

Canadian Pork Story

Farm-to-table
quality assurance.





Quality Without Compromise

The Canadian pork industry is committed to the highest standards of quality, food safety and environmental sustainability. State-of-the-art animal care, feeding and processing facilities ensure a consistent product of unsurpassed quality.

The industry takes pride in the honesty, integrity and transparency of its production and supply systems, delivering premium quality and craftsmanship in every box of Canadian pork.

Hog Production in Canada

The pork industry is the fourth largest farming industry in Canada. It contributes to the economy and prosperity of the country, creates jobs in rural and urban areas and provides abundant supplies of locally produced, affordable, high-quality protein for Canadians and millions of people around the world.

In 2021, Canada's 7,600 pork producers marketed over 28 million pigs. Farm cash receipts from the sale of hogs totalled \$6.2 billion, 7.5% of total receipts for Canadian agricultural commodities. The industry supports 31,000 farm jobs which, in turn, contribute to 103,000 direct, indirect and induced jobs across the country. The total economic activity or output of these jobs generates \$23.8 billion when farms, inputs, processing and pork exports are included.

Three-quarters of this production occurs in three provinces located in central Canada: Manitoba (29%), Ontario (26%) and Quebec (26%). Canada's national herd combines the world's finest swine breeds to meet the most demanding market specifications and consumer preferences.

Dedicated to Sustainability

Environmental stewardship is the cornerstone of Canada's agricultural policy. Canada enjoys a strong reputation for its proactive approach and government-regulated measures to safeguard the environment, considered rigorous by world standards.

Canadian pork producers share this commitment to environmental sustainability and act as stewards of the land. Pork producers work to preserve ecosystems and resources, such as soil and water, as well as minimizing their activities' environmental impacts through the implementation of beneficial agricultural practices.

A research project, *A Life Cycle Assessment of Canadian Pork Production*, completed in 2018 shows that the Canadian pork carbon footprint is among the lowest in the world.

Most Canadian processing plants have a sustainability plan incorporating efforts to address water, air, waste and energy consumption issues. This industry-wide ethic is based on sustainability as a non-competitive issue with sound collaboration on improving sustainability within the supply chain.

Land of Plenty

Canada's northern climate, vast open spaces and low population densities provide an excellent growing environment for the commercial production of high-quality premium hogs and world-class breeding stock. Canada has a bountiful supply of natural resources, fresh water and clean air.

Low Hog Density

The sheer scale of Canada's land mass (9.2 million hectares) enables the country to be a major food producer with less than 5% of its land dedicated to agriculture. Livestock production is spread over such a large area that animal density is low, despite the size of these industries. In hog production, there is only one animal for every 5 hectares of arable farmland, resulting in a low hog density of just 0.2 head/hectare.

Unique Climatic Advantages

The wide temperature range of Canada's four-season climate is highly beneficial to hog production.

- Cold winters provide a natural "rest period" for soils while suppressing plant pests and many livestock diseases that might thrive in warmer zones;
- Moderate summer temperatures are conducive to healthy, productive herds.

The natural combination of pristine lands and ideal climate provides an exceptional growing environment for hogs and the high protein cereal grains that give Canadian pork its distinctive colour, taste and texture.





Canadian Swine Breeds

Major breeds utilized in Canada's national herd predominantly include Yorkshire (42%), Landrace (32%) and Duroc (25%).

In addition, there are smaller populations of specialty breeds sometimes referred to as heirloom or heritage breeds. Notable examples include the Hampshire, Pietrain and Berkshire. Each breed has distinct characteristics.



The Canadian Yorkshire, also called the Large White, has come to represent the ultimate in sow productivity; it plays an increasing role in meeting consumer demand for high-quality pork.



The Canadian Landrace is well known for its temperament, longevity, and prolific reproduction. It is highly desired for its average daily gain, feed conversion and high-quality carcass.



The Duroc breed dominates the male lines in Canada and is known for its solid muscle structure, pinkish-red meat colour and excellent overall carcass qualities.

High-Quality Feed Equals Outstanding Pork

Canada's soil, climate and abundant space combine to produce a bountiful supply of high-quality feed grains. Canada produces approximately 28 million tonnes of feed grains annually with 35% to 45% of that volume used by the hog industry. The major grains used in commercial hog production are corn (54%), barley (29%) and feed wheat (12%). In addition, the industry consumes some 1.4 million tonnes of soy and canola protein annually.

Feed mix is a significant factor in determining the taste and flavour of the meat, primarily affecting the fat composition, which also contributes to meat colour and firmness. Canada's pork industry can tailor feed ratios to suit consumer preferences at home and abroad.

All Canadian pork is produced without added hormones.

Canadian Swine Genetics and Research

Canada has established a solid reputation in swine genetics based on five decades of export performance and over a hundred years of purebred breeding experience. In Canada, quality grading systems have been in place for the past fifty years, advancing carcass and

meat quality characteristics to the highest levels. These advancements have enabled Canada to continually improve carcass quality and maintain uniformity.

Canada's advantage in swine genetics began in large measure with a national hog-grading system that rewarded lean carcasses, which in turn influenced genetic selection. Hog grading now varies among provinces and plants within provinces, but much of the emphasis is now on meat characteristics including tenderness, flavour and colour.

Significant gains are being made in harmonizing genetics with feed rations and housing systems to develop specialized lines of natural and organic pork. In addition, artificial insemination is being applied to 75% of the sow herd through government-accredited centres.

Research & Development

Canada has led the world in swine research and pork product development. Many successes have come from collaborations between breeding companies. Developments include software to evaluate an animal's strength, aiding in the genetic evaluation of livestock and a national scoring and genetic evaluation system of hog conformation traits.

Canadian Pork Excellence

Canadian Pork Excellence (CPE) is the national platform for three on-farm programs that support on-farm quality assurance. These are Traceability, Food Safety and Animal Care.

Traceability

Canada is the only country in North America to implement a mandatory identification and traceability system for pigs to protect herd health. This program is called PigTRACE and is administered by the Canadian Pork Council with support from Agriculture Canada.

Monitored and enforced by the Canadian Food Inspection Agency (CFIA), Canada's system includes five functions essential for delivering livestock identification and traceability information: Premise Identification, Animal Identification, Animal Movement Reporting, Efficient Movement Reporting Tools and Mandatory Participation.

PigTRACE provides confidence to the global supply chain by providing demonstrable source verification and strengthens Canada's biosecurity systems to ensure high health herd status.

Animal Care

PigCARE is an auditable program that examines the environment, comfort, nutrition, health and housing of pigs to ensure the highest standards of animal care are maintained. It demonstrates to the value chain how producers care for their animals.

It is based on the National Farm Animal Care Council (NFACC) Codes of Practice for pigs (2014). The NFACC Codes of Practice are nationally developed guidelines for the care and handling of farm animals in Canada.

The transport of animals is regulated by CFIA. Animals treated well and protected from stress arrive at their destination in far better condition. Humane transport of animals is a joint responsibility of all supply chain partners from production to processing. Animal welfare is the prime consideration in animal transportation.

Food Safety

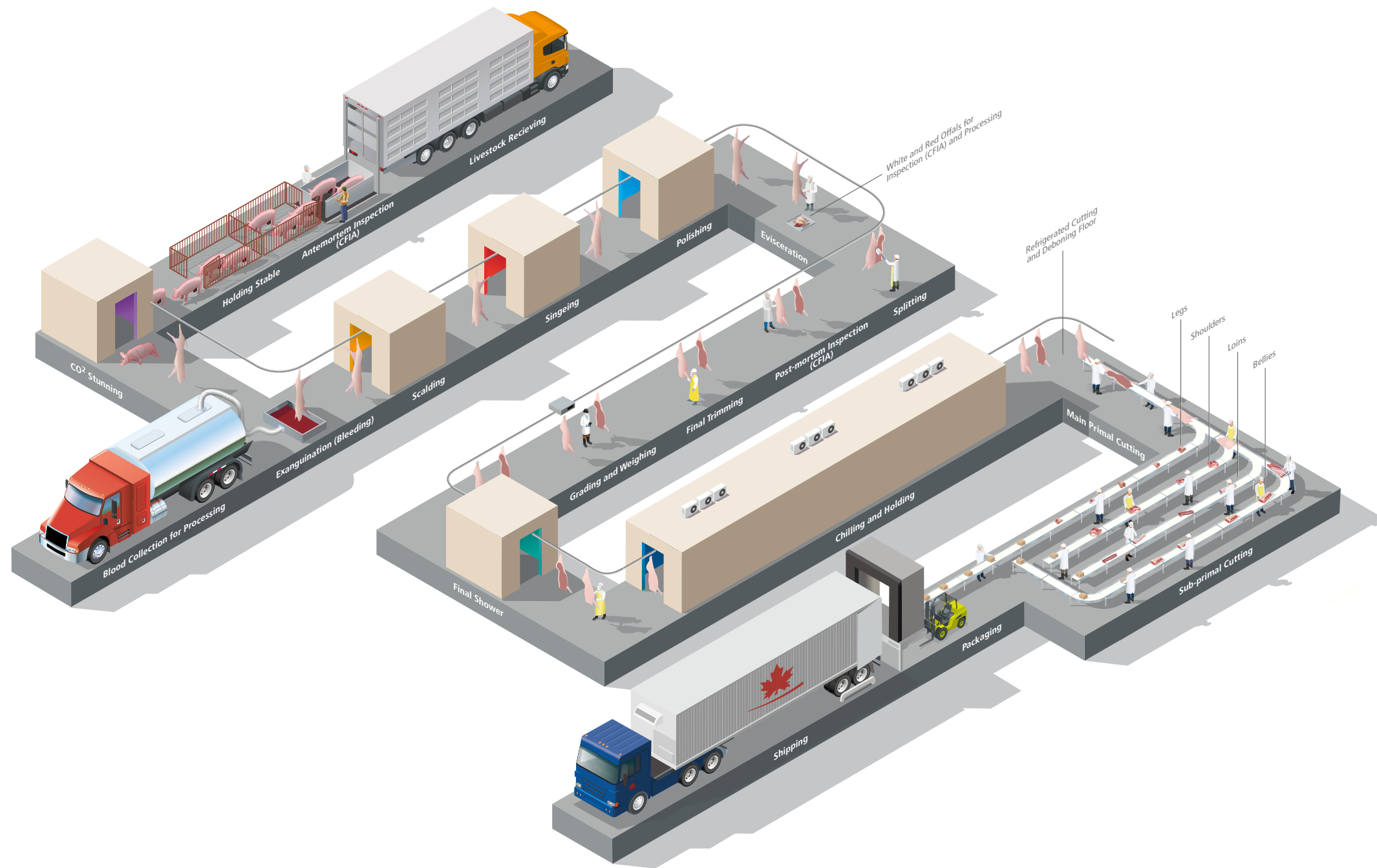
PigSAFE promotes and ensures best on-farm practices to reduce or eliminate potential hazards.

Formerly known as Canadian Quality Assurance, launched in 1998, the program is administered by the Canadian Pork Council and delivered by each provincial association. PigSAFE is based on HACCP (Hazard Analysis Critical Control Point) principles that require detailed record-keeping and protocols that are validated annually by an official auditor. It is an auditable program with objective questions and precise Standard Operating Procedures (SOP) and is the basis for maintaining and accessing new international markets.

Medication use in food animal production is closely monitored in Canada through rigorous sampling and inspection programs. The PigSAFE program requires detailed accounting of all medication usage.

All Canadian pork is produced without added hormones.





Processing Plants and Federal Inspection

The Canadian Food Inspection Agency (CFIA) safeguards Canada's food supply through the enforcement of Canada's Meat Inspection Act under federal law.

CFIA-approved HACCP (Hazard Analysis and Critical Control Point) systems are mandatory for all Canadian federally registered meat processing plants.

From the moment animals arrive at the abattoir and through all stages of processing, CFIA veterinarians and inspectors verify the hygiene and safety of the meat. All federally registered processing plants are inspected to the same exacting standards. Each and every animal is inspected post-slaughter by veterinarians and inspectors to ensure that animals are disease-free.

CFIA enforces stringent standards with respect to disinfection, hygiene, product monitoring, packing and labelling to ensure compliance with the requirements set out in Canada's Meat Inspection Act. The Canadian Meat Inspection Legend (shown right) represents the consumer's assurance of excellence.





Safeguards Against Disease Outbreaks

The Canadian industry has been proactive in developing a comprehensive action plan in the rare event of a foreign animal disease outbreak or food safety crisis. A national identification and traceability system is in place to monitor swine movement so that any outbreaks can be contained and controlled.

Biosecurity

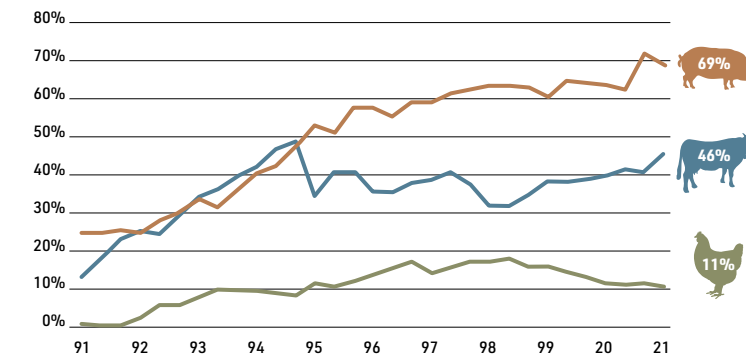
Biosecurity is the term used to describe the measures and procedures needed to protect a population against the introduction and spread of pathogens. Canada's pork producers follow specialized biosecurity programs that include:

- BARN SEPARATION DISTANCES** | to prevent the spread of airborne diseases.
- ENTRY PROTOCOLS** | restricting barn access and requiring the wearing of special clothing.
- STOCK QUARANTINE** | to isolate new animals from the herd for a specified period.
- BARN ENVIRONMENTAL CONTROLS** | Effective standards for ventilation, temperature, humidity and airflow.

Distribution Systems

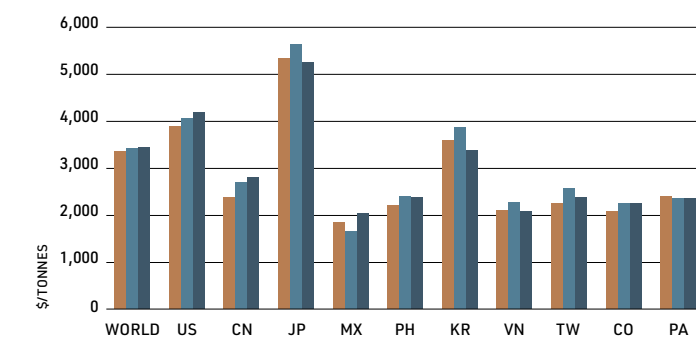
Canada's geographic location to key markets and extensive transportation infrastructure network enables rapid and efficient delivery to the most demanding markets. Canada has developed world-class marine, rail, road and air transportation capabilities engineered to deliver safe and secure pork products to the world's table.

In 2021, Canada accounted for 12% of world pork exports (volume), shipping to 77 countries. Total exported volume exceeded 1.43 million tonnes with a value of \$4.95 billion.



Canadian Meat Exports % of Production 1991-2021

Source: Statistics Canada
 — PORK — BEEF — CHICKEN



Top Unit Value Markets Canadian Pork Exports 2019-2021

Source: Statistics Canada
 — 2019 — 2020 — 2021

Canada is the third-largest global exporter of pork.

Exports are an integral part of the Canadian pork industry. Canadian abattoirs and processing plants prioritize the fulfillment of highly specific orders, demonstrating an ability to tailor their output to the precise requirements of foreign buyers.



1 Genetic Inputs
 The Canadian pork industry chooses performance-based breeds, sires, lines, and genotypes selected to consistently deliver the best combination of overall muscle and meat quality as defined by yield, colour, pH, intramuscular fat, tenderness and cooking loss.

2 Nutritional Inputs
 Feed is a variable that can influence the quality of meat, affecting fat composition, which influences the meat's firmness and colour, and the rancidity detection rate. Feed grains used in Canadian hog production include barley (which offers an excellent combination of amino acids and high lysine content), corn, feed wheat and soy or canola protein.

3 On-Farm Food Safety Systems
 Canadian Pork Excellence (CPE) is the national platform for three on-farm programs that support on-farm quality assurance including Traceability, Food Safety and Animal Care. CPE is an auditable program based on HACCP principles.

4 Transportation
 The care, handling, movement and transportation of pigs to processing plants represent important quality control points and pre-slaughter factors that directly influence pork quality. Canadian pork producers and trucking specialists take direct responsibility to minimize the effects of transportation on meat quality through certified animal care and transportation programs designed to reduce stress.

5 Pre-Slaughter Handling
 Pre-slaughter care and handling are equally important to reducing stress and maximizing the production of high-quality meat. Canadian pork processors take great care in reducing pre-slaughter stress to achieve the best possible pork quality.

6 Stun, Stick and Early Post-mortem Handling of Carcasses
 Stun and early post-mortem quality assurance systems are crucial to achieving desirable meat quality attributes. Canadian pork processors implement detailed early post-mortem steps to maintain quick and efficient post-mortem handling of carcasses.

7 Handling of Carcass During Evisceration
 The handling of the carcass during evisceration is a very important stage of processing. Delays in carcass-processing rates during this stage have been linked to lighter-colour meat and poor water-holding capacity. Canadian pork processors focus on the shortest time possible from stick to chill to optimize pork carcass and meat quality.

8 Carcass Chilling
 The purpose of any chilling system is to remove the heat from the carcass as quickly as possible after slaughter. This affects pork quality and is essential for retarding microbial growth. Rapid chilling can diminish the exudative (drip loss) and pale characteristics of susceptible muscles. Canadian pork processors use chilling systems that can remove heat from carcasses without compromising tenderness.

9 Fabrication and Workmanship
 Poor workmanship directly affects meat quality, profitability, competitiveness and customer satisfaction. Excessive trim reduces the value of premium cuts. Canadian pork processors implement comprehensive procedures and continuous monitoring to assure quality and accuracy of specifications throughout the entire fabrication, packing and boxing process.

10 Distribution and Container Movement
 Canada's geographic location to key markets and extensive transportation infrastructure enable rapid and efficient delivery to the most demanding markets. Canadian pork processors utilize world-class marine, rail, road and air transportation capabilities to deliver safe and secure pork products to over one hundred countries every year.

Delivering Premium Quality

Canadian hog producers and pork processors are recognized in Canada and around the world for producing premium-quality pork. Canada is the only North American country to implement a mandatory national swine identification and traceability system. And like all Canadian pork, Verified Canadian Pork™ is raised without added growth hormones.

Verified Canadian Pork™ offers farm-to-table quality assurance.

- ✓ On-farm food safety and quality assurance systems.
- ✓ Responsible animal care.
- ✓ Mandatory traceability.
- ✓ No added hormones, like all Canadian pork.
- ✓ HACCP-approved processing facilities.
- ✓ World-class meat inspection system.
- ✓ Powerhouse of nutrition.



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Canadian Pork Council
Conseil canadien du porc



CANADIAN MEAT COUNCIL
CONSEIL DES VIANDES DU CANADA

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