

National Index
on Agri-Food
Performance 
Centre for Agri-Food Benchmarking

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NOVEMBER
2025

NATIONAL INDEX ON AGRI-FOOD PERFORMANCE, 2025 UPDATE



National Index on Agri-Food Performance



Centre for Agri-Food Benchmarking

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THE NATIONAL INDEX ON
AGRI-FOOD PERFORMANCE



The Centre for Agri-Food Benchmarking
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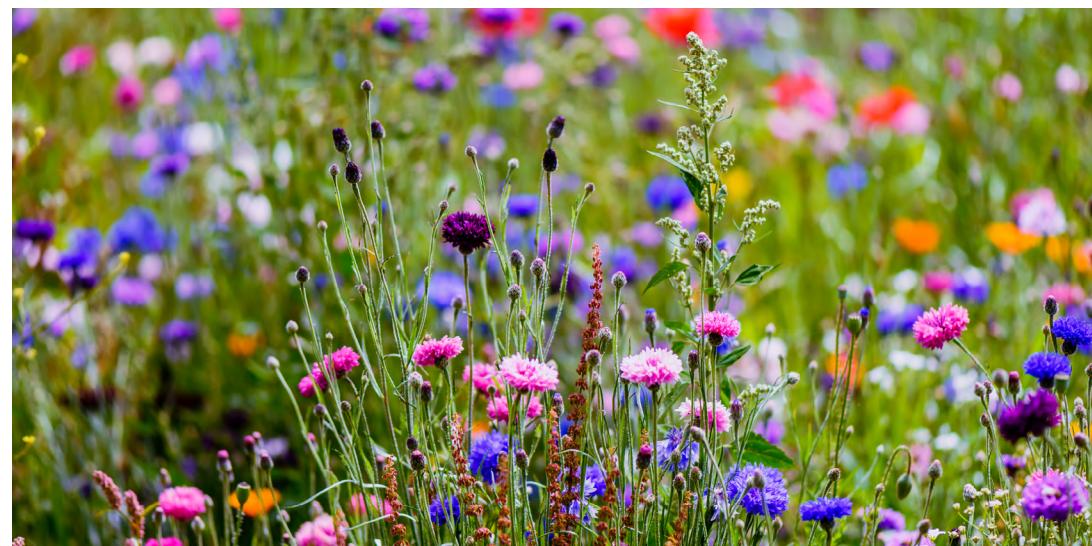


This report was funded in part by Agriculture and
Agri-Food Canada under the Sustainable Canadian
Agricultural Partnership's AgriAssurance Program.

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Canada's agri-food sector is operating in a time of geopolitical instability, intensifying weather extremes, evolving regulatory frameworks, and consumers and retailers who are raising the bar on sustainability. At the same time, ESG reporting requirements are extending into supply chains, making transparency a prerequisite for market access.

In this complex environment marred with uncertainty, credibility is a strategic asset which must be demonstrated and earned. The sector's ability to maintain its reputation, secure competitiveness, and build resilience depends on Canadian agriculture being sustainable, innovative, and committed to taking meaningful action where performance is falling short.

The National Index on Agri-Food Performance provides the evidence base for this. It brings together the most current national data to show where Canada's agri-food system is improving, where it is holding steady, and where challenges remain. Just as importantly, it maps the data gaps and methodological limitations that prevent a complete picture today, helping us focus on filling those gaps so that future reporting is even more robust and actionable.

THE 2025 UPDATE PAINTS A NUANCED PICTURE:

- Environmental performance remains stable – GHG emissions have been flat for six to eight years, soil health indicators continue to improve, and water quality remains strong. But methane emissions are trending upward, and rising water use signals future stress risks.
- Economic contributions are steady but strained – GDP output is up, yet the sector's share of the economy is slightly lower. Rising farm debt ratios and declining R&D investment raise concerns about long-term competitiveness and innovation capacity.
- Food security is worsening – One in four Canadians experienced food insecurity in 2023, underscoring affordability as a pressing social and policy challenge.
- Social indicators are mixed – Fatality rates are falling and wages rising, but mental health stress, inclusion gaps, and temporary foreign worker non-compliance highlight ongoing vulnerabilities.

Taken together, these findings show that Canada's agri-food system is making measurable progress in several areas but faces real challenges that must be addressed to remain competitive and resilient. The Index is not a scorecard of perfection — it is a tool for candid assessment, shared accountability, and informed action.

By highlighting both strengths and weaknesses, and by pointing to where better data are needed, the Index helps create a roadmap for continuous improvement. Embracing this transparency is essential to build credibility with trading partners, regulators, investors, and consumers towards a sector that is positioned to thrive where sustainability performance is a driver of market opportunity.



The National Index on Agri-Food Performance is a framework designed to present a picture of sustainability across Canada's agri-food system.

It is made possible through collaboration across a wide Coalition of Partners from industry, government, civil society, and academia. Their shared expertise, engagement, and data contributions underpin the robustness of the framework, ensuring that the Index reflects as much as possible both the realities of the sector and the evidence required to support credible sustainability reporting.

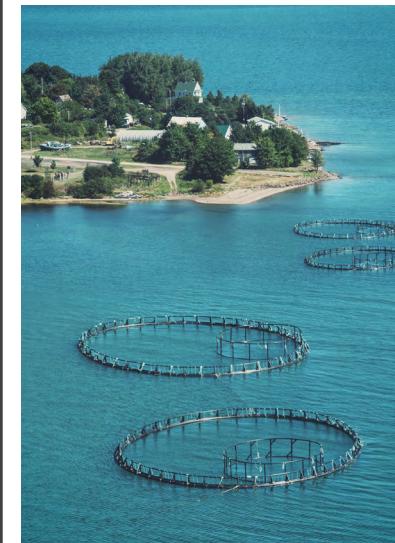
Initially launched as a pilot (Index 1.0) in 2023, it offers an inventory of data for a comprehensive set of Indicators and metrics, organized into four sustainability blocks: Environment, Food Integrity, Economics, and Societal Well-Being. The pilot tested the overall approach, examined ways to address data limitations, and established a foundation for presenting measures in a way that frames the sustainability of the sector.

This report is an update to Index 1.0, using the previously published framework of Indicators and metrics. Its purpose is to present the most recent data for the existing metrics, following the existing sources and methodologies. The structure of the Index, the definitions of Indicators, and the calculation methods remain unchanged from the previous edition.

The Index broadly aligns with key national and global food goals, as well as investor-driven Environmental, Social, and Governance (ESG) factors. Its metrics aim to reflect the full scope of Canada's agri-food context, encompassing agriculture and food production (including fisheries and aquaculture), as well as processing, distribution, and retail. Prior to the Index, no consolidated national picture existed of the broad, positive, and negative impacts of the sector's performance across these four sustainability dimensions. By taking a holistic approach, the Index objective is to inspire and increase voluntary reporting, encourage alignment across diverse stakeholders, and highlight both current performance and ongoing efforts toward improvement.

While the Index provides a broad national perspective, it is not designed to score or rank individual producers, companies, or jurisdictions. It does not prescribe specific pathways to sustainability, compare Canada's performance against other countries, act as a consumer-facing label, or assess the sustainability of individual commodities, products, or consumer diet choices. Its role is to provide a consolidated, data-driven evidence base that supports sector-wide dialogue, decision-making, and alignment.

The value of the Index lies in its ability to present sustainability credentials, highlight areas of progress, and identify where further attention is needed. By doing so, it can help enhance competitiveness at home and abroad, and inform policy, strategy, innovation, and research priorities. As ESG reporting requirements increasingly extend to companies and their supply chains, the Index offers a common, high-level reporting framework that can help prepare the Canadian agri-food sector for this major shift.



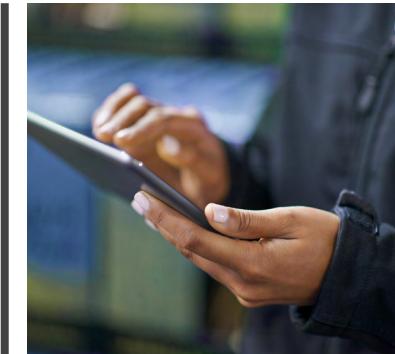
The updated data have been drawn from authoritative and up-to-date sources, including national and provincial statistical agencies, regulatory datasets, recognized industry associations, and peer-reviewed publications.

Each metric in this report is accompanied by its source, year of reference, and methodological basis, as defined in the original Index framework. Where the latest year's data are not yet available, the most recent valid figure is reported, with the reference year clearly indicated.

Regular consultations were held with committee-members from the four Sustainability Blocks (Environment, Food Integrity, Economic, and Societal Well-Being). These discussions enabled members to review data sources, identify opportunities and limitations, and strengthen the robustness of the Indicators. They also helped ensure that the Index reflects both scientific rigor and the practical realities of the agri-food sector.

This collaborative approach offers stakeholders a reliable and up-to-date baseline for assessing agri-food sustainability performance in Canada. Differences from previous results reflect real changes in the underlying data, not changes in measurement methodology. The updated figures help identify areas of improvement, acknowledge progress, and highlight where further attention or investment may be needed.

By maintaining methodological process, the 2025 update continues to support alignment with global sustainability reporting frameworks, ensuring the Index remains a trusted tool for benchmarking. The result is a factual, transparent reference that reinforces Canada's leadership in reporting on the environmental, food integrity, economic, and societal well-being aspects of its agri-food system.



THE INDEX FRAMEWORK

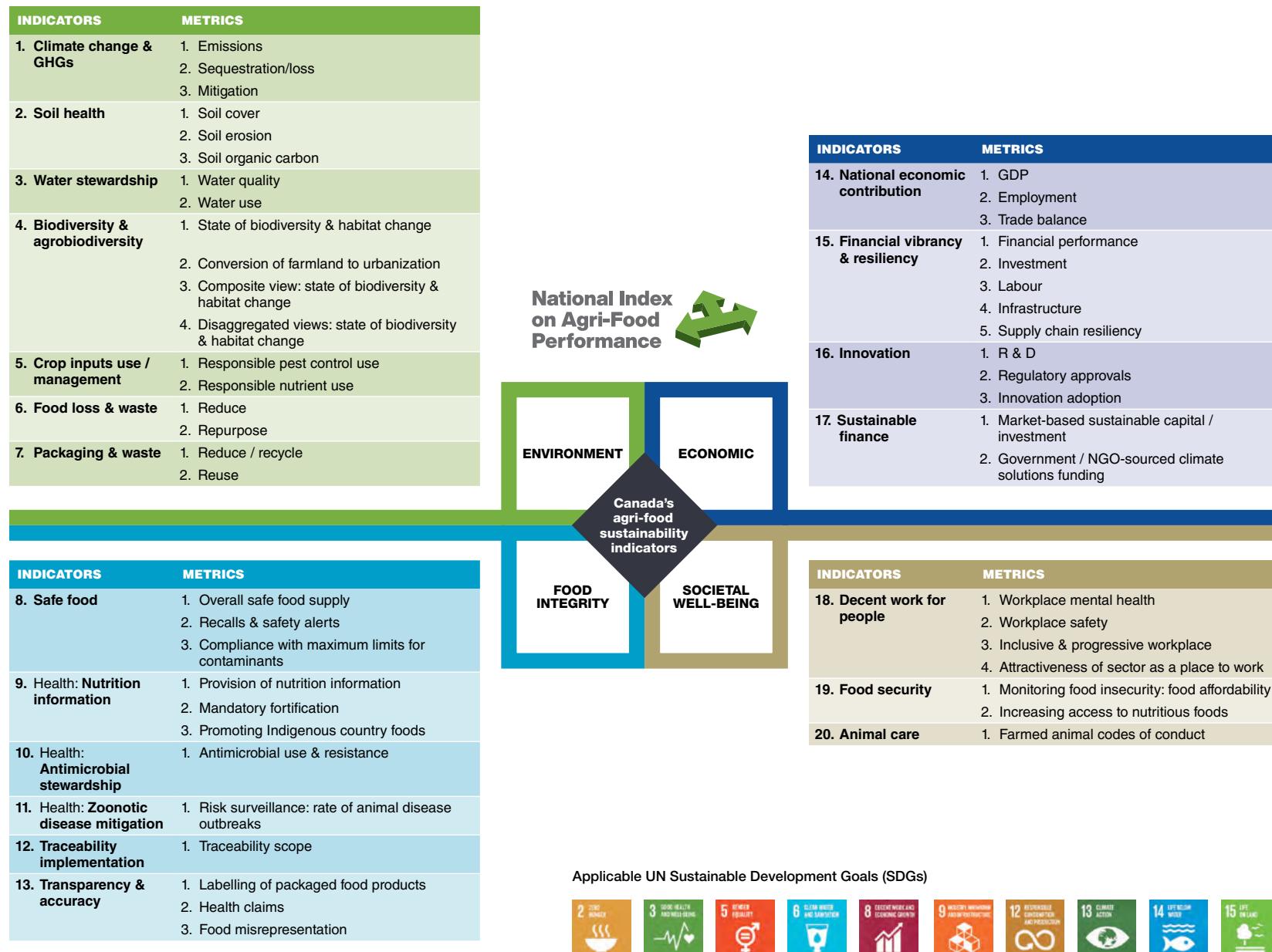


Figure 1: Twenty indicators of the National Index on Agri-Food Performance pilot

Canadian Produce Marketing Association

USING THE NATIONAL INDEX ON AGRI-FOOD PERFORMANCE TO GUIDE SUSTAINABILITY STRATEGY AND PRIORITIES.

The Canadian Produce Marketing Association (CPMA) referenced the National Index on Agri-Food Performance to guide the development of its Sustainability Strategy, launched in fall 2024. CPMA turned to the Index's comprehensive framework to structure and guide discussions regarding the sustainability landscape. With members spanning the entire fresh produce supply chain, CPMA also used the Index to assess and identify the most relevant and high-impact sustainability priorities for itself and its members.

Since then, CPMA has continued to refer to the Index as a foundational document not only in shaping its own efforts, but by encouraging other organizations to consider the Index as they develop their own sustainability strategies.

→ **Learn more:**

cpma.ca



Canadian Pork Council

UTILIZING SCIENCE-BASED DATA AND INTERNATIONALLY RECOGNIZED INDICATORS.

The Canadian Pork Council (CPC) welcomes the creation of the National Index on Agri-Food Performance as an important step in positioning Canadian agriculture as a global leader in both sustainability and competitiveness.

Pork producers across Canada are committed to advancing environmental stewardship, animal care, and economic resilience. By utilizing science-based data and internationally recognized indicators, the Index lends credibility to showcase the achievements of our sector and the broader agri-food system.

In today's global marketplace, success depends not only on producing safe, high-quality food but also on demonstrating measurable leadership in sustainability. The Index enables Canada to compare its performance with international peers, highlight areas for improvement, and strengthen trust with consumers, trading partners, and governments worldwide.

The CPC is proud to be part of this collective effort on behalf of pork producers. Through transparent and reliable metrics, Canada is laying a strong foundation for long-term growth, expanding market access, fostering innovation, and reinforcing its reputation as a trusted source of sustainable, high-quality food.

Working alongside our partners, the CPC will continue to champion innovation and resilience, ensuring Canadian agriculture remains at the forefront of global standards and sets the benchmark for excellence.

→ **Learn more:**

cpc-ccp.com



Canadian Pork Council
Conseil canadien du porc



United Farmers of Alberta Co-operative Limited

MEETING THE CHANGING NEEDS OF MEMBERS
AND CUSTOMERS.

Food security and climate change are important and pressing issues facing our world today. The agri-food industry plays a vital, as well as essential, role in both. The National Index on Agri-Food Performance fosters collaboration and alignment at an industry level in Canada to define sustainability and material topics impacting the industry. It provides a summary of metrics and measurement tools available promoting a common language to communicate and measure agriculture outcomes and impacts using fact-based data. Consolidated information supports better understanding, promotion, and ongoing preservation of resources and the industry for future generations.

The United Farmers of Alberta Co-operative Limited (UFA), is an Alberta-based agricultural co-operative founded in 1909 with more than 127,000 member-owners. Their partnership in the National Index on Agri-Food Performance is focused on representing members as well as promoting and sustaining the industry and the rural way of life. UFA will use the Index to ground discussions in data and confirm changing behaviors and practices, helping them to adapt programs, products, and services to meet the changing needs of members and customers.

→ **Learn more:**

ufa.com



CropLife Canada

BUILDING THE COMMON LANGUAGE OF SUSTAINABILITY THROUGH DATA.

CropLife Canada is a national trade association representing the manufacturers, developers and distributors of pesticides and plant breeding innovations. In addition to providing farmers with tools that increase productivity and sustainability, our members also develop products used in a wide range of non-agricultural settings, including urban green spaces, public health and transportation corridors. We strongly believe Canada is a leader in sustainable agriculture and environmental stewardship, and we support these outcomes through a combination of innovation and stewardship. Our partnership with the National Index on Agri-Food Performance ensures that our collective approach to measuring sustainable outcomes is holistic, collaborative and delivers a unified picture of the contributions of Canadian agriculture to sustainability. Once established, the Index can be used to effectively demonstrate sustainable outcomes and stake Canada's place on the global stage at the forefront of sustainable agriculture.

Data related to the sustainability of Canadian agriculture is currently fragmented, consisting of a patchwork of data sets nationwide. A consistent approach to collecting, processing, and representing data is needed, and the National Index on Agri-Food Performance is positioned to fill that need. The Index has the potential to be a validated resource from which organizations like CropLife Canada can draw meaningful conclusions as to the impacts of sustainable practices. Drawing from a single data set ensures that stakeholders across the agri-food value

and supply chains speak the same language and can effectively work together toward outcomes that meet all three sustainability objectives. This will empower farmers to adopt best practices, secure the knowledge of what outcomes will be achieved, and enable industry and regulators alike to develop and bring to market innovations that will deliver sustainable outcomes. By using a common validated data set, we can ensure that the link between sustainable outcomes and plant science innovations is clear using a language that understood by all. This will help to build stakeholder and public trust in the plant science sector.

→ **Learn more:**

croplife.ca



ENVIRONMENT BLOCK INDICATORS

These Environmental Indicators address the interconnected challenges that define agriculture's future.

Climate change, soil degradation, and water stress threaten the sector's ability to produce food reliably, while biodiversity loss and habitat conversion weaken the ecosystems agriculture production depends on. At the same time, inefficient input use, waste, and packaging create pollution and squander resources, eroding public trust and economic efficiency. By capturing these pressures in a consistent way, the Indicators provide a system-wide view of environmental performance, helping the sector balance productivity with stewardship, reduce risks, and show progress toward a more resilient, trusted, and sustainable agri-food system.

- ① **CLIMATE CHANGE & GREENHOUSE GASES (GHGS)**
- ② **SOIL HEALTH**
- ③ **WATER STEWARDSHIP**
- ④ **BIODIVERSITY & AGROBIODIVERSITY**
- ⑤ **CROP INPUTS USE / MANAGEMENT**
- ⑥ **FOOD LOSS & WASTE**
- ⑦ **PACKAGING & WASTE**

ENVIRONMENT BLOCK INDICATORS

① CLIMATE CHANGE & GREENHOUSE GASES (GHGS)

This Indicator captures emissions, sequestration, and mitigation measures across farm and processing sectors. Emissions are reported in absolute terms, as a share of national totals, and, where available, per unit of agricultural output (intensity). Agricultural emissions are partially co-mingled with fisheries data but are disaggregated by feed, food, beverage, and tobacco processing subsectors. Sequestration metrics reflect carbon stored in agricultural soils, including changes in soil organic carbon. Farm practices such as conservation tillage enhance sequestration, while land conversion releases carbon. Canadian agricultural soils sequester more carbon than they emit. This Indicator supports assessments of how the agri-food sector contributes to Canada's climate commitments under the Paris Agreement and the Global Methane Pledge, including targets for GHG and nitrous oxide reductions by 2030.

2025 Update: How did it change?

The 2023 emissions data confirms that direct agricultural GHG emissions have remained stable for six years. When adjusted for net soil organic carbon change, the flat trend extends to eight years. Sector-level emissions have been stable for seven years, with a temporary increase in 2022 attributed to elevated emissions from Meat Product Manufacturing, potentially linked to regulatory changes.

Farm sector emissions as a percentage of national totals have remained unchanged for eight years. Methane remains the dominant GHG, increasing by 13.4% year-over-year. Nitrous oxide emissions declined by 12.3%, associated with improved fertilizer management. Carbon dioxide emissions fell by 28.3%, likely due to reduced fossil fuel use in agricultural operations.

Emissions intensity declined by 8.3% for chicken and 17.5% beef, while remaining flat for dairy. No new data has been made available for major crops. Soil carbon sequestration improved by 37.5% in 2023 compared to 2021, while the drastic reduction reported in 2022 was caused by a severe drought in the prairies.

Data limitations and opportunities

Sequestration estimates in the National Inventory Report (NIR) omit key components of biogenic carbon cycling. For example, enteric methane emissions from livestock are not offset by the carbon content of consumed forage, leading to an overstatement of net emissions. The Sixth Assessment Report from the International Panel on Climate Change (IPCC) distinguishes between biogenic and fossil methane, a nuance not fully reflected in current national reporting.

Additional gaps exist in accounting for carbon stored in on-farm tree biomass and long-lived livestock. The exclusion of tree-based sequestration is inconsistent with forestry sector accounting, while the omission of livestock carbon pools diverges from the treatment of wood products. For instance, carbon stored in maple syrup sugarbushes may exceed 100 Mt CO₂, yet it remains uncounted.

Sector-level emissions data remain incomplete. Several agricultural commodities are not yet tracked individually, and fuel use on farms is aggregated with fisheries in the NIR, limiting precision in attribution.

ENVIRONMENT BLOCK INDICATORS

02 SOIL HEALTH

Soil health is dynamic, shaped by climate, management practices, and local soil properties, with considerable regional variation. It plays a critical role in climate-smart agriculture by enhancing productivity, resilience, and carbon sequestration.

As proxies for assessing soil health, the Soil Health Indicator evaluates the condition and sustainability of agricultural soils, which are foundational to long-term productivity. It is composed of three core metrics: soil organic matter, soil erosion risk, and soil cover. Soil organic matter is a key determinant of soil function, influencing physical structure, nutrient retention, and microbial activity. Soil erosion is the most persistent driver of soil degradation, particularly on cultivated land, and serves as a proxy for long-term soil vulnerability. Soil cover reflects the extent to which soils are protected from erosive forces and nutrient loss through vegetation, crop residue, or snow.

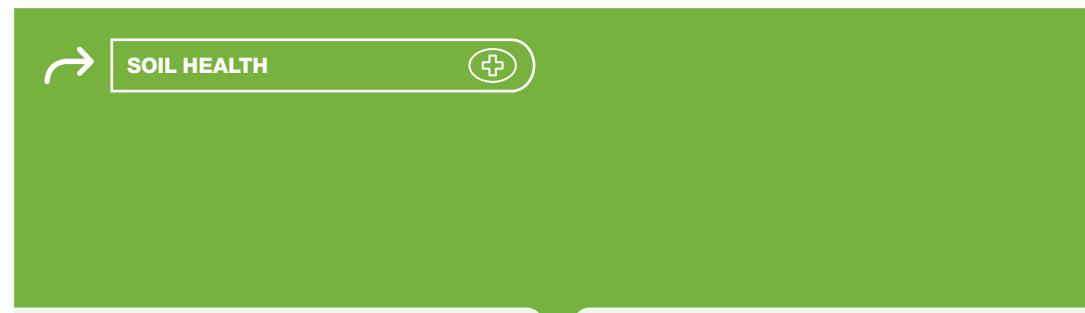
Together, these metrics provide insight into soil resilience and are used to assess the sustainability of land management practices across Canadian agriculture.

2025 Update: How did it change?

Recent data indicate contrasting changes in soil health. There has been a reduction in the number of days soil is covered by vegetation, residues, or snow (soil cover), while soil organic matter levels have remained stable, ranging between 77 and 79, from 2001 to 2021. During the same period, the risk of soil erosion has decreased, reaching its lowest recorded values. Soil cover increased steadily across Canadian cropland until 2011, largely due to widespread implementation of conservation tillage that retains crop residue. However, this trend has been offset by a shift from perennial forage crops to annual crops grown for food, feed, and fuel. The risk of soil erosion has declined significantly since 1981, with the erosion risk Indicator showing a long-term downward trend followed by stabilization. Soil organic matter levels have also improved over time and recently plateaued. In recent years, diversification of crop rotations and increased use of cover crops and intercropping have emerged as promising strategies for further enhancing soil organic matter and reducing erosion risk. It is important to note that while these are national results, each indicator can vary significantly across regions.

Data limitations and opportunities

While the current Indicator captures three essential dimensions of soil health, it does not fully reflect the complexity of soil systems. Additional parameters such as compaction, biological diversity, drainage capacity, pH balance, and salinity could improve the diagnostic value of the Indicator. The development of a composite soil health index that integrates physical, chemical, and biological properties would enable more comprehensive assessments and facilitate benchmarking across regions and production systems. Such an index could also support policy evaluation and guide investment in sustainable land management practices.



2.1.1, 2.2.1 & 2.3.1 SOIL COVER, EROSION RISK, ORGANIC MATTER

Cover:

The Soil Cover Indicator summarizes the effective number of days in a year that agricultural soil is covered by vegetation, crop residue or snow.

Organic Matter:

The Soil Organic Matter Indicator shows soil organic matter trends over time, based on an index range from 0 (all land in the most undesirable category) to 100 (all land in the most desirable category).

Adapted Erosion Risk:

The Soil Erosion Risk Indicator shows performance state and trends over time, based on weighting the percentage of agricultural land in each indicator class. For the purpose of the National Index this indicator has been adapted such that the index ranges from 0 (all land in the most desirable category) to 100 (all land in the most undesirable category).



Sources: Agriculture and Agri-Food Canada. (n.d.). Soil cover indicator. Government of Canada. / Agriculture and Agri-Food Canada. (n.d.). Soil erosion risk indicator. Government of Canada. / Agriculture and Agri-Food Canada. (n.d.). Soil organic matter indicator. Government of Canada.

ENVIRONMENT BLOCK INDICATORS

③ WATER STEWARDSHIP

This Indicator evaluates the agri-food sector's impact on water resources, with emphasis on watershed-level monitoring and agricultural contributions to water quality and use. The sector is increasingly exposed to localized climate impacts, ranging from more intense rainfall and flooding to prolonged droughts and diminished seasonal snow cover, all of which heighten uncertainty around water availability and quality. The Indicator includes metrics on water withdrawals and surface water quality. Monitoring efforts, such as Health Canada's Pest Management Regulatory Agency (PMRA) Canadian Water Monitoring Program for Pesticides (CWMPP) and the Canadian Food Inspection Agency's oversight of water in food processing, contribute to environmental and public health surveillance.

2025 Update: How did it change?

Between 2021 and 2023, 83% of monitored rivers in southern Canada were classified as having fair, good, or excellent water quality, consistent with previous reporting cycles¹. At sites where water quality outcomes could be attributed solely to agricultural activity, approximately 90% were rated fair or better.

The CWMPP collected 2932 samples in 2023 with 17.8% of samples above recommended pest control products thresholds. No samples exceeded acute risk thresholds for human health.

Water use for crop production increased by 22% between 2020 and 2022, reaching 2.18 million cubic metres. This volume is comparable to 2016 levels but remains below the peak observed in 2018. Livestock water consumption totaled 1.6 million cubic metres in 2021. The sector is increasingly exposed to localized climate impacts, ranging from more intense rainfall and flooding to prolonged droughts and diminished seasonal snow cover, all of which heighten uncertainty around water availability and quality and influence the agriculture sector's water impacts and needs from year to year. In contrast, water use in beverage and tobacco manufacturing declined by 10.6% in 2021 relative to its 2019 peak.

Data limitations and opportunities

The pest control product water monitoring pilot conducted by Health Canada between 2022 and 2024 provided valuable baseline data and demonstrated the feasibility of national-scale surveillance. However, uncertainty around the transition from the 2-year pilot program into a full program raises concerns about continuity in national water monitoring. The Indicator includes metrics on water withdrawals and surface water quality. Water stress, defined as withdrawals exceeding natural replenishment, is not currently part of the measurement framework at the national scale. Current metrics do not account for regional climate variability or water use efficiency, limiting the Indicator's ability to reflect adaptive responses to drought, flood, and seasonal water deficits. Additional gaps include the lack of data on greenhouse water use and product-level water intensity, which are increasingly relevant in assessing sector-wide sustainability.

ENVIRONMENT BLOCK INDICATORS

④ BIODIVERSITY & AGROBIODIVERSITY

Biodiversity and agrobiodiversity refer to the diversity of species, genetic resources, and ecosystems within agricultural landscapes that underpin food production, ecological integrity, and long-term resilience. In the Canadian context, these concepts are central to sustainable development and are informed by the Kunming-Montreal Global Biodiversity Framework, adopted in 2022, which sets a vision for biodiversity to be valued, restored, and sustainably managed by 2050.

Due to the complexity of ecological systems and the impracticality of tracking all species, habitat change is often used as a proxy for biodiversity monitoring. This approach enables consistent assessment of land's capacity to support native species and ecological processes. Cross-sector collaboration among government, industry, and conservation organizations is essential to maintaining the ecological functionality of productive landscapes.

2025 Update: How did it change?

Between 2015 and 2020, the wildlife habitat Indicator remained stable at approximately 29.8, representing the proportion of land supporting native biodiversity. The rate of decline in habitat availability slowed from 0.08% to 0.05% during this period.

In fisheries, the proportion of key species harvested at or below approved removal reference levels has remained relatively consistent. After reaching 98% in 2020, the metric declined to 95% in 2021, then rose to 97% in both 2022 and 2023.

Land use trends between 2000 and 2020 show an expansion of annual croplands and fruit and berry production areas, while native grasslands, perennial croplands, and unimproved pastures declined. Wetland coverage also decreased slightly relative to baseline values.

Data limitations and opportunities

The biodiversity and agrobiodiversity Indicator supports sustainable agriculture by helping stakeholders monitor ecosystem services and outcomes. Current metrics lack spatial detail and are reported every two to five years, limiting timely, localized decision-making. Key drivers of biodiversity loss, such as pest control product use, invasive species, and habitat fragmentation, are poorly captured. The index focuses mainly on terrestrial vertebrates and fish, while invertebrates like pollinators remain underrepresented due to data and infrastructure gaps.

National datasets miss short-term or local changes, and regional assessments often overlook farm-level practices. Remote sensing offers large-scale potential but lacks fine-scale resolution. A hybrid approach combining long-term and biennial metrics could improve responsiveness, though feasibility is uncertain. Limited data on indicator species constrains the Index's ability to detect biodiversity shifts. Future versions should include habitat connectivity, multi-species indices, and underrepresented taxa. Farmland birds are a strong example, with accessible long-term data. Linking stressor metrics, like pest control product use, to biodiversity outcomes would deepen analysis.

ENVIRONMENT BLOCK INDICATORS

05 CROP INPUTS USE / MANAGEMENT

This Indicator assesses responsible fertilizer and pest control product use in Canadian agriculture, recognizing their role in boosting food production while reducing environmental impact. For fertilizer use, it tracks adoption of 4R Nutrient Stewardship, applying fertilizer using the right source, rate, time, and place, to support both productivity and sustainability. Canada has committed to reducing nitrous oxide emissions from fertilizer use by 30% below 2020 levels by 2030, and improving nutrient efficiency is key to meeting this target.

Responsible Pest control product use remains more difficult to quantify. As global and domestic expectations rise, including commitments from the Kunming-Montreal Global Biodiversity Framework, adopted in 2022, new metrics will be needed to better demonstrate input stewardship across Canadian cropland.

2025 Update: How did it change?

Annual reporting resets each year and is influenced by market conditions, weather, and economic factors. In 2024, 28% of the total surveyed acres reported 4R adoption. A direct result from enhanced program integrity measures introduced. Updated definitions of 4R-compliant practices and strengthened reporting protocols improved data accuracy but reduced qualifying acreage.

Despite growing awareness of 4R Nutrient Stewardship principles, adoption of advanced practices remains uneven across Canada. In Western regions, uptake declined following new requirements for field-specific nitrogen and phosphorus rates. In Ontario, stricter compliance rules, such as expanded restrictions on fall-applied nitrogen and more detailed placement criteria, have influenced implementation.

Survey data consistently show a gap between basic 4R adoption and the formalization of nutrient management plans. While early adopters remain engaged, broader uptake will require targeted outreach, stronger incentive structures, and increased collaboration with certified 4R agronomists to support continuous improvement and measurable outcomes.

Data limitations and opportunities

While Canadian farmers continue to show leadership in nutrient stewardship, there is still significant opportunity to expand the adoption of verified 4R practices through formalized nutrient management plans. Strengthening support for farmers to advance beyond basic adoption will be essential to scaling more sophisticated levels of 4R implementation.

A major gap is the lack of a responsible pest control product-specific metric. Canada does not currently measure pest control product use intensity (i.e., per hectare of cropland) nor does it have the data available to provide suitable insight on environmental impacts beyond some limited water monitoring. Given that existing indicators are either hazard or practice-based and that neither accurately captures risk, scientific validation and creation of a new indicator is proposed to track and monitor risks more accurately and to demonstrate continuous improvement in risk reduction.



RESPONSIBLE NUTRIENT USE



5.2.1 ADOPTION OF 4R NUTRIENT STEWARDSHIP PRACTICES

Percentage of total cropland farmed using 4R Nutrient Stewardship principles

In 2024



28%

4R adoption rate A, B, C

Source: Fertilizer Canada. (2025). Fertilizer Use Survey

^A Represents the aggregated results from the following crops: Canola, Spring Wheat, Feed Barley, Malt Barley, Grain Corn, and Soybean

^B Feed Barley and Malt Barley data is exclusive to MB, Soybean is exclusive to ON, and Grain Corn is exclusive to ON, QC.

^C Canola had 21,807,100 acres surveyed with a 26.2 % compliance rate. Spring Wheat had 18,616,100 with 29.9% . Feed Barley (MB) had 186,720 with 33.8%. Malt Barley (MB) had 124,480 with 8.4%. Grain Corn (QC) had 355,700 with 11.2%. Grain Corn (ON) had 2,157,500 with 7.8%. Soybean (ON) had 3,118,499 with 38.2%.

ENVIRONMENT BLOCK INDICATORS

06 FOOD LOSS & WASTE

This Indicator measures Canada's progress in minimizing food loss and waste (FLW) across the agricultural supply chain, a critical aspect of resource efficiency and sustainability. It assesses performance through two main strategies: Reduce and Repurpose. Reduce tracks the estimated tonnage of avoidable food loss from pre-harvest and processing through to distribution and retail, where primary processing and manufacturing represent the largest share of avoidable FLW in Canada. Repurpose monitors efforts to divert food from waste streams, such as government-funded waste reduction programs and the use of agricultural by-products like non-marketable wheat and canola meal for animal feed. While estimates exist, the absence of standardized, granular methodologies, such as by weight, GHG emissions, or economic cost, limits the ability to track progress and identify high-impact interventions.

2025 Update: How did it change?

The 2025 update reveals mixed and significant data gaps. A primary limitation is the time lag in the food loss data. The first set of data was in 2016 followed by 2020 – a considerable lag, making it difficult to evaluate the impact of recent initiatives. Also, a more comprehensive assessment needs to be done across all agriculture and food processing industries. The estimated avoidable food loss in the pre-harvest, storage and processing stages was 4.39 million tonnes, while the estimate for food loss in distribution and retail represented 2.28 million tonnes. For repurposing, there was a notable increase in the amount of canola meal produced for animal feed, which rose from 5.22 million tonnes in 2022 to 6.615 million tonnes in 2024. However, updated figures for two other repurposing metrics, government funding to encourage food waste reduction and the amount of non-marketable wheat used for animal feed, were not available for this update.

Data limitations and opportunities

This Indicator faces significant data challenges that limit a comprehensive assessment of recent performance. A primary limitation is the time lag in the food loss reduction data; the 2025 update continues to rely on figures from 2019, making it difficult to evaluate the impact of recent initiatives. More critically, there are major data gaps in the repurposing sub-category. The lack of updated information on government program funding and the use of non-marketable wheat for feed prevents a full analysis of progress in these areas. An opportunity exists to secure more timely and consistent data sources for all metrics to ensure this Indicator remains a robust measure of the sector's efforts to combat food loss and waste.

ENVIRONMENT BLOCK INDICATORS

07 PACKAGING & WASTE

This Indicator tracks the performance of the agriculture and agri-food sector performance in managing packaging and waste, a key component of environmental sustainability. It measures progress in waste reduction and recycling efforts through two main metrics: the recycling of pest control product and fertilizer containers and the diversion of plastic waste from landfills. These metrics provide insight into the sector's adoption of circular economy principles and its efforts to minimize its environmental footprint. Canada's national target is zero plastic waste by 2030², aligned with the Kunming-Montreal Global Biodiversity Framework's goal to eliminate plastic pollution and substantially reduce waste generation³. Industry-led initiatives such as the Canada Plastics Pact aim for 100% of plastic packaging to be reusable, recyclable, or compostable by 2025⁴. In response, food processors and retailers are introducing innovative packaging solutions that maintain food safety and quality while reducing environmental impact⁵. Improved plastic waste management at the production level also supports on-farm sustainability.

2025 Update: How did it change?

The latest data presents a mixed picture of the sector's waste management performance. The number of pest control product and fertilizer containers collected for recycling decreased from 6.2 million in 2021 to 5.6 million in 2022. It is important to note that the source for this metric, Cleanfarms, has indicated this specific metric will no longer be produced.

For plastic waste diversion, the results differ by source. The amount of residential plastic waste diverted increased from 239,874 tonnes in 2020 to 264,715 tonnes in 2022. However, non-residential plastic waste diversion decreased significantly over the same period, from 129,469 tonnes to 101,978 tonnes. This resulted in a slight decrease in the total volume of plastic waste diverted.

Data limitations and opportunities

The data for this Indicator has some significant gaps. A primary limitation is that the metric for pest control product and fertilizer container recycling is no longer being produced, creating a gap in tracking the disposal of these materials. A replacement metric will be needed for future updates. Furthermore, there is still no metric available for the "Reuse" sub-category. Developing a metric for reuse would provide a more complete picture of the sector's circular economy practices. The data for plastic recycling from Statistics Canada is reliable, though there is a time lag in its availability.

² Government of Canada: <https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/reduce-plastic-waste/need-action.html>

³ Kunming-Montreal Global Biodiversity Framework: <https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-04-en.pdf>

⁴ See Roadmap to 2025 for the complete list of targets, Canada Plastics Pact: <https://plasticspact.ca>

⁵ See company and other goals reviewed for this project: A Report on Agri-Food Sustainability Targets, October 2020: www.agrifoodindex.ca

FOOD INTEGRITY BLOCK INDICATORS

Canadians expect access to safe and high-quality food. Beyond meeting regulatory requirements, Food Integrity Indicators reflect how responsibly food is produced, processed, and marketed — from accurate labelling to transparent sourcing and distribution.

The Food Integrity block helps demonstrate credibility and accountability and strengthens the reputation of Canada's food system at home and abroad.

Food Integrity can be seen as ensuring that food which is offered for sale or sold is not only safe and of the nature, substance and quality expected by the purchaser but also captures other aspects of food production, such as the way it has been sourced, procured and distributed and being honest about those elements to consumers.⁶

It reflects how safe, accurately represented, and traceable food products are from the farm through processing to retail. It tracks six Indicators that reflect the system's ability to ensure food safety, support informed consumer choice, and protect public health.

- ⑧ **SAFE FOOD**
- ⑨ **NUTRITION INFORMATION**
- ⑩ **ANTIMICROBIAL STEWARDSHIP**
- ⑪ **ZOONOTIC DISEASE MITIGATION**
- ⑫ **TRACEABILITY IMPLEMENTATION**
- ⑬ **TRANSPARENCY & ACCURACY**

⁶ Elliott, C. (2014). Elliott Review into the integrity and assurance of food supply networks-Final report: A national food crime prevention framework. : <https://assets.publishing.service.gov.uk/media/5a7e20b740f0b62305b80fb8/elliott-review-final-report-july2014.pdf>

Food safety is critical to a sustainable agri-food system, as it encourages consumers both nationally and internationally to have confidence in and purchase Canadian food. From a supply perspective, food safety standards and regulatory oversight are critical for producers and processors to be able to access markets for their products both within Canada and internationally. Without a strong oversight of food safety, agents within the food system can lose trust in the system and look for alternate suppliers with better food safety credentials. Food safety oversight ensures that intermediate and final Canadian food and farm products are widely perceived to come with low risks and high quality.

2025 Update: How did it change?

Since the 2023 National Index pilot, reporting practices have shifted. Several datasets previously published in the Canadian Food Inspection Agency (CFIA) Departmental Results Reports, such as overall food safety compliance, inspection volumes, and recall speed are no longer reported in their original format. Updated figures show a slight improvement in the compliance rate for federally registered food processing establishments. Specifically, the percentage of establishments that addressed compliance issues upon follow-up or were brought into compliance (8.1.2.B) rose from 78.8% in 2021–22 to 79.5% in 2023–24. During the same period, CFIA's inspection workforce grew from 6,546 to 6,853 inspectors. Residue monitoring results continue to demonstrate strong performance, with compliance rates consistently above 90%. Notably, compliance rates are consistently higher for domestically produced fruits and vegetables compared to importation, underscoring the strength of Canada's regulatory oversight and quality assurance in domestic production. High compliance also indicates that pest control products are being used according to label directions.

Data limitations and opportunities

Food safety is a system of checks and balances, incorporating oversight through compliance assessments and inspections. However, for many of these metrics, updated data was not available. Beyond oversight, food safety is also shaped by outcomes, which could be reflected in indicators such as the number of food safety recalls, recalls due to allergens or mislabelling, and the incidence of food safety related illnesses.

Some of this data is readily accessible through CFIA websites, while other information, particularly from Public Health sources, is increasingly difficult to obtain. It's also important to recognize that in cases involving contaminants or emerging data, the origin of food safety incidents may lie outside Canada, whether through the importation of intermediate or final food products or via international travel.

In addition to operational metrics, it may be valuable to report results from public surveys on consumer trust in the food system. These are regularly conducted by Agriculture and Agri-Food Canada (AAFC) and the Canadian Centre for Food Integrity (CCFI), and offer insight into public confidence, a critical component of a successful food safety framework.

FOOD INTEGRITY BLOCK INDICATORS

09 NUTRITION INFORMATION

Enabling consumers to make informed and healthy food choices is a societal priority. In Canada, nutrition information is regulated to ensure transparency and comparability in the data available on packaged foods. These products must display a Nutrition Facts table that outlines energy value and nutrient content, such as fat, carbohydrates, protein, vitamins, and minerals, per standard serving size. They are also required to list ingredients in descending order by weight and declare any priority allergens.

The Nutrition information Indicator assesses how effectively Canada's agri-food system provides consumers with transparent, accurate, and accessible information about the nutritional quality of foods. These measures reflect regulatory frameworks, labelling standards, and reformulation initiatives designed to support healthier diets and reduce nutrition-related health risks. Currently, two metrics are considered: the provision of nutrition information metrics and mandatory fortification.

2025 Update: How did it change?

With respect to the information provided on Nutrition Information in the Food Integrity Block nothing formal has changed with regard to legislation since Index 2023 and the regulatory changes are identified as such in the updates. What has changed since the last version of the Index is the implementation date for some of the Nutrition Information requirements, in particular the Front of Pack Labeling requirements. This is in addition to the changes to the Nutrition Facts Panel and the ingredient list requirements implemented already.

Data limitations and opportunities

Nutrition information can be mandatory (e.g., nutrition facts tables, ingredient lists, upcoming front-of-pack labelling for nutrients of concern such as sugar, sodium, and saturated fats) or voluntary (nutrient content claims such as "source of protein" or "excellent source of protein"). Both are overseen by Health Canada and the Canadian Food Inspection Agency to prevent misleading information.⁷ Changes in the nutrition labelling legislation and regulations can have profound impacts both in terms of cost and content for food processors and raw food suppliers in Canada, and in terms of consumer decision-making and costs. This can directly impact the sustainability of the agri-food system in Canada. In terms of opportunities, data on the now-required Front of Pack labels could be added to the block as a separate element. Any recommended or legislated changes in the broad food labelling requirements could be included in future versions of this Index. The best possible data would be food product counts, in particular, for products requiring the Front of Pack labels and/or the number of products using nutrient claims. However, such data are not readily available. Access may require specialized resources such as the Mintel New Product Database, potentially through academic partnerships. Securing this type of information would improve measurement of both regulatory impact and industry response.

FOOD INTEGRITY BLOCK INDICATORS

⑩ ANTIMICROBIAL STEWARDSHIP

Antimicrobial Stewardship reflects the responsible use of antimicrobials in food animal production and the monitoring of Antimicrobial Resistance (AMR) trends in human and animal health. Antimicrobials are critical for treating infections in both humans and animals, but their overuse or misuse can accelerate the development of resistant bacteria, undermining treatment effectiveness.

In Canada, sales and use of antimicrobials for farmed and domestic animals are tracked through the Canadian Antimicrobial Resistance Surveillance System (CARSS). In parallel, CARSS also monitors resistance trends in human and animal pathogens. Together, these datasets provide an evidence base for assessing progress on antimicrobial stewardship and identifying risks to human health and the agri-food system.

2025 Update: How did it change?

Since the 2023 Index, new data have been published that expand both the coverage and timeliness of antimicrobial use and resistance trends. Regarding the Antimicrobials use, total sales for animal use were reported at 976.8 metric ton in 2023, relatively lower compared to 2022 (1,010.4 metric ton) and lower than the earlier peak of 1,111.3 metric ton) in 2018. By species, use of medically important antimicrobials per biomass has generally declined, most notably in pigs (from 163 mg/biomass in 2020 to 134 mg/biomass in 2023) and poultry (from 176.9 mg/biomass in 2020 to 68 mg/biomass in 2023). Cattle use remains comparatively lower and stable. Aquaculture has also shown a decline in use since 2022.

Data limitations and opportunities

While antimicrobial use and resistance surveillance in Canada have strengthened in recent years, important gaps remain. Current data are largely based on sales information, which provides a useful proxy but does not always reflect how antimicrobials are used on farms, for example, whether for treatment, prevention, or growth promotion. This limits the ability to link observed resistance trends directly to usage patterns. Coverage is also uneven. The data integration across the One Health spectrum, human, animal, and environmental health, remains incomplete, constraining efforts to assess the broader drivers and impacts of antimicrobial resistance.

Looking ahead, opportunities exist to strengthen the system in three ways: first, by collecting more granular, farm-level data on actual antimicrobial use practices; second, by enhancing the linkage between animal use trends and human health outcomes; and third, by developing longitudinal datasets that allow for clearer tracking of stewardship progress over time. Expanding Canada's data infrastructure in these areas would improve both domestic policy-making and international comparability, while reinforcing the credibility of Canada's antimicrobial stewardship efforts.

FOOD INTEGRITY BLOCK INDICATORS

⑪ ZOONOTIC DISEASE MITIGATION

24

Zoonotic disease mitigation refers to Canada's ability to prevent, detect, and control diseases that originate in animals but can pose risks to both animal and human health. Identifying and monitoring zoonotic diseases relevant to animal agriculture is a critical component of protecting the food system, safeguarding public health, and ensuring the well-being of farm animals. The metric under this Indicator is the Risk Surveillance, which tracks the number of cases of zoonotic animal diseases entering Canada, including diseases that are notifiable to the World Organization for Animal Health (WOAH) or have known human health impacts. This metric reflects national preparedness and border biosecurity and is reported by the Canadian Food Inspection Agency (CFIA) through its Departmental Results Reports.

2025 Update: How did it change?

According to CFIA's 2023–24 report, no cases of animal disease that pose a risk to human or animal health were detected entering Canada. This matches the result from 2020–21, maintaining a consistent record of zero identified incursions over the reporting periods. These results reflect Canada's strong regulatory controls at ports of entry, targeted import restrictions, and disease surveillance protocols for high-risk animals and products.

Data limitations and opportunities

The current Indicator provides a high-level summary but lacks detail on surveillance breadth, frequency, and detection sensitivity. It does not capture near misses, disease interceptions, or emerging zoonotic threats identified through intelligence or international alerts. Additionally, data are binary (cases/no cases) and offer no disaggregation by disease type, species, or region. The lag in public reporting also limits timeliness.

There is an opportunity to strengthen the Indicator by expanding reporting to include all notifiable and emerging zoonotic threats, including those intercepted or mitigated before entry. Enhancing data transparency and granularity, such as categorizing risk by disease or region, would support proactive risk communication. Aligning surveillance frameworks with international early warning systems (e.g., WOAH, World Health Organization) would improve preparedness. Increased public reporting frequency and One Health integration could also enhance system responsiveness and credibility.



11.1.1

NUMBER OF CASES OF ANIMAL DISEASE THAT AFFECT HUMAN AND/OR ANIMAL HEALTH THAT HAVE ENTERED INTO CANADA

Number of cases of animal disease that affect human and/or animal health that have entered into Canada

Between 2023 and 2024



0

Cases

FOOD INTEGRITY BLOCK INDICATORS

⑫ TRACEABILITY IMPLEMENTATION

Traceability in the food system ensures that products can be tracked one step forward and one step back across the supply chain. It enables rapid response to food safety incidents, protects public health, and supports transparency and consumer confidence. This Indicator includes two metrics: (i) Sector coverage of traceability requirements, which outlines the scope of sectors and activities covered by Canadian Traceability Regulations, and (ii) Number of Canadian Food Inspection Agency (CFIA) registered establishments requiring traceability, which counts the food businesses subject to traceability licensing under the Safe Food for Canadians Regulations (SFCR).

Both metrics are governed by the Canadian Food Inspection Agency (CFIA), which enforces traceability standards for food traded interprovincially and internationally.

2025 Update: How did it change?

Under SFCR, traceability requirements continue to apply to a wide range of food system actors, including importers, exporters, producers, manufacturers, distributors, storage facilities, and retailers involved in interprovincial or international trade. As of April 2025, the number of CFIA-licensed establishments requiring traceability reached 21,026, up from 18,810 in 2022, reflecting continued regulatory reach and sector participation in traceability obligations.

Data limitations and opportunities

While traceability coverage is broad under SFCR, real-time traceability capabilities vary across sectors, and data do not capture the quality of compliance or system interoperability. For instance, there is no national digital traceability standard, making it difficult to assess overall system integration or preparedness for rapid trace-back in emergencies.

Canada can strengthen traceability implementation by developing a national digital traceability framework, especially as global partners like the United States of America adopt digital record-keeping mandates under the Food Safety Modernization Act (FSMA 204) (effective 2026). Also, expanding coverage to include intra-provincial trade and evaluating compliance performance would enhance system effectiveness.

Aligning traceability protocols with international data-sharing systems and improving technology adoption across small and medium-sized enterprises would position Canada as a global leader in traceable, safe, and transparent food systems.

FOOD INTEGRITY BLOCK INDICATORS

⑬ TRANSPARENCY & ACCURACY

Transparency and accuracy are critical to protect the integrity of food systems. They provide a framework through which consumers and economic partners can assign a strong sense of social license to Canada's agri-food system; and allow regulators to benchmark progress in reducing food fraud through regulatory compliance. Together, they support a strong value proposition for trade and economic growth while creating a food environment that aligns with Canada's national food policies and strategies. In the National Index on Agri-Food Performance, transparency and accuracy was measured across three metrics: product content compliance, health claim approvals and the prevalence of food misrepresented.

2025 Update: How did it change?

Since the last report, metrics related to this Indicator have shown little change. The Canadian Food Inspection Agency (CFIA) has not updated its Departmental Results Report beyond 2021–2022, limiting the ability to evaluate progress on product content compliance.

Additionally, no new Health Claims have been approved by Health Canada since 2016. However, CFIA's Food Fraud Annual Report 2022–2023 provided updated insights into food misrepresentation. Compared to 2021–2022, more food categories were assessed, and, aside from grated hard cheese, which scored 68%, all categories achieved compositional regulatory compliance rates above 83%.

Data limitations and opportunities

As with other Indicators, the utility of metrics related to transparency and accuracy depends on the availability and quality of data. When national surveillance data on Canada's food system is outdated or unavailable, it can undermine the relevance and effectiveness of associated metrics, such as product content compliance.

Furthermore, metrics that reflect actual marketplace conditions are more informative than those focused solely on regulatory tools or mechanisms. For instance, the absence of newly approved health claims by Health Canada does not necessarily signal a lack of transparency. Health claims can only be reviewed if a stakeholder submits a dossier to Health Canada. Even if a health claim is approved, companies may choose not to use them for strategic reasons. Therefore, the approval or use of health claims should not be interpreted as a direct measure of transparency or accuracy in the food system.

A more meaningful approach might involve evaluating the prevalence of inaccurate or non-compliant health and nutrition claims on food products. This would offer a clearer picture of how information is accurately presented to consumers.

Looking ahead, there is an opportunity to identify additional metrics for the Transparency and Accuracy Indicator. These could include tracking resource allocation to compliance and surveillance initiatives, monitoring the implementation of new compliance assessment methods, and measuring the frequency of non-compliant nutrition, health, and environmental claims on food products.

ECONOMIC BLOCK INDICATORS

To support consistent and meaningful reporting on agri-food sustainability, the economic Indicators are organized into four key areas.

The first is national economic contribution, which includes metrics such as Gross Domestic Product (GDP), employment levels, and trade balance. This helps quantify the agri-food sector's role in driving economic growth, supporting jobs, and contributing to international trade.

The second Indicator is financial vibrancy and resiliency, assessed through metrics related to financial performance, investment levels, labor productivity, infrastructure quality, and supply

chain stability. These reflect the sector's ability to attract capital, maintain competitiveness, and withstand disruptions.

The third is innovation, measured through research and development activity, regulatory approvals, and the adoption of new technologies or practices. These metrics highlight the sector's capacity to evolve and respond to emerging challenges.

The fourth Indicator is sustainable finance, which captures market-based sustainable investments and funding from government or non-governmental sources for climate-related solutions. This area reflects the alignment of financial flows with long-term environmental and social goals.

- ⑭ **NATIONAL ECONOMIC CONTRIBUTION**
- ⑮ **FINANCIAL VIBRANCY & RESILIENCY**
- ⑯ **INNOVATION**
- ⑰ **SUSTAINABLE FINANCE**

ECONOMIC BLOCK INDICATORS

⑯ NATIONAL ECONOMIC CONTRIBUTION

This component provides the macroeconomic context for Agriculture and Agri-Food Sector (AAFS) sustainability. It measures the sector's contribution to the Canadian economy in both absolute terms—expressed as chained-dollar GDP (i.e., GDP adjusted for inflation)—and relative share. GDP serves as a benchmark for other sustainability metrics, such as GHG emissions per unit of output. Employment is used to assess labour input, while international trade metrics, including exports and net trade, reflect the sector's integration with the global economy—a key factor for Canada as a small open market.

2025 Update: How did it change?

In 2024, the AAFS generated higher output, with real GDP reaching \$134.5 billion, a 0.8% increase over 2023. Crop and animal production rose by 3.9%, while GDP for food, beverage, and tobacco (FBT) manufacturing and food retailing declined by 0.5% and 0.7%, respectively. Despite this, FBT manufacturing remained Canada's largest manufacturing subsector, accounting for 18% of total manufacturing GDP.

The sector's share of the national economy declined slightly from 5.99% to 5.94%, reflecting stronger growth in other industries. Employment in AAFS decreased across most subsectors, but productivity gains, particularly in primary agriculture, supported output growth. Indigenous employment in agriculture, natural resources, and utilities continued to rise, reaching 44,000 in 2024.

Agri-food exports increased modestly to \$98.9 billion (up 1%), while the trade balance narrowed to \$28.5 billion due to rising import volumes.

Data limitations and opportunities

GDP, employment, and trade data for AAFS are published regularly and are considered high-quality and internationally comparable. Statistics Canada's methodologies align with global standards, ensuring consistency and reliability.

While the Indicator is robust, future enhancements could include labour productivity metrics, aggregate employment across AAFS, and GDP/employment data for farm input industries. These additions would improve granularity and support broader analysis of sector performance.

With 80% of metrics updated in 2025, the Indicator remains a strong foundation for assessing economic sustainability. Continued refinement will support integration with environmental and social metrics in future versions of the Index.

ECONOMIC BLOCK INDICATORS

⑯ FINANCIAL VIBRANCY & RESILIENCY

This Indicator assesses the economic viability of the AAFS through financial performance, capital investment, infrastructure, and capacity utilization metrics. Key measures include net farm income, farm receipts net of program payments, and the average debt-to-asset ratio for farms. For food, beverage, and tobacco (FBT) manufacturing, return on equity (ROE) measures profitability, which is essential for its long-term economic sustainability.

Capital investment and capacity utilization reflect the sector's ability to expand future production through new technologies that improve efficiency and competitiveness. Investments in Machinery and Equipment (M&E) support productivity gains, innovation, and financial resilience. Labour availability, measured by job vacancy rates, also influences future performance. Infrastructure, measured by broadband coverage, rail capacity, and greenhouse area, supports market access, growth, and supply chain functionality.

2025 Update: How did it change?

Farm financial performance weakened in 2024. While the five-year average of net cash income rose 8.3% (2020–2024 vs. 2019–2023), farm receipts net of program payments declined 0.9% year-over-year. The debt-to-asset ratio increased from 0.149 to 0.16, reflecting higher interest rates and financial pressure on producers.

In food manufacturing, ROE declined from 8.9% in 2022 to 8.5% in 2023. Beverage manufacturing saw a sharper drop, from 7.1% to 5.7%. Despite this, capital investment in M&E rose 19% per farm to \$121,725, and 22% and 12.4% in food and beverage manufacturing, respectively, suggesting future growth and productivity gains. Investments were bolstered by government programs and strong commodity prices.

Capacity utilisation improved in food and beverage manufacturing, reaching 79.5% and 74.4% respectively. A 17% decline in job vacancies in 2023 contributed to higher production, as firms were better able to staff operations and meet demand.

Infrastructure metrics showed continued strength. Broadband coverage reached 95.8% nationally, including 80.5% in rural areas and 61.0% in First Nations communities. Rail car availability increased 5.5% to 36,528 units between 2023 and 2024, supporting logistics and trade. Greenhouse area expanded by 4% to 33.3 million square metres, reinforcing the sector's capacity to scale and diversify production.

Data limitations and opportunities

Farm-level financial data remains robust and frequently updated. FBT manufacturing is well represented, but Statistics Canada will discontinue subindustry job vacancy reporting, limiting future granularity. Continued integration of administrative data helps reduce response burden and improve data quality.

Supply chain efficiency and vulnerability are relevant but were not updated by Global Affairs Canada⁸ since 2020.

⁸ Global Affairs Canada. (2020). Vulnerability of Canadian industries to disruptions in global supply chains. <https://international.canada.ca/en/global-affairs/corporate/reports/chief-economist/global-value-chains/2020-06-vulnerability>

Innovation is a key driver of long-term economic sustainability in the AAFS. Investments in research and development (R&D) by government and industry contribute to new knowledge, technologies, and productive capacity. These include drought-tolerant crop varieties, livestock with improved feed efficiency, and precision agriculture tools that enhance profitability, resilience, and environmental performance.

Innovation also encompasses the adoption of new products, processes, and practices resulting from R&D dissemination. These contribute to cost reduction, improved efficiency, and competitiveness, while also supporting climate adaptation and resource optimization. Farm-level adoption of innovative practices is also tracked, though no new data were available this year, limiting visibility into how innovation is being applied on the ground.

Regulatory efficiency is a critical enabling condition for innovation to flourish. Metrics include approval volumes from the Canadian Food Inspection Agency (CFIA) and Health Canada, and approval speed for crop protection products by the Pest Management Regulatory Agency (PMRA). Streamlined regulatory processes can accelerate the commercialization of new technologies and reduce barriers to market entry.

2025 Update: How did it change?

Government spending on agricultural R&D declined by 3.1% in 2023 to \$874 million, according to data from the Organization for Economic Cooperation and Development (OECD). As a share of Gross Farm Receipts, public R&D investment has been in long-term decline since 2010, raising concerns about Canada's capacity to sustain innovation-led growth. Private sector in-house R&D by food and soft drink manufacturers also fell by 6.4% year-over-year to \$349 million, suggesting broader challenges in maintaining innovation momentum.

Regulatory performance improved in 2024. CFIA approvals of safe food products increased by 46.7% over 2023, indicating progress in streamlining processes. Health Canada approvals of pest control products remained unchanged in 2022. PMRA approval speed rose significantly, with Category A approvals up 105% and Category B up 9.6%, potentially accelerating access to new crop protection tools.

Data limitations and opportunities

OECD data on public R&D spending are reliable but lagged. Other innovation metrics rely on infrequent surveys or one-time publications, limiting consistency and comparability. Regulatory metrics are publicly available but may not be updated regularly. Improved tracking of farm-level adoption, along with better integration of innovation metrics with sustainability outcomes, would strengthen this Indicator and provide a clearer picture of sector progress.

No new data were available on farm-level adoption of innovation. Metrics such as published research output and Canadian contributions to agricultural journals are relevant but were not updated in this cycle.

ECONOMIC BLOCK INDICATORS

(17) SUSTAINABLE FINANCE

Sustainable finance has gained prominence in response to climate change, the low-carbon transition, and the growing need for nature-based solutions. It encompasses financial flows from both public and private sources that support environmentally sustainable investments. In the private sector, sustainable finance is increasingly driven by Environmental, Social, and Governance (ESG) reporting requirements, prompting the development of new instruments such as green bonds and climate-linked investment vehicles. These instruments help link capital markets to environmental outcomes, channeling investment toward climate and biodiversity goals.

Government spending also plays a critical role. In the Index, program funding under the On-Farm Climate Action Fund (OFCAF), introduced in Budget 2021, is used to measure public investment in climate-smart agricultural practices. This spending reflects a broader trend of governments funding climate, biodiversity, and environmental programs to accelerate sustainable transitions.

2025 Update: How did it change?

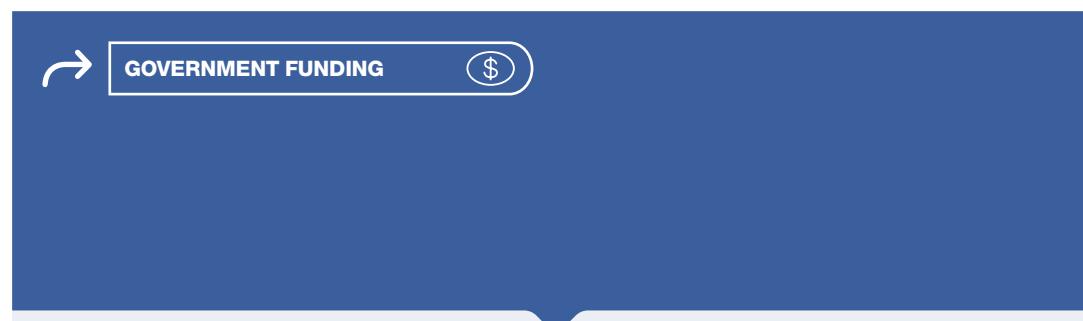
OFCAF funding⁹ was extended and increased in 2025, reaching \$704.1 million. Initially launched with \$189.9 million over five years, the program was extended in Budget 2022 and received an additional \$34.1 million in Budget 2023. Most recently, a further \$300 million was allocated to extend the program through 2028. Funding supports adoption of beneficial management practices such as cover cropping, rotational grazing, and 4R nitrogen stewardship.

Data limitations, gaps and opportunities

Despite progress, no metric has yet been established to capture private sector market-based sustainable finance within the Index. Private sector data on climate and conservation finance remain limited and inconsistent. While international commitments made at the Conference of the Parties (COP), both at COP26 and COP16 have accelerated data availability, standardized reporting frameworks are still under development. The Organization for Economic Cooperation and Development (OECD) highlights the importance of tracking not only supportive financing but also funding that may undermine climate or biodiversity goals, such as distortionary agricultural subsidies.

Efforts are underway to harmonize international methodologies for measuring sustainable finance. Emerging areas such as Indigenous capital lending and nature-based finance mechanisms are gaining traction and may be incorporated into future versions of the Index, subject to prioritization within the work plan.

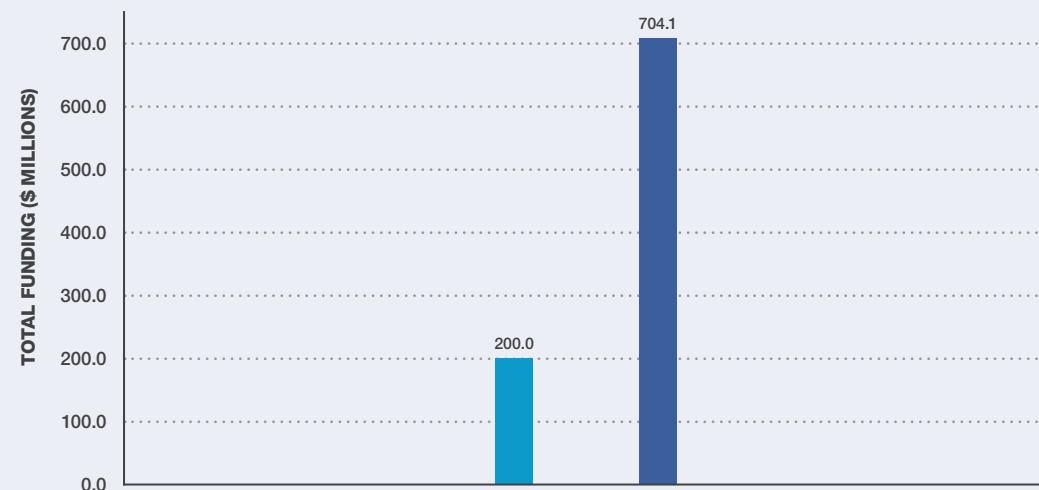
Improved data coverage and integration of private sector metrics will be essential to fully capture the scope and impact of sustainable finance in agriculture.



17.2.1 GOVERNMENT OF CANADA FUNDING

Year:
2020
2025

Total amount of funding available for farmers and other agri-businesses to adopt climate-smart practices: by year announced



Source: Agriculture and Agri-Food Canada. (2025). Agricultural Climate Solutions – On-Farm Climate Action Fund. Government of Canada.

SOCIETAL WELL-BEING BLOCK INDICATORS

The Societal Well-Being block assesses how Canada's agri-food system supports people, communities, and animals.

It tracks three Indicators: (i) Decent work for people, including job availability, wages and benefits, health and safety, training, and fair recruitment; (ii) Food security; and (iii) Animal care. Together, these Indicators test whether gains in productivity and environmental performance are matched by fairness, safety, and human well-being.

- ⑯ **DECENT WORK FOR PEOPLE**
- ⑯ **FOOD SECURITY**
- ⑯ **ANIMAL CARE**

This Indicator reflects the agri-food sector's ability to provide safe, fair, inclusive, and attractive employment across the value chain. Decent work encompasses not only the calibre and inclusiveness of employment opportunities but also the conditions that safeguard health, safety, and well-being. It is structured around four dimensions: Workplace mental health, workplace safety, inclusive and progressive workplace and attractiveness of sector as a place to work. Together, these metrics assess whether the sector offers stable, equitable, and rewarding work environments for current and future generations.

2025 Update: How did it change?

Mental health stress remains a key issue, though data are limited to a one-time survey from 2020, where 14% of farmers reported high stress. Farm fatalities declined significantly to 48 in 2020, compared to over 90 per year a decade earlier, suggesting gradual improvements in safety. Inclusion metrics reveal both progress and gaps. Since 2016, 1,013 employers have been found non-compliant with Temporary Foreign Worker regulations. Indigenous employment in agriculture increased slightly, reaching 46,000 in 2024. Gender wage parity remained stable, with women earning 79.4% of men's average weekly wages in 2025.

Attractiveness metrics present a mixed picture. 4-H membership rebounded to 19,057 in 2023–24, following a 30% increase from 2021 to 2022 as COVID-19 restrictions eased. Agricultural postsecondary enrolment rose to 19,293 students in 2022–23. Meanwhile, average weekly wages in food manufacturing climbed from \$951 in 2021 to \$1,244 in 2024, reflecting improved earning potential in the sector.

Data limitations and opportunities

Many data points rely on infrequent or one-off surveys, limiting the ability to track trends over time. For example, stress and mental health data remain outdated. Establishing recurring surveys and disaggregated reporting would offer a clearer view of emerging risks and enable more proactive interventions.

There is also a gap in measuring the uptake of intervention services, such as mental health supports or labour protection mechanisms. Tracking usage, not just availability, would offer stronger insights into how effectively worker needs are being addressed.

Wage comparisons are further complicated by regional variations in minimum and living wages. Reliable, sector-wide labour data remain difficult to access, particularly in food processing. Additionally, differences between unionized and non-unionized workplaces introduce further complexity. Expanding documentation on labour laws, compliance rates, and enforcement practices, while aligning indicators with international frameworks such as the International Labour Organization's Decent Work agenda, would strengthen comparability and support workforce retention strategies.

Food security reflects whether all individuals have consistent, physical and economic access to sufficient, safe, and nutritious food. It is a cornerstone of a sustainable food system and depends on more than food supply alone. This Indicator is divided into two components: Food Insecurity, which tracks rising food prices and the percentage of Canadians experiencing food insecurity across demographic groups and Increasing Access, which captures federal efforts to improve affordability and access to nutritious food, particularly in northern communities.

Metrics are primarily drawn from Statistics Canada and Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC).

2025 Update: How did it change?

Food insecurity metrics have risen sharply in recent years. Nationally, marginal excluded, 19.1% of Canadians lived in food-insecure households in 2023, up from 11.2% in 2020. Vulnerable groups (Children under 18, seniors) faced even higher rates. Women consistently reported slightly higher food insecurity than men.

Food price inflation remains a major driver of the Food Security Indicator. The Consumer Price Index for food reached 189.3 in 2024, compared to 169.0 in 2022 and 155.4 in 2021, indicating steep increases in food costs over a short period. In response, federal investment in food access grew. Nutrition North Canada expenditures reached \$185.8 million in 2024–25, up from \$131.3 million in 2022–23. However, local food strategy data remains outdated, with no updates since 2013.

Data limitations and opportunities

It is important to note that “food security” and “food insecurity” have different meanings, even though these terms are often used interchangeably.

- Food insecurity is the inability to access a sufficient quantity or quality of food, or the uncertainty that one will be able to do so, due to economic constraints¹⁰. In Canada, the definition and measurement of food insecurity are explicitly linked with economic access to food and are monitored at the household level.
- Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life¹¹.

This Indicator is currently limited to food insecurity as measured by the Household Food Security Survey Module (HFSSM) within the Canadian Income Survey and the food price changes. While this approach captures household-level affordability, it does not address other aspects of food security, including availability, physical access, quality, and cultural acceptability.

Current reporting includes the extent of food insecurity by including households classified as “marginal”, therefore it is an opportunity to include this in the next iteration of the Index. Aligning HFSSM data with global food security frameworks (e.g., Food and Agriculture Organization) would also improve comparability and comprehensiveness.

¹⁰ Health Canada. (2025). [Household food insecurity in Canada: Overview](#)

¹¹ Food and Agriculture Organization of the United Nations (FAO). (2006). [Food security. Policy Brief, Issue 2](#). Rome: FAO

Animal care standards are central to ethical and sustainable food systems. In Canada, these standards are established through species-specific Codes of Practice developed by the National Farm Animal Care Council (NFACC) in collaboration with industry, government, and animal welfare experts. This Indicator tracks the number of farmed animal species covered by NFACC codes and highlights the national framework guiding animal welfare on farms and during transport.

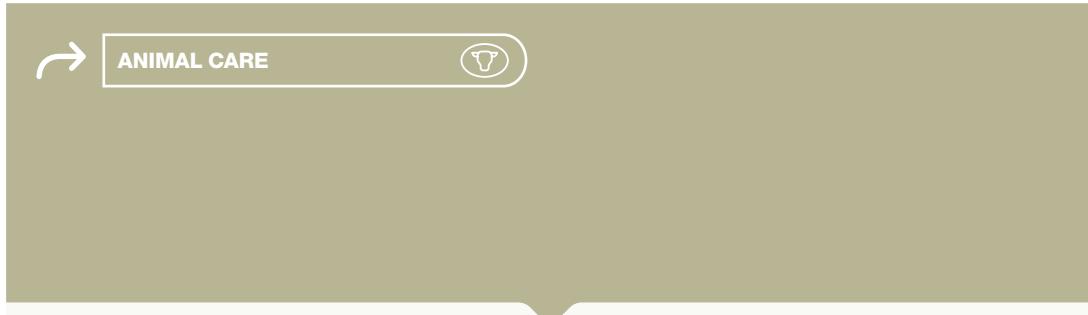
2025 Update: How did it change?

No new species codes were added since the previous reporting cycle, but existing codes are subject to periodic review and updates based on evolving science and public expectations.

Data limitations and opportunities

There is limited public reporting to measure adoption or reporting, and therefore, no measure of how consistently producers apply the codes across different regions or production systems. Additionally, no central data are available on third-party verification, auditing outcomes, or enforcement of the codes outside voluntary programs. Animal welfare outcomes (e.g., mortality, injury rates) are not directly linked to this Indicator.

There is an opportunity to expand this Indicator to capture code implementation and compliance through auditing systems or producer self-reporting. Publicly available uptake statistics could improve transparency. Integrating animal welfare outcome metrics (e.g., transport losses, on-farm injuries) and aligning Canada's standards with international animal welfare benchmarking tools (e.g., World Organization for Animal Health) would strengthen accountability and demonstrate leadership in animal care.



20.1.1 ANIMAL CARE CODES OF PRACTICE

The number and names of species of farmed animals with NFACC animal care codes



Beef cattle



Chicken, turkey
and breeders



Dairy cattle



Equine



Farmed deer



Farmed fox



Farmed mink



Farmed
salmonoid



Goats



Pigs



Pullets and
laying hens



Rabbits



Sheep



Transportation



Veal cattle

A. Funding & in-kind support

This work gratefully acknowledges:



The Centre for Agri-Food Benchmarking is funded in part by Agriculture and Agri-Food Canada under the Sustainable Canadian Agricultural Partnership's AgriAssurance Program.

The Centre for Agri-Food Benchmarking gratefully acknowledges the generous in-kind contributions from Partner organizations that supported this update (see Appendix 1). Their expertise, commitment to data sharing, and continued engagement were vital to maintaining the collaborative foundation of this work.

B. Sustainability Block Committees

We extend our sincere appreciation to the members of the four Sustainability Blocks (Environment, Food Integrity, Economic, and Societal Well-Being) for their invaluable support throughout this update.

Their collective expertise, commitment, and thoughtful contributions were instrumental in reviewing and refining the data, strengthening the credibility of the Indicators, and ensuring the Index reflects both scientific rigor and the practical realities of the agri-food sector.

The time and effort generously contributed by each Committee member have been vital to advancing this collaborative initiative. We are deeply grateful for their dedication and continued engagement in shaping a stronger, evidence-based framework for agri-food sustainability in Canada.

C. Authors of narratives

Special thanks are extended to the volunteer authors who generously contributed their time and expertise in drafting the narratives that accompany each Indicator. Their insights were instrumental in framing the Indicators within the broader sustainability context and in identifying key limitations and opportunities to strengthen future data and measurement approaches.

We are especially grateful to the following contributors for their authorship:

- Brittany Lacasse – CropLife Canada
- Cassandra Cotton – Fertilizer Canada
- Christopher Marinangeli - Protein Industries Canada
- Dan Duguay – Canadian Produce Marketing Association
- Ellen Goddard - University of Alberta
- Jiangui Liu - Government of Canada, Agriculture and Agri-Food Canada
- Jocelyn Pender – Farm Credit Canada
- Lisa Neame – Government of Alberta, Environment and Protected Areas
- Paul Renauld – Ontario Maple Syrup Producers' Association
- Richard Matern – Food Banks Canada
- Sheng Li – Government of Canada, Agriculture and Agri-Food Canada
- Silke Nebel – Birds Canada
- Susie Miller – Canadian Roundtable for Sustainable Crops

Their contributions ensured that the Index is not only a technical compilation of metrics but also an accessible and meaningful resource that highlights both what is known and where knowledge gaps remain.

D. Strategic Partners

We would also like to acknowledge the contributions of the partners who supported the production of this report:

- Report design: &then (andthen.ca)
- Communication: Winston Wilmont (winstonwilmont.ca)

Their professionalism and creativity helped elevate the Index report and ensure it is communicated with clarity and impact.

APPENDIX 1: LIST OF PARTNERS





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**NOVEMBER
2025**