



**HUMANE SOCIETY
INTERNATIONAL**
CANADA

Untold Suffering: The Tragic Impact of Barn Fires on Animals

A Five-Year Review of Barn Fires in Canada



Photo Credit: Firefighter Shane MacKichan



Executive Summary

The purpose of this report is to provide an in-depth analysis of barn fires in Canada, covering barn fire incidences, causes, and impacts. Humane Society International/Canada has compiled the following information from a five-year-period, 2015-2019, to illustrate the alarmingly high rates of barn fires and the tragic farm animal deaths that frequently occur as a result. Based on information from news reports, this report explains the leading causes of barn fires with animal deaths, the importance of considering fire safety on behalf of animals, the risks to humans (including first responders), and the losses for farmers and their communities. It also highlights relevant laws and regulations and concludes with recommendations to prevent these terrible fires.

Key Points:

- From 2015-2019, at least **740,000** farm animals died due to barn fires in Canada. Given that not all fires are reported in the media and that not all media reports include a figure for the number of animals who died, especially for smaller fires, this figure is undoubtedly a conservative estimate of the actual number of farm animal deaths that have occurred.
- Quebec and Ontario have staggeringly high rates of barn fire incidents compared to other

provinces. However, this could be partially due to stricter regulations and more consistent media attention in these provinces, which has led to greater awareness of the issue.

- It is difficult to determine the causes of the majority of barn fires where animals perished. For the incidents where a cause can be determined or at least suspected, the primary cause is an electrical failure, followed by mechanical failure.
- There are more **chicken deaths** compared to any other species; in fact, they make up **74%** of all barn fire deaths in the past five years. This is likely due to the disproportionately large number of chickens in the animal agriculture industry, and to their being raised in densely-packed industrial facilities.
- Fire does not discriminate and can impact small hobby farms to large industrial complexes, from meat processors to breeders to sanctuaries. Media reports account for a range of animal deaths, from 1 death of a farm animal to 100,000 chicken deaths.
- There are no federal or provincial laws in Canada that are specifically designed to protect farm animals from barn fires.

Introduction to Barn Fires in Canada

A barn fire negatively impacts everyone involved, animals, farmers, employers, first responders, and entire communities. Entire barns can completely disappear in as little as 13 minutes, as reported in one case. However, the devastation is greatly magnified when there is a loss of even one animal. It is a tragic moment when any animal loses its life to fire, regardless of whether that animal was being raised for food or as a family pet. Several farmers have expressed their sorrow over losing their animals. Yet the sad reality is that a barn fire occurs every 2.4 days on average in Ontario alone (Farmers Forum, 2016). Hundreds of thousands of animals perish each year because of the lack of mandated fire protection for barn structures and larger livestock facilities.

There is greater media attention to barn fires where animals have perished, but this reporting predominantly resides in Eastern Canada. In general, issues affecting farm animals sometimes receive less attention in the media or when officials are reporting on cases of fire, especially compared to incidents at zoos or animal shelters. In fact, officials do not have a duty to report animal deaths from barn fires to the public, making it difficult to truly understand the scope and urgency of the issue. However, no one believes it is acceptable for a farm animal to suffer, even if they are intended to become food. The loss of any animal's life to fire is a tragedy. Additionally, the animals who survived, the farm owners, and their communities suffer too.

“ You hear the screams of the animals inside and see farmers reduced to tears right in front of you. It's horrific, something you don't forget. ”

*- Perth East and West Perth Fire Chief
Bill Hunter, Ontario (Cardwell, 2016)*

When a fire breaks out, animals are trapped inside their enclosures, and they either are struggling to escape or become paralyzed by fear. Depending on the rate of the fire and other factors, they may die of smoke inhalation, heat stress, be burned alive, or they may initially survive

the fire, but will be euthanized later due to burns, infection, or lung damage.

The most common injury farmers suffer from is nervous shock and they are taken to the hospital for treatment, as the trauma associated with a barn fire can later develop into post-traumatic stress disorder (PTSD). There are numerous media interviews with farmers, their neighbours, members of their communities, and firefighters that account for the screams and cries they heard from cows or pigs trapped inside burning buildings. The screams can last for hours as these animals burn alive.

Barn fires are a concern for any farm owner, whether they are a fifth-generation family farmer or a corporate office running an industrial-scale operation. Barn fires have impacted people across the board from the largest meat processors in Quebec and the largest milk producers in Manitoba to farm schools, pet therapy places, and refuges for rescued animals. Barn fires happen at research sites, organic farms, breeding and genetic specialty farms, and even at state-of-the-art facilities. Since no one is immune, it is critical for federal, provincial, and territorial codes and regulations to require the proper preventive and proactive safety measures to be put in place. Coupled with education, this can help to ensure the safety and well-being of farmers, workers, neighbours, firefighters, and animals.

Laws and Regulations Related to Barn Fire Prevention

In Canada, the National Farm Building Code (1995), developed under the leadership of the National Research Council (NRC), stipulates the requirements for the construction of farm buildings. It provides relaxations of the requirements in the National Building Code to address the particular needs of farm buildings – namely that they are generally of “low-human occupancy”. The code requires very little in the way of fire prevention measures, and the fire and structural requirements that do exist have not been reviewed or revised since the 1995 edition of the National Farm Building Code (NFBC).

Given that the NFBC is outdated, farm building requirements related to fire protection, structural design, and dangerous goods are being discussed for publication in the 2020 editions of the National Building Code (NBC) and National Fire Code (NFC) (NRC, 2020).

However, according to the Canadian Commission on Building and Fire Codes (CCBFC), which is responsible for developing these model codes, the requirements for large farm buildings are intended to safeguard humans and not animals, who are considered “property”:

“The proposed provisions comprise a model set of minimum requirements for farm buildings, with the objective “to limit the probability that, as a result of the design, construction or demolition of the building, a person in or adjacent to the building will be exposed to an unacceptable risk of injury,” more specifically, to limit the probability that a person will be exposed to an unacceptable risk of injury due to fire, structural failure and other hazards.” Further, the intent is to “provide a minimum level of safety for persons normally found in farm buildings ... property protection is not included” (CCBFC, 2020b).

In comparison, the National Fire Protection Association (NFPA) in the United States has published a code specifically for facilities that house animals (including barns, stables, animal shelters, zoos and more), which makes clear that animals must be protected from fire. Indeed, the scope of the NFPA 150, the “Fire and Life Safety in Animal Housing Facilities Code”, recognizes the following fundamental principles: “(1) Animals are sentient beings with a value greater than that of simple property. (2) Animals, both domesticated and feral, lack the ability of self-preservation when housed in buildings and other structures. (3) Current building, fire, and life safety codes do not address the life safety of the animal occupants. The requirements found in NFPA 150 are written with the intention that animal housing facilities will continue to be designed, constructed, and maintained in accordance with the applicable building, fire, and life safety codes. The requirements herein are not intended to replace or rewrite the basic requirements for the human occupants. Instead, NFPA 150 provides additional minimum requirements for the protection of the animal occupants and the human occupants who interact with those animals in these facilities” (NFPA, 2019).

The only other relevant national code(s) are the Codes of Practice developed by the National Farm Animal Care Council (NFAACC). These are not regulations, but rather sets of requirements and recommendations issued for each major animal agricultural industry by a group of representatives from the livestock industry and food companies, as well as experts on animal welfare. They are enforced by the industries they pertain to. In

general, the newer Codes of Practice require emergency preparedness to maintain animal welfare, but they only recommend concrete practices such as fire extinguishers and alarms. It is reasonable to expect that all Codes will include this recommendation moving forward.

At the provincial and territorial level, there is more variation. As noted by the National Research Council, “Under Canada’s constitution, provinces and territories regulate the design and construction of new houses and buildings, and the maintenance and operation of fire safety systems in existing buildings. While the national model codes (Building, Fire, Plumbing, Energy Codes) are prepared centrally under the direction of the Canadian Commission on Building and Fire Codes, adoption and enforcement of the Codes are the responsibility of the provincial and territorial authorities having jurisdiction” (NRC, 2019). Some provinces and territories have adopted the national building and fire codes, sometimes with modifications, while others (Alberta, British Columbia, Ontario and Quebec) have developed their own codes “based on the national model codes” (NRC, 2019). This has created somewhat of a patchwork system with inconsistent requirements across the country, since provinces and territories can decide the extent to which barn fire prevention must be considered during construction.



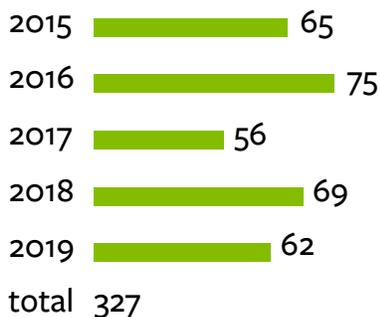
Given the high incidences of barn fires in Canada annually and the astounding number of animals who have suffered as a result, HSI/Canada urges the NRC and CCBFC to revise the proposed amendments to the National Building Code and National Fire Code to include specific fire safety requirements for farm buildings that house animals. As acknowledged by the NFPA in the U.S., these buildings must be treated

differently from structures that solely house inanimate objects, like hay and other farming equipment, to reduce the risk of animal deaths by fire. All provinces and territories must then adopt and enforce these updated, more comprehensive codes. Without recognition of the fact that animals deserve protection from death by fire in the national model codes, it will be nearly impossible to meaningfully address the gaps that currently exist in fire prevention on farms.

Animal Deaths Per Year

The statistics from this report were primarily acquired from media articles covering barn fire incidents. The numbers below are based on these news articles, but the low number of reported fires from British Columbia, Alberta, Saskatchewan, and Manitoba compared to those from Ontario and Quebec suggests that the actual numbers for these four provinces are actually much higher. Given that there are substantial farming operations in Canada’s western and central regions, it appears unlikely that they have very low rates of barn fires compared to Ontario and Quebec. Indeed, reports of fires from Alberta and Saskatchewan, in particular, include very high death counts, suggesting that only the largest and most devastating fires are reported in the media.

Deadly Barn Fires Across Canada Per Year



* A deadly barn fire is defined as a fire that claims at least one life of an animal.

Animals Killed Due to Barn Fires in Canada

<u>2015</u>	: 197,742 - 198,562
<u>2016</u>	: 181,647 - 182,804
<u>2017</u>	: 163,381 - 163,931
<u>2018</u>	: 140,123 - 142,683
<u>2019</u>	: 58,667 - 58,783
<u>total</u>	: 741,560 - 746,764

* Ranges tallied from news media reports. These numbers are tallied only from reports found and therefore, are only a partial number of the actual losses during the five-year period.

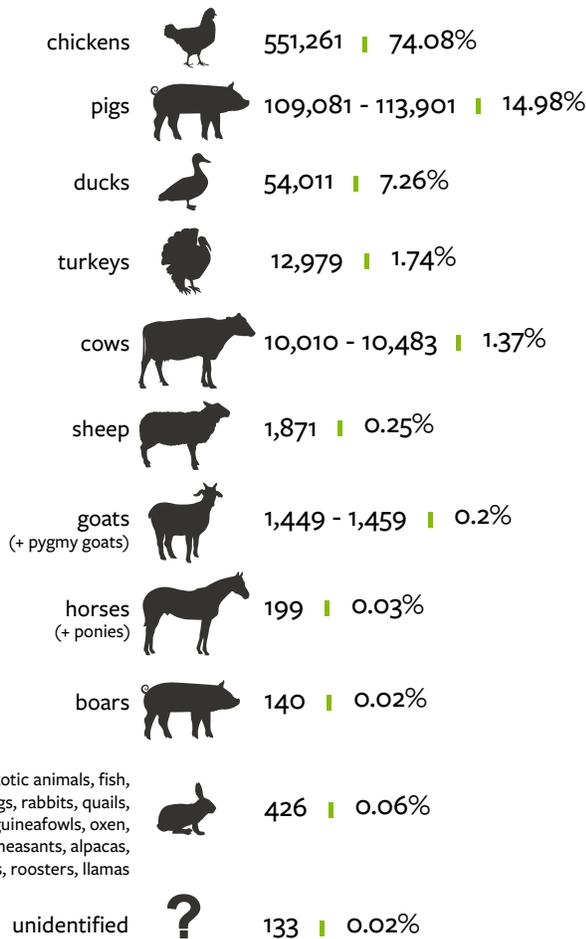
The total number of animals killed per year varies as 2019 only accounted for less than 8% of the total deaths among the five-year-period, while 2015 accounted for almost 27%. Even though these two years have a similar incident count, the number of animal fatalities in 2015 is much higher due to two of the largest fires that killed 100,000 and 60,000 chickens. The incident count is the lowest in 2017, but that year also witnessed two of the fifth largest fires, each of which claimed the lives of 30,000 chickens.

Excluding 2019, each year had at least one fire resulting in 30,000+ chicken deaths. This fact further highlights the need for fire protection, especially in large industrial animal facilities as one fire at a large-scale farm alone could account for half of the number of animal fatalities in an entire year.

The Office of the Fire Marshal (OFM) released figures of barn fires in Ontario from 2012 to 2014 reporting that 41-45% of these fires were barns containing animals. According to their office, the total number of barn fires for 2012, 2013, and 2014 was 136, 157, and 150 respectively (Doucette, 2016). Across Canada, each year, the number of incidents of animal deaths from barn fires reported by media of the 2015-2019 period roughly equate to the OFM’s total number of incidents in Ontario each year. This confirms that media reports are documenting only a fraction of the barn fire incidents that happen throughout Canada.

Species of Animals in Barn Fires

There were **twenty-one** different **species** reported to have perished in barn fires from 2015-2019. Chickens make up the majority of the animals who were killed, for two reasons: they make up the majority of the animal agriculture industry, and second, they are typically raised in densely packed spaces in industrial facilities when compared to larger species such as pigs or cows. Each year, there were multiple incidents where tens of thousands of chickens were killed. In comparison, the largest death count during this period for pigs ranged between 10,000-12,000 and was 800 for cows.



* Percentages calculated from medians of ranges provided by news media reports.

Ducks have only been victim in two incidents when identified, but rank higher in the percentage of total deaths because of one fire that saw the loss of 54,000

ducks. Incidents involving **cows** are close to **50% of all barn fires**. It is worth noting that although most news reports identify which farm animals have perished in the blaze, some reports focus only on the species that had the highest number of deaths, and will not include any other species with a smaller death toll. Unless an exact number or a range was reported, the most conservative number was used in calculating the overall death count, as an example: “several” livestock would be recorded as three lives, so the actual figures would be higher than those presented above.

Most Animals Killed in a Single Barn Fire Incident

Of the five **deadliest barn fires** that have taken place in the past five years, all claim the lives of tens of thousands of **birds**. Four incidents affected chickens and one affected ducks. Both of these species are densely packed into barn or other livestock facilities. This emphasizes the critical importance of requiring large-scale industrial farming operations to have comprehensive fire prevention measures and suppression systems. Only with improved codes and standards can these astronomical death tolls be reduced and halt unnecessary pain and suffering.

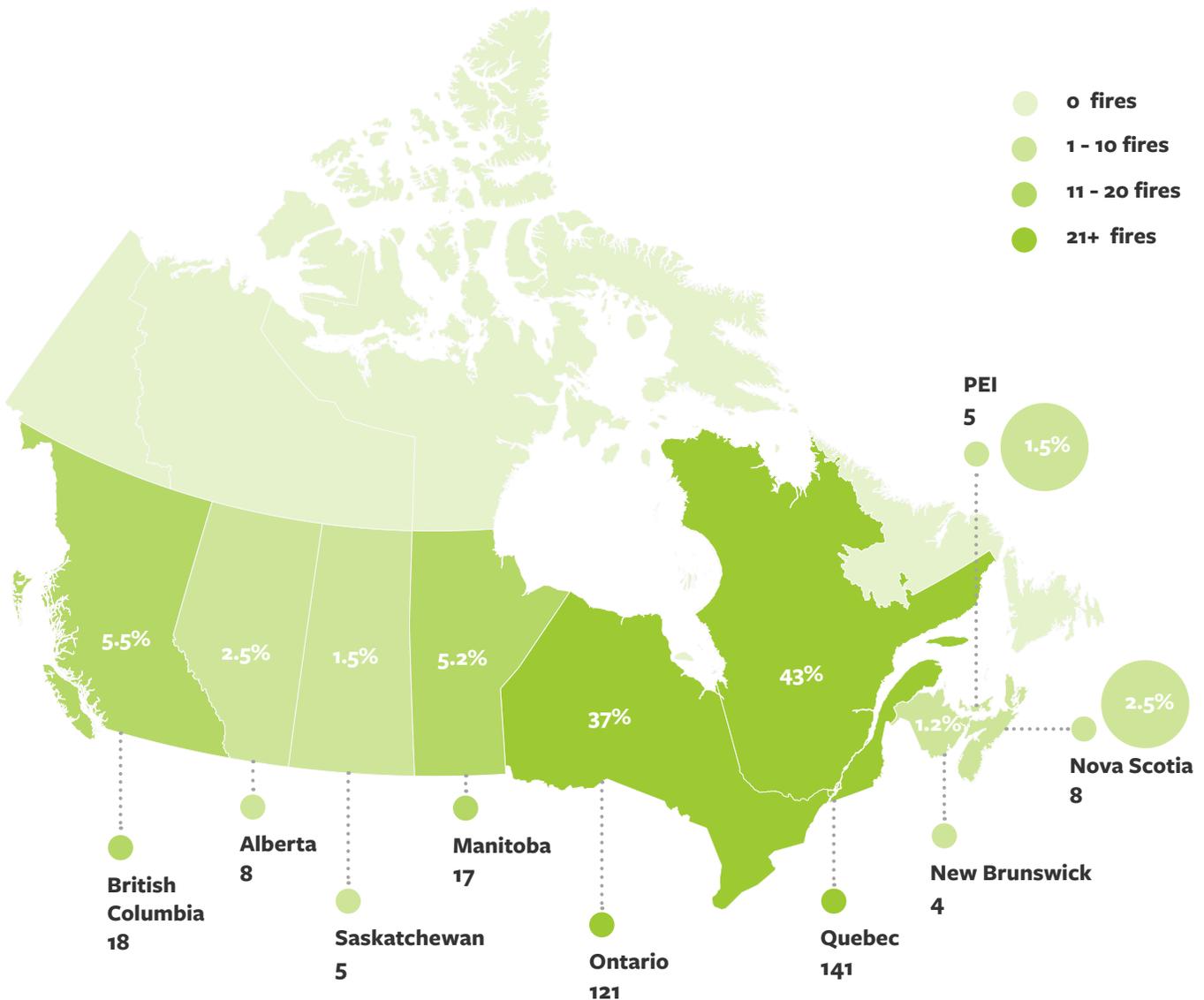
Top 5 Deadliest Barn Fires in Canada

1.  100,000 chickens | 13 March 2015
Saint-Bernard-de-Michaudville QC
2.  60,000 chickens | 28 September 2015
Abbotsford BC
3.  56,000 chickens | 29 June 2018
Riviere-Heva QC
4.  54,000 ducks | 1 January 2016
Racine QC
5.  30,000 chickens
14 October 2018 | Sheffield Mills NS
14 November 2017 | Bon Accord AB
7 November 2017 | Wickham QC

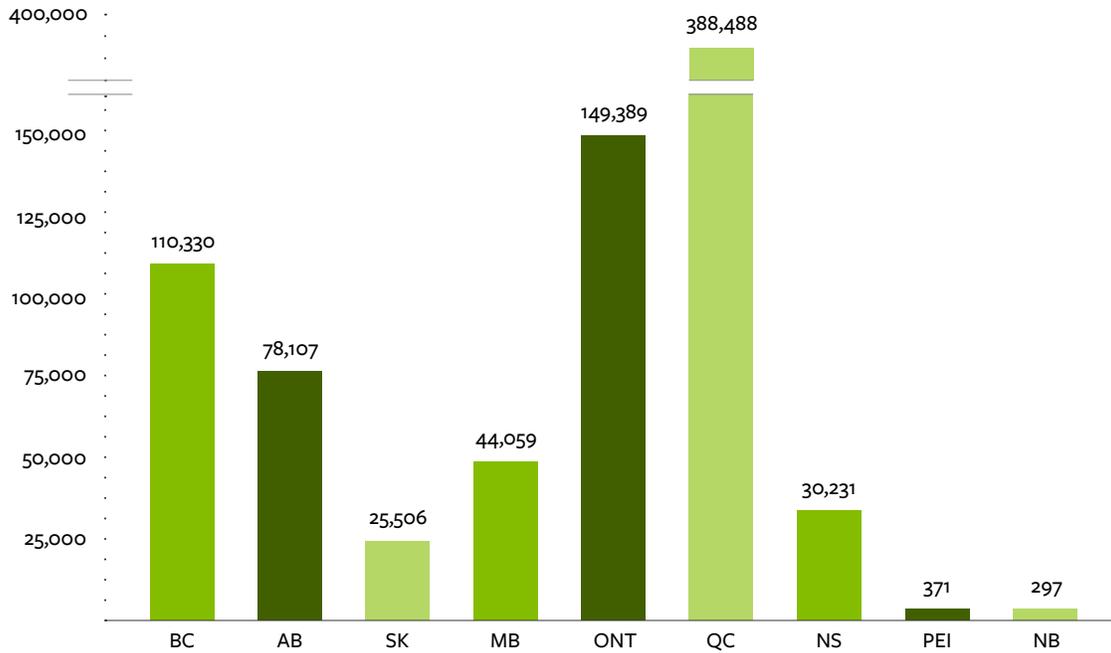
Regional Reporting by Province

Within Canada, farming is prominent throughout the provinces – as of 2016, there were nearly 200,000 farms across the country. Different geographic regions have higher concentrations of particular types of farms. Alberta has the largest distribution of beef cattle, Manitoba has the largest number of pigs, Ontario has the highest number of chickens, and Quebec has the highest concentration of dairy cattle and egg-laying hens. The Maritime provinces do not have the

larger animal livestock facilities, and there is only a small agricultural industry in the Territories. This explains the absence of reports of barn fires from the Yukon, Northwest Territories, Nunavut, and Newfoundland. In comparison, the high number of farms in Ontario and Quebec could explain, at least partially, why there are more animal deaths reported in those provinces. There is certainly a greater need for better tracking and reporting of barn fires though, particularly in B.C., Alberta, Saskatchewan, and Manitoba, where there is a lack of reporting on smaller barn fires.



Number of Barn Fire Incidents by Province 2015 - 2019



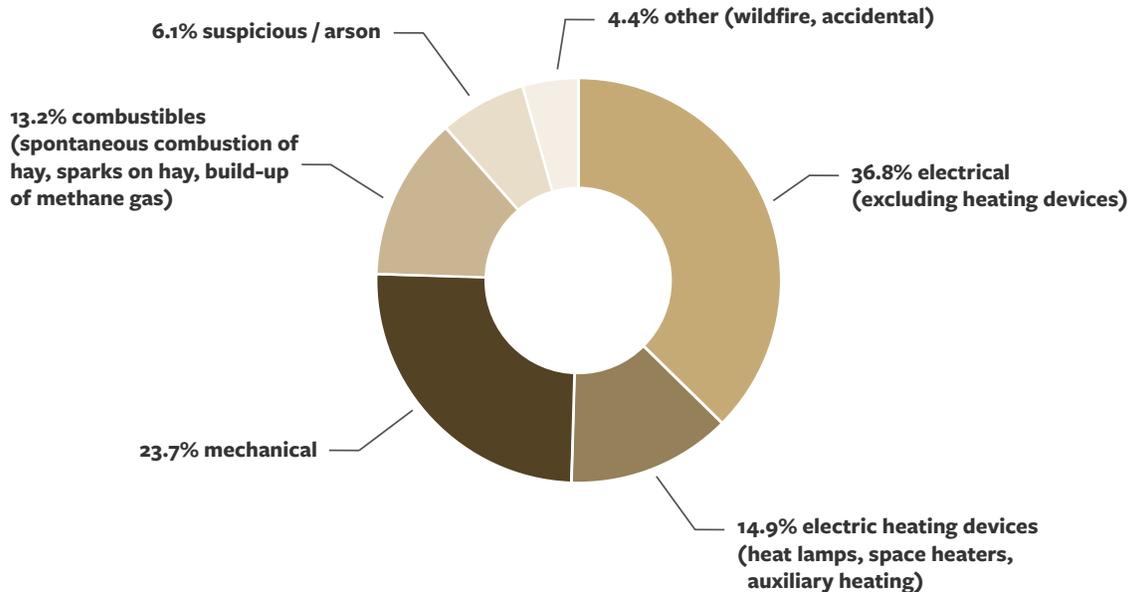
Farm Animal Deaths from Barn Fires by Province 2015 - 2019

* Numbers are a median from the ranges provided from news media articles.

Causes of Barn Fires

Out of the total of **327 barn fires** from 2015-2019, only **33%** of these were identified as having either a definitive cause or suspected cause. In some incidents, the cause was still being investigated when this report was being put together or was still being determined at the time of reporting to the public. This is unsurprising as The

Office of the Fire Marshal of Ontario has reported that roughly 50% of their barn fire cases from previous years do not have determined causes. Typically, the fire's severity makes it very challenging for fire investigators to determine a cause. However, **76%** of causes (either suspected or definitively determined) were either electrical in nature, including **electrical failure** and electric heating devices, or **mechanical failures**.



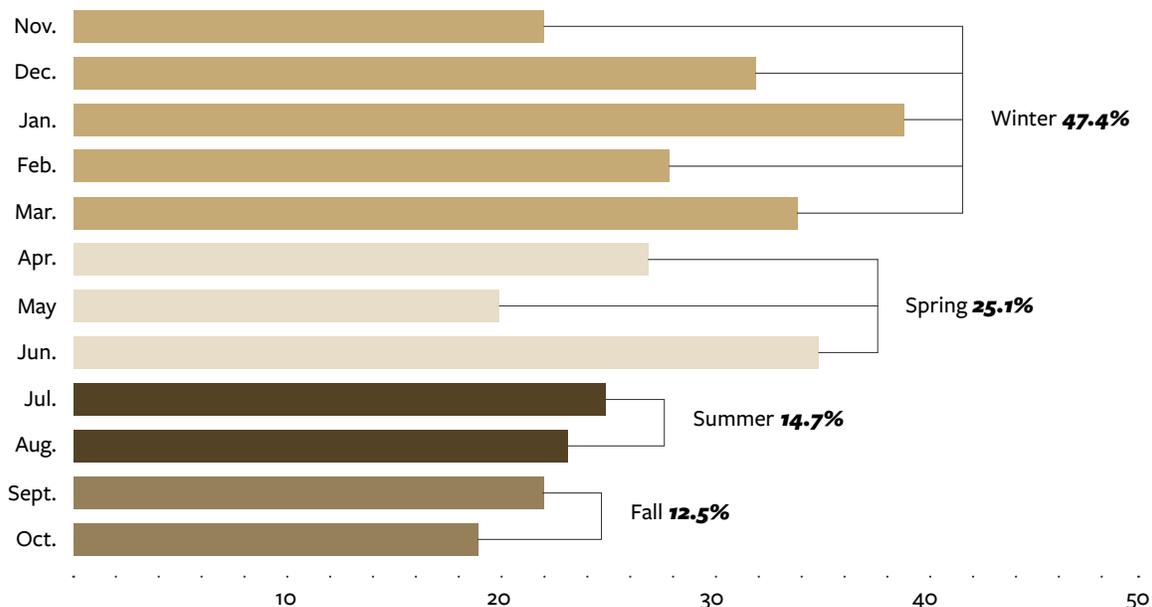
Causes of Barn Fires in Canada 2015 - 2019

Time of Year for Barn Fires

More barn fires occur during the winter months of the year. This could be due to the overuse of electrical equipment (such as heaters) or cold-induced electrical and mechanical failures. Extreme weather conditions are another factor that should be considered, yet spring incidents were higher than summer incidents. Therefore, Canada's seasons and temperatures only play a partial role in barn fire occurrences. Winter brings a difficult hardship when fighting fires and summer brings an increase in wildfire threats.

some cases. Firefighters must be diligent to ensure that the fire does not spread to the farmer's home or other nearby residences.

Whether a farmer has insurance or not, it can take years for them to rebuild. Unfortunately, there were numerous cases where the farmer's insurance was to set in months following the date of the fire. Even with insurance, some of the more prestigious breeding farms can take up to ten years to return to their prior state. Without insurance, it can take up to twenty-thirty years to achieve their previous status. Smaller farms do not



Number of Barn Fires Per Month and Seasonal Comparison 2015 - 2019

There is fairly even statistical distribution for time of day for when a fire breaks out, i.e., when the sun is up versus when the sun is down. However, fires that happen when the sun is down will have additional challenges, due to drops in temperature and the fact that many rural populations have volunteer fire departments who do not sleep at the fire station, which increases the time it takes for them to arrive on site.

always have the resources to rebuild at all. It's important to note that insurance does not always cover all costs incurred from a barn fire.

Financial Impact from Barn Fires

Barn fires can have a significant financial toll. In addition to losing their animals, farmers may also lose their farming equipment, feed, machinery, and the entire barn structure, as well as other nearby structures in



Burned sows in gestation crates.
Photo Credit: cetfa.org

For most barn fires where financial loss estimates were provided, the damages range between a few hundred thousand to multiple-millions of dollars. From the news reports on this topic, about **66%** of the cases had no financial estimate provided either because the fire department was unable to provide one at the time of the reporting to the press or the media did not reference an estimate in their article.

Financial Loss Per Year

2015 : 26,660,000 - 28,810,000

2016 : 33,650,000 - 36,950,000

2017 : 36,046,000 - 36,546,000

2018 : 42,476,000 - 44,021,000

2019 : 28,685,000

total : 167,517,000 - 175,012,000

* Ranges tallied from news media reports.

Top 5 Financial Losses

1. \$15 million | 12 August 2019
Steinbach, Manitoba
2. \$7 million | 29 June 2018
Riviere-Heva, Quebec
3. \$6 million | 4 December 2018
Wilmot Township, Ontario
4. \$4-6 million | 4 January 2016
Puslinch, Ontario
5. \$4.5 million | 10 November 2017
Hanover, Manitoba

The OFM in Ontario has provided barn fire statistics for 2013-2017, where there were over 750 barn fires. Most of the barn fires contained animals and that they resulted in almost \$180 million in cumulative losses (OFM, 2018). From this data alone, it is evident that the aggregate data from media reports greatly underestimates the financial losses caused by barn fires. Additionally, many farms are employers of people in the community and are without jobs or income following a barn fire that has lost its animals.



Large barn fire in Delta, B.C..
Photo Credit: Firefighter Shane MacKichan

Human Injuries and Death

The lack of mandated prevention measures and fire suppression systems takes its toll on the physical and emotional well-being of everyone involved in barn fires. Nervous shock is the most common injury farm owners sustain where they are sent to the hospital as a result. It is very common for farm owners to suffer from depression and hopelessness following a fire. A barn fire can easily become a trigger event for PTSD to develop.

The second most recorded injury was smoke inhalation. Inhaling smoke can inflame the lungs and airways, which causes the airway to swell and block oxygen. If this occurs, it can produce acute respiratory distress syndrome and respiratory failure.

Many farm owners and workers endure other injuries trying to release their animals from their enclosures or from being in the barn when the fire started. This includes twisted ankles, lung injuries, minor burns, and shoulder injuries. According to the OFM, there were 39 human injuries from barn fires in Ontario from their 2013-2017 statistics report (OFM, 2018).

People can also suffer major injuries. Kevin Crosby, a stable owner from Nova Scotia, heroically rushed into a burning barn when trying to release the horses inside. He sustained major burns that became infected, which induced septic shock that put him in a critical-condition coma. There were also two human deaths resulting from barn fires in Canada in 2015 and 2016.

Additionally, there were reports of firefighters suffering and hospitalized from heatstroke, dizziness, heat stress, and breathing difficulties. One firefighter suffered from a mild heart attack. When battling barn fires in the

winter, it is common for firefighters to have to be careful to avoid ice as they can slip and fall and sustain minor injuries.

Finally, there are issues that are not regularly addressed in media reporting, but are still important to note. There are numerous health risks that develop after a fire since smoke can linger for up to several weeks following a fire-related incident. If smoke is inhaled, it can cause shortness of breath, coughing, bronchitis, asthma, and other respiratory issues. Smoke is a severe skin and eye irritant. Smoke damage is not always visible and can cause irritation as time goes on. Other serious long-term effects from exposure to fire include cancer, stroke, heart attack, and other cardiovascular diseases.

Other Challenges for Firefighters

Firefighting in rural regions is very different from firefighting in urban communities and presents its own set of challenges. In winter, firefighters often drive to farms on icy roads with poor visibility conditions. They

have to drive back and forth on these roads because most farms do not have an adequate water supply to fight the fire, so they need to return to fill the water tanks. The temperature easily drops below -30 degrees and their lines and other equipment freezes, while simultaneously being cautious about frostbite. Emergency vehicles have to be dispatched to the site to support the firefighters.

It is common to have many firefighting departments called in to fight a barn fire. On average, there are 2-7 departments called in to help because of the intensity of the fire and water shortage. If the locations are near the border, neighbouring U.S. fire departments are called in for assistance.

Several factors can contribute to longer arrival times, such as severe weather or non-shift volunteer fire departments who get the call in the middle of the night

Firefighters helping sows and piglets escape fire.
Photo credit: John Whelan, FireChief
for the City of Quinte West



and may not be already at a station. In some cases, farmers had to wait thirty minutes for fire departments to arrive. Research on barn fires from the Puslinch Fire Rescue Services and the University of Waterloo determined that a barn can be fully involved within just four minutes of ignition (Ferrier, 2016).

Codes' four existing objectives (safety, health, accessibility, fire and structural protection of buildings) should include the safety of animals. The Provincial/Territorial Policy Advisory Committee on Codes (PTPACC) must support the national fire and building model codes in aiming to protect both

“There is more at stake than the barn. Yesterday that was very clear due to the loss of livestock and the risk our crews faced driving to these scenes in winter weather conditions. Poor visibility and icy roads were certainly a factor. ... Not only are the firefighters exhausted after a day like this, they still have to get up and meet their daily commitments, which takes tremendous support from family, coworkers and employers.”

*- Perth East and West Perth Fire Chief
Bill Hunter, Ontario after two barn fires
happened in the same day (Perth East Fire
Department, 2019)*

To add to these challenges, electrical wires can arc on the metal siding of a barn, making firefighting more difficult. Barns, when they collapse, can shoot out flames. In Saint-Fabian, the municipality had to send out raw water to help fight the fire. The city could no longer guarantee the quality of the water for residents and for a time being, were asked to boil the water before consuming it.

Many fire departments are called out to numerous barn fires in the same year. One department was called out to four incidents within weeks. Without proper coping skills, firefighters are susceptible to experiencing stress, high blood pressure, depression, heart attacks, substance abuse, and PTSD. The dangerous exposure to harmful chemicals released in a barn fire, coupled with the harmful effects of smoke, puts them at danger of heart disease, cancer, chronic respiratory diseases, and musculoskeletal injuries.

Recommendations

There is an urgent need to address the issue of fires on farms, to protect animals, farmers, first responders and rural communities. At the national level, HSI/Canada recommends the following:

1. Recognition, particularly among code developers at the provincial, territorial, and national levels, that the issue of barn fires is one that must be taken seriously. The scope of the National Model

humans and animals and require fire prevention, detection, and suppression systems in farm buildings that house animals.

2. Fire and building codes should introduce a separate classification of buildings specifically for agricultural operations, to account for the unique criteria applicable only to barns. Farming operations could be classified based on their function (commercial or non-commercial), occupancy (human, animals, equipment, and/or feed) and/or their square footage (small, mid, and large-scale facilities), with each classification having appropriate requirements. Failing this, one option is to classify large livestock facilities as “light industrial” buildings, as is done in Manitoba, to require a higher minimum level of fire safety measures.
3. Fire and building codes should incorporate the recommendations from the Technical Advisory Committee on Farm Fires (TACFF), established by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) in 2007. TACFF was comprised of a wide range of stakeholders (including building officials, engineers, and representatives from the insurance and livestock industries) and its purpose was to reduce the potential for life and property loss by identifying the regulatory requirements and best management practices in the industry. Their findings and recommendations are covered in a

comprehensive report issued by OMAFRA in 2011, called “Reducing the Risk of Fire on your Farm” (OMAFRA, 2011). The National Model Construction Codes could also reference NFPA 150.

4. All provinces and territories should adopt the updated NFC and NBC, once they include better fire prevention standards for farm buildings, to ensure consistent fire safety protocols on farms across Canada.
5. To complement the introduction of the updated construction codes, provinces and territories should share educational resources with farmers to support the implementation of fire prevention, detection, and suppression systems. Insurance companies can also reduce the risk of barn fires by requiring elevated fire safety standards for farms they ensure.
6. A requirement that fire departments across the country report all animal deaths resulting from barn fires. The Office of the Fire Marshal in Ontario already keeps such records, and Fire Commissioner’s/Marshal’s Offices in other regions should follow suit. By keeping up-to-date records of animal deaths resulting from barn fires, officials and farmers will better understand the scope and impact of this issue. Ideally, this data would be compiled into a national database.

The “Reducing the Risk of Fire on your Farm” report includes several recommendations. The most important of these are below, with elaboration from other sources. HSI/Canada urges the NRC and CCBFC to adopt these recommendations into their model codes, to responsibly reduce the number of barn fires that occur across Canada.

Water Storage

As most farms do not have access to water pipelines, firefighters need access to an adequate supply of water on the farm site, since water tanks on fire trucks are limited in volume. Having an ample supply of water allows firefighters to focus on suppressing the fire without travelling to and from site.

Water sources must be high-volume, high-pressure, and



Firefighters at barn fire in Surrey, B.C.
Photo Credit: Firefighter Shane MacKichan

reliable (available and easily accessible). Irrigation wells and ponds that are not close enough to barn structures are not considered a reliable water source. Large water storage tanks with pumps located close to farm animal barn structures would be optimal (OMAFRA, 2011).

Irrigation wells, farm ponds, and concrete tanks are acceptable forms of water supply for fire suppression where a remote water connection (dry hydrant) is installed for direct access for fire departments. Ponds do not always require a dry hydrant as long as all fire departments are equipped with floating pumps and screened supply lines (OMAFRA, 2011).

Laws should require local fire departments to assess the water storage and equipment needs for each farm (existing or new construction) that houses any animal/s in barns. Following this assessment, fire departments must provide requirements to best suit each farms’ needs and require implementation within a given timeframe. It is best to have a local fire department make these standards on a case-by-case basis as the requirements for each farm will differ depending on the type of construction, proximity of other buildings, proximity of available water sources, number of animals, and any other existing fire protection features. The NRC and CCBFC should provide guidelines for local fire departments to ensure emergency standards are met.

Sprinkler Systems

All large-scale animal facilities need to have installed and maintained sprinkler systems, as these farms are prone to fatalities in the tens of thousands from fire. Sprinkler systems are considered an investment as they require substantial water storage along with other equipment. Ideally, a sprinkler system should be mandatory for all farms with barn animals; however, smaller farms may not

have the necessary resources available for this type of fire protection.

There are challenging circumstances as each barn is unique with extreme temperatures, dust, corrosive environments, and other factors, but sprinkler systems can be effective with the appropriate design and maintenance. It is the farmer's responsibility to consult with experts to select the design best suited for their farm. The system should be supplied with its own power generator to be able to supply power to the sprinkler system when power outages occur during a barn fire (OMAFRA, 2011).

Under the Ontario building code, an industrial classification would mean not only adding sprinkler systems but also establishing a fire protection access route and onsite water storage sufficient to fight a fire. The same should apply to large farm buildings.



Barn fire in Surrey, B.C.
Photo Credit: Firefighter Shane MacKichan

Smoke, Heat, and Carbon Monoxide Detection Systems

All barn structures housing animals should be required to install and maintain smoke and carbon monoxide detection systems. Automatic fire detectors should be connected to a fire alarm system. The degree of the technology required should be stipulated by the CCBFC based on the scale of the farm. For larger-scale facilities, a combination of flashing lights in visible locations and alarms that can be heard from inside and outside the building must be required. Since each farm is unique, the

corrosive environment must be considered in the design and installation of automatic fire detection equipment. Mandatory testing and maintenance are required (OMAFRA, 2011).

Heat detection systems should be mandatory for all large-scale animal farming operations. Thermographic inspections must be conducted on all farms. Many insurance companies offer this as a service to their policyholders. However, provincial and territorial government bodies should be providing a program that lends these devices out to farmers to ensure they are conducted yearly. Farm and Food Care Ontario has sought funding for this kind of initiative to help farmers inspect their barns for hot spots and other risks. Having mandatory electrical inspections will reduce the need for government-provided thermographic equipment (Baxter, 2016).

Fire Separation

New construction should require firewalls to be constructed of hollow concrete blocks as they provide a 60-minute window (in comparison, Douglas Fur only provides 30-minutes). As mentioned previously, in many rural barn fire cases, fire departments need at least 20 minutes to arrive on site (OMAFRA, 2011).

Codes should require containing any electrical/mechanical room in farm buildings that contain animals to have fire separation walls of a minimum of 60-minute rating as it is common for standby generators or compressors for refrigeration units to overheat and start a fire. These fire separation measures allow for farmers, workers, or fire departments to extinguish fires before they spread throughout the building (OMAFRA, 2011).

As noted by OMAFRA, “Fire spreads by radiation to neighbouring buildings when nearby materials absorb enough heat and begin to smolder and then burn. Providing enough distance between all buildings helps minimize heat gain between the source of the fire and the surfaces of adjacent buildings. This distance gives firefighters the opportunity to apply water to the nearby building surfaces in an effort to reduce the temperature of each surface” (OMAFRA, 2011).

Fire Extinguishers

Unfortunately, fire can spread at such quick rates that fire extinguishers can be a futile response when fighting a fire and it's imperative to have other fire suppression methods; however, they should still be mandatory as they can contain smaller fires from becoming uncontrollable.

Codes should require all barn structures that house animals to be equipped with a minimum of a five-pound ABC fire extinguisher at every exit. There should also be a five-pound ABC fire extinguisher in all mechanical and feed rooms. Any rooms with a standby generator should be equipped with a minimum ten-pound ABC fire extinguisher. The CCBFC should require larger livestock facilities to carry ten-pound ABC fire extinguishers at all exits or within 100 feet along exterior walls. It would be beneficial for farmers to install fire extinguishers near problematic areas where they are not subject to any mechanical damage from moving objects (OMAFRA, 2020).

Fire extinguishers should be inspected monthly for their condition; and for medium and larger animal facilities, mandatorily serviced annually by qualified personnel.

Annual Fire Department Inspection

Every year a mandatory fire department inspection should be required of all farms to ensure all barn structures do not pose fire hazards. Fire departments can catch hazards that farmers may not be aware of. Having mandatory fire department inspections will reduce the chances of a fire caused by combustible materials such as having hay clear of any heating devices or mechanical equipment such as tractors, ensuring bird nests do not interfere with lighting sources, and combustibles are not stored under electrical panels. Fire departments can make sure heating devices meet the required distances or have the necessary barrier to ensure animals cannot reach devices. Inspection of fire stops will ensure there are no breaches that will impact the fire stop's efficacy.

Fire Plan Submitted to Local Fire Departments

Farmers are responsible for educating themselves about the hazard of barn fires and for training all employees

on necessary measures. This training should cover the proper use and location of fire extinguishers, an evacuation plan for employees and animals, and instruction on any other prevention and suppression tools the farm provides. This will also encourage farmers to understand why barn fires occur and what actions they can take immediately to address them. It is important for fire plans to be submitted to local fire departments to ensure farmers have considered all their safety measures and options. These plans provide a measure that farmers can return to annually and assess their risk of fire (Baxter, 2016).

Mandatory Electrical and Mechanical Inspections

Barns housing farm animals are often humid (wet) and corrosive environments, and these conditions are the leading cause of electrical degradation or failure that leads to fire. This environment is harmful to plug ends, unsealed junction points, ceiling mounted outlets, light fixtures, electrical panels, etc. As corrosion degrades electrical metal components, it generates enough heat to ignite surrounding materials. This process can occur over a relatively short period (less than five years following construction) (OMAFRA, 2011).



Massive barn fire in Delta, B.C.
Photo Credit: Firefighter Shane MacKichan

Electrical inspection by a licensed professional is the best way to address this. HSI/Canada supports these proposed in the revisions to the NFC:

- “Inspection of electrical equipment in farm buildings shall be completed by a person qualified to perform such inspection at intervals not greater than ... 12 months for farm buildings containing livestock”.
- “Mechanical equipment used in wet or corrosive environments in farm buildings shall be maintained so as not to constitute an undue fire hazard. ... Inspection of mechanical equipment in farm buildings to identify any damage or deterioration shall be completed by a person qualified to perform such inspection at intervals not greater than 12 months” (CCBFC, 2020a).

Ventilation Requirements

All ventilation systems need regular inspections by a licensed professional: annually for large-scale facilities and every two years for medium-scale and small-scale commercial operations. This will ensure dust and debris do not build up over time resulting in overheating of motors, that fan belts are not damaged, and that fan blades can spin freely (OMAFRA, 2011).

Exit Doors

All separate mechanical, generator, and feed rooms that do not contain animals should have fire doors that are self-locking and mounted along the vertical axis to ensure that they open outwards. All exterior doors should be mounted to open outwards or slide open (OMAFRA, 2011). Every sizeable barn structure that houses animals should have four exit doors with clear visible signage, one for each side, to facilitate the evacuation of animals (ADLC, 2019).

Materials

Barn construction materials greatly impact ignition and fire spread. Canada’s National Farm Building Code should examine prohibiting construction materials such as plastic as it melts very quickly, it produces triple the heat of a wood barn fire while releasing high levels of noxious gases (OMAFRA, 2011).

As recommended by OMAFRA, “All offices, staff rooms, washrooms and hallways that lead to exits should be lined with materials having a low flame spread index rating and low smoke developed classification” (OMAFRA, 2011).



Fire destroys a barn in Agassiz, B.C.
Photo Credit: Firefighter Shane MacKichan

Appendix: Barn Fire Incidents from 2015-2019

The following table is a summary of all barn fires known to HSI/Canada that occurred during the five-year period of 2015-2019. It includes as much detail as possible; blank fields represent data that is unknown or could not be confirmed.

Year	Month	Day	City/Township	Province	Cause of Fire (known or suspected)	Species /# of Animal Fatalities	# of Human Injuries or Fatalities	Est. Financial Loss (CAD \$)
2015	January	9	Château Richer	Quebec		Goats / Few dozen		
2015	January	16	Appin	Ontario		Pigs / Hundreds	0	
2015	January	17	Woodstock	Ontario		Horses / 1	0	
2015	January	28	South Dundas	Ontario	Unfreezing hay with a hairdryer	Goats / Several Llamas / 1	1 human fatality, friend of owner	
2015	February	2	Huntsville	Ontario		Dogs / Not specified		
2015	February	4	Milverton	Ontario		Pigs / 1800		\$650,000.00
2015	February	4	Oakbank	Manitoba	Heat lamp (suspected)	Horses / 5	0	
2015	February	5	Nauwigewauk	New Brunswick		Cows / Not-specified		
2015	February	22	Moncton	New Brunswick		Cats / 1		
2015	February	25	Asphodel-Norwood	Ontario		Hobby livestock / Not specified	0	
2015	March	10	Martinville	Quebec		Pigs / 20		\$400,000.00
2015	March	11	Brighton	Ontario		Lambs / 80 Dogs / 2		
2015	March	13	Saint-Bernard-de-Michaudville	Quebec		Chickens / 100,000		\$1 million +
2015	March	14	Saint-Liboire	Quebec	Heating system	Pigs / Many	Owner's son sustained shoulder injury	\$1 million +
2015	March	14	South Glengarry	Ontario		Cows / 134	0	\$1 million
2015	March	15	R.M. of Ste. Anne.	Manitoba	Heat lamp	Lambs / 12 Dogs / 4	0	\$150,000.00
2015	March	18	Saint-Fabien	Quebec	Electrical	Cows / 125	Owner nervous shock	\$1 million
2015	March	19	Saint-Apolinaire	Quebec		Pigs / 800		\$500,000.00
2015	March	24	Kola	Manitoba		Pigs, 1,500 - 2,200	0	
2015	April	1	Georgina	Ontario		Pigs / 2	One firefighter to hospital with minor injuries	
2015	April	3	Kincardine	Ontario		Sheep / a number of them Unknown / 2		\$400,000.00
2015	April	17	Ste Anne	Manitoba	Hot metal embers from a contractor grinding a hole through metal siding	Pigs / 3,000		\$3.6 million
2015	April	28	Saint-Victor	Quebec		Sheep / 400		\$1 million
2015	June	7	Ganaoquoque	Ontario	Arson	Cows / 30-35		\$1-2 million
2015	June	8	Saint-Denis-sur-Richelieu	Quebec		Cows / 280		
2015	June	13	Dixville	Quebec		Cows / 12		
2015	June	14	Courtenay	British Columbia		Cows / 50		

2015	June	15	Falmouth	Nova Scotia			Horses / 6	Owner hospitalized with an infection that developed due to injuries he sustained when he rushed into the burning barn to try to rescue his horses; went into a critical condition	
2015	June	15	Plum Coulee	Manitoba			Livestock / Some		\$1 million +
2015	June	24	La Présentation	Quebec			Cows / 80		\$1 million
2015	June	28	Abbotsford	British Columbia			Cows / 1		\$1 million
2015	June	28	Belleville	Ontario			Cows / 32		
2015	June	29	Green Oaks	Nova Scotia			Cows / 140		
2015	July	8	Stratford	Ontario			Cows / 1		
2015	July	9	Saint-Norbert-d'Arthabask	Quebec			Cows / 30	Owners nervous shock	\$450,000.00
2015	July	14	Courtenay	British Columbia			Cows / 8		
2015	July	17	Auburn	Ontario		Not suspicious. Build up of methane gas (suspected)	Pigs / 100		0
2015	July	23	Woodville	Nova Scotia			Chickens / 5		
2015	July	28	Normandin	Quebec		Mechanical or electrical (suspected)	Cows / 55-70	Owner nervous shock	\$800,000 - \$1 million
2015	August	11	Dorking	Ontario		Started in the hay loft. Electrical spark or from the hay spontaneously combusting (suspected)	Chickens / 110		0
2015	August	26	Saint-Édouard-de-Lotbinière	Quebec			Cows / 150	One person treated for nervous shock	
2015	August	27	Mirabel	Quebec			Unknown / Not specified	One person in Saint-Édouard-de-Lotbinière treated for shock	
2015	August	27	Lethbridge	Alberta		Faulty motor ignited hay	Turkeys / 430		Hundreds of thousands
2015	September	6	Creemore	Ontario		Started while someone was refuelling a gas generator	Pigs / 2	Clearview Township firefighter suffers a mild heart attack	\$260,000.00
2015	September	6	Zorra Township	Ontario			Chickens / 22,000		0
2015	September	19	St-Bernardin	Quebec			Cows / 60		
2015	September	28	Abbotsford	British Columbia			Chickens / 60,000		0
2015	October	3	St-Pierre-Jolys	Manitoba			Cows / 11		0
2015	October	8	Métabetchouan-Lac-à-la-Croix	Quebec			Cows / 125		0
2015	October	9	Saint-Malachie	Quebec			Cows / 10		Several hundred thousand
2015	October	10	Saint-Ephrem	Quebec			Pigs / 1,500		

2016	February	25	Atwood	Ontario				Pigs / 300	0	\$50,000+
2016	February	27	Otterville	Ontario				Horses / 9		\$50,000?
2016	February	28	Saint-Denis de la Boutellerie	Quebec	Electrical (suspected)			Cows / 45	0	\$2.8 million (building only)
2016	March	7	Quebec City	Quebec				Exotic animals / 140	0	
2016	March	7	Saint-Guillaume	Quebec	Suspicious			Cows / Several, more than a few	1 man dead	
2016	March	9	Ange-Gardien Saint-Louis-de-	Quebec				Turkeys / 12,500		\$750,000-\$850,000
2016	March	10	Gonzague	Quebec				Cows / 3		
2016	March	17	Saint-Camille	Quebec				Goats / 1		
2016	March	26	Maryhill	Ontario	Spark from a hay blower			Ducks / 4,000		\$500,000.00
2016	April	1	Pleasant Grove	Prince Edward Island				Cows / 44		\$500,000.00
2016	April	5	The Blue Mountains	Ontario	Wiring in an electrical outlet			Sheep / 45		
2016	April	11	Sainte-Claire de Bellechasse	Quebec				Cows / 40		
2016	April	14	Ingleside	Ontario				Pigs / 300		\$400,000.00
2016	April	17	Saint-Cyrille-de- Wendover	Quebec				Goats / 35		
2016	April	18	Tecumseh	Ontario	Not suspicious.			Chickens / 30		
2016	April	30	Amaranth	Ontario	Straw shredding machine ignited near a hay-pile			Pigs / 800		
2016	May	4	Saint-Lucien	Quebec				Cows / 100		Millions
2016	May	8	Rimouski	Quebec				Cows / 30	0	\$2 million
2016	May	10	Sainte-Eulalie	Quebec				Pigs / 650		
2016	May	22	Saint-Paulin	Quebec	Electrical - heat lamps			Sheep / 150	0	
2016	May	24	Stanstead-Est	Quebec				Pigs / Not-specified		\$15,000.00
2016	May	26	Saint-Sylvestre	Quebec	Electrical			Cows / 50		
2016	May	29	Quinte West	Ontario				Pigs / 700		Several hundred thousand
2016	May	30	Drayton	Ontario				Cows / 45-75	0	
2016	June	1	Ange-Gardien Saint-Augustin-de-	Quebec				Chickens / Group		
2016	June	5	Desmaures	Quebec				Cat + Kittens / Not specified	0	
2016	June	9	Milverton	Ontario	Suspicious			Cows / 42	Owner smoke inhalation	
2016	June	15	Sacré-Coeur-de- Jésus	Quebec				Chickens / 13,000		\$400,000.00
2016	June	18	Leroy	Saskatchewan				Cows / 80-95		
2016	June	22	Notre-Dame-des- Neiges	Quebec				Goats / 120		
2016	June	22		Quebec				Cows / 20		
2016	June	22		Quebec				Horses / 4		
2016	June	22		Quebec				Cows / 90		\$1 million
2016	June	22		Quebec				Pigs / 5,000		
2016	June	22		Quebec				Pigs / 200	0	

2017	January			Verner	Ontario		Goats / 2 Pigs / 2 Cows / 1		
2017	January	17	Shefford	Quebec	Quebec	Chickens / 12,000			\$250,000.00
2017	January	19	Sainte-Clotilde	Quebec	Quebec	Chickens / 30 Rabbits / 10	Smoke irritation		\$100,000+
2017	January	25	Tiny Township	Ontario	Ontario	Horses / 4			\$3 million
2017	January	31	Plymouth-Wyoming	Ontario	Ontario	Pigs / 4,000	0		
2017	February	7	Thames Center	Ontario	Ontario	Chickens / Few dozen	0		
2017	February	13	Abbotsford	British Columbia	British Columbia	Chickens / 5,000			
2017	February	15	Gatineau	Quebec	Quebec	Cows / 60	0		
2017	March	4	Madoc	Ontario	Ontario	Chickens / 29 Cows / 4	0		\$250,000 (building only)
2017	March	8	Chilliwack	British Columbia	British Columbia	Chickens / 6,000			
2017	March	8	Saint-Robert	Quebec	Quebec	Pigs / 1,000			
2017	March	9	St-Pierre Jolys	Manitoba	Manitoba	Chickens / Several dozens Goats, Sheep, Cats, Rabbits / Plural of ea.			\$50,000+
2017	March	16	Cramahe Township	Ontario	Ontario	Sheep / 90 Cows / 3	0		
2017	March	22	Brockville	Ontario	Ontario	Donkeys / 2 Horses / 1			\$400,000.00
2017	March	23	Seaforth	Ontario	Ontario	Electrical heater Electrical fault likely sparked the fire			
2017	March	26	Saint-Célestin	Quebec	Quebec	Pigs / 500			Several million
2017	March	26	Saint-Henri-de-Tailon	Quebec	Quebec	Cows / 120			
2017	March	31	Delaware	Ontario	Ontario	Cows / 132 Horses / 5	0		\$2.5-3 million
2017	April	5	Brownsburg-Chatham	Quebec	Quebec	Cows / 70			
2017	April	18	Harvey	New Brunswick	New Brunswick	Pigs / 100			
2017	April	25	Kamouraska	Quebec	Quebec	Chickens / 80	0		
2017	April	29	Brébeuf	Quebec	Quebec	Cows / 100	0		\$900,000 (cows only)
2017	May	3	Coaticook	Quebec	Quebec	Chickens / 80 Pigs / 15 Pigs / 2,375			\$20,000.00
2017	May	28	Les Hauteurs	Quebec	Quebec	Cows / 150	Smoke irritation. Owners taken to hospital from nervous shock		
2017	June	3	L'Islet	Quebec	Quebec	Chickens / Thousands			
2017	June	6	Abbotsford	British Columbia	British Columbia	Chickens / 25,000	0		
2017	June	7	Baie-Saint-Paul	Quebec	Quebec	Cows / 244	0		\$2 million
2017	June	8	New Bothwell	Manitoba	Manitoba	Pigs / 3,500-4,000	0		Millions
2017	June	18	Teeterville	Ontario	Ontario	Lawn tractor ignited near combustible materials			\$100,000.00
2017	June	26	Loughheed	Alberta	Alberta	Chickens / 16 Pigs / 2,000			
2017	July	6	Ashcroft	British Columbia	British Columbia	Wildfires	Lung injuries		Millions

2018	January	8	Winnipeg	Manitoba	Tractor block heater	Horses / 3 Cats / 1		
2018	January	9	Perth County	Ontario		Pigs / 1,800	0	\$1 million
2018	January	9	Perth County	Ontario	Not suspicious. Electrical	Chickens / Not specified		\$10,000 plus livestock
2018	January	15	Dunrobin or West Carleton	Ontario		Sheep / 6 Goats / 2	1 firefighter minor injuries from slipping on ice	
2018	January	17	Chatsworth	Ontario		Horses + Cats / 1 of ea.		\$75,000 - \$85,000 plus livestock
2018	January	26	Levis	Quebec		Sheep / 100 Chickens / 30	1 smoke inhalation	
2018	January	26	Plum Coulee	Manitoba	Space heater	Cows / Not specified		\$40,000 - \$50,000
2018	January	27	Pembroke	Ontario		Small pets / Some		
2018	January	29	Bellechasse	Quebec	Electrical (suspected)	Cows / 150		
2018	January	29	Townsend	Ontario		Pigs / 700-800		
2018	February	4	Dixville	Quebec		Pigs / 4,000		\$4 million
2018	February	4	Clive	Alberta		Cows / 80		
2018	February	12	Standstead	Quebec	Electrical (suspected)	Goats / 400		\$1.2 million
2018	February	19	Sainte-Angèle-de-Méridi	Quebec	Not suspicious. Started near RTM machine	Cows / 10-15		Several hundred thousand
2018	February	28	Stirling-Rawdon	Ontario		Cows / 100		\$400,000.00
2018	March	23	Saint-Joseph-de-Beauce	Quebec		Cows / 12		
2018	March	28	Sebringville	Ontario		Cows / 25		
2018	March	28	Sebringville	Ontario		Cows, Chickens, Turkeys / 12 total		
2018	April	5	Plessisville	Quebec	Tractor was used to power generator due to power failure from strong winds	Goats / 4		
2018	April	10	Port Coquitlam	British Columbia	Heater (suspected)			\$1 million
2018	April	14	Mitchell	Manitoba	Heat lamp (suspected)	Chickens / 14,000		
2018	April	24	Alma	Prince Edward Island		Goats + Cows / 3 ea.	0	\$75,000.00
2018	April	26	Saint-Patrice-de-Beaurivage	Quebec		Dogs / 1		
2018	April	29	Noyan, Monteregie	Quebec		Cows / 45		
2018	May	2	Norton	Manitoba	Not suspicious. Electrical (suspected)	Cows / 200-225		
2018	May	7	Saint-Severe	Quebec		Cows, Pigs, Oxen / 110 total	0	\$1 million
2018	May	21	Sunnybrook Park	Ontario		Cows / 20-30		
2018	May	23	Evanturel Township	Ontario		Pigs / 600		
2018	May	25	Oxford County	Ontario		Horses / 16		
2018	June	1	Plenty	Saskatchewan		Cows / 80-90		\$3 million+
2018	June	4	Baie-des-Sables	Quebec		Pigs / 3,000		Millions
2018	June	5	Saint-Albert	Quebec	Not suspicious. Electrical (suspected)	Pigs / 10,000-12,000	0	
2018	June	13	Erin	Ontario		Cows / 100		Several hundred thousand
2018	June	13	Tracadie	Nova Scotia	Accidental	Cows / 12	0	Several hundred thousand
						Horses / 6	0	\$1 million
						Cows / 65		\$500,000 (equipment only)

2018	June	20	Elmira	Ontario	Not suspicious. Electrical system of a skid steer Electrical - originated in a fan belt	Cows / 29	0	\$500,000 - \$1 million
2018	June	29	Riviere-Heva	Quebec	Electrical (suspected)	Chickens / 56,000		\$7 million
2018	July	9	Saint-Celestin	Quebec		Cows / 50		
2018	July	12	Saint-Damase	Quebec		Pigs / 2,000		
2018	July	13	Breadalbane	Prince Edward Island		Sheep / 170	0	
2018	July	17	Toledo	Ontario		Goats / 40-50		\$516,000.00
2018	July	18	Cavan Monaghan	Ontario		Pigs / 1,000		
2018	July	19	West Lincoln	Ontario		Cows / 12		\$1 million
2018	July	25	Sainte-Clotilde-de-Beauce	Quebec		Horses / 5		
2018	July	31	Alma	Quebec	Electrical	Cows / 127	0	\$1 million
2018	August	2	Elmira	Ontario	Electrical (suspected)	Cows / 2	0	
2018	August	28	Maxville	Ontario		Cows / 80	0	\$3-4 million
2018	September	1	Saint-Gilles de Lotbiniere	Quebec		Pigs / 1,600-1,700		Hundreds of thousands
2018	September	8	Saint-Honore-de-Shenley	Quebec		Cows / 214		\$3 million
2018	September	19	Aggaziz	British Columbia	Bunker overheated where there was hay (suspected)	Cows / 3	0	
2018	September	26	Black Creek	British Columbia	Spontaneous combustion of hay	Goats / 15		
2018	October	14	Sheffield Mills	Nova Scotia		Chickens / 10	0	\$450,000.00
2018	October	21	Kawartha Lakes	Ontario		Chickens / 30,000		
2018	October	21	Bradner	British Columbia		Chickens / 12		\$120,000.00
2018	October	24	Fatima - Magdalen Islands?	Quebec		Boars , Pigs, Cows / 175 total	0	\$200,000.00
2018	November	2	Oakwood	Ontario		Chickens / Not specified		
2018	November	6	Inverness	Quebec		Cows / 50	0	\$250,000.00
2018	November	6	Mount Forest	Ontario		Goats / 250		
2018	November	17	Hemmingford	Quebec		Rabbits / 20	0	\$1.5 million
2018	December	4	Wilmot Township	Ontario		Horses / 2		
2018	December	8	Saint-Clet	Quebec		Horses / 39	0	\$6 million
2018	December	11	Quinte West	Ontario	Farmer noticed an electrical problem with an incubator for piglets. It was arcing and that may have started the fire (electrical short)	Cows / Several	0	
2018	December	12	Milton	Quebec		Cows / 60		
2018	December	21	Halton Hills	Ontario	Started where front-end loader was located, had a block heater	Pigs / 11,700-12,000	0	\$1 million
2018	December	29	Saint-Malo	Quebec		Horses / 5		
2019	January	4	Bishopville	Nova Scotia	Electrical	Horses / 5 Cows / 85 Unknown / 45 Pigs / 4 Ducks / 1		\$300,000 (barn only)

2019	January		Wickham	Quebec	Fire broke out because of a tractor that was plugged near a section of hay	Cows / 20	0	
2019	January	6	Vallee-Jonction	Quebec		Chickens / 15,000	0	\$500,000.00
2019	January	21	Kawartha Lakes	Ontario		Cows / 20 Goats / 5	1 firefighter injured and sent to hospital	
2019	January	22	Sainte-Clotilde-de-Horton	Quebec		Dogs + Cats / 40 total		
2019	February	2	West Carleton	Ontario		Small animals / Some	0	
2019	February	3	Saint-Narcisse-de-Beaurivage	Quebec		Pigs / 700	1 nervous shock (owner)	
2019	February	5	Saint-Basile	Quebec		Cows / 250		
2019	February	8	Pitt Meadows	British Columbia		Cows / 18		
2019	February	13	Langley-Township	British Columbia	Started in an exterior drop box	Sheep / 3		
2019	February	15	Saint-Roch-de-l'Achigan	Quebec		Chickens / 9,500		
2019	March	1	Wainfleet	Ontario	Heat lamp (suspected)	Unknown / 6	1 smoke inhalation	\$85,000.00
2019	March	1	Hardwood Hill	Nova Scotia		Horses / 1		
2019	March	4	Dashwood	Ontario		Chickens / 500	0	
2019	March	12	La Broquerie	Manitoba	Failure of an auger motor on the corn feed crusher	Cows / 9		\$2.5 Million
2019	March	22	Saint-Joseph-des-Érables	Quebec	Electrical	Cows / 120-200		\$1 million
2019	March	24	Saint-Vallier-de-Bellechasse	Quebec	Auger motor feeder	Cows / 15	0	
2019	April	1	Saint-Nérée	Quebec	Mechanical failure of equipment or electrical	Cows / 140		
2019	April	11	Wetaskiwin	Alberta		Cats / 21 Pigs / 6 Rabbits / 5 Goats / 4	0	
2019	April	19	Sainte-Helene-de-Chester	Quebec	Ventilation (suspected)	Cows / 50	2 nervous shock	Several hundred thousand
2019	April	21	Niagra Falls	Ontario		Cows / 8 Pigs / 2		
2019	April	25	Laird Township	Ontario	Electrical	Cows / 4		
2019	April	29	Wellesley	Ontario	Confirmed unknown	Pigs / 400		\$650,000.00
2019	May	3	North Glengarry	Ontario	Electrical (suspected)	Cows / 50	0	
2019	May	4	Saint-Michel-du-Squatec	Quebec		Cows / 30-35		
2019	May	5	Blumenort	Manitoba		Cows / 100		
2019	May	15	Saint-Malo	Quebec	Electrical	Chickens / 27,000	0	
2019	May	21	Moorefield	Ontario		Cows / 74		
2019	June	5	Grand River	Ontario	Suspicious / arson	Cows / 12	0	
2019	June	12	Sainte-Ursule	Quebec		Pygmy Goats / 4		
2019	June	12	Wingham	Ontario	Electrical - fan or light (suspected)	Pigs / 300	0	
2019	July	9	Baie-Saint-Paul	Quebec		Unknown / Not specified		
						Sheep / 175 Cows / 30		Several hundred thousand

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Photo Credit: Firefighter Shane MacKichan





Photo Credit: Guelph Mercury

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