

# **Costs and Returns Associated with Canola Production in Southeast North Dakota**

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## **Introduction**

As area producers look to new and different crops to fill an economic void left by the present low net returns of traditional cereal crops, the use of crops such as canola will only continue to increase. A key factor for producers to determine for canola is the actual net return per acre and per hundred-weight of production. The opportunity for economic success with any crop is always enhanced by the operator's ability to discern the true cost of production and the proper placement of the crop within the total cropping system.

## **Procedure**

Data for this study was compiled through the North Dakota Farm Business Management Education Program. The data summarized in this report was generated from fields operating under a land cash rental arrangement. This arrangement was selected because the total annual land charge is more recognizable in this format as opposed to land operated under share crop or total ownership scenarios.

The data was collected over a four year period from 1995 through 1998. The minimum acreage involved in any one year was 656 acres with a maximum of 4,632 acres. The four year total of 9,511 acres came from a total of 58 farms. The minimum number of farms involved in any one year was seven and the maximum was 21 farms. The area from which the data was collected included that from south of Highway 2 to the South Dakota border and from the eastern edge of the Missouri River to the western edge of the Red River Valley. The data collected from within a 60-mile radius of the Carrington Research Extension Center made up approximately 50 percent of the total involved in the four year study. Other Farm Business Management Education Programs collecting data during the four-year period included programs in Bismarck, Enderlin, Jamestown, Napoleon, Oakes, and Valley City.

Data was collected from individual operator's field record books or computer programs. It must be acknowledged that although producers are encouraged to use scale tickets and assembly sheets for determining yield data, some producers may have indicated quantities produced based on bin measurements. The annual costs and returns for canola on cash rented land were published as part of the Farm Business Management Annual Report for Region III of North Dakota and as part of the Carrington Area Farm Business Management Annual Report for each of the corresponding years.

## **Results**

The four year total average gross income per acre, including the canola value, gross insurance incomes, and any loan deficiency payments (LDP), is \$159.34 with an average yield of 1,311 pounds per acre and a value of \$11.87 per cwt. (Table 1).

Over the four year period the average gross income ranged from \$135.73 to \$186.88 per acre. The average total expense is shown at \$137.63 per acre with direct costs accounting for \$113.64 and overhead or fixed costs at \$23.98 per acre. The four year average net return is calculated to be \$21.71 per acre or \$1.66 per hundred-weight of production. As a note of comparison, the four year average net return for hard red spring wheat, calculated in the same format over the same time frame and not including the AMTA payments was \$3.17 per acre. The average net return for canola ranged from a minus \$1.05 to a positive \$55.81 per acre with the annual cost of production ranging from \$9.12 to \$11.38 per cwt. It is important to note that these average costs and returns are based on an average of the four years of canola production data. As annualized costs and returns were being sought for this report, the average numbers for each year were not tied to the specific number of acres for each year. The final two years, 1997 and 1998 accounted for 83 percent of all the acres included in the study and may have greatly affected the results had a weighted average been used. •

Table 1. Canola income and expenses for 1995-1998 (Per acre basis)

Number of Farms	58
Total Acres	9,511
Yield per acre in pounds	1,311
Value per cwt. (including LDP)	\$11.87
Total canola value	155.6
Misc. income per acre (basically crop insurance)	3.74
Gross income per acre	159.34
Direct Costs	
Seed	18.71
Fertilizer	19.28
Chemical	13.52
Crop insurance	7.59
Fuel and oil	6.03
Repairs	9.06
Custom hire	3
Land rent	31.51
Miscellaneous	0.23
Operating interest	4.74
Total Direct Costs	\$113.64
Return over direct costs	\$45.70

Overhead Costs	
Hired labor	\$3.23
Machinery & building leases	2.29
Farm insurance	1.23
Utilities	1.26
Dues & professional fees	0.21
Interest	3.85
Machinery & building depreciation	10.13
Miscellaneous	1.8
Total Overhead Costs	\$23.98

Total Costs per Acre	\$137.63
Net Return per Acre	\$21.71
Total Direct Costs per Cwt.	\$8.67
Total Costs per Cwt.	\$10.50
Net Return per Cwt.	\$1.66
Breakeven Yield in Pounds	1,128

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Some number totals may appear slightly off due to computer rounding of numbers.