

2010



**Nova Scotia
Apple Industry**

**Cost of
Production
Study**

Study Summary

The data analyzed for the presentation of the cost of production for apples in Nova Scotia was supplied by the Nova Scotia Fruit Growers Association and AgraPoint. The data supplied was surveyed 2007 financial data from 19 Nova Scotia farms. The 2007 data is presented as the actual and has been adjusted for inflation and expressed in 2010 dollars.

Of the 19 farms surveyed, 5 were representative of the small Nova Scotia apple producer with less than 30 acres. The medium sized producer is 30-80 acres and there were 5 farms surveyed at this size. The large farms for this study had greater than 80 acres and there were 9 farms in the study at this size.

The average cost to produce apples in Nova Scotia is calculated to be \$0.14/lb for 2010. The small and medium farms have a slightly higher cost to produce at \$0.15/lb and the larger farms on average are able to produce apples for slightly less \$0.13/lb.

There are two aspects of the 2007 costs that are not adequately accounted for when the costs are expressed in 2010 dollars these are the costs associated with on farm food safety and the labour costs.

At the time the data was collected, the surveyed farms did not have a cost for on farm food safety programs and therefore the costs for this are not incorporated in the 2010 figures. Additional work was done to determine an estimated cost for the on farm food safety as a cost per farm. This was done through the Nova Scotia Fruit Growers Association, growers and packers. On average the cost per farm for on farm food safety is between \$2,500 and \$3,000 annually. This additional cost for on farm food safety adds approximately \$0.29/bushel for the small producers, \$0.07/bushel for producers between 30 and 80 acres and \$0.04/bushel for large farms. The average additional cost based on all 19 farms is about \$0.06/bushel.

Since 2007 there has been a significant increase in minimum wage in Nova Scotia an increase of 27%. The increase in minimum wage results in an increased cost in hired labor of between \$0.26/bu and \$0.72/bu.

When the cost of production for 2010 is adjusted for the costs associated with on farm food safety and increases in minimum wage, the result is an average cost of production for apples in Nova Scotia of \$0.15/lb. The summary of these additions can be found at the end of each table on the following pages.



NS Apple Summary of Cost of Production for 19 Farms 2007 Financial Data

| Revenue Actual \$ | All Farms Nominal (2007 dollars) | All Farms Expressed in 2010 dollars (+ 3.94% inflation) |
|--|-------------------------------------|---|
| Apple Sales: | | |
| Fresh | \$217,807 | \$226,389 |
| Processing | \$81,427 | \$84,635 |
| Juice | \$32,958 | \$34,256 |
| Total Apple Sales | \$332,191 | \$345,280 |
| Stone fruits and pears | \$5,217 | \$5,423 |
| Other crops, livestock, and products | \$125,993 | \$130,957 |
| Custom work, storage, rent | \$4,366 | \$4,538 |
| Government Program Payments | \$14,995 | \$15,586 |
| Crop Insurance indemnities received | \$14,431 | \$14,999 |
| Grants | \$14,642 | \$15,219 |
| Other Farm Sales | \$2,976 | \$3,093 |
| Total | \$514,812 | \$535,096 |
| VARIABLE CASH COSTS | | |
| Hired Labour | \$111,387 | \$115,776 |
| Family Unpaid Labour | \$3,442 | \$3,578 |
| Operator Unpaid Labour and Management | \$18,821 | \$19,562 |
| Orchard Renewal Materials (trees, stakes, etc) | \$18,369 | \$19,093 |
| Tree Training Materials | \$2,752 | \$2,860 |
| Cover Crops | \$133 | \$138 |
| Fertilizer | \$4,054 | \$4,214 |
| Nutrient Sprays | \$952 | \$989 |
| Fungicides | \$19,387 | \$20,151 |
| Insecticides | \$10,927 | \$11,358 |
| Herbicides | \$2,474 | \$2,571 |
| Other Weed Control (Mulch) | \$1,857 | \$1,931 |
| Other Pest Controls | \$1,462 | \$1,520 |
| Thinners | \$3,285 | \$3,415 |
| Pre-harvest drop controls | \$1,193 | \$1,240 |
| Bee Rentals | \$579 | \$602 |
| Bin Repair | \$2,228 | \$2,316 |
| Bin Rental | \$5,375 | \$5,586 |
| Consulting Fees (Includes IPM) | \$2,549 | \$2,650 |
| Hired custom work, storage, rent | \$4,598 | \$4,779 |
| Machine Repair/Maintenance | \$10,217 | \$10,619 |
| Fuel | \$11,794 | \$12,258 |
| Crop Insurance premiums | \$4,222 | \$4,388 |
| Transportation | \$4,333 | \$4,503 |
| Fruit purchased for resale | \$396 | \$412 |
| Other expenses | \$7,357 | \$7,647 |

| | | |
|---|-------------------|------------------|
| Marketing and Association Fees | \$1,921 | \$1,997 |
| Interest on Operating Capital | \$4,626 | \$4,809 |
| TOTAL VARIABLE CASH COSTS | \$260,690 | \$270,961 |
| FIXED CASH COSTS | | |
| Interest on land/building/machine loans | \$42,078 | \$43,736 |
| Interest on orchard establishment loans | \$85 | \$89 |
| Land Rental | \$2,218 | \$2,305 |
| Other Insurance premiums | \$4,693 | \$4,878 |
| Taxes | \$1,812 | \$1,884 |
| Other Overhead | \$3,443 | \$3,578 |
| TOTAL FIXED CASH COSTS | \$54,329 | \$56,469 |
| Amortization-Establishment Costs | \$3,708 | \$3,854 |
| Depreciation-Machine/Building | \$22,566 | \$23,455 |
| TOTAL COSTS | \$341,293 | \$354,740 |
| GROSS INCOME | \$514,812 | \$535,096 |
| TOTAL VARIABLE COSTS | \$260,690 | \$270,961 |
| CONTRIBUTION MARGIN | \$71,501 | \$74,318 |
| Apple Production (yield) bu | | |
| Fresh | 18,860 | 18,860 |
| Peeler | 13,210 | 13,210 |
| Juice | 15,051 | 15,051 |
| Total Apple Production | 47,120 | 47,120 |
| Variable Cost/bu | \$5.53 | \$5.75 |
| Variable Cost/lb | \$0.13 | \$0.14 |
| Variable Cost/acre | \$2,970.29 | \$3,087 |
| Acreage in Apples | | |
| | 88 | 88 |

Summary: The effect of on farm food safety costs and minimum wage increases on the 2010 estimated cost of production for the average farm in Nova Scotia.

| | |
|--|--------|
| 2010 Variable COP/bu | \$5.75 |
| Estimated On Farm Food Safety Costs/bu | \$0.06 |
| Estimated additional labor costs | \$0.66 |

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|-----------------------------|--------|
| Total Estimated COP/bu 2010 | \$6.47 |
| Total Estimated COP/lb 2010 | \$0.15 |

**NS Apple Summary of Cost of Production for 5 <30 acres 2007
Financial Data**

| Revenue Actual \$ | All Farms Nominal (2007 dollars) | All Farms Expressed in 2010 dollars (+ 3.94% inflation) |
|--|--|---|
| Apple Sales: | | |
| Fresh | \$41,768 | \$43,413 |
| Processing | \$11,868 | \$12,335 |
| Juice | \$6,124 | \$6,366 |
| Total Apple Sales | \$59,760 | \$62,114 |
| Stone fruits and pears | \$140 | \$146 |
| Other crops, livestock, and products | \$458 | \$476 |
| Custom work, storage, rent | \$3,216 | \$3,343 |
| Government Program Payments | \$5,230 | \$5,436 |
| Crop Insurance indemnities received | \$0 | \$0 |
| Grants | \$3,060 | \$3,180 |
| Other Farm Sales | \$863 | \$897 |
| Total | \$72,726 | \$75,591 |
| VARIABLE CASH COSTS | | |
| Hired Labour | \$9,851 | \$10,239 |
| Family Unpaid Labour | \$4,400 | \$4,574 |
| Operator Unpaid Labour and Management | \$16,203 | \$16,842 |
| Orchard Renewal Materials (trees, stakes, etc) | \$5,784 | \$6,012 |
| Tree Training Materials | \$80 | \$83 |
| Cover Crops | \$80 | \$83 |
| Fertilizer | \$1,165 | \$1,211 |
| Nutrient Sprays | \$379 | \$394 |
| Fungicides | \$4,669 | \$4,853 |
| Insecticides | \$1,848 | \$1,920 |
| Herbicides | \$377 | \$391 |
| Other Weed Control (Mulch) | \$0 | \$0 |
| Other Pest Controls | \$20 | \$21 |
| Thinners | \$663 | \$690 |
| Pre-harvest Drop Controls | \$0 | \$0 |
| Bee Rentals | \$128 | \$133 |
| Bin Repair | \$577 | \$600 |
| Bin Rental | \$2,564 | \$2,665 |
| Consulting Fees (Includes IPM) | \$476 | \$495 |
| Hired custom work, storage, rent | \$1,427 | \$1,483 |
| Machine Repair/Maintenance | \$2,210 | \$2,297 |
| Fuel | \$2,039 | \$2,119 |
| Crop Insurance premiums | \$244 | \$253 |
| Transportation | \$2,944 | \$3,060 |
| Fruit purchased for resale | \$359 | \$373 |
| Other expenses | \$1,698 | \$1,765 |

| | | |
|---|-------------------|-----------------|
| Marketing and Association Fees | \$368 | \$382 |
| Interest on Operating Capital | \$727 | \$755 |
| TOTAL VARIABLE CASH COSTS | \$61,279 | \$63,693 |
| FIXED CASH COSTS | | |
| Interest on land/building/machine loans | \$3,753 | \$3,900 |
| Interest on orchard establishment loans | \$0 | \$0 |
| Land Rental | \$1,000 | \$1,039 |
| Other Insurance premiums | \$330 | \$343 |
| Taxes | \$1,115 | \$1,159 |
| Other Overhead | \$0 | \$0 |
| TOTAL FIXED CASH COSTS | \$6,197 | \$6,441 |
| Amortization-Establishment Costs | \$0 | \$0 |
| Depreciation-Machine/Building | \$5,122 | \$5,324 |
| TOTAL COSTS | \$72,598 | \$75,458 |
| GROSS INCOME | \$72,726 | \$75,591 |
| TOTAL VARIABLE COSTS | \$61,279 | \$63,693 |
| CONTRIBUTION MARGIN | -\$1,519 | -\$1,579 |
| Apple Production (yield) bu | | |
| Fresh | 5,015 | 5,015 |
| Peeler | 2,139 | 2,139 |
| Juice | 3,224 | 3,224 |
| Total Apple Production | 10,378 | 10,378 |
| Variable Cost/bu | \$5.90 | \$6.14 |
| Variable Cost/lb | \$0.141 | \$0.15 |
| Variable Cost/acre | \$3,259.51 | \$3,388 |
| Acreage in Apples | | |
| | 19 | 19 |

Summary: The effect of on farm food safety costs and minimum wage increases on the 2010 estimated cost of production for farms <30 acres in Nova Scotia.

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|---|---------------|
| 2010 Variable COP/bu | \$6.14 |
| Estimated On Farm Food Safety Costs/bu | \$0.29 |
| Estimated additional labor costs | \$0.26 |

| | |
|------------------------------------|---------------|
| Total Estimated COP/bu 2010 | \$6.69 |
| Total Estimated COP/lb 2010 | \$0.16 |

**NS Apple Summary of Cost of Production for 5 farms 30-80 acres
2007 Financial Data**

| Revenue Actual \$ | All Farms Nominal (2007 dollars) | All Farms Expressed in 2010 dollars (+ 3.94% inflation) |
|--|-------------------------------------|--|
| Apple Sales: | | |
| Fresh | \$181,121 | \$188,257 |
| Processing | \$52,431 | \$54,497 |
| Juice | \$29,806 | \$30,981 |
| Total Apple Sales | \$263,358 | \$273,735 |
| Stone fruits and pears | \$14,422 | \$14,990 |
| Other crops, livestock, and products | \$7,637 | \$7,938 |
| Custom work, storage, rent | \$4,509 | \$4,687 |
| Government Program Payments | \$27,322 | \$28,398 |
| Crop Insurance indemnities received | \$2,769 | \$2,878 |
| Grants | \$15,130 | \$15,726 |
| Other Farm Sales | \$1,975 | \$2,053 |
| Total | \$337,123 | \$350,405 |
| VARIABLE CASH COSTS | | |
| Hired Labour | \$99,100 | \$103,004 |
| Family Unpaid Labour | \$2,768 | \$2,877 |
| Operator Unpaid Labour and Management | \$26,512 | \$27,556 |
| Orchard Renewal Materials (trees, stakes, etc) | \$11,170 | \$11,610 |
| Tree Training Materials | \$642 | \$667 |
| Cover Crops | \$143 | \$148 |
| Fertilizer | \$2,842 | \$2,954 |
| Nutrient Sprays | \$1,857 | \$1,930 |
| Fungicides | \$21,133 | \$21,966 |
| Insecticides | \$9,831 | \$10,218 |
| Herbicides | \$2,128 | \$2,211 |
| Other Weed Control (Mulch) | \$499 | \$519 |
| Other Pest Controls | \$152 | \$158 |
| Thinners | \$2,839 | \$2,951 |
| Pre-harvest Drop Controls | \$1,166 | \$1,212 |
| Bee Rentals | \$784 | \$815 |
| Bin Repair | \$1,853 | \$1,926 |
| Bin Rental | \$6,414 | \$6,667 |
| Consulting Fees (Includes IPM) | \$2,813 | \$2,924 |
| Hired custom work, storage, rent | \$3,447 | \$3,583 |
| Machine Repair/Maintenance | \$7,655 | \$7,957 |
| Fuel | \$9,162 | \$9,523 |
| Crop Insurance premiums | \$3,355 | \$3,487 |
| Transportation | \$5,942 | \$6,176 |
| Fruit purchased for resale | \$787 | \$818 |

| | | |
|---|-------------------|------------------|
| Other expenses | \$6,306 | \$6,554 |
| Marketing and Association Fees | \$2,387 | \$2,481 |
| Interest on Operating Capital | \$2,894 | \$3,008 |
| TOTAL VARIABLE CASH COSTS | \$236,578 | \$245,899 |
| FIXED CASH COSTS | | |
| Interest on land/building/machine loans | \$7,602 | \$7,902 |
| Interest on orchard establishment loans | \$0 | \$0 |
| Land Rental | \$70 | \$73 |
| Other Insurance premiums | \$5,138 | \$5,340 |
| Taxes | \$2,193 | \$2,280 |
| Other Overhead | \$0 | \$0 |
| TOTAL FIXED CASH COSTS | \$15,004 | \$15,595 |
| Amortization-Establishment Costs | \$1,170 | \$1,216 |
| Depreciation-Machine/Building | \$11,132 | \$11,571 |
| TOTAL COSTS | \$263,883 | \$274,280 |
| GROSS INCOME | \$337,123 | \$350,405 |
| TOTAL VARIABLE COSTS | \$236,578 | \$245,899 |
| CONTRIBUTION MARGIN | \$26,780 | \$27,835 |
| | | |
| Apple Production (yield) bu | | |
| Fresh | 21,028 | 21,028 |
| Peeler | 10,739 | 10,739 |
| Juice | 13,709 | 13,709 |
| Total Apple Production | 45,477 | 45,477 |
| | | |
| Variable Cost/bu | \$5.20 | \$5.41 |
| Variable Cost/lb | \$0.124 | \$0.13 |
| Variable Cost/acre | \$3,740.01 | \$3,887 |
| | | |
| Acreage in Apples | 63 | 63 |

Summary: The effect of on farm food safety costs and minimum wage increases on the 2010 estimated cost of production for farms between 30 and 80 acres in Nova Scotia.

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|---|---------------|
| 2010 Variable COP/bu | \$5.41 |
| Estimated On Farm Food Safety Costs/bu | \$0.07 |
| Estimated additional labor costs | \$0.61 |

| | |
|------------------------------------|---------------|
| Total Estimated COP/bu 2010 | \$6.09 |
| Total Estimated COP/lb 2010 | \$0.15 |

**NS Apple Summary of Cost of Production for 9 Farm >80 acres 2007
Financial Data**

| Revenue Actual \$ | All Farms Nominal (2007 dollars) | All Farms Expressed in 2010 dollars (+ 3.94% inflation) |
|--|-------------------------------------|---|
| Apple Sales: | | |
| Fresh | \$335,988 | \$349,226 |
| Processing | \$136,179 | \$141,545 |
| Juice | \$49,616 | \$51,570 |
| Total Apple Sales | \$521,783 | \$542,341 |
| Stone fruits and pears | \$2,924 | \$3,040 |
| Other crops, livestock, and products | \$261,489 | \$271,791 |
| Custom work, storage, rent | \$4,926 | \$5,120 |
| Government Program Payments | \$13,573 | \$14,107 |
| Crop Insurance indemnities received | \$28,927 | \$30,066 |
| Grants | \$20,806 | \$21,626 |
| Other Farm Sales | \$4,705 | \$4,890 |
| Total | \$859,133 | \$892,983 |
| VARIABLE CASH COSTS | | |
| Hired Labour | \$174,623 | \$181,503 |
| Family Unpaid Labour | \$3,284 | \$3,414 |
| Operator Unpaid Labour and Management | \$16,002 | \$16,633 |
| Orchard Renewal Materials (trees, stakes, etc) | \$29,361 | \$30,517 |
| Tree Training Materials | \$5,409 | \$5,622 |
| Cover Crops | \$157 | \$163 |
| Fertilizer | \$6,333 | \$6,582 |
| Nutrient Sprays | \$768 | \$798 |
| Fungicides | \$26,593 | \$27,641 |
| Insecticides | \$16,580 | \$17,233 |
| Herbicides | \$3,831 | \$3,982 |
| Other Weed Control (Mulch) | \$3,644 | \$3,787 |
| Other Pest Controls | \$2,992 | \$3,109 |
| Thinners | \$4,990 | \$5,187 |
| Pre-harvest Drop Controls | \$1,870 | \$1,943 |
| Bee Rentals | \$716 | \$744 |
| Bin Repair | \$3,353 | \$3,486 |
| Bin Rental | \$6,359 | \$6,609 |
| Consulting Fees (Includes IPM) | \$3,555 | \$3,695 |
| Hired custom work, storage, rent | \$6,999 | \$7,274 |
| Machine Repair/Maintenance | \$16,088 | \$16,722 |
| Fuel | \$18,675 | \$19,411 |
| Crop Insurance premiums | \$6,914 | \$7,186 |
| Transportation | \$4,210 | \$4,376 |
| Fruit purchased for resale | \$200 | \$208 |

| | | |
|---|-------------------|------------------|
| Other expenses | \$11,084 | \$11,521 |
| Marketing and Association Fees | \$2,525 | \$2,625 |
| Interest on Operating Capital | \$7,755 | \$8,061 |
| TOTAL VARIABLE CASH COSTS | \$423,370 | \$440,050 |
| FIXED CASH COSTS | | |
| Interest on land/building/machine loans | \$82,523 | \$85,774 |
| Interest on orchard establishment loans | \$180 | \$188 |
| Land Rental | \$4,087 | \$4,248 |
| Other Insurance premiums | \$6,870 | \$7,141 |
| Taxes | \$1,988 | \$2,067 |
| Other Overhead | \$7,268 | \$7,554 |
| TOTAL FIXED CASH COSTS | \$102,916 | \$106,971 |
| Amortization-Establishment Costs | \$7,178 | \$7,460 |
| Depreciation-Machine/Building | \$38,610 | \$40,131 |
| TOTAL COSTS | \$572,073 | \$594,613 |
| GROSS INCOME | \$859,133 | \$892,983 |
| TOTAL VARIABLE COSTS | \$423,370 | \$440,050 |
| CONTRIBUTION MARGIN | \$98,413 | \$102,290 |
| | | |
| Apple Production (yield) bu | | |
| Fresh | 25,347 | 25,347 |
| Peeler | 20,733 | 20,733 |
| Juice | 22,367 | 22,367 |
| Total Apple Production | 68,446 | 68,446 |
| | | |
| Variable Cost/bu | \$6.19 | \$6.43 |
| Variable Cost/lb | \$0.147 | \$0.15 |
| Variable Cost/acre | \$3,099.34 | \$3,221 |
| | | |
| Acreage in Apples | 137 | 137 |

Summary: The effect of on farm food safety costs and minimum wage increases on the 2010 estimated cost of production for farms >80 acres in Nova Scotia.

| | |
|---|---------------|
| 2010 Variable COP/bu | \$6.43 |
| Estimated On Farm Food Safety Costs/bu | \$0.04 |
| Estimated additional labor costs | \$0.72 |

| | |
|------------------------------------|---------------|
| Total Estimated COP/bu 2010 | \$7.19 |
| Total Estimated COP/lb 2010 | \$0.17 |