



CANADIAN AGRICULTURE BY THE NUMBERS

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Abstract

A brief summary and analysis of important statistics pertaining to Canadian agriculture – including farmland area, value, population, and finance – and how they have changed in the past 20 years.

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Canadian Agriculture by the Numbers

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In Brief

1. Farmland area:
 - a. Total: in 2021, **153.7 million acres** of farmland (62.2 million ha)
in 2001, 166.8 million acres
 - b. Crop: in 2021, **93,595,208 acres**
in 2001, 89,934,387 acres
 - c. Summerfallow: in 2021, **1,319,778 acres**
in 2001, 11,565,518 acres
 - d. Pasture (tame or seeded): in 2021, **11,931,579 acres**
in 2001, 11,872,170 acres (StatCan Table 32-10-0153-01)
2. Number of farms:
 - a. In 2021, there were **189,874** individual farms
In 2001, there were 246,923 individual farms, a **20-year decrease of 23%, or 3 farms per day** (StatCan Table 32-10-0153-01; Brockman 2023)
 - b. The **number of farms >3,500 acres has nearly doubled in 20 years**, from 2,582 in 2001 to 5,277 in 2021 (StatCan Tables 32-10-0233-01 and 32-10-0405-01, and 95-629-XWE).
3. Farmland values:
 - a. From 2001 to 2021, the national per-acre **price of farmland has quadrupled**, from \$862 to \$3,947, on average (StatCan Table 32-10-0047-01)
 - b. Total market value of Canadian farmland and buildings increased by 22.7% from 2016 to 2021 (\$603.8 billion in 2021), while **the total market value of land and buildings rented from others or governments increased by 32%** (\$182.9 billion in 2021) (StatCan 2022)
4. Farm rent:
 - a. In 2021, **41.3% of Canadian farmland was rented**, up from 37.4% in 2001 (StatCan Table 32-10-0228-01)
 - b. Canada's average **rent to price ratio was 2.55%** in 2022 – a measure of the per-acre value of farmland rents in relation to per-acre farmland values (FCC 2023)
5. Total farm population:
 - a. In 2021, there were **590,710 people** living on Canadian farms, including operators and their household members (StatCan Table 32-10-0392-01)
 - b. Overall, from 1971 to 2021, **the farm population declined by 62.2%**, from 1 in 14 Canadians to 1 in 61 (StatCan 2023).
 - c. **Racialized people** comprised only **3.7% of the total farm population in 2021**, and 26.6% of Canada's total population (StatCan 2023).
 - d. In 2021, **24.5% of the farm population resided in urban areas**, vs. 7.5% in 1971 (ibid.)
6. Farm operators:
 - a. In 2021, there were **262,045 farm operators** in Canada (StatCan Table 32-10-0392-01).
In 2001, there were 346,200 (StatCan 2002).
 - b. < 35 years old: in 2021, **22,690 farm operators were under 35**, compared with **39,920** in 2001 (StatCan Table 32-10-0392-01).
 - c. **12% of farms reported having a succession plan in 2021**, up from 8.4% in 2016 (StatCan 2022)
 - d. **Racialized groups and indigenous people** made up only **4.1% (10,795) of farm operators** in 2021 (Chen 2023).

7. Gross farm revenue (farm cash receipts):
 - \$95,125,226,000** in 2022 (StatCan Table 32-10-0045-01)
8. Realized net income:
 - \$11,805,863,000** in 2022 (StatCan Table 32-10-0052-01)
9. Farm debt:
 - a. **Has more than doubled in the last 20 years**, from \$43,855,005,000 in 2002 to **\$138,859,727,000** in 2022 (StatCan Table 32-10-0051-01)
 - b. Is currently **10x the size of net farm income**
10. Taxpayer-funded transfers to farmers:
 - a. Total net payments (subtracting premiums paid by producers) averaged **\$3.7 billion** from 2019 to 2022, inclusive (StatCan Table 32-10-0106-01)
 - b. **Crop Insurance** has accounted for an increasing share of government-funded producer payments, **doubling twice in the last 15 years**, from an average of **10% in 2007-2010**, to **56% in 2019-2022**, inclusive (StatCan Table 32-10-0106-01)
11. Farm profits:
 - a. **In 2020, over half (51.5%) of Canada's total farm operating revenues came from just 4.1% of farms**
 - b. **Non-family corporations** have become the **most profitable** operating arrangement in Canada, with an expense-to-revenue ratio of 81.7 cents per dollar (Chen and Clark 2023)
12. Fertilizer (2022/23)
 - a. Nitrogen: **2,867,000 metric tonnes (mt)**
 - b. Phosphate: **1,033,000 mt**
 - c. Potash: **718,000 mt** (StatCan Table 32-10-0039-01)
13. Pesticide:
 - a. In 2021, **96,043 tonnes a.i. (active ingredient) of pesticide** were sold for agricultural use in Canada – **more than three times the amount sold in 1991** (29,538 tonnes a.i.)
 - b. Of this, 78% were herbicide, 13% were fungicide, and 5% were insecticide (PMRA 2021)
14. Exports:
 - a. In 2022, Canada exported nearly **\$84.5 billion** in agriculture and food products (excluding fish and seafood), making it the **world's 5th largest** agricultural exporter, behind the grouped EU-27 countries, U.S., Brazil, and China (Govt of Canada 2023)
 - b. **\$30.5 billion** came from exports of field crops, horticulture, and animal products in 2022
 - i. **Field crops: \$24.5 billion**, mainly to China (20.4%), Japan (10.8%), USA (9.6%)
 - ii. **Horticulture: \$3.8 bn**, mainly to USA (96.6%), Netherlands (0.7%), China (0.5%)
 - iii. **Animal production: \$2.2 bn**, mainly to USA (95.3%), Japan (1.1%), Russia (1%) (Government of Canada 2023).
15. Livestock inventories:
 - a. As of the July 1, 2023 survey, there were an estimated
 - i. **10,282,400 beef cattle**
 - ii. **1,842,600 dairy cattle** (StatCan Table 32-10-0130-01)
 - iii. **13,840,000 hogs** (StatCan Table 32-10-0160-01)
 - iv. **1,048,300 sheep and lambs** (StatCan Table 32-10-0129-01)
 - b. As of the 2021 Census of Agriculture, there were an estimated **152,299,258 chickens**, including
 - i. **107,947,696 broilers/roasters**
 - ii. **36,499,528 layers** (StatCan Table 32-10-0374-01).

Farmland

1. Total acres of farmland, cropland, and pastureland in Canada:

In 2021, Canada had **153.7 million acres of farmland** (62.2 million hectares), compared with 166.8 million acres in 2001 – a **decrease of 8%** (Table 1). While some of this decrease may be due to changes in classification – land could be abandoned, re-naturalized, adopted by public parks or turned over to treaty land – a similar decrease of 7% was also calculated by Agriculture and Agri-Food Canada (Brockman 2023).

The amount of **land in crops has increased over the last 20 years**, from 89.9 million acres in 2001 to **93.6 million acres** in 2021. Simultaneously, the area of **summerfallow land has decreased** (Table 1), likely as a result of production-practice changes in crop farming, including the widespread adoption of reduced-tillage techniques, particularly in the Prairies (LeRoy et al. 2016). The total acres under tame or seeded pasture in Canada increased from 2001 to 2006, but declined back to 2001-levels by 2021, suggesting that some of the increase in cropland came from the conversion of pastureland.

Table 1. Number of acres of farmland, cropland, and number of farms in Canada 2001-2021.

Land use	Geography	Canada (map)				
	Unit of measure	2001	2006	2011	2016	2021
Total area of farms ⁵	Number of farms reporting	246,923	229,373	205,730	193,492	189,874
	Acres	166,802,197	167,010,491	160,155,748	158,723,092	153,687,771
	Hectares	67,502,447	67,586,741	64,812,723	64,232,948	62,195,226
	Average area in acres	676	728	778	820	809
Land in crops ^{6, 7}	Number of farms reporting	215,581	194,717	174,343	163,431	154,549
	Acres	89,934,387	88,741,106	87,352,431	93,382,638	93,595,208
	Hectares	36,395,151	35,912,247	35,350,270	37,790,608	37,876,632
	Average area in acres	417	456	501	571	606
Summerfallow land ^{7, 8}	Number of farms reporting	50,671	32,345	20,221	12,558	8,755
	Acres	11,565,518	8,662,461	5,152,632	2,209,071	1,319,778
	Hectares	4,680,399	3,505,573	2,085,196	893,979	534,095
	Average area in acres	228	268	255	176	151
Tame or seeded pasture ⁹	Number of farms reporting	82,830	75,894	64,949	54,092	46,685
	Acres	11,872,170	14,071,138	13,671,483	12,556,190	11,931,579
	Hectares	4,804,496	5,694,387	5,532,652	5,081,309	4,828,538
	Average area in acres	143	185	210	232	256
All other land ^{5, 9, 10, 11}	Number of farms reporting	215,824	200,380	180,062	162,512	145,388
	Acres	53,430,122	55,535,786	53,979,202	50,575,193	46,804,669
	Hectares	21,622,401	22,474,533	21,844,605	20,467,052	18,941,175
	Average area in acres	248	277	300	311	322

Source: StatCan Table 32-10-0153-01 Land Use. Census of Agriculture historical data.

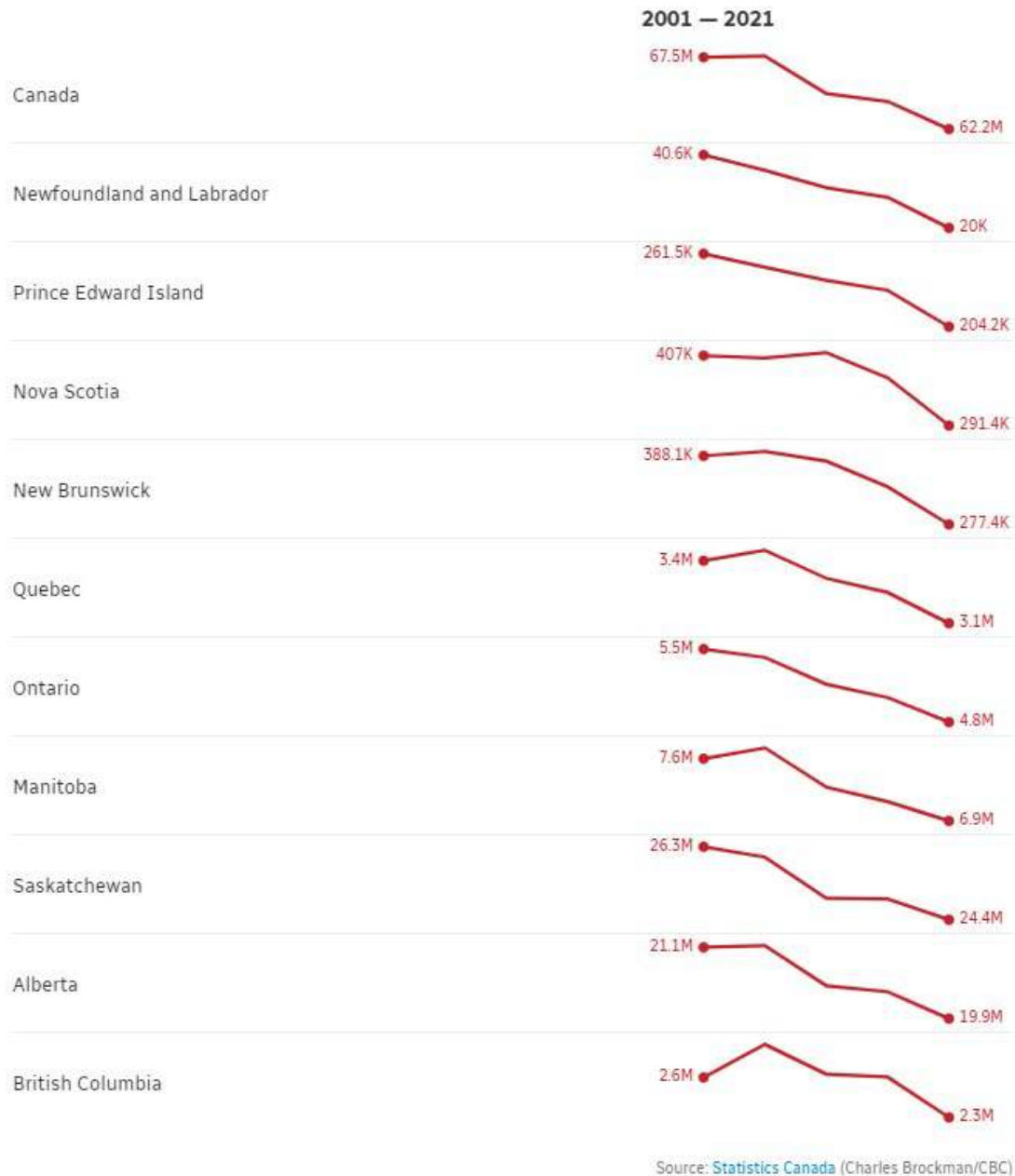


Figure 1. Total area of farmland in hectares from 2001 and 2021, for Canada and each province. From Brockman 2023. Note, there are varying scales for different provinces.

Some farmland conversion has been due to settlement, particularly in Ontario (Figure 1). In the “golden horseshoe” area around Toronto, 85% of all urban settlement from 1971-2011 was once arable land (Brockman 2023). In B.C., by contrast, provincial land protections introduced in 1973 prevented some loss of farmland to cities, but the province still lost 26% of its prime farmland to cities in the same 40-year period (ibid).

2. Average farm size and number of farms:

While the **average size of farms has increased** across all categories from 2001 to 2021, the **number of farms has decreased by 23%**, from 246,923 to 189,874 individual farms (Table 1).

The size of the average farm has increased from 676 to 809 acres from 2001 to 2021 (Table 1). However, it is important to approach the metric of “average farm size” with caution as it includes any farm property, including those identified as such for tax purposes. Figure 2 illustrates that, aside from the smallest category, the number of farms under 2,000 acres in Canada has been falling steadily since 2001. Meanwhile, **the number of farms in the largest category (3,500 acres and over) has nearly doubled**, from 2,582 in 2001 to 5,277 in 2021.

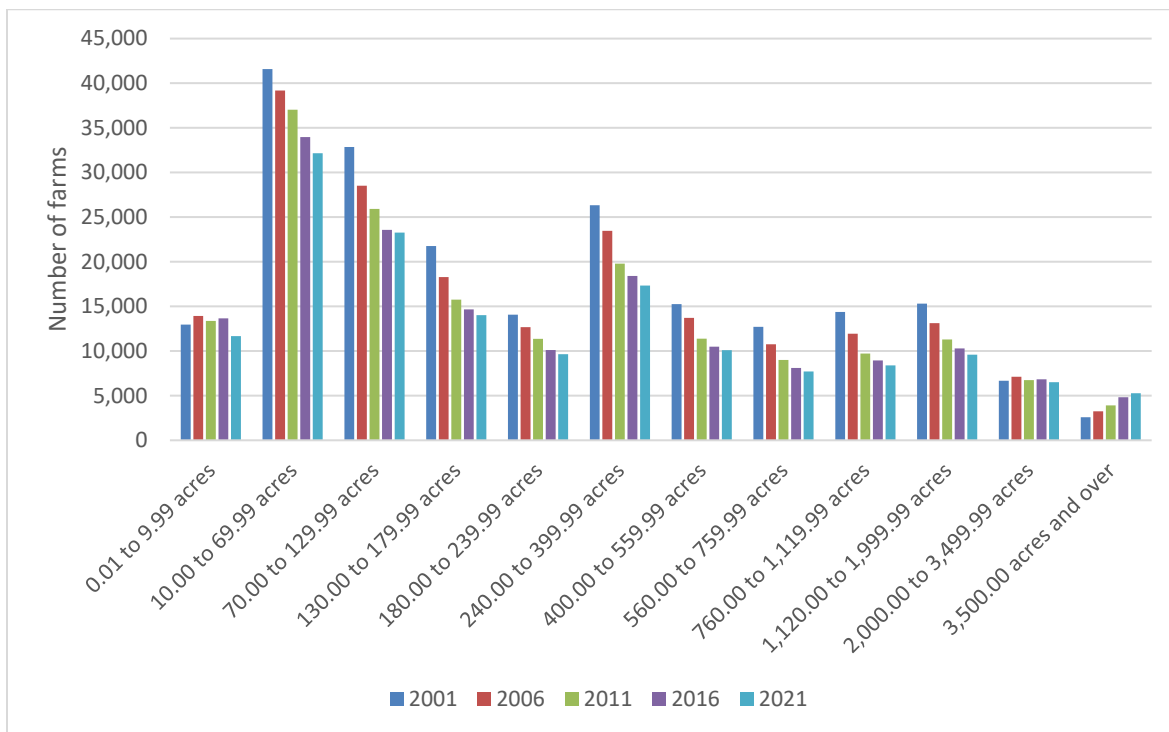


Figure 2. Number of farms classified by area in crops and summer fallow from 2001 to 2021. Source: StatCan Tables 32-10-0233-01 and 32-10-0405-01, and catalogue no. 95-629-XWE.

Larger farms also have higher profit margins. In 2021, farms with a total land area of 2,240 acres and over accounted for only 8.9% of the total number of farms in Canada and contributed 37.3% (\$32.5 billion) of Canada’s total operating revenues (Chen and Clark 2023). They also accounted for 36.5% (\$26.3 billion) of total operating expenses, creating an expense-to-revenue ratio of 81.1 cents per dollar for these largest farms (Chen and Clark 2023). By contrast, farms with a total land area of under 240 acres accounted for over half (52.3%) of the total farms in Canada in 2021 (Figure 2), and contributed around one-quarter of Canada’s total operating revenues (24.9%; \$21.6 billion) and expenses (26.0%; \$18.8 billion). Their expense-to-revenue ratio was 86.8 cents per dollar – 5.7 cents higher than the largest farms (Chen and Clark 2023).

According to CBC’s Charles Brockman (2023), the 20-year changes to both average farm size and total number of farms indicate that **“Canada can be said to have lost the equivalent of three full farms per day for 20 years.”** Statistics Canada (2022) attributes these changes to **industry consolidation** and **the aging of farm operators**, causing farms to become larger in size, sales, and number of employees, while the number of small and mid-size farms has declined.

Farmland Value

3. Land values

Due to the increased consolidation and investor acquisition of Canadian farmland – in addition to strong commodity prices, low interest rates, and growing housing demand in urban areas (Farm Credit Canada 2022) – **the price of farmland has quadrupled in the last 20 years**, from \$862 in 2001 to \$3,947 in 2021 (Figure 3). Even when adjusted for inflation, per-acre farmland values have more than tripled since 2001, from \$1,237/acre to \$3,947/acre. **In the last 5 years alone, farm values have risen by more than 20%** – a significant barrier of entry to new farmers (Samson 2023).

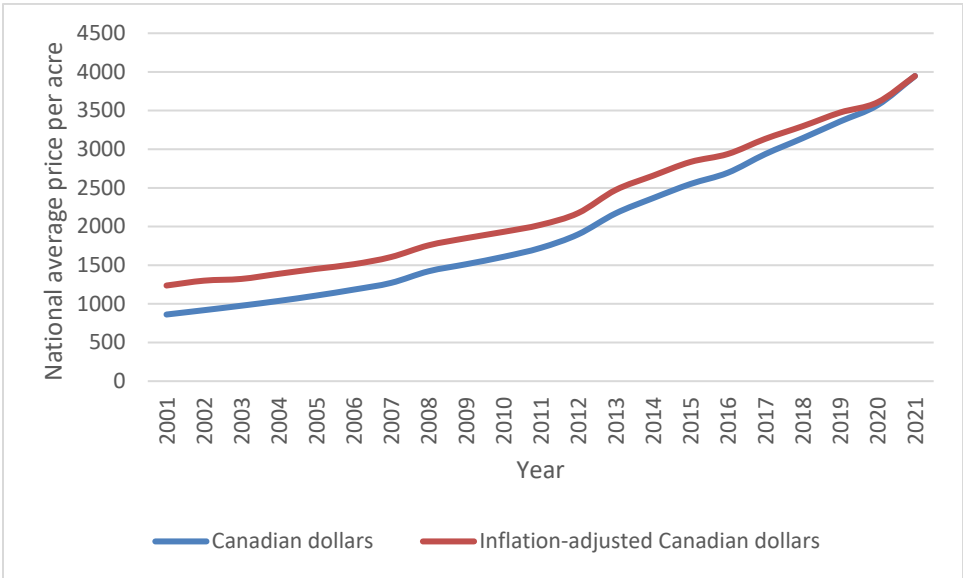


Figure 3. Price of Canadian farmland and buildings per acre, from 2001 to 2021. Red-line values have been adjusted to 2021 dollars.

Source: StatCan Table 32-10-0047-01; CPI values from Bank of Canada inflation calculator.

In 2023, the average per-acre value of cultivated farmland **increased by 11.5%** from the previous year (Farm Credit Canada 2024). When split by province, the highest annual change to farmland values were Saskatchewan (15.7%), Quebec (13.3%), and Manitoba (11.1%) (Figure 4). British Columbia was the only province to experience decreased farmland values in 2023 (-3.1%).

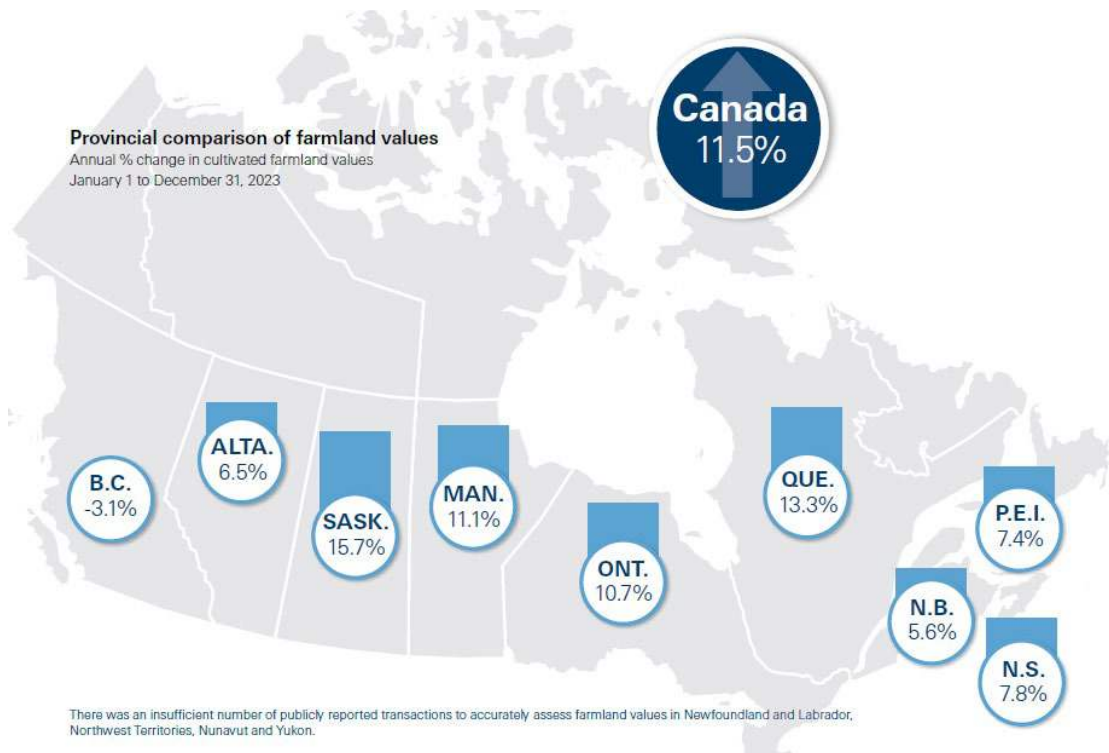


Figure 4. Provincial comparison of annual % change in per-acre farmland values, from Jan 1 to Dec 31, 2023. Source: FCC 2024.

4. Farm rent

In 2021, **41.3% of Canadian farmland was rented**, up from 37.4% in 2001. While the total amount of Canadian farmland decreased in that time period (Table 1), the number of rented acres increased by several million, peaking in 2016 (Table 2). Similarly, while the reported total market value of Canadian farmland and buildings increased by 22.7% (in constant 2021 dollars) since 2016, totalling \$603.8 billion in 2021, **the total market value of rented land and buildings increased by 32% from 2016, totalling \$182.9 billion in 2021** (Statistics Canada 2022).

Farm Credit Canada (FCC) calculates the Rent to Price (RP) ratio (%) from new rental agreements signed within the last year. They divide the per-acre rental rate by the per-acre value of cultivated farmland to gauge the pace with which rental rates are increasing relative to land values. A declining ratio suggests that cash rental rates are increasing at a slower pace than land prices, while a rising ratio indicates that rental rates are increasing faster than land values. RP ratios can also serve as a guideline for potential renters to the rates being paid in their area, which are not public, so they can approach negotiations with an informed estimate (Hursh 2022).

The 2022, the **average RP ratio for Canada was 2.55%**, up slightly from 2.5% in 2021 (FCC 2023). This could reflect that increases in land prices have outpaced increases in rent prices. However, FCC (2023) also notes that rental prices could lag behind land values due to the multi-year nature of rental agreements, or from simple renewals between parties that want to continue their business relationships, as these tend to have fewer risks and transaction costs than agreements made to third parties (FCC 2023).

Three provinces had ratios above the national average: PEI (4.35%), Saskatchewan (3.1%), and Alberta (2.6%) (Figure 5). Moreover, Saskatchewan and Alberta were the only two provinces whose RP ratios did not decrease from the previous year. According to the FCC (2023), this reflects changing economic factors in the region, including a 2021 drought that caused that year’s ratio to fall, and good crops and high commodities prices the following year, which translated to a high demand for rented land, and an increased RP ratio in 2022.

Table 2. Land Tenure, from Census of Agriculture Historical Data.

Geography		Canada (map)				
Land tenure	Unit of measure	2001	2006	2011	2016	2021
Total farm area ^{4, 5}	Number of farms reporting	246,923	229,373	205,730	193,492	189,874
	Acres	166,802,197	167,010,491	160,155,748	158,723,092	153,687,771
	Hectares	67,502,447	67,586,741	64,812,723	64,232,948	62,195,226
	Average area in acres	676	728	778	820	809
Area owned	Number of farms reporting	235,131	220,613	197,227	182,818	177,988
	Acres	104,440,847	110,335,994	103,450,739	99,631,167	98,264,496
	Hectares	42,265,707	44,651,387	41,865,023	40,319,298	39,766,226
	Average area in acres	444	500	525	545	552
Area rented or leased from others ⁶	Number of farms reporting	103,484	98,010	89,422	85,941	84,185
	Acres	62,361,350	65,078,866	64,895,129	67,316,054	63,541,372
	Hectares	25,236,740	26,336,479	26,262,124	27,241,837	25,714,278
	Average area in acres	603	664	726	783	755

StatCan Table 32-10-0228-01

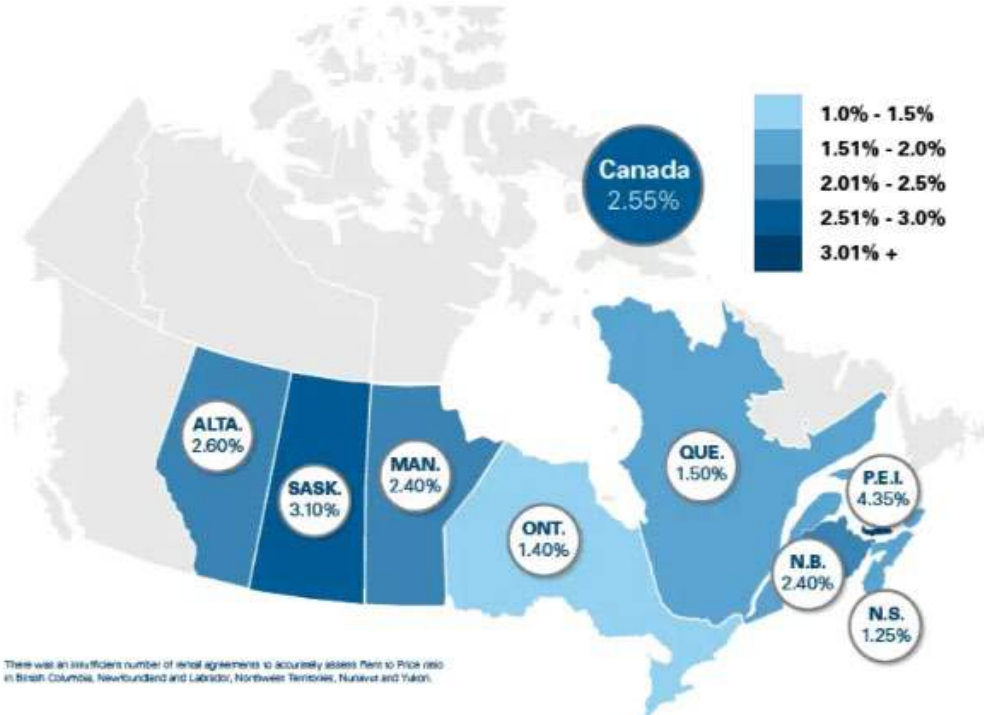


Figure 5. Rent to Price ratio by province in 2022. Source: FCC 2023.

Farm population and demographics

5. **Farm population:** consists of farm operators and other people in their households.

In 1971, **1 in 14** Canadians was a member of the farm population. By 2021, that number decreased to **1 in 61** Canadians. Overall, **from 1971 to 2021, the farm population declined by 62.2%** to 590,710 people (Figure 6) (Statistics Canada 2023).

While **racialized people** made up more than one-quarter (26.6%) of Canada's total population in 2021, they comprised only **3.7% of the total farm population** (21,910 people). Among that group, over half (53.0%) were South Asian, followed by Chinese (15.8%), Black (5.9%) and Latin American (5.9%) (Statistics Canada 2023).

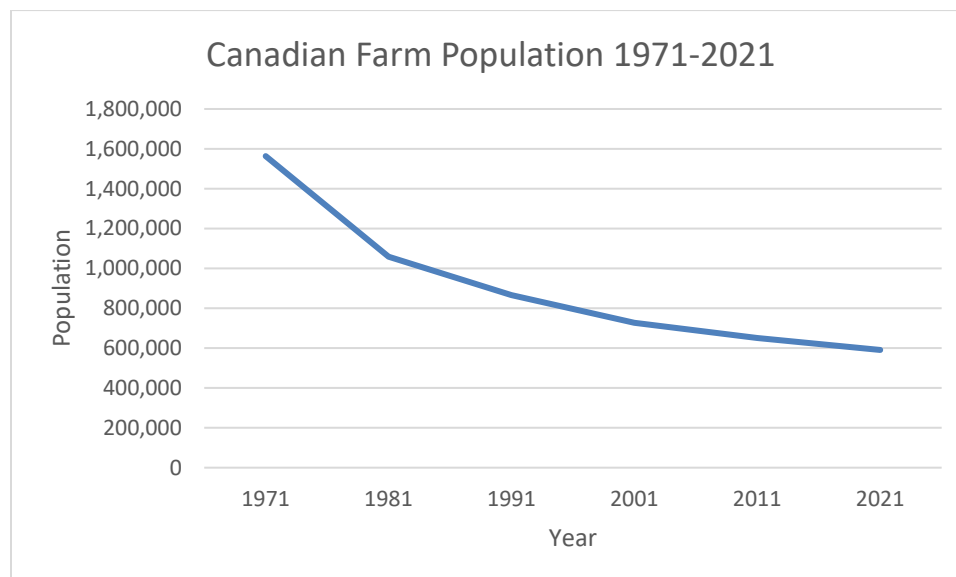


Figure 6. Canadian farm population, 1971-2021. Sources: <https://www150.statcan.gc.ca/n1/daily-quotidien/230825/dq230825a-eng.htm> ; <https://www.statcan.gc.ca/en/ca2011/ha> ; <https://www150.statcan.gc.ca/n1/pub/95f0303x/t/html/4153162-eng.htm>

The Indigenous farm population is increasing, from 2.3% in 2001, to 2.8% (16,705 people) **in 2021**. Meanwhile, 4.8% of Canada's total population self-identified as Indigenous in 2021. Métis people (11,225) made up the majority of the 2021 Indigenous farm population, accounting for over two-thirds (67.2%) of the total. The second-highest group was First Nations people (4,825), who account for 28.9% of the Indigenous farm population (Statistics Canada 2023).

The Immigrant farm population held steady over the last 20 years, increasing from 6.8% in 2001 to 6.9% in 2021. By comparison, the proportion of immigrants in Canada's total population increased from 18.7% in 2001 to 23.1% in 2021 (Statistics Canada 2023).

While the total farm population in Canada is decreasing, a growing number are living in urban areas. **Nearly one-quarter (24.5%) of the farm population resided in urban areas in 2021**, compared to just 7.5% in 1971 (Statistics Canada 2023). The urban farm population differs widely

by province, with the highest proportion residing in Newfoundland and Labrador (42.2%), followed by British Columbia (37.8%) and Alberta (28.3%) (ibid.).

Farms situated in rural areas¹ tend to require large land-areas for growing field crops and grazing livestock. In 2021, **almost three-quarters (72.2%) of oilseed and grain farm-operators lived in rural areas** (Figure 7). Similarly, the vast majority of **dairy farms (93.6%) were reported in rural areas** (Figure 7); this to be expected, given the high amounts of supervision and intervention required on these enterprises (e.g. twice-daily milking), implying that farm operators, and by extension their household members, would likely live close to the farm (Statistics Canada 2023).

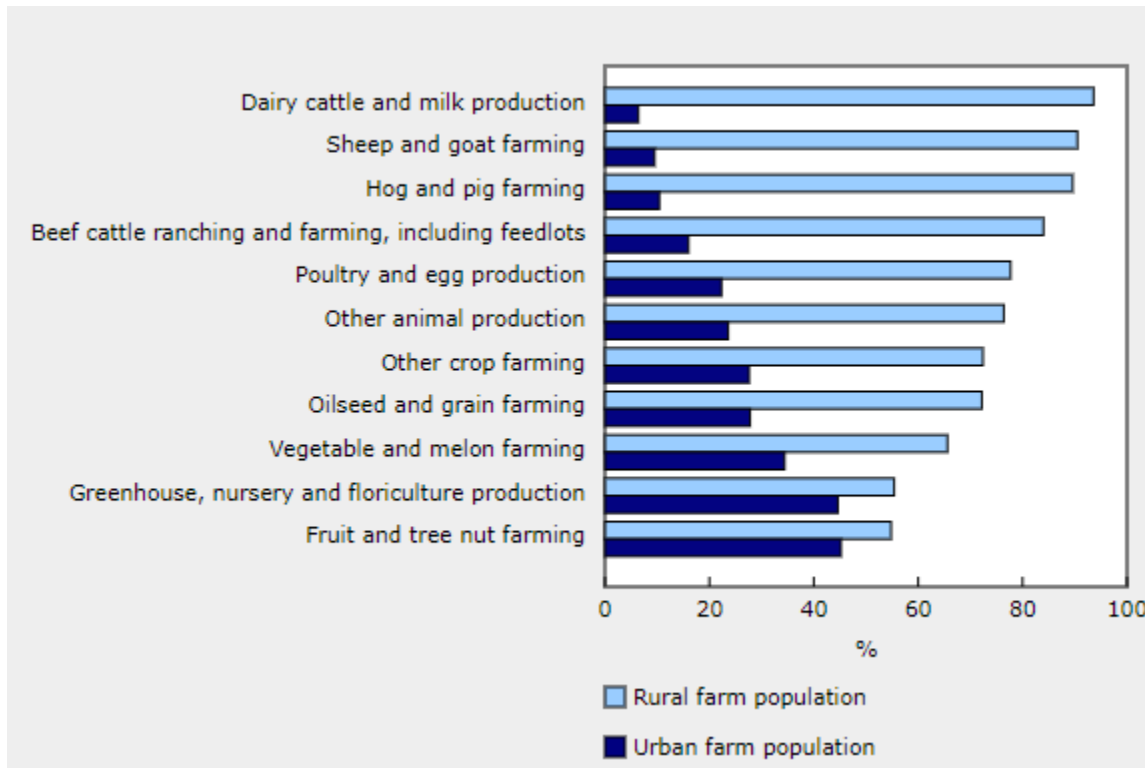


Figure 7. Rural and urban farm population distribution by farm type in Canada, 2021.

Source: Agricultural-population linkage 2021. See Agriculture–Population Linkage: Data quality report, 2021 (32260006) for more information.

6. **Farm operators:** refers to persons responsible for the management decisions in running an agricultural operation.

The number of farm operators declined by 3.5% from 2016 to 2021, from 271,935 to 262,455 operators, respectively, corresponding with a similar decrease in the number of farms (Statistics Canada 2022). When presenting to the House of Commons Standing Committee on Agriculture and Agri-Food, Heather Watson of Farm Management Canada said she expects **three out of four**

¹ Statistics Canada defines rural areas as all areas outside of population centres; a population centre (POPCTR), is defined as having a population of at least 1,000 and a population density of 400 persons or more per square kilometre, based on population counts from the current Census of Population.

<https://www12.statcan.gc.ca/census-recensement/2021/ref/dict/az/Definition-eng.cfm?ID=geo042>

farms to change hands in the next 10 to 15 years, while Christie Young of FarmStart said many of these transfers will be **out of the family** (House of Commons 2017).

Increasing numbers of farm operators have been preparing for this transition – **12% of farms reported having a succession plan in 2021**, up from 8.4% in 2016 – an increase of 6,673 farms (StatCan Tables 32-10-0244-01 and 32-10-0448-01). However, this value appears relatively modest, given that 60.5% of farm operators are approaching retirement age (158,790 operators > 55 years; Table 3). From 2016 to 2021, intermediate-sized farms (operating revenues from \$50,000 to \$99,999) reported the highest proportional increase in succession planning (+3.9%) compared with the other sales classes (Statistics Canada 2022). In both years, the largest share of farm types with a succession plan were grain and oil seed farms (44.5% in 2021).

Table 3. Characteristics of farm operators in Canada from 2001 to 2021.

Geography	Canada (map)				
Characteristics of farm operators ³	2001	2006	2011	2016	2021
Total number of operators	346,195	327,060	293,925	271,935	262,455
Male	255,015	236,220	213,265	193,965	182,655
Female	91,180	90,840	80,665	77,970	79,795
Under 35 years	39,915	29,920	24,120	24,850	22,635
35 to 54 years	185,570	164,160	127,895	98,840	81,040
55 years and over	120,705	132,975	141,920	148,250	158,790
Average age of farm operators	49.9	52.0	54.0	55.0	56.0
Operators with no paid non-farm work ⁴	191,980	168,805	156,185	151,270	137,170
Operators with paid non-farm work ⁴	154,215	158,255	137,740	120,670	125,280

Source: StatCan Table 32-10-0230-01

The aging of farm operators has been identified as a major issue facing the industry. In 2021, only **8.6% of farm operators were under 35**, compared to 11.5% in 2001 (Table 3). This 3% percent decline is especially alarming when we consider that it is a decreasing number within a decreasing number, as both the total number of farm operators and the number of operators under 35 have fallen in the last 20 years (Table 3). However, when broken into the categories of “farms with one operator” and “farms with two or more operators,” we can see that **the number of operators under 35 has increased over the last 10 years for farms with one operator** (Table 4).

At the same time, the **number of female operators has increased** for the first time since 1991 (Table 3). In 2021, there were 79,795 female farm operators, up from 77,970 in 2016. In 2021, 30.4% of total farm operators were female, up from 28.7% in 2016. Again, when examined by category, “farms with two or more operators” have a much larger proportion of female operators compared to “farms with one operator” (Table 4).

Racialized groups and indigenous people made up only 4.1% (10,795) of farm operators in 2021 (Chen 2023). 5,405 farm operators self-identified as Indigenous, while 5,390 self-identified as belonging to a racialized group. Among Indigenous operators, the majority were Métis, and among racialized operators, the largest groups were South Asian (53.7%), Chinese (21.4%), and Black (4.9%). Chen (2023) also notes that “The higher the revenue class, the less diverse the farm

operator group.” Farms with operating revenues <\$10,000 had the highest Diversity Index (DI)² rating, at 12.3%, and farms earning between \$500,000 and \$199,999 had the least, at 4.8%, with a steady declining trend between the two. Farms earning \$2,000,000 and over had a slightly higher, but still very low, DI of 5.4% (Chen 2023).

Table 4. Number of farm operators by age and sex from 2011-2021.

	2011	2016	2021
Operators on all farms			
Males	213265	193965	182655
Females	80665	77970	79795
All operators	293925	271935	262455
under 35 years	24120	24850	22635
35 to 54 years	127895	98840	81040
55 years and over	141920	148250	158790
Average age of farm operators	54	55	56
Farms with one operator			
All operators	122220	113730	111245
Males	111480	100620	94660
Females	10740	13110	16590
under 35 years	7115	9135	9965
35 to 54 years	49460	38785	31360
55 years and over	65650	65815	69945
Average age of farm operators	56	56.2	56.9
Farms with two or more operators			
All operators	171700	158205	151205
Males	101775	93345	88000
Females	69925	64860	63205
under 35 years	17005	15715	12665
35 to 54 years	78430	60055	49670
55 years and over	76270	82435	88845
Average age of farm operators	52.6	54	55.4

Sources: <https://open.canada.ca/data/en/dataset/b77ee82c-c608-4516-8384-bc8fe9efe0ba> ; <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3210038101> ; StatCan Table 32-10-0381-01.

² “The DI ranges from 0% to 100%, with 0% indicating that every farm operator is in the same ethnocultural group and 100% indicating that all farm operators are in different ethnocultural groups. The larger the DI, the more diverse the farm operator group. For example, a DI of 10.0% suggests that there is a 10.0% chance that two farm operators chosen at random (within the population being studied) will be from different ethnocultural groups” (Chen 2023).

Farm Finance

- 7. **Gross farm revenue:** also called “farm cash receipts,” these are the revenues generated from the sale of agricultural commodities produced on-farm and received from producer programs.

In 2022, gross farm revenue totalled **\$95,125,226,000** for Canada (Figure 9). When payments from taxpayer-funded producer programs are subtracted, this value is **\$87,819,911,000**, and is captured by everything below the blue area in Figure 9. For a breakdown of profit margins by revenue class and farm ownership type, see section 11, Profit Margins and Expense to Revenue Ratio.

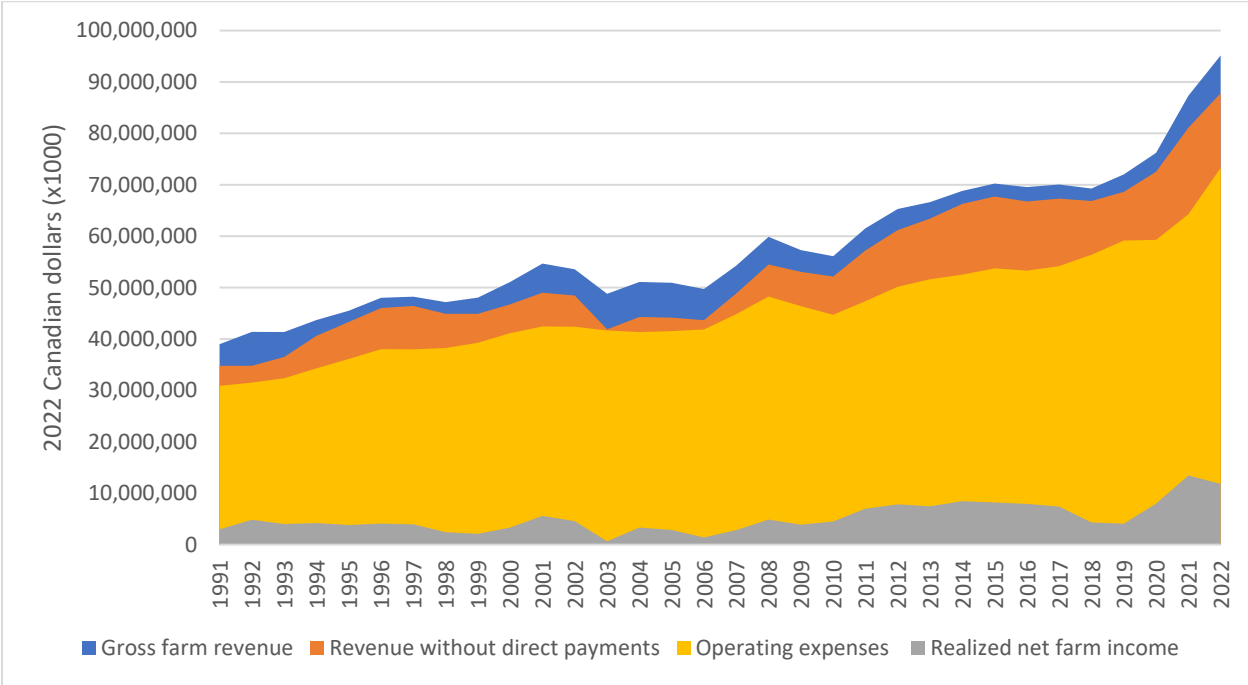


Figure 9. Gross farm revenues, direct payments to producers, farm operating expenses, and realized net income of farmers in Canada from 1991 to 2022, in inflation-adjusted constant 2022 Canadian dollars, x1,000. Source: StatCan Tables 32-10-0045-01 and 32-10-0052-01. CPI values from Bank of Canada inflation calculator.

- 8. **Taxpayer funded transfers to farmers:**

\$7,345,315,000 of farmers’ income was comprised of producer program payments in 2022, or **7.7%**. This value is represented by the blue area in Figure 9, above, and includes both private and government-funded sources. However, 2022 was an above-average year for direct payments to producers due to a severe drought the previous year; consequently, it is more helpful to examine these payments using multi-year averages. Table 8 presents data from 2007 to 2022 averaged across four four-year time periods, in thousands of dollars (x1,000) (not adjusted for inflation).

The 2019-2022 average total direct producer payments totalled \$4,967,446,000. Privately-funded programs (like private hail insurance) make up a very small percentage of total payments (\$264,468,000 or 5.3% on average, from 2019 to 2022, inclusive), and the rest is comprised of

payments from expense-reducing **rebates (\$89,914,000)** and **government-funded programs (\$4,702,978,000)** (Table 8). These taxpayer-funded program payments include Provincial Stabilization Programs, AgriInvest, AgriStability, Self-Directed Risk Management programs, and government-subsidized Crop Insurance. Of this \$5.0 billion in direct payments, roughly \$963 million were from premiums paid by producers, meaning that **the average net value of total direct payments** from taxpayers to producers was **\$3.7 billion from 2019 to 2022**, inclusive (Table 8).

Crop Insurance (CI) has accounted for an increasing share of government-funded producer payments in recent years. **The proportion of net payments that came from Crop Insurance has doubled twice in the last 15 years:** it doubled from 10% in 2007-2010 to 21% in 2011-2014, reached 28% in 2015-2018, then doubled again in the most recent period, **accounting for 56% of government-funded net payments from 2019 to 2022**, on average (Table 8). Without further government intervention to mitigate or help farmers adapt to climate change, taxpayer-subsidized CI payouts are likely to continue to rise, as losses due to extreme weather become more frequent (Schechinger 2023).

Table 8. Direct payments to agriculture producers (x \$1,000) from 2007 to 2022 (4-year averages).

	2007-2010	2011-2014	2015-2018	2019-2022
Total direct payments, gross payments	3,662,718	2,922,708	2,307,984	4,967,446
Total privately funded programs, gross payments	196,580	221,603	185,486	264,468
Total government funded programs, gross payments	3,466,138	2,701,105	2,122,498	4,702,978
Total government funded programs, producer premiums	709,763	875,837	779,610	963,569
Total government funded programs, net payments	2,756,375	1,825,268	1,342,888	3,739,409
Provincial Stabilization Programs, gross payments	609,836	373,807	250,825	295,351
Crop Insurance, gross payments	780,305	1,091,644	1,068,016	2,939,847
Crop Insurance, producer premiums	514,708	708,061	696,831	832,475
Crop Insurance (CI), net payments	265,597	383,583	371,185	2,107,372
Livestock Insurance Programs, gross payments	108	7,572	12,982	47,364
AgriInvest	330,606	404,191	284,178	262,026
AgriStability	564,855	604,308	325,800	397,808
AgriRecovery	145,884	86,118	8,107	212,377
Agri-Québec		76,191	70,927	96,061
Self-Directed Risk Management (SDRM)	2,784	19,016	20,749	27,832
Total government funded programs and rebates, net payments	2,804,513	1,875,203	1,399,330	3,829,323
Total rebates reducing expenses	48,138	49,935	56,441	89,914
% of net gov't payments from CI	10%	21%	28%	56%

Source: StatCan Table 32-10-0106-01 (formerly CANSIM 002-0076).

9. **Realized net farm income:** represents the amount of cash generated by the farm business that is available for debt repayment, investment or withdrawal by the operators. Does not include adjustments for the value of inventory change (which would be total net income).

Total **net realized income for Canada was \$11,805,863,000 in 2022**, a slight drop from its all-time high of \$12,784,364,000 in 2021 – the first time this billion-dollar value has ever reached double digits (StatCan Table 32-10-0045-01). When adjusted for inflation, net realized farm income has made up over 10% of gross farm revenues since 2011, with the exception of a two-year dip in 2018 (6.2%) and 2019 (5.6%), and reached its highest proportion in 2021 (15.4%) (Figure 9). Meanwhile, farm operating expenses have increased in tandem with gross revenues over the past 30 years and, when adjusted for inflation, have been resting between 73.6% (2020) and 85.4% (2003) of revenues since 1991 (Figure 9).

While the total value of net realized income is impressive, the average value is less so. When we divide 2022’s net realized farm income by the total number of farms in Canada for that same year, we get an **average on-farm income of approximately \$62,000**. And this \$62,000 is not necessarily all profit, as it may or may not include the farmers’ labour: incorporated farms often pay the farmer a wage, which becomes an expense, while unincorporated farms do not – their returns to the farmers’ labour *are* the realized net farm income, meaning that if farmers’ labour was assigned a wage rate, they might actually show a negative profit³. This helps illustrate why a growing proportion of farm households report their major source of income as coming from outside sources, such as investment income and wages from off-farm employment (Figure 10).

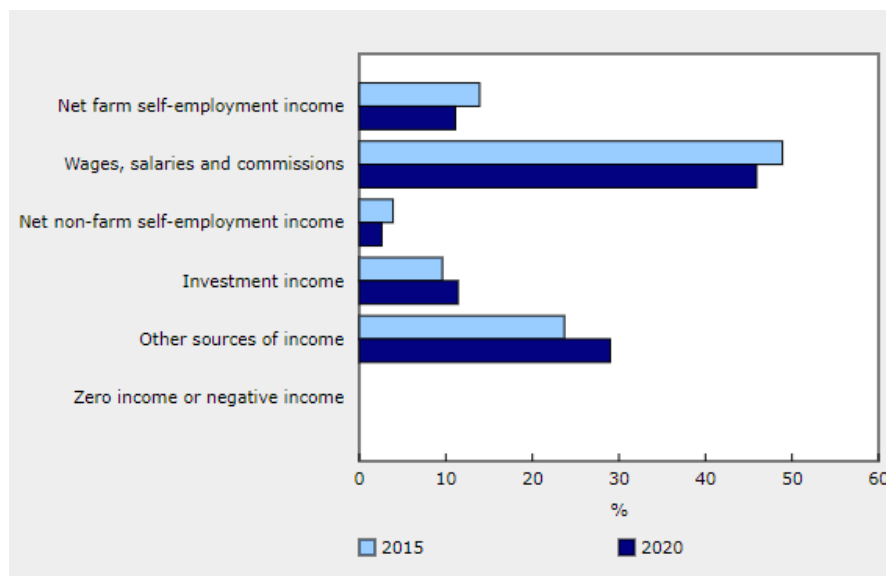


Figure 10. Proportion of farm households by major source of household income in Canada, 2015 and 2020. Note: “Other sources of income” includes child benefits, Canada Pension Plan and Quebec Pension Plan benefits, other income from government sources, Employment Insurance benefits, Old Age Security pension and Guaranteed Income Supplement, private retirement income, and market income not included elsewhere. Source: Agriculture-Population Linkage, 2016 and 2021. Statistics Canada 2023.

³ An operator is a person that reports revenue on their individual tax form as a result of a financial stake in a farm operation. The financial stake may be direct in the case of an unincorporated farm or indirect through shares for an incorporated farm. <https://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&Id=1530841>

In 2015, nearly 50% of farm households reported their main source of income as coming from off-farm wages, salaries, and commissions (Figure 10). Though it remains the largest major source of farm household income, that proportion fell slightly in 2020, and the difference was picked up by investment income and income from “other sources”. This includes private retirement income⁴, which increased from 6% in 2015 to 7.4% in 2020. According to Statistics Canada (2023), this shift reflects the aging of the farm population, as more members of the household reach retirement age.

10. Farm debt:

Outstanding farm debt in Canada has more than doubled in the last 20 years, even when adjusted for inflation, totalling **\$138,859,727,000** in 2022 (Figure 11). When classified by lender, the largest amounts are owed to chartered banks (\$49.65 billion), federal government agencies (\$40.8 billion), and credit unions (\$21.5 billion) (StatCan Table 32-10-0051-01). Farm debt and gross farm revenue were relatively close in the 1980s and 1990s, but became uncoupled around 1998 – 2001, and the gulf has continued to widen: in 2022, **farm debt exceeded revenue (\$95 billion) by 46%**, and **exceeded net farm income (\$11.8 billion) by a factor of 10:1** (Figure 11).

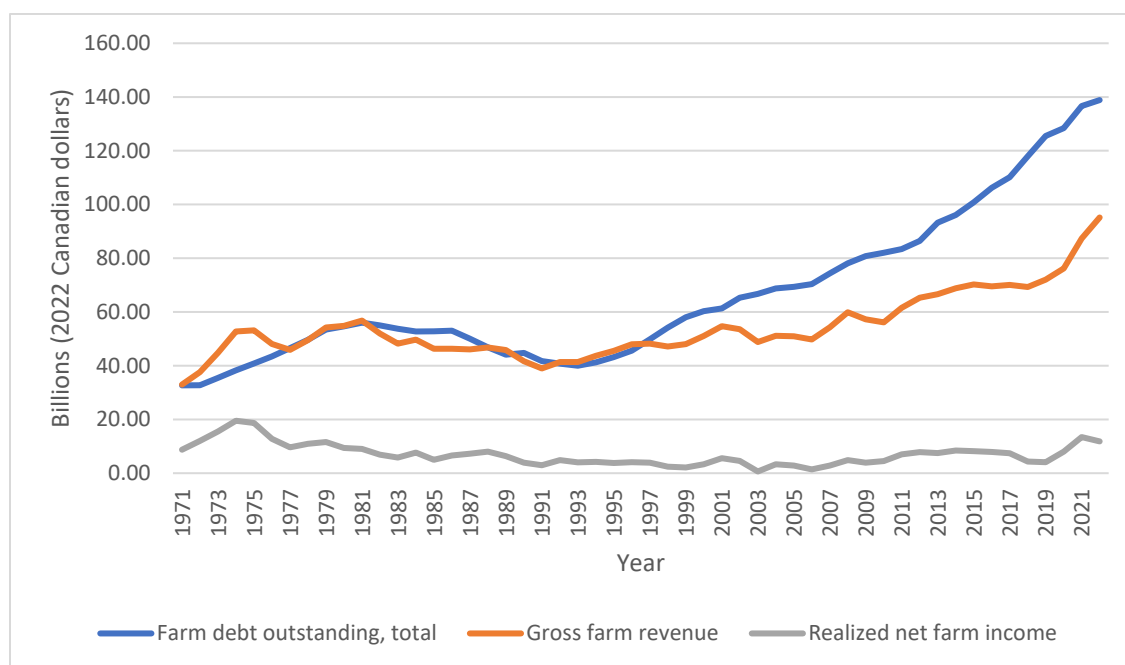


Figure 11. Total farm debt, gross farm revenue, and realized net farm income for Canada, 1971-2022, adjusted for inflation to constant 2022 Canadian dollars.

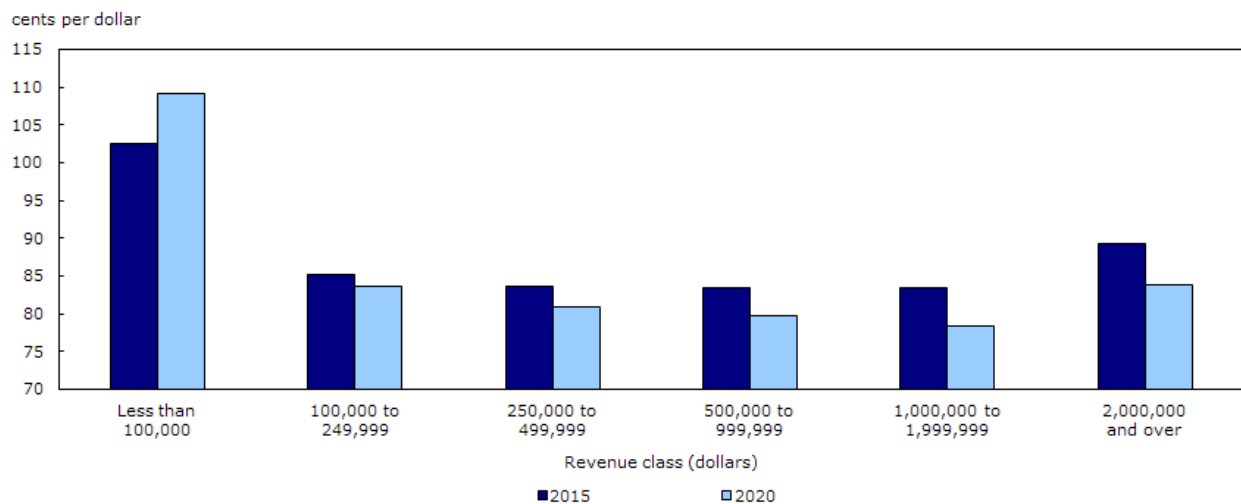
Source: StatCan Tables 32-10-0051-01 and 32-10-0052-01 (formerly CANSIM 002-0008 and -0009). CPI values from Bank of Canada inflation calculator.

⁴ Statistics Canada defines private retirement income as follows: “All regular income received during the reference period associated with employer or personal retirement pensions, benefits or savings plans.” <https://www12.statcan.gc.ca/census-recensement/2021/ref/dict/az/definition-eng.cfm?ID=pop194>

11. Profit margins and expense to revenue ratio

Total farm operating revenues, or the revenues originating from operations inherent to a farm business, amounted to **\$108,428,393,801** for 2022 (StatCan Table 32-10-0136-01). Data from the 2021 and 2016 Censuses of Agriculture show that, on average, farms were more profitable in 2020 than in 2015: **for every dollar of revenues earned in 2020, 17.1 cents were profit, up from 13.1 cents in 2015** (Chen and Clark 2023). However, when separated into their respective revenue classes, **only the highest-earning farms became more profitable**; the profit margins sank for farms earning less than \$100,000 per year, meaning their expense to revenue ratios increased (Figure 12). This poses a **significant barrier to entry for new farmers** (Chen and Clark 2023).

In the 2021 Census of Agriculture, **over half (51.5%) of Canada's total farm operating revenues came from just 4.1% (7,746) of farms**, all of which belonged to the \$2,000,000 and over revenue class (Statistics Canada 2022; Chen and Clark 2023). By comparison, in 2016, this revenue class provided 41.5% of Canada's total operating revenues and comprised 2.7% (5,236) of farms (ibid.).



Sources: Statistics Canada, Census of Agriculture, 2016 and 2021 (3438).

Figure 12. Expense to Revenue ratio by revenue class, Canada, 2015 and 2020.

Note: all 2015 estimates have been adjusted to 2020 constant dollars.

Source: <https://www150.statcan.gc.ca/n1/pub/96-325-x/2021001/article/00015-eng.htm>

Non-family corporations have become the most profitable operating arrangement in Canada.

Though they made up just 2.4% (4,591) of total farms in 2020, non-family corporations reported \$8.2 billion in revenues, and had the lowest expense-to-revenue ratio, at 81.7 cents per dollar – a profit margin of 18.3% (Table 9). Conversely, sole proprietor farms accounted for half the farms in Canada in 2020 (50.9%, 96,702 farms), and reported \$12.9 billion in revenues, and an expense to revenue ratio of 85.5 cents per dollar – a profit margin of 14.5% (Table 9) (Statistics Canada 2022). It is important, again, to note that while the profits of family and non-family corporations are true profits (i.e. the farmers' labour was included as an expense), the profits of sole proprietor farms may not be. The average net operating income of these farms is already low (\$19,468, Table 9), and may be even lower if the sole-proprietor farmer was not paying themselves a wage.

Table 9. Total operating revenues and expenses by operating arrangement, Canada 2020.

Operating arrangement	Total operating revenues	Total operating expenses	Average net operating income	Expense-to-revenue ratio
	dollars			cents per dollar
Sole proprietorship	12,940,582,542	11,057,960,503	19,468	85.5
Partnership	11,044,233,367	9,371,222,025	37,129	84.9
Family corporation	54,581,051,580	44,817,123,274	225,844	82.1
Non-family corporation	8,204,400,086	6,706,474,196	326,274	81.7
Other operating arrangements	278,964,933	232,543,406	160,628	83.4

Source: Statistics Canada, Census of Agriculture, 2021 (3438).

Source: Statistics Canada 2022.

Agrochemical Inputs

Farmers in Canada spent a total of \$2,853,233,659 on pesticides in 2015, \$2,643,080,064 in 2018, and **\$3,421,671,400 in 2022** (PMRA 2022) (Figure 13). At the same time, fertilizer spending rose drastically, from \$6,727,445,869 in 2015 to **\$10,130,188,869** in 2022, with a similar trough in 2017-2018 (Figure 13). These values are in constant 2022 Canadian dollars, to account for inflation.

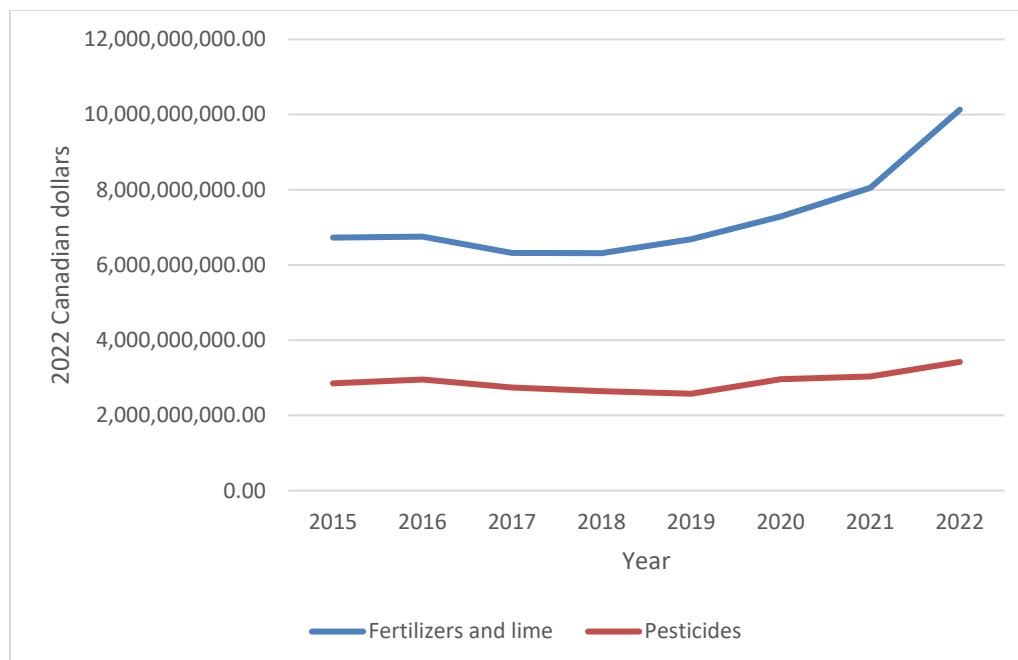


Figure 13. Inflation-adjusted value of crop input expenses paid by Canadian farmers, for pesticides and fertilizer and lime, from 2015 to 2022, measured in 2002-constant Canadian dollars.

Source: StatCan Table 32-10-0136-01. CPI values from Bank of Canada inflation calculator.

12. Tonnes of fertilizer applied per year

In the 2022/23 season, **nitrogen** shipments to Canada totalled 2,935,000 metric tonnes (mt) – 18% more than was shipped 10 years ago, and **68% more than the amount shipped in 2006/07** (Table 10).

Phosphate amounts have decreased in recent years, from a high of 1,207,000 mt in 2019/20 to 1,061,000 mt in 2022/23. However, this recent value is still **twice as much as was shipped in 2008/09**.

718,000 mt of **Potash** were shipped to Canada in 2022/23. While still not as high as their peak of 812,000 mt in 2020/21, **these amounts have more than doubled in the last 15 years**.

Sulfur shipments have also doubled, from 165,000 mt in 2006/07 to 381,000 mt in 2022/23 (Table 10).

Table 10. Fertilizer shipments to Canadian agriculture markets, by nutrient content and year, from 2006 – 2023, measured in metric tonnes (x 1,000)

Geography		Canada ⁸ (map)																	
Fertilizer nutrient content	Period ⁴	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
		Metric tonnes																	
Nitrogen	July to June	1,740	1,901	1,857	1,901	1,990	2,296	2,481	2,454	2,570	2,537	2,390	2,614	2,660	2,876	2,934	2,718	2,935	
Phosphate ⁹	July to June	635	669	576	630	723	799	817	882	945	1,025	947	1,080	1,144	1,207	1,127	1,025	1,061	
Potash	July to June	394	363	186	271	312	297	353	362	394	374	418	419	x	729	812	805	725	
Sulphur ¹⁰	July to June	165	182	158	209	238	274	287	305	316	339	335	359	384	372	382	367	381	

Source: StatCan Table 32-10-0039-01.

Note: 9 = The phosphate tonnage includes amounts from all fertilizer products containing phosphates.

10 = The sulphur tonnage includes amounts from all fertilizer products containing sulphur.

x = “suppressed to meet the confidentiality requirements of the *Statistics Act*.”

13. Pesticides

In 2021, overall pesticide sales in Canada totalled 132,885 tonnes a.i. [active ingredient], of which **72.3% were for agricultural use** (PMRA 2022). **96,043 tonnes a.i. of pesticide** were sold for agricultural use in 2021 – **more than three times the amount sold in 1991** (29,538 tonnes a.i.) (Figure 14). This included **12,486 tonnes a.i. of fungicides** (13% of agricultural total) (Figure 15), **75,298 tonnes a.i. of herbicide** (78% of agricultural total) (Figure 16), and **4,802 tonnes a.i. of**

insecticide (5% of agricultural total) (Figure 17). The remaining 3,457 tonnes a.i. (3.5% of agricultural total) are made up of antimicrobials, vertebrate controls, and other uses.

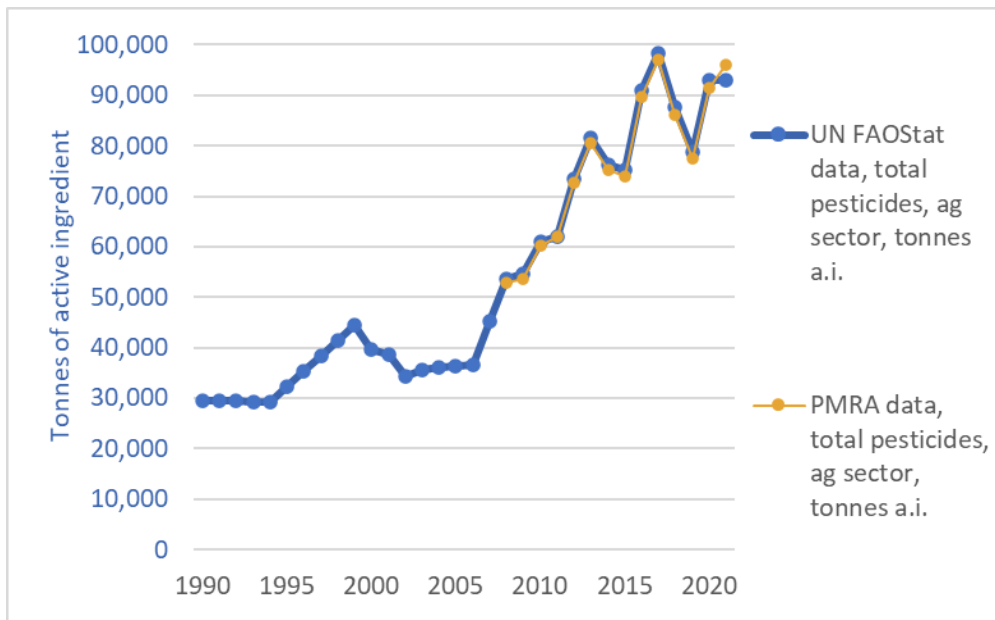


Figure 14. Amount of pesticide sold in Canada, measured by tonnes of active ingredient (a.i.). Sources: PMRA annual Pest Control Product Sales Reports; UN FAOStat

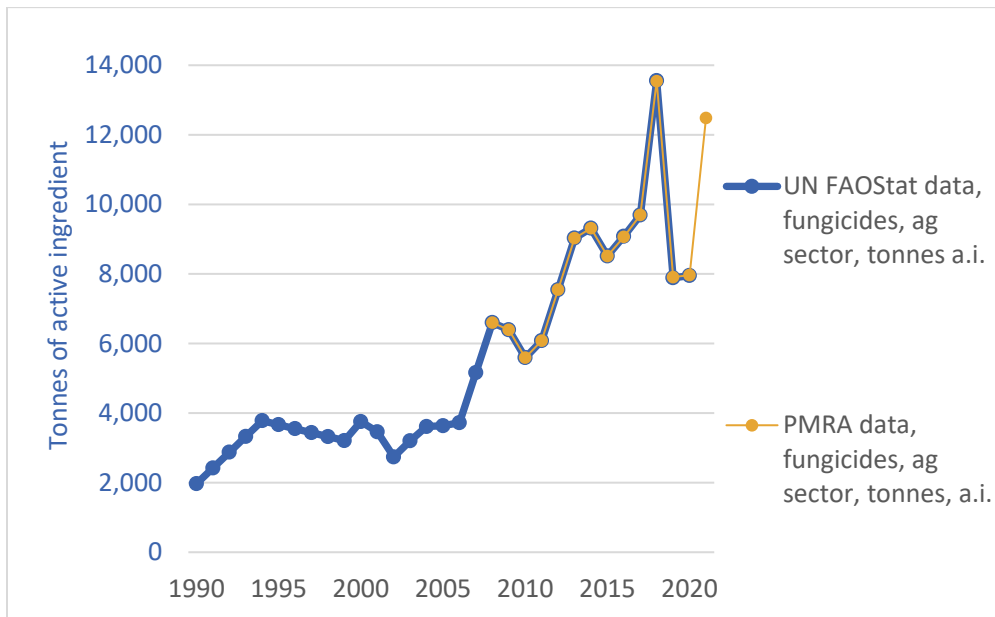


Figure 15. Amount of fungicides sold in Canada, measured by tonnes of active ingredient (a.i.). Sources: PMRA annual Pest Control Product Sales Reports; UN FAOStat

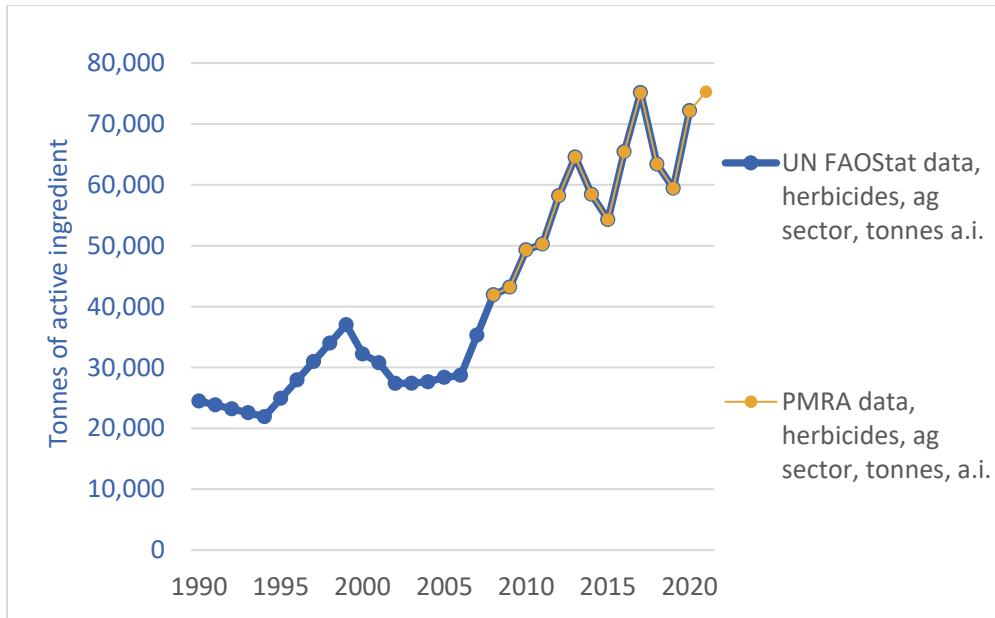


Figure 16. Amount of herbicide sold in Canada, measured by tonnes of active ingredient (a.i.).
Sources: PMRA annual Pest Control Product Sales Reports; UN FAOStat

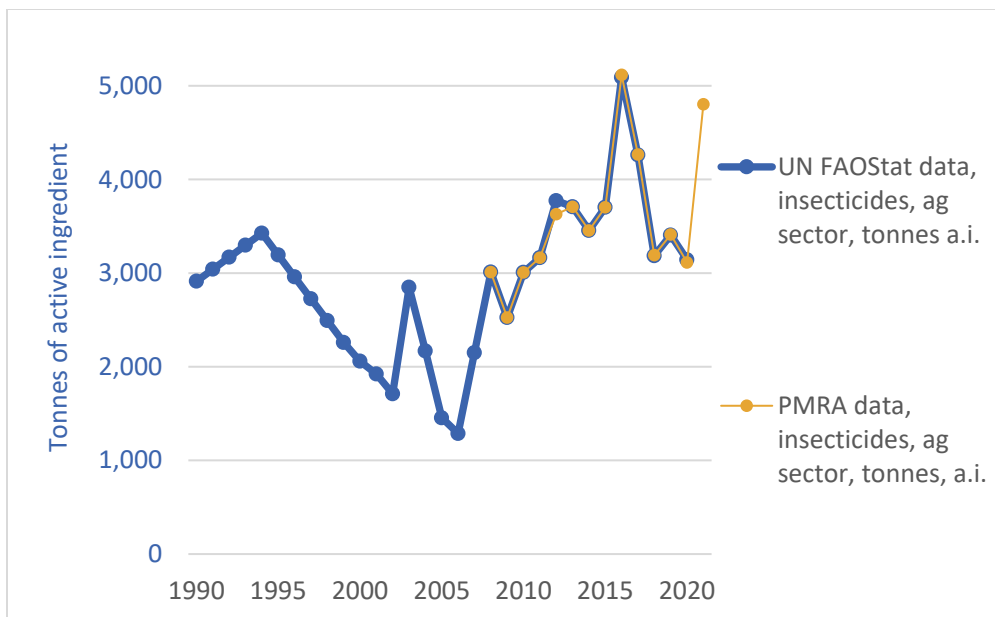


Figure 17. Amount of insecticide sold in Canada, measured by kilograms of active ingredient (a.i.).
Sources: PMRA annual Pest Control Product Sales Reports; UN FAOStat

Agri-food Trade

14. Agri-food exports:

In 2022, Canada exported nearly **\$84.5 billion** in agriculture and food products (including raw agricultural materials and processed foods, excluding fish and seafood), making it the world's **5th largest agricultural exporter**, behind the EU-27 countries (as a group), U.S., Brazil, and China (Government of Canada 2023) (Figure 18).

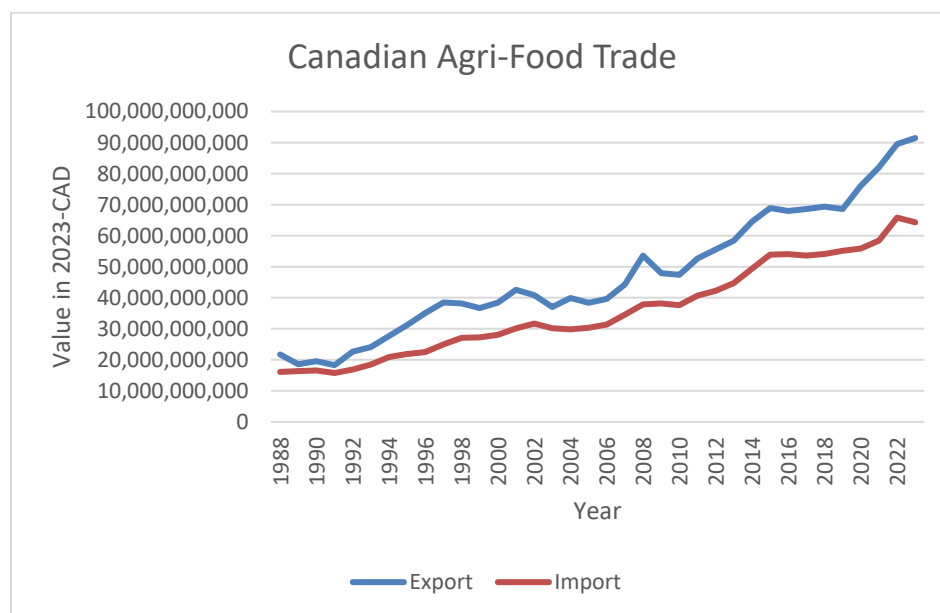


Figure 18. Value of agri-food imports and exports in 2023-adjusted Canadian Dollars (CAD). Source: StatCan data retrieved by request from CATSET Analytics, AAFC; CPI values from Bank of Canada inflation calculator.

Primary agriculture is defined as “work that is performed within the boundaries of a farm, nursery or greenhouse” (Government of Canada 2023), and includes field crop production, horticulture, and animal products. **In 2022, primary agriculture provided 249,900 jobs and accounted for 1.8% (\$36.3 billion) of Canada’s GDP** (ibid.).

The **export total** for principal field crops, horticulture, and animal production was **\$30.5 billion** in 2022 (Table 11). The majority of horticulture and animal products for export were sent to the United States of America (96.6% and 95.3%, respectively), while Canada’s largest export markets for principal field crops were China (20.4%), followed by Japan (10.8%) and the USA (9.6%) (Table 11).

Table 11. Overview of Canada’s primary agriculture sector in 2022, economic value (GDP), export value, top markets and stakeholders, as identified by Agriculture and Agri-Food Canada.

	GDP (CAD \$)	Jobs	Reporting farms (#)	Export (CAD \$)	Top Markets	AAFC-identified key stakeholders
Crop production	30.6 billion	118,300	82,568	28.3 billion		
Principal field crops			65,135	24.5 billion	China (20.4%), Japan (10.8%), USA (9.6%)	Canada Grain Council; Cereals Canada; Grain Growers of Canada
Horticulture			17,433	3.8 billion	USA (96.6%), Netherlands (0.7%), China (0.5%)	Canadian Horticultural Council; Canadian Produce Marketing Association; Canadian Ornamental Horticulture Alliance
Animal production	29.9 billion	109,300	76,796	2.2 billion	USA (95.3%), Japan (1.1%), Russia (1%)	Supply-managed farmer associations (chicken, turkey, egg, broiler, dairy); Canadian Pork Council; Canadian Cattlemen's Association
Total	60.5 billion	227,600	159,364	30.5 billion		

Note: Number of reporting farms is current to 2021.

Source: Government of Canada 2023

Livestock Inventory

15. Numbers of cattle, hogs, and chickens

As of the July 1, 2023 survey, there are an estimated

- a. **10,282,400 beef cattle**
- b. **1,842,600 dairy cattle** (StatCan Table 32-10-0130-01)
- c. **13,840,000 hogs** (StatCan Table 32-10-0160-01)
- d. **1,048,300 sheep and lambs** (StatCan Table 32-10-0129-01)

As of the 2021 Census of Agriculture, there were an estimated **152,299,258 chickens**, including

- e. **107,947,696 broilers/roasters**
- f. **36,499,528 layers** (StatCan Table 32-10-0374-01).

Over the 20 years from the 2001 to the 2021 Census of Agriculture, **the number of cattle in Canada has decreased by 23%, while the numbers of hens and chickens has risen by 17%**, possibly suggesting a shift in consumer preferences away from red meat (Table 12). Pig populations have remained steady in that time, while sheep and turkey populations have decreased by 20% and 33%, respectively; sheep numbers fell steadily, while the decrease in turkeys came from the most recent period (Figure 19).

Table 12. Selected livestock and poultry, Census of Agriculture historical data 2001 to 2021.

Geography		Canada (map)				
Selected livestock	Unit of measure	2001	2006	2011	2016	2021
Total cattle ⁴	Number of farms reporting	122,066	109,901	85,890	75,307	74,148
	Number of animals	15,551,449	15,773,527	12,789,965	12,530,730	12,640,089
	Average number	127	144	149	166	170
Total pigs	Number of farms reporting	15,472	11,497	7,371	8,402	7,423
	Number of animals	13,958,772	15,043,132	12,679,104	14,091,503	14,568,669
	Average number	902	1,308	1,720	1,677	1,963
Total sheep ⁵	Number of farms reporting	13,232	11,031	10,111	9,390	8,487
	Number of animals	1,262,448	1,142,877	1,108,574	1,054,260	1,052,365
	Average number	95	104	110	112	124
Total hens and chickens	Number of farms reporting	26,484	22,712	20,645	23,910	23,547
	Number of animals	126,159,529	125,314,793	133,025,153	145,519,566	152,299,258
	Average number	4,764	5,518	6,443	6,086	6,468
Turkeys	Number of farms reporting	4,176	3,174	2,767	2,690	2,225
	Number of animals	8,115,942	7,691,385	8,021,500	8,423,900	6,084,098
	Average number	1,943	2,423	2,899	3,132	2,734

Note: dairy cattle comprise approximately 15% of total cattle, with the rest being beef cattle, and laying hens comprise approximately 29% of total hens and chickens, while the rest are meat birds (broilers and roasters). Source: StatCan Table 31-10-0155-01 (formerly CANSIM 004-0004).

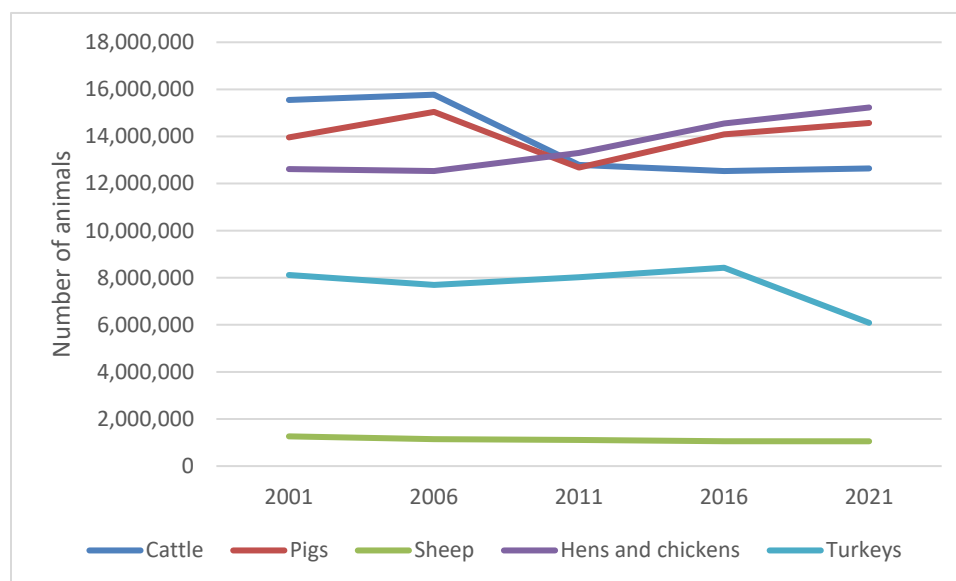


Figure 19. Domestic livestock and poultry populations in Canada over time, from Census of Agriculture historical data, 2001 to 2021.

Note: Hen and chicken numbers have been divided by 10, to be comparable in scale.

Source: StatCan Table 31-10-0155-01 (formerly CANSIM 004-0004).

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