Economic Costs of Hard Red Spring Wheat Production in East-Central North Dakota

Steve Metzger

As hard red spring wheat producers look to the future and to where hard red spring wheat fits into the economics of their total farming operation, continued emphasis will be placed on knowing the cost of production for this crop. As it is highly likely that hard red spring wheat will continue to occupy a place in the crop rotation systems in this area, it is imperative that producers also know their own cost of production. There exists a wide gap between the most efficient and the least efficient producers. The opportunity for success can be greatly enhanced by knowing the true costs of production associated with this or any other enterprise.

Data for this study was compiled through the Carrington Area Farm Business Management 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 land cost is more recognizable as opposed to that found within owned or share-crop arrangements. The data was collected over a five-year period from 1993 through 1997. The minimum number of acres involved in any one year was 13,709 and the maximum was 26,337 acres. Total involved over the five-year period was 89,744 acres. The minimum number of farm operators involved in any one year was twenty-eight with a maximum of thirty-six. The data included in this report comes from fields located in the counties of Eddy, Foster, Griggs, Kidder, Sheridan, Stutsman, and Wells. The data in the report is shown in three categories; the average of all producers, the average of the top 20% producers, and the average of the low 20% producers. Producer data is determined to be in the top or low 20% based on the return to overhead or fixed expenses by this particular crop or enterprise. It is possible for a producer to have fields in both the low and high profit groups due to low or high yields which may then translate into low or high levels of income on a per acre basis.

The data for this study was collected from the operators' field record books or com-puter programs. It must be acknowledged that although producers are encouraged to use scale tickets and assembly sheets for determining quantities, several producers indicated the quantities produced based on estimated bin measurements.

The average cost per acre, excluding any allowance for principal payments or operator labor but including a cost of depreciation for capital item utilization is shown in table 1, to be $126.25 per acre. The average yield is calculated to be 31.33 bushels per acre, with the highest profit producers averaging 38.12 bushels and the lowest profit producers averaging 22.56 bushels per acre. Total direct costs were $104.92 per acre or $3.35 per bushel for the average producer. The overhead or fixed costs equaled $21.33 per acre or $.68 per bushel. The total cost was then calculated to be $4.03 per bushel. High profit and low profit farms expended approximately the same expense dollars per acre with $123.00 and $122.57 per acre respectively.

As previously indicated, no allowance for operator labor or principal payments was made in the calculated costs per acre and per bushel. If an allowance of $20.00 per acre for operator labor and $13.00 per acre for principal payments were included, the cost per bushel would increase by $1.05 to $5.08 per bushel. The total cash flow needed would then rise to $159.25 per acre.

If the 1999 cash flow requirement of $159.25 per acre was reduced by $17.14 per acre, due

to the inclusion of the Agricultural Market Transition Act payment of $.63 per bushel on eighty-five percent of a 32 bushel proven yield, the new cash flow requirement would then be $142.11 per acre or a total remaining cost of $4.54 per bushel. Discussion as to the appropriateness or adequacy of a $20.00 per acre charge for operator labor would certainly be appropriate. Smaller farm units may require a higher charge per acre while larger farms may find the $20.00 figure adequate to cover operator labor and management.

The bottom section of table 1, details the combination cash flow-cost of production projection based on the inclusion of the 1999 AMTA payment, an operator charge per acre, and an allowance for principal payments, all summarized with the five year cost of production data found in the top portion of the table.

Table 1. Hard Red Spring Wheat Costs of Production for 1993-1997 (per acre basis).

	Average	Low 20%	High 20%
Yield in bushels per acre	31.33	22.56	38.12
Total Acreage	89,744	16,079	12,311
Direct Costs			
Seed	9.77	9.88	10.21
Fertilizer	19.41	16.24	18.60
Chemical	8.33	9.50	7.75
Crop Insurance	7.64	8.41	7.23
Drying Fuel	0.11	0.15	0.02
Fuel and Oil	6.22	6.68	6.15
Repairs	9.48	11.44	9.80
Custom Hire	6.50	5.17	7.73
Land Rent	33.66	31.40	34.09
Operating Interest	3.77	4.22	2.71
Miscellaneous	0.03	0.03	0.03
Total Direct Costs	$ 104.92	$ 103.12	$ 104.32
Overhead Costs			
Hired Labor	2.82	1.99	2.45
Machine & Building Leases	2.04	1.25	0.90
Farm Insurance	0.83	0.80	0.90
Utilities	0.90	0.73	1.04
Dues & Professional Fees	0.14	0.21	0.16
Interest (non-operating)	3.29	3.61	2.34
Depreciation (mach. & bldg.)	9.58	8.69	9.55
Miscellaneous Overhead	1.73	2.17	1.34
Total Overhead Costs	$ 21.33	$ 19.45	$ 18.68
Total Costs per Acre	$ 126.25	$ 122.57	$ 123.00
Cost per Bushel of Above Items	$ 4.03	$ 5.43	$ 3.23
Cost Including Estimated Operator Labor & Principal Payments	$ 159.25	$ 155.57	$ 156.00
Costs Minus Est. 99 AMTA Payment	$ 142.11	$ 138.43	$ 138.86
Projected Net Cost Per Bushel	$ 4.54	$ 6.14	$ 3.64