

Exploring the Connection between Mental Health and Farm Management

Environmental Scan

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FARM MANAGEMENT CANADA

GESTION AGRICOLE DU CANADA

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Executive Summary

In response to new knowledge about the state of farmers' mental health in Canada, Farm Management Canada is examining the connection between mental health and farm business management. The goal of this research is to develop an understanding of the relationship between farm business management practices and farmer mental health. This question will be explored from both sides of the relationship. For example, how does effective farm business management impact or support farmer mental health? As well as conversely, how does mental well-being impact or support farm business decision-making? Therefore, the purpose of this environmental scan is to provide a review of the existing research and programs across Canada and around the world relating to farmer mental health and farm business management, and to identify and leverage any existing research connecting the two. While this scan aims to inform the next phases of this project, which will involve a nationwide survey, focus groups and one-on-one interviews, it is also notable that this scan also identifies knowledge gaps beyond the scope of this project, but which may help to inform subsequent research.

The development of this scan involved a broad review of the academic and grey literature, including programs, websites and public reports. A variety of methods were used such as Google searches, searches on academic databases, and information sent from partners. This scan is not intended to be a formal systematic or meta-analysis of the literature.

This scan includes an overview of farmers' role in Canadian society, including Canadian farmer demographics; a definition of mental health for the purposes of this project; an outline of the current research on farmer mental health, particularly in Canada, but also around the world; a review of the dimensions of farm business management; and explores the connection between mental health and farm business management through the process of decision-making.

The findings from this scan indicate that while still a relatively new area of research, there is extensive information available regarding the state of farmers' mental health around the world. However, Canada-specific data is lacking. In general, farmers are more stressed, face more burnout, and are less resilient than members of the general population. This comes as a result of a variety of unique factors that the farmer population faces as a part of their work and living situations. These factors are outlined as follows: workload and lack of time; isolation; financial pressures; conflicts with family and associates; farm transition; unpredictable interference; public trust; and social stigma. The research shows that these factors can have implications for the farm (farm safety, animal welfare), the farmers' physical and mental health, and their relationships with family and industry associates. All of these impacts can influence the productivity, prosperity, and management of the farm.

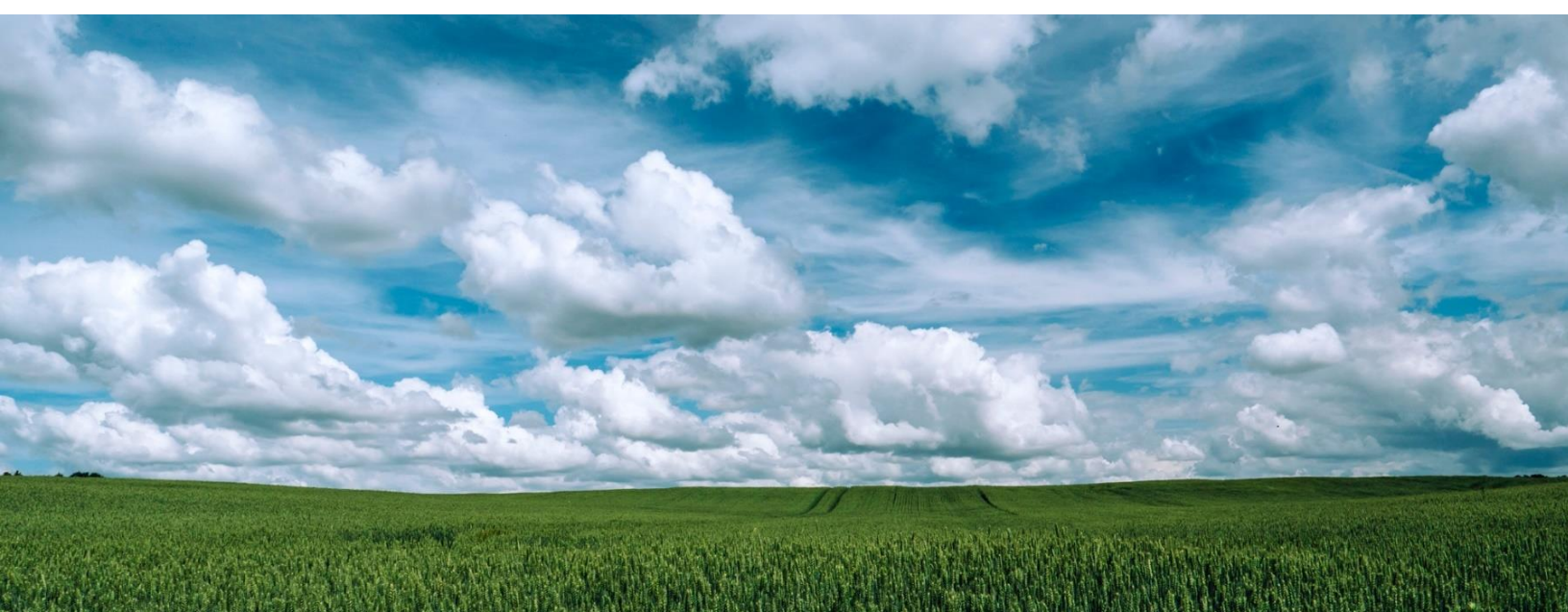
The literature indicates that there are some connections between farm management and mental health, such as animal welfare, farm safety, and decision-making being affected by mental health.

The scan did not reveal any studies explicitly connecting mental health and farm business management, however, the literature in this field gives a reasonable impression that mental health and farm business management are positively related.

The environmental scan identifies three main gaps to be further explored:

1. **The limited scope of Canadian research related to mental health in agriculture.** The current literature and available data is not fully representative of the Canadian farming population. This increases the challenges of providing effective support without further consultation and analysis.
2. **The connection between mental health and farm management.** Animal welfare, farm safety, interpersonal and family relationships, farm business management, entrepreneurship, decision-making and success are all factors that impact, and are impacted by, farmer mental health. The extent that these factors support successful farmers and their farms is an important area where a better understanding is needed.
3. **The effectiveness of mental health support programs and resources.** It is unclear the effectiveness of support programs and resources that are available to farmers and rural communities. We need a better understanding of farmer-oriented mental health programming and the ways that extension services and support networks can be important to business management and success in order to identify what is needed.

The next steps of this project will focus on researching the connection between farm business management, mental health, and establishing the critical path forward.



1.0 Introduction

This scan highlights the findings of academic literature, news sources, grey literature, academic and non-academic websites, and social media sites that discuss various aspects of farmer mental health and farm business management in Canada and around the world. The sections covered in the scan include the role of the farmer in Canadian society, mental health, decision-making and farm business management. These insights will be used to inform gaps in knowledge that can be addressed through the overall project, as well as additional gaps in knowledge that exist outside of the scope of this project. It is important that farmers are studied as a distinct group, as there are many nuances to farming in Canada that cannot be easily extrapolated from other industries.

2.0 Methods

2.1 Purpose of the Environmental Scan

This scan is the result of a combination of academic and grey literature surrounding mental health, farmer mental health, entrepreneurship, business management, decision-making and the relationship between them. The following methods and tools were used to gather the research and resources that inform this environmental scan (Figure 1).

Exploring the Connection Between Mental Health and Farm Business Management		
Academic Literature Search Journal search including Google Scholar, PubMed, Scopus and Web of Science.	Grey Literature Search Google searches for grey literature including websites, news articles, and social media	Resources From Project Collaborators Resources shared from collaborators and interest groups (incl. University of Exeter, Farm Management Canada, Klinik Community Health Manitoba, Farm Credit Canada)

Figure 1. Methodology for the environmental scan.

2.2 Scope and Limitations of the Environmental Scan

This scan is not intended to be a formal systematic review or meta-analysis of the literature; rather it is intended to be a high-level overview of mental health in the Canadian farm population and current research on how mental health relates to farm business management. However, where possible, the authors sought out academic literature, such as research studies, manuscripts, and formal literature reviews to inform this scan. Much of the academic literature is based on research conducted in countries such as Australia, the Netherlands, New Zealand, the United Kingdom (U.K.), and the United States (U.S.), among others. This is a relatively new area of research in the context of Canadian literature with the exception of a few recent studies. Because the purpose of this scan is to identify research gaps related to farmer mental health and business management to inform the engagement phase of this project (see [Section 8.0](#) for next steps), the project team scoped this scan to emphasize the research conducted in areas with similar economic conditions as Canada. While the authors are aware that farmer suicide is a frequently researched topic in the literature, it was determined to be out of scope for the purpose of this review.

3.0 Canadian Farmers

Farmers play a vital role in the functioning of day to day society. They are responsible for producing much of the nation's food and drink, fuel and fibre. Farmers rely heavily on peers and family to support them through the production of both raw and processed products.^{1,2} There are two main types of farming: 1) crop production and 2) livestock production. Farmers that cultivate crops are responsible for preparing the land or production area, planting, caring for their crop, and harvesting.³ Farmers that raise livestock are tasked with housing the animals, caring for the animal, and ensuring the final product (i.e. milk) can be transported safely to market or further processing.⁴ They often also cultivate crops for feed and there are many farmers who are involved in the production of multiple commodities within their operation.

Farming is a career that requires working long hours most days throughout the year. This means that there is less time for rest and leisure. Farmers also face a variety of risks associated with farming, much of which is out of their control; for example, the weather, crop price fluctuations, changing consumer demands, and evolving trade policies. Canadian farmers also face isolation through both geographic isolation (living in a rural area that is a significant distance from urban centres) and social isolation (working long hours with

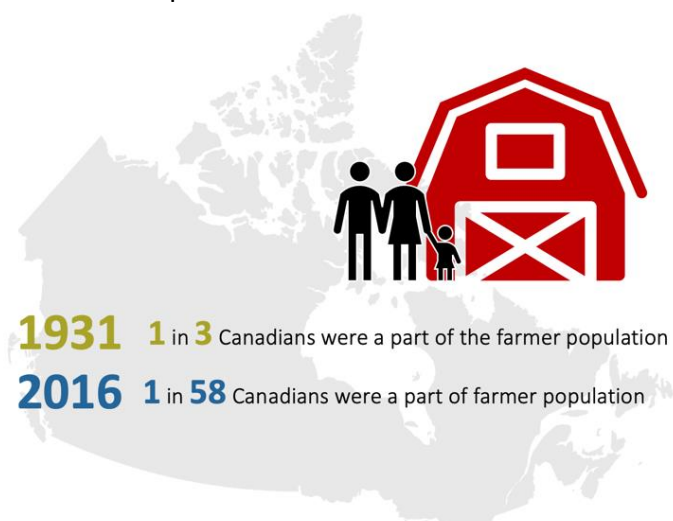


Figure 2. Farm population in Canada over time. The shift in population highlights increased isolation of farmers.

limited contact with other people).⁵ Lack of services including healthcare, shops and general spaces to interact with one's community all contribute to isolation, which can have negative mental health implications for farmers.^{6,7,8}

Discussion around the impact of uncontrollable weather on farmers' mental health is timely this year (2019) because across Canada there was a delayed planting season as conditions varied from either too wet or too dry. This delay in planting has increased farmers' stress about the growing seasons and earnings for the year to come. Headlines across the nation show that wet conditions meant that crops were delayed being planted (Figure 2). Conversely, dry conditions allowed the crops to be planted but lack of water means the plants struggled to thrive. Additionally, the recent unprecedented trade disputes with China resulting in a ban on Canadian canola and meat imports has put tremendous pressure on farmers to find alternative markets and manage current inventory.

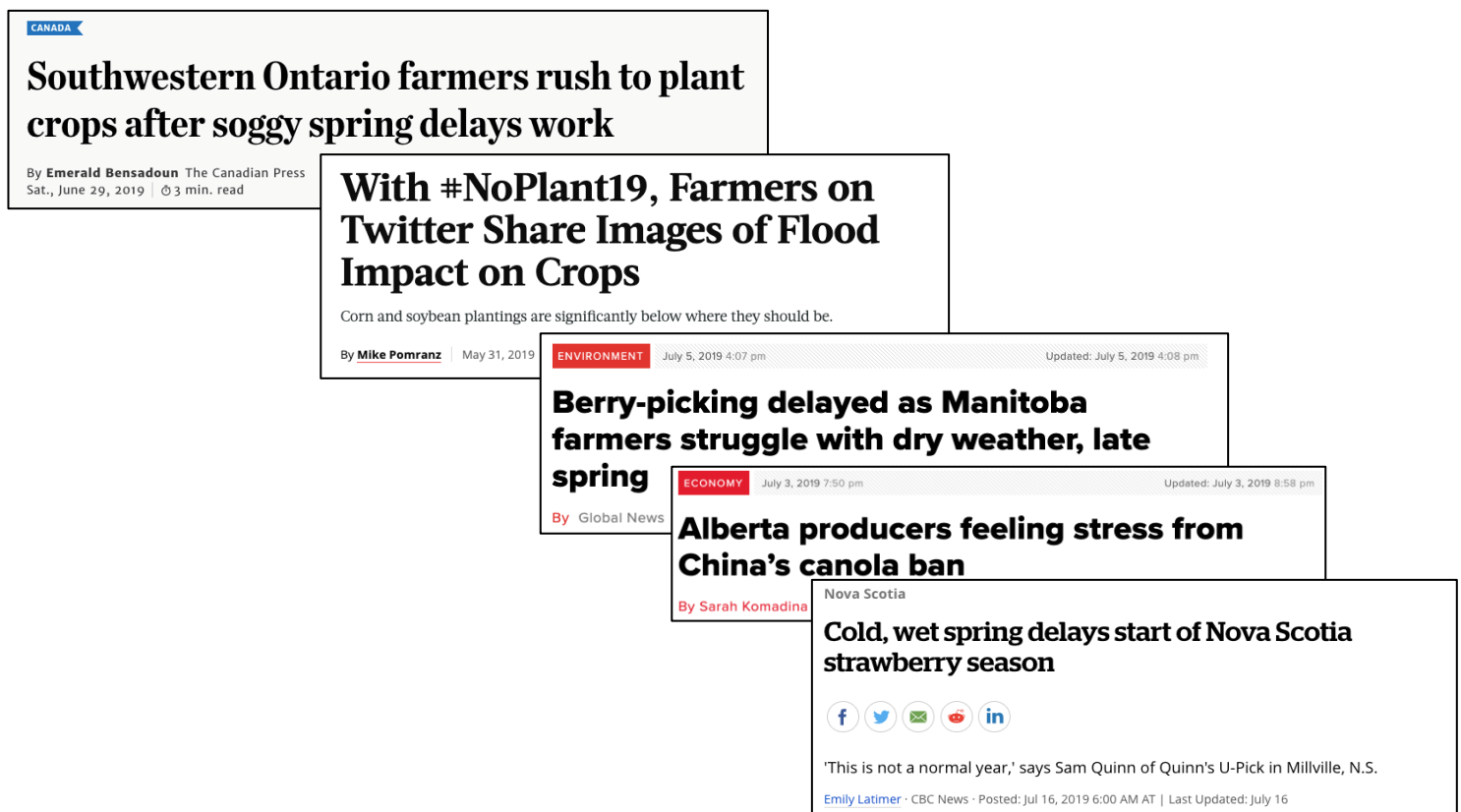


Figure 3. Snippets of recent news articles about the weather and trade related struggles in the farm sector.¹⁰⁻¹³

These factors outside of the farmers' control nonetheless impact not only farmers' earning potential, but all Canadians, both in terms of the food supply and the Canadian economy.⁹

3.1 The Canadian Agri-Food Industry

Canadian agriculture and agri-food are an important economic driver for the nation. The agriculture or agri-food industry employs 2.3 million Canadians, or one in eight jobs.¹⁴ The farming population from 1931 to 2016 has seen drastic change but crop diversity has been growing (Figure 3). Agriculture contributes \$111.9 billion per year to the Canadian economy, and accounts for 6.7% of Canada's gross domestic product (GDP).¹⁵

Canadian agriculture is rich and diverse, with each province and territory contributing different top commodities to the economy (Figure 4). Farming across Canada can be quite variable, depending on a range of factors, such as climate, growing season, topography, access to labour, and access to technology. For example, Ontario has the greatest number of farmers in Canada, partly due to the fact that Southern Ontario offers a long growing season with ample rainfall. This means that crops can be sustained with little to no irrigation.¹⁶ Around the world, Canada is the 5th largest country for agricultural exports.¹⁷ By 2025, Canada's goal is to have \$85 billion in agri-food exports (an increase from \$64.6 billion in 2017), to remain a global leader.¹⁸

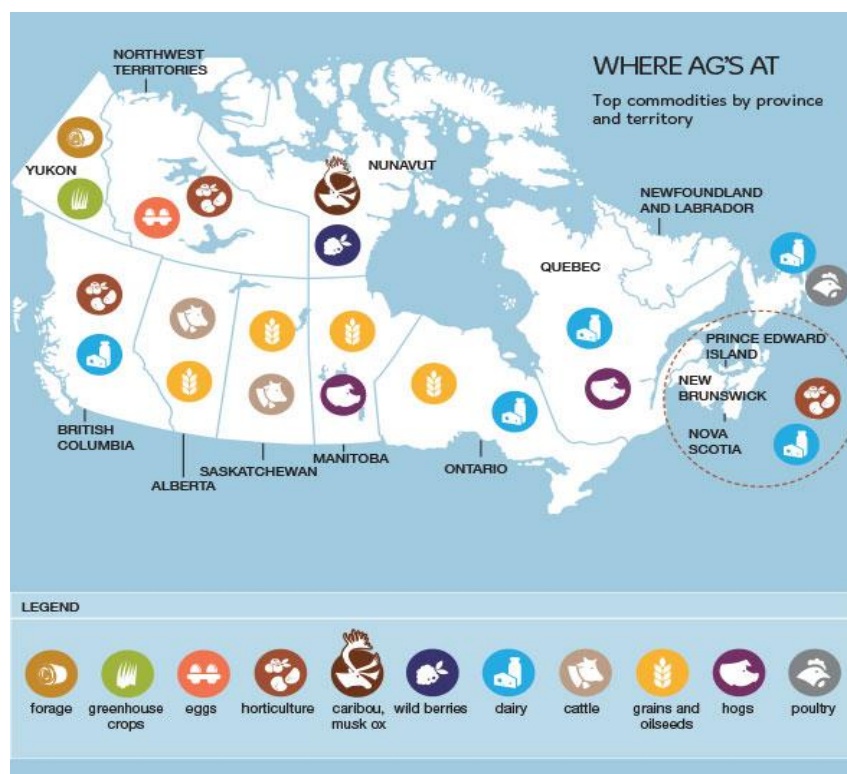


Figure 4. Top commodities by province and territory.¹⁹

Grains and oilseeds (included in NAICS crops categorization) are the most profitable industry in Canada (Figure 5).¹⁹ Farmer income in Canada is primarily in the \$50,000-99,999 range and is well-represented amongst all commodity types (Figure 5). Household income of farm families is important to examine as many farms need to be supported by jobs off the farm.

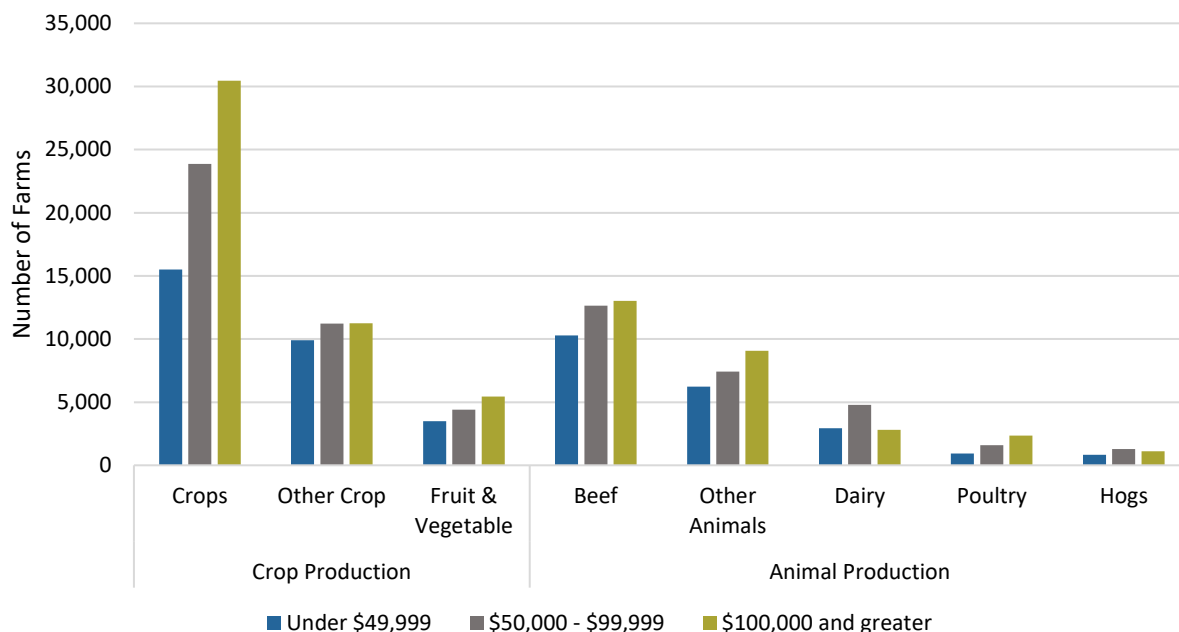


Figure 5. Number of farms classified by farm type and household income class in Canada for 2016 (Statistics Canada 2019). North American Industry Classification System (NAICS) included for easy industry identification and comparison. Farmer income in Canada is primarily in the \$50,000-99,999 range and is well represented amongst all commodity types.

While farm cash receipts remained stable, net farm income (the difference between a farmer's cash receipts and operating expenses) fell 45.1% in 2018, signifying the largest percentage decrease since 2006. This was due in part to rising expenses. Farm operating expenses (feed costs, interest, wages, fuel, etc.) increased 6.5% in 2018, the largest increase in 6 years²¹.

3.2 Canadian Farmer Demographics

While the Canadian farming population is diverse in age and culture, the vast majority of farmers were born in Canada (91.1%), followed by the Netherlands (1.8%), and the United Kingdom (1.2%).²² Similar to other sectors, the farm sector is also aging with 54.5% of farmers being 55 years and older in 2016 (Table 1).²³ The average age of farmers has increased steadily from 49.9 years old in 2001 to 54.0 years old in 2011.²⁴ Based on the aging demographic of farmers, many of these individuals will look to retire and transition the farm, or downsize the scale of their operation, or sell their assets. There are fewer young farmers in Canadian agriculture, only 9% belong to the 35 years or younger age demographic (Table 1). Fewer young farmers could potentially lead to additional stress with a smaller peer network and social isolation, pressure to take on more farm leadership roles, and financial challenges from increasing input costs, land prices, and capital investments.

Table 1. Total farm operators in Canada by province and age in 2016 (Statistics Canada 2019).

Province	Under 35 (%)	35-54 (%)	55 and over (%)	Total (#)	Average Age of Farm Operators
British Columbia	7%	35%	58%	26,390	56.3
Alberta	9%	35%	56%	57,085	55.7
Saskatchewan	10%	34%	56%	45,100	55
Manitoba	11%	37%	52%	19,905	53.8
Ontario	9%	35%	55%	70,390	55.3
Quebec	10%	43%	47%	41,910	52.9
Newfoundland & Labrador	5%	37%	58%	500	55.8
New Brunswick	8%	34%	57%	3,000	55.6
Prince Edward Island	9%	36%	55%	1,810	55
Nova Scotia	7%	34%	59%	4,630	56.5
Canada	9%	36%	54%	270,720	55

Farming as an occupation continues to be a male dominated industry as 71% of Canadian farm operators are male (Table 2).²⁵ There has been an increase from 1991 to 2016 in the number of female farmers that have started to make daily on-farm decisions, 5.6% to 7.2% respectively.²⁶ However, it is important to note that while the operation may be assigned to a male in the household, much of the work will also involve family members (male or female) that is not reflected in the Statistics Canada data.^{27,28}

Table 2. Total farm operators in Canada by province and gender in 2016 (Statistics Canada 2019).

Province	Male (%)	Female (%)	Total (#)
British Columbia	62%	38%	26,390
Alberta	69%	31%	57,085
Saskatchewan	75%	25%	45,100
Manitoba	76%	24%	19,905
Ontario	70%	29%	70,390
Quebec	74%	26%	41,910
Newfoundland & Labrador	76%	24%	500
New Brunswick	78%	22%	3,000
Prince Edward Island	82%	18%	1,810
Nova Scotia	73%	27%	4,630
Canada	71%	29%	270,720

Farmers are highly skilled and often have a diverse set of abilities to ensure farm operations are productive and efficient. Some of the skills and abilities they need as farm operators include mechanical and entrepreneurial skills, and knowledge in animal nutrition and soil science, among several others.²⁹ Over the years, farmer education has adapted and changed, in order to address the demand for new and different skills and knowledge sets. Many producers have now obtained a University degree or other post-secondary education (Figure 6).³⁰ In 2016, young female farmers were twice as likely to obtain a university education focused in agriculture.³¹ Specialized skills were historically acquired on the farm, but now advancements (i.e. robotic milkers, variable rate fertilizer application, etc.) and business skill requirements are making higher education necessary for a successful farm.³²



Farmers with a university certificate, diploma or degree at bachelor level or above:

37,525	↑	39,125
in 2011		in 2016

Figure 6. Farmers with a university certificate, diploma, or degree at bachelor level or above, out of total number of farmers (270,720).²⁸

3.3 Farm Labour and Work-Life Balance

Canadian farmers are hardworking, both on and off the farm. While some farms operate on a part-time basis, most are full-time businesses that account for the majority of household income. Off-farm income has become a significant source of income for many farm families.³⁴ From 2002-2006 alone, off-farm income grew from making up 55% of family income to 62%, respectively.³⁵ The majority of farmers in Canada work 40+ hours a week with on-farm activities and another 30-40 hours with off-farm related work. In 2016, 44% of operators supplemented household income with off-farm work. Across Canada, men generally have the most on-farm work duties, while women have more off-farm work (40 hours and less categories).³⁶ Off-farm income can affect mental health since it influences a farmer's sense of purpose and life goals related to agriculture. These effects are augmented by secondary income from jobs outside the farm. Time has changed from the traditional agricultural times where one person works, and their spouse is in the home taking care of household duties. This changed to households working together to provide income from on-farm activities and in some cases off-farm as well.

26% of female farmers (primary operators) supplement their income with 20-40 hours of off-farm work per week, compared to 20% of male farmers.³⁷

To balance the need for dual income and the work that needs to be completed on-farm, many farmers employ additional labour. The shortage of on-farm domestic labour creates challenges and leads to a high reliance on temporary foreign workers. This increases the burden on farm businesses through additional administration, paperwork, and human resource work (described in more detail in [Section 5.2.1](#)).

Farmers endure stressors like other working professionals, but often face additional stress due to long working hours, reliance on variable weather patterns, isolated work conditions, and challenges with separating work life from home life.^{38,39} For many Canadians it is easy to separate professional life from personal life as these are two distinct places. For farmers these lines are blurred, as most farmers in Canada live where they work, and their work is tied to every aspect of their lives.^{40,41}

In addition, farmers are expected to make daily decisions at work that will affect their social interactions later in the day. For example, deciding whether to plow down the field before the rain or wait until it is dry is a stressful decision that the farmer must make, and will affect the time they have for other activities outside of their work.^{42,43} Farming and agriculture is an occupation that requires attention 24 hours a day, 7 days a week, 365 days a year, yet it is still important for farmers to take breaks.⁴⁴ These stressors, challenges, and affects will be discussed in detail in the following section.

4.0 Mental health

4.1 Definition of Mental Health

It is important to differentiate between mental health and mental illness, as the two terms are often used interchangeably, when they are in fact different. The main way to differentiate between the two is that throughout their life, everyone will have to manage their mental health, whereas not everyone will experience a mental illness.⁴⁵ Mental health relates more to general mental well-being, meaning an individual's emotions, thoughts and feelings, their ability to solve problems and overcome difficulties, their social connections, and their understanding of the world.⁴⁶ Mental health will be referred to predominantly throughout this scan.

The American Psychiatric Association states that mental health involves effective functioning in daily activities, resulting in productive activities in school, work, etc.; healthy relationships; and perhaps most importantly in relation to farmers, the ability to adapt to change and cope with adversity.⁴³

Mental illness on the other hand refers to all diagnosable mental disorders, which are health conditions that can involve significant changes in thinking, emotion and/or behavior, are associated with distress and/or impaired functioning, and can affect how someone interacts with others.^{48,49} There are a variety of different mental illnesses, such as mood disorders (ex. depression), psychotic disorders, eating disorders, personality disorders, substance use disorders, dementia, and anxiety disorders. There are a variety of symptoms associated, many of which overlap multiple mental illnesses, and they affect each individual differently. Some are mild and do not interfere with daily life significantly, whereas others are more severe, in which a person needs care in a hospital.^{50,51, 52}

It is often assumed that people either have mental illness, or they are mentally healthy. However, it is clear that mental health exists on a continuum and requires work and effort to maintain a positive state of mental health.⁵³ People who are mentally healthy report the fewest health limitations of their daily activities, including missing work. They have clear life goals, high resilience and limited feelings of helplessness. Most mentally healthy people are the least likely to develop mental disorders such as depression, anxiety, panic disorder, and alcohol dependence, and when viewed along the continuum, individuals who are completely mentally unwell (i.e. have a mental illness and were not mentally healthy in any form), are able to function the least in their daily activities.⁵⁴ In reality, most adults exist somewhere in the middle of this continuum (Figure 7).



Figure 7. Quadrant of mental wellness and illness (from In the Know mental health literacy training program for agriculture, by Jones-Bitton, A., & Hagen, B.)

It is understood that poor mental health can lead to the development of mental illnesses, but early interventions to promote mental health can prevent the development of mental illnesses.^{55,56,57,58} In that vein, the limitations of farm business management are recognized. This scan focuses on mental health and farm management to help identify further research and knowledge gaps relating to the potential connection between mental health and farm business management, how farm business management can support positive mental health, how mental health can support farm business management, and the critical path forward. The authors are aware that farmer suicide is a frequently researched topic in the literature, however, it is not the focus of this review.

4.2 Current State of Mental Health in Canada

4.2.1 Canadian Mental Health

When discussing the mental health of farmers, it is important to situate this conversation and the data within the wider context of Canadian society to understand how the farm population's situation compares to the general population. Mental health has increasingly become an area for concern in Canada, with awareness, resources, support, research, and discussion occurring more frequently. It is a topic on the minds of many Canadians, particularly because one in five Canadians will experience a mental health problem at some point in their lives. This amounts to more than 6.7 million people, or about 19.8% of the population.^{59,60} While about 65% of Canadians perceive their mental health to be very good or excellent, 7.8% perceive their mental health to be fair or poor.⁶¹ These statistics may not reflect actual rates of mental health issues as there may be a reporting error due to the stigma still associated with seeking professional help. This may be slowly changing as 81% of Canadians are more aware of mental health issues compared to five years ago, and 70% believe attitudes about these issues have changed for the better in the same time period.⁶² However, stigma remains a huge barrier to diagnosis and treatment, but also acceptance in the community. 40% of survey respondents have said that they have never sought medical help for their anxiety or depression, and 42% of Canadians are unsure that they would socialize with a friend who has a mental illness.^{63,64}

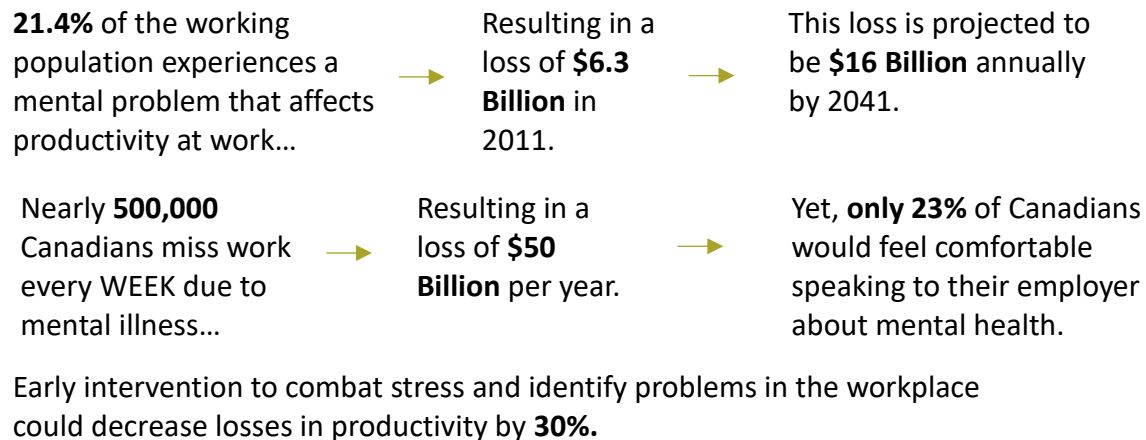
“Just as someone who feels unwell may not have a serious illness, people may have poor mental health without a mental illness. We all have days where we feel a bit down, or stressed out, or overwhelmed by something that’s happening in our lives. An important part of good mental health is the ability to look at problems or concerns realistically. Good mental health isn’t about feeling happy and confident 100% of time and ignoring any problems. It’s about living and coping well despite problems.

Just as it’s possible to have poor mental health but no mental illness, it’s entirely possible to have good mental health even with a diagnosis of a mental illness. That’s because mental illnesses (like other health problems) are often episodic, meaning there are times (‘episodes’) of ill health and times of better or good health.”

- Canadian Mental Health Association

Addressing mental health issues is also an economic and public health issue, as they can seriously impact people's physical health and productivity.⁶⁵

Mental Health is also an economic priority: Quick Facts⁶⁶⁻⁶⁹



People with severe mood disorders are at a much higher risk of developing a long-term physical medical condition, because of the inherent link between the mind and body. The environmental conditions that have contributed to the mental illness, as well as the treatment of the mental illness, can contribute to physical illnesses.^{66,67} The two can share symptoms, such as food cravings and decreased energy levels, which can contribute to weight gain, potentially leading to chronic physical conditions. Some physical conditions that are associated with unrelieved stress and mental illnesses include: diabetes, heart disease and stroke, and respiratory conditions.⁶⁸ Further, the complex stigma associated with mental illness can lead to physicians overlooking the physical symptoms.⁶⁹

Farmers are a unique population who typically live where they work, work very different and long hours, and are often self-employed. As a result, they need different supports in managing their stress in the workplace. Many farmers would not be able to miss work due to mental illness, yet there is still a question of productivity loss. However, this requires knowledge of the existing problem of mental health issues in the farmer population in Canada. The following section reviews mental health in the farm-specific population and includes text boxes that summarize a sampling of existing farmer mental health programs and initiatives across Canada (See [Appendix A for a complete listing](#)).

4.2.2 Canadian Farmer Mental Health

Unfortunately, there have not been many studies about mental health in the farmer population in Canada. A national study on farmer stress was previously conducted by the Canadian Agricultural Safety Association (CASA) in 2005. The study found that two thirds of farmers reported feeling stressed, with 20% feeling very stressed, and 45% feeling somewhat stressed.⁷⁴

AT A GLANCE: FARMER MENTAL HEALTH PROGRAMS AND INITIATIVES IN CANADA

4-H Canada: Healthy Living Initiative

Why? Developed in response to needs of youth living in rural communities in Canada.

What? Provides tools and resources to 7,600 volunteers to support the well-being of 24,000 4-H members

How? Partnered with Kids Help Phone

Au Coeur des Familles Agricoles

What? Self-help network aimed at farm families in Quebec.

How? Offers phone services for requests for help and emergencies, liaison role between those seeking help and professionals, train employees from health and social services network, raise awareness, etc.

Where? Maison ACFA is a physical location where farmers at risk can go to recuperate, break the cycle of isolation, receive services, and get away from the stresses of the farm.

Do More Agriculture Foundation

What? A not-for-profit dedicated to improving mental health in agriculture across Canada.

Operates within 3 pillars:

1. Awareness – breaking the stigma, provide resources centre
2. Community – create a community of belonging
3. Research – supporting, sharing, and funding more research in this field

To the authors' knowledge there exists only one recent primary data study on farmer mental health across Canada.⁷⁵ The study conducted by Dr. Andria Jones-Bitton of the University of Guelph in 2015 surveyed 1,132 Canadian farmers and found that approximately 45% were classified as having high levels of perceived stress. Farmers report much higher stress when compared to the most similar general population statistic in which 27.1% of Canadians had quite a bit or extremely stressful work days.^{76,77,78}

57% and 33% of farmers were respectively classified as possible and probable cases for anxiety, and 34% and 15% respectively classified as possible and probable cases for depression.⁷⁹

A study conducted by Jones-Bitton, et al (2019) found that the above rates are generally much higher than available rates for general populations and farmers in other countries.⁸⁰ The study also noted that compared to the scores from the general US population, Canadian farmers have lower resilience.⁸¹ Resilience helps to protect against the negative impacts of stress and negative mental health, particularly in the face of uncontrollable circumstances, and will be discussed further in Section 4.3.2.

4.2.3 Rural Canadian Mental Health Services

One consideration for the state of mental health for farmers is the provision of services in rural areas. Service provisioning in rural areas in Canada can be difficult and is often lacking compared to urban areas. This can exacerbate mental health problems for farmers, who predominantly live in rural areas.

There is 1 psychologist for every 28,500 people in rural areas, compared to 1 for every 3,848 in urban areas.⁸²

This highlights the difficulty to recruit and retain mental health professionals in rural areas.⁸³ Many rural Canadians have to travel long distances for mental health care, and face significant wait times for this care, which both present barriers to rural Canadians, particularly farmers, who might not have a lot of time to travel long distances.⁸⁴ Another challenge for rural mental health care services, if they are provided in the area, is the reduced anonymity due to social connections in a small community, which can deter individuals from seeking support.⁸⁵ This is challenging, as CASA's 2005 study found that if given the choice, most Canadian farmers would prefer to meet with someone one-on-one rather than over the phone or in

a group session, and it was also very important that farmers remain anonymous when seeking help.⁸⁶ While many resources have been established for farmers and rural areas, it has been noted that the main barriers to accessing these services, in addition to distance, is the cost, as well as the lack of understanding of the unique considerations related to agriculture.⁸⁷ CASA noted that it was “of utmost importance for Canadian farmers that the person they are dealing with for stress and mental health concerns is knowledgeable about agriculture”.⁸⁸

Solutions for these problems include tele-psychiatric and internet services. After hearing from witness testimony, the Standing Committee on Agriculture and Agri-Food recommended that the Government of Canada oversee a national coordination of research and prevention activities for farmer mental health. They also recommended that the Government coordinates and promotes telephone help lines and e-mental health services for farmers and Canadians living in rural areas (which requires reliable high-speed internet services, and having enough people trained in mental health first aid).⁸⁹ However, it is important to note that these types of phone and online services must be coupled with basic level in-person supports already in place in the area as rural and remote areas may not have reliable internet available. Therefore, It is important that they are used to enhance the existing local health structure as opposed to being a stand-alone service.⁹⁰ Further, mental illness and less severe mental health problems must be understood in a social and cultural context, and mental health services must be designed and delivered in a manner that is sensitive to the perspectives and needs [of specific groups]. This highlights the importance of tailoring and delivering services to farmers that are relevant to their unique experiences (for example, Manitoba Farm, Rural and Northern Support Services).⁹¹

4.2.4 Gendered Differences

Another interesting consideration is the difference between the mental health of men and women. Using a Perceived Stress Scale (PSS), the average score was 18.3 for male farmers, and 20.1 for female farmers. The results from Dr. Jones-Bitton’s study suggests that female farmers have higher rates of stress, anxiety, and depression, which correlates to information about the Canadian population, that women have higher rates of mood and anxiety disorders than men.^{92,93} These results highlight important questions about different stresses experienced by male and female farmers and how they are able to access resources for mental health support.

A study in 2011 of rural women in Nova Scotia suggests that while living in rural areas can be positive for women’s mental health because of social connections and connections to the landscape/environment, it can also be the source of increased stressors, due to isolation and a lack of services, such as public transportation.⁹⁴ It is further understood that because women often carry more of the burden of

For twenty years, **Manitoba Farm, Rural and Northern Support Services** has had a confidential support line for residents to call into about their mental health. Farmers can speak with a counsellor who is also a farmer over the phone for free, so they know that their counsellor understands the unique challenges associated with farming. They report there has been an increase in farmers who are willing to talk about their mental health, not only over the support line, but also with their families and on social media.

supportline.ca/farm

taking care of the household and children, and typically work locally, the social isolation and lack of services can be felt more acutely by women than men, as well as the general stresses of caring for the family.^{95,96} More studies are needed to understand these differences between male and female farmers, as it is possible that men self-report their mental health less than women due to the stigma surrounding mental health and illness that affects men more than women.^{97,98}

Further research is needed to investigate the state of farmers' mental health in Canada, and what is needed by the farmers to improve the situation. There is extensive research that has been conducted in other countries, that could be replicated in Canada. For example, Canada does not collect data on deaths by suicide by occupation, unlike other countries such as Scotland and France. While this is out of scope for this study, it is an important knowledge gap to note when studying the extent of the problem of poor mental health in Canadian farmers.

Mental Health: A Priority for our Farmers

Highlights from the Report of the Standing Committee on Agriculture and Agri-food⁹⁹

In May 2019, the House of Commons Standing Committee on Agriculture and Agri-Food released a report based on testimonies provided by 61 individuals and organizations on the mental health challenges facing Canadian producers.

The key stressors Canadian farmers face include:

- ⇒ Finances and Volatile Markets
- ⇒ Long hours worked
- ⇒ Family disagreements
- ⇒ Lack of sleep
- ⇒ Unreasonable personal goals
- ⇒ Weather and uncertain yield
- ⇒ Administrative burden
- ⇒ Machinery breakdowns and technology working properly

The Standing Committee put forward 10 recommendations for the Government of Canada to consider. Below is a summary of these recommendations:

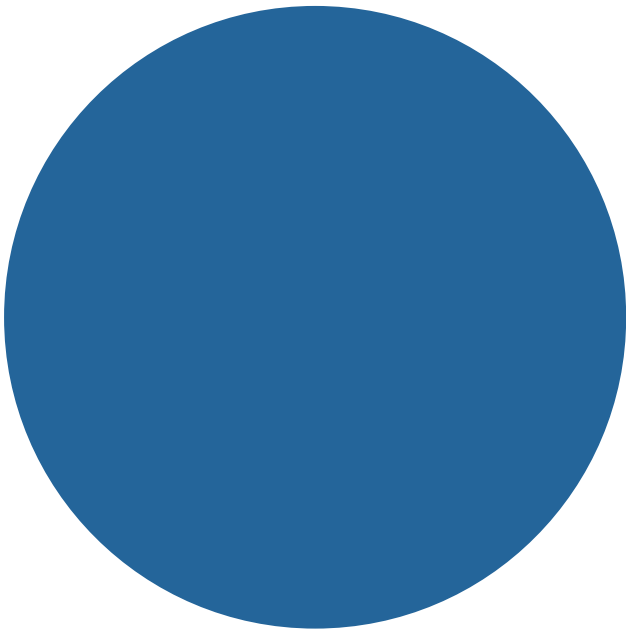
- 1) Examine auditing and labour review processes to (1) help ensure the least amount of stress and disruption to producers and (2) give more consideration to experience when hiring auditors so as to ensure they are understanding of producers' processes
- 2) Take into account the following three strategies to mitigate stressors on producers when implementing regulatory change. (1) give time for consultation, (2) inform those affected from the start to the end of the process, and (3) fully consider withdrawing or amending changes if impact is found to greatly affect the Canadian agricultural sector.
- 3) Develop public awareness campaigns and strategies to combat the online harassment targeted at agricultural workers which results in a high-stress environment. Additionally, it is recommended that intimidation or cyberbullying of Canadians based on occupation or place of residence be a Criminal Code offence.
- 4) Accelerate the deployment of high-speed internet infrastructure in rural communities.
- 5) Work with key stakeholders to improve mental health support and insurance coverage for farmers.
- 6) Invest in educating key stakeholders that work directly with farmers to detect signs of psychological distress and where to refer them for helpful resources.
- 7) Increase awareness and prevention of mental health challenges to educate future farmers about the challenges they may face.
- 8) Work with provincial and territorial partners to fund activities that provide mental health assistance to farmers and farm families
- 9) Oversee national coordination of research and activities that target farmer mental health.
- 10) Facilitate, coordinate and promote help lines and e-mental health services for farmers and Canadians in rural communities.

4.3 Mental Health Stressors in the Farmer Population

There are a number of factors identified in the literature that affect mental health specific to the farming population. These can include high physical workload, isolation, and conflict with family, among others. Any number of these factors alone, or combined, can lead to mental health challenges and subsequently, challenges for farm management, including productivity and prosperity.

4.3.1 Farm Stress Factors

There are a variety of stressors that farmers face, many of which are unique to their population. These stressors are the main sources of mental health challenges including stress, anxiety, and burnout. The following list of eight factors have been derived from the results of this environmental scan and will be used to guide the subsequent research for this project (Figure 8).



Workload Pressures and Lack of Time	<ul style="list-style-type: none"> • Limited time to interact with family and friends and participate in leisure activities
Isolation	<ul style="list-style-type: none"> • Lack of social interaction, healthcare and recreational/social services due to rurality
Financial Pressures	<ul style="list-style-type: none"> • Financial pressures including price margins, payment of debts, employee payroll, rising input costs and other expenses
Conflicts with Family and/or Associates	<ul style="list-style-type: none"> • Difference in opinions over farm management decisions or professional values associated with the farm business leading to family or associate conflict
Farm Transition	<ul style="list-style-type: none"> • Transition planning and the stress associated with maintaining the farm legacy
Unpredictable Interference	<ul style="list-style-type: none"> • External stressors including weather, price/markets, agricultural policy and legislation, machinery breakdowns and disease outbreaks
Public Trust	<ul style="list-style-type: none"> • Criticism of farming in the media reducing pride and confidence
Social Stigma	<ul style="list-style-type: none"> • The perceived social "shame" of having mental health challenges

Figure 8. Overview of farm stress factors.



Workload Pressures and Lack of Time

While most farms are full-time businesses, many farmers supplement their farm income with off-farm work, as discussed in [Section 3.3](#). Often, farmers' hours of work exceed the normal working hours of other Canadians. For example, if a cow starts to calve in the middle of the night, a farmer might need to get up to help or call the veterinarian. The majority of farmers in Canada have 40+ hour work weeks doing agricultural duties, and during peak planting or harvesting seasons these hours can far exceed that.¹⁰⁰ Many farmers also belong to industry and community association and organizations to contribute to policy and programming. With intensified schedules, farmers have limited time to interact with their family and/or friends, or participate in leisure activities, which can result in isolation and have negative affects mental health.^{101,102} The workload and schedule that leads to a lack of time to socialize and participate in leisurely activities is a stressor for farmers.^{103,104,105,106,107} This type of isolation can be brought on by overwork and physical exertion.^{108,109} Additionally, the increase of mechanization has led to more isolated work and fewer shared tasks.¹¹⁰



Isolation

Canadian farmers face isolation through two main factors, 1) Geographic Isolation (living in a rural area) and 2) Social Isolation (working long hours with limited contact with people). Interaction with community members may be limited due to location or the number of hours worked (for more information on workload, see above).¹¹¹ Sense of community and belonging have been documented as important aspects to health and wellbeing in rural Canada.¹¹² Generally, the younger generations within rural communities have a greater sense of belonging through programming opportunities such as 4-H.¹¹³ For older generations there are a lack of services including shops, and general spaces to interact with community which all contribute to isolation, which can have negative mental health implications for farmers.^{114,115,116} Apart from these more leisure-focused amenities, a lack of access and availability of appropriate healthcare (including mental health) services exists.^{117,118,119} It is difficult to recruit and retain mental health professionals in rural Canada. For more information about rural mental health service provisioning, please see [Section 4.2.3](#).

With **83.9%** of Canadian farm operators living in rural Canada, isolation can pose a challenge for mental and physical well-being.¹¹²

Social media is playing a role in reducing this isolation. A poll conducted by the Canadian Young Farmers Forum found that 75% of young farmers use social media as a primary means for connecting with other farmers.¹²⁰ One recent article in Country Guide highlights the importance of social media for today's farmers:

"There is one advantage for today's younger farmers on those bigger farms. They're connected across wider distances by the same technology so many of their parent's generation complain about. It's social media. There may not be as many younger families in physical farm communities, but for these young farmers, social media has been a game changer".¹²¹



Financial Pressures

Financial pressures refer to short-term financial stressors including difficulty paying bills or repaying debts, employee payroll, etc.^{122, 123} as well as long-term financial pressures including profit margins and investment^{124,125}. In the Canadian agricultural sector, many farmers begin operating their business by obtaining loans or using financing to help support the growth of their business, which evidently contributes to these financial pressures. There is also a constant pressure to reduce the cost of inputs in order to maximize profitability and meet productivity targets.

“[This research] supports the notion of family as an essential resource pool and the view of the agricultural sector as comprising a heterogenous array of entrepreneurs and firms with varying degrees of flexibility which approach opportunities in different ways”

– Fitz-Koch et al. 2018 (pp.147).



Conflicts with Family and/or Associates

This factor appears throughout the literature as a stressor related to farm management and can include disagreements related to business management amongst family and/or associates.^{126,127,128} The Australian National Centre for Farmer Health highlights family conflict among the factors that affect stress on the farm.¹²⁹ This stress factor as it relates to the Canadian agriculture sector is not well-documented. However, the most recent Canadian data indicates that 84% of spouses participate in farm management, 76% of spouses share ownership and 28% of on-farm employees are also family members.¹³⁰ This makes for a complicated dynamic that requires dedicated skillsets to manage.



Farm Transition

Farm transitions refer to the passing of the farm from one generation to the next, but more specifically, to the worry associated with being able to maintain the farm legacy and typically, keep the farm in the family. Transition planning can be a daunting, and often stressful task, that is intimately linked to family dynamics, communication, and navigating relationships. Interestingly, this issue is not correlated with age, suggesting that the stress associated with transition planning is equally as significant for younger farmers as it is for older farmers.^{131,132,133} This dynamic between farm management, ownership, and family, can make transition planning a stressful experience. The stress associated with farm transitions can be felt from both sides of the transaction – meaning, those that both those that are starting or expanding their farm operations and those selling their farm operations are affected by the stress of farm transition. The most recent Canadian data indicates that only 8.4% of Canada’s farmers have a written farm transition plan.¹³⁴



Unpredictable Interference

Unpredictable interference stressors can include weather, machinery breakdowns, disease outbreaks, legislation and policy changes, and other variables beyond the farmers' control.^{135,136,137,138} For example, many farmers are extremely dependent on relatively predictable weather for financial success which considerably affects their mental health.¹³⁹ Farmers, amongst other rural residents, have been documented as particularly vulnerable to a changing climate. A 2008 study in New South Wales reported that nearly 75% of farmers reported stress related to persistent drought.¹⁴⁰ As previously mentioned, the 2019 planting year in Ontario has been unprecedentedly wet and is being referred to on social media as #noplant19. These conditions forced crop insurance companies to move deadlines for crops such as grain corn to account for the delayed planting season. Farmers in forward contracts (contracts with set prices arranged with buyers prior to the planting season to ensure income) are at risk of losing anywhere from \$10,000 to \$100,000 if their crop falls short.¹⁴¹ If farmers are unable to plant prior to the crop insurance deadline, the contract payments are not covered by insurance.

Complying with agricultural policies and legislation is considered to be another source of stress on the farm. This can include adjusting to new government policies,^{142,143} the administrative burden associated with filling out government documents,^{144,145,146} and complying with environmental and other regulations.¹⁴⁷ While stressors in this category may be considered necessary, there is an opportunity to better understand how stress in this regard can be minimized on the part of policy makers and local governments. Intergovernmental affairs and international trade agreements can also cause considerable stress. As farms have tended towards larger operation sizes, the impact of trade agreements, and notably, trade disputes, can be amplified.

Market volatility is another stressor affecting farm management. Most farmers are considered price-takers, meaning the market sets the price at which they are able to sell their goods for. Unpredictable volatility in market prices can stem from a number of situations including crop and animal disease breakouts, trade disputes or a sudden spike in demand. Markets can suddenly change without notice.



Public Trust

Harassment has become such a significant issue that a recommendation and call-to-action in the 2019 Standing Committee report includes combatting cyber-bullying and threats towards agricultural workers. Media criticism of farming as a source of stress has been documented as early as 1999, and continues to be discussed in the more recent literature.^{148,149} Concerns over animal activists trespassing on Canadian farms and online harassment have led to increasingly polarized conversations on social media, and have become a major workplace stressor for Canadian farmers and agriculture workers.^{150,151} There is a perceived lack of understanding of

normal farm practices from urban residents. Common examples that often surface can include weaning practices on dairy farms and the application of herbicides or fungicides on field crops.



Social Stigma

Social stigma refers to the disapproval of a person based on social characteristics such as culture, gender, race, occupation, etc. There is a general perception that farmers are tough or stoic.¹⁵² In other words, farmers tend to self-manage their own mental wellbeing.^{153,154,155} Stoicism and control are idealized as masculine traits which do not serve to benefit mental health in times of high stress in farmers.^{156,157} There is a gap in the literature in how social stigma affects female farmers in particular. Farmers that feel stigmatized are less likely to seek help for mental health and wellbeing compared to those who do not feel stigmatized.^{158,159} The Canadian Agricultural Safety Association National Stress Survey in 2005 reported that 40% of farmers believed that they could self-manage their mental health issues and were unaware of professional help available.^{160,161} As this is relatively dated, it would be beneficial to update this document to learn of current trends in Canada. With mental health at the forefront of media through programs such as [‘Bell Let’s Talk’](#), [DoMoreAg](#), and others, the discussion about reaching out about mental wellbeing may be more accepted among the public.

4.3.2 Resulting Mental Health Challenges

Stress and Anxiety

Stress can be either ‘good’ or ‘bad’, depending on the severity and duration of the stress. Stress can be defined as a person’s reaction (through direct experiences or perceptions) to situations and events.^{162,163} It is well understood that the above stressors, particularly when multiple compound together, cause increased stress and anxiety among farmers.

^{164,165,166,167,168,169,170,171,172,173} Stress can threaten physical and mental health, affecting behaviours and decision-making (see figure of Caplan’s Crisis Model below). Higher rates of stress have been associated with poor sleep, irritability, difficulty concentrating and withdrawal. It is critical to understand the impacts of harmful stress and anxiety on farm management and how farm management may alleviate or possibly contribute to stress and anxiety.^{174,175}

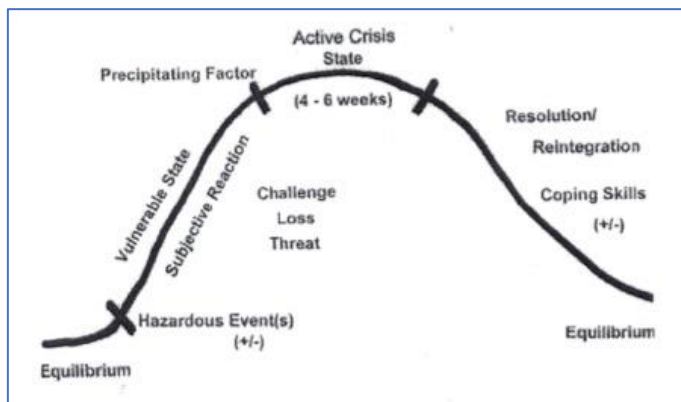


Figure 9: Caplan's Crisis Model is a typical model used to look at stress and stress intervention

Anxiety is an aspect of stress, but can also be defined as a variety of anxiety disorders, such as phobias and panic disorders.¹⁷⁶ A variety of recent studies have not found significant differences in the prevalence of anxiety disorders between farmers and general populations, except for Dr. Jones-Bitton’s recent study (see [Section 4.2.2](#)).^{177,178} Notably, there is a gap in the literature about

farmer anxiety. Dr. Jones-Bitton's study (reviewed in [Section 4.2.2](#)) found a higher prevalence of anxiety disorders between dairy farmers and the general public. Other studies on farmer mental health and stress have confirmed that the impact of anxiety on farm productivity is not well researched.¹⁷⁹

There are conflicting results as to which stressors (i.e. isolation, financial pressure, public trust, etc.) cause the most stress. The first farm stress survey conducted in the United States found that farmers think that climate change and hazardous working conditions are naturally related to farming, so they are not as stressful as their personal finances, which cause more stress as they believe they are more responsible for and have more control over.¹⁸⁰ Social isolation also may not be a significant source of stress for farmers, but social contact and services were still very important for farmers.^{181,182} This likely depends on the rural community and its density. For example, in the UK, where population density is much higher, social isolation was not a major stress factor, even in rural areas. This is in contrast to countries like Canada, the United States, and Australia, where rural areas are much less populated.

Age also impacts the degree to which these stressors influence mental health. This is important to consider as the average age of farmers increasing, and the replacement rate of young people replacing those retiring is the lowest of all the sectors in Canada.¹⁸³ For example, older farmers in Australia found that social isolation was a major source of stress for them, both in terms of loneliness, and the lack of services.¹⁸⁴ Older farmers are also impacted more severely by stress due to the compounded effects of ageing (physically and mentally), an increased sense of loss, and lack of access to mental health services, both because they were not available, and because they thought they would be viewed as “crazy” if they used them.¹⁸⁵

Research has shown that increased stress can lead to a higher risk of suicide, with farmers being the fourth highest at risk for suicide by occupation group in the UK.¹⁸⁶ According to an international literature review of suicides by occupation, farmers are at a significantly elevated risk of suicide, more at risk than managers and clerical workers, but less at risk than general labourers and machine operators.¹⁸⁷ This poses the challenge that increasing stress as a result of the myriad of factors has dangerous psychological implications, and necessitates action to help reduce farmer stress and develop strategies for managing the effects.

Burnout

Another mental health challenge is burnout. Burnout refers to a prolonged occupational stress resulting from the difficult relationships that people have with their work which develops over a long time period.¹⁸⁸ Numerous factors can lead to farmer burnout including long working hours, time constraints due to weather or business contracts, exhaustion, cynicism, and a collapse in professional self-esteem.¹⁸⁹ It is understood that many Canadian farmers supplement their income with off-farm work, which can be a significant contributor to burnout. In the United States, off-farm work has been shown to increase the risk of depression.¹⁹⁰ A Norwegian study found that many farmers supplement their work with off-farm work, and while a high level of off-farm work was associated with increased mental complaints, it was not significantly different from those who did not participate

in much off-farm work. The study provides two explanations for this; first, those who participate in more off-farm work are planning their business in such a way that they can take time away to work off farm. Secondly, those who have a high workload also have the mental capacity to do so, whereas farmers who have more, and worse symptoms of mental health do not have the capacity and therefore do not increase their workload.¹⁹¹

Evidently the various factors that farmers face in their work increases their risk of mental health challenges, which can lead to the development of more serious mental challenges, physical symptoms, and/or increase risks on the farm.

Resilience & Tenacity

One aspect of mental health is resilience, which is a measure of how quickly someone can bounce back after facing a setback, as well as how well they adapt to better manage in the face of future adversity.¹⁹² In some cases, stressors compound to the point where it becomes extremely difficult to bounce back. Not all stressors are avoidable, so it is important to learn to cope with stress when it happens. Resilience is a process that can be learned, and farmers are often praised for their resilience due to the culture of being a farmer. However, not all resilience is desirable, as some resilient systems can have negative outcomes, such as working harder and longer hours, or not seeking help for mental health issues, leading to a risk of mental illness and suicide.¹⁹³ Research shows that farmers are actually less resilient than non-farmers.^{194,195,196,197} There can still be more done to teach coping strategies.

In order to be resilient, an individual needs the appropriate knowledge and skills, as well as community connections, social capital, a willingness to learn, an openness to change, and the capability to access necessary resources.¹⁹⁸

Greenhill et al. identified eight themes that influence farmer resilience in interviews with Australian farmers during one of the longest droughts in Australian history.¹⁹⁹ Importantly, three themes related to business management practices that Australian farmers found helpful in “getting by”. These include the “pre-existing viability of the business”; “income security”; and “managing risk and decision-making”.²⁰⁰ The state of the farm business prior to the drought was a key influencer, such as how much crop stock there was from previous years, levels of debt, and the presence of Farm Management Deposits (FMD), which could be used to equalize income. This relates to the second factor, income security, as farmers noted needing to find alternative sources of income such as FMD, or off-farm work. Finally, managing risk and decision-making came from a confidence in the industry, that was generally a result of extensive research, using experts such as agronomists and farm consultants, and being proactive with their business, by changing methods, developing new products, or mixing in off-farm work.²⁰¹ Other identified themes that are reasonably actionable and could also be used to promote farmer wellness include being “more than a farmer” (e.g., hobbies and sport, and valuing other social roles like community leaders, parents), having “opportunities to disengage” (e.g., getting off-farm, and time with children, family, friends, community), and “self-care” (exercise, time to self, and time with friends).^{202,203} Using business management practices to promote and build resilience in Canadian farmers will be examined through the engagement phase of this project.

4.3.3 Impact on Farmer and Farm Health

The impacts of stress and burnout can have serious implications on the farm and the farmer. High levels of stress can lead to difficulty concentrating, poor decision-making, an increased risk of injury on the farm, increased risk for animal welfare problems, and loss of interest in farming, all of which can impact the farm's productivity and prosperity.²⁰⁴

Injuries in Agriculture: Quick Facts²⁰⁶

In Canada, farming is the **fourth most dangerous industry** in terms of rates of fatal injury, and it is the most dangerous industry in terms of absolute numbers of fatalities.



There were **843** agriculture-related fatalities from 2003-2012 in Canada...



this works out to an average of **84 agriculture-related fatalities** per year.

Agriculture-related injuries cost the health-care system **\$465 million** ...



of this, **\$374 million** (or 80%) was as a result of avoidable injuries.

Studies have shown that **stress and injury co-exist** on farms and can both be a factor in the other.

Farming has been identified as one of the most dangerous industries due to the broad and changeable range of physical, biological, chemical, and mechanical hazards.²⁰⁵ There is not a significant amount of literature in regard to the relationship between stress and injury, however, studies have shown that stress and injury co-exist on farms and may be correlated. A 2004 study with almost 3,000 Ontario farmers found that during high-stress times such as planting or harvesting, as well as when there are higher financial stressors, injuries tend to increase. They also identified strong associations between perceived stress levels and the occurrence of farm injuries. This finding supports a 1996 study that also found that as perceived stress levels increased, so did the risk for injury (particularly in the 20-40 age group).²⁰⁶ This was more pronounced among those with no off-farm income, especially women, but they were unable to draw conclusions to explain this finding.²⁰⁷

Alertness and responsiveness decrease as a result of the effects of ongoing stress or burnout which include sleeping and concentration problems, irritability, and fatigue. This can then increase the risk of injury.^{208,209} This is especially important because farmers already face increased hazards day-to-day, so reduced responsiveness can be very dangerous. Further, and importantly to this study, farmers often made decisions that value productivity and economic

gain over the safety of the work environment as a result of stressful situations, particularly in relation to economic concerns and an overload of work.

This altering of the decision-making process as a result of stress influenced the safety decisions made on the farm.²¹⁰ This draws a clear connection between how stress can affect decision-making on the farm.

Another consequence of increased mental health challenges on the farm is the impact that this can have on livestock. Research has shown that farm productivity and the wellbeing of the farmer is linked to the relationship between farmers and their animals. A good relationship with the animals can alleviate the stress of farming, and positive perceptions of animal welfare contribute to job satisfaction, which is a positive feedback loop of good quality of life for both animals and farmers. However, this can also go the other way, as farmer stress and compounding on-farm problems is linked to negative animal health outcomes.^{211,212} Experiencing an animal welfare crisis as a result can cause even more stress, to the point of feeling suicidal.²¹³ This can be compounded by the fact that farmers feel isolated by their neighbours, fellow farmers, and the media, for their role in animal welfare and the related negative language which implies poor farm practices.^{214,215} Currently, there is a lack of evidence that suggests that shifting into negative attitudes towards one's animals is a result of poor mental health. Rather the research tends to suggest that it simply makes it more challenging to care for their animals, and that distancing oneself from one's animals during a crisis undermines the positive effects of a healthy human-animal bond.²¹⁶ This provides an opportunity to determine the impact of mental health on animal management, to both improve farmer's mental health outcomes, as well as improve animal welfare outcomes.

Long-term stress (and burnout) can lead to doubts in an individual's ability to complete their work, as well as losing the joy and belief in the meaningfulness of their work. As farmers are so connected to their work, this is an especially important impact.²¹⁷ Working closely with the land and environment can encourage a positive sense of custodianship and connection, but it can also constrain innovation in the vein of "this is how it has always been done".²¹⁸ This can be detrimental to both the farm and the farmer as they may not want to adopt new practices that might improve farm practices or profitability. There exists a correlation between farmers who have poor mental health and those that did not want to adopt agri-environmental schemes.²¹⁹ This is likely because a lot of these schemes are voluntary and receiving payments (if they exist) involves complying with more government regulations and filling out more paperwork, factors that have been demonstrated to contribute negatively to farmer stress. A potential method to encourage biodiversity conservation in agriculture is to address farmers' mental health, as farmers with good mental health are more likely to adopt these schemes.²²⁰

Furthermore, anxiety and depression have been reported to increase both absenteeism and presenteeism, which has been associated with work impairment and productivity loss.²²¹ A farmer might also make less profitable and rational business decisions if they are emotionally unstable. Research shows that rational, emotionally stable, and

conscientious farmers are likely to have more-profitable farm businesses.²²² While these are all different variables of impacts of mental health on the farm, it is clear that increased stress and poor mental health has negative impacts on the management of the farm in terms of farm safety, animal welfare, and general productivity, profitability, and healthfulness of the farm.

5.0 Farm Business Management

When it comes to farming, the effects of mental health go beyond the individual. The business must keep going; the team must be led, the animals fed, crops managed, cows milked, customers served, and contracts upheld. All of these tasks, which largely take place at home, create a unique situation for a farmer to manage their farm business, meet expectations, and provide for their family. There is an inherent connection between mental health and managing the farm, but this link has not been explored in research. Farm business management can help to reduce risk, increase certainty, and increase confidence. Through the business planning process, farmers create a vision and learn to set realistic goals (see [Appendix B](#)). They assess the risks and opportunities they may encounter along the way and put measures in place to mitigate and manage what is in, and outside of their control. Planning solidifies the farm team, creating a support network including family, business partners, and advisors. But it can also be daunting to manage a farm business and put business management practices in place, possibly causing more stress. This section will explore the factors related to farm business management, and where possible, the relationship to farmer mental health and decision-making.

5.1 Entrepreneurship and Farming

Innovation, Science and Economic Development Canada defines entrepreneurship as a process that starts with someone – the entrepreneur – recognizing an opportunity to create something new.²²³ Other working definitions commonly used include entrepreneurship as the pursuit of opportunity beyond resources controlled,²²⁴ as well as enterprising human action in pursuit of the generation of value, through the creation or expansion of economic activity, by identifying and exploiting new products, processes or markets.²²⁵ Farming, without a doubt, fits into the various definitions of entrepreneurship - Canadian farmers are entrepreneurs. Every farm decision is complex in its own right and affects all other future decisions. Farmers demonstrate entrepreneurial skills that are embedded in their day-to-day work lives. Importantly, the concept of farming as an entrepreneurial activity for the purpose of this section includes the diverse number of farm types and sizes across the country (see [Section 3.1](#)) and farmers' constant pursuit of new opportunities to stay on the leading edge and gain the competitive advantage. This aligns

“entrepreneurs have to **detect and exploit opportunities**, they have to make **rapid decisions** under uncertainty and in a resource constraint environment, they have to work harder than most employees, and they have to possess a **wide variety of skills, knowledge, and abilities**”.

(Rauch and Frese, 2007. pp358)

with the many definitions of entrepreneurship and the use of the concept in Canada and internationally, where the label of 'entrepreneurial enterprise' is used to refer to small and medium enterprises (SMEs).²²⁶ In Canada, the majority of farm operations are considered SMEs.

One highly cited study links the following personality traits to entrepreneurship activities such as business creation and business success (Figure 9):²²⁷



Figure 9. Personality traits related to entrepreneurship activities.

Traits significantly correlated with business success include innovativeness, proactive personality, need for achievement, and self-efficacy. Stress tolerance was more consistently related to business creation rather than success. Interestingly, two traits that are thought to be relatively important in entrepreneurship – internal locus of control (the belief that you are responsible for your own success) and risk taking – are not strongly related to success.

Agriculture and Entrepreneurship

The empirical literature on the role that various sectors have on entrepreneurship and entrepreneurial capacity is limited. Further, mainstream research in entrepreneurship overlooks the agricultural sector. Previous research in agricultural entrepreneurship tend to categorize farms into those that focus on “traditional production” or “modern multifunctional farms”, which undermines the real complexity of the agricultural sector.²²⁸

There are a number of factors that drive business opportunities and innovation on farms including the landscape, farm location and proximity to urban areas, climate and soil conditions, proximity to farmers' markets and the availability of farmer social networks.

Canadian farmers are innovative (Figure 10). Entrepreneurship in the agricultural sector, specifically at the farm level can take on many forms from experimenting with new crop varieties, on-farm retail and agri-tourism opportunities to entering international export markets. Family involvement on the farm can be an incentive for innovation, given younger generations that bring new ideas are rooted in trust and can be tested through small scale “experiments”.^{229,230} Arguably, farmers have a competitive advantage to other innovative sectors. The average Canadian farm collects many data points, making their ability to make decisions faster and more accurately that much easier.

Canadian Farmers are Innovative		
48%	6-7%	Innovations are more likely to be adopted by farms with annual revenues
Of Canadian farms adopted agricultural innovations in 2013	Of Canadian farms are ‘early adopters’ of innovations	
		> \$1 Million

Figure 10. Indicators for innovation on Canadian Farms.²¹⁶

Farming Challenges Related to Entrepreneurship

There are factors unique to the agricultural sector that make entrepreneurial activity particularly challenging. For one, the ability of a farmer to ‘pivot’ in their strategy (i.e. change crop type, production practices, distribution channels, etc.) is limited due to the relatively shorter season in which they can make these changes. From a business perspective, pivoting can be defined as a business decision made to change direction using market information.²³¹ In addition, production cycles for agricultural products are much longer than that of a manufactured technology for example. This of course depends on the farm type. For example, greenhouse growers may be able to experiment with new crop varieties in the winter months whereas a carrot grower would not have this opportunity. Together, this inability to easily pivot, transition, or make major changes can create increased stress and anxiety; however, the research on this is limited. Second, a key interest of most entrepreneurs is access to capital. In farming, there are more limited opportunities to secure capital, compared to other professions. At the same time, debt is a major stressor in farming. The public sector remains the largest source of funding for research and development activities in agriculture (both public and private research).²³² Federal and provincial funding programs that support the investment in new farm business ventures also exist; however, these programs are often allocated on a cost-shared basis and require an extensive application process and reporting.

Entrepreneurs must be nimble and adaptable. Many farmers consider themselves price-takers, with little control over the market in which they operate. As previously mentioned, the seasonality and production cycles required to farm make being nimble and adaptable (in the immediate and short term) difficult. Farming is a diverse sector, and farmers operate in a highly regulated and constrained environment, which can, itself act as a barrier to entrepreneurial activity and a cause of stress.²³³

The Path Forward for Entrepreneurship

In many cases, farmers are still not considered part of the pool of business owners that are commonly referred to as entrepreneurs. The reality is that they possess most, if not all, of the personality traits of entrepreneurs.

In 2014, the Canadian Chamber of Commerce released the report, *A Path Forward for Entrepreneurship in Canada*.²³⁴ Key recommendations that may be of interest to the agricultural sector include:

- Streamline and improve communication of federal programs to improve access, reporting requirements and management;
- Improve access to capital to support the commercialization process;
- Providing more support for helping entrepreneurs reach international markets. Specifically, the co-ordination of trade missions between federal and provincial/territorial governments;
- Incorporating educational tools and programs that build entrepreneurship skills such as managing risk, business development and experimenting with innovation within colleges and universities. A key component of this recommendation is more collaboration between employers, universities and colleges; and
- Investing in the skilled trades and reducing the stigma surrounding the diverse fields within them.

As well, the Canadian Mental Health Association's 2019 report, *Going it Alone: The mental health and well-being of Canada's entrepreneurs*²³⁵ offers the following recommendations to bring attention to entrepreneur mental health in Canada:

- Develop flexible and effective mental health support for entrepreneurs;
- Create tools to help entrepreneurs achieve better work-life balance;
- Strengthen research on entrepreneur mental health;
- Shift the popular view of entrepreneurs and entrepreneurship; and
- Include mental health in entrepreneurship education.

These combined recommendations, if implemented, could serve to improve the agricultural sector through supporting the entrepreneurial activities of farmers while increasing support for mental health-related challenges.

5.2 Managing a Canadian Farm Business

Farm business management consists of daily decision-making and problem-solving, which can be affected by stress, anxiety, and the challenges of being a farmer. There are a wide variety of farm business-types, each with their own business goals and management strategies. Generally, business goals include maintaining quality of life and a steady business, increasing profitability, business expansion and farm transition. This section highlights the general trends of managing a farm business in Canada.

5.2.1 Trends in Farm Business Management

There has been a lack of convincing evidence regarding the value of adopting farm business management practices, making it difficult to convey the value, and increase the adoption of business management practices by Canada's farmers.

Planning

Adoption of farm business management practices remains fairly low across Canada. Only 26% of farmers have a written business plan while just 32% have a risk management plan of some type.²³⁶ Similarly, 18% of Canada's farmers have a human resource management plan and just 8.4% of Canada's farms had a written succession plan.^{237,238} As the average age of farmers in Canada rises, transition planning has become a priority to ensure the sustainability of the sector. Recognizing this gap, many financial institutions now offer transition planning resources and assistance to farmers. The use of business advisors to develop plans, has been found to impact the financial success of Canadian farms.²³⁹

A 2016 study of Ontario farmers found farmers are most familiar with business planning, however awareness and implementation of all other plan types has declined significantly over the past five years.²⁴⁰ Less than one third of farmers feel any one plan has an impact on the success of their business. The study also confirmed an emphasis on business planning²⁴¹:

- Farmers ranked the following as their top five business goals: maintain quality of life, maintain steady business, profitability, expansion and farm transition.
- Farmers also identified the top five factors influencing the adoption of planning practices: changes in the market, profitability, changes in farm ownership, government incentives and programs and lenders and creditors.

Attracting and Managing Employees

The labour shortage (both skilled and manual) facing Canadian farmers is a well-documented challenge.^{242,243} The Canadian Agricultural Human Resource Council *Labour Market Forecast to 2029* notes this labour shortage is nation-wide, with over 47% of farmers being unable to fill labour needs.²⁴⁴

The job vacancy rate in the agricultural sector is higher than any other industry in Canada, at 7%.²⁴⁵ This translates into \$2.9 billion in lost sales.²⁴⁶

The Seasonal Agriculture Workers Program (SAWP) is instrumental in filling the manual labour gap. In fact, stakeholders in the industry report that without it, there would be no horticulture production in Canada.²⁴⁷ SAWP workers help to fill vacancies in the sector and ultimately contribute to the stability of the Canadian food system.²⁴⁸ In 2015, 45,005 agricultural jobs were available for seasonal work of which 40,497 were filled by temporary foreign workers.²⁴⁹

Because many Canadian farms depend on temporary foreign workers to fill their labour demands, management priorities surround communication, administrative logistics and relationship-building. In a recent short-film about Canada's international farm workers in the horticultural

sector, a number of farmers document programs that they themselves have launched to support their international workers including pathways to career development, literacy training, sports leagues and yoga classes to name a few.²⁵⁰ A new pilot program to be launched in 2020 will experiment with processes to create pathways to permanent residency for farm workers (and other rural occupations). The expected outcome is that the pilot will help fill the labour demands not being met by the current domestic workforce. The program is the result of a collaboration between Immigration, Refugees and Citizenship Canada (IRCC) and Employment and Social Development Canada (ESDC).

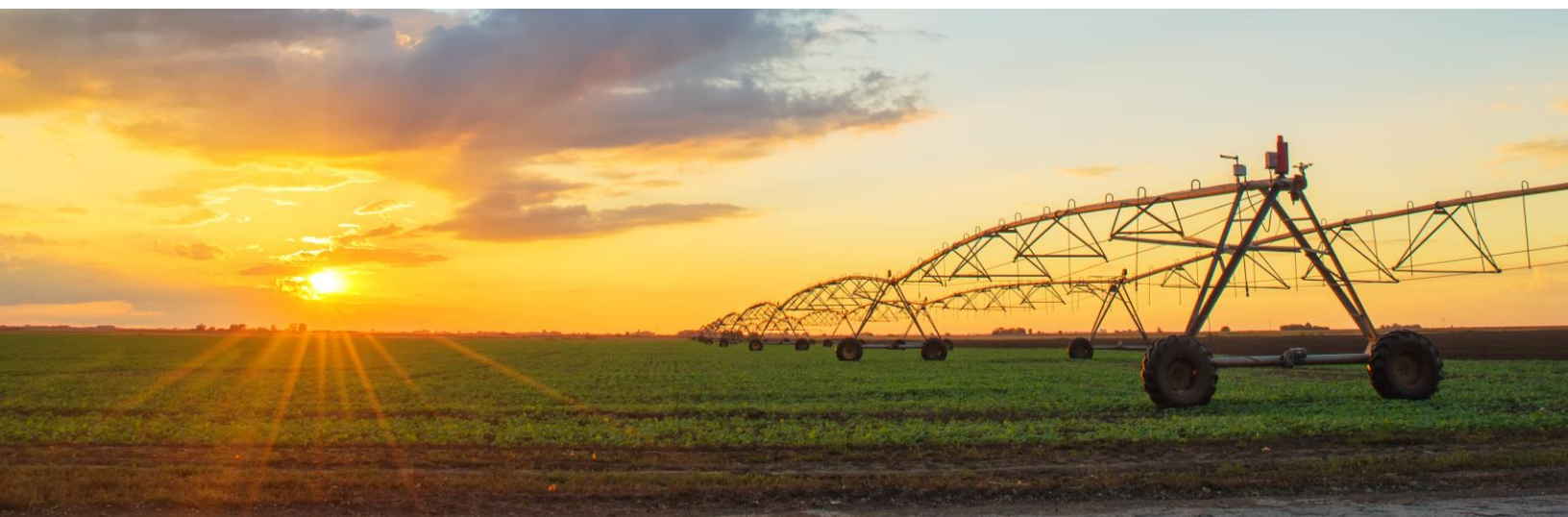
Extension Services

Extension services can provide critical support for farm business development including knowledge transfer, skills development, and consulting. Primarily provided by provincial and territorial governments and non-profit organizations, it is widely recognized that agricultural extension services in Canada have been facing a steady and continuous decline.²⁵¹

Extension services which have declined include:

- Consulting with subject matter experts on issues and opportunities for individual farms;
- Knowledge transfer of research into practical application;
- Coordination of participatory research projects;
- Providing a hub for farmers to share knowledge;
- Programs to encourage and facilitate the adoption of innovative practices or technologies; and
- Programs to encourage skills development and the use of farm business advisory services.

At the same time, today's communication technologies allow farmers to solicit advice from anywhere in the country. Larger on-farm decisions or experimentation should involve an interdisciplinary advisory team including business advisors, agronomists and veterinarians.²⁵² Extension service professionals, such as veterinarians, can be a first point of contact for farmers experiencing mental health related struggles. However, veterinarians themselves have also been found to experience mental health challenges such as compassion fatigue, financial stress and burnout.²⁵³ Extension services play an important role in the agricultural sector yet the role that the decline in the availability of these services plays in farm business management and mental health, is unknown.



5.2.2 Business Management and Financial Success

The Dollar\$ and Sense (2015) study set out to determine the degree to which farm business management practices drive financial success.²⁵⁴ The research surveyed 604 farmers across Canada, and using a pre-determined criterion created a financial success score for each farming operation. The following business management activities (see Figure 11) were found to differentiate Canada's top 25% and bottom 25% performing farms, in order from most statistically significant:

	Business Management Activity:	Why does it matter for financial success?
1	Seeking training and new knowledge/learning opportunities.	Bottom 25% of farms were 3x's less likely to seek out new information and learning opportunities
2	Using detailed accounting systems for decision-making.	Bottom 25% of farms were 3x's more likely to have financial records that are months behind; not used for decision making; are not used to monitor cost of production and management decisions
3	Using business advisors.	Top 25% of farms were 50% more likely to have written business plans that are updated on an annual basis; 30% more likely to work with a trusted farm business advisor
4	Having a written business plan that is followed and reviewed on an annual basis.	Top 25% of farms were 50% more likely to have a formal written business plan that is followed and reviewed on an annual basis
5	Having detailed records on cost of production and implications for profits.	More than half of top 25% of farms use cost of production data for benchmarking and to make management decisions
6	Assessing and having a plan to manage risks.	Top 25% of farms were 52% more likely to proactively manage risk and use tools to manage identified risk
7	Using a budget and financial plan to guide decision-making.	The top 25% of farms were more likely to have a financial plan that included financial budget objectives

Figure 11. Business management activities related to financial success.²³⁴

When it comes to seeking professional business management advice, farmers typically turn to their accountant and lawyers or bankers/lenders.²⁵⁵ Other professionals that can provide tailored assistance include investment advisors, business coaches, and psychologists, to name a few.

Management activities that did not make the list include human resource management, communication, risk management for life events and a clear vision, among others. However, this is not to suggest these practices are not important. As noted earlier in the adoption of business practices, these practices have significantly low adoption amongst farmers and therefore are not currently factoring into practices differentiating success.

6.0 Decision-Making

Decision-making typically involves deliberating the pros and cons of the choice.²⁵⁶ It includes a reflection upon past experiences, which create expectations about the type and likelihood of rewards and punishments that a given environment will yield.²⁵⁷ Intuition has also been shown to play a role in how farmers make decisions.²⁵⁸ However, stress can influence this balanced, logical approach to decision-making. While stress can be productive and create action, too much stress can negatively affect decision-making and compromise health and safety.²⁵⁹ With respect to decision-making, research shows that in times of stress, individuals are more likely to overlook information that may predict a negative outcome and will favour previously rewarding behaviour, despite the new context and environment.²⁶⁰ Even hours after a stressful event, acute stress can robustly affect many facets of memory.²⁶¹ In addition, stress leads individuals to a biased perception of their environment (for example, stressed individuals perceive the environment to be harsher than it actually is).²⁶² Stress can ultimately limit an individual's power to make sound and rational decisions.²⁶³ Feeling stressed during decision-making processes can therefore bias individuals towards inaction or an unfavourable action, diminish the capacity to consider and evaluate alternative solutions to complex problems, and can shift attention and focus to the present rather than planning for the future.^{264,265}

When people are affected by stress, their ability to think and rationalize is reduced. Psychologists tell us that the human brain is divided into two parts, the 'ancestral' mind and the 'thinking' mind. Emotions are there for a reason: they move people to make decisions. The 'thinking' mind is a rational, conscious mind that processes information into complex, abstract thoughts. It is involved in advanced cognitive activities such as reasoning, anticipation and planning as well as organizing actions towards a goal.' Under stress, people revert to using the ancestral mind to cope with basic functions. People tend to do things the way they have always done them. Remember, a commitment to lifelong learning and seeking the help of business advisors were amongst the 7 practices of Canada's top farmers. However, farmers under stress tend not to want to take on new information, or to think deeply about a topic or problem.²⁶⁶ Subsequently, they avoid attending meetings, field days and information sessions – essentially learning opportunities – and seemingly lose interest in making change occur (see [Section 5.2.2](#)). And, when farmers are given advice when they are under stress of some sort, they may ignore advice given and become more conservative in their approach to change. That is, they do things the way they have always done them and are unlikely to be persuaded to change practices regardless of the rational or economic justification. Change under these circumstances is likely to be very difficult and farmers will take a more traditional and conservative approach to farming operations during stressful periods compromising their entrepreneurial capacity (see [Section 4.3.3](#)).

Decision-making on farms is a particularly complex process. Farmers have a preference to make decisions in response to certain stimulus based on experiential learning.²⁶⁷ This is described as an ‘if-then’ response – i.e. if it rains in late April, then I’ll sow a crop. However, the changes and development in agriculture has altered not only production, but also farmers’ decision-making.²⁶⁸ The decisions on where and what food to produce are moving from the individual farmers towards large retailing firms. Because of their market control, these companies are able to influence both prices and production practices, and subsequently strain farmers to make decisions that meet these retail market needs. Secondly, the increased scale and intensity farming production require large sums of capital to buy and repair production equipment. This can result in decisions by farmers that are constrained by their access to capital. And finally, the needs of farming businesses are driven by the farmers’ own needs and goals in their lives, which can change depending on their stage in life.²⁶⁹

Making long term decisions in a changing business environment adds stress. For example, building a livestock barn is a 20-30 year decision. However, the marketplace is changing rapidly – for example, it is hard to predict what type of housing system customers will want. (regular housing? free run? free range?). It is hard to predict what best decision will be for long and short term. The option that looks the best for the long-term consumer trends is likely too costly to make money in the short term. Major long-term investments for a farm family (especially in livestock) are more difficult today than in the past due to this uncertainty.

7.0 Gaps for Further Exploration

Much of the purpose of this scan was to identify gaps in research and knowledge pertaining to the relationship between mental health, stressors on the farm, and farm business management in Canada. These gaps will help guide the data collection and engagement phase of this research project.

There are other identified gaps that are beyond the scope of this project but could have important implications for the recommendations and future work in this field. For example, Statistics Canada does not collect information on mental health or health by occupation as is seen in other countries. Other countries also have national surveys that focus solely on rural community populations or analyze working conditions including how work-related stress affects health. Having this data allows researchers in other countries to more easily analyze the differences between farmers, other working populations, and the general population. It provides opportunities for developing knowledge bases and programs dedicated to addressing problems and is a clear opportunity for the federal government to make an effort to change their data collection process.

Three main gaps were identified for further exploration.

GAP 1: Limited scope of Canadian research related to mental health in agriculture		
Limited Canadian-specific data	Not fully representative of the Canadian farming population	Lack of comparison between demographic variables

There is a recognized gap in not only the availability of Canadian-specific data, but also up-to-date, current data. Much of the literature was conducted in other countries such as Australia, the United Kingdom, France, Scandinavian countries, and the United States. There is currently only one recent nation-wide study on Canadian farmer mental health, and limitations were identified in this study that the data is not fully representative of the Canadian farming population with respect to demographics, distribution across the province, sector, or commodity due to the methods used (convenience sampling). Further research that is specific to Canada or the provinces is outdated. The research in this project will provide a national-level, Canadian-specific engagement of the farm community that is representative of the demographics and provides correlations to factors such as province/territory, gender, language, producer sectors, age, and farm size.

GAP 2: Connection between of mental health and farm management			
Animal welfare	Farm safety	Family & employee dynamics, interpersonal relations, and conflict	Decision-making, farm business management, success, and entrepreneurship

While there are known impacts as to how mental health can affect farm practices, there remain gaps. Both Denmark and Ireland provide research insights into the impact of mental health on animal management and welfare. This research does not yet exist in Canada so it is unknown how mental health could affect farmer treatment of their animals. This provides an opportunity to determine the impact of mental health on animal management, to both improve farmer's mental health outcomes, as well as improve animal welfare outcomes. There is also the opportunity to investigate the impact of decision-making and mental health on farm safety. While there is Ontario research on this topic, it was conducted over 15 years ago and the same work has not been conducted Canada-wide. As well, since the vast majority of Canadian farms are family-owned and operated, the effects on mental health can span beyond the primary operator and have implications on the family dynamic, which remain unknown.

There is extensive research on farm business management, as well as many programs across the country that work towards assisting farmers with their business management. In research related to farmers' mental health, there is some discussion around the impact of stress on decision-making and productivity; however, there is a clear lack of studies that have explicitly connected specific farm business management, entrepreneurship and mental health. This can be examined

through a variety of perspectives to build on existing research, such as farm safety, animal welfare, family dynamics, farm transition, farmer confidence, and farm profitability and prosperity.

Finally, the implications that mental health challenges can have on farm viability are unknown. We can draw upon previous research that examines the degree to which certain business management practices impact financial success. If we can understand which business management practices are impacted by mental health challenges, there is the potential to gain a better understanding of the financial value of good mental health.

GAP 3: The effectiveness of mental health support programs and resources		
Coping strategies	Successes and challenges of programs	Support network and extension services, especially in rural communities

There is limited research focused on mental health specifically focused on the Canadian farm population. The scan includes a review of existing programs and services that support farmer mental health; however, the success and challenges of these programs have not been evaluated. While this is beyond the scope of the current project, the engagement phase can include an investigation of stakeholders’ knowledge and experience with current programs. Finally, it is known that extension services play an important role in the agricultural sector, but the role that the decline in the availability of these services plays in farm business management and mental health is unknown. It also speaks to the state of mental health support and services in rural areas. Service provisioning in rural areas in Canada can be difficult and is often lacking compared to urban areas. This can exacerbate mental health problems for farmers, who predominantly live in rural areas.

8.0 Next Steps

The three main research gap themes summarized in this environmental scan (see [Section 7.0](#)) inform the next steps of the project. These gaps include (1) the limited scope of previous Canadian research, (2) unclear linkages between mental health and farm business management, and (3) understanding the effectiveness of mental health support programs and resources for farmers. The next phase of this project will include the following activities to shape the research scope and methodology:

Design workshop

Building on the knowledge gained from the environmental scan, a design workshop will be conducted with key industry stakeholders to confirm the scope of research and data collection plan to derive the most pertinent information.

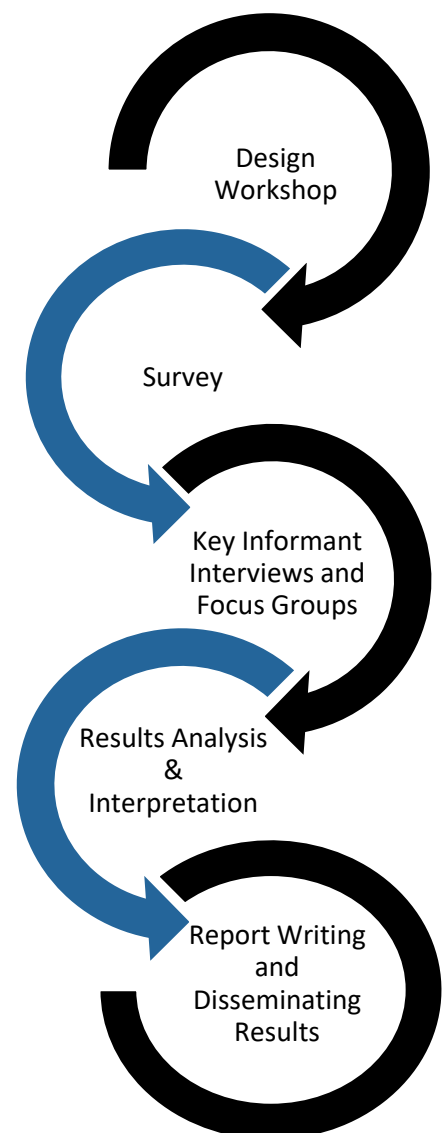
National survey

A national survey to understand the relationship between farmer mental health and farm business management practices. Attitudes including demographic variables will be incorporated. The survey will also assess correlating variables including age, gender, province/territory, business age, type of ownership, farm size, production sector, and others. The survey will include questions related to mental health, farm management practices, and the perceived effect of mental health on managing their farm.

Key informant interviews and focus groups

Interviews will be conducted to solicit knowledge and insights into both the extent of the issue and the knowledge, support mechanisms provided, and capacity of organizations working on this issue. In addition, we will gain an understanding of what is showing potential, missing, and required to better address mental health issues for farmers, including farm business management practices.

Focus groups will be conducted to get a better understanding of the depth of the issue and put the survey findings in context. They will also help solicit ideas around the supports needed for farmers, especially with regards to farm business management to improve mental health and mental health practices to support farm business management, and the critical path forward.



Report writing and dissemination of results

A written report and presentation will be created that includes the research design, data gathering, analysis, interpretation of the results, and implications of the findings related to the identified needs and opportunities to act. The report will be mindful of what the findings mean in terms of particular stakeholder groups and for the industry at large, to help increase positive mental health in order to achieve sustainable growth for the Canadian agricultural sector.

Appendix

Appendix A. Farm and Rural Mental Health Programs in Canada

Resource	Offered by	Description
www.upa.qc.ca/en/ressources-services/	UPA	Resources, websites and information for farmers on health & safety, business management and mental health & wellbeing.
www.domore.ag/resources	The Do More Agriculture Foundation	Resources for farmers and practitioners for crisis lines and websites for mental health across Canada.
4-h-canada.ca/healthyliving	4-H Canada	Canada healthy living initiative: provides tools and resources to support members wellbeing.
acfareseaux.qc.ca/	Au Coeur des Familles Agricoles	Self-help network aimed at farm families in Quebec.
supportline.ca/farm/	Manitoba Farm Rural & Northern Support Services	Confidential support services for residents in Manitoba. Uniquely qualified to handle agriculture and rural specific needs.
www.fcc-fac.ca/en/ag-knowledge/wellness.html	Farm Credit Canada	Self-help network aimed at supporting Canadian farmers.

Mental health help lines by province			
British Columbia	1-800-784-2433	Nova Scotia	1-888-429-8167
Alberta	1-877-303-2642	Prince Edward Island	1-800-218-2885
Saskatchewan	1-800-667-4442	Newfoundland and Labrador	1-888-737-4668
Manitoba	1-866-367-3276	Yukon	1-844-533-3030
Ontario	1-866-531-2600	Northwest Territories	1-800-661-0844
Quebec	1-866-277-3553	Nunavut	1-800-265-3333
New Brunswick	1-800-667-5005	Crisis Services Canada	1-833-456-4566

Appendix B. Farm Business Management Programs in Canada

B.1 National Programs and Resources

National Programs and Resources				
Name of Program/ Resource	Type	Offered by	Brief Description	Cost/ Grant
AgEx Conference	Learning Resource: Annual Conference	Farm Management Canada	Audience: All agricultural stakeholders across Canada Program: This annual conference brings together diverse industry experts and stakeholders from the agricultural sector to explore beneficial farm management practices and leading ideas in the sector.	\$85-\$775
National Agriwebinar Series	Learning Resource: Online webinars	Farm Management Canada	Audience: All Farmers Program: Agriwebinar® provides farmers and agriculture professionals with access to topical and timely farm business management information from anywhere at any time.	Free
AgriSkills	Learning Resource: E-learning, workshops, webinars	Canadian Agricultural Human Resource Council	Audience: Farmers and agri-business owners who are employers Program: CAHRC specialists work with clients through a series of webinars, e-learning modules, seminars and programs. Topic areas include HR management, commodity specific production training and educator tools.	Unspecified
Canadian Total Excellence in Agricultural Management Program (CTEAM)	Learning Resource: In-person course (Four modules, each module is over five days in different cities across Canada. The course commitment spans over two winters.)	Agri-food Management Excellence	Audience: All Farmers Program: Covering a wide variety of business management topics from financial management, succession planning and human resource management to identifying and measuring key performance indicators and learning how to mitigate risk, CTEAM builds confidence in making everyday management decisions that greatly impact the overall viability of the farm.	\$8,500*
FCC Women Entrepreneur Program	Funding: Lending/financing, funding for events and development of resources.	Farm Credit Canada	Audience: Women in agriculture Program: This program was designed to meet three key needs of women in agriculture including access to capital to start and grow a business, access to business and competency skill development, and access tools, resources and people to learn from. FCC has dedicated over \$500 million for lending, to put towards events and to develop resources for women entrepreneurs in agriculture.	

AgExpert Accounting Software	Learning Resource: Accounting Software	Farm Credit Canada	Audience: Farmers Program: Accounting software tailored to Canadian farm businesses. The software enables farmers to create income and expense reports and submit GST/HST returns to support financial management on the farm.	\$0 - \$499/year
FCC Young Farmers Programs	Funding: Farm Financing	Farm Credit Canada	Audience: Young farmers Program: Customized financing for young farmers (under 40) and starter loans for those who are 18-25 to begin building a credit history and gain independence.	
Transition Loan	Funding: Loan and farm transfer support from professional staff	Farm Credit Canada	Audience: Farmers transferring farm assets Program: This program is designed to support farmers transferring farm assets through loans that guarantee full payment of the sale, disbursements over time, offering principle-reducing payments among other benefits including access to a team of experts.	
Financing, Various	Funding: Loans for various farm products/activities	Farm Credit Canada	Audience: Farmers Program: Various financing options including livestock, crops, equipment, environmental projects, among others.	
CanExport*	Funding: Grant program	Global Affairs Canada (Trade Commissioner Service) and National Research Council Canada	Audience: Farmers, agri-businesses and agri-product small and medium enterprises expanding export marketing opportunities. Program: Cost share funding for small and medium enterprises to develop new exporting opportunities and markets. The program now includes eligible businesses in Canada's agriculture, agri-food and agri-products industry.	Covers up to \$75,000 or 75% of eligible expenses.
Grow Your Business	Learning Resource: Online tool	Innovation Canada	Audience: All Canadian business owners. Program: This tool helps direct Canadian businesses (based on self-selected criteria) in their business development activities. Participants enter in their business information, goals and needs, and the tool will personalize opportunities offered by the Government of Canada that are relevant to the user.	Free
Agri-Assurance Program: Small and Medium Enterprises	Funding: Canadian Agriculture Partnership: Grant Program	Agriculture and Agri-food Canada	Audience: Small and Medium farm businesses seeking funding assistance to meet export requirements. Program: Provides targeted support to companies to help implement third-party assurance certification projects that address international market requirements.	

CAP - Alberta	Funding: Cost Share Funding and Grants	Alberta Agriculture and Forestry	Audience: Various types of producers Program: The Alberta CAP funding stream includes six programs that primary producers may be eligible for including: Accelerating the advancement of agricultural innovation , adapting innovative solutions in agriculture , environmental stewardship and climate change , farm water supply , irrigation efficiency , and products to markets .	\$406M allocated over 5 years
CAP - British Columbia	Funding: Cost Share Funding	British Columbia Ministry of Agriculture	Audience: Farmers Program: A variety of cost-share funding programs in priority areas including business, innovation and market development; insurance and income protection; food safety and traceability; environmental sustainability; and recognition.	
CAP Manitoba	Funding: Cost Share Funding	Manitoba Agriculture	Audience: Program: The Manitoba Agriculture CAP program includes funding for: Training and consulting (for activities such as farm transition, risk management, financial management, and human resource management for farmers under 46), distribution and marketing alliances , assurance – beneficial management practices , and research and innovation .	
CAP-New Brunswick	Funding: Cost Share Funding	New Brunswick Department of Agriculture, Aquaculture and Fisheries	Audience: Farmers Program: New Brunswick Agriculture, Aquaculture and Fisheries delivers CAP funding through six main priorities. The priorities relevant to farmers include: Agri-industry development and advancement , enabling agricultural research and innovation , environmentally sustainable agriculture , mitigation, prevention, occupational health and safety , and public trust and agricultural awareness .	
CAP-New Foundland and Labrador	Funding: Cost Share Funding	Newfoundland and Labrador Fisheries and Land Resources	Audience: Farmers Program: Newfoundland and Labrador Fisheries and Land Resources delivers CAP funding through eight programs. These include advancing public trust, agriculture business, agriculture land development, agriculture growth and innovation, agriculture processing and value-added, environmental sustainability and climate change, future farms, and mitigating agriculture risks.	\$37M allocated over 5 years
CAP-Nova Scotia	Funding: Cost Share Funding	Nova Scotia Department of Agriculture	Audience: Farmers Program: Nova Scotia department of agriculture delivers ten CAP cost-share programs relevant to farmers. These programs include: advancing innovative technologies , bee biosecurity , business advisory services , crop and livestock management trials , market expansion and export readiness , missions and investigative travel , small farm accelerator , soil	\$37M allocated over 5 years

			and water sustainability , technologies for value-added agriculture , and wild blueberry harvest efficiency .	
CAP-Ontario	Funding: Cost Share Funding	Ontario Soil and Crop Improvement Association	Audience: Farmers Program: CAP cost-share funding in Ontario is delivered through three main priorities. These priorities include economic development , environmental stewardship and protection and assurance .	
CAP-Prince Edward Island	Funding: Cost Share Funding	Prince Edward Island Department of Agriculture and Land	Program: CAP cost-share funding on Prince Edward Island exists as eleven programs, each with a number of 'sub-programs'. These programs relevant to farmers include agriculture research and innovation , organic industry development , agriculture stewardship , alternative land-use services , perennial crop development , business development , agriculture awareness , future farmer , product market development , and assurance systems .	
CAP-Quebec		Agriculture, Pêcheries et Alimentation Québec	MAPAQ will soon announce its cost-share funding programs.	\$293M
CAP-Saskatchewan	Funding: Cost Share Funding, Grants and Scholarships	Saskatchewan Agriculture, Natural Resources and Industry	Audience: Farmers Program: Saskatchewan delivers CAP funding through four main priorities relevant to farmers including science, research and innovation , environmental sustainability and climate change , risk management , and public trust .	\$388M allocated over 5 years
CAP Northwest Territories	Funding: Cost Share Funding	Industry, Tourism and Investment, Northwest Territories	Audience: Farmers Program: The Northwest Territories delivers CAP funding through eight programs including priorities under market development, agriculture training, agriculture and food processing, agriculture and agri-food research, food safety, agriculture and the environment, and small-scale foods.	
CAP - Yukon	Funding: Cost Share Funding	Energy Mines and Resources, Agriculture Branch	Audience: Farmers Program: Cost-share funding applicable to 16 programs including but not limited to market development, food safety, agri-environmental support, and more. Please see the full CAP guide for the Yukon to learn more.	
CAP Agri-Insurance	Funding: Insurance	Provincial Agriculture Ministries or	Audience: Farmers	

		Crown Corporation	Program: Agri-insurance is a federal-provincial cost shared program that stabilizes producers' income by minimizing financial impacts of production losses caused by natural hazards.	
Seasonal Agricultural Worker Program	Employment Resource: Employment Service	Agriculture and Agri-food Canada	Audience: Farmers Program: The Seasonal Agricultural Worker Program (SAWP) assists farmers in hiring temporary foreign workers when Canadians and permanent residents are unavailable. The SAWP applies to workers who are citizens from Mexico and participating Caribbean countries.	
Youth Employment and Skills Program	Funding: Cost-shared funding	Agriculture and Agri-food Canada	Audience: Includes farmers (applies to all agricultural internships) Program: Provides funding to organizations for the creation of agricultural internships providing career-related work experiences for youth and youth facing barriers.	

B.2 Provincial Programs and Resources

Provincial Programs and Resources				
Name of Program/ Resource	Type	Offered by	Brief Description	Cost
<u>Advanced Farm Management Program</u>	Learning Resource: In-person course (5 days)	Farm Management Canada	Audience: All Farmers Program: The Advanced Farm Management (AFMP) program is designed for Ontario farm business owners and managers who want to elevate their management skills.	\$725.00 (\$450 for additional employees)
<u>Growing Your Farm Profits</u>	Learning Resource: In-person course Online course	Ontario Soil and Crop Improvement Association	Audience: All Farmers Program: In this 2-day workshop, an experienced Workshop Leader will help you review your farm management practices and prioritize your business goals.	
<u>Starting a Farm in Ontario - Business Bundle for New Farmers</u>	Learning Resource: Fact Sheet	Ontario Ministry of Agriculture, Food and Rural Affairs	Audience: New Farmers Book and series of worksheets including: - Farm Succession Planning Guide - Farm Business Structures - Ways for new farms to sell products - FAQ's	Free
Exploring Value Added Opportunities (EVAO)	Learning Resource: Online modules (4 X 45 minutes ea.)	Ontario Ministry of Agriculture, Food and Rural Affairs	Audience: All Farmers Program: Take the Exploring Value Added Opportunities (EVAO) course to help you increase your profits through the creation of new products and services or value-added opportunities at your farm or food business.	Free
<u>Selling Food to Ontario Workshops</u>	Learning Resource: Online modules	Ontario Ministry of Agriculture, Food and Rural Affairs	Audience: All Farmers Program: OMAFRA has developed a series of educational modules bringing together farmers and small food processors to learn how to address gaps.	
<u>Direct Farm Marketing Business Resources</u>	Learning Resource: Online resources	Ontario Ministry of Agriculture, Food and Rural Affairs	Audience: All Farmers Program: This publication provides information resources for farmers who sell or wish to sell directly to consumers. There are six case studies of farmers who sell direct to the consumer through a variety of market channels and explores key problems faced and their successes and challenges in addressing these issues.	Free

Beyond Production Agriculture Business Information Bundle	Learning Resource: Online resources	Ontario Ministry of Agriculture, Food and Rural Affairs	Audience: All Farmers Program: When considering whether to expand your farm business from primary production agriculture to include a value-added another product or service, and before you invest any money in capital, labour, services or supplies, you will want to research your new business venture. This business information is a great place to start.	Free
LEAN Certification Programs (Agriculture and food stream)	Learning Resource: In-person course; Online course	University of Ontario Institute of Technology (Management Development Centre)	Audience: All Farmers Program: These programs allow you and your staff to become catalysts for change and qualify you as Continuous Improvement practitioners. It provides you with a top-class, internationally recognized qualification, as well as practical hands-on training that allows you and your staff to bring the theory into practice.	
<u>Sustainable New Agri-food Products and Productivity Program (SNAPP)</u>	Funding: Grant Program	Rural Agri-Innovation Network (RAIN)	Audience: Northern and First Nations Producers Program: Supports Northern Ontario agriculture and food producers, businesses, collaborations, communities and First Nations to create new products, enhance abilities for season extension, enhance productivity, and adopt clean technology to support improved environmental performance while fostering growth.	Free
<u>Managing your Sheep Business</u>	Learning Resource: Online modules (5 modules)	Ontario Sheep Farmers	Audience: Sheep Farmers Program: “Managing Your Sheep Business” is designed to help you decide the best approach to improve the profitability of your sheep operation. Work through each module at your own pace, taking time to review the videos, complete any corresponding worksheets and enter information into the interactive online templates.	Free
<u>Selling Beyond the Farm Gate</u>	Learning Resource: Online modules	Farm Management Canada	Audience: All Farmers Program: Selling Beyond the Farm Gate is designed to meet the needs of producers who are expanding from direct market sales into sales to retail and distributor accounts. The Selling Beyond the Farmgate course is a project of the Local Food and Farm Co-operative network (LFFC) with input from AMI’s and LFFC’s extensive network of partners.	Free
<u>Making a Case for Growing new Crops</u>	Learning Resource: Online modules	Farm Management Canada	Audience: Program: This website will help you decide if a new crop is right for your farm at this time. Working through these 5 modules will help you develop a business case for diversifying your farm. You will also gain an action plan, business model and detailed report.	Free
<u>The Farm Planner Course</u>	Learning Resource:	Everdale	Audience: Early stage SME ecological/ organic farmers	\$625*

	In-person course (7 days)		Program: You can make your farm dream a reality. We specialize in training new farmers and helping established farmers to improve their farm plans.	
Farm Business Planning Program	Learning Resource: In-person course (6 days)	Farms as Work	Audience: Early stage SME ecological/ organic farmers Program: A tailored workshop series designed to guide participants in turning their farm business vision into a concrete business plan - including production, marketing, human resources, financial planning and projections.	\$595
Farm City Model	Learning Resource: Handbook Platform to fill orders for locally produced beef	Beef Farmers of Ontario	Audience: Beef Farmers Program: The goal of the Farm to City model is to capitalize on the current market demand for locally-produced food. It will establish a direct-to-consumer business model for beef farmers looking to connect with urban consumers who are in search of locally-sourced protein.	
bfoUP	Learning Resource: Webinars; Series of resources	Beef Farmers of Ontario	Audience: Young Beef Farmers Program: These are an opportunity to learn and network with young industry enthusiasts, gain the knowledge to develop and expand operations, get involved with the beef community and further the expansion and progress of the Ontario beef industry.	Free
Beef North	Learning Resource: Economic Model (tool)	Beef Farmers of Ontario	Audience: Northern Ontario Beef Farmers Program: All you have to do is input basic information into any white box, relative to the type of operation you are interested in. The tool then provides you with the associated requirements based on acres and nutrition, and a resulting detailed income statement in addition to potential financing options. This allows you to consider the feasibility of various potential 'scenarios'.	Free
Collaborative Partnership Program	Funding: Cost Share	Beef Farmers of Ontario	Audience: Beef Farmers Program: Through this program, BFO will continue to consider a 50 per cent cost share investment with industry partners in projects that demonstrate alignment with the strategic objectives identified through BFO's Regional Marketing Initiative, which are stated above (see link). Ontario beef farmers, processors, retailers, distributors, industry associations and supply chain partners who share a direct alignment with BFO's objectives are invited to apply.	Free
Starting a Winery in Ontario	Learning Resource: Handbook	Ontario Ministry of Agriculture, Food and Rural Affairs	Audience: New Wineries/ Grape producers Handbook: Helps prospective winemakers understand the complexities of managing a commercial wine business in Ontario.	\$20

			Guide commercial vintners through the process of preparing a business plan for establishing and operating a commercial winery in Ontario.	
Starting a Winery - Financial Planning	Learning Resource: Handbook	Brock University/ Grape Growers of Ontario	Audience: New Wineries/ Grape producers Handbook: Provides an introduction to the development of a financial plan for starting a winery in Ontario. This section describes some principal elements of a simplified business plan and applies it to four start-up production levels.	Free
Religious and Ethnic Market Calendar	Learning Resource: Online Resources	Ontario Sheep Farmers	Audience: Sheep Farmers Program: The economic factors affecting Ontario lamb prices are usually beyond a producer's control, but by studying the lamb holiday markets, producers do have an opportunity to prepare their product for an optimal weight range and time to improve the price they receive.	Free
Women in Grains Business Workshop	Learning Resource: Workshop	Farm Management Canada	Audience: Female Grain Farmers Program: Topics covered will include financial analysis, whole-farm risk assessment, marketing and mental health.	\$26.50- \$45.65
New Farm Start-Up	Learning Resource: Handbook	British Columbia Ministry of Agriculture	Audience: New farmers of small-medium businesses Program: Provides an introduction to farming business essentials and the farming lifestyle.	Free
BC Land Matching Program	Learning Resource: Online Resources	British Columbia Ministry of Agriculture	Audience: Farmers (primarily new) Program: Provides land matching and business support services to new farmers looking for land to farm as well as landowners interested in finding someone to farm their land.	Free
BC Fruit Tree Replant Program	Learning Resource: Online Resources	British Columbia Fruit Growers' Association	Audience: Fruit Growers Program: British Columbia government and provides financial help for growers to replace fruit trees with varieties that will meet consumer demands.	Free
BC Indigenous Agriculture Development Program	Learning Resource: Online Resources	British Columbia Ministry of Agriculture	Audience: Indigenous Farmers Program: BC government provides financial assistance to Indigenous farmers and business development support.	Free
BC Agri-Business Planning Program	Learning Resource: Online Resources	British Columbia Ministry of Agriculture	Audience: Farmers Program: BC Agri- Business Planning Program offers two distinct streams of support for agri-businesses: 1) specialized business planning, and 2) disaster recovery planning.	Free
Agriculture Business Management	Learning Resource:	Alberta Ministry of Agriculture and Forestry	Audience: Farmers	Free

	Online Resources		Program: Several online resources to inform farmers of business management strategies. Covers topics from marketing to crop management.	
Agriculture Decision-Making Tools	Learning Resource: Online Resources	Alberta Ministry of Agriculture and Forestry	Audience: Farmers Program: Offers farmers several online tools that can help inform business decisions on farm. Decision tools for crop, livestock, land, machinery, forestry, and farm management are available.	Free
Ag-Info Centre	Learning Resource: Online Resource	Alberta Ministry of Agriculture and Forestry	Audience: Farmers Program: Provides farmers with access to specialists in different agricultural fields. Alberta Ministry of Agriculture and Forestry supports this initiative.	Free
Business Plan and Development Guides	Learning Resource: Handbook	Saskatchewan Ministry of Agriculture	Audience: Farmers Program: Business planning and guide development for new/existing farmers in Saskatchewan. Business decision tools used to optimize production.	Free
Financial Management	Learning Resource: Online Resources	Manitoba Agriculture, Food and Rural Initiatives	Audience: Farmers Program: Provides information on financial tools for farmers to help make sound business decisions.	Free
Business Management	Learning Resource: Online Resource	Manitoba Agriculture, Food and Rural Initiatives	Audience: Farmers Program: Provides farmers with a structure and management process for their business which can create a strong foundation for growth.	Free
Transition Planning	Learning Resource: Online Resources	Manitoba Agriculture, Food and Rural Initiatives	Audience: Farmers Program: These online resources provide information on transition planning, succession planning and creating solid business plans for future generations.	Free
AgriStartNB	Learning Resource: Online Resources	Government of New Brunswick	Audience: New Farmers Program: Provides a website to prospective new farmers to help investigate opportunities in the agricultural sector. Can also benefit existing farmers with business expansion.	Free
AgriStability Program	Learning Resource: Online Resources	Government of New Brunswick	Audience: Farmers Program: Provides financial assistance to producers. Program is provided by Agriculture and Agri-food Canada for New Brunswick producers.	For Fee (\$)
AgriInvest Program	Learning Resource:	Government of New Brunswick	Audience: Farmers	Free

	Online Resources		Program: Helps producers protect their margin from declines or provides funds for investments. Farmers deposit funds into an AgriInvest account and provincial government matches the contribution.	
Agricultural Insurance	Learning Resource: Online Resources	Government of New Brunswick	Audience: Farmers Program: Helps farmers with business risk management. Protects against production losses caused by natural perils.	Fee
Wildlife Damage Compensation Program	Learning Resource: Online Resources	Government of New Brunswick	Audience: Farmers Program: Provides compensation to New Brunswick producers that suffer crop or livestock loss due to wildlife. Maximum compensation per year is \$50,000.	Fee
AgriStability Program	Learning Resource: Online Resources	Government of Prince Edward Island	Audience: Farmers Program: Provides financial assistance to producers. Program is provided by Agriculture and Agri-food Canada for New Brunswick producers.	For Fee (\$)
Starting a Farm	Learning Resource: Online Guide	Government of Prince Edward Island	Audience: New Farmers Program: Provides a handbook to prospective new farmers to help investigate opportunities in the agricultural sector and setting up a farm. Can also benefit existing farmers with business expansion opportunities.	Free
Future Farmer Program	Learning Resource: Online Guide	Government of Prince Edward Island	Audience: Future Farmers Program: Provides a handbook to prospective young farmers to help investigate opportunities in the agricultural sector and succession planning.	Free
Farmer Assistance Program	Learning Resource: Online Resources	Government of Prince Edward Island	Audience: Farmers Program: Provides online resources and phone numbers to help farmers gain the assistance they need. Assistance is available for business management, private life and life-work balance help.	Free
Business Development Program	Learning Resource: Online Resource	Government of Prince Edward Island	Audience: Farmers Program: Supports the agricultural sector by providing funding for training, business planning and/or risk management activities.	Free
Frost Loss Program 2018-2019	Learning Resource: Online Resources	Government of Nova Scotia: Department of Agriculture	Audience: Farmers Program: Helps protect farmers and manage risk or frost in June. The program provides financial assistance to farmers who are eligible.	Free
ThinkFARM	Learning Resource:	Government of Nova Scotia:	Audience: Farmers	Free

	Online Resources	Department of Agriculture	Program: Helps farmers with starting a new farm or transitioning a farm in Nova Scotia.	
<u>Perennia</u>	Learning Resource: Online Resources	Government of Nova Scotia: Department of Agriculture	Audience: Farmers Program: Offers integrated services for agri-food and bio-resource companies in production, quality and food safety.	Free
<u>Various Agriculture Support Programs</u>	Learning Resource: Online Resources	Government of Newfoundland & Labrador: Fisheries and Land Resources	Audience: Farmers Program: Several program offerings are provided. Support for new and existing farmers, business expansion and succession planning.	Varies

Appendix C. Key Research and Studies

Helpful resources used throughout this scan that are either publicly available (or available upon request) if interested in further reading.

Topic: Mental Health			
Title, year	Author	Type of Resource	Brief Summary
<i>Questions and Answers: What is the difference between mental health and mental illness?</i> (2018)	Canadian Mental Health Association: BC Division	This is a publicly accessible webpage on a national organization's website .	An easy to read webpage about the differences between mental health and mental illness, one of the resources used in this scan to define the scope of the project, further navigation on the website leads to other resources for mental health and mental illness information and support.
<i>Why investing in mental health will contribute to Canada's economic prosperity and to the sustainability of our health care system</i> (2013)	Mental Health Commission of Canada	This is a publicly available report. It can be found here .	A report that makes the business case for investing in supporting mental health in Canada, provides support for the fact that mental health costs people economically and in terms of productivity.
<i>Mental health: A priority for our farmers</i> (2019)	Finnigan, P.	This is a publicly available report of the Standing Committee on Agriculture. It can be found here .	Report of the Government of Canada's standing committee on agriculture in which first-hand testimony from farmers and agriculture organizations was heard, outlining the various challenges in mental health that Canadian farmers face. Provides recommendations for the Canadian Government to act on these challenges to improve Canadian farmer mental health.
<i>The mental health of farmers.</i> (2002)	Gregoire, A.	Academic journal article, non-open source. Available upon request to Farm Management Canada.	A review of the current (2002) literature on farmer mental health in the UK particularly, and the various factors that compound the issue of farmer mental health and suicide, including rural isolation, inaccessibility of services, and social stigma. Includes recommendations of interventions.

<i>Burnout and hopelessness among farmers: The farmers stressors inventory.</i> (2018)	Truchot, D. & Andela, M.	Academic journal article, non-open source. Abstract can be found here . Full PDF available upon request to Farm Management Canada.	Provides a distinct and clear list of the main factors affecting the stress, burnout and hopelessness of farmers in France, and develops a scale of farmer's stressors that can be used in future studies of the stresses farmers face.
<i>Stress in farmers.</i> (1999)	Booth, N. & Lloyd, K.	Academic journal article, non-open source. Available upon request to Farm Management Canada.	An early study on the stresses of farming, conducted in England, identifying the main sources of stress for farmers, as well as the levels of stress that they experienced, particularly in relation to other occupations.
<i>Stress and burnout among Finnish dairy farmers.</i> (2016)	Kallioniemi, M.; Simola, A.; Kaseva, J.; & Kymäläinen, H.R.	Academic journal article, non-open source. Abstract can be found here . Full PDF available upon request to Farm Management Canada.	Study of Finnish dairy farmers that identified that these farmers faced more stress than the general population, and that all the farmers were facing some symptoms of burnout. It also identified the most common stressors.
<i>Farming and mental health problems and mental illness.</i> (2005)	Fraser, C.E.; Smith, K.B.; Judd, F.; Humphreys, J.S.; Fragar, L.J.; & Henderson, A.	Academic journal article, non-open source. Abstract can be found here . Full PDF available upon request to Farm Management Canada.	Literature review of the most recent (2005) studies of farmer mental health in populations in the United Kingdom, Europe, Australia, Canada, and the United States. Found that farming is associated with a unique set of characteristics that is hazardous to mental health, but that there was inconclusive data at the time that farmers faced higher rates of mental health problems than the general population.
<i>Stress on the farm and its association with injury.</i> (2004)	Simpson, K.; Sebastian, R.; Arbuckle, T.E; Bancej, C.; & Pickett, W.	Academic journal article, non-open source. Abstract can be found here . Full PDF available upon request to Farm Management Canada.	Study of Ontario farmers that found that increased levels of stress were associated with increased risk for farm injury. Also discussed the association between farm stress and decision-making. Offers an opportunity to expand this research across Canada.
<i>Farmers under pressure. Analysis of the social</i>	Andrade, S. & Anneberg, I.	Academic journal article, non-open source. Abstract can be found here . Full PDF	Study of Danish livestock farmers and the association between psychiatric problems and animal neglect. Found that while cases of animal neglect are rare,

<i>conditions of cases of animal neglect.</i> (2014)		available upon request to Farm Management Canada.	when it occurs, it is often related to financial trouble, technological break-down, family problems, stress, and governmental control of animal production.
<i>Male farmers with mental health disorders: A scoping review.</i> (2013)	Roy, P.; Tremblay, G.; Oliffe, J.; Jbilou, J.; & Robertson, S.	Academic journal article, non-open source. Abstract can be found here . Full PDF available upon request to Farm Management Canada.	Literature review of male farmers' mental health and the barriers that they face in seeking help. Draws connections between the farming profession, gender, and mental health.
<i>Stress, anxiety, depression, and resilience in Canadian farmers.</i> (2019)	Jones-Bitton, A.; Best, C.; MacTavish, J.; Fleming, S.; & Hoy, S.	This is open access academic literature. The paper can be accessed here .	A novel study (in Canada) conducted recently to determine the prevalence of mental wellbeing issues among Canadian farmers, that found that many Canadian farmers have symptoms of stress, anxiety, and burnout, and have low resilience. Provides many opportunities to use this new knowledge to provide programming to support Canadian farmers' mental health, as well as build upon this research when conducting new research.
<i>Going it alone: The mental health and well-being of Canada's entrepreneurs.</i>			

Topic: Business Management			
Title, year	Author	Type of Resource	Brief Summary
<i>Let's put the person back in entrepreneurship research: a meta-analysis on the relationship between business owners' personality traits,</i>	Rauch, A., and M. Frese.	This is open access academic literature. This paper can be accessed here .	Cited over 800 times, this analytical study used a meta-analysis to understand the relationship between the personality traits of entrepreneurs, business creation, and success.

<i>business creation, and success. (2007)</i>			
<i>Entrepreneurship in the Agricultural Sector: A Literature Review and Future Research Opportunities. (2018)</i>	Fitz-Koch, S., Nordqvist, M., Carter, S., and E. Hunter.	This is open access academic literature. This paper can be accessed here .	This literature review provides a consolidated view of entrepreneurship within the context of the agricultural sector. Using the agricultural sector as a case-study, the authors make the argument that a sectorised approach to entrepreneurship research will provide new, meaningful insights.
<i>Farmers as Entrepreneurs: Developing Competitive Skills. (2006)</i>	McElwee, G.	This is open access academic literature. This paper can be accessed here .	This earlier literature review compiles studies published on farmer entrepreneurial capacity to determine key themes and topics for future research. The barriers for entrepreneurial activity within the context of the agricultural sector are discussed.
<i>A Path Forward for Entrepreneurship in Canada. (2014)</i>	Canadian Chamber of Commerce	This is an industry (business association) report. This report is publicly available and can be found here .	This report is the result of a series of meetings between the Canadian Chamber of Commerce and leaders of high-growth, entrepreneurial firms in Canada to discuss challenges and key public policies that influence their success. The Canadian Chamber of Commerce highlights a number of recommendations for the Government of Canada to enable entrepreneurial success and business growth.
<i>Dollar\$ and Sense: Measuring the tangible impacts of beneficial business practices on Canadian farms. (2015)</i>	Farm Management Canada	This is an industry-led research study. This report is publicly available and can be found here .	This study builds off of two earlier studies that define beneficial management practices on Canadian farms. Through this research, the authors report on the adoption of business practices by Canada's farmers and establish the degree to which farm business management practices are direct drivers of farm financial success.

<i>Growing the Canadian agriworkforce: Where will the needs be in the future?</i>	Canadian Agricultural Human Resource Council (CAHRC).	This was a webinar hosted by CAHRC. Powerpoint slides available upon request to Farm Management Canada.	This webinar was part of the series: <i>Growing the AgriWorkforce Roundtable</i> . This presentation announced the ten-year labour market forecast to 2029 for the agricultural workforce in Canada.
<i>Baseline Update: Farm Business Management Planning in Ontario.</i>	Farm Management Canada	This is an industry-led research study. The report is publicly available and can be found here (http://takeanewapproach.ca/wp-content/uploads/2017/03/final-approved-producer-full.pdf).	This study builds off the 2011 Baseline Study to determine the degree to which planning activities and attitudes towards planning have changed over 5 years for Ontario farmers. The study also looks at the resources farmers rely on for business management support.

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