	.02	.16	.10	.28	.00	.00	.02	.39	.56
SPRAY[1]	250HP-WT W/60' SPRAYER	MAR	2003	.03	.03	.43	.34	.48	1.50	4.56	.29	7.18	7.61
HARROW	250HP-WT W/60' FLEX HARROW	APR	2003	.03	.03	.95	.58	.44	.00	.00	.04	1.05	2.00
HAUL SEED	2-TON TRUCK	APR	2003	.03	.03	.38	.28	.46	.00	.00	.03	.77	1.14
HAUL FERTILIZER	TANDEM AXLE TRUCK	APR	2003	.03	.03	.66	.43	.46	.00	.00	.03	.92	1.58
SEED/FERT[2]	250HP-WT W/36' DBL DISK DRILL	APR	2003	.08	.10	3.63	1.49	1.40	.00	40.50	1.54	44.93	48.56
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAY	2003	.01	.02	.16	.10	.28	.00	.00	.01	.39	.55
SPRAY[3]	250HP-WT W/60' SPRAYER	MAY	2003	.03	.03	.43	.34	.48	1.50	12.00	.41	14.73	15.16
CROP INSUR[4]	FIRE AND HAIL	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.07	2.57	2.57
HARVEST	25' COMBINE	AUG	2003	.17	.18	7.96	2.67	2.57	.00	.00	.04	5.27	13.23
HAUL MUSTARD[5]	CALCULATED COST PER LB. BASIS	AUG	2003	.00	.00	.00	.00	.00	1.50	.00	.01	1.51	1.51
MISC USE	2-TON TRUCK	ANN	2003	.02	.02	.25	.19	.31	.00	.00	.02	.52	.77
MISC USE	ATV	ANN	2003	.04	.04	.20	.06	.62	.00	.00	.03	.70	.90
MISC USE	3/4-TON PICKUP	ANN	2003	.20	.22	1.60	1.49	3.08	.00	.00	.19	4.76	6.36
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.56	.22	.77	.00	.00	.04	1.03	1.59
MISC USE	TANDEM AXLE TRUCK	ANN	2003	.02	.02	.44	.29	.31	.00	.00	.03	.62	1.06
OVERHEAD[6]	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	4.60	.00	.00	4.60	4.60
TAXES	LAND TAXES	ANN	2003	.00	.00	4.50	.00	.00	.00	.00	.00	.00	4.50
LAND COST	NET LAND RENT	ANN	2003	.00	.00	24.81	.00	.00	.00	.00	.00	.00	24.81
TOTAL PER ACRE				.85	.96	50.16	11.31	13.47	11.60	57.06	3.12	96.57	146.73

[1] SPRAYER RENTAL @ \$1.50/ACRE. 1 PINT OF ROUNDUP @ \$3.80/PINT, 50 OUNCES OF AMMONIA SULFATE @ 1.5¢/OUNCE, 1.5 OUNCES OF M-90 @ 1¢/OUNCE.

[2] 10 LBS. OF SEED @ \$1.75/LB. 90 LBS. N @ 16¢/LB., 20 LBS. S @ 43¢/LB.

[3] SPRAYER RENTAL @ \$1.50/ACRE. 10 OUNCES OF ASSURE II @ \$1.20/OUNCE.

[4] CROP INSURANCE @ \$2.50/ACRE

[5] HAULING COST @ 15¢/CWT.

[6] OVERHEAD @ 5% OF VARIABLE COST.

TABLE 23. ITEMIZED COST PER ACRE FOR MUSTARD GROWN USING  
 MINIMUM TILLAGE PRACTICES IN THE 15" TO 20"  
 RAINFALL ZONE (PRODUCTION LEVEL 1000 POUNDS).

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
60' SPRAYER	ACRE	1.50	2.00	3.00	_____
ROUNDUP	QT.	7.60	.50	3.80	_____
AMMONIA SULFATE	OZ.	.01	50.00	.75	_____
M-90	OZ.	.01	1.50	.01	_____
BRASSICA SEED	LB.	1.75	10.00	17.50	_____
DRY NITROGEN	LB.	.16	90.00	14.40	_____
DRY SULFUR	LB.	.43	20.00	8.60	_____
ASSURE II	OZ.	1.20	10.00	12.00	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
HAULING COST	CWT.	.15	10.00	1.50	_____
MACHINERY REPAIRS	ACRE	7.13	1.00	7.13	_____
MACHINE FUEL/LUBE	ACRE	4.18	1.00	1.46	_____
LABOR (TRAC/MACH)	HOURL	14.00	.96	13.47	_____
OVERHEAD	ACRE	4.60	1.00	4.60	_____
INTEREST ON OP. CAP.	ACRE	3.12	1.00	3.12	_____
				-----	
TOTAL VARIABLE COST				96.57	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	10.86	1.00	10.86	_____
MACHINE INTEREST	ACRE	7.14	1.00	7.14	_____
MACHINE INSURANCE	ACRE	.51	1.00	.51	_____
MACHINE TAXES	ACRE	1.51	1.00	1.22	_____
MACHINE HOUSING	ACRE	.84	1.00	.84	_____
LAND TAXES	ACRE	4.50	1.00	4.50	_____
NET LAND RENT	ACRE	24.81	1.00	24.81	_____
				-----	
TOTAL FIXED COST				50.16	_____
TOTAL COST				146.73	_____
-----					

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

1000-LB. YIELD SELLING @ 13¢/LB.

COST PER POUND = 14.7¢

## **APPENDIX III**

Detailed Costs and Returns for Producers

Producing Oilseeds in the Less than 15” Rainfall Area

TABLE 24. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR CANOLA GROWN USING NO-TILL/DIRECT SEEDING PRODUCTION PRACTICES IN THE LESS THAN 15" RAINFALL ZONE (PRODUCTION LEVEL 1000 LBS.).

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.		
						\$	\$	\$	\$	\$	\$	\$	
HAUL WATER	2-TON TRUCK W/SLIP TANK	OCT	2002	.01	.02	.16	.10	.28	.00	.00	.03	.41	.57
SPRAY[1]	250HP-WT W/60' SPRAYER	OCT	2002	.03	.03	.43	.34	.48	1.50	3.90	.48	6.70	7.13
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAR	2003	.01	.02	.16	.10	.28	.00	.00	.02	.39	.56
SPRAY[2]	250HP-WT W/60' SPRAYER	MAR	2003	.03	.03	.43	.34	.48	1.50	3.90	.26	6.48	6.91
HAUL SEED	2-TON TRUCK	APR	2003	.03	.03	.38	.28	.46	.00	.00	.03	.77	1.14
HAUL FERTILIZER	TANDEM AXLE TRUCK	APR	2003	.03	.03	.66	.43	.46	.00	.00	.03	.92	1.58
SEED/FERT[3]	250HP-WT W/35' GP BOX DRILL	APR	2003	.08	.10	4.24	1.32	1.40	.00	31.40	1.21	35.33	39.57
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAY	2003	.01	.02	.16	.10	.28	.00	.00	.01	.39	.55
SPRAY[4]	250HP-WT W/60' SPRAYER	MAY	2003	.03	.03	.43	.34	.48	1.50	12.00	.41	14.73	15.16
BUG SPRAY[5]	CUSTOM AERIAL	MAY	2003	.00	.00	.00	.00	.00	5.00	10.17	.43	15.60	15.60
CROP INSUR[6]	FIRE AND HAIL	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.07	2.57	2.57
HARVEST	25' COMBINE	AUG	2003	.17	.18	7.96	2.67	2.57	.00	.00	.04	5.27	13.23
HAUL CANOLA[7]	CALCULATED COST PER LB. BASIS	AUG	2003	.00	.00	.00	.00	.00	1.50	.00	.01	1.51	1.51
MISC USE	2-TON TRUCK	ANN	2003	.02	.02	.25	.19	.31	.00	.00	.02	.52	.77
MISC USE	ATV	ANN	2003	.04	.04	.20	.06	.62	.00	.00	.03	.70	.90
MISC USE	3/4-TON PICKUP	ANN	2003	.20	.22	1.60	1.49	3.08	.00	.00	.19	4.76	6.36
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.56	.22	.77	.00	.00	.04	1.03	1.59
MISC USE	TANDEM AXLE TRUCK	ANN	2003	.02	.02	.44	.29	.31	.00	.00	.03	.62	1.06
OVERHEAD	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	4.94	.00	.00	4.94	4.94
TAXES	LAND TAXES	ANN	2003	.00	.00	3.50	.00	.00	.00	.00	.00	.00	3.50
LAND COST	NET LAND RENT	ANN	2003	.00	.00	17.73	.00	.00	.00	.00	.00	.00	17.73
TOTAL PER ACRE				.76	.88	39.28	8.25	12.25	18.44	61.36	3.34	103.64	142.92

[1] SPRAYER RENTAL @ \$1.50/ACRE. 1 PINT OF ROUNDUP @ \$3.13/PINT, 50 OUNCES OF AMMONIA SULFATE @ 1.5¢/OUNCE, 1.5 OUNCES OF M-90 @ 1¢/OUNCE.

[2] 10 LBS. OF SEED @ \$1.75/LB. 60 LBS. N @ 16¢/LB., 10 LBS. S @ 43¢/LB.

[3] SPRAYER RENTAL @ \$1.50/ACRE. 10 OUNCES OF ASSURE II @ \$1.20/OUNCE.

[4] CUSTOM AERIAL @ \$5.00/ACRE. CAPTURE @ \$10.17 ACRE.

[5] CROP INSURANCE @ \$2.50/ACRE

[6] HAULING COST @ 15¢/CWT.

[7] OVERHEAD @ 5% OF VARIABLE COST.

TABLE 25. ITEMIZED COST PER ACRE FOR CANOLA GROWN USING  
 NO-TILL/DIRECT SEEDING IN THE LESS THAN 15" RAINFALL ZONE  
 (PRODUCTION LEVEL 1000 POUNDS).

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
60' SPRAYER	ACRE	1.50	3.00	4.50	_____
ROUNDUP	QT.	6.26	1.00	6.26	_____
AMMONIA SULFATE	OZ.	.015	100.00	1.50	_____
M-90	OZ.	.01	3.00	.03	_____
BRASSICA SEED	LB.	1.75	10.00	17.50	_____
DRY NITROGEN	LB.	.16	60.00	9.60	_____
DRY SULFUR	LB.	.43	10.00	4.30	_____
ASSURE II	OZ.	1.20	10.00	12.00	_____
CUSTOM AERIAL	ACRE	5.00	1.00	5.00	_____
CAPTURE	ACRE	10.17	1.00	10.17	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
HAULING COST	CWT.	.15	10.00	1.50	_____
MACHINERY REPAIRS	ACRE	5.59	1.00	5.59	_____
MACHINE FUEL/LUBE	ACRE	2.67	1.00	2.67	_____
LABOR (TRAC/MACH)	HOUR	14.00	.88	12.25	_____
OVERHEAD	ACRE	4.94	1.00	4.94	_____
INTEREST ON OP. CAP.	ACRE	3.34	1.00	3.34	_____
				-----	
TOTAL VARIABLE COST				103.64	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	9.36	1.00	9.36	_____
MACHINE INTEREST	ACRE	6.21	1.00	6.21	_____
MACHINE INSURANCE	ACRE	.43	1.00	.43	_____
MACHINE TAXES	ACRE	1.31	1.00	1.31	_____
MACHINE HOUSING	ACRE	.73	1.00	.73	_____
LAND TAXES	ACRE	3.50	1.00	3.50	_____
NET LAND RENT	ACRE	17.73	1.00	17.73	_____
				-----	
TOTAL FIXED COST				39.28	_____
TOTAL COST				142.92	_____
-----					

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

1000-LB. YIELD SELLING @ 11¢/LB.

COST PER POUND = 14.3¢

TABLE 26. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR CANOLA GROWN USING NO-TILL/DIRECT SEEDING PRODUCTION PRACTICES IN THE LESS THAN 15" RAINFALL ZONE (PRODUCTION LEVEL 1100 LBS.).

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.		
						\$	\$	\$	\$	\$	\$	\$	
HAUL WATER	2-TON TRUCK W/SLIP TANK	OCT	2002	.01	.02	.16	.10	.28	.00	.00	.03	.41	.57
SPRAY[1]	250HP-WT W/60' SPRAYER	OCT	2002	.03	.03	.43	.34	.48	1.50	3.90	.48	6.70	7.13
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAR	2003	.01	.02	.16	.10	.28	.00	.00	.02	.39	.56
SPRAY[1]	250HP-WT W/60' SPRAYER	MAR	2003	.03	.03	.43	.34	.48	1.50	3.90	.26	6.48	6.91
HAUL SEED	2-TON TRUCK	APR	2003	.03	.03	.38	.28	.46	.00	.00	.03	.77	1.14
HAUL FERTILIZER	TANDEM AXLE TRUCK	APR	2003	.03	.03	.66	.43	.46	.00	.00	.03	.92	1.58
SEED/FERT[2]	250HP-WT W/35' GP BOX DRILL	APR	2003	.08	.10	4.24	1.32	1.40	.00	31.40	1.21	35.33	39.57
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAY	2003	.01	.02	.16	.10	.28	.00	.00	.01	.39	.55
SPRAY[3]	250HP-WT W/60' SPRAYER	MAY	2003	.03	.03	.43	.34	.48	1.50	12.00	.41	14.73	15.16
BUG SPRAY[4]	CUSTOM AERIAL	MAY	2003	.00	.00	.00	.00	.00	5.00	10.17	.43	15.60	15.60
CROP INSUR[5]	FIRE AND HAIL	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.07	2.57	2.57
HAUL CANOLA[6]	CALCULATED COST PER LB. BASIS	AUG	2003	.00	.00	.00	.00	.00	1.65	.00	.01	1.66	1.66
HARVEST	25' COMBINE	AUG	2003	.17	.18	7.96	2.67	2.57	.00	.00	.04	5.27	13.23
MISC USE	2-TON TRUCK	ANN	2003	.02	.02	.25	.19	.31	.00	.00	.02	.52	.77
MISC USE	ATV	ANN	2003	.04	.04	.20	.06	.62	.00	.00	.03	.70	.90
MISC USE	3/4-TON PICKUP	ANN	2003	.20	.22	1.60	1.49	3.08	.00	.00	.19	4.76	6.36
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.56	.22	.77	.00	.00	.04	1.03	1.59
MISC USE	TANDEM AXLE TRUCK	ANN	2003	.02	.02	.44	.29	.31	.00	.00	.03	.62	1.06
OVERHEAD[7]	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	4.94	.00	.00	4.94	4.94
TAXES	LAND TAXES	ANN	2003	.00	.00	3.50	.00	.00	.00	.00	.00	.00	3.50
LAND COST	NET LAND RENT	ANN	2003	.00	.00	21.39	.00	.00	.00	.00	.00	.00	21.39
TOTAL PER ACRE				.76	.88	42.94	8.25	12.25	18.59	61.36	3.34	103.80	146.74

[1] SPRAYER RENTAL @ \$1.50/ACRE. 1 PINT OF ROUNDUP @ \$3.13/PINT, 50 OUNCES OF AMMONIA SULFATE @ 1.5¢/OUNCE, 1.5 OUNCES OF M-90 @ 1¢/OUNCE.

[2] 10 LBS. OF SEED @ \$1.75/LB. 60 LBS. N @ 16¢/LB., 10 LBS. S @ 43¢/LB.

[3] SPRAYER RENTAL @ \$1.50/ACRE. 10 OUNCES OF ASSURE II @ \$1.20/OUNCE.

[4] CUSTOM AERIAL @ \$5.00/ACRE. CAPTURE @ \$10.17 ACRE.

[5] CROP INSURANCE @ \$2.50/ACRE

[6] HAULING COST @ 15¢/CWT.

[7] OVERHEAD @ 5% OF VARIABLE COST.

TABLE 27. ITEMIZED COST PER ACRE FOR CANOLA GROWN USING  
NO-TILL/DIRECT SEEDING IN THE LESS THAN 15" RAINFALL ZONE  
(PRODUCTION LEVEL 1100 POUNDS).

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
60' SPRAYER	ACRE	1.50	3.00	4.50	_____
ROUNDUP	QT.	6.26	1.00	6.26	_____
AMMONIA SULFATE	OZ.	.015	100.00	1.50	_____
M-90	OZ.	.01	3.00	.03	_____
BRASSICA SEED	LB.	1.75	10.00	17.50	_____
DRY NITROGEN	LB.	.16	60.00	9.60	_____
DRY SULFUR	LB.	.43	10.00	4.30	_____
ASSURE II	OZ.	1.20	10.00	12.00	_____
CUSTOM AERIAL	ACRE	5.00	1.00	5.00	_____
CAPTURE	ACRE	10.17	1.00	10.17	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
HAULING COST	CWT.	.15	11.00	1.65	_____
MACHINERY REPAIRS	ACRE	5.59	1.00	5.59	_____
MACHINE FUEL/LUBE	ACRE	2.67	1.00	2.67	_____
LABOR (TRAC/MACH)	HOUR	14.00	.88	12.25	_____
OVERHEAD	ACRE	4.94	1.00	4.94	_____
INTEREST ON OP. CAP.	ACRE	3.34	1.00	3.34	_____
				-----	
TOTAL VARIABLE COST				103.80	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	9.36	1.00	9.36	_____
MACHINE INTEREST	ACRE	6.21	1.00	6.21	_____
MACHINE INSURANCE	ACRE	.43	1.00	.43	_____
MACHINE TAXES	ACRE	1.31	1.00	1.31	_____
MACHINE HOUSING	ACRE	.73	1.00	.73	_____
LAND TAXES	ACRE	3.50	1.00	3.50	_____
NET LAND RENT	ACRE	21.39	1.00	21.39	_____
				-----	
TOTAL FIXED COST				42.94	_____
TOTAL COST				146.74	_____
-----					

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

1100-LB. YIELD SELLING @ 11¢/LB.

COST PER POUND = 13.3¢

TABLE 28. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR MUSTARD GROWN USING NO-TILL/DIRECT SEEDING PRODUCTION PRACTICES IN THE LESS THAN 15" RAINFALL ZONE (PRODUCTION LEVEL 488 LBS.).

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.		
						\$	\$	\$	\$	\$	\$	\$	
HAUL WATER	2-TON TRUCK W/SLIP TANK	OCT	2002	.01	.02	.16	.10	.28	.00	.00	.03	.41	.57
SPRAY[1]	250HP-WT W/60' SPRAYER	OCT	2002	.03	.03	.43	.34	.48	1.50	3.90	.48	6.70	7.13
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAR	2003	.01	.02	.16	.10	.28	.00	.00	.02	.39	.56
SPRAY[1]	250HP-WT W/60' SPRAYER	MAR	2003	.03	.03	.43	.34	.48	1.50	3.90	.26	6.48	6.91
HAUL SEED	2-TON TRUCK	APR	2003	.03	.03	.38	.28	.46	.00	.00	.03	.77	1.14
HAUL FERTILIZER	TANDEM AXLE TRUCK	APR	2003	.03	.03	.66	.43	.46	.00	.00	.03	.92	1.58
SEED/FERT[2]	250HP-WT W/35' GP BOX DRILL	APR	2003	.08	.10	4.24	1.32	1.40	.00	31.40	1.21	35.33	39.57
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAY	2003	.01	.02	.16	.10	.28	.00	.00	.01	.39	.55
SPRAY[3]	250HP-WT W/60' SPRAYER	MAY	2003	.03	.03	.43	.34	.48	1.50	12.00	.41	14.73	15.16
CROP INSUR[4]	FIRE AND HAIL	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.07	2.57	2.57
HARVEST	25' COMBINE	AUG	2003	.17	.18	7.96	2.67	2.57	.00	.00	.04	5.27	13.23
HAUL CANOLA[5]	CALCULATED COST PER LB. BASIS	AUG	2003	.00	.00	.00	.00	.00	.73	.00	.01	.74	.74
MISC USE	3/4-TON PICKUP	ANN	2003	.20	.22	1.60	1.49	3.08	.00	.00	.19	4.76	6.36
MISC USE	ATV	ANN	2003	.04	.04	.20	.06	.62	.00	.00	.03	.70	.90
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.56	.22	.77	.00	.00	.04	1.03	1.59
MISC USE	TANDEM AXLE TRUCK	ANN	2003	.02	.02	.44	.29	.31	.00	.00	.03	.62	1.06
MISC USE	2-TON TRUCK	ANN	2003	.02	.02	.25	.19	.31	.00	.00	.02	.52	.77
OVERHEAD[6]	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	4.12	.00	.00	4.12	4.12
TAXES	LAND TAXES	ANN	2003	.00	.00	3.50	.00	.00	.00	.00	.00	.00	3.50
LAND COST	NET LAND RENT	ANN	2003	.00	.00	5.60	.00	.00	.00	.00	.00	.00	5.60
TOTAL PER ACRE				.76	.88	27.16	8.25	12.25	11.85	51.19	2.90	86.44	113.60

[1] SPRAYER RENTAL @ \$1.50/ACRE. 1 PINT OF ROUNDUP @ \$3.13/PINT, 50 OUNCES OF AMMONIA SULFATE @ 1.5¢/OUNCE, 1.5 OUNCES OF M-90 @ 1¢/OUNCE.

[2] 10 LBS. OF SEED @ \$1.75/LB. 60 LBS. N @ 16¢/LB., 10 LBS. S @ 43¢/LB.

[3] SPRAYER RENTAL @ \$1.50/ACRE. 10 OUNCES OF ASSURE II @ \$1.20/OUNCE.

[4] CROP INSURANCE @ \$2.50/ACRE

[5] HAULING COST @ 15¢/CWT.

[6] OVERHEAD @ 5% OF VARIABLE COST.

TABLE 29. ITEMIZED COST PER ACRE FOR MUSTARD GROWN USING  
 NO-TILL/DIRECT SEEDING IN THE LESS THAN 15" RAINFALL ZONE  
 (PRODUCTION LEVEL 488 POUNDS).

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
60' SPRAYER	ACRE	1.50	3.00	4.50	_____
ROUNDUP	QT.	6.26	1.00	6.26	_____
AMMONIA SULFATE	OZ.	.015	100.00	1.50	_____
M-90	OZ.	.01	3.00	.03	_____
BRASSICA SEED	LB.	1.75	10.00	17.50	_____
DRY NITROGEN	LB.	.16	60.00	9.60	_____
DRY SULFUR	LB.	.43	10.00	4.30	_____
ASSURE II	OZ.	1.20	10.00	12.00	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
HAULING COST	CWT.	.15	4.88	.73	_____
MACHINERY REPAIRS	ACRE	5.59	1.00	5.59	_____
MACHINE FUEL/LUBE	ACRE	2.67	1.00	2.67	_____
LABOR (TRAC/MACH)	HOURL	14.00	.88	12.25	_____
OVERHEAD	ACRE	4.12	1.00	4.12	_____
INTEREST ON OP. CAP.	ACRE	2.90	1.00	2.90	_____
				-----	
TOTAL VARIABLE COST				86.44	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	10.77	1.00	10.77	_____
MACHINE INTEREST	ACRE	7.12	1.00	7.12	_____
MACHINE INSURANCE	ACRE	.49	1.00	.49	_____
MACHINE TAXES	ACRE	1.50	1.00	1.50	_____
MACHINE HOUSING	ACRE	.84	1.00	.84	_____
LAND TAXES	ACRE	3.50	1.00	3.50	_____
NET LAND RENT	ACRE	5.60	1.00	5.60	_____
				-----	
TOTAL FIXED COST				27.16	_____
TOTAL COST				113.60	_____
-----					

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

488-LB. YIELD SELLING @ 13¢/LB.

COST PER POUND = 23.3¢

TABLE 30. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR MUSTARD GROWN USING NO-TILL/DIRECT SEEDING PRODUCTION PRACTICES IN THE LESS THAN 15" RAINFALL ZONE (PRODUCTION LEVEL 650 LBS.).

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.		
						\$	\$	\$	\$	\$	\$	\$	
HAUL WATER	2-TON TRUCK W/SLIP TANK	OCT	2002	.01	.02	.16	.10	.28	.00	.00	.03	.41	.57
SPRAY[1]	250HP-WT W/60' SPRAYER	OCT	2002	.03	.03	.43	.34	.48	1.50	3.90	.48	6.70	7.13
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAR	2003	.01	.02	.16	.10	.28	.00	.00	.02	.39	.56
SPRAY[1]	250HP-WT W/60' SPRAYER	MAR	2003	.03	.03	.43	.34	.48	1.50	3.90	.26	6.48	6.91
HAUL SEED	2-TON TRUCK	APR	2003	.03	.03	.38	.28	.46	.00	.00	.03	.77	1.14
HAUL FERTILIZER	TANDEM AXLE TRUCK	APR	2003	.03	.03	.66	.43	.46	.00	.00	.03	.92	1.58
SEED/FERT[2]	250HP-WT W/35' GP BOX DRILL	APR	2003	.08	.10	4.24	1.32	1.40	.00	31.40	1.21	35.33	39.57
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAY	2003	.01	.02	.16	.10	.28	.00	.00	.01	.39	.55
SPRAY[3]	250HP-WT W/60' SPRAYER	MAY	2003	.03	.03	.43	.34	.48	1.50	12.00	.41	14.73	15.16
CROP INSUR[4]	FIRE AND HAIL	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.07	2.57	2.57
HARVEST	25' COMBINE	AUG	2003	.17	.18	7.96	2.67	2.57	.00	.00	.04	5.27	13.23
HAUL CANOLA[5]	CALCULATED COST PER LB. BASIS	AUG	2003	.00	.00	.00	.00	.00	.97	.00	.01	.98	.98
MISC USE	3/4-TON PICKUP	ANN	2003	.20	.22	1.60	1.49	3.08	.00	.00	.19	4.76	6.36
MISC USE	ATV	ANN	2003	.04	.04	.20	.06	.62	.00	.00	.03	.70	.90
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.56	.22	.77	.00	.00	.04	1.03	1.59
MISC USE	TANDEM AXLE TRUCK	ANN	2003	.02	.02	.44	.29	.31	.00	.00	.03	.62	1.06
MISC USE	2-TON TRUCK	ANN	2003	.02	.02	.25	.19	.31	.00	.00	.02	.52	.77
OVERHEAD[6]	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	4.13	.00	.00	4.13	4.13
TAXES	LAND TAXES	ANN	2003	.00	.00	3.50	.00	.00	.00	.00	.00	.00	3.50
LAND COST	NET LAND RENT	ANN	2003	.00	.00	12.62	.00	.00	.00	.00	.00	.00	12.62
TOTAL PER ACRE				.76	.88	34.18	8.25	12.25	12.10	51.19	2.90	86.70	120.88

[1] SPRAYER RENTAL @ \$1.50/ACRE. 1 PINT OF ROUNDUP @ \$3.13/PINT, 50 OUNCES OF AMMONIA SULFATE @ 1.5¢/OUNCE, 1.5 OUNCES OF M-90 @ 1¢/OUNCE.

[2] 10 LBS. OF SEED @ \$1.75/LB. 60 LBS. N @ 16¢/LB., 10 LBS. S @ 43¢/LB.

[3] SPRAYER RENTAL @ \$1.50/ACRE. 10 OUNCES OF ASSURE II @ \$1.20/OUNCE.

[4] CROP INSURANCE @ \$2.50/ACRE

[5] HAULING COST @ 15¢/CWT.

[6] OVERHEAD @ 5% OF VARIABLE COST.

TABLE 31. ITEMIZED COST PER ACRE FOR MUSTARD GROWN USING  
 NO-TILL/DIRECT SEEDING IN THE LESS THAN 15" RAINFALL ZONE  
 (PRODUCTION LEVEL 650 POUNDS).

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
60' SPRAYER	ACRE	1.50	3.00	4.50	_____
ROUNDUP	QT.	6.26	1.00	6.26	_____
AMMONIA SULFATE	OZ.	.015	100.00	1.50	_____
M-90	OZ.	.01	3.00	.03	_____
BRASSICA SEED	LB.	1.75	10.00	17.50	_____
DRY NITROGEN	LB.	.16	60.00	9.60	_____
DRY SULFUR	LB.	.43	10.00	4.30	_____
ASSURE II	OZ.	1.20	10.00	12.00	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
HAULING COST	CWT.	.15	6.50	.97	_____
MACHINERY REPAIRS	ACRE	5.59	1.00	5.59	_____
MACHINE FUEL/LUBE	ACRE	2.67	1.00	2.67	_____
LABOR (TRAC/MACH)	HOUR	14.00	.88	12.25	_____
OVERHEAD	ACRE	4.13	1.00	4.13	_____
INTEREST ON OP. CAP.	ACRE	2.90	1.00	2.90	_____
				-----	
TOTAL VARIABLE COST				86.70	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	9.36	1.00	9.36	_____
MACHINE INTEREST	ACRE	6.21	1.00	6.21	_____
MACHINE INSURANCE	ACRE	.43	1.00	.43	_____
MACHINE TAXES	ACRE	1.31	1.00	1.31	_____
MACHINE HOUSING	ACRE	.73	1.00	.73	_____
LAND TAXES	ACRE	3.50	1.00	3.50	_____
NET LAND RENT	HOUR	14.00	.88	12.62	_____
				-----	
TOTAL FIXED COST				34.18	_____
TOTAL COST				120.88	_____
-----					

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

650-LB. YIELD SELLING @ 13¢/LB.

COST PER POUND = 18.6¢

TABLE 32. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR MUSTARD GROWN USING MINIMUM TILLAGE PRODUCTION PRACTICES IN THE LESS THAN 15" RAINFALL ZONE (PRODUCTION LEVEL 700 LBS.).

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.		
						\$	\$	\$	\$	\$	\$	\$	
CHISEL	250HP-WT W/30' CHISEL	OCT	2002	.07	.07	2.18	1.74	1.03	.00	.00	.22	2.98	5.16
HARROW	250HP-WT W/60' FLEX HARROW	OCT	2002	.03	.03	.95	.58	.44	.00	.00	.08	1.10	2.05
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAR	2003	.01	.02	.16	.10	.28	.00	.00	.02	.39	.56
SPRAY[1]	250HP-WT W/60' SPRAYER	MAR	2003	.03	.03	.43	.34	.48	1.50	3.90	.26	6.48	6.91
HAUL SEED	2-TON TRUCK	APR	2003	.03	.03	.38	.28	.46	.00	.00	.03	.77	1.14
HAUL FERTILIZER	TANDEM AXLE TRUCK	APR	2003	.03	.03	.66	.43	.46	.00	.00	.03	.92	1.58
SEED/FERT[2]	250HP-WT W/36'DBL DISK DRILL	APR	2003	.08	.10	3.63	1.49	1.40	.00	33.55	1.29	37.73	41.37
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAY	2003	.01	.02	.16	.10	.28	.00	.00	.01	.39	.55
SPRAY[3]	250HP-WT W/60' SPRAYER	MAY	2003	.03	.03	.43	.34	.48	1.50	12.00	.41	14.73	15.16
CROP INSUR[4]	FIRE AND HAIL	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.07	2.57	2.57
HARVEST	25' COMBINE	AUG	2003	.17	.18	7.96	2.67	2.57	.00	.00	.04	5.27	13.23
HAUL CANOLA[5]	CALCULATED COST PER LB. BASIS	AUG	2003	.00	.00	.00	.00	.00	1.05	.00	.01	1.06	1.06
MISC USE	3/4-TON PICKUP	ANN	2003	.20	.22	1.60	1.49	3.08	.00	.00	.19	4.76	6.36
MISC USE	ATV	ANN	2003	.04	.04	.20	.06	.62	.00	.00	.03	.70	.90
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.56	.22	.77	.00	.00	.04	1.03	1.59
MISC USE	TANDEM AXLE TRUCK	ANN	2003	.02	.02	.44	.29	.31	.00	.00	.03	.62	1.06
MISC USE	2-TON TRUCK	ANN	2003	.02	.02	.25	.19	.31	.00	.00	.02	.52	.77
OVERHEAD[6]	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	4.10	.00	.00	4.10	4.10
TAXES	LAND TAXES	ANN	2003	.00	.00	3.50	.00	.00	.00	.00	.00	.00	3.50
LAND COST	NET LAND RENT	ANN	2003	.00	.00	15.35	.00	.00	.00	.00	.00	.00	15.35
TOTAL PER ACRE				.81	.93	38.84	10.30	12.96	10.65	49.45	2.77	86.12	124.96

[1] SPRAYER RENTAL @ \$1.50/ACRE. 1 PINT OF ROUNDUP @ \$3.13/PINT, 50 OUNCES OF AMMONIA SULFATE @ 1.5¢/OUNCE, 1.5 OUNCES OF M-90 @ 1¢/OUNCE.

[2] 10 LBS. OF SEED @ \$1.75/LB. 60 LBS. N @ 16¢/LB., 15 LBS. S @ 43¢/LB.

[3] SPRAYER RENTAL @ \$1.50/ACRE. 10 OUNCES OF ASSURE II @ \$1.20/OUNCE.

[4] CROP INSURANCE @ \$2.50/ACRE

[5] HAULING COST @ 15¢/CWT.

[6] OVERHEAD @ 5% OF VARIABLE COST.

TABLE 33. ITEMIZED COST PER ACRE FOR MUSTARD GROWN USING  
 MINIMUM TILLAGE PRODUCTION PRACTICES IN THE LESS THAN 15"  
 RAINFALL ZONE (PRODUCTION LEVEL 700 POUNDS).

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
60' SPRAYER	ACRE	1.50	2.00	3.00	_____
ROUNDUP	QT.	6.26	.50	3.13	_____
AMMONIA SULFATE	OZ.	.01	50.00	.75	_____
M-90	OZ.	.01	1.50	.01	_____
BRASSICA SEED	LB.	1.75	10.00	17.50	_____
DRY NITROGEN	LB.	.16	60.00	9.60	_____
DRY SULFUR	LB.	.43	15.00	6.45	_____
ASSURE II	OZ.	1.20	10.00	12.00	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
HAULING COST	CWT.	.15	7.00	1.05	_____
MACHINERY REPAIRS	ACRE	6.64	1.00	6.64	_____
MACHINE FUEL/LUBE	ACRE	3.66	1.00	3.66	_____
LABOR (TRAC/MACH)	HOURL	14.00	.93	12.96	_____
OVERHEAD	ACRE	4.10	1.00	4.10	_____
INTEREST ON OP. CAP.	ACRE	2.77	1.00	2.77	_____
				-----	
TOTAL VARIABLE COST				86.12	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION	ACRE	10.27	1.00	10.27	_____
MACHINE INTEREST	ACRE	6.94	1.00	6.94	_____
MACHINE INSURANCE	ACRE	.49	1.00	.49	_____
MACHINE TAXES	ACRE	1.47	1.00	1.47	_____
MACHINE HOUSING	ACRE	.82	1.00	.82	_____
LAND TAXES	ACRE	3.50	1.00	3.50	_____
NET LAND RENT	ACRE	15.35	1.00	15.35	_____
				-----	
TOTAL FIXED COST				38.84	_____
TOTAL COST				124.96	_____
-----					

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

700-LB. YIELD SELLING @ 13¢/LB.

COST PER POUND = 17.85¢

## **APPENDIX IV**

### **Machinery Complement Information**

**Table 34. Machinery Complement.**

Type of Machine	Replacement Value \$	Years of Life	Annual Hours of Use	Salvage Value \$	Annual Repairs (Materials & Labor) \$	Comments
2-Ton Truck	20,000	15	200	3,000	1,000	
Tandem Axle Truck	35,000	15	200	4,500	2,000	
3/4-Ton Pickup	22,000	10	400	7,500	1,500	
4WD-ATV	5,000	10	150	1,500	75	
50HP-WT w/Bucket	15,000	20	150	3,500	150	
300HP-WT	60,000	10	500	15,000	2,500	
250HP-WT	50,000	10	500	10,000	2,500	
24' Chisel	17,500	15	125	2,000	700	
25' Tandem Disk	9,000	8	100	2,000	700	
60' Harrow	5,000	5	60	1,500	500	
40' Heavy Harrow	18,000	15	100	2,000	550	
Fertilizer Backpack	5,000	10	100	500	350	
Slip Tank (2000 gal)	1,500	15	50	0	25	

**Table 34. Machine Complement (continued).**

Type of Machine	Replacement Value \$	Years of Life	Annual Hours of Use	Salvage Value \$	Annual Repairs (Materials & Labor) \$	Comments
35' Great Plains Box Drill	65,000	12	250	15,000	1,000	
36' DBL Disk Drill	20,000	10	100	8,500	600	
25' JD Combine	70,000	10	200	15,000	3,500	

TABLE 35. HOURLY MACHINERY COSTS.

MACHINERY	PURCHASE PRICE	YEARS		ANNUAL HOURS	DEPREC- IATION	INTER- EST	INSUR- ANCE	TAXES	HOUSING	TOTAL FIXED COST	REPAIR	FUEL AND LUBE	TOTAL VARIABLE COST	TOTAL COST
		TO TRADE	EST											
-----														
\$														
-----														
-----COST PER HOUR-----														
-----														
300HP-WT[1]	60,000.00	10	500	9.00	6.38	.45	1.35	.75	17.93	5.00	6.90	11.90	29.83	
300HP-WT[2]	60,000.00	10	500	9.00	6.38	.45	1.35	.75	17.93	5.00	13.80	18.80	36.73	
250HP-WT[3]	50,000.00	10	500	8.00	5.10	.36	1.08	.60	15.14	5.00	6.90	11.90	27.04	
250HP-WT[4]	50,000.00	10	500	8.00	5.10	.36	1.08	.60	15.14	5.00	15.53	20.53	35.67	
2-TON TRUCK	20,000.00	15	200	5.67	4.89	.35	1.04	.58	12.51	5.00	4.31	9.31	21.82	
TANDEM AXL TRUCK	35,000.00	15	200	10.17	8.39	.59	1.78	.99	21.92	10.00	4.31	14.31	36.23	
3/4-TON PICKUP	22,000.00	10	400	3.62	3.13	.22	.66	.37	8.01	3.75	3.68	7.43	15.44	
4WD-ATV	5,000.00	10	150	2.33	1.84	.13	.39	.22	4.91	.50	.92	1.42	6.33	
ATV SPRAYER	600.00	10	50	1.20	.51	.04	.11	.06	1.91	.40	.00	.40	2.31	
50HP-WT W/BUCKET	15,000.00	20	150	3.83	5.24	.37	1.11	.62	11.17	1.00	3.45	4.45	15.62	
30' CHISEL	17,500.00	15	125	8.27	6.63	.47	1.40	.78	17.55	5.60	.00	5.60	23.15	
40' HEAVY HARROW	18,000.00	15	100	10.67	8.50	.60	1.80	1.00	22.57	5.50	.00	5.50	28.07	
25' TANDEM DISK	9,000.00	8	100	8.75	4.68	.33	.99	.55	15.30	7.00	.00	7.00	22.30	
FERT BACKPACK	5,000.00	10	100	4.50	2.34	.17	.50	.28	7.77	3.50	.00	3.50	11.27	
2000 GAL SLIP TK	1,500.00	15	50	2.00	1.28	.09	.27	.15	3.79	.50	.00	.50	4.29	
30' JD COMBINE	130,000.00	10	250	32.00	30.60	2.16	6.48	3.60	74.84	16.00	13.80	29.80	104.64	
40' RODWEEDER	15,400.00	12	200	5.12	3.93	.28	.83	.46	10.63	6.00	.00	6.00	16.63	
35' GP BOX DRILL	65,000.00	12	250	16.67	13.60	.96	2.88	1.60	35.71	4.00	.00	4.00	39.71	
36' HOE DRILL	20,000.00	10	100	11.50	12.11	.86	2.57	1.43	28.46	6.00	.00	6.00	34.46	
25' COMBINE	70,000.00	8	250	27.50	14.45	1.02	3.06	1.70	47.73	16.00	.00	16.00	63.73	
750GAL FERT CART	2,500.00	10	100	2.00	1.28	.09	.27	.15	3.79	2.50	.00	2.50	6.29	
30' 3-PT SPRAYER	1,000.00	10	100	1.00	.43	.03	.09	.05	1.60	1.50	.00	1.50	3.10	
60' FLEX HARROW	5,000.00	5	60	11.67	4.60	.33	.98	.54	18.11	8.33	.00	8.33	26.45	
36' DBL DISK DRIL	20,000.00	10	100	11.50	12.11	.86	2.57	1.43	28.46	6.00	.00	6.00	34.46	

[1]FUEL CONSUMPTION 4 GALLONS PER HOUR.  
 [2]FUEL CONSUMPTION 8 GALLONS PER HOUR.  
 [3]FUEL CONSUMPTION 4 GALLONS PER HOUR.  
 [4]FUEL CONSUMPTION 9 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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