

Costs and Returns Associated with Barley Production in East-Central North Dakota

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The data summarized was collected from farms (n=86) participating in the Carrington Area Farm Business Management program in the years 1996 through 1999. The number of farms supplying barley data ranged from a low of 17 to a high of 26 in any single year. A total of 20,108 acres of barley was included over the four-year period. All barley data summarized in this study came from fields operated solely under a land cash rental arrangement. The cash rental arrangement was selected because it provided for the easiest method of determining the influence of land cost on the total potential profit. The vast majority of the land included in this study was located within 60 miles of the Carrington Research Extension Center.

Since the Agricultural Market Transition Act (AMTA) payments are decoupled from any annual required acreage base, they were not included as part of the gross income per acre. Loan deficiency payments (LDPs) were included as part of the total value per bushel. While operators are encouraged to use measured quantities for calculating crop data, it must be acknowledged that some quantities were determined by producer estimation.

Over a period of four years barley produced, as shown in Table 1, an average annual gross income of \$135.93 per acre. With direct expenses of \$97.52 and overhead expenses of \$22.77 total costs were calculated to be \$120.29 with a net return of \$15.64 per acre. The four-year average yield was 58.51 bushels per acre and the average cost of production was \$2.06 per bushel.

Profitability in barley production can be quite varied, as in 1998 when the top 20% of producers in this study generated an average profit of \$52.21 per acre while the low 20% produced an average net return of (\$32.17) per acre. The overall 1998 average was calculated to be \$11.32 per acre. While the high profit producers averaged 8 more bushels per acre, they also produced barley valued at \$2.77 per bushel as compared to the low profit producers at \$1.53 per bushel.

In comparison to hard red spring wheat, oil sunflower, and canola, barley produced the second highest net return per acre for the four-year period. Only canola was higher at \$20.29 while oil sunflower and hard red spring wheat trailed at \$6.96 and (\$11.19), respectively.

Table 1. Barley income and expenses for 1996 - 1999 on a per acres basis

Number of farms	86
Total Acres	20,108
Yield per acre in bushels	58.51
Value per bushel	\$2.28
Total barley value (with LDP)	\$133.59
Misc. income (mainly insurance)	\$2.34
Gross income per acre	\$135.93

Direct Costs

Seed	7.13
Fertilizer	18.01
Chemical	10.70
Crop insurance	7.35
Drying fuel	0.13
Fuel and oil	5.99
Repairs	8.48
Custom hire	4.06
Land rent	31.79
Miscellaneous	0.06
Operating interest	3.82
Total Direct Costs	\$97.52
Return over direct costs	\$38.41

Overhead Costs

Hired labor	2.44
Mach. & bldg. Leases	2.80
Farm insurance	0.92
Utilities	1.03
Dues and prof. fees	0.27
Interest	3.69
Mach. & building depreciation	9.50
Miscellaneous overhead	2.12
Total Overhead Costs	\$22.77

Total Costs per Acre	\$120.29
Net Return per Acre	\$15.64
Total Direct Costs per Bushel	\$1.67
Total Costs per Bushel	\$2.06
Net Return per Bushel	\$0.27
Breakeven Yield in Bushels	51.73

Some totals may appear slightly off due to computer rounding.