

Competitiveness vs Sustainability: Which Should Come

First for Canadian Agriculture?

(August 4, 2025)

A few days ago, I attended a webinar hosted by CAPI titled “*From Delay to Direction: Shaping Canada’s Next Ag Policy Framework.*” During the session, the panelists posed a thought-provoking question: **Competitiveness vs. Sustainability – Which should come first for Canadian agriculture?** As an applied researcher specializing in agricultural economics and policy in both the U.S. and Canada, I found this question particularly compelling. It seems worthwhile to explore it further through some preliminary data analysis.

First, it’s important to recognize that Canada’s agriculture and agri-food system holds a unique position—contributing to both economic growth and environmental stewardship. On one hand, the sector is a major driver of employment and exports. In 2024, it employed approximately 2.3 million people and accounted for one in every nine jobs (Agriculture and Agri-Food Canada, 2024). On the other hand, agriculture is also a significant contributor to greenhouse gas (GHG) emissions and land-use change. The fundamental question of whether competitiveness or sustainability should take precedence highlights a pressing concern: what should be the long-term goal of Canadian agriculture?

Let’s begin with some basic economic and trade statistics about Canada’s agri-food system. In 2024, the sector generated approximately CA\$149.2 billion—accounting for about 7% of the national gross domestic product (GDP) (Agriculture and Agri-Food Canada, 2024). Primary agriculture alone contributed CA\$31.7 billion, or 1.4% of GDP, and directly employed around 223,000 people. These figures highlight how deeply farming is embedded in the rural economy and underscore its role as a cornerstone of economic activity in many regions.

Canada’s agri-food system also has diversified commodities and strong markets. In 2024, the sector’s farm market receipts reached CA\$92.0 billion in 2024 and grew 5.1% annually between 2014-2024 (Agriculture and Agri-Food Canada, 2024). Export-oriented field crops generated CA\$26.8 billion in exports in 2024, with China (23%), the United States (11%) and Japan (8%) as top destinations. Horticulture and animal production add billions more (Agriculture and Agri-Food Canada, 2024), especially with beef cattle that I will have a detailed discussion later in my blog.

Some reports showed that Canada risks losing global market share. According to a 2024 Royal Bank of Canada/Boston Consulting Group (RBC/BCG) report, over 60% of Canada's agriculture and agri-food exports go to the United States, and the value of those exports has quadrupled since 2000 (Royal Bank of Canada & Boston Consulting Group, 2024). This heavy reliance on one market leaves producers vulnerable to trade disputes and tariffs. The same report warns that Canada's global agri-food ranking has fallen from fifth to seventh place and should drop to ninth by 2035 (Royal Bank of Canada & Boston Consulting Group, 2024). While exports quadrupled, world agri-food exports increased five-fold, meaning that Canada's market share shrank by about 12% (Royal Bank of Canada & Boston Consulting Group, 2024). Emerging competitors like Brazil and Australia are gaining share in high-growth markets. The report also suggests that Canada could increase its global share by emphasizing digital infrastructure, value-added processing, and overseas market development (Royal Bank of Canada & Boston Consulting Group, 2024).

Next, let me explain Canada agriculture's environmental footprint. Environment and Climate Canada's 2024 National GHG Inventory reported that Canada's emitted 708 million tonnes (Mt) CO₂-equivalent in 2022, of which the agricultural sector produced about 70 Mt (10%) (Environment and Climate Change Canada, 2022). Agriculture ranks fifth among emitting sectors after oil and gas, transport, buildings, and heavy industry. Emissions arise mainly from animal production (51%), crop production (28%), and on-farm fuel use (21%) (Office of the Auditor General of Canada, 2024). Figure 1 shows the amount of GHG emission in Canada from 1990-2021. As shown in the figure, agricultural emissions increased by about 39% from 49.4 to 68.6 Mt CO₂-equivalent between 1990 and 2021. Although soils sequestered roughly 18 Mt of CO₂-equivalent in 2021 offsetting about 26% of agricultural emissions (Office of the Auditor General of Canada, 2024) – the overall upward trend illustrates the challenge of meeting national targets.

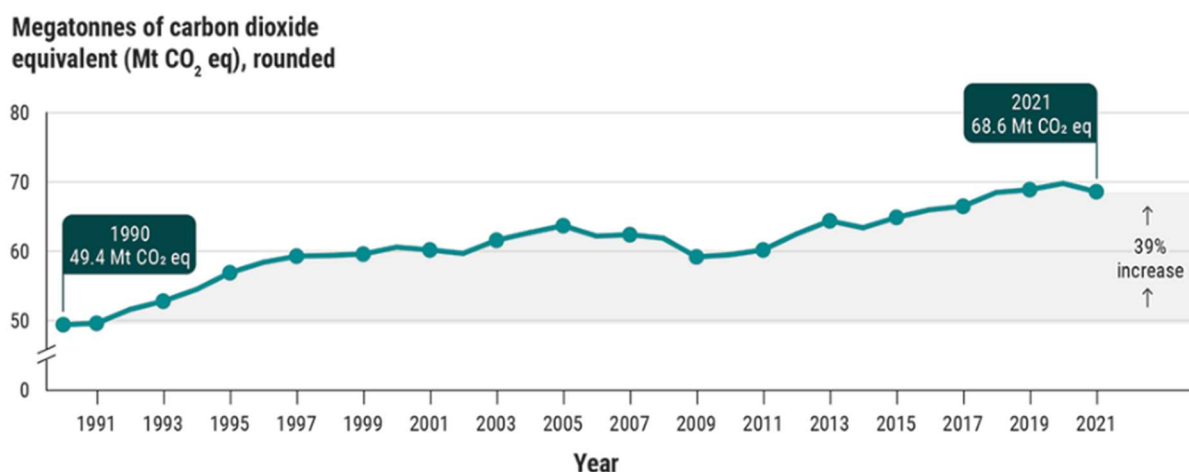


Figure 1. Agriculture sector GHG emission in Canada, 1990 to 2021

Land-use changes also raise sustainability concerns. Statistics Canada's 2021 Census of Agriculture reported 189,874 farms and 62.2 million hectares of farmland (Agriculture and Agri-Food Canada, 2024). Detailed land-use data reveals that cropland accounts for 37.9 million hectares, while natural pasture (13.7 million ha) and tame/seeded pasture (4.8 million ha) occupy smaller shares (Statistics Canada, 2021). As shown in Figure 2, woodland and wetlands represent about 3.8 million ha and "all other land" roughly 1.4 million ha. This distribution underscores the importance of pasture and natural landscapes for carbon sequestration and biodiversity.

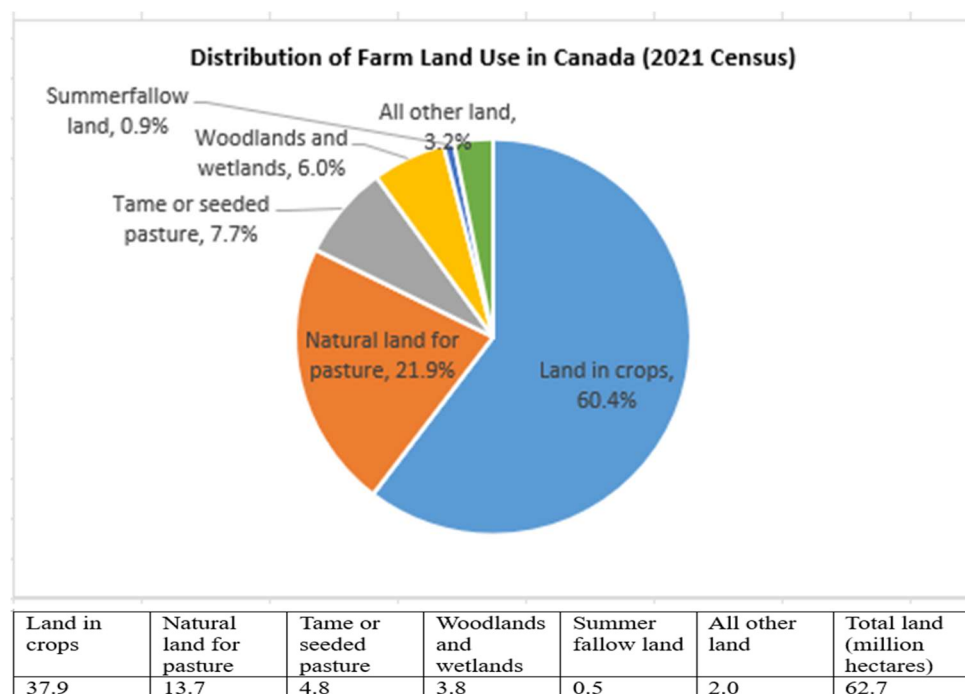


Figure 2. Distribution of Farmland Use in Canada (2021 Census)

Source: Statistics Canada. (2022). Table 32-10-0249-01: Land use, Census of Agriculture. Retrieved from <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3210024901>

Long-term trends show that total farm area has fallen from about 160 million acres to 153 acres between 2011 and 2021, and the rate of loss tripled from 1.1 million acres lost between 2011-2016 to 5 million acres lost between 2016-2021 (Poirier, 2022). Despite the decline, land in crops increased, suggesting conversion of pasture, forests and wetlands into cropland (Poirier, 2022). Natural pasture shrank by 1.3 million acres during 2011-2021 (Poirier, 2022), with the largest losses in Alberta. Such conversions reduce grassland ecosystems that store carbon, supporting biodiversity and underpin the beef sector (Poirier, 2022).

The sustainability argument recognizes that environmental stewardship is essential for long-term farm viability. Canadian producers have already embraced several practices that cut emissions and improve soil health. The Sustainable Agriculture Strategy (SAS) consultation noted that over the past 20 years producers enhanced soil health and doubled production while GHG emissions increased only slightly (Agriculture and Agri-Food Canada, 2023). Census data show widespread adoption of no-till seeding, which reduces soil disturbance and sequesters carbon; the number of farms practising no-till has steadily increased since 1991 (Poirier, 2022). Autosteer technology, which cuts overlap in the field and reduces fuel and input use, expanded from 40000 farms in 2016 to 50000 in 2021 (Poirier, 2022). Renewable energy is also growing: farms producing solar, wind or biofuel energy doubled from 10000 to 200 between 2016 and 2021 (Poirier, 2022). These examples illustrate producers' willingness to adopt climate-smart technologies when incentivised and technically viable.

Policy frameworks likewise emphasize sustainability. The SAS consultation highlighted that stakeholders wanted an economic lens to ensure productivity, profitability, competitiveness and producer livelihoods (Agriculture and Agri-Food Canada, 2023) but also expressed strong support for realistic environmental targets that do not threaten productivity (Agriculture and Agri-Food Canada, 2023). The consultation recommended financial and market incentives, knowledge transfer and research to encourage beneficial management practices (Agriculture and Agri-Food Canada, 2023). Similarly, Canada's Federal Sustainability Development Strategy notes that the agri-food system employed 2.1 million people and generated CA\$134.9 billion in GDP in 2021 (Environment and Climate Change Canada, 2023) while reminding policymakers that agriculture depends on healthy soils, water and pollinators and must adopt no-till, cover cropping and agroforestry (Environment and Climate Change Canada, 2023).

Debating whether competitiveness or sustainability should come first implies a zero-sum trade-off. Yet evidence suggests that the two priorities are interconnected and mutually reinforcing. First, strict environmental regulations can impose short-term costs on farmers, potentially reducing yields and export volumes. Converting cropland back to pasture to sequester carbon may limit the supply of cereals and oilseeds that underpin Canada's export competitiveness. The RBC/BCG report warns that losing global market share could cost Canada CA\$23 billion in foregone exports (Royal Bank of Canada & Boston Consulting Group, 2024). On the other hand, failing to address emissions and land-use change threatens long-term productivity through soil degradation, water scarcity and climate risks. The 2024 National Inventory shows agriculture is already Canada's fifth-largest emitter (Environment and Climate Change Canada, 2024); unchecked growth could invite carbon-border adjustments from trading partners.

There is growing recognition that sustainability can be a competitive advantage. Consumers increasingly demand low-carbon and sustainably produced food, and trade agreements increasingly incorporate environmental standards. Canada's emphasis on animal welfare, traceability and environmental stewardship can differentiate its products in

premium markets. This narrative echoes the SAS consultation: participants argued that policies should provide long-term incentives for sustainable practices and avoid undermining profitability (Agriculture and Agri-Food Canada, 2023). Incentive programs such as Living Labs, On-Farm Climate Action Fund and Agricultural Clean Technology Program support producers in testing and adopting innovations (Office of the Auditor General of Canada, 2024).

Moreover, many sustainable practices improve efficiency. No-till seeding and autosteering reduce fuel and input costs, lowering operating expenses (Poirier, 2022). Cover crops and rotational grazing enhance soil moisture and fertility, reducing reliance on fertilizers. Renewable energy on farms can offset electricity costs. These practices align with competitiveness by boosting productivity while reducing emissions. Canada's experience also demonstrates that production can grow without proportionate increase in emissions: over the past two decades, producers doubled output while GHG emissions rose only slightly (Agriculture and Agri-Food Canada, 2023).

As regards to policy implications, effective policy must integrate the economic imperatives of competitiveness with environmental stewardships. The SAS aims to do this by applying an economic lens to environmental goals and setting realistic targets (Agriculture and Agri-Food Canada, 2023). Measures could include performance-based incentives for adopting climate-smart practices rather than prescriptive regulations; and investment in research and digital infrastructure to improve productivity and monitor emissions; and diversifying export markets to reduce reliance on the U.S. and capture premium markets that value sustainable production.

A holistic approach recognizes regional differences, for example, no-till adoption is high in the Prairies but lower in Ontario due to soil and climate differences (Poirier, 2022), and tailors programs accordingly. Continuous monitoring of land-use changes and emissions intensity is critical. The line chart in Figure 1 shows that emissions have plateaued since 2015; further reductions will require transformative practices and investments.

Conclusion

The debate over whether competitiveness or sustainability should come first in Canadian agriculture is, at its core, a false dichotomy. Competitiveness without sustainability risks eroding the natural resources and social licence upon which the sector depends; sustainability without competitiveness risks economic stagnation and lost opportunities. Canada's agri-food system has demonstrated that productivity gains and environmental progress can co-exist. The sector employs millions of Canadians, generates significant GDP and has increased exports dramatically (Agriculture and Agri-Food Canada, 2024; Royal Bank of Canada & Boston Consulting Group, 2024). Yet it is also a notable source of GHG emissions and land-use change, and natural pasture and grassland are declining (Poirier, 2023).

Moving forward, Canadian agricultural policy should treat sustainability as a core pillar of competitiveness, not as an obstacle. Incentives for climate-smart technologies, support for soil health and biodiversity, diversified trade strategies, and investment in innovation can help the sector maintain its global standing while meeting environmental obligations. In a world where food markets and consumers increasingly value sustainability, the question is not whether competitiveness or sustainability should be the priority, but how Canada can harness sustainability to become more competitive.

References

1. Agriculture and Agri-Food Canada. *Overview of Canada's agriculture and agri-food sector* (2024). Data on employment, GDP and export receipts. <https://agriculture.canada.ca/en/sector/overview>
2. Environment and Climate Change Canada. *Where Canada's greenhouse gas emissions come from: 2024 National Inventory Report*. Data on 2022 emissions and sector breakdown. <https://www.canada.ca/en/environment-climate-change/news/2024/05/where-canadas-greenhouse-gas-emissions-come-from-2024-national-greenhouse-gas-inventory.html>
3. Office of the Auditor General of Canada. *Report 5 — Agriculture and Climate Change Mitigation* (2024). Details on agricultural emission sources and trends. https://www.oag-bvg.gc.ca/internet/English/att_e_44477.html
4. Sustainable Agriculture Strategy consultation report (Agriculture and Agri-Food Canada). Emphasis on doubling production while emissions grew only slightly and need for economic lens. <https://agriculture.canada.ca/en/departement/transparency/public-opinion-research-consultations/sustainable-agriculture-strategy/what-we-heard-report-sustainable-agriculture-strategy>
5. Statistics Canada. *Land use, Census of Agriculture, 2021* (Table 32-10-0249-01). Land-use distribution and farm numbers. <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3210024901>
6. Poirier, A. *Census of Agriculture 2021: Land use and sustainable farming practices*, Canadian Agri-Food Policy Institute (2022). Analysis of farmland decline, cropland expansion and adoption of sustainable practices. https://capi-icpa.ca/wp-content/uploads/2022/07/2022-07-25-Ag-Census_QuickThink_Draft_7-Final_reduced.pdf
7. Environment and Climate Change Canada. *Federal sustainable development strategy – Goal 2: Support a healthier and more sustainable food system* (2023). Data on employment, GDP and realized net income; highlights sustainable practices. <https://www.canada.ca/en/environment-climate-change/services/climate-change/federal-sustainable-development-strategy/goals/zero-hunger.html>
8. Royal Bank of Canada & Boston Consulting Group. *Food first: How agriculture can lead a new era for Canadian exports* (2024). Analysis of export dependence, market share decline and growth potential. <https://www.rbc.com/en/thought-leadership/the-trade-hub/food-first-how-agriculture-can-lead-a-new-era-for-canadian->

[exports/#:~:text=Exports%20to%20the%20U,exports%20has%20quadrupled%20since%202000](#)

9. Office of the Auditor General of Canada. *Exhibits on agricultural emission reduction programs* (2024). Information on living labs, climate action funds and clean technology support. https://www.oag-bvg.gc.ca/internet/English/att_e_44477.html
10. Environment and Climate Change Canada. *Goal 2 of the Federal Sustainable Development Strategy* (2023). Context on the importance of healthy soils and adoption of no-till, cover cropping and agroforestry. <https://www.canada.ca/en/environment-climate-change/services/climate-change/federal-sustainable-development-strategy/goals/zero-hunger.html>