

Comparison of Regular and Herbicide Resistant Canola in East-Central North Dakota

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The summarized canola data was collected from area farms (n=21) participating in the Carrington Area Farm Business Management program during the 2000 production year. A total of 7,168 acres of canola was included in the summary. Approximately one-third of the acreage, or 2,351 acres involved regular canola while the balance of 4,817 acres were of the herbicide resistant type or what is commonly referred to as Roundup-Ready™ canola. Herbicide resistant canola varieties other than Roundup-Ready™ may also have been included in this group. A total of 28 different fields were involved with 13 of these being seeded to regular canola and the balance to herbicide resistant varieties.

All data summarized in this article came from land operated solely under a land cash rental arrangement. The cash rental arrangement was selected because it provided for the clearest method of determining the influence of land costs on the total potential profitability of each type of canola. The vast majority of the land included in this study was located within 60 miles of the Carrington Research Extension Center.

The Production Flexibility Contract (PFC) payments, the Market Loss Adjustment (MLA) payments and the Oilseed Disaster payments are included at the bottom of Table 1 as additional income to the canola crops. Since these crop payments are based on prior acreages and yields they are not included as part of the miscellaneous income but are separated to show the effect of these particular government payments on the total potential profit of each of the canola groups.

With the inclusion of Loan Deficiency Payments (LDP), the herbicide resistant canola varieties attained an average of \$137.89 in gross income per acre or \$21.63 more than the average for the regular canola varieties. The regular canola varieties also had a lower average yield at 939 pounds per acre compared to 1,213 pounds for the herbicide resistant varieties. The value of the canola produced was almost the same with regular canola having a value of \$10.83 per hundred-weight (cwt.) while the herbicide resistant canola averaged \$10.98 per cwt. The higher level of miscellaneous income at \$14.61 for regular canola would indicate more insurance income due to some fields having reduced yields or related crop damage. This may also be supported by the fact that the herbicide resistant fields averaged 274 pounds more per acre than the regular canola fields.

Direct costs for regular canola were \$110.74 per acre or \$11.79 per cwt. while the herbicide resistant canola averaged \$120.28 and \$9.91 respectively. The technical fee for herbicide resistant canola was divided up with \$5.00 per acre being attributed to chemical cost and the balance, usually \$10.00 per acre, being incorporated into the seed cost. The total cost of production for regular canola was \$14.49 per cwt. and \$11.72 per cwt. for the herbicide resistant canola. The herbicide resistant canola did have a slightly higher total production cost per acre at \$142.12 with regular canola at \$136.07 per acre. If the land rental cost were the same for both types of canola, the herbicide resistant varieties would carry an additional \$4.69 in costs, thus raising the total cost to \$146.81 per acre.

On a per acre basis, regular canola produced a net return of (\$19.81) before government payments and a net return of \$2.11 per acre including all government payments. These figures for herbicide resistant canola were (\$4.23) and \$17.88 respectively. Breakeven yields without government payments were 1,122 pounds for regular canola and 1,252 pounds for herbicide resistant varieties. When all government payments were included these breakeven points shifted to 919 pounds and 1,050 pounds respectively.

When viewed as a group the regular canola fields accounted for 34.2% of the data base leaving the herbicide resistant varieties the balance or 65.8% of the total. However, when viewing the top 50% of all the canola fields, as measured by net return per acre before government payments, regular canola varieties occupied only 26.3% or five of the nineteen field positions. In viewing the low 50% again measured by net return per acre before government payments, regular canola varieties accounted for eight of the nineteen positions or 42.1% of the total fields.

From a production or yield standpoint, both types of canola produced a field with a yield in the 1,700 pounds per acre range. Although the herbicide resistant varieties of canola did have a higher average cost of \$6.05 per acre these canola varieties did produce an average of \$21.63 more gross income per acre than the regular canola varieties. This translated into a higher net income of \$15.58 per acre before the inclusion of all other government farm program payments. Since the other government payments varied only slightly from \$21.92 to \$22.11 per acre from the regular to the herbicide resistant varieties, the end result was an increase of \$15.77 in net income per acre for the herbicide resistant varieties over the regular canola varieties. If the herbicide resistant canola costs were also adjusted for the difference in the land rental rates of \$4.69 per acre the net income difference, while still favoring the herbicide resistant varieties, would be reduced to \$11.08 per acre. ♦

Table 1. Comparison of Regular and Herbicide Resistant Canola for 2000, on a per acre basis

	Regular Canola	Herbicide Resistant Canola
Number of farms	10	11
Number of fields	13	25
Total Acres	2,351	4,817
Yield per acre in hundred-weight (cwt)	9.39	12.13
Value per cwt.	\$ 10.83	\$ 10.98
Total canola value (with LDP)	\$ 101.65	\$ 133.18
Misc. income (mainly insurance)	\$ 14.61	\$ 4.70
Gross income per acre	\$ 116.26	\$ 137.89
Direct Costs		
Seed (Includes \$10.00 of tech. fee)	18.68	28.11
Fertilizer	16.17	19.46
Crop chemicals (Includes bal. tech. fee)	11.79	13.90
Crop insurance	6.37	4.70
Fuel & oil	6.35	5.82
Repairs	7.65	8.50
Custom hire	4.78	6.64
Land rent	34.92	30.23
Operating interest	3.93	2.66
Miscellaneous	0.09	0.27
Total direct expenses per acre	\$ 110.74	\$ 120.28
Return over direct expenses per acre	\$ 5.53	\$ 17.61
Overhead Costs		
Hired labor	4.12	1.76
Machinery & building leases	0.65	2.13
Farm insurance	1.32	1.17
Utilities	1.34	0.94
Interest (non-operating)	3.52	3.10
Machinery & building depreciation	11.21	10.14
Miscellaneous	3.16	2.61
Total overhead expenses per acre	\$ 25.34	\$ 21.84
Total Direct & Overhead expenses per acre	\$ 136.07	\$ 142.12
Net Return per acre	\$ (19.81)	\$ (4.23)
Total Direct Costs per Cwt.	\$ 11.79	\$ 9.91
Total Costs per Cwt.	\$ 14.49	\$ 11.72
Net Return per Cwt.	\$ (2.11)	\$ (0.35)
Breakeven Yield in Cwt.	11.22	12.52
Government Payments (PFC, MLA, Oilseed)	\$ 21.92	\$ 22.11
Net Return per Acre with Gov't. Payments	\$ 2.11	\$ 17.88
Breakeven Yield in Cwt. with Gov't. Payments	9.19	10.50
All numerical totals are rounded by computer.		