

Diverse forms of market engagement: Grounding food sovereignty in the experiences of
Ontario's ecological grain farmers

by
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I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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Abstract

In contrast to food movements' enthusiasm towards localized fruit, vegetable, dairy, and meat production, grains are often the missing link in the local food equation. As grains begin to find a place in local food movements, producers and processors exhibit the environmental and socioeconomic value in growing grains ecologically. However, challenges exist in furthering ecological farming practices; one of these challenges is marketing. With its emphasis on sustainability, the 'local', and the rights of producers, food sovereignty serves in this research as a lens to examine the challenges and opportunities that Ontario's ecological grain farmers experience when bringing their products to market. As food sovereignty is a relatively young movement it is important to remain critical of it in order to understand how it may best continue forward as a means of challenging dominant agri-food systems. As a complementary framework, the concept of diverse economies is also explored in this research. This concept recognizes the role played both by the capitalist and non-capitalist forms of market engagement within enterprises and communities. This recognition can serve as a way to empower producers and processors engaged in alternative forms of market relationships.

This thesis explores the marketing challenges ecological grain farmers encounter with respect to regulatory regimes; questions of scale; access to infrastructure and resources; market trends; human resources; and production. Through the use of semi-structured interviews and the social constructivist research, the findings demonstrate that although many food sovereignty principles resonate with the needs and actions of the research participants, there is a lack of consensus amongst Ontario's ecological grain farmers regarding marketing practices and the principles promoted by the food sovereignty movement. Despite the stakeholders' innovative techniques for overcoming these challenges, many of the barriers are structural and require engagement from the public sector. This research provides novel insight into the localization and globalization of grain chains in Ontario, the ability of food sovereignty to promote a sustainable livelihood for ecological grain farmers, and the potential contributions of a diverse economies framework in food studies. In addition, this research consolidates the lived experiences of ecological grain farmers in Ontario, as a means benefiting participants by exhibiting best practices and common challenges amongst counterparts.

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The title page reads “by Emily Mann,” but it would have been more accurate to write “by Emily Mann et al.” The process was a team effort thanks to the support of my colleagues, friends, and family.

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Chapter 1: Introduction

1.1 Problem statement

The United Nations Special Rapporteur on the Right to Food released a report in 2011 calling for a global shift to ecological agriculture as a means of strengthening resilience to climate change, diversifying diets, and increasing levels of food production (IPES, 2016; People's Food Policy, 2011). Ecological farming is a tangible process that contributes to sustainable food systems. It challenges the dominant contemporary forms of farming that rely on intensive cropping systems, synthetic fertilizers and pesticides, and other techniques that have adverse environmental impacts. Complementing ecological farming's system of food production is food sovereignty (FS), a movement that challenges dominant farming practices. It does so by promoting the use of political tools that contribute to structural changes to achieve sustainability and justice within food systems. One example is the use of local trading systems. There are, therefore, close connections between the local food movement and food sovereignty, most notably in relation to the production and consumption of fruit, vegetables, and meat. Food sovereignty is well suited to ecological producers but the local food movement has often disregarded cereals and grains. This research uses the lens of food sovereignty to explore the place of ecological grain in the local food movement, as well as other components of food sovereignty that will be discussed throughout this thesis.

Ecological grain farming provides many benefits to agricultural and socioeconomic landscapes but farmers encounter barriers in further adopting ecological farming practices; one of these challenges is identifying robust markets. This research navigates the existing marketing challenges facing ecological grain farmers—specifically in Ontario—as well as the successes in marketing ecological grain. In addition to identifying the marketing challenges, this research combines food sovereignty and ecological grain farming and asks: *Can the food sovereignty movement/paradigm be used as a tool to advocate for the sustainable livelihood (i.e., access to robust markets) of ecological grain farmers in Ontario?* For example, groups supporting food sovereignty have openly supported the Canada Wheat Board as a tool that guaranteed access to grain markets in the Prairies, but are there similar tools promoted by the food sovereignty

movement that could be used to support Ontario producers? In exploring food sovereignty's ability to address the marketing needs of ecological grain farmers, 'diverse economies' serves as a complementary framework. Diverse economies emphasizes empowerment of citizens through recognition of varied forms of economic engagement (both capitalist and non-capitalist), and is thus an inclusive framework that can be used in this study. The diverse economies framework acknowledges ecological grain farmers' livelihoods by recognizing their alternative and non-market forms of economic activities.

1.2 Overview of methodology

This project draws on a constructivist grounded theory approach for its primary research. The research direction was first informed by a literature review on ecological farming, the local food movement, food sovereignty, and diverse economies. Once this literature informed the theoretical framework, I was able to identify a set of questions for producers, processors, marketers, and non-profit representatives. Since a constructivist perspective was taken, the interviewees' experiences and perspectives have driven the direction taken throughout data collection and analysis. Semi-structured interviews were conducted with 20 participants by phone and in-person, alongside some participant observation. Per a standard grounded theory approach, data were coded and themes were subsequently established and written up as results.

1.3 Assumptions

This research operates under several assumptions. First of all, it assumes that ecological farming is a sustainable alternative to industrial and conventional forms of farming. Normal agronomic practices associated with field crops in southern Ontario include the application of chemical fertilizers, artificial subsurface drainage, and long periods of bare or uncropped soil (Corry, 2014). These practices have resulted in environmental and health problems; organic farming re-emerged as an alternative farming practice (Ronald & Adamchak, 2008). For this study, farmer research participants were either certified as practitioners of organic standards or self-identified as adhering to organic practices. Many of the participants in this study were located using the

Ecological Farmers Association of Ontario's (EFAO) producer directory, which itself allows producers to self-identify as 'ecological'.

In this study, the term 'organic' is used as it is understood in federal regulation and in formal market and government reports. In that context, it is a regulatory term ratified in federal legislation, defined as "a holistic system designed to optimize the productivity and fitness of diverse communities within the agro-ecosystem, including soil organisms, plants, livestock and people" (Canadian General Standards Board, 2015, p. ii). The term 'ecological', in contrast, is used in this research to encompass both certified and uncertified producers who work both within and outside of certification systems. Some farm operations embody organic principles but the farmers are discouraged by the certification process and choose not to certify. It is cumbersome and expensive to become certified and the benefits of certifying do not always outweigh the costs. As such, many producers choose to spend their time and resources by farming organically without being officially certified organic (Veldstra, Alexander, & Marshall, 2014). For example, in 2006, of the 3,591 farms reporting production of organic products in Canada, only 593 were certified (Statistics Canada, 2006). In addition, some farmers that farm organically are interested in minimizing their involvement in capitalist systems, which they also associate with certification, which is a market-based tool (Fairbairn, 2010; Podhorsky, 2013). In order to capture the experiences of these farmers in this research I choose to use the term 'ecological', which is more inclusive than 'organic'.

This research also assumes that access to robust markets is important to farmers as an integral aspect of a sustainable livelihood. A definition of the sustainable livelihood approach (SLA) is provided by Scoones (2009):

A livelihood comprises the capabilities, assets (including both material and social resources) and activities for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resource base (p. 175).

As outlined by Scoones (1998), 'sustainability' refers to the enhancement of livelihood adaptation and resilience, as well as maintenance of natural resource bases, while 'livelihood' includes a reduction of poverty and improved well-being capabilities. The capabilities, assets,

and activities outlined in the definition provided by Scoones (2009) encompass the market engagement explored throughout my research. In addition, livelihood outcomes in the SLA include more income, improved food security, and more sustainable use of the natural resource base (Scoones, 2013), all of which are themes that emerge in my research. This research does not provide a literature review of sustainable livelihoods, but it does acknowledge that a sustainable livelihood is a widely used measurement of well-being. As such, exploring the successes and challenges of market engagement is an important component of individual and community well-being.

The final assumption is that all field crops are appropriate subjects of exploration in this study. The literature review describes ecological grain farming, but participants in this study who grow grain crops also grow other cereals and field crops, such as beans. It is assumed that information gathered on the challenges of marketing all field crops is relevant for this study since all field crops experience similar agronomic issues related to production, storage, and transportation.

1.4 Contributions

This research offers insights for policy-makers by identifying shortcomings in provincial and federal legislation related to the ecological grain sector. This report consolidates the challenges and opportunities associated with marketing ecological grain, which will inform grain farmers of experiences of their counterparts and provide insight for other ecological grain farmers. In terms of theoretical contributions, this project uses ecological grain marketing as a means of revealing the strengths and weaknesses of food sovereignty and diverse economies. It is important to remain critical of food sovereignty as a tool that fosters sustainable food systems in order to determine its best pathways forward. Food sovereignty promotes the well-being of producers but it is also important to note that the livelihood and well-being of farmers is partially dependent on their ability to bring their product to market, hence the importance of addressing market engagement. It is also valuable to speak of diverse economies in the context of food production and marketing, as this has not yet been undertaken in detail due to the dominance of other frameworks in alternative food systems dialogue including food sovereignty, food security and food justice.

1.5 Boundaries and limitations

The limitations associated with this study are related to time, inclusivity, and access. The details associated with many of these limitations are outlined in Section 4.5 of the methods chapter, but some broader limitations remain. For example, I did not speak with any grain growers in northern Ontario, so there are limitations as to how applicable this research is for all of Ontario. However, since the bulk of grain production is in southern Ontario, the chosen sample of participants is reflective of that and focuses on interviews in southern Ontario. In addition, the value of my discussion around food sovereignty may be incomplete due to the diversity of interpretations of food sovereignty. Although I completed a thorough literature review on food sovereignty, the movement is politicized, nuanced, and stems from multiple disciplines; therefore, my discussion may not encompass all of the nuances surrounding the food sovereignty debate.

Perhaps the most noteworthy limitation is the way in which I frame food sovereignty as a lens for this research. Food sovereigntists often emphasize the transformative nature of food sovereignty, and its tendency to promote an overhaul of the current system (Fairbain, 2010; Wittman et al., 2010). Therefore in trying to align food sovereignty with current modes of operation, I dilute the radical nature of food sovereignty. However, by focusing on producers who operate within alternative, ecological systems, I hope to raise awareness of the contentions between food sovereignty and the current realities of the hegemonic forces with which alternative food producers contend.

Finally, noting a more general but a significant limitation to this research is the exclusion of Indigenous perspectives. Unfortunately I arrived late to the realization that it is important to acknowledge the Indigenous Peoples and their Traditional Territories of my study area, and I did not find space to respectfully include these perspectives in this work. In August 2016, towards the conclusion of this project, I spoke with Peter Schuler, a First Nation elder from New Credit First Nation. He described the contributions that the Algonquin-speaking Peoples made to food cultivation in Ontario, and he also emphasized the deep history and relationship between Indigenous Peoples and the land of this area. As Canadians work towards reconciliation, in particular with the 2015 release of the Truth and Reconciliation Commission's report, Peter

stated that this type of acknowledgement is an important step that should be taken throughout the healing process between Indigenous and non-Indigenous Peoples of Canada.

1.6 Thesis organization

Chapter 1 provides an introduction to the research focus, methodology, assumptions, limitations, and intended contributions of the study.

Chapter 2 provides background information on the nature of ecological farming as an alternative to conventional forms of agriculture, as well as its role in local food movements. The chapter then speaks specifically to the production and marketing of ecological grain farming in Ontario.

Chapter 3 continues the conversation by introducing the connection between food sovereignty and ecological grain farming. The roots and key principles of food sovereignty are established before describing the state of food sovereignty in Canada and the critiques that it has encountered worldwide. The diverse economies framework is also introduced in this chapter as it provides an alternative framing of ways by which ecological grain stakeholders can overcome their related challenges. This chapter lays the foundation for the food sovereignty and diverse economies framework that is employed when discussing the results of this research.

Chapter 4 outlines the underlying assumptions associated with the methodology employed in this research. The social constructivist grounded theory approach is described, followed by a discussion of the research design. Justification of the research questions is provided, as well as details on recruitment, sampling, and data analysis. The chapter concludes by describing some limitations inherent in the described research approach.

Chapter 5 presents the findings of this grounded theory research by describing the demographic information of participants. Following this is a description of the practices, processes and motivations associated with growing grain ecologically in Ontario. The chapter concludes with the key findings of the marketing challenges and opportunities as expressed by ecological grain producers, processors, and non-profit representatives.

Chapter 6 brings together the findings from the literature review and the primary research. The challenges and opportunities are compared to those identified in the literature and are then contextualized by situating them within diverse economies and food sovereignty frameworks.

Chapter 7 concludes with policy recommendations, future directions for research, and final statements related to the research process and project.

Chapter 2: Ecological grain farming

2.1 Ecological farming as an alternative to conventional agriculture

Today's dominant agricultural system is based on an industrial model that has caused irreversible socio-ecological damage worldwide, often disrupting natural systems through environmental pollution, loss of biodiversity, and genetic erosion (Feagan, 2007; Wiskerke, 2009). Grain production is a significant component of the agriculture sector. Grains are staple crops, accounting for a significant amount of calories worldwide, and provide complete value chains, such as soybeans to tofu, malt barley to beer, and grains to breakfast cereals. Moreover, grains are positioned at an integral place in food webs and occupy some of the largest acreage in agriculture worldwide. In order to challenge the dominance of industrial agriculture, grains must be produced in an ecological manner (OVCRT, 2014). This involves integrated pest management, reduced tillage, avoidance of pesticides and synthetic fertilizers, sustainable water management, cover cropping, encouragement of beneficial insects, and more (Adamchak & Ronald, 2008; Magdoff, 2007).

These motivations associated with ecological farming can also be seen in the tenets of food sovereignty, a global movement that challenges conventional modes of agriculture. Ecological farming is a tangible process that contributes to sustainable food systems, while food sovereignty is a framework and movement that incorporates political tools to make structural changes to achieve sustainability and justice within food systems. Ecological grain farming provides many benefits to the agricultural and socioeconomic landscape but as a practice it faces many challenges; one of these challenges is marketing. This research poses the following questions: *What are the challenges associated with marketing ecological grain in Ontario? Can the food sovereignty movement/paradigm be used as a tool to advocate for the sustainable livelihood (i.e., access to robust markets) of ecological grain farmers in Ontario?* In asking this question, I also employ a diverse economies framework; one that acknowledges a more inclusive economic landscape than does food sovereignty, incorporating both capitalist and non-capitalist forms of enterprise and transaction. The details of this conceptualization will be explored in Chapter 3 in order to contextualize these frameworks and to determine their ability to contribute

to the success of sustainable farming initiatives in Ontario. To set the context for this discussion this chapter offers an overview of ecological grain farming in Ontario, its role in local and global food systems, and the associated challenges with marketing ecological grain.

2.1.1 Ecological grain farming: Local to global forces

Many alternative food movements, including food sovereignty and local food movements, have formed in opposition to, and coalesced around, complex, global-oriented food chains (Feagan, 2007). According to McIntyre and Rondeau, “Local food movements have emerged in many parts of Canada to support local farmers, sustain the regional food supply, encourage the consumption of healthier foods, and address environmental concerns associated with conventional agriculture” (2011, p. 116). In North America, wheat is largely traded as a commodity and the information of its origins is usually lost along the supply chain downstream from producers (Hergesheimer & Wittman, 2012; Hills, Goldberger, & Jones, 2012). Since the emergence of grain pooling¹ and grading standards in the mid-nineteenth century, grain has transformed from a community builder to a monetary abstraction (Hergesheimer & Wittman, 2012).

In contrast to this, and although they are newcomers and commonly the missing link in the local food equation, grains have begun to enter the local food scene (Denckla Cobb, 2011; Hills et al., 2012). Halloran (2015) notes that while growing locally grown crops, such as heirloom tomatoes, has become commonplace in farming and gardening, grains are late arrivals in the local food movement as their production requires a great deal of land and equipment. Grains have typically not been included in food relocalization discourse due to less emphasis on freshness, the lack of small-scale processing equipment, the fact that they are often grown in areas with low population density, and the typical requirement of several levels of processing before they are consumed (Hills et al., 2012).

Growing grains locally also requires growing a new infrastructure from the dominant one that currently exists including those used by growers, millers, and customers (Denckla Cobb, 2011). However, growers and consumers have begun to recognize the importance of local grain,

¹ Grain pools are cooperatives that buy grain from farmers. The CWB historically operated grain pools in the Canadian Prairies before it was disbanded.

with Denckla Cobb noting, “[...] without grains—the foundation of our diet in both calories and nutrition—a local food system can never be fully resilient” (2011, p. 258). To achieve this resiliency in agriculture, Halloran (2015) states that fostering regional grain economies requires inclusion of stakeholders with multiple perspectives and diverse forms of capital as there are many challenges to overcome related to scale in production, crop availability, reliability, and access to markets of adequate size. Processors also play an important role in growing a local grain economy. Valley Malt in New England, for example, spends much of its time educating farmers and rebuilding the regional infrastructure for growing, harvesting and storing grains (Ciulla, 2014). In British Columbia, localized grain chains allow for increased face-to-face interactions and trust, value adding through local processing, and a traceable local history. The local nodes, therefore, involve production, processing and retailing. The local identity is preserved through promotional activities, local labeling, and marketing via direct sales (Hergesheimer & Wittman, 2012).

Food systems that are concentrated at the local scale² may “[...] build some level of resistance to the market hegemonies” (Bellos & Hamm, 2001, p. 271). Although ‘local’ used to be intrinsic to the organic conceptual narrative (Feagan, 2007), global food systems have changed the ways that farmers interact with markets. While local food allows producers and consumers to be delinked from the corporate global food system (Wekerle, 2004), local food movements have been largely consumer-focused, and may ignore the constraints underlying these activities for producers (McIntyre & Rondeau, 2011). Some of these constraints include: a lack of infrastructure for the distribution of local food; challenges associated with product quality, consistency, and traceability; limited farmer training; and regulatory uncertainties related to the production, processing, and selling of local products. In order for local food systems to be effective forms of resistance to globalism, they must be reflective and critical rather than viewed as a panacea to global industrial agriculture (McIntyre & Rondeau, 2011). A study in British Columbia by Hergesheimer and Wittman (2012) noted that some participants believed that grain production produced completely locally was not feasible due to lack of appropriate minerals in the soil, cultural and dietary preferences, and the contention that grain can be most efficiently

² The Canadian territory where it is sold, or food sold across provincial borders within 50 km of the originating province or territory (Lim & Hu, 2016). However, the Canadian Food Inspection Agency (CFIA) recognizes local as encompassing food produced in the province or beyond this regulatory body the definition of local is widely interpreted in the literature.

produced on the Prairies. They found the key challenges to relocalized grain chains were “material (climate issues, pests), technical (quality and quantity issues, storage and cleaning facilities) and relational (knowledge and skill sharing, marketing and pricing schemes)” (p. 389).

Perhaps in contrast to the minority of farmers that engage in the relocalization of grain, most grain farmers, organic ones included, sell through merchants, mills and other buyers that typically ship products over large distances. Since grains are not typically consumed in their raw, unprocessed form, this component of their value adding must be considered when discussing their role in local food systems:

A significant portion of the added value for farmers comes through the elimination of profit-taking intermediaries (i.e., processors, distributors and retailers) in the food chain. The potential of these short food supply chains, as with [local food systems] LFS, has been demonstrated by producers who can easily take advantage of geographical proximity, direct sales to consumers, and minimal processing requirements. Farmers who produce commodities that require processing, or operate at a scale—of production volume, market, or geographic extent—greater than typical of LFS, will be challenged to access these advantages, and the portion of the local food premium that is attached (Mount, 2012, p. 108).

The complexity of ecological grain farmers’ involvement in local food systems is one component that is explored further in this thesis, specifically in terms of their engagement with local food markets. Much of the literature detailing grain and relocalization relates to initiatives in the United States. It is not clear, therefore, whether ecological grain farmers’ operations in Ontario can benefit from local food systems.

When discussing engagement with local and global markets, we must acknowledge that in order to produce food, farmers must receive fair returns on their products and have access to robust markets. This can be challenging as many Canadian farm families—as with farmers in other countries—experience acute income crises (North-South Roundtable and Learning Exchange, 2005; Wiskerke, 2009). Market imbalances from the power of transnational corporations, for example, have a huge effect on farm incomes. Farmers increasingly have to

seek off-farm employment in order to afford to farm (Bowlby, 2002; Mount, 2012). Past coordinator of NFU Ontario, Peter Dowling, discusses the typically low income of farmers:

Modern food production takes place in a chain, which includes oil, fertilizer, seed, chemical, and machinery companies on the input side, and grain companies, railways, packers, processors, retailers, and restaurants on the 'downstream' side. Almost every link in the chain, nearly every sector, is dominated by between two and 10 multi-billion-dollar multinational corporations. On the other side are 270,000 small, family farms. Stacked up against the agribusiness corporations, these individual farmers have absolutely no bargaining power. They must sell what they produce at whatever price the big companies offer them (An unbalanced equation family farmers versus transnational corporations, 2002).

Family farms, he states, are competing against global hegemonic forces that favour corporations rather than the producers themselves. Farm incomes in export-oriented agriculture remain low (Wiebe & Wipf, 2011). There is a strong connection between farmer income and access to markets, and as Wiskerke notes (2009), the regional economy is an important indicator of the welfare and wellbeing of citizens. It is important, therefore, for farmers to have access to robust markets in order to maintain not only their business but also a sustainable livelihood.

2.2 Farming grain and cereal crops ecologically in Canada

Before Canada's wheat frontier moved west in the late 1800s (Friedmann, 2011) it was a well-established and key economic driving force in Ontario. Favourable weather conditions, rapid settlement of the region, failure of Quebec wheat, and transportation improvements through the construction of canals, all facilitated the rapid growth of the Ontario wheat economy in the mid-1800s (McCallum, 1980). Grains were, and continue to be, key staples in Ontario's agriculture sector. Presently soybeans, corn, and wheat, respectively, dominate grain production in Ontario (Agriculture and Agri-Food Canada, 2009), a province with extensive and intensive cropping systems (Corry, 2014). Worldwide, wheat alone provides 19% of calories (Hills et al., 2012).

Canada is still a large producer of grain and is one of the ‘breadbaskets of the world’. However, throughout the agriculture sector in Canada, the number of farm operators, total farm land, and number of farms has decreased, with a decrease of over 20,000 farm operators in Ontario between the years 1996 and 2011 (OMAFRA, 2011). However, organic production has been increasing as a percentage of total land farmed in Canada.

Organic farming emerged in the early 1900s with the recognition by Sir Albert Howard that synthetic fertilizers and chemicals would compromise soil structure and quality (Adamchak & Ronald, 2008). Optimizing soil health remains one of the key motivations behind organic farming today, as does the rejection of mainstream systems that cause water pollution and intensive use and production of fossil fuel resources (Carolan, 2013). In order to address these issues and to move towards the UN’s call for sustainable farming systems, there is a need for greater production of grain using ecological methods (Francis, 2009). In North America, agricultural subsidies encourage energy-intensive management and expansion of agriculture into ecologically sensitive areas (Carolan, 2013). Structural challenges such as this hinder the ability to achieve sustainable food systems, but ecological farmers—including grain farmers—are following organic principles to build a healthier environment. By doing so they are also challenging the dominant damaging trends in agriculture.

2.3 Ecological grain farming in Ontario

Ecological grain production in Ontario is diverse, with grain farmers accessing various markets, growing in varied climates, and operating at varied scales. Spelt and soybeans currently dominate the organic cash crop sector in Ontario, but diversified farmers are also growing other grains, including barley and rye (Schumilas, 2010). Organic producers operate on large scales, selling their products through merchants and mills, and also operate on much smaller scales, selling grain through community-supported agriculture (CSA) operations and at farmers markets. These avenues taken within markets are reflective of both the growth in consumer demand for organic in commercial retail stores, as well as other trends in local food and emerging community grain projects (COTA, 2013; Simpson & McLeod, 2013). The Organic Value Chain Roundtable (2014) notes that there is a significant opportunity for growth in organic bread and grain production, a category worth \$360 million in Canada’s retail sector.

Small-scale community grain projects can potentially foster local spin-off businesses through value chains, allow for fresh milling of whole grains, help increase profits from direct marketing, strengthen the organizing capacity of alternative food systems, reintegrate producers, allow for knowledge transfer, challenge the commodification of grain, and re-embed food within society (Adamchak & Ronald, 2008; Clapp, 2012; Eaton, 2013; Hergesheimer & Wittman, 2012; Simpson & McLeod, 2013). Small-scale operations also offer the possibility of contributing to alternative forms of grain production and lessen the socio-ecological impacts that are frequently created by conventional cereal grain operations. The academic literature has documented small-scale ecological grain movements such as these in New Brunswick (Speerville Flour Mill), New England, and British Columbia (Kootenay Grain CSA), but such operations in Ontario have been neglected in the literature thus far. This research, therefore, seeks to engage with Ontario ecological grain operators, including those who sell through conventional marketing techniques as well as those operating locally within their communities capturing the diversity of Ontario's grain farmers' operations.

2.4 Producing and marketing ecological grain in Ontario

From the producer's perspective, conversion to ecological farming techniques can offer many opportunities, including increased profits, less acreage required for equivalent incomes as conventional, and knowledge that they are contributing to a healthier environment for themselves and their buyers (Hamm & Martin, 2015). However, ecological farming also creates unique challenges. Since ecological grain farming employs holistic practices, it is a complex and knowledge-intensive endeavour (Magdoff, 2007). In addition, small-scale and ecological farmers face additional challenges including adjusting to changes in agricultural policies, climatic variability, lower yields, land degradation, uncertain transition periods for certified producers, access to affordable land, financial transformation of food provisioning, and limited access to inputs (Agarwal, 2014; Hamm & Martin, 2015; Isakson, 2014; OVCRT, 2014; Stringer, Twyman, & Gibbs, 2008). In British Columbia, some growers had stopped producing local grain due to low financial returns (Hergesheimer & Wittman, 2012). Other challenges for small-scale ecological farmers are the decreased access to local markets by rural depopulation as well as a lack of institutional support from the public sector, such as grant funding (Stringer et al., 2008).

In Ontario, some of the most productive and fertile land is located beneath cities, including Toronto (Beingessner, 2011; Friedmann, 2011). This means that where soil is rich and fertile, land is most expensive, creating inaccessibility issues for farmers and pushing them further from strong urban markets. Although grains do not go rancid at the same rate as fresh produce, inaccessibility to urban markets is problematic for small-scale grain growers who often need direct marketing options to make a profit (Hergesheimer & Wittman, 2012). Friedmann states, “If regional agricultural markets for fresh produce and livestock had been able to grow in tandem with cities and towns, farmers might have found a vibrant regional market” (2011, p. 172).

Wheat, as a product, can be used to illustrate some of the challenges that Ontario grain producers face in terms of marketing. The land and climate of southern Ontario is suited for growing wheat (McCallum, 1980). The arid climate of the Canadian Prairies, however, produces wheat with a higher protein content that is desirable for milling, providing Prairie growers with a competitive advantage (Eaton, 2013). Since the Prairies dominate in Canadian wheat production, the biology of wheat seeds has been shaped by Prairie farmers. As such, most wheat varieties grown in Canada are well adapted to short and dry growing seasons of the Canadian prairies, which is not suited to the climate of southern Ontario (Eaton, 2013). This lack of locally adapted wheat seeds affects the quality of wheat grown in Ontario and therefore the marketing options of wheat farmers. Similar challenges can be seen in other locations with other crops. Grain growers in New England who sell to malting and brewing markets are encouraged to grow 2-row barley, which is challenging since oats, rye and buckwheat are best suited to their growing conditions (Ciulla, 2014). Two-row barley is more desirable for malting markets than six-row barley since it is less prone to shattering and since the kernels have more uniform moisture uptake (McLelland et al., 2009), but 2-row barley is difficult to grow successfully in New England. Another marketing challenge for small and mid-sized organic operators is a consumer willingness/ability to pay, as well as consumer confusion about the meaning of organic (Schumilas, 2012).

For field crop farmers in Ontario it is difficult to maintain “[...] a good rotation given the wide range of commodity prices and the challenges of finding markets for the full rotation” (Hall & Mogyorody, 2001, p. 407). In this sense, the physical demands of operating a diverse operation may conflict with economic demands. Farmers state that providing a market for the grain rotation is crucial, but retailers, mills and processors’ operations are not always set up for that flexibility and variability. However, there are some rare cases, such as Hungry Ghost Bread

in Massachusetts that actively seeks to provide a market for an entire grain rotation (Simpson & McLeod, 2013). Large firms are often unable to produce for differentiated or niche markets (Hergesheimer & Wittman, 2012). In Ontario in the early 2000s, some farmers who had been producing vegetables for local markets converted their land into soybean production for export markets because the profits were more favourable. The challenges of producing and marketing ecological grain and strategies taken to overcome them, as described in this chapter, are represented in Table 2.1 and Table 2.2.

Table 2.1: Challenges with ecological grain production and marketing in North America

<i>Challenge</i>	<i>Source</i>
Growing grains can require a great deal of land and equipment	Denckla Cobb, 2011; Halloran, 2015
Direct marketing grain locally is difficult because there is often a lack of small-scale processing equipment	Hills et al., 2012
Limited availability of locally adapted crop varieties	Eaton, 2013
Unreliable markets	Halloran, 2015
Limited farmer training	McIntyre & Rondeau, 2011
Challenges with achieving a product of high quality	Hergesheimer & Wittman, 2012; McIntyre & Rondeau, 2011
Inadequate access to storage and cleaning facilities	Hergesheimer & Wittman, 2012
Grain farming is knowledge intensive	Magdoff, 2007
Lack of institutional support	Stringer et al., 2008
Processors are not often set up to accommodate the range of crops grown in an ecological crop rotation	Simpson & McLeod, 2013
Regulatory uncertainties exist related to the production, processing, and selling of local products (note: this is not specific to grains)	McIntyre & Rondeau, 2011

Table 2.2: Documented strategies to overcome marketing challenges with ecological grain

<i>Strategy</i>	<i>Source</i>
Processors can spend time educating farmers about growing, harvesting and storing grains	Ciulla, 2014
Local identities of localized grains chains can be maintained through promotional activities, local labeling, and marketing via direct sales	Hergesheimer & Wittman, 2014
Engagement of multiple stakeholders and perspectives can minimize challenges related to availability, reliability, and access to appropriate markets	Halloran, 2015
Kootenay Grain CSA provides novel, environmentally-friendly grain delivery by sailboat	Gibson-Graham et al., 2013; Simpson & McLeod, 2013

In summary, ecological grain farmers in Ontario contribute to enlivening and supporting the health of Ontario’s agricultural and socioeconomic landscapes. In order for ecological grain farming to thrive, the marketing challenges must be discerned and addressed. The literature on organic grain production in Ontario overlooks marketing challenges and focuses instead on production challenges. In order to consolidate experiences with respect to marketing challenges specifically, this research project included conducting primary research to gather the input of producers, processors, retailers, and non-profit representatives. The value of understanding these challenges is clarified in the following chapter, which includes a discussion of ecological grain farming in the context of the food sovereignty movement and its importance to socio-ecological resilience.

Chapter 3: Ecological grain farming in the context of food sovereignty, diverse economies and sustainable systems

3.1 Introduction

Food sovereignty, as previously noted, is a social movement that accommodates agroecology and challenges agro-industrial agriculture. Kathleen McAfee states, “food sovereignty is as much an ecological project as an alternative economic paradigm” (Suppan, 2008, p. 121). Food sovereignty seeks to support food producers by ensuring that farmers receive fair wages and are active agents in their food system (McKeon, 2015). In general, social movements can be effective tools for enacting fundamental social change, as they are purposeful groups striving toward a common goal. While social change is also created through factors such as environmental shifts or technological innovations, social movements and collective behaviour remain key to realizing social change. Citizens mobilize around issues through social movements, which sometimes leads to successfully shaping the laws and institutions of their respective democracies (Smith, 2013). In the words of Eric Holt-Gimenez (2016), “[...] integrated [social] movements create the deep sustained social pressure that produces political will—the key to changing the financial, governmental, and market structures that presently work against sustainability.” This chapter outlines the movement for food sovereignty in Canada and its role as an agent for change as it relates to ecological grain farmers. In this thesis, I argue that it is important to study food sovereignty as a social movement, and its role that it has in enacting positive change for key stakeholders in the food system, including ecological grain farmers.

3.2 Food Sovereignty

3.2.1 Roots and key principles of food sovereignty

From its origins with La Via Campesina in 1996, food sovereignty has become a concept, mobilizing tactic, an analytical framework, a social movement, and a living organism (Alonso-Fradejas et al., 2015; Desmarais, 2014). It exists as a means to oppose the dominant global food system, which is a threat to human life, in search of a more just, ecological, democratic, and

localized food system (Wiebe & Wipf, 2011). In 2007 a conference in Mali brought together over 500 representatives from more than 80 countries, which led to the creation of the Nyéléni Declaration. The following definition of food sovereignty resulted:

Food sovereignty is the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems. It puts the aspirations and needs of those who produce, distribute and consume food at the heart of food systems and policies rather than the demands of markets and corporations.[...] It offers a strategy to resist and dismantle the current corporate trade and food regime, and directions for food, farming, pastoral and fisheries systems determined by local producers and users. Food sovereignty prioritizes local and national economies and markets and empowers peasant and family farmer-driven agriculture, artisanal - fishing, pastoralist-led grazing, and food production, distribution and consumption based on environmental, social and economic sustainability (Nyéléni, 2007).

Food sovereignty is both implicitly and explicitly a counter frame to the concept of ‘food security’ (McMahon, 2014; Wiebe & Wipf, 2011; Wittman et al., 2010). Food security emerged at international levels in 1974 (Martin & Andrée, 2014) and in its classic definition is strongly tied to the neoliberal discourse of household security and market interactions, rather than the structural problems and the role of the state that is emphasized in the food sovereignty framework. In addition, food security has historically been connected to a productivist framing, where the calorie is used as the metric, as opposed to overall livelihood and related socioeconomic situations (Carolan, 2013). The language associated with food security is politically neutral and technical whereas food sovereignty is deeply politicized and dynamic (Fairbairn, 2010).

The tenets of food sovereignty are far-reaching and difficult to summarize as food sovereigntists emphasize the importance of its adaptability to place and circumstance. However, some key principles exist and they are best represented through the pillars developed in the Nyéléni Declaration (2007): (1) focuses on food for people; (2) builds knowledge and skills; (3)

works with nature; (4) values food providers; (5) localizes food systems; (6) places control locally; and specific to Canada and addressed through A People's Food Policy for Canada, (7) food is sacred.

In looking more deeply at the meaning of the pillars is evidence of food sovereignty's transformative, radical, empowering, political nature, and participatory power. Food sovereignty is critical of the power dynamics within political acts that favour large agri-business and environmentally destructive agri-food systems. It therefore emphasizes the rights of people to choose and define their own means of production and consumption. While La Vía Campesina originally advocated for the rights of nations to self-sufficiency and protection of domestic food production, emphasis is now also placed on individual choice and local communities (Agarwal, 2014; Martin & Andrée, 2014). This emphasis on dispersed powers over food therefore contests neoliberalism, which is the methodical destruction of collectives (Handy & Fehr, 2010; Wittman et al., 2010). Advocates for food sovereignty claim that since food sovereignty addresses power relations it has greater transformative power than food security frameworks (Fairbairn, 2010).

Most pressing is the food sovereignty advocates' demands for the overhaul of the current global food system through transformative and radical action. As with many social movements, the food sovereignty movement notes a dysfunction in relationship between systems, or from a more critical perspective, systematic inequality (Little, 2013). The Zapatistas are often used as an example to demonstrate the ability to localize politics through social movements, while the feminist movement mobilized people across nations to improve equality—granted we still have a long way to go before many kinds of equality are achieved.

Another emphasis of food sovereignty is its inclusion of producers at the core of the movement. “Food sovereignty evolved from the experience of, and critical analysis by, farming peoples” (Wittman et al., 2010. p. 2). However, in 2007 with the Nyéléni Declaration came the inclusion of consumers' associations and consumption (Wittman et al., 2010). The fluid nature of food sovereignty demonstrates that food sovereignty must be conceptualized as a process involving diverse and interconnected struggles (Desmarais, 2014). Food sovereignty intervenes against the notion of ‘food from nowhere’, a phenomenon presenting spatial and emotional disconnect between consumers and their food, characteristic of the corporate food regime. Instead, food systems are deeply rooted in place and the means of production, creating an emphasis on relocalized food for the sake of both consumers and producers. Indeed the growing,

buying, preparing, and eating of food are embedded in socio-ecological relationships rather than market relationships (Wiebe & Wipf, 2011). However, industrial agriculture has led to prices becoming the main connection between growers and eaters (Friedmann, 2011).

Challenges to food sovereignty include foreign investments, lack of rural infrastructure, fear from organizations of its politicizing nature, and neoliberal trade agreements, to name only a few (Martin & Andrée, 2014; Wiebe & Wipf, 2011). However, successes have certainly been had for the food sovereignty movement. For example, food sovereignty has been included in the constitutions of Ecuador, Bolivia, and Venezuela and appears in legislation for Mali, Senegal, Nicaragua and others (Claeys, 2015). While food sovereignty has not reached such structural support in countries from the global North, food sovereignty has become embodied by movements within Canada, as will be discussed below.

3.2.2 Food sovereignty in Canada

In Canada, food sovereignty has been put into practice through community gardens (Hansen, 2011), seed saving programs, organizations including the National Farmers Union (NFU) and L'Union paysanne (Wittman et al., 2011), and the operation of the now dissolved Canadian Wheat Board (Wittman et al., 2011). Martin and Andrée (2014) trace the transition from food security to food sovereignty in Canada and note that this adoption of food sovereignty should be understood as resistance. The transition was begun by *Resetting the Table: A People's Food Policy for Canada*, which is a living document created through collaboration with over 3500 Canadians.

Today, the language of food sovereignty is being adopted by mainstream political parties and organizations and is well suited to legitimize the struggles of urban food activists. Indeed in some cases food sovereignty has moved from being a discourse of the marginalized to being associated with organizations that are not marginal. However, different understandings and experiences of the meaning of food sovereignty in daily practice in Canada suggests that the process of attaining food sovereignty will be challenging (Martin & Andrée, 2014). A challenge to food sovereignty in Canada is that it is not a state with a long and deeply ensconced history of farming that predates export agriculture (Wiebe & Wipf, 2011). In addition, groups that push food sovereignty projects forward struggle to find funding for long-term projects. Long-term

projects are necessary to realize the necessary structural changes to achieve food sovereignty (Beingessner, 2011).

3.2.3 Food sovereignty critiques

“Food sovereignty is a suitcase word, we put everything in it. It becomes cumbersome; we don’t know what to do with it” (as cited in Claeys, 2015, p. 97). One of the key critiques of food sovereignty is that it lacks a common conceptualization due to its numerous stakeholders (Agarwal, 2014). Food sovereignty does not have a static definition because as more allies are gained, more issues must be taken into account (Desmarais, 2014). For example, in 2002 primacy was given to individual rights and choice but in 2007 food sovereignty became more about collective decisions. The diversity of the definition is inclusive and helps to mobilize people around a campaign but it is nonetheless difficult to see how it is workable on the ground (Agarwal, 2014). This is also highlighted in Patel’s (2010) statement that wants—characteristic of the ‘rights’ discourse in food sovereignty—are not means. In addition, with the diversity of definitions emerge some contradictions (Patel, 2010).

Food sovereigntists’ hold an unclear stance on trade (Burnett & Murphy, 2014). Some call for rejection and disengagement from discussions at the World Trade Organization, and in so doing rely on local food systems that mobilize local stakeholders (Claeys, 2015). This denunciation of trade is dismissive of the fact that the food system is extremely globalized and that not all small-scale producers wish to remain in the field of agriculture (Bernstein, 2014). In addition, for nations that are most vulnerable to climate change, it will be difficult for them to move towards food sovereignty’s call for self-sufficiency (Agarwal, 2014). Others argue that trade can occur if it does not harm producers in other countries and as long as international trade holds a subsidiary rather than primary role (Alonso-Fradejas et al., 2015; Claeys, 2015; Beingessner, 2011). So while the definition of food sovereignty can include some international trade by some of its adherents, in practice the movement emphasizes local consumption (Clapp, 2012; McKeon, 2015; Windfuhr & Jonsen, 2003). Alonso-Fradejas et al. (2015) states, “FS needs to be more explicit about [...] the conditions of trade that could prove beneficial for small-scale producers, family farmers, and working people” (p.440). Importantly, Claeys (2015) ponders the efficacy of current food sovereignty islets in a neoliberal ocean, suggesting that challenges remain in the realization of transformation.

Agarwal (2014) notes several other shortcomings of the movement. Food sovereignty does not focus enough on the constraints on women farmers, as they face problems that are structural and deep-rooted, such as inequality in land ownership. Additionally, food sovereignty is perhaps naïve in its support of the maintenance of peasant farming, as achieving self-sufficiency will be dependent on what farmers choose to do. For example, when faced with economic choices small-scale farmers may not want to undertake food production. For landless rural dwellers, a living wage is what matters for food security. Among small farmers leaving agriculture, those choosing to stay would like to grow commercially viable crops, which may not reflect the calls for biodiversity within food sovereignty (Agarwal, 2014; Bernstein, 2014; Jansen, 2015). Table 3.1 details these critiques, as well as the strengths and challenges associated with food sovereignty.

Table 3.1 Summary of the strengths, challenges, and critiques of food sovereignty

<i>Strengths</i>	<i>Challenges to achieving food sovereignty</i>	<i>Critiques</i>
<ul style="list-style-type: none"> • Operates as a mobilizing tactic, politically mobilizing framework, and strategy of resistance (Desmarais, 2014; McMahon, 2011; Nyéléni, 2007) • Opposes the dominant and damaging food system and corporate food regime (Nyéléni, 2007; Wiebe & Wipf, 2011) • Asserts the need for culturally appropriate food (Nyéléni, 2007) 	<ul style="list-style-type: none"> • Presence of foreign investments (Wiebe & Wipf, 2011) • Lack of rural infrastructure (Wiebe & Wipf, 2011) • Hesitancy of organizations to adopt FS due to its politicizing nature (Martin & Andrée, 2014) • Proliferation of neoliberal trade agreements (Wiebe & Wipf, 2011) 	<ul style="list-style-type: none"> • Lacks a common conceptualization (Agarwal, 2014; Claeys, 2015) • Definitions can be contradictory (Patel, 2010) • Presents an unclear stance on trade (Claeys, 2015) • Calls for self-sufficiency are not suited to small nations facing climate change (Agarwal, 2014) • Does not adequately address the constraints of women farmers (Agarwal, 2014)

<ul style="list-style-type: none"> • Promotes environmental sustainability (Nyéléni, 2007) • Empowers food producers (Nyéléni, 2007) • Criticizes political acts that favour large agri-business (Martin & Andrée, 2014) • Addresses imbalances in power relations (Fairbairn, 2010) • Recognizes diverse and interconnected struggles (Agarwal, 2014; Desmarais, 2014; McMichael, 2015) • Recognizes that growing, buying, preparing, and eating of food are embedded in socio-ecological relationships (Wiebe & Wipf, 2011) • Promotes fair prices for farmers (McKeon, 2015) • Safeguards the rights, livelihoods, and dignity of the world's most vulnerable persons and communities (Burnett & Murphy, 2014) 	<ul style="list-style-type: none"> • Differing understandings and experiences of food sovereignty (Martin & Andrée, 2014) • In Canada: FS groups struggle to find funding; Canada is not a state with an embedded history of farming that predates export agriculture (Wiebe & Wipf, 2011) 	<ul style="list-style-type: none"> • Naïve in disregarding the fact that some smallholders wish to be 'active agents' rather than 'victims of' commodity chains (Agarwal, 2014; Bernstein, 2014; Jansen, 2015) • Definition and scope of 'peasant' farmers can be vague and misinformed (Bernstein, 2014, Jansen, 2015) • The suggested government support to small farmers would result in higher prices for consumers (Bernstein, 2014) • In reinforcing its radicalism, it distances itself from other perspectives on farming and agriculture (Bernstein, 2014) • Food sovereignty practices may not allow for sufficient levels of food production (Jansen, 2015)
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As noted by Desmarais (2014), food sovereignty has only recently been discussed in academia. As a young movement, it is important to remain critical of it in order to understand how it can best address the needs of producers as it moves forward and continues to build strength. Windfuhr and Jonsen (2005) state that food sovereignty “deserves more discussion on how to develop it further” (p. 39). This research will therefore consider both the strengths and weaknesses of food sovereignty when exploring its ability to address the needs of ecological grain producers in Ontario.

3.2.4 Connecting food sovereignty and marketing ecological grain

Recognizing the strengths and the weaknesses of food sovereignty, the framework can now be considered in relation to marketing ecological grain in Ontario. It is important to provide context to food sovereignty through grounded experiences of farmers, in this case Ontario’s ecological grain farmers and their experiences with marketing grain. As Annette Desmarais (2014) states, one avenue for research involves determining how food sovereignty challenges or accommodates elements of existing agricultural production and consumption in specific locales. For example, food sovereignty challenges the agricultural trade liberalisation and deregulation that is common worldwide. With this in mind as well as recognition that food sovereignty must be adapted to different circumstances, research is warranted on food sovereignty and ecological grain. In addition, Desmarais (2014) insists on determining the ways in which the practice of food sovereignty improves the well-being of rural and urban communities. These research suggestions present room for exploration of how or whether food sovereignty principles mitigate the marketing challenges of ecological grain farmers in Ontario. See Table 3.2 to see how these connections will be explored.

A clear connection between food sovereignty and ecological farming is that they both promote environmental stewardship. However, food sovereignty proponents are critical of monocultures (Claeys, 2015; McMichael, 2010) and many organic grain operations have large fields of the same crop. Advocates of food sovereignty have yet to adequately grapple with the practical requirements of organic grain operations, which although often use crop rotation schemes, may still grow large acreages of the same crop. A further complication is that food sovereignty seeks to cut out middle agents (Clapp, 2012). This is reflected in some ecological grain farmers operating on small to mid-sized scales who sell their products through CSA shares

and farmers market, contributing to food sovereignty’s call for relocalized food. Given the diversity of scale within the ecological grain sector, however, this mode of operation and marketing does not reflect all producers who sometimes sell to intermediaries. Similarly, the food sovereignty movement is led by producers who do not use mainstream trade-based systems for their operations (Friedmann, 2011). Yet Ontario’s organic grain sector produces for international markets, thus suggesting that these producers may sell through mainstream techniques. The literature on food sovereignty does not address the producer’s perspective on this, hence my focus in this study of examining the alignment between food sovereignty and the marketing needs of ecological grain farmers.

Table 3.2: Principles of food sovereignty that are a focus in this research and examples of how food sovereignty policies complement and conflict with farmers’ marketing needs

<i>Principle</i>	<i>Question related to my research</i>	<i>Applied example of past or current circumstance</i>
Localism	Are Ontario’s ecological grain farmers emphasizing a need for local markets, local infrastructure, etc.?	Food sovereigntists encourage local markets, which usually complement small-scale ecological grain operations (and livestock and vegetable farmers), but this may not reflect the marketing need of all ecological grain farmers in Ontario (Denckla Cobb, 2011; Hergesheimer & Wittman, 2012; Slater, 2005).
Environmental stewardship	Are Ontario’s ecological grain farmers promoting environmental stewardship and how does this relate to their engagement with markets?	
Control and empowerment	Are Ontario’s ecological grain farmers seeking autonomy and	Food sovereignty advocates supported the Canadian Wheat

	local control in their pursuit of robust markets?	Board (CWB), which is a single desk marketing agency that many family farms in the prairies benefited from (Magnan, 2011; Müller, 2013). However, many organic grain farmers did not directly benefit from the CWB (Pratt, 2002; Pratt, 2004).
Creation and maintenance of local knowledge	Do ecological grain farmers in Ontario seek collaborative knowledge transfer and cohesive farmer networks?	

Unlike other ecological farming sectors, grains traverse many geographic and political boundaries between the farm and the consumer (Hergesheimer & Wittman, 2012). Therefore analyses by some academics rightly discuss local in both spatial and social terms. Short food supply chains (SFSCs) are often discussed in tandem with local food. Renting, Marsden and Banks (2003) note that SFSCs are face-to-face (e.g., farmers markets), proximate (whole food retailers), or extended (e.g., fair trade), which all reduce the physical or cognitive distance between producer and consumer in different ways. This relates back to the potential conflict between food relocalization and grain discussed in Chapter 2 and will be explored in my study by discussing the length of food supply chains with producers. Inclusion of extended and proximate SFSCs may serve to encompass the operations of Ontario’s ecological grain farmers.

A strong example of food sovereignty being put into action through a marketing agency is the Canadian Wheat Board (CWB), which was dissolved in an act of Parliament in 2012. The CWB was a farmer controlled, collective marketing agency for wheat and barley in the Canadian prairies. The connections between the Canadian Wheat Board and food sovereignty are clear; the CWB was a democratic marketing system that maximized returns and provided reliable markets for farmers (Magnan, 2011). Yet even with the CWB, food sovereignty is not a clear cut example, as the CWB has a history of providing its grain surpluses in the form of food aid, an act of food dumping which is something that advocates of food sovereignty reject (Clapp, 2012).

Therefore a dialogue of food sovereignty for grain farmers has occurred within Canada, but in the context of the prairies (Wittman et al., 2011). Keeping in mind that food sovereignty is situational and that ‘place matters’, the question remains: what does food sovereignty look like for grain farmers in Ontario? Table 3.2 details some of the connections between food sovereignty and marketing ecological grain.

To summarize, the nuanced principles of food sovereignty are complicated by the realities of ecological grain farmers. These are largely related to the dialogue around localism, supply chains, domestic production, as well as the importance of individual rights and political organization. Thus by focusing on control, rights, localism, environmental stewardship, and creation and maintenance of local knowledge, the tenets of food sovereignty are explored through the lens of ecological grain farmers. Semi-structured interviews were conducted with open-ended questions. Through these interviews the research seeks to determine whether food sovereignty can be used as a tool to mitigate the marketing challenges of ecological grain farmers in Ontario.

3.3 Diverse economies

Recognizing that the world’s food issues are complex and that food sovereignty principles may not entirely complement operations of ecological grain farmers in Ontario, a second framework is proposed here. The diverse economies framework recognizes that there are complex economic practices affecting society beyond the commonly identified capitalist systems. Gibson-Graham (2006) states that “diverse languages of economy already exist but are rendered ineffectual by the hegemony of capitalocentrism [...] we need to identify and begin to liberate these alternative languages from their discursive subordination” (p. 57). The language of the diverse economies framework is characterized by inclusion, difference, acceptance, and creativity. In mainstream economics, for example, the ‘local’ is often denigrated to a field of play while the ‘global’ is a force, which the diverse economy framework seeks to challenge (Gibson-Graham, 2002). As presented in Figure 3.1 of the iceberg, the diverse economy perspective asserts that the markets in capitalist systems are typically what we view as ‘the economy’ when in fact much economic activity is occurring beneath the surface. In addition,

[...] far from being homogeneous and all-encompassing, the economy is in fact a diverse space. This is a space full of alternatives and of people and organizations that have carved out spaces of non-capitalism, underpinned by different kinds of values and supported by different forms of exchange (Wright, 2014, p. 203).

Figure 3.1: The diverse economy as an iceberg (Gibson-Graham, 2006, p. 70)



In a diverse economy, a call is made for new discursive framing that allows subjects to have economic citizenship, rather than the assumed discursive dominance of capitalism. Gibson-Graham wish not to view 'the economy' as a singular totality, but rather as a diverse space. This is encompassed in Figure 3.1 of the diverse economy iceberg. A diverse economy, as identified by Gibson-Graham (2006), involves identifying different kinds of transaction, different types of labour and ways of compensating it, and different forms of enterprise. For example, transactions

in an alternative market involve fair trade markets, co-op exchanges, barter or alternative currencies (see Figure 3.2). Figure 3.2 describes the diverse economy perspective as it relates to transactions in different markets, labour based on various wage schedules, and enterprises as they fit into capitalist models. Some argue that labeling schemes such as fair trade, organic and locally grown products still rely on a neoliberal discourse that includes consumerism, personal responsibility and choice (Fairbairn, 2010). Gibson-Graham (2006) seek to disarm and dislocate the naturalized hegemony of the capitalist economy. In a diverse economy, for example, “unemployed” or “economically inactive” persons are viewed as economic subjects who contribute to society in unpaid forms. They suggest that there is indeed recognized space for activities that are often ignored, including sharing and collective enterprises (e.g., community supported agriculture (CSA) programs). These diverse representations are more enabling of participants than typical views of the economy.

Figure 3.2: Characteristics of a diverse economy (Gibson-Graham, 2006, p. 71)

TRANSACTIONS	LABOR	ENTERPRISE
<p>MARKET</p> <p>ALTERNATIVE MARKET</p> <p><i>Sale of public goods</i> <i>Ethical “fair-trade” markets</i> <i>Local trading systems</i> <i>Alternative currencies</i> <i>Underground market</i> <i>Co-op exchange</i> <i>Barter</i> <i>Informal market</i></p>	<p>WAGE</p> <p>ALTERNATIVE PAID</p> <p><i>Self-employed</i> <i>Cooperative</i> <i>Indentured</i> <i>Reciprocal labor</i> <i>In-kind</i> <i>Work for welfare</i></p>	<p>CAPITALIST</p> <p>ALTERNATIVE CAPITALIST</p> <p><i>State enterprise</i> <i>Green capitalist</i> <i>Socially responsible firm</i> <i>Nonprofit</i></p>
<p>NONMARKET</p> <p><i>Household flows</i> <i>Gift giving</i> <i>Indigenous exchange</i> <i>State allocations</i> <i>State appropriations</i> <i>Gleaning</i> <i>Hunting, fishing, gathering</i> <i>Theft, poaching</i></p>	<p>UNPAID</p> <p><i>Housework</i> <i>Family care</i> <i>Neighborhood work</i> <i>Volunteer</i> <i>Self-provisioning labor</i> <i>Slave labor</i></p>	<p>NONCAPITALIST</p> <p><i>Communal</i> <i>Independent</i> <i>Feudal</i> <i>Slave</i></p>

Alternative market transactions may involve commensurability of goods and services that are socially negotiated, by means of co-ops or underground markets (Gibson-Graham, 2006). In terms of labour, unpaid work may still be compensated through emotional support or sense of worth. Alternative capitalist enterprises embody an environmental and social ethic. “This means that [in a diverse economies framework] in place of lack, absence, and deficit, the world is viewed as a place of bounty, presence, and surplus” (p. 204). This complements the key components of production and distribution that will be analyzed in this research to determine the opportunities and challenges with selling and marketing ecological grain in Ontario. As stated by Wright (2014), there are strong connections between diverse economies and agricultural production when considered through a food sovereignty lens.

3.3.1 Connecting diverse economies, food sovereignty, and grain

To contribute further to the exploration of the connection between agriculture and diverse economies, this research seeks to determine whether diverse economies can be used as a tool to legitimize and support the work of grain producers in terms of their marketing strategies. This will contribute to further understanding the importance that ecological grain farmers have in stepping away from neoliberal, capitalist models that dominate the global agri-food systems. In so doing, the production and distribution of ecological grain in Ontario will be further contextualized within a narrative for food sovereignty. There are, after all, many connections between the diverse economies framework and food sovereignty, such as recognition of cooperatives and localized trading mechanisms. Local power is indeed emphasized by both frameworks (Gibson-Graham, 2006).

Similar to the food sovereignty framework, the recognition of a diverse economy contributes to a system in which interdependencies between people and the environment are crucial (Cameron & Gordon, 2010). In addition, it strives

“[...] to recognize [...] embeddedness within a particular geographic, cultural and temporal context; respect and include multiple, diverse visions; tend towards small-scale, cooperative, culturally distinct, socially embedded and locally owned initiatives; promote

meaningful community control and equitable distribution of surplus [...]” (Ballamingie & Walker, 2013).

This is inclusive, recognizes a variety of transaction, labour and enterprise set-ups, and thereby overcomes the limitations created by the binary opposition between mainstream and alternative food systems. Food sovereignty can be an alienating term for some since it has such a strong political undertone, but the diverse economies framework is more inclusive as it looks at capitalist, alternative, and non-capitalist forms of enterprise, labour, and transactions, at both local-regional and local-international scales. Food sovereignty, however, is considered by some as being fragmented and too localized (Cameron & Gordon, 2010).

Gibson-Graham notes that there is the “[...] tendency to constitute “the” economy as a singular capitalist system or space rather than as a zone of cohabitation and contestation among multiple economic forms” (2006, p.xxi). In addition, in speaking of cultural and economic revolutions and transformation, “[...] if the revolution were to occur in a time-world discontinuous with this one, it would not be possible to talk about steps and strategies for getting there” (2006, p.xxi-xxii). Therefore although the diverse economies framework recognizes the more radical aspects of food sovereignty, it also recognizes that transformation must occur within and cohabit with our current system, rather than entirely beyond it. Gibson-Graham suggest that capitalism be “smashed at home during our spare time”, rather than waiting for the revolution. While providing recognition of all forms of enterprise, labour and transactions, diverse economies insists that alternative and non-capitalist forms thereof must be acknowledged within the discourse of ‘the economy.’ Gibson-Graham et al. (2013) note that to survive well we need occupational, community, physical, and material well-being, which may legitimize the importance of market access for farmers; markets can be a space of care as well as of consumption. They state that businesses may be major contributors to the planet’s problems, but they can also be vehicles for change, which may be used as empowering language with farmers. This inclusive and diverse language is perhaps more representative of Ontario’s ecological grain marketing techniques, which is itself a diverse sector. Food sovereignty and diverse economies offer two complementary although differing lenses with which to explore the challenges and opportunities facing ecological grain farming. The literature reviews of chapters 2 and 3 provide

a conceptual foundation for the following primary research while also identifying gaps that this project is partially serving to fill.

Chapter 4: Research methodology

4.1 Introduction

This thesis explores the challenges and best practices associated with marketing ecological grain in Ontario, and the relevance of the principles of food sovereignty in relation to these challenges and opportunities. In order to do so, the methodological approach employed draws on a mix of qualitative methods, which allows for an understanding of underlying reasons and motivations that quantitative research cannot provide. As a deductive approach that often views society as an objective reality, quantitative research is unsuitable for this study since I seek to understand subjective interpretations of experiences with bringing ecological grain to market. Instead, I employ semi-structured interviews with open-ended questions, and participant observation.

Crotty (1998) outlines four elements of social research: (1) What methods do we, as researchers, use? (2) What methodology governs our choice and use of methods? (3) What theoretical perspective lies behind the methodology? (4) What epistemology informs this theoretical perspective? These four elements are discussed throughout this chapter as they relate to my research project. They will be addressed in reverse order in order to depict the philosophical foundations of the research before discussing specific methods used.

4.2 Research methodology

A discussion of epistemology³ provides context to the researcher's approach and allows the reader to understand the underlying assumptions and worldview associated with the research. Therefore, before describing the specific methods used in this study, I make explicit the epistemological assumptions and philosophy that underline this work and research approach. A constructivist epistemology is used alongside grounded theory, which is reflective of my belief that knowledge is socially situated, varying between location and worldview.

Although discussed in sociology and philosophy previously, Berger and Lukman coined the term 'social constructivism' in 1991 (Lee & Stech, 2011). Underlining this perspective is the

³ Epistemology is the way that humans create their knowledge about the social world (Nudzor, 2009).

belief that knowledge is a social construction, not neutral, objective or merely discovered (Delanty, 1997). Crotty (1998) states, “Meanings are constructed by human beings as they engage with the world they are interpreting” (p. 43) and argues that without consciousness on Earth to interpret the world (i.e., humans), there was no meaning held in the world. The type of knowledge associated with constructivism is shaped by experience and context; therefore that which the respondents and social scientists know has a social location, which conditions knowledge (Delanty, 1997). This means that the knowledge we hold comes as a result of our specific interpretations of the world, which vary by location and context, creating localized realities (Creswell, 2014). In addition, Wertz et al. (2011) note that a theoretical understanding of the world is viewed as partial, conditional, and situated in temporal, spatial and social locations.

For the purposes of this particular study, therefore, I spoke with farmers exclusively from Ontario thereby acknowledging that their knowledge is situational and unique from the experiences of farmers in other parts of Canada. Consideration of local realities is also represented in my exploration of the importance of localization in food sovereignty and market access. This focus on specific contexts in which people live and work allows for an understanding of the historical and cultural settings of the participants (Creswell, 2014). “We are all born into a world of meaning bestowed upon us by our culture” (Creswell, 2014, p. 9). This was addressed in my research by beginning interviews with a set of background questions including a brief history of the grain farmers under investigation and/or their family’s experience in the farming sector.

Grounded theory best reflects the constructivist epistemology. Many forms of qualitative research begin by formulating a hypothesis and then testing that hypothesis, whereas grounded theory is seen in contrast to this method because it is a tool that sees theory develop through the analysis of data. While I do not develop theory per se, I do note patterns that are developed external to any testing of a hypothesis. Since grounded theory begins with experience, not a deductively produced hypothesis (Della Porta & Keating, 2008), it lends itself well to my use of open-ended questions when interviewing. Open-ended questions are also well suited to an openness to discovering concepts in the field, which is an important characteristic of the research process that is consistently emphasized in grounded theory literature (Emmel, 2013). Grounded theory is one of the most widely used designs for qualitative research, reflecting an iterative approach that allows for constant comparison throughout the research process (Bryman, Bell, &

Teevan, 2012; Flick, 2006). Before the 1960s, qualitative research was largely an enterprise to verify theory, but grounded theory, identified in 1967, presented a theory of process (Emmel, 2013). This theory of process is achieved through constant comparison and the use of coding, which will be discussed in relation to my research in Section 4.4.

Constructivist grounded theory recognizes that data is mutually constructed by the researcher and the researched. Research can elucidate human experiences based on the researcher's roles within interpretive communities (Bradshaw & Stratford, 2010; Winchester & Rof, 2010). As such, it is an interactional method that allows for relationships to be developed *with* the interviewee, rather than engaging in an analysis *of* the person (Wertz et al., 2011). As Charmaz notes, constructivist grounded theory allows for the participants' narrative accounts of experiences to be outlined. It assumes multiple realities and that data is mutually constructed through interaction (Emmel, 2013). This reflexivity allows the subjectivity of the research and of those being studied to be part of the research process (Flick, 2006).

In relation to my research, grounded theory is useful in gaining the perspective of ecological grain farmers because it allows for the respondents to be active agents rather than passive subjects (Delanty, 1997). For example, at the end of the first few interviews conducted I asked some interviewees what they would like to see come from this research, and if I missed any key considerations. By viewing participants as integral to the creation of knowledge, constructivism can lead to empowerment of all actors in research (Lee & Stech, 2011). These are traits that make the pursuit of grounded theory desirable.

I've drawn many connections between the applicability of constructivist grounded theory and my research. It is also important to note that my work may not be unanimously interpreted as grounded theory research. While I did not begin with a hypothesis, I did begin with the questions: *What successes and challenges do ecological grain farmers experience in marketing their grain? Can the underlying principles and suggested policies of food sovereignty alleviate the marketing challenges of ecological grain farmers in Ontario?* I allowed the research participants' input to drive the research only within the selected scope of marketing ecological grain. I reconciled my use of specific but open-ended questions by having participants first interpret and discuss the questions as they wish, without interrupting, before probing. With this reconciliation, as well as for the stated reasons in the preceding paragraphs, I do associate my

work with constructivist grounded theory; I looked for basic patterns and processes with an aim of creating meaning from the interactions with participants.

4.3 Research design

Research methods and design must be grounded in the philosophical or theoretical perspective of the research (Nudzor, 2009). All research methods are suited to certain ways of thinking, therefore the ways of thinking and the research techniques used can be understood and contextualized through the other. Having outlined constructivist grounded theory, the following section outlines the methods that are suited to this framing. While some literature does support the idea that social science can be led astray by too strictly adhering to one particular method, the research design is generally recognized as an integral consideration before and during the research process (Creswell, 2014; Bryman et al., 2012).

4.3.1 Semi-structured interviews

This study of ecological grain farmers is well-suited to semi-structured interviews. As previously discussed, grounded theory—the approach taken in this research—sees theory develop through the analysis of data, which allows for reasonable flexibility (Glaser, 1998). This flexibility is likewise encouraged by semi-structured interviews, the most commonly employed interview technique in qualitative research (Bryman et al., 2012). As with constructivist research, semi-structured interviews allow for questions to be broad and general; the more open-ended, the more likely an interviewee will be able to share their own view (Creswell, 2014). They allow for issues to be pursued in depth as they provide the respondent with more freedom to direct the flow of conversation (Babbie & Benaquisto, 2009). As such, interviews have the potential to show respect, empower participants, and allow participants to reflect on their experiences in relation to the topic. They also allow people to use their own vernacular to describe their own experiences and perceptions (Cachia & Millward, 2011; Dunn, 2010), which is an important consideration in grounded theory.

For this research, my semi-structured interviews were guided by a series of questions in the general form of an interview guide, with some deviation from the established questions. As

the interviewer administering semi-structured interviews I had the ability to probe or ask further questions in response to replies that appear significant (Bryman et al., 2012; May, 2001). Semi-structured interviews are often used when the researcher is seeking to access 'rich' data, meaning data that explores the meaning behind one's actions or interpretations of events or phenomena (Charmaz, 2006). Since I seek to discern the marketing challenges of farmers and the way by which they interpret the world around them, semi-structured interviews are very useful; the flexibility of the interview guide facilitates interviews and conversations that are partly led by the interviewee (Bryman et al., 2012).

Qualitative interviews may be conducted via telephone, e-mail, Skype, or in-person. In this study interviews were conducted by telephone, except for one that was conducted in-person. There are two key reasons that interviews for my research were conducted by telephone: (1) Interviewees were spread across Ontario, making accessibility difficult; (2) Limited resources were available to spend on travel. Since mobility and accessibility posed limitations for conducting in-person interviews, most of my interviews were conducted by phone, lasting between 25 minutes and 1 hour and 10 minutes. Disadvantages associated with telephone interviews include less rapport and greater time restraints. For example, it is suggested that telephone interviews not exceed 30-45 minutes, which puts a constraint on the interview (Bryman et al., 2012; Weiss, 1994). In addition, a disadvantage to any form of interviewing that involves technology is that they exclude individuals and groups who do not have access to these technologies. For example, in my research there was one mill owner that a farmer suggested I speak with who did not have a phone, so my telephone interviews could not include that mill; they only dealt with in-person visitors.

In-person semi-structured interviews, in contrast, are known to be effective in establishing rapport and being less constrained by time. Rapport is frank and open discussion and the degree of acceptance or cooperation on the part of the interviewee to a research project (Dundon & Ryan, 2008). Rapport is important because it puts interviewees at ease, it places trust between the interviewee and interviewer and it convinces participants that the interviewer is interested in what they are talking about (Leech, 2006). Although my interviews were not conducted in-person I could still create a basic level of rapport. For example, I followed Leech's suggestion that the interviewer "should seem professional and generally knowledgeable, but less knowledgeable on the particular topic of the interview" (2006, p. 665). Semantics are also

important in developing rapport and making an interviewee feel at ease; for example, as the interviewer I stated that I would like to “talk with” as opposed to “interview” an interviewee. In order to maintain strong rapport, I asked simple questions at the beginning to allow the interviewee to become comfortable while more abstract and general questions were asked at the end. When the opportunity to establish rapport in-person is not available, trust may also be established through sponsorship, such as recommendations from the key informant or a common acquaintance (Bloor & Wood, 2006; Weiss, 1994). This applies to my research, as I sometimes mentioned to respondents that a respected coordinator of an ecological grain program had suggested I be in touch with them. This sometimes validated my interest in the topic and encouraged them to feel more comfortable with me, knowing that we knew someone in common. Rapport can lead to descriptive narratives accompanied by amusing anecdotes, contributing to the search for ‘rich data’ in qualitative research (Dundon & Ryan, 2008).

In addition, while telephone interactions generally result in greater time constraints, I also recognize that farmers have limited time to talk so telephone calls were sometimes more convenient and less time consuming than hosting me at their farm. For example, one interviewee had to push back our interview time by an hour at the last minute as they had to attend to their neighbour’s cows as the neighbour had just gone into labour and was at the hospital. It would be difficult to account for this unforeseen circumstance if I had already been in the vehicle, on my way to the farm.

I made an effort to be polite, punctual, and receptive, attributes that Denscombe (1998) associates with the ability to elicit honest answers. He also suggests being non-judgemental, attentive, tolerating of silences, adapting to prompts and probes, and being comfortable with asking for clarification and examples. The interviewer must also not interrupt the interviewee or fight for control (Weiss, 1994). The interviewer must also show empathy and flexibility when trying to comprehend the perspectives of relevant communities (Lee & Stech, 2011). Also related to the interviewer is the interviewer effect. This refers to the fact that the professional expertise or social status can affect the interviewee-interviewer relationship (Denscombe, 1998). As such I refrained from using academic jargon and sometimes discussed my own experience working on farms.

While it is important to record interviews, recording devices can also intimidate interviewees as it reminds people there will be a record of what they say, leaving them

constrained by its presence. One prospective interviewee was feeling unsure of his ability to speak authoritatively on the topic but was willing to try, but when I noted that I wanted to record the interview he quickly decided that he no longer wanted to participate in the research at all. Another issue with the tape recorder is that it can allow the interviewer's mind to wander, as they are aware that the tape recorder is capturing the conversation (Weiss, 1994). I addressed this by closing all other windows on my computer to remain focused and by reserving classrooms on campus in which I conducted the interviews.

As discussed, semi-structured interviews facilitate open questions, which were important in this study. Open questions allow for unusual or unexpected responses and they allow respondents to answer questions in their own terms (Bryman et al., 2012). Semi-structured interviews in grounded theory allow the participants' responses to lead the direction of the research. Spradley and Mann note that, "Only individuals can open the door to their reality and allow us to see how they perceive and make sense of their experience" (as cited in McIntyre, 2005, p. 210). The flexibility afforded by semi-structured interviews will enable this philosophy to be employed in the research process. While the interview guide of semi-structured interviews affords some—although not as much as with structured interviews—degree of replicability, the malleable nature also provides the opportunity for probing and access to 'rich' data. The semi-structured interview approach permits some deviation from the interview guide. This means that follow-up questions may be asked in order to expand upon a topic. Probing is one example of this, which I employed in my research, wherein specific words or other techniques are used by the interviewer to clarify a response to a question. It allows the interviewer to learn about meanings as opposed to make assumptions (Japhet & Tar, 2013). Probing is necessary if the interviewee doesn't understand a question and it is useful in drawing out more complete narratives (Qu & Dumay, 2011).

There are also many limitations associated with semi-structured interviews. Many of these limitations can be considered in relation to validity, replicability and reliability—three of the main criteria used in evaluating social science research (Bryman et al., 2012). Internal validity describes how certain the researcher is that the independent variable has an impact on the dependent variable. External validity refers to the applicability of the study beyond the research setting as well as whether or not the results can be generalized beyond the specific study (Bryman et al., 2012). Semi-structured interviews may not always have internal or external

validity because the interviewee may lie or may deliberately try to mislead the interviewer (Diefenbach, 2009). However this is not likely to have arisen in my research as interviewees were not generally speaking about sensitive issues. Replicability is also jeopardized in semi-structured interviews because the flexible nature of the interview means that the research may not be able to be repeated in the same way to gain the same results. Lastly, reliability refers to the ability to achieve the same results when administering questions to the same research subject multiple times. Reliability is difficult to achieve with semi-structured interviews because when conducting an interview the participants may stray from the interview guide, which cannot always be replicated when asking the same set of questions again. In addition, different interviewers may elicit different answers due to the method by which they build rapport. These issues were addressed by interviewing 20 respondents, which established some consistent response patterns. In addition, given that this is grounded theory the goal is to gain insights into the specific challenges of ecological grain farmers, as opposed to replicability and reliability.

Effective interviews rely on the knowledge, skills, vision and integrity of the interviewer (Rabionet, 2011). This places the success of an interview into the hands of an interviewer. This is a weakness inherent in all interview styles, however structured interviews do seek to minimize this risk. Another challenge with semi-structured interviews is that they require a great deal of planning and time before, during and after the interview. The questions and interviewing technique must be refined before the interview, the interviewer must remain aware and alert during the interview, and perhaps the most time consuming aspect of the process will take place after the interview during the analysis and coding of data.

While semi-structured interviews present some shortcomings, they did provide a balanced approach to the research for this study. They allowed for open-ended questions, in-depth discussion, and active engagement of respondents. Interviews therefore served as the key component of the research but one other source of data collection was used in this research, as discussed below.

4.3.2 Participant observation

As suggested by Burgess (1982), I remained flexible by using multiple methods. This was accomplished by incorporating participant observation. Participant observation emerged from

sociology and involves looking, listening, enquiring, and recording (Ackroyd & Hughes, 1981). The researcher involves themselves in the lives of those being studied in order to obtain an ‘insider’s view’ but the researcher must provide evidence that their presence is not a complete nuisance on those being studied (McIntyre, 2005). Importantly, it makes no firm assumptions of what is important, allowing the researcher to remain open to observable phenomenon (May, 2001).

Participant observation was undertaken in this research through my volunteering at the Guelph Organic Conference (GOC) in January 2016, my participation in a webinar entitled “Working with local organic grains” in March 2016, and also an EFAO farm tour of a grain operation in 2016. At the GOC I volunteered at the USC Canada booth, where I observed and interacted with ecological grain farmers. The main purpose of these initiatives was to gain an understanding of and become personally familiar with the ecological grain farming networks and its associated themes and trends. This allowed me to create connections with stakeholders and to develop a list of potential interviewees. During the webinar, I listened to participants discuss their experience marketing and processing local organic grains in the northern United States. More details on this webinar can be found in Appendix 1. The purpose of participating in this webinar was to learn about successes and challenges of marketing ecological grain, albeit it in a different location from that of my study. This allowed me to draw insight to that while small, local grain processors share similarities they are indeed influenced by regional politics and social structures. This is incorporated in section 6.5, where I discuss the trends in ecological grain as they relate to other locales. Lastly, the purpose of the farm tour was to see first-hand the production systems used in growing ecological grain, allowing for me to appreciate that marketing is only one component of a farmer’s business and livelihood. This is discussed in the upcoming sections, wherein it is recognized that it is difficult to balance the production obligations with the need to maintain a business by accessing markets. In addition, first-hand exposure to the production techniques provided context to the terms and experiences discussed in interviews.

4.3.3 Identification of questions

Table 4.1 details the themes that were presented in the form of questions in interviews, and the justification of these themes as they relate to the overarching questions for this research: *What successes and challenges do ecological grain farmers experience in marketing their grain? Can the underlying principles and suggested policies of food sovereignty alleviate the marketing challenges of ecological grain farmers in Ontario?* While diverse economies are not directly included in the thesis question, it is presented as an alternative framework that may serve to empower and benefit farmers, hence its inclusion in the interview guide. The interview guide, which includes the specific questions posed throughout the interviews, is provided in the Appendix 3.

Table 4.1: Description and justification of themes presented in interviews

Theme	Justification
Background details on the farm operation	Context was provided to the research and interviewees by discussing location, acreage in production, land ownership, and field crops produced. This information presented relationships and context to factors including direct marketing, access to resources, and other factors related to marketing grain.
Ecological practices	Since I interviewed both certified and uncertified ecological growers, I asked interviewees to highlight some practices that make their operations ecologically-minded. While being certified organic implies certain environmentally-friendly practices in use, this question increased the depth and detail of the practices used by ecological grain farmers. This is an important consideration since one of the principles of food sovereignty is the pursuit of ecological integrity.
Motivations for farming	This question highlighted the underlying reasons that motivate farmers to contribute to alternative farming practices that have the potential to have positive socio-ecological benefits. This is an important consideration since the thesis seeks to understand the

	marketing needs of farmers; discussing their motivations for farming ecologically may inform their broader needs.
Labour	This related directly to the diverse economies framework. Along with transactions and enterprise, labour is a key component of a diverse economy, so I used this theme to characterize the forms of labour used in ecological grain farming enterprises. Compensation, number of employees, and labour agreements (e.g., apprenticeship, full-time employee, etc.) were all considered.
Diversity of enterprise	Some field crop farmers also have other enterprises on their farm, such as livestock or vegetables. This topic elicited responses that detail whether or not marketing grains on its own is a reliable business, as well as eliciting more details of the enterprise's role in a diverse economy.
Sourcing seeds	As the literature suggests, seeds are the first step in the food chain. However they are often overlooked in the local food movement. Seed sovereignty is closely aligned with food sovereignty, so I explored the degree to which ecological grain farmers value sourcing locally adapted seeds. Non-profit representatives provided insight on the importance of this component of the research.
Involvement in farming networks	Food sovereignty proposes that food systems should allow for the sharing and creation of knowledge. Therefore by discussing ecological grain farmers' involvement with farmer networks, one can discern whether the sharing of knowledge is an integral part of grain farmer livelihoods. Non-profit representatives are able to provide details on the services provided by both the non-profit and public sector.
Forms of markets being accessed	It is important to understand the avenues that ecological grain farmers take when selling their products since this is key to the overall question of identifying the types of markets being

	<p>accessed. This question was considered through the food sovereignty framework as a means of critiquing the ‘local’ perspective within that framework. For example, if farmers do not sell their products at local farmers markets or cooperatives, perhaps the ‘local food’ pillar of food sovereignty should not be given as much importance. The information gained from this theme is considered through the diverse economies framework, which promotes a diversity of means of transactions.</p>
<p>Challenges with marketing ecological grain and how those challenges are overcome</p>	<p>This information was relayed to respondents and other grain farmers, so that they gain insights on how their challenges are reflected in or differ from other grain operations in the province. The challenges highlighted the needs of farmers as they relate to marketing, which will be used to present an argument for whether or not food sovereignty may alleviate the marketing challenges of ecological grain farmers. This question was also discussed with mills who are also responsible for marketing.</p>
<p>Location of customers and farm</p>	<p>This theme is related to ‘localism’ and the farmer’s and processor’s ability to market locally based on location of the operation and the location of customers.</p>
<p>Demand and supply</p>	<p>Mills, breweries, and marketing agencies discussed trends in demand and supply for Ontario’s ecological grain products. Insight into demand and supply informs the structural ability for farmers to access robust markets within the province.</p>
<p>Role of policy</p>	<p>Discussion surrounding policy allowed farmers and other stakeholders to discuss the ways that governments and regulatory bodies do or do not support their businesses and livelihoods. Food sovereignty is a political movement so a comparison can be made between the policies encouraged by food sovereignty advocates with those of ecological grain farmers and other stakeholders. The tone taken in response to this question informed the level of radical change that is sought by ecological</p>

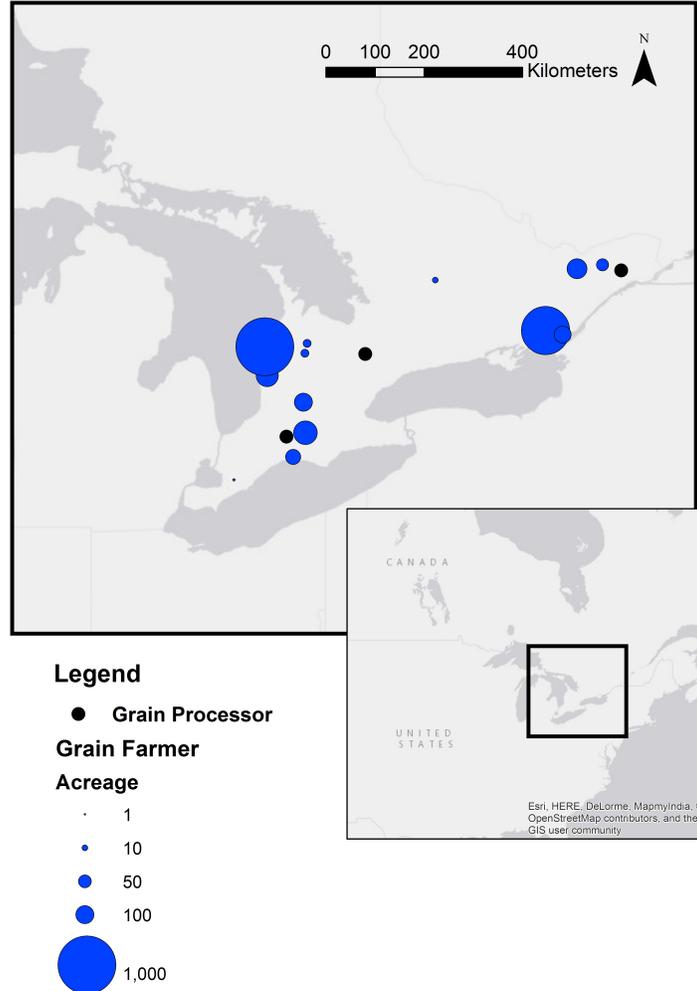
	grain stakeholders, which is compared to the transformative and radical shifts promoted by the food sovereignty movement.
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From this set of questions it becomes evident that the key components of a diverse economy are addressed in my research: labour, enterprise, and transaction. The principles of food sovereignty are also woven through these questions. Farmers were not directly asked to discuss food sovereignty since food sovereignty is so widely interpreted. Instead, some key principles and themes of food sovereignty are interlaid throughout the questions: role of local food providers, ecological integrity, localization, building knowledge and skills, role of trade, means of empowerment, and radicalism.

4.3.4 Recruitment and sampling

Sampling was important in my exploratory study of ecological grain farming as it allowed for underlying uniformities and varying conditions to be explored (Emmel, 2013). Purposive—or theoretical—and snowball sampling were used for this study, both of which are non-probability sampling methods. Non-probability sampling techniques are useful when a population is scattered and no definitive sampling list is available, which was the case for ecological grain farmers in Ontario (McIntyre, 2005). Purposive sampling provides flexibility since a sample size is not defined in advance (Flick, 2006). It also allows for deviant cases to be included, strengthening the validity of the research study (Bloor & Wood, 2006). As such the researcher can also confirm or contrast emergent theory, making the research more definitive or useful (Emmel, 2013; Flick 2006). The researcher’s own judgement is used to determine which cases will be the most useful, which can be viewed as a weakness due to the potential biases created by this power that the researcher is given. However, if done mindfully, which I aspired to do, purposive sampling requires the researcher to deliberately choose sources that challenge their own preconceptions, thereby challenging their own biases (Yin, 2011). Interviewing farmers operating on a variety of scales in a variety of locales across Ontario allowed my biases to be challenged (see Figure 4.1 for diversity of locations covered).

Figure 4.1: Farm size and location of processor and producer participants



Snowball sampling was used minimally, which involves selecting new data collection units as an offshoot of existing ones (Yin, 2011). This sampling technique is useful in identifying relevant sources by using the respondents' insider's perspective. However it can create a cyclical nature of the research as cases of interest are reported by people who know other people involved in similar cases, thereby potentially excluding deviant cases (Bradshaw & Stratford, 2010). I opted instead to use key informants who can act as gate-keepers, providing particularly important understandings to the researcher, as well as additional contacts (Bloor & Wood, 2006). The use of key informants is different from snowball sampling as it is expected that key informants have

a diverse understanding of the topic. I had two key informants: one was a marketer and the other a non-profit representative.

Once sampling occurred, potential interviewees were contacted and recruited by email. Many interviewees were found using the EFAO's online member database. If I had not heard from these contacts within two weeks, I followed up by telephone, which was effective in scheduling additional interviews. Timing of interviews is important for this research; farmers were interviewed in February and March, before their busiest times of year began (i.e., spring, summer and fall). As interviews with farmers concluded, I focused on discussions with processors and other non-profit representatives. Timing was an important consideration for two main reasons: so that I was not placing undue strain on the businesses and livelihoods of the participants; and so that the data was coming from interviewees who could participate in a more relaxed state, beyond production season, to allow for more in-depth conversations.

As shown in Table 4.2 I interviewed a variety of stakeholders including farmers, processors, academics, and non-profit representatives. I focused on interviews with farmers since this research seeks to determine their challenges and marketing needs. As shown in Figure 4.1 I covered a wide geographic area in southern Ontario, thereby allowing me to have discussions with producers that were accessing a variety of rural and urban markets both in Ontario and abroad. This figure presents the location of the farms and the place markers are scaled to the size of the acreage of the farms. By speaking with other stakeholders these challenges were contextualized. Mills, for example, could speak to the observed trends in demand and supply, complementing and contrasting farmers' related observations. Non-profit representatives included representatives from the Ecological Farmers Association of Ontario, the Bauta Family Initiative on Canadian Seed Security, and Organic Alberta. These three individuals have regular interactions with producers, processors and consumers and could therefore provide their balanced perceptions of various stakeholders' experiences. They also provided insight into the services available in the non-profit sector that address the marketing needs of ecological grain farmers.

Interviews were concluded upon reaching theoretical saturation, defined as occurring when "no additional data are being found whereby the sociologist can develop properties of the category" (Glaser & Strauss, 1967, p. 61). However, the point of saturation is never entirely clear, as purposive sampling has the potential to be limitless, with each new case garnering the

potential to offer slightly new and unique insights (Bloor & Wood, 2006). Therefore while interviews could have continued to bring further insight, overlap in responses was beginning to occur. For example, the key marketing avenues identified in the literature were addressed at least once or more than once in the interviews. This includes farmers markets, local mills, bakeries, breweries, grain merchants, and more. Another justification for the conclusion of interviews with farmers by April is related to the issue of timing discussed earlier, in that they began to be inundated with farming responsibilities. I also use the constructivist rationale that Bradshaw and Stratford (2010) suggest, in that the number of participants is not always meant to be entirely representative, since emphasis is on meanings in specific contexts. The selection of respondents is based on who will generate as many properties of the categories as possible, so with the given amount of data created I was confident in the breadth of my research.

Table 4.2: Composition of respondents

Interviewee	Number
Farmer	13
Processor	
Brewery	1
Mill	2
Academic	1
Non-profit representative	3
<i>Total</i>	<i>20</i>

4.4 Data analysis: Transcription and coding

Interviews were analyzed through transcription and coding. Transcription time varied by interview, depending on the quality of the audio recording and the density of material discussed in the interview. The average time to transcribe was 1:5, meaning a half hour interview took 2.5 hours to transcribe. This is similar to what the literature suggests, of a general transcription time of 1:4 as outlined by Dunn (2010) or 1:6, as outlined by Bloor and Wood (2006). Some problems

with transcription are that it is not always easy to hear a recording, people don't speak in finite sentences, and intonation and emphasis used in speech are hard to convey on a transcript (Denscombe, 1998). This was dealt with in my research by using reliable technology and by being very attentive when listening to the recordings.

After individual interviews were transcribed they were then coded. In grounded theory, the analysis of data propels the collection of data, as the analysis is an ongoing procedure from the outset of interviewing (Babbie & Benaquisto, 2009). Coding is an integral step in the analysis of semi-structured interviews and it leads to the organizational structure and reporting of findings in an efficient manner (Cope, 2010). It provides a bridge between data collection and identifying emergent theory, while providing rapid access to generated knowledge (Bazeley, 2007; Charmaz, 2006). A code is a word or short phrase that assigns a "summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data" (Saldana, 2012, p. 3). Bryant and Charmaz (2007) note that coding allows for abstract data to be reintegrated as theory. Coding can be completed manually or with the assistance of coding software, such as ATLAS, NVivo, or MaxQDA. I chose to use NVivo for my research project, a commonly used program for Masters students in the social sciences.

Rigour in grounded theory is achieved through deep understanding of the logic that lies behind the coding procedure (Babbie & Benaquisto, 2009). Open coding is the first step in the coding process, wherein data are broken down, examined and conceptualized in order to create categories (Strauss & Corbin, 1990). Axial coding and selective coding are the succeeding steps in the coding process. Axial coding creates connections between categories (Strauss & Corbin, 1990) while selective coding begins after the researcher has identified a core variable, which doesn't come into fruition until several interviews have been conducted and openly coded (Holton, 2010). Selective coding is the process of not only selecting, but also validating the relationships between codes and categories (Strauss & Corbin, 1990). Codes are represented as nodes in NVivo, "points at which concepts potentially branch out into a network of sub-concepts or dimensions" (Bazeley, 2007, p. 83). NVivo allows codes to be expanded and altered throughout the research process, as ideas develop through repeated interactions with the data (Coffey & Atkinson, 1996).

The three coding steps outlined by Glaser and Strauss above were not strictly adhered to for this research. These three levels of coding provide a thorough analysis of the data, but it is

also extremely time consuming, can result in data reduction, and can lead to a degree of separation or even alienation from the data (Cope, 2010; Bazeley, 2007). By segmenting the data to such a degree the researcher can end up feeling removed from the broader themes and overall meaning of the data, creating codes that are cumbersome (Cope, 2010). The prescriptive nature of the three levels of developing and reflecting on emergent categories is reflective of positivist ontologies (Wertz et al., 2011), as opposed to constructivist frameworks taken in this study. To limit the mechanization of analysis, NVivo was used to generate codes from phrases rather than individual words.

The weaknesses of coding are that the reliability of results obtained depends on the skills of the researcher and that there is a limited ability to view a document as a whole. In addition, computers can stifle creativity in the research process (Bazeley, 2007). However, NVivo is constantly adapting to user needs to seek a balance in accessing data and tools that facilitate the user's ability to look at the 'bigger picture.' Another argument is that the application of codes can be reductionist, but that must be reconciled with the fact that coding is an efficient means of linking data with ideas (Bazeley, 2007).

4.5 Limitations of methodological approach

Some limitations to individual methodological components of this research have been embedded throughout this chapter, but some overarching limitations remain to be addressed. Grounded theory assumes that the observer's values, priorities, positions, and actions affect views and shapes their interpretation of phenomena (Creswell 2014; Emmel, 2013). While many researchers advocate for a level of detachment from the research matter, in grounded theory the researcher may not necessarily be detached from the research. In addition, interviewing within constructivist grounded theory research allows for validity to be achieved in sacrificing reliability, standardization and repeatability (Bloor & Wood, 2006). For reasons such as these, while constructivist research can support sustainable policy development, it may be difficult to persuade policy-makers of its applicability (Lee & Stech, 2011).

Many limitations occur in all forms of qualitative research, but the main technique to avoid these inevitable limitations is for the researcher to be explicit in their recognition of these shortcomings. The research in this study was therefore conducted with all of these limitations in

mind. For example, I am aware of Weber's pronouncement of sociology to be an interpretive science, meaning that the researcher plays a key role in interpreting results (McIntyre, 2005), and therefore I realize that grounded theory research is interactional and reflexive in nature. Despite my constructivist underpinnings of the belief that knowledge is a social construct, I tried to remain neutral by thinking comparatively, gaining multiple points of view, gathering data on the same phenomena in various ways, and maintaining an attitude of scepticism (Babbie & Benaquisto, 2009). I addressed these points by exploring situations in multiple locations (e.g., interviewing Becky Lipton at Organic Alberta to compare the Prairie experience with that of Ontario), by interviewing farmers and other stakeholders with various backgrounds and experiences, and by incorporating participant observation with the interview process. By doing this I can discern notable areas of overlap, which renders the findings more robust since I used multiple sources. In addition, adherence to interviewer skills discussed above and supported by the literature can help to ensure the rigour of research amidst these inherent challenges.

Due to its qualitative nature, constructivist grounded theory creates some challenges in terms of reliability and replicability, but it remains a strong force in understanding group and individual experiences, including those of ecological grain farmers. As discussed, qualitative research allows for exploration and understanding of social or human problems and the meanings that groups or individuals assign to these problems (Creswell, 2014). These social and human problems are explored in this research through a constructivist lens in order to understand the diverse forms of market engagement amongst ecological grain farmers in Ontario. As discussed in the next chapter, this constructivist, grounded, and qualitative approach proved to be very informative, offering valuable insights into ecological grain farming in Ontario.

Chapter 5: Results

In previous chapters, connections between ecological grain farming, food sovereignty, and diverse economies were delineated through a constructivist grounded theory lens. The purpose of this chapter is to report on the findings of the primary research, which investigated organic grain farmers' operations, ecological practices, and organic certification, as well as their motivations for undertaking this kind of farming. This information then sets the stage for reporting on what the research participants' view as their successes and as well as the challenges associated with marketing ecological grain in Ontario, by incorporating the perspective of all producers, processors, and other stakeholders interviewed.

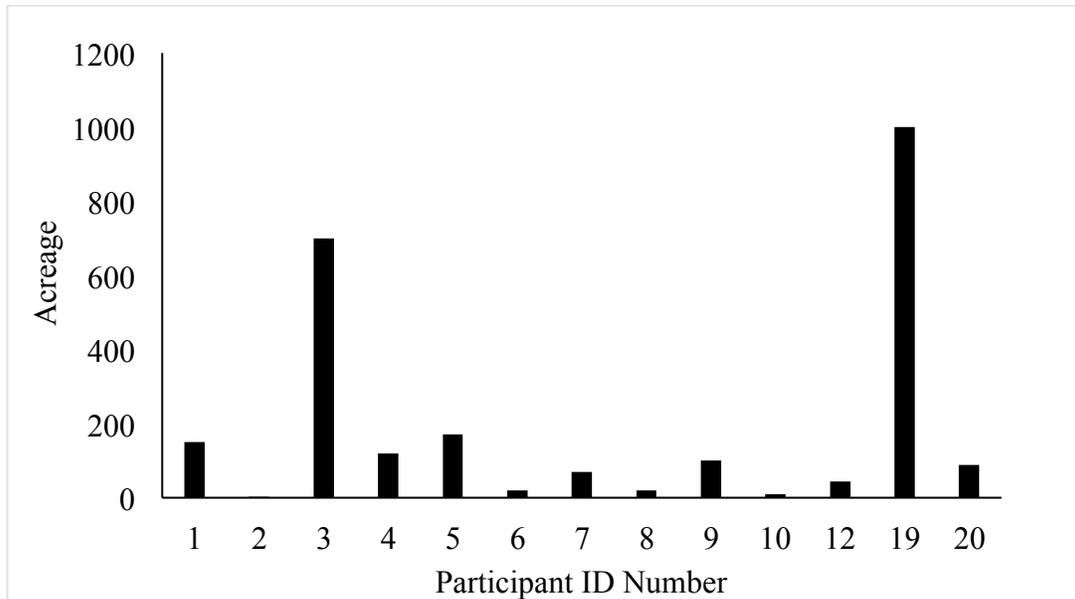
5.1 Research participant demographic information

Ecological grain farmers who participated in this research grow a diversity of field crops (see Table 5.1). Some of the varieties of field crops grown are heritage grains, which are cultivars that predate modern, industrial agriculture, such as red fife. Just as there is diversity in the products produced by respondents, there is also diversity in the amount of land upon which respondents are operating; farmers interviewed in this study had operations ranging in size from 2 acres to 1,000 acres (see Figure 5.1). Table 5.1 refers to 'field crops' since many grain farmers grow more than those field crops classified as grain. This broader field crop production is still relevant to my research as field crops in general (including grain) share similar production, processing, and storage requirements. The figures and tables in this section provide context for the results that are discussed throughout this chapter and then analyzed in Chapter 6.

Table 5.1: List of field crops produced by participants

Barley	Mustard
Beans	Oats
Buckwheat	Peas
Canola	Poppy seed
Corn	Rye
Flax	Soybean
Hemp	Spelt
Lentils	Sunflower
Millet	Triticale
	Wheat

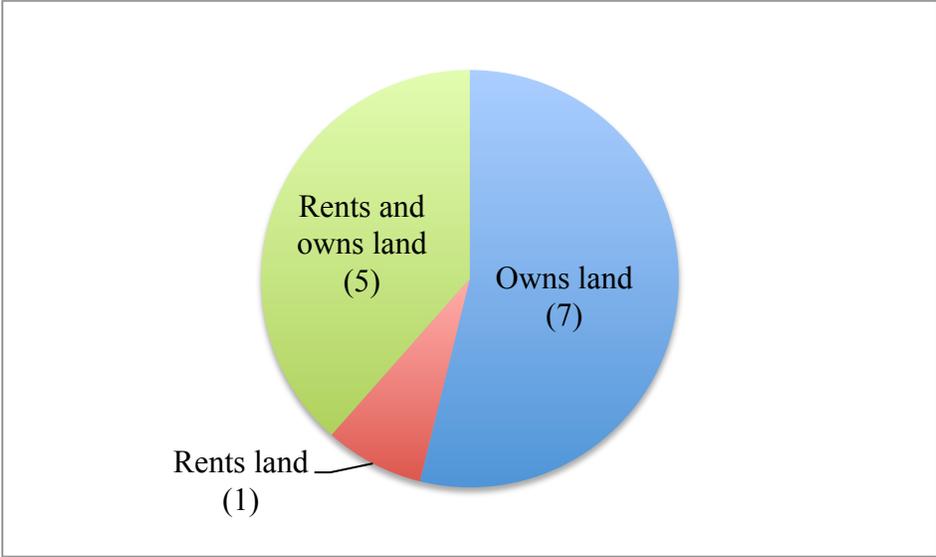
Figure 5.1: Size of participants' farms in acreage



Of the 13 farms investigated for this study, seven farmers own their land; five farmers own some land while concurrently renting land; and only one farmer rents their land (see Figure 5.2). In addition, some farmers share land with each other. For example, two farmers are neighbours who run separate farm businesses, but collaborated to provide a grain CSA (Research participants #6 and 8). They shared the land upon which the grain was produced and collaborated by sharing other resources such as tools for cleaning and milling the grain. A grain CSA north of

Toronto likewise shares land by having the operator of the CSA rent his land to a farmer who does the production work. The CSA operator owns the land but does not do all of the production work himself, so he shares his land to allow others to access the property for the benefit of the CSA.

Figure 5.2: Land ownership details of farmers interviewed



A common theme when discussing land ownership is affordability of land. The sole farmer that rents all of the land used for production feels constrained by the limited amount of acreage available and hopes eventually to be able to afford to buy the land (Participant 1). This particular farmer is hesitant to deeply invest in the land and infrastructure without actually owning the land so there is some longer term security. This farmer also notes that there is heavy competition for renting land, which drives the price up, creating a significant hurdle, particularly when it comes to expanding and maintaining the operation. Of the participants both renting and owning land, four of those farmers are renting from siblings and other neighbours. Of the seven land owning farmers, three of them have had multiple generations on their farm and were therefore not the ones that originally purchased the land, while the other four landowners bought the land themselves.

5.2 Growing grain ecologically in Ontario: Practices, processes, and motivations

Section 5.2 outlines the practices, processes, and motivations associated with participants' involvement with ecological grain in Ontario. Section 5.2.1 highlights some key environmental practices associated with growing and processing grain ecologically. Section 5.2.2 details the level of participants' involvement with organic certification systems and Section 5.2.3 concludes by outlining the stated reasons for the participants' interest in practicing ecological agriculture. This background information provides context to the challenges that participants encounter, as well as how they overcome these challenges.

5.2.1 Ecological practices

The ecological practices involved with growing organic grain in Ontario vary by location, scale of enterprise, and by the underlying values of producers and processors. In this study, some participants adhere to the organic certification standards while others pursue a deeper ecological ethos and go beyond those standards, either through certification or otherwise. The farmers that are certified organic operate by the required standards, but for the purposes of the study I sought a more descriptive set of ecological practices of the farmers because organic certification operates within a market system that does not encompass the diversity of participants' environmental practices. Therefore, in addition to the implied practices associated with organic certification, I asked farmers to highlight some of the ways that they are contributing to the ecological integrity of their land and larger socio-ecological systems. Table 5.2 below lists some of the stated means to achieve ecologically sound farming practices. The number of participants who associate these practices with their farming or processing operation is not quantified in this chart; this was an open-ended interview question so respondents listed examples of their employed practices rather than a complete list. The table instead captures the diversity of ecological practices that can be undertaken through organic methods.

Table 5.2: Practices of ecological grain producers in Ontario⁴

- Employs biodynamics
- Engages in climate-ready agriculture
- Use companion planting
- Applies compost tea
- Implements cover cropping
- Diversifies plant varieties and species grown
- Applies green manures
- Grows beans to fix nitrogen
- Uses herbal remedies in compost
- Adopts homeopathy for livestock
- Incorporates livestock in grain operation
- Keeps the land covered and protected
- Minimizes off-farm inputs
- Mitigates wind speed to increase moisture retention in the soil
- No use of commercial, synthetic fertilizer
- No use of pelletized fertilizer
- Employs ‘no till’ method
- Makes use of off-grid operations
- Returns compost and manure to the land
- Emphasizes soil health as a key principle
- Uses vegetable oils in diesel vehicles

Cover crops were consistently referred to across the board. All participants use cover crops, providing a mix of reasons for doing so. Cover crops: allow for weed suppression; act as green manure; encourage beneficial insects and pollinators; restore nutrients in the soil; encourage formation of mycelium to improve soil structure; protect the soil from erosion; allow for strong crop rotation. This practice is not explicitly outlined as a requirement in the organic certification standards, but many participants recognize it as beneficial to the health of their land. One of the

⁴ Appendix 2 defines some of the terminology used in this chart

most important overarching aspects of cover cropping is that it contributes to soil health, which several respondents identified as their key consideration. Two farmers indeed referred to themselves as “soil farmers” since soil is the vessel through which crops are brought to life and nurtured: “We grow soil, absolutely unequivocally, number one. We bury every single ounce of straw, pour all that organic matter back in the soil, because 90% of the soil life is where the food comes from” (Participant 20). Cover crops keep the soil protected. Participant 20, who grows beans in addition to cereal grains, notes that while beans often lose him money, they occupy valuable space in his crop rotation as a means of keeping the soil covered and to act as a fertilizer by fixing nitrogen in the soil.

Diversification is another important tool used by grain farmers, which includes diversity in the types of plant species and varieties grown, as well as diversity in the types of enterprises operating within the business. In fact, Participant 19 states the diversity of crops that they grow acts as crop insurance, which is not something that they have ever purchased. By growing a diversity of products farmers become more resilient to risks associated with weather, disease and economics. Diversity is also found in the farm through integration of multiple operations, namely livestock. Half of the respondents have animals in addition to their grains, which contributes to soil fertility, integrated use of on-farm manure, economic viability of the farm, and fewer off-farm inputs:

You know using the livestock manures... you can be more economical on the livestock production because you can use forages that should be part of the rotation on the cropping side. So using cover crops or having pasture hay in the crop rotation, for livestock. It is a whole farm thing. Neither one works the best if they're not together (Participant 5).

[...] So the diversity of the farm and what we do, like even the spelt crop or the rye or the oats or the barley, the straw [from them] goes under our cows in the winter time and adds to the manure and goes back to the land again and even keeps the cows nice and fresh and clean over the winter. So everything has so many different purposes and works together beautifully, so it's really important to have that diversification (Participant 3).

We've grown spelt probably pretty much since we became organic. For a lot of years we sold it for human consumption and in the last few years, discovering that it was often more productive than say, oats, we sort of switched from using it for a grain to feeding to the horses as well. And it's also moderately tall, like it's taller than modern wheat, not as tall as rye, so it's a good straw producer and we need straw for bedding the horses, so that's a good combination as well (Participant 7).

The only reason we have the pigs is for the manure. We windrow compost all the manure and we spread that after grain harvest. We also pasture the pigs and the horses on the grain fields after harvest (Participant 12).

Four participants also note the incorporation of renewable energy sources in their operations. Participant 12, for example, uses vegetable oil in his diesel vehicles and has solar panels and windmills to generate all of the power for the farm. Another farmer describes his operations as "climate-ready" agriculture, which reflects his deeply rooted personal beliefs in maintaining resiliency and using the farm to make positive contributions to his surrounding wildlife populations, soil, and community. Participant 7, a producer of both vegetables and grain, runs a horse-powered farm. In addition to the producers, processors can also contribute to minimizing their ecological footprint. Participant 18, for example, as a brewery, provides their spent grain to local farmers for reuse as animal feed:

We've also worked really hard to make our system as efficient as possible. The entire ecosystem of the brewery, sharing space with On the Move Organics and the Root Cellar, has allowed us to have shared fridge space, shared floor space... So it's a lot of multi-use [space], which has reduced the carbon footprint associated with building a new brewery (Participant 18).

The brewery also actively tries to reduce their water usage and capture grey water, as they note that one of the most detrimental aspects of brewing is the amount of water required to brew beer. A small-scale mill-operator and owner also makes use of by-products by sourcing blueberry pulp from another processor and then grinding the pulp into flour (Participant 17). These examples

demonstrate how breweries and mills can promote sustainable practices, which are key to the business models and philosophical aspirations of Participant 17 and Participant 18.

There are many methods, therefore, used by farmers and processors to grow and handle grain in an ecological manner. However, one farmer noted the conflict between small-scale farming and grain production (Participant 8). This farmer, who has at least temporarily discontinued their grain enterprise, noted that it was difficult to sustainably grow grain on a small plot of land. In this operation, less than 20 acres is devoted to grain production:

We don't really have enough land to grow enough grain to make it ecologically sustainable for the amount of land that we have. So when you were asking if I think it's a complementary project [to our vegetable CSA], yea I thought it was, but because of this land constraint it turns out to in some ways not to make sense. It's difficult to do it in a way that ends up not overworking the land. We can't always do proper rotations and also just have difficulty in fitting it in because both [our business partner] and us have land that has a bunch of wet spots... all these different constraints that mean it's hard to plan your crop and so that just makes it more difficult. [It would be better] if we had an abundance of land where we could make this fantastic rotation (Participant 8).

5.2.2 Process of organic certification

In addition to the ecological practices outlined above, the participants' involvement with the organic certification process is important in order to understand the many processes involved with growing grain ecologically in Ontario. As shown in Table 5.3, interviewees represent a diverse range of years under certification. Of the 13 farmers I spoke with, nine are currently certified organic. Of the four producers who are not certified, one of them had previously been certified for over 15 years before focusing on sales within a 40-kilometre radius and deciding certification was unnecessary. Of the nine certified organic producers, two of those producers are not only certified organic, but are also certified biodynamic by Demeter, an internationally accredited biodynamic farming certifier. Participant 19 took over his family's farming operation roughly 20 years ago, which has been in existence in Canada since the mid-1980s. Prior to being in Canada, they farmed organically and biodynamically in Germany, so when they moved to

Canada they maintained their organic practices before receiving accreditation in the late 1980s⁵. Therefore organic certification is engrained in his upbringing and in his farm business. However, he did note some of the challenges with organic certification, namely the high prices. Participant 6 noted that the regulations have been watered down and over the years, which complements other participants' desires to go beyond the requirements of organic certification standards.

Table 5.3: Number of years producers have been certified organic

1-4 years	2
5-10 years	2
11-19 years	2
20 years or more	3

Another concern that some participants noted is that organic certification places the onus on the organic farmers, rather than on farmers whose production systems they believe to be having negative effects on the environment. One farmer noted that the certification process is reversed, that we should be labeling “non-organic” products instead of the organic ones:

I think we should be registering everybody that's not organic. Because we farmed organically from the 1600s right through until 1930, there's no such thing as non-organic, and organic was what everybody did. That's the way we farmed for dozens of generations. And the farmer needs to pay so much money and have so much record-keeping to prove we're not polluting and dumping chemicals, pesticides, herbicides... like it seems absolutely crazy (Participant 20).

However, despite these concerns, most participants are certified organic (9 of 13). Unlike other ecologically-farmed products, grains are often not sold directly to consumers and, therefore, organic certification provides trust to the consumer in the product they are consuming. In this case, most participants decided to certify organic in order to satisfy the needs of their clients (i.e., bakeries, mills, livestock producers, etc.) or to reach higher economic profit. Participant 6, who grows beans, decided to become certified because the buying clubs he was interested in only accepted certified organic products. He understands that when in-person

⁵ Organic certification did not become available in Canada until the 1980s (Forge, 2004).

transactions cannot occur the certification process provides a sense of security about the organic standards of the food. Participant 20, quoted above, states that despite the weaknesses in the certification process it is the only way to prove “in a semi-auditable fashion that you are growing organically.” As we will see below, the motivations that participants have to become organic producers are very diverse.

5.2.3 Motivations for farming grain ecologically

Just as the production techniques and reasons for certifying vary amongst respondents, so do the motivations for entering organic farming. From this discussion with interviewees, I was able to characterize the various reasons as to why producers and processors choose to operate with an ecological ethos. These reasons are outlined in Table 5.4 and are related to the environment, society, health, economics, personal philosophy, and more. These motivations detail the reasons for which farmers enter into or remain in organics, which provides insight later when discussing their marketing challenges and successes.

Table 5.4: Motivations for producing and processing grain ecologically

Number of participants associated with theme	Theme	Description
8	Personal	<ul style="list-style-type: none"> • Alignment with personal philosophy • Frustration with dominant food system • Hard to define personal desire; “just really wanted to” • Holistic pursuit • Lack of knowledge on topic and interest in learning more • Opportunities for creativity • Personal enjoyment

		<ul style="list-style-type: none"> • Physical work enjoyable • Pursuing farming to fulfill personal values • Tangible way to achieve personal goals
8	Environment	<ul style="list-style-type: none"> • Conventional farming not capable of sustaining a farm • Environmental health • Environmental stewardship • Soil health
6	Economics	<ul style="list-style-type: none"> • Consumer demand • Consumer demand allows for farmers to pursue organics • Conventional farming not able to sustain a family • Dissatisfied with commodity farming • Economic incentive with organic sales • Envious of profits in organics • Organic and direct marketing allows for worthwhile profit • Shelf-life of grains make them a desirable product to sell
4	Health	<ul style="list-style-type: none"> • Animal health • Family health • Growing grain makes more sense as the farmer's body ages • Human health
2	Social	<ul style="list-style-type: none"> • Grains have compelling back stories • Social justice
2	Other	<ul style="list-style-type: none"> • Grains requires less downstream management • Grains allow for seed saving • Utilitarian reasons for choosing grains

Of these stated reasons for farming grain ecologically, the most common motivations outlined by participants were related to: economic incentives associated with higher returns in organics; family health; environmental stewardship; and frustration with the dominant food system. Table 5.4 details the number of participants that associate their motivations with each of the provided categories. This is not to say that only four participants care about the health implications of farming; rather it means that only four of them provided that as a reason in an open-ended question on their motivations for farming grain ecologically.

5.3 Marketing ecological grain in Ontario

Having provided background information on ecological grain producers and their operations, Sections 5.3 to 5.6 will detail the avenues taken by Ontario ecological grain producers and processors in selling their product and the associated challenges and opportunities. Insight from the participating non-profit representatives is also included throughout these sections.

5.3.1 Market opportunities for Ontario's ecological grain farmers

The ecological grain farmers interviewed sell their products through a variety of methods. While some sell on less than 100 acres and direct market to their customers, others have over 100 acres in production and sell their products through mills, merchants, and brokers. Table 5.5 illustrates the various market engagements taken by ecological grain farmers in Ontario, grouped by relative size of farming operation. I classify farm size by acreage, whereas most bodies of literature classify farm size by gross farm income (Esqueda, 2012). Since gross farm income is not data that I collected in this research, I created the parameters for farm size (e.g., small, medium, large) based on notes I gathered from interviews as to the scale that farmers classified themselves under. This information will be further contextualized in Chapter 6 within food sovereignty's localism pillars.

Table 5.5: Methods of market engagement taken by interview participants

Number of participants	Size of farm	Description
7	Small (2-99 acres)	<ul style="list-style-type: none"> • Buying clubs • Farmers markets • Breweries • CSA • Local mills • Local chefs or bakers • Other organic farms • Farm store • Word of mouth
6	Medium (100-499 acres)	<ul style="list-style-type: none"> • Mills (contracts or spot purchases) • Brokers (contracts or spot purchases) • Marketers (e.g., Homestead Organics) • Grain merchants (contracts or spot purchases) • Other organic farms (often as animal feed) • Informal arrangements with neighbours • Farm store
2	Large (500-1000 acres)	<ul style="list-style-type: none"> • Brokers (e.g., Field Farms Marketing Ltd.) • Marketers (contracts or spot purchases) • Mills (contracts or spot purchases) • Grain merchants (contracts or spot purchases)

For the most part, the small-scale ecological grain farmers interviewed noted that the only way that they can make a profit at their scale of grain production is to sell directly to customers. This includes farmers markets, CSA shares, bakeries, and breweries. Participant 12 said he would drive three hours—whereas currently he is 30 minutes from it—if it meant being able to access the farmers market he frequents. Participant 20, a farmer operating on less than 100 acres, noted that in an ideal scenario, they would have a full-time office person to respond to emails,

mail, and manage accounts receivable. That would allow the farm to devote two days each week to taking orders and making deliveries. One farmer who grew about 15 acres of grain and operated a grain CSA, noted that the CSA model was not working for them and that a buying club would be a more effective alternative:

So the idea that I'm working off now is to market the grain where every other month you get an order form, so we can sign people up at our CSA locations [...] and also there's this buying club starting up out here, where every other month we say this is what's available, you order it and then people can order just what they want, however much they want. We don't have to mill every month and I think that would be, seems to be that for most people, there are some people who definitely use it up, but for most people I think that would be a better timeline too. For most people they don't need it every month, they buy five pounds of grain. Two months is probably a good length of time to use it up (Participant 8).

While some of the larger farms (i.e., more than 100 acres) have products sold at a farm store, the majority of these farms' sales are not classified as directly marketed. Instead they sell through contracts or spot purchases with brokers, marketers, merchants, and mills, as well as some formal and informal arrangements with other farmers. A biodynamic farm that grows 1,000 acres of grains detailed a strong relationship he once had with a buyer in Norway:

Actually in many cases we met the buyer so the majority of our buyers we know personally. Our brokers, especially Field Farms, but I guess the other one too, have been really good, they gave us opportunity when the buyer came over to meet them. So usually it's a win-win situation, so the buyer knows us, which gives extra trust, and for us, we know the buyer better, that gives us extra trust when we sell to them. With our buyer in Norway we had really a great relationship so when these are expanding our farm we asked him if he could pay really fast because we had a lot of extra debt when we bought the new farm, and when he was expanding his mill he asked if he could kind of take time to pay so he could pay a year later and so he could finance his stuff better, and you know that was a great trust relationship. He was for many years our main grain buyer, but the

company changed hands so we are not working with him anymore right now, but that was a really good relationship. That went for probably about 20 years or something (Participant 19).

This is a unique relationship, as the other farmers I spoke with did not know details of where their products ended up when they went outside of the province.

5.4 Challenges of marketing Ontario's ecological grain

Participants identify a plethora of challenges with marketing ecological grain in Ontario. These challenges are grouped into regulatory challenges; challenges as they relate to production; challenges associated with scale; challenges with access to infrastructure and resources; challenges with proximity to urban markets and land access; human resource challenges; challenges created by market trends; and others. Some of these challenges are directly related to marketing, while some participants indirectly related other challenges to marketing. Section 5.4.1 illustrates how some factors may seem only indirectly connected to marketing ecological grain but that since grain is also a food and seed crop, many production challenges and others are indirectly related to these challenges. These challenges are outlined in Table 5.6.

5.4.1 Production

While this research focuses on marketing challenges, it became apparent from interviews that these challenges are influenced by production difficulties. For example, many of the problems with marketing grain relate to the fact that there is a lack of good quality grain seed being grown in Ontario (Participant 14). For grains, since the seed is also the food crop, challenges with sourcing and growing high quality seed are related to the marketing challenges of ecological grain (Participant 14). In addition, grain products must be produced at a high quality in order to be able to market them, which is why many of the stated challenges in Table 5.6 relate to production challenges (e.g., weather conditions, disease resistance, etc.). Markets would be more accessible if these challenges were reduced:

So on the one hand the supply has to be of a really high quality and only then can we ask for the value chain to be a bit more flexible in terms of what their specifications are for what they're going to be using (Participant 14).

Many varieties are not adapted to Ontario growing conditions, as two participants noted, with Participant 14 describing how this creates challenges:

The quality of grain coming from the Prairies is so high and consistent, that it is really challenging for processors/millers to buy Ontario produced grain otherwise. [...] The growing climate is a lot different [in Ontario] than crops that are in the Prairies [...] Therefore, we need to support growers in growing better grain here in Ontario as well as creating regionally-adapted varieties that perform better in Ontario's growing conditions (Participant 14).

5.4.2 Regulations and policy

There are many regulations and policies that participants connected to challenges that are encountered when producing and processing ecological grain in Ontario. Many of the policies are challenges that are experienced by more than just grain farmers, such as the presence of genetically modified grains threatening the security of farmers selling their products as organic; lack of support from the government for new farmers; and Ontario's inaction on ratifying the federal legislation that regulates the term 'organic'. Participant 15, with a non-profit organization, noted that if Ontario adopts regulation of the term organic, then only certified producers could use the term, which would put non-certified ecological producers at a disadvantage. Participant 11, on the other hand, is a mill and marketer that noted the importance of the regulation of the term in order to properly compensate organic growers.

Specific to grain producers, Participant 9 lamented the fact that some of his money goes towards the Grain Farmers of Ontario's check-off fees⁶. The association is currently lobbying

⁶ Some crops, or 'commodities', are subject to check-off fees. A check-off fee is a fee that is collected for a particular commodity in order to fund research, market development, advocacy, and public and member relations on

steadfastly against Ontario's neonicotinoids legislation⁷, which is legislation that he supports. This conflict between his personal beliefs and where his money is going through check-off fees is frustrating for him. Also specific to Ontario is the fact that the government does not provide as strong of support to farmers as somewhere like Quebec (Participant 11). As described by this participant, who is a processor, marketer, and board member for the Organic Council of Ontario, Quebec recently invested nine million dollars over three years to increase organic production. This investment subsidises transition costs, certification costs, provides advisory service to farmers during transition, subsidises some equipment and infrastructure costs, and more generally maintains the rural fabric of the culture and society of Quebec. This affects Ontario farmers because there is less organic production in Ontario and more competition from outside of the province (Participant 11).

At the federal level, ecological grain farming is affected by policies related to seeds, including the Seeds Act. The Seeds Act was created to safeguard farmers and the food industry from bad quality seed, but it has also made it difficult for farmers, especially those that are small and diversified, to sell, purchase, and save seed (Participant 14). Many varieties are technically supposed to be registered before they can be sold to the public, but many heritage varieties haven't yet been registered in Canada, making them difficult for farmers to access.

There was a period in the mid-2000s when organics were not necessarily more profitable than conventional products, due in part to the subsidies provided for corn and soybeans:

[...] the price value of conventional grains went up and this is driven by world demand for food, rising disposable income in Asia, India and China, means they're looking for more food, especially looking for meat, more protein in their diet, which requires more grain. And more importantly, ethanol. In the late 90's ethanol became a subsidized production in both Canada and the USA and it all consumes large amounts of corn and wheat to produce that kind of starch to produce the alcohol for ethanol. With this artificial demand for grains, prices went up significantly. So about 10 years ago the value of

that particular commodity. For example, the Grain Farmers of Ontario collect check-off fees from barley, oat, corn, soybean, and wheat farmers. The check-off fee for barley is \$1.30/mT (Grain Farmers of Ontario, 2015).

⁷ In 2014, the provincial government in Ontario announced that as of July 2015 new regulatory requirements would be phased in to restrict the sale and use of neonicotinoid-treated corn and soybean seeds. Neonicotinoid insecticides are highly toxic to honey bees and other pollinating insects (Ontario Ministry of Agriculture, Food and Rural Affairs, 2016).

conventional corn was about \$100/tonne then in 2010 conventional corn reached over \$200/tonne and conventional farms became profitable. So from that moment of profitability basically the valve was closed on the conversion of conventional farms to organic because they didn't need to, the farm wasn't broken anymore, it was profitable—it was working. That may have changed recently; ethanol is no longer subsidized. The oil cost has gone down and therefore ethanol is not competitive and the value of grains has gone down with that, but still conventional corn nowadays is about \$160-170/tonne and it's still profitable (Participant 11).

In contrast to the farmers who observed regulations and policies that affect their ecological grain practices, 4 of the 13 farmer participants considered their operations to fall beyond the purview of any policies or regulations. Participant 6 notes that his bean and grain business is not hindered by any policies, but that he's also not necessarily helped out by any either. Three other participants also thought that the food system was generally working against smaller, ecologically minded producers.

It's almost like [...] if you are small enough you fall under all of the regulations, and if you're big enough then the regulations are there to assist you anyways. It's all the middle size businesses and farms which get nailed because they're not profitable enough to pay for whatever equipment they need to address the regulations that the huge companies would. I'd say for myself, I don't seem to be affected one way or the other (Participant 6).

5.4.3 Scale

Participants also noted that many existing challenges are related to scale. Twelve participants discussed scale when they described the challenges that they encounter. For example, the scale of local mills is inappropriate for many participants because many mills cannot accommodate the smaller harvest sizes that many ecological grain producers work with. In the past there was a larger number of small milling operations, but the rural landscape has undergone a transition that consolidates milling operations into larger and fewer operations. Participant 4 noted another

challenge, which is that on a farm of his size (roughly 120 acres) he does not produce a large enough yield to fill a two-trailer semi-truck that is often used in his area to transfer his grain to a mill. Another challenge is that the scale of equipment on the farm must be matched to consumer demand, which is volatile. Participant 15 noted that with a diversity of grain it is difficult to acquire enough equipment to do the harvesting and processing of small quantities. In addition, participants note that the scale of the operation affects the type and quality of product; Participant 8 noted that grains coming from the Prairies from huge mills produce a different product than the product of a small or mid-scale stone mill, for example.

Also related to scale is the connection between size of farm and proximity to an urban centre; unless a farmer had a lot of capital at their disposal, buying more land is too expensive near city centres. Participant 8 noted that expansion is quite difficult for other reasons as well:

For us it's kind of an issue of scale... so we're kind of hovering in a zone where, to scale up to make things helpful and more efficient in some ways [...] also requires money that we can't necessarily afford to put into it because it's not necessarily so easy to make money back (Participant 8).

Participant 18, owner of a co-operative craft brewery, is cognizant of the challenges that farmers encounter related to scaling up:

We don't need more than they can produce, but we're looking at expanding and that's something that we're sensitive to, is trying to expand at the same pace as some of the farmers. So the availability of it isn't that great because most brewers aren't using locally grown grains. So it's difficult as a farmer to scale up if you don't have that established market. So I think that's an impediment. The other impediment is the actual malting facilities. Again, you kind of need a smaller malter, unless you have more farms growing it, in order to be able to produce it at a size that they can capitalize that and make some money. Whereas if you wanted to be very very large as a malter you'd need far more grain growers. [Smaller malting facilities] used to be common, [...] and you still see some remnants of it in some European cities. [There are] small grain growers; you have your micro-malters, and then you have your brewery. Due to prohibition, due to

centralization of things like grain growing and malting, most communities don't have those kinds of things.

Scale also affects the amount of profit that the farm can generate as well as the efficiency of the operation:

It's a challenge to make it. I think you really need to be able to invest and to have a certain scale to make money off of it. Part of the reason that we could even do it at our scale is because, like Ahren and Jeff can build stuff, so they [built] a lot of our own stuff, they built seed dryers and storage bins, a sifter from like a hundred year old seeder (a seed cleaner). All this stuff that is homemade and that cost us very little but is not available on the market. It's definitely challenging in kind of every way (Participant 8).

It's not like vegetables where you can kind of sort of plow the beds and push your seeder through and go to the market. Well relatively speaking it [is kind of easy] because it's an easy sell and there's kind of like a known market for them and people are now beginning to get more used to how much they should cost and some of that equipment, a lot of that equipment is available, like on our scale of a vegetable farm, you can make a profit. If you compare that to a grain farm in comparison to a mainstream grain farm, it's much harder to make a profit on a small scale, whereas on a vegetable farm I think it's much easier, on all those different levels I was talking about for the grain (Participant 8).

5.4.4 Access to infrastructure and resources

Producers and processors of ecological grain experience many challenges related to infrastructure and available resources. In terms of infrastructure, there is often a limited amount of specialty cleaning and milling equipment available and it can be expensive. There is also limited storage capacity on the farm, as noted by Participant 4, as well as in some milling operations, as is the case for Participant 17. Transporting grain off the farm can also be challenging, which has been discussed in relation to scale. It is also challenging though, as stated by Participant 4, because the transportation facility must be thoroughly cleaned if the product is

being sold as certified organic. Participant 14 stated that there is a very steep learning curve involved with acquiring grain equipment and adjusting it to work efficiently at any given scale. It is also difficult to find the equipment locally, forcing farmers to travel out of province:

When you add in our approach where we are doing several different grains, it can make it even trickier, if you were only doing oats, you could kind of specialize a little more, whereas if you were doing oats and then you were selling them to a co-op, that might do the milling, then you would just do the growing side of it, but with the CSA model that we were doing, we were doing every aspect from putting the seed into the ground to dropping backs of flour. There is a lot of moving parts and a lot of capital expenses that make it difficult for people to get into it (Participant 6).

There aren't any seed cleaners left, there aren't any people that do those, basically artisanal farming, there's nobody that does that anymore; those seed cleaners are gone and so you really have to get all areas yourself because there isn't anybody to support you (Participant 2).

There is also a lack of scale-appropriate micro-malting infrastructure in the brewing industry. As such, it is also difficult for producers to sell their grain to craft brewers. "The craft beer industry really needs to step it up when it comes to promoting local because they promote making it in Ontario but I find a lot of them don't source local, particularly in the area of grain" (Participant 2). However, not only is it difficult for producers to sell to breweries, it is also difficult for breweries to work with small-scale ecological grain producers since the micro-malting industry in Ontario is in a fledgling state. I asked a brewery representative to discuss the differences between hop and grain production as they relate to the craft beer industry:

Yeah, I think part of the [difference in market accessibility] is that hop growers can generally direct sell to brewers. So when it comes to processing hops, there are steps that can be performed but... I mean I grow hops in my backyard (not a lot of them) but I can take those hops and add them directly to a beer, no processing involved. As hop growers get larger they would start to pelletize their hops, which allows for easier storage and a bit

more consistency when it comes to how much you're throwing in. But really, I think that's the difference whereas for most grain growers, you need that micro-maltery, so you'd need another industry that you're likely not to start, whereas for hop growers, they can sell it directly to a brewery (Participant 18).

Access to information is another notable challenge. There is limited grant funding available in organics, which discourages expansion of the sector. There is also a lack of public information available on organic farming, especially from authoritative figures like the government:

As is the case with ecological farming in Ontario, good quality extension for ecological growing practices is atrocious. Non-profits can only do so much, and a lack of solid agronomic extension really limits the quality of grain crops produced and the capacity for farmers to expand, and/or adopt diversified grain production (Participant 14).

And that information often comes from those that are on the inside of the organic system and therefore somehow views suspicion of the validity. So we're looking for outside resources from the government, scientific institutions, universities, researchers, to demonstrate, to give authority to the message that organic is a viable option. So to summarize, economics, fear, lack of information, and lack of authoritative references (Participant 11).

5.4.5 Land access and proximity to urban markets

As previously discussed in relation to scale, access to land near urban centres affects the avenues taken when marketing grain. As shown in Figure 4.1 in Chapter 4, few participants live near significant urban centres and many participants have limited access to local customers. Participant 19, for example, markets his grain through Demeter, with products being shipped to European markets:

Well in the States, you know in Ontario our big market is in Toronto, the whole organic market, the majority of it is in Toronto. In the States you have so many big cities so in all the big cities you have a fairly good organic market. We have so few cities here so we are a little more limited, so for a processor to take on Demeter and try to promote it outside of organic or something, it's a big step while it's so small, while most people don't know it. And for us farmers we could try doing it but then you don't have time to farm anymore. So when the time is right something will happen. But right now, like the main thing that happens is through CSAs—[that's] how Demeter products get out there—CSA and farmers markets. But not much otherwise (Participant 19).

5.4.6 Human resources

Several participants emphasized the challenges created by time commitment and other skills required to market their grain. Participant 16 noted that marketing organics in grain is very different than marketing conventional grains, since producers often have to do a lot of the marketing themselves. This involves finding a buyer or a broker, as well as comparing prices, since the government doesn't track organic grain prices like they do for conventional grain. Participant 19 sells his products to Demeter markets, which don't exist in Canada. He stated that he could put time into developing those markets locally, but then he wouldn't have time to farm anymore. Selling grains on a small scale usually involves direct marketing, as it is the case for seven participants, which can also be extremely time consuming and undesirable:

By the time it takes us to go to a farmers market, drive, unpack the tent, repack, come home... we might sell \$200 or \$300 worth, and you have \$70 in mileage and 6 hours in time at \$20 an hour, that's \$120, so you're literally giving your food away for free and you're buying yourself a minimum wage job to stand at the farmers market. And that's been true for years, and we go and then we don't go, we try a different one, we don't go again... So my goal is that now that we have more land is to step down the value chain, don't deal so much with individual customers [and instead] go and deliver \$3000 in grain, but only do one delivery a week or one delivery a fortnight. You know, that frees our

time up to do what we're supposed to be doing, and that's farming, not standing around in a dusty parking lot [selling our product] (Participant 20).

When specifically asked why marketing is such a significant challenge for him, Participant 20 explained that he is fundamentally opposed to the idea and process of marketing. He doesn't want to spend time convincing people that eating organically is a sustainable choice, rather he wishes to engage with customers that already understand his ideology.

Absolutely, unequivocally, the number one answer is because I hate marketing. To me marketing is slimy, it's sleaze-bally—I mean most of the marketing in the western world is convincing somebody to buy something for more than it's worth [...] that will last half the time it's supposed to and isn't gonna meet the expectation. I despise the thought of trying to convince someone to eat a really high quality, nutritious, organic potato, or a loaf of bread or something... So that's the number one challenge to me (Participant 20).

5.4.7 Market trends

Ecological grain producers and processors would benefit from having value chains that are set up for more variability in grain that's being produced in diversified manners (Participant 14), as many participants in this study are doing. Participant 14 stated that most bakers are not trained to work with variable grains that were produced on smaller scales. This is also a challenge for the baker as they need a reliable product for their customers, which will generate consistent revenue for them as well. Consistency in grain is extremely important for breweries, which is challenging for small-scale ecological grain producers (Participant 14, Participant 17). Barley, for instance, is very difficult to grow in Ontario at a level appropriate for malting. The brewing process is not set up for variability within a batch of beer, so many breweries are purchasing grains that were perhaps grown in the Prairies but often malted in Europe.

In other cases, processors and producers have an interest in growing certain varieties due to a personal interest in them or because of their related benefits in their crop rotation, but they are unable to find a market that will accept certain varieties. Participant 8 observed that there was not significant or notable interest in baking in their rural location in Grey County, which led to

challenges in selling their grains locally. However, this is seen in contrast to two other participants who viewed the small-scale baking movement to currently be experiencing resurgence. There are therefore several challenges in ecological grain farming that are related to market trends and demand.

5.4.8 An alternative perspective

Despite the many challenges, and while most farmers could easily identify challenges with growing and selling ecological grain, three farmers noted that they do not experience many challenges. All three of these farmers have been on their land for more than one generation and have over 100 acres in production. One of them noted that they are able to minimize risk through diversity since they maintain a diversity of grains, vegetables, and livestock. Another biodynamic producer noted that they generally do not experience any challenges with selling their products since their broker has consistently found Demeter markets for their products in Europe. The third farmer stated that he does not encounter many challenges since he grew up on the farm and took over the operation in his mid-teens. This upbringing provided him with confidence in his ability to control weeds, maintain soil health, and run a successful business.

Table 5.6: Challenges associated with marketing ecological grain in Ontario

Theme	Challenges directly associated with marketing	Challenges indirectly associated with marketing
Production		<ul style="list-style-type: none"> • Breeding programs for organic production in Canada is very minimal • Difficult to harvest certain grains • Grain varieties not bred for Ontario conditions • Grains are more prone to fusarium disease in Ontario than in the Prairies • Harvest relies on weather conditions • In terms of craft beer, it's difficult to

		<p>grow high-quality barley in Ontario</p> <ul style="list-style-type: none"> • Limited access to good quality seed • Sometimes difficult to fill a contract due to crop failure
Regulations and policies	<ul style="list-style-type: none"> • Artificial demand for grains created by ethanol subsidies lowers the returns on some crops • Competition from imported grain products coming from other provinces, who provide more support to their organic farmers • Presence of GMO grains threatening security of farmers selling their products as organic 	<ul style="list-style-type: none"> • Ontario hasn't ratified the federal regulation of the term 'organic' • Provincial and federal governments do not provide adequate support for new farmers • The Seeds Act in Canada limits the availability of certain plant varieties
Scale	<ul style="list-style-type: none"> • Food system is generally set up for bulk volume and does not account for smaller, specialty scales • Only the big farmers markets prove to be economically worthwhile for some grain farmers 	<ul style="list-style-type: none"> • A fine balance must be met between scale and efficiency • Scale of milling equipment must match scale of land in production and number of clients • Scale of the majority of local mills inappropriate/too big for small and medium grain farmers • The desire to expand requires capital being spent on equipment upgrades, which does not always match the amount of returns that are made • Unable to justify production of heritage grains on small scale due to their lower yields

<p>Access to infrastructure and resources</p>	<ul style="list-style-type: none"> • Limited capacity and knowledge of value chain actors to complement grain farmers’ operations • Many grain products require processing or value adding to make them marketable, which is difficult with a lack of infrastructure (e.g., limited malting facilities to encourage local grain production for breweries) 	<ul style="list-style-type: none"> • Can be difficult to find equipment that is for sale locally • Crop insurance for Ontario organic producers is not as extensive as in the Prairies • Difficult to access grant funding in organics • Equipment required with milling one’s own grain is expensive • Lack of public information available on organic farming • Limited amount of specialty cleaning and milling equipment available • Limited storage capacity on the farm or at the mill • Transporting grain off the farm can create logistical challenges
<p>Land access and proximity to urban markets and</p>	<ul style="list-style-type: none"> • Difficult to find a local market in rural locations 	<ul style="list-style-type: none"> • Limited access to land • Unaffordability of land near urban markets • Valuable farmland is being developed for non-agricultural use
<p>Human resources</p>	<ul style="list-style-type: none"> • Difficult to balance marketing of multiple enterprises (e.g., grains in addition to vegetables or livestock) • Farmer does not enjoy marketing • Marketing is its own skillset • Marketing is time consuming 	<ul style="list-style-type: none"> • Farmers and processors have limited time to devote to volunteering with farmer networks and organizations

Market trends	<ul style="list-style-type: none"> • People do not bake as much as they used to, therefore there is less demand for local grain • Significant demand for Demeter does not exist in Canada • The plant varieties that the farmers wishes to grow doesn't interest clients • Value chains are often not set up for the variability inherent in small-scale grain production 	
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Barriers to bringing ecological grain to market are significant and cover a variety of topics. Farmers and producers alike encounter a mix of challenges that are personal (e.g., dislike of marketing), structural (e.g., lack of institutional support for organic farmers), and often connected to scale and accessibility to infrastructure, markets, and resources. Despite these many challenges, participants are collaborating to create solutions to overcome some of these barriers.

5.5 Overcoming challenges to marketing ecological grain

As described above, there are many challenges associated with marketing ecological grain in Ontario. However, ecological grain stakeholders have identified these challenges and have been able to address some of them. Farmers, mill and brewery owners (or operators), and non-profit representatives, alike, are addressing the barriers. The following strategies for overcoming barriers do not fully address all of the challenges outlined in Section 5.4. This will be explored further in Chapter 6.

5.5.1 Production

Participant 14 works with a non-profit organization that operates a participatory plant breeding program, which helps to restore heritage varieties of oats, wheat, potato and maize. This allows

for regional adaptation of varieties and therefore more successful diversified products brought to market. In terms of the challenges related to variety registration under the Seeds Act, one example of overcoming restrictions is demonstrated through production of heritage varieties. For a heritage variety like red fife that is not registered, the producer can instead call it a ‘variable population’, which would allow it to be freely distributed in an unregulated state (Participant 14).

I mean it’s a nice loophole and one that encourages an informal seed system that gives farmers materials to work with that they can just save and adapt and exchange with fairly freely, but it limits farmers because they can’t really engage in too much commercial activity with that type of population because it is so variable (Participant 14).

5.5.2 Regulations and policies

Four participants viewed themselves as operating on a small enough scale that renders them neither negatively nor positively affected by provincial or national policies. The remaining nine producers who noted policies that negatively affect them did not note any specific methods of overcoming the barriers related to regulations and policies. However, many of the participants are members of the National Farmers Union, which is an organization that advocates for policies that benefit family farmers and ecological producers.

5.5.3 Scale

Scale persists as a problem for participants, but some participants were able to overcome some of the scalar challenges related to equipment by using their mechanical and technical skills to adapt the equipment to their needs. Participant 1 is married to a trained mechanic, so they purchase equipment second-hand and then alter the equipment based on their needs. Another example is Participant 6, who is trained as a carpenter and who built a sifter for his grain CSA operation.

5.5.4 Access to infrastructure and resources

Participant 15 is with a non-profit organization that offers workshops and training on topics including both production and marketing. The organization also offers an annual conference, which always has a stream on business and marketing, and its website provides a platform for farmers to sell equipment. In addition, they provide an advisory service, which provides members free access to advisors by phone or email, or at a subsidized cost they can visit an advisor's farm or have the advisor visit their farm. The organization's farm-led research program, which launched in 2016, is a project that can be relevant for grain farmers to help them work out some production challenges. Participant 14's organization provides grants for farmers to help them purchase equipment.

Participants also noted that sharing of resources contributes to overcoming barriers. Participant 6 and Participant 8, for example, share land and equipment to co-operate a CSA business. Participant 10 runs a grain CSA where the members contributed to a collective purchasing of equipment. Participant 3 visits a neighbour's farm and uses their equipment to clean the grain herself before it is sold for milling. Other farmers note that patience is key:

[For] one of the [pieces of equipment] I went to the Midwest, Nebraska, to buy one. Our reality is that everything's gotta be quite cheap; we can't just go buy a brand new one from Germany or something. That's the real difficulty, to find something cheap. It took me six years to get the cleaner I should have started with but we eventually got there. It only cost \$300 in the end because I could have spent around \$5,000 for it. You just have to be patient (Participant 12).

5.5.5 Land access and proximity to urban markets

Direct marketing ecological grain allows for a diversity of grains to be sold since customers can directly express an interest in a particular variety of grain. To a participant that sells at a farmers market in Ottawa, this is one of the most compelling reasons for his selling at a farmers market, in addition to the fact that farmers markets provide a cheap form of advertising.

Well the main reason we started, we only grew corn and soy originally because those were the only two grains that could sell because that's what my local mill buys. Then one year, they bought corn too but we can't grow corn, we just don't have good enough drainage, so it was soy and wheat, and then they quit buying wheat so we contracted with the local port [...] But then just before it was shipped they stopped buying wheat there because the ethanol plant rented the whole place so we couldn't [sell it]... two years in a row we had to dump our wheat crop. I was quite frustrated with that and at the same time I wanted to grow other stuff, like I wanted to grow oats because oats help liberate phosphorus in the soil and that's one of my weaknesses, but there's no point growing it if I can't sell it. We were stuck with soybeans and so the only way I felt we could grow a diversity of crops was to sell it direct to the consumer so that's been the focus of the farm since we started, so we grow about 10, at least 10 different grains (Participant 12).

However, in other cases where strong direct marketing options do not currently exist, Participant 1 and Participant 19 have entered niche markets and sell their Demeter products to European markets.

5.5.6 Human resources

Participant 18, who operates a brewery, detailed the diverse set of skills that the employees of the brewery share. These skills allowed them to begin a cooperative brewery that emphasizes sustainable production and local community. Participant 20, as discussed in Section 5.4.6, noted that he was fundamentally opposed to the idea of marketing, but he reconciles his extreme dislike of marketing by building deep, integrated partnerships. As such, instead of marketing the products he grows, he is able to market the philosophy and techniques he employs when growing them:

You know, that [local brewery] came and they loved my story and what I'm doing and because of that I love them. They think like me, act like me, eat like me, and believe in the things I believe in. And therefore it is not 'marketing' anymore—I don't need to

convince them to eat my grain—they want to support me because they believe in what I'm doing (Participant 20).

5.5.7 Market trends

Some varieties have a very compelling name or backstory, such as red fife, which was named after an Ontario farmer from the 1800s but that likely originated in Ukraine centuries before (Participant 20). This can be exciting for the farmer and can also act as a marketable component to interest customers. Perhaps for reasons such as this and for their exceptional flavour, participants noted that heritage grains have become trendy and therefore advantageous to grow. Participant 14 noted that demand for diversified seeds can be stimulated by promoting the fact that there are emerging grain growers in Ontario that present viable business options for processors and retailers, which will increase the demand for the less common varieties. The organization that Participant 14 is with has also hosted grain tasting events across Canada, which connects farmers with local bakers to work with the varieties that the farmers are growing, in order to encourage the adaptation of value chains to more diversified systems.

Brewers, as processors and retailers, play an important role in marketing grain. Due to a lack of malting facilities in Ontario, Participant 18 has adapted their brewing process to allow for the use of some unmalted wheat. This is not feasible on a large scale, but they are able to incorporate some unmalted wheat in their brewing process. This brewery also addresses marketing challenges by embracing the regional taste difference of beer grown with Ontario grain:

[Sometimes] we'll brew one beer with [malted grain] from one farmer, and another beer—the exact same recipe—but the malts are from a different farm, and there is a difference in colour, there's a difference in taste. So for us, that's something that appeals to us [...] For a lot of breweries, they don't want that. That's not what they're aiming to do. What they're aiming to do is [achieve] reproducibility and [to] make sure their beer is always exactly the same. What we've always said to our customers is our beer tastes, as much as possible, of Ontario, and of southwestern Ontario, and that means it might taste different year to year. In the case of having hops or malts coming from different farms... that can affect the taste. For us it's important to reconnect people back to the farmers who

are producing it. So rather than try to hide that and blend it through, we showcase it and talk about it: that this is important to us, that these are small, family-owned farms that are making a go of it, and you can actually drink the beer and know that it was this family that grew it (Participant 18).

Table 5.7: Strategies for overcoming barriers to marketing ecological grain in Ontario

Theme	Strategy
Production	<ul style="list-style-type: none"> • Restoration of heritage varieties through work of non-profit partnerships • Use knowledge that was learned from growing up on the farm
Regulations and policies	<ul style="list-style-type: none"> • Advocacy work by being involved with political organizations such as the National Farmers Union
Scale	<ul style="list-style-type: none"> • Using mechanical and technical skills to adjust and upgrade farming equipment
Access to infrastructure and resources	<ul style="list-style-type: none"> • Borrowing equipment from neighbours • Collective purchasing by CSA members • Grain production provides an opportunity for spin-off businesses with value-adding • Non-profits provide: advisory service; farmer-led research; kitchen table meetings; workshops; conferences; grants • Patience when seeking out equipment
Land access and proximity to urban markets	<ul style="list-style-type: none"> • Direct marketing allows small-scale producers to make a profit • Enter niche markets
Human resources	<ul style="list-style-type: none"> • Engage with brokers to do marketing for the farmers • Find clients who share same ideology as producers • Work with others who have a diverse set of skills

Market trends	<ul style="list-style-type: none"> • Breweries adapting to using unmalted local wheat • Collaboration between businesses • Discuss market trends with buyers to match product grown with customer demand • Local brewery embracing the flavour of Ontario grain • Market the backstory of the crop and its exceptional flavour • Non-profits work to stimulate demand for grain
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5.6 Summary

This chapter outlined the background information of participants and demonstrated that amidst the many challenges with bringing ecological grain to market, strategies have also been developed to alleviate these challenges. However, many of the challenges persist. The results will further be discerned in the analysis chapter, alongside discussion of the role of food sovereignty and diverse economies frameworks in bringing ecological grain to market in Ontario.

Chapter 6: Analysis

6.1 Comparing the marketing challenges and strategies as identified in the literature and primary research

As discovered from the literature review (Chapter 2) and as reinforced in my findings (Chapter 5), ecological grain farmers engage in diverse strategies when bringing their products to market. Chapter 5 describes the background information of participants, as well as the challenges and opportunities associated with bringing ecological grain to market in Ontario. This chapter continues that dialogue by comparing the primary research findings to the literature's depiction of ecological grain farmers' challenges and successes with bringing their products to market. These factors are subsequently situated within two socio-ecological paradigms: diverse economies and food sovereignty.

Recall from Chapter 2 that the literature documents many challenges associated with bringing ecological grain to market (see Table 2.1). These challenges are not specific to Ontario as the literature encompasses operations throughout North America. However, responses from my research correspond to the literature review in that all the challenges identified are reflected in my findings: at least one participant is associated with each listed challenge from the literature. The only exception is my findings' contradiction to the assertion by McIntyre and Rondeau (2011), in which direct marketers of grain experience regulatory uncertainties relating to the production, processing, and selling of local products. Participants in this study did not explicitly note regulatory challenges associated with selling or producing their products locally. However, as noted in Table 2.1, this challenge as stated by McIntyre and Rondeau (2011) was not relevant specifically for grain farmers and would therefore be more applicable to other sectors that experience issues with food safety, such as livestock or dairy farmers.

In terms of strategies of overcoming marketing barriers, the findings from my primary research likewise support the findings from the literature. For example, Hergesheimer and Wittman (2014) note that local markets can be successful by maintaining promotional activities, local labeling, and marketing via direct sales. All participants engaging in direct marketing noted that promotional activities, including community presentations and appearances at farmers markets, contributed to a stronger client base. Halloran (2015) states that multiple perspectives

can allow for access to markets, which Participant 14 promotes in his organization's work by facilitating collaboration between processors, producers, and public officials.

While the findings from the literature are reflected in my primary research, my primary research also expands on these findings and presents new insights into the challenges and strategies for overcoming these challenges. As shown in Table 5.6, the challenges associated with marketing ecological grain in Ontario are numerous and will not be individually discussed here. However, I will summarize some key insights missing from the literature. First, the scale of equipment, processing facilities, and enterprise are an extremely significant component of how farmers and processors can engage with markets. In addition, since grain is both a seed and a food crop, the production challenges strongly influence the marketing challenges. The infrastructure for grain production in Ontario is disadvantaged by support in marketing and crop variety development that farmers receive elsewhere in Canada. Also absent from the literature is the fact that farmers can be discouraged by the time and knowledge required with marketing as its own skillset.

In terms of the strategies employed to overcome marketing challenges, participants offered new insights that demonstrate a sense of creativity and innovation. For example, issues with scale can be overcome by using skills learned in other trades; processors play an important role in educating consumers; brokers and other 'middle-people' can provide assistance to farmers in finding robust markets; and collective purchasing of land and resources and borrowing of equipment are key tools in seemingly insurmountable challenges.

6.2 Providing context to the challenges and opportunities of bringing ecological grain to market

In addition to demonstrating a more comprehensive list of challenges and opportunities in the context of Ontario, this chapter continues below by situating these findings within food sovereignty (FS) and diverse economies frameworks. As discussed in Chapter 3, these paradigms situate these issues within framings that promote ecological and social resilience, local autonomy, political engagement from the public, and rejection of agriculture's involvement in free trade agreements such as CETA⁸ (Fairbairn, 2010; Gibson-Graham, 2006; McMahon, 2011).

⁸ CETA is the Comprehensive Economic and Trade Agreement between Canada and the European Union.

In this chapter, I explore the intricacies of the connection of marketing ecological grain in Ontario with the principles of food sovereignty, a framework that seeks to promote the rights of both producers and consumers. This chapter serves to address the crux of whether the food sovereignty movement, in its pursuit of providing people with the right to healthy and culturally appropriate food, is an appropriate framework to help ecological grain farmers achieve a sustainable livelihood. Although food sovereigntists focus on radical change and fear of dilution of the movement, I nonetheless argue that food sovereignty must be grounded in the current experiences of farmers and the realities that they face as food providers. Diverse economies, as a framework that recognizes the contemporary challenges of global hegemonic capitalist forces, is an alternative framework that legitimizes ecological grain farmers' contributions to a socio-ecologically resilient society. The details of these assertions are outlined below.

6.3 Can food sovereignty contribute to the sustainable livelihoods of ecological grain farmers by addressing their marketing challenges and opportunities?

Evolving from the experiences and critical analysis by farming peoples, the food sovereignty movement provides a voice to food producers around the world, including in Canada (Nyéléni, 2007; Wittman et al., 2010). The food sovereignty movement has led the way in its critique of the role of deregulation in agri-food systems, it has mobilized peasant farming groups, and in Canada it has provided the foundation for influential not-for-profit organizations including Food Secure Canada (Handy & Fehr, 2010; Martin and Andrée, 2014; Wittman et al., 2011). Food sovereignty can itself be used as a tool to promote policies and structures that support agrarian workers. However, I seek to determine whether the principles of the food sovereignty movement can address the marketing challenges experienced by Ontario's ecological grain farmers.

Specifically, are the views and needs of the research participants reflected in the pillars promoted by the food sovereignty movement? Emphasis in this research is on the pillars of localism, but other principles of food sovereignty are also discussed. Annette Desmarais (2014) states that food sovereignty research must look at how the movement challenges or accommodates elements of existing agricultural production and consumption in specific locales. Alonso-Fradejas et al. (2015) note that food sovereignty stands as a fertile field for academic research. Examining how food sovereignty accommodates ecological grain production in Ontario, by means of examination of engagement with markets, is a key objective of this section.

6.3.1 The importance of local and regional markets are related to scale

Consideration of local markets is the crux of this research's examination of the food sovereignty movement's ability to accommodate the marketing needs of ecological grain farmers in Ontario. The food sovereignty movement insists that local markets take priority over international markets (Suppan, 2008; Wiebe & Wipf, 2011) and places emphasis on exiting the global food system (Clapp, 2012). One of the millers interviewed stated the importance of local food systems:

I am very much a believer in the local food system; [of] a value chain that can provide a relationship from a local farmer to a local consumer and all the steps in between. It's important from an ecological perspective to reduce both the cost and the environmental impact of transportation. I think it's important for the economy. If consumers are willing to put more money into organic food I would like that money to go to more Canadian farmers as opposed to foreign farmers (Participant 11).

As presented in Table 5.5, the locality of markets varies greatly amongst participants' operations and is related to scale of the operations. Small-scale grain farmers noted that the only way they can receive fair returns on their products is by marketing directly. Participant 12, for example, emphasized the importance of the Lansdowne Park Farmers Market in Ottawa. Not only does this market provide him with strong and dependable markets, but it also allows him to communicate in-person with his customers. This is important for him as it leads the direction of his farm so that he can grow varieties that his customers express interest in. Also noted by direct small-scale direct marketing farmers, once grains have been milled their oils can become rancid (Participant 6), so it is important to sell flour as a fresh product. Conventional milling processes use additives that slow the rancidity of flours, but small-scale producers do not use additives.

In this sense, local markets are very important to farmers and thus the FS movement's encouragement of overhauling current trends matches the needs of farmers. An increase in local infrastructure would be extremely beneficial to ecological grain farmers who currently struggle to access scale-appropriate infrastructure in their local area. The development of this infrastructure is dependent upon demand and availability of government grants. A specific

example of the need of more infrastructure is in micro-malting. Participant 17, a cooperative brewer, noted that brewers and producers alike face limitations to expansion and adoption of local trading systems due to a limit in local, scale-appropriate malting facilities. Until that time, the brewery interviewed in this study is adapting by including some local, unmalted wheat in its brewing products.

Unfortunately, small-scale ecological grain growers contend with societal values that do not always complement their desire to direct market their products. The FS movement fails to address the fact that rural dwellers do not always have an interest in or the ability to access local markets, particularly in terms of grains which often require more processing time by both producer and consumer.

I think generally, [grain CSAs] are less appealing [than other CSAs] because people don't bake. The people who do and who might be more inclined to be interested in these kind of artisanal grains are in the city. [H]ere it's just less like, I don't think people quite know why they'd be interested in it and people don't bake. So those are kind of the two [factors]: You have to value the particularity of the type of grain that we're growing and [you have to] want it local and also that's not that many people in general (Participant 8).

On the other hand, the director of a provincial non-profit organization noted:

I feel like ecological grain is the next frontier of the local food movement in a way. That people cared about where their meat is coming from, where their vegetables are coming from... I think more and more people are going, "Oh yeah, what about the grain I'm eating, where does that come from?" You know, where was that grown, was it grown ecologically. So I don't have the stats, but from my impression that's a growing market (Participant 15).

Scale is not the only factor that influences the locality of markets. Land in Ontario is expensive (Friedmann, 2011), especially when it is within close proximity of urban centres. Urban centres exhibit strongest interest in local food and local food networks are very urban-centric (McMahon, 2011). This means that most farmers live further from city centres, and

thereby further from strong local markets. A medium-sized farm of just over 300 acres sells their grain almost entirely beyond the regional scale because there are very few markets for their biodynamic products in Ontario. A farm of 1,000 acres does the same. This highlights what Renting, Marsden, and Banks (2003) describe as proximate and extended short food supply chains (SFSCs). They argue that face-to-face SFSCs are not the only form of reducing cognitive and physical distance between consumer and producer—a distancing that has led to environmental devastation (Clapp, 2012). Participant 19, a biodynamic farmer with 1000 acres, who sells his products to buyers in Norway, maintains a convivial and mutually beneficial relationship with this buyer despite the geographic distance involved. As described in Chapter 5, the Norwegian buyer agreed to pay the farmer immediately when the farmer was working on making expansions to the farm.

In some circumstances, local markets prove important for ecological grain farmers, in particular those operating on small scales that sell at farmers markets. In other cases, namely for producers growing in niche markets and on an acreage greater than 100 acres, international markets currently provide the most robust markets. International trade is vulnerable to the effects of climate change (Peters & Hertwich, 2008) and is often characterized by large political and power asymmetries (Burnett & Murphy, 2014). However, trade can also guard against local crop failures and can increase ecological efficiencies, “allowing a more intelligent distribution of stresses on natural resources such as land and water than do the political boundaries of nation states” (Burnett & Murphy, 2014, p. 1066). Global markets provide strong markets for several participants from this research; the presence of which allows them to continue producing grain with organic methods. Some argue that food sovereignty does not, in fact, negate trade, that rather it “promotes formulation of trade policies and practices that serve the rights of people to safe, healthy, and ecologically sustainable production” (Patel, 2010, p. 189). I argue that food sovereignty must clarify its stance on trade, since the contention between local and international markets is such a significant one (Burnett & Murphy, 2014).

6.3.2 Are Ontario's ecological grain farmers seeking local control in their pursuit of robust markets?

A key component of the food sovereignty movement is emphasis on the rights of people to choose and define their own means of production and consumption (Wittman et al., 2010). Community-based control is central to the realization of food sovereign nations (Wiebe & Wipf, 2011) and food sovereignty requires the political participation of farmers (McMahon, 2011). This theme of control was not explicitly explored through my research questions, but some ideas concerning the topic of control did emerge throughout my interviews.

Farmer autonomy did not explicitly emerge as a theme in this research. Only one farmer (Participant 3) stated concern over a loss of control. However, she discussed this loss of control more directly in terms of her dairy enterprise, which she runs alongside her grain operation. She did discuss briefly the fact that as a commodity grain producer, she feels a loss of control when check-off fees are taken. Another farmer noted the lack of control he experiences from the presence of neighbouring farms with genetically modified (GM) crop varieties. This challenges his ability to be a certified organic producer, since organic certification requires that GM crops must not contaminate the farm's organic crops. Further, an organic farmer who used to farm conventionally noticed that when he converted to organic he no longer qualified for crop insurance. This lessened his ability to control and respond to pressures from pests, weather variability, and other factors that affected the vigour of his yields.

The food sovereignty movement has been strongly tied to the Canadian Wheat Board (CWB) and FS's pillars of control. Although Ontario farmers did not sell their grain products through this marketing agency, the topic did come up in some conversations throughout my research. Participant 5, a formerly conventional farmer who turned to organic methods, noted that the CWB would not have been helpful for him; rather that it would add another level of bureaucracy. According to Becky Lipton, Executive Director of Organic Alberta, not many organic producers used the marketing agency of the CWB. However, the farmers may have experienced indirect advantages from the infrastructure and presence of the CWB. This includes railway infrastructure, a strong reputation internationally of Canadian wheat and barley, and the lobbying for the rejection of genetically modified wheat (O'Reilly, 2008).

Contrary to food sovereigntists' emphasis on minimizing middle agents (Clapp, 2012), some participants noted that they would be happy to delegate steps required in marketing to a

third party. Participant 8, operator of a vegetable and grain CSA, stated that she would be happy to shift from a CSA model to one that included another step in the value chain, such as a buying club that could facilitate sales: “For some cases, I actually think that the supply chain needs to be longer, if that makes sense. [So] not just direct farmer to customer because I think that’s limiting in terms of how many people will access it.” It is extremely time and knowledge intensive to run a CSA, and she observed that the CSA model did not match the needs of her rural population. That said, Participant 6, her neighbour, also understood the value in middle agents but noted that operating through any distributor at his small scale would result in a lower profit margin for him, which he cannot afford financially. He stated, “I don’t think there is a problem in and of itself with a long supply chain, but it’s got to be one that is based on values and not profit-driven.” It is therefore a matter of finding a balance between available resources of the farmer, scale, and the ability to outsource a step in the supply chain.

On the other hand, increased involvement in and control over value chains does sometimes allow grain farmers to access more robust markets. For example, Participant 7 noted the profits gained by selling bread compared to unprocessed or minimally processed grain:

The initial value of the wheat, if you have a yield of about 3600 pounds per acre onto your field, if you sell it for 25 cents a pound it’s worth about \$900 an acre. So if you were just a grain grower, that [would basically be] your gross income off an acre of wheat. But if you make it into flour, you’re maybe going to sell it for, I don’t know, a dollar or even two dollars a pound, so that’s about \$3600 per acre; big increase in value. If you make it into bread and you’re selling your bread for about \$4 for a one pound loaf, and actually that could be up to \$6 maybe, at \$4 it makes about \$14,000 an acre. And if you slice that bread and make it into sandwiches and sell at your café the return is somewhere around \$40,000 an acre. So that’s why I can afford to grow grain as a horse farmer, because you know, it’s sort of a slow process doing it with horses. [...] By increasing the value of it so much, it does enable me to make a decent amount of money off a very small acreage. It’s just the opposite to the way big conventional farmers think because their margins are very small so they have to produce a lot of acres to make a reasonable living.

As Beingessner (2011) states, Canadian farmers' autonomy is adversely affected by large amounts of debt: 220,00 farmers in Canada carry \$61 billion of debt. Increased access to robust markets, such as the aforementioned opportunities in value adding, may lessen debt and increase levels of food sovereignty.

6.3.3 Exploring the relationship between environmental stewardship and marketing ecological grain

Food sovereigntists assert that food systems should work with nature. In place of the agro-industrial, linear systems associated with chemical inputs and environmentally harmful practices, food sovereigntists suggest that food production should work in integrated and circular ecological systems (People's Food Policy, 2011). The results of this research are in accordance with this emphasis on ecological integrity. For example, Table 5.2 outlines the variety of ecological practices employed by organic grain producers in Ontario. These practices highlight the steps taken by participants to practice environmentally sound strategies; most notable is the use of cover crops, maintenance of soil health, diversification within the enterprise of varieties grown, and incorporation of renewable energy.

Although one participant explicitly stated that his initial reason for converting from conventional to organic was motivated by increased revenue, he also noted that he was pleased to match his personal beliefs of environmental health with practicing organic methods. All other participants list their motivations for farming ecologically as being motivated by a variety of personal, environmental, health, social, economic, and other reasons. As shown in Table 5.4, the environmental motivations are related to environmental health, interest in stewardship, soil health, and the belief that conventional farming is not able to sustain a farm. These motivations are also reflected in some participants' marketing techniques. Farmers are able to advertise the steps they take towards environmental stewardship, which are traits desired by some customers.

In terms of the pervasiveness of organic aspirations within Ontario's agriculture sector, Participant 11 offered insight. He has been involved in the organic sector for over 20 years and therefore has notable observations in terms of the reasons for why farmers do and do not decide to farm organically. The rate at which people are entering organics has lessened in recent years, after the initial set of conventional producers converted to organic. Participant 11 noted that the

farmers who were ideologically predisposed to “consider the environment as more important than their pocket book” were the early adopters of organic production. These early adopters have already converted, so now marketers like himself are noticing that the potential converters need more emphasis on the business advantages, such as those outlined in ‘economics’ in Table 5.4. The business case can be difficult to make when fear plays a role: “Fear of a loss of yield, fear of weeds, fear of pests and insects, fear of poor animal production, fear of health problems, and therefore fear that organic won’t work on their farm” (Participant 11). This discussion suggests that some organic producers do indeed need economic incentive for conversion. This research does not explore the significance of how the motivations and incentives for farming organically affect the ability of a farm to contribute to socio-ecologically resilient systems. However, as noted by several participants, organic certification standards alone are not alone sufficient as a means of achieving an ecologically resilient ecosystem.

In sum, participants demonstrated a desire to work with nature while growing food. While individual operations were not analyzed to determine the level of environmental stewardship being employed, the diversity of ecological practices employed demonstrates the ability of ecological grain farmers to make positive contributions to ecosystems. This ability and desire are in line with food sovereigntists’ promotion of environmental stewardship.

6.3.4 Farmer networks and local knowledge sharing are imperative in marketing ecological grain in Ontario

Food sovereigntists argue that all knowledge is situated (Bartos, 2014) and that food systems must be rooted in local knowledge, local realities, and farmer networks (Jansen, 2015). The findings from this research resonate with such assertions, as participants emphasized the importance of information sharing and local knowledge creation.

The infrastructure that once existed in rural landscapes, including small mills, has gradually consolidated into fewer and larger operations:

Talking to some other farmers back in the day, people would share equipment... they might have been a cleaning facility close by where farmers would be able to bring their grain. We’ve had the landscape stripped away of all the infrastructure over the last 50 years for this kind of local processing (Participant 6).

As noted by Participant 3, there has in turn been a loss of local knowledge related to farming. Entering farming is difficult for new farmers due to a lack of information passing naturally from one generation to the next. This disjointed sharing of information is a result of urbanization and shifting societal values. There is also a lack of local knowledge for local realities in terms of seed development. Echoing the literature (Eaton, 2013; Ciulla, 2014), Participants 8 and 14 noted that since many grain varieties have been bred for prairie conditions, grain varieties are not always suited for the growing conditions in Ontario. As depicted in section 5.5, non-profits can work with farmer-led research programs to address these issues. In light of shifting rural demographics, non-profit organizations and public institutions now fill these gaps in information sharing and regional knowledge creation.

The cooperative interactions between farmers, processors, and non-profit representatives allow for an important sharing of information and access to resources. Participants noted that this camaraderie within the sector is important to them as a means of overcoming barriers they face as ecological grain farmers. Unfortunately farmers do find themselves stretched thin and lacking time to adequately involve themselves in networks and organizations. However, when possible, by having strong farmer networks available, farmers can learn from other farmers and stakeholders about strategies for addressing the challenges associated with production, access to resources, and other constraints. For example, Participant 15's organization facilitates workshops, conferences, an advisory service, kitchen table meetings, and farmer-led research programs. All participants were members of at least one regional or national farmer organization, but some participants are members of multiple farmer networks.

Some participants observed gaps in the services available from farmer networks. One field crop farmer criticized the EFAO in that it does not provide resources or information related to field crops as much as it used to. Participant 15 noted that this has occurred as a reflection of the evolving interests of the EFAO's members, who are increasingly market gardeners. Although non-profit organizations play an important role in creating cohesion amongst food systems stakeholders, they are often extremely limited in funding. For example, the EFAO has only one full-time staff member, which limits the level of supportive services available to ecological farmers in Ontario. Participants 11 and 14 stated that the government must provide greater

support towards ecological farmers and the organic sector, to relieve pressure on the non-profit sector and to increase public investment in ecological farming.

In overcoming challenges associated with scale, participants use their diverse skills to address issues concerning scale-appropriate equipment (e.g., some farmers are also trained as mechanics, which allows them to make adjustments to their own equipment). However, acquiring skillsets that can be helpful in equipment upkeep are extremely difficult to acquire, and not realistic for all farming operations (Participant 14). Farmers do benefit from informal networks amongst neighbours as a means of sharing skills, insights, and creating a sense of solidarity. In sum, food sovereignty's emphasis on information sharing and local knowledge creation are reflected in the strategies used by Ontario's ecological grain stakeholders to overcome marketing challenges.

6.4 Examining ecological grain marketing through a diverse economies framework

Moving to the following framework considered in this study is discussion of the diverse economies framework. The economy can be represented in a way that reclaims it as a contested space of representation, known as the 'diverse economy'. This framework provides subjects of the economy with economic citizenship (Gibson-Graham, 2006). This section discusses the findings from my research through the lens of diverse economies. I do not provide a full representation of ecological grain producers and processors in a diverse economy, but I do open some exploratory points that demonstrate the alternative economic forces in play. The three key components of a diverse economy are labour, transaction, and enterprise, which serve as the sub-themes for this section.

6.4.1 Labour

Gibson-Graham, Cameron & Healy (2013) assert that to survive well we must celebrate and support forms of labour that are directly contributing to all forms of individual and household well-being. That involves both paid and unpaid labour. As such, those in a diverse economy can view themselves as skilful and competent rather than lacking or victimized (Gibson-Graham, 2006). Participants in this research indeed demonstrate diverse forms of labour. One of the grain CSA enterprises uses unpaid labour in the form of volunteer work for multiple purposes, including fieldwork:

The volunteers have had to hop on the combine when the farmer couldn't get around to it. So it's sort of an ebb and flow of responsibilities and involvement in that regard (Participant 10).

The grain farmers interviewed also include salaried employees, part-time, and seasonal employees. In the alternative paid realm, participants are self-employed, work for cooperatives, employ reciprocal and in-kind labour, and offer apprenticeships.

6.4.2 Transactions

Section 5.3.1 outlines the forms of market engagement taken by ecological grain farmers in Ontario. Given these results it is evident that ecological grain farmers participate in market, alternative market, and non-market activities (refer to Table 6.2). Markets can be a space of care as well as of consumption (Gibson-Graham et al., 2013). The authors also suggest that more direct transactions “enable us to encounter and care for the people and places that are helping us to survive well” (p. 111). Although many of the transactions are market engagements, participants also engage in many alternative market activities, which allow for both direct and indirect transactions. As previously outlined in Table 5.5, these include farmers markets, buying clubs, co-operative exchanges, sales on behalf of other farms, CSAs, word of mouth sales, and local restaurants or bakeries. Nonmarket transactions include household flows (e.g., home consumption of services and products produced on the farm).

6.4.3 Enterprise

One component of enterprise that highlights the social responsibility demonstrated by participants in this study is related to distribution of wealth. Gibson-Graham et al. (2013) note that the benefits of surplus should lead to greater well-being of people and the planet. Participant 18, owner of a cooperative brewery, emphasized the importance of mindful distribution of the enterprise's surplus:

So we wanted to have a cooperative for the values of a democratic workplace, of retaining ownership through one's labour—so not just working for somebody else's profit,

and retaining not just that salary you were promised, but in addition, sharing of surplus if the brewery was doing well.

Other components of an alternative capitalist enterprise include collective purchasing, such as CSA members covering costs of new equipment, and the operation of a CSA as a ‘local food initiative’.

6.5 Place matters: Why marketing ecological grain in Ontario is unique to that of other locations

Through reading the literature, participation in an organic grain webinar, and through conversations with non-profit representatives from across Canada, the regional differences in marketing ecological grain were highlighted. This has already become apparent in discussion of the regional adaptation of certain crop varieties across North America and the lack thereof in Ontario. Recognition of the regional differences in marketing ecological grain highlights the role that local knowledge, and local environmental and socioeconomic climates play in market trends.

In the prairies, organic grain farming is an extensive sector, with operators working on larger land acreages than those in Ontario: the average size of organic farms in Alberta is just under 1,000 acres but some farms are 5,000 to 10,000 acres (Participant 16). The predominant crops are also different, with the prairies focusing on oats and wheat, and Ontario growing more corn and soybeans. Similar to Ontario, prairie farmers experience issues with accessibility to seed cleaning facilities, and transportation and access to distribution. Despite being mandated by the government to use a certain number of rail cars for grain, CP and CN⁹ will make more money transporting oil and are more reluctant to transport anymore grain than they are mandated to. It is difficult to get access to rail cars, and additionally challenging to ensure that the cars are properly cleaned per organic certification standards. Despite organic grain prices currently being high for prairie farmers, non-profit organizations are working towards increasing resilience in the sector, through risk management programs, to make organics more resilient to uncontrollable circumstances like recessions (Participant 16).

⁹ CP is Canadian Pacific Railway and CN is Canadian National.

In terms of local grain movements, Chapter 2 outlined the literature's focus on New England, the west coast, and Speerville in New Brunswick (Simpson & McLeod, 2013). As demonstrated in the 'Working with Local Organic Grain Webinar,' the United States has a burgeoning local grain movement, which incorporates mills, bakeries, pasta makers, and breweries. The details of these movements in the USA were not explored in depth, but their presence does situate Ontario's grain movements within a larger context to suggest that consumers and processors throughout North America are putting more thought into localized production of grain.

Within Canada and beyond, collaborations across regions occur. The Bauta Family Initiative on Canadian Seed Security works with researchers in Manitoba who then work with growers across the country to trial different varieties. Heather Darby, an agronomic specialist at the University of Vermont, spoke about diversified grain production as the keynote speaker at the EFAO's 2015 conference.

Echoing claims of social constructivist epistemologies, the food sovereignty movement, and diverse economies, 'place matters.' The findings from this research have parallels with other regions, but are indeed specific to the struggles and capabilities within Ontario's ecological grain sector.

6.6 Summary

Food sovereignty is a powerful movement that is present worldwide, with passionate supporters and committed sceptics (Agarwal, 2014; Alonso-Fradejas et al., 2015; Bernstein, 2014; Jansen, 2015; Martin & Andrée, 2014; Wittman et al., 2010). This chapter demonstrated where the principles of food sovereignty are able to support producers of staple grain products, and where the principles fall short of doing so. Social movements mobilize citizens and have been documented to bring about positive change to society (Smith, 2013). By using a social movement such as food sovereignty to situate the challenges and opportunities of ecological grain farmers, these challenges and opportunities are given context beyond the grain sector, within larger agri-food systems. As discussed in this chapter, some of the marketing challenges can be ameliorated through themes promoted by the food sovereignty movement (e.g., localized infrastructure, sharing of knowledge, environmental stewardship, etc.), while other strategies for overcoming

barriers are limited by the principles that food sovereignty promotes (e.g., importance of middle agents in value chains, and international trade).

Diverse economies shows the value in recognizing that the present work of alternative capitalist and non-capitalist activities can cohabitate with concurrent capitalocentric activities. While many of the participants sell their products through commodity markets in capitalist systems, all participants engage in some form of alternative forms of transaction, labour or enterprise (e.g., self-employment, helping neighbours, etc.). Critics of food sovereignty argue that it is a divisive movement by focusing on binary oppositions between mainstream and food systems (Bernstein, 2014). As outlined in Chapter 3, food sovereignty sees itself as an alternative, not a supplement (Clapp, 2012). It is a transformative movement that seeks to radically alter global food relationships rather than tweaking current unjust social and political structures (Beingessner, 2011; Desmarais, 2014; Friedmann, 2011). I argue that food sovereignty is an engaging and compelling movement, but until it clarifies some of its unclear positions (e.g., long-distance trade), it will continue to be divisive and difficult to enact.

The diverse economies framework focuses on bringing alternative and non-capitalist economic activities out of their subordination, while recognizing that this can be a gradual transition alongside current capitalocentric activities. The ecological grain sector is itself a diverse sector, comprising various forms of transaction, labour, and enterprise. As ecological farmers contend with and challenge the difficulties inherent in current agri-food systems, diverse economies serves as a framework that legitimizes the various forms of market engagement. Gibson-Graham (2006) state that a language of economic diversity could help energies become organized and amplified.

Table 6.1 summarizes the connections between the food sovereignty movement and the lived experiences of participants in terms of their marketing challenges and opportunities. The pillars of food sovereignty as identified in Chapter 3 are set alongside the challenges and opportunities explained in Chapter 5. Table 6.2 provides details on the diverse economy of Ontario's ecological grain producers and processors.

Table 6.1: Marketing challenges and opportunities as they relate to the principles of food sovereignty

<i>Principle of Food Sovereignty</i>	<i>Market Challenge</i>	<i>Market Opportunity</i>
Localism	<ul style="list-style-type: none"> • There are fewer local mills in operation as milling operations have merged into larger and fewer operations • Location of operation does not allow for access to markets that accommodate local grain • Grain varieties are not bred for Ontario conditions • Food systems are generally set up for bulk volume and do not account for smaller, specialty sales • Scale of the majority of local mills is inappropriate for small and medium grain farmers • Many grain products require processing or value adding to make them marketable, which is difficult with a lack of local infrastructure (e.g., malting facilities) • Difficult to find processing equipment that is for sale locally • Difficult to find a local market 	<ul style="list-style-type: none"> • Breweries can adapt to using unmalted wheat that is sourced locally • Even though grains aren't as perishable as fruits and vegetables, small-scale farmers profit from direct marketing at the regional scale • Some of the participants' market opportunities exist in international markets

	<p>for small-scale grain production in rural locations</p> <ul style="list-style-type: none"> • Land is expensive near urban markets • Significant demand for biodynamic grain does not exist in Canada 	
Environmental stewardship	<ul style="list-style-type: none"> • Some farmers are unable to justify production of heritage grains on small scale due to their typically lower yields 	<ul style="list-style-type: none"> • Producers are able to receive a premium on their organic products as it is advertised as being environmentally friendly • Marketing the backstory of heritage varieties puts producers and consumers in tune with the social and environmental conditions that led to the creation of a plant variety • Diversified grains are ecologically beneficial and increasingly appealing to some consumers
Control and empowerment	<ul style="list-style-type: none"> • Some farmers wish they had someone to do the marketing for them; that they would like more stakeholders involved in their supply chains • Variety availability is limited by the Seeds Act and PBRs 	<ul style="list-style-type: none"> • Farmers can engage with brokers or other middle agents to do some of the marketing on behalf of the farmers • Value adding provides farmer with greater control over the value chains of their products,

	<p>(reflected in the NFU’s work that tried to oppose UPOV ’91)</p> <ul style="list-style-type: none"> • Selling through organic commodity markets results in dockages and a loss of control • Artificial demand for grains created by ethanol subsidies lowers the returns on some crops, which transfers control from farmers to market forces • The specialty varieties that farmers wish to grow do not always interest clients • Crop insurance for organics in Ontario is very limited 	<p>which also increases profits</p>
<p>Creation and maintenance of local knowledge and farmer networks</p>	<ul style="list-style-type: none"> • Insufficient information sharing in the public sector • Rural landscapes are thinning and local knowledge is not as deeply rooted in place as it once was • Limited capacity of value chain actors to complement grain farmers’ operations • Farmers and processors have limited time to devote to volunteering with farmer networks and organizations • Insufficient agronomic 	<ul style="list-style-type: none"> • Collaboration between enterprises occurs by sharing equipment and land • Non-profits provide: advisory services; farmer-led research; kitchen table meetings; workshops; conferences; grants • Restoration of heritage varieties through work of non-profit partnerships • Farmers use mechanical and technical skills to adjust and upgrade farming equipment

	information on growing high-quality brewing barley in Ontario	
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Table 6.2 The diverse economy of ecological grain producers and processors in Ontario

<i>Transactions</i>	<i>Labour</i>	<i>Enterprise</i>
Market <ul style="list-style-type: none"> • Brokers (spot purchases and contracts) • Grain merchants • Mills • Marketers 	Wage <ul style="list-style-type: none"> • Salaried employees • Part-time or seasonal employees 	Capitalist <ul style="list-style-type: none"> • Commodity farmer
Alternative market <ul style="list-style-type: none"> • Farmers markets • Buying clubs • Cooperative exchange • Informal market (e.g., selling on behalf of or through other farms) • CSA • Local chefs or bakers • Word of mouth 	Alternative paid <ul style="list-style-type: none"> • Self-employed • Cooperative labour • Reciprocal labour • In-kind • Apprenticeship/internship 	Alternative capitalist <ul style="list-style-type: none"> • Cooperative business • Collective purchasing (e.g., CSA members cover costs of new equipment) • CSA operates as a ‘local food initiative’ rather than as a ‘business’
Nonmarket <ul style="list-style-type: none"> • Household flows 	Unpaid <ul style="list-style-type: none"> • Volunteer 	Noncapitalist <ul style="list-style-type: none"> • Surplus distributed to employees

Chapter 7: Conclusion

For ecological grain farmers in Ontario, farming grain entails much more than just its production; in order for farmers to thrive and have a sustainable livelihood, they must be able to bring their products to reliable markets. The participants in this study access a combination of traditional capitalist and alternative markets, including brokers, farmers markets, buying clubs, CSAs, mills, and more. Alongside the market practices of ecological grain farmers, is the existence of agrifood movements including fair trade, slow food, localism, food security, food sovereignty, food safety, animal welfare, and anti-genetically modified organisms (Friedland, 2010). Many of these movements focus on the desires of consumers, whereas food sovereignty places emphasis on the perspective of producers, which is why it has been important to use food sovereignty as a lens for this research. However, food sovereignty in Canada has recently focused on urban food consumers (Martin and Andrée, 2014), which could perhaps contribute to some of the contentions between ecological grain farmers and food sovereignty.

Within food and rural sociology disciplines, food sovereigntists occupy a contested space in food studies discourse as a framework for dismantling disruptive agro-industrial systems (Alonso-Fradejas et al., 2015). Through this research I chose to engage with analysis of food sovereignty's ability to act as a tool to support ecological grain producers. Food sovereigntists assert that food sovereignty must not be diluted if it is to lead to transformational change (Beingessner, 2011). Given the recorded challenges that farmers face in challenging dominant systems, I suggest that food sovereignty reconcile some of its contradictions (e.g., its stance on trade or the value of robust markets) in order to work towards transformation in agri-food systems. Recognizing the devastating impact that industrial agriculture has on socio-ecological systems, it is important to envision an ideal world; however, in achieving this, the movement should not undercut the realities of the challenges that farmers compete with in pursuit of a sustainable livelihood. The diverse economies framework, on the other hand, presents a case for how alternative systems can cohabitate within current systems.

Having outlined the challenges and strategies associated with bringing ecological grain to market in Chapters 5 and 6 through the lens of food sovereignty and diverse economies, I now offer policy recommendations and possible directions for future research.

7.1 Recommendations

This section summarizes the steps that can be taken by consumers, producers, processors, and especially government bodies, in order to support the marketing needs of ecological grain farmers in Ontario. Based on the insights from Chapters 5 and 6, recommendations are herein provided to increase the ability of ecological grain farmers to bring their products to market. Broadly speaking, provincial and federal governments should relieve the pressure exerted upon non-profit organizations. The EFAO, for example, has only one full-time staff person and thus struggles to provide adequate support to Ontario's ecological farmers. Quebec, as an example, has more staff members in the agriculture ministry that devote their time to researching organic farming practices (Participant 11). If Ontario could devote more resources to the development of organic farming, farmers would have greater access to authoritative agronomic resources, which could ease the stress of also bringing their products to market.

Interest in buying clubs has been increasing (Participant 8), which could be a helpful tool for selling grain products within Ontario. For farmers who struggle to find time to direct market their products through farmers markets or CSAs, buying clubs offer an alternative avenue for producers and consumers. Buying clubs allow for greater flexibility, which is beneficial for both producers and consumers. Continued outreach with value chain actors will also be important in order to access and create markets that accommodate a diverse crop rotation, variability in grain, and small-scale operations that some participants in this research exhibit.

Many challenges that have been outlined in this thesis concern access to affordable, dependable, and locally available equipment. While transportation between farms would limit the feasibility of this, increased sharing of equipment could allow for greater ease in processing grains locally. Recall that many small-scale farmers rely on direct marketing but also struggle to access scale-appropriate equipment. A cohesive equipment-sharing network could increase accessibility to local processing equipment, which would make access to local markets easier. The EFAO currently offers an online directory of equipment for sale; perhaps there could also be an equipment-sharing directory. Also related to infrastructure is the recommendation from several participants to increase the opportunities that breweries provide towards local producers. There are currently a limited number of breweries that work with Ontario grain farmers, largely because of a lack of scale-appropriate malting facilities. Consumer demand for more locally

oriented breweries could lessen this gap, as could greater availability of grants and funding opportunities for this type of infrastructure development.

At the federal level, the Canadian government could increase its investment in public research. There are few public breeding programs still in operation in Canada (Eaton, 2013), so groups like the Bauta Initiative are trying to fill this gap by working with farmers and researchers to provide on-farm, participatory breeding programs. As some of the challenges to marketing relate to having access to high quality, regionally-adapted seed, participatory and public breeding programs could increase the availability of regionally appropriate seed. The EFAO's farmer-led research program is in its first year (which unfortunately corresponds to Ontario's summer drought) and is another example of participatory research that could benefit farmers.

Another tool that benefits farmers is crop insurance. Participants that operate on a larger scale (over 100 acres) who converted from conventional to organic lament the limited availability of crop insurance for organic producers. Crop insurance under Ontario's AgriInsurance program is available for organic corn, soybeans, spelt, and winter wheat, which is much less than the dozens available in Saskatchewan and Alberta (OVCRT, 2014). Crop insurance provides a risk management tool to farmers in case of weather perils and other unforeseen circumstances.

7.2 Future directions for research

A key observation from this research is the contention between international trade and food sovereignty. I note that for some ecological grain farmers—who have access to limited local markets, coupled with other agronomic challenges—international markets prove to be invaluable. Research should be done to further clarify this contention and to clearly navigate how the international markets for a product like grain may be incorporated into a food sovereignty perspective. This could allow for food sovereignty to be less polarizing. However, since food sovereignty is a social movement and living organism (Desmarais, 2014), this 'research' may best take form through on-the-ground advocacy work through organizations and movements that promote food sovereignty (e.g., National Farmers Union, Food Secure Canada, etc.).

This thesis provides a novel contribution in presenting the value of including a diverse economies perspective in food studies. I wrote only a few pages on the topic in this thesis, thus it

would be valuable to continue discussion around diverse economies and ecological farming systems. This framework highlights the range of economic activity present within a sector (e.g., grain farming), which can allow for political empowerment of citizens as they view their unpaid, nonmarket or noncapitalist activities as worthy contributions to society.

In closing, I recognize that today's food economy is a complex organizational puzzle (Storper, 1997). This complexity is evident in what has been learned through this thesis concerning ecological grain farmers' pursuit of reliable markets. Grains continue to be important crops for Canadians, and ecological grain production is gaining momentum, in particular at the local scale. The principles of food sovereignty reflect the desires of grain farmers to have access to local infrastructure, farming networks, and more, but in order to be fully inclusive of various scales of farmers, food sovereignty must address the realities that grain farmers experience. However, it will be up to food sovereigntists to determine whether or not the movement should indeed work towards accommodating the needs of the full range of ecological grain farmers included in this research study.

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Appendix 1: Description of ‘Working with Local Organic Grain Webinar’

“Join bakers and pasta makers for a webinar on the practical aspects of incorporating locally or regionally grown organic grains into a commercial enterprise. Four panelists will discuss why they began working with local grains, the development of their product lines and how they have dealt with such issues as sourcing local grain and flour, flour quality, pricing and marketing, and what customer reaction has been. Stefan Senders (Wide Awake Bakery, Trumansburg, NY), Peter Endriss (Runner & Stone Bakery and Restaurant, Brooklyn, NY), Dan Avery (Dakota Earth Bakery and Pasta Shop, Alcester, SD), and Steve Gonzalez (Sfoglino Pasta Shop, Brooklyn, NY) are included on the panel. The webinar was organized by the Value-Added Grains for Local and Regional Food Systems Project (NIFA-USDA award #2011-51300-30697).

About the Presenters

Stefan Senders owns and operates the Wide Awake Bakery (Trumansburg, NY) in partnership with grain farmer Thor Oechsner and the Farmer Ground Flour mill. Wide Awake, which has been in business for nigh on five years, runs a large Community Supported Bakery. Stefan and the bakery have worked with OGRIN and NYC Greenmarket to teach bakers how to use NYS grains more successfully. In 2014 the bakery hosted a bread-making evaluation of modern and heritage wheat varieties sponsored by the Value-Added Grains for Local and Regional Food Systems Project.

Peter Endriss began his bread-baking career at Amy’s Bread in New York City. In 2006, after a stage in a bread bakery in his father’s hometown in southern Germany, Peter accepted the position as Head Baker of Per Se restaurant and Bouchon Bakery in New York City. After leaving Per Se, Peter spent time working at the Parisian bakery L’Étoile du Berger before moving to Italy. Upon returning to New York, Peter began working with Hot Bread Kitchen, and is now the Head Baker and co-owner of the bakery and restaurant, Runner & Stone, in Gowanus, Brooklyn.

Dan Avery draws unique experience from sales and marketing with an agri-business fortune 100 company. Using this experience, Dan and his wife Elizabeth began Dakota Earth, an

unconventional gourmet bakery and pasta-making business in Alcester, SD. Dakota Earth is now known locally and regionally for its quality food products and has created an awareness and demand for food products made with heritage-identified grains.

Steve Gonzalez earned a degree in Culinary Arts from the Art Institute of Colorado and has been a chef for 14 years. He was first introduced to the art of handmade pasta while working at Vetri in Philadelphia. To refine his skills, Steve traveled to Europe, working first at El Raco de Can Fabes, a Three Star Michelin Restaurant in Sant Celoni, Spain and then in Italy at Frosio in Villa d' Alme, Sapposenta in Cagliari, Sardegna and Trattoria Majda in Friuli. Since returning to America, Steve opened his own restaurant, Zavino, in Philadelphia and has worked at Insieme, Company, Hearth, Roberta's and Frankies Spuntino in NYC. Together with co-owner Scott Ketchum, he now runs Sfoglini pasta shop in Brooklyn, NY, overseeing the production of small-batch, freshly extruded pasta, including pasta made from organic, locally grown hard red wheat and emmer.”

Source: <http://articles.extension.org/pages/73465/working-with-local-organic-grains>

Appendix 2: Definitions

Conventional farming

Conventional farming describes the dominant farming practices that tend to focus on intensive farming systems, market competition, specialization, and exploitation of natural resources (Beus & Dunlap, 1990; Pacini, Wossink, Giesen, Vazzana & Huirne, 2003). The majority of grain produced in Ontario is farmed conventionally (Schumilas, 2010).

Biodynamic farming

Biodynamic farming was first developed in the early 1920s by Dr. Rudolf Steiner. The Biodynamic Association describes biodynamic farming as “a holistic, ecological and ethical approach to farming, gardening, food and nutrition. Biodynamic farmers strive to create a diversified, balanced farm ecosystem that generates health and fertility as much as possible from within the farm itself. Preparations made from fermented manure, minerals and herbs are used to help restore and harmonize the vital life forces of the farm and to enhance the nutrition, quality and flavour of the food being raised. Biodynamic practitioners also recognize and strive to work in cooperation with the subtle influences of the wider cosmos on soil, plant and animal health” (Biodynamic Association, 2016).

Climate-ready agriculture

There are many different interpretations of this term. For the purposes of this thesis, participants discuss climate-ready agriculture as a form of farming that is acutely aware of the effects that climate change has upon the growth of food. Farmers can prepare for these effects by diversifying their operation and minimizing reliance on fossil fuels.

Companion planting

Companion planting is a polyculture that intercroops plants species, which allows for fewer pest problems. By planting certain plant species around each other, some plants can synergistically improve one another’s growth (Parker, Rodriguez-Saona, Hamilton & Snyder, 2013).

Compost tea

Farmers and gardeners can use compost tea to increase the presence of beneficial, aerobic microbes. The 'tea' is created by mixing manure with water, with awareness of air pressure, water quantity, and size of the air bubbles (Nauta, 2012).

Green manures

A green manure is a crop that is used as a nutrient source for subsequent crops (Cherr, Scholberg & McSorley, 2005). In addition, the root litter of green manure contributes to short-term structural improvements of soil (Puget & Drinkwater, 2001).

Homeopathy

Homeopathy is an alternative medicine technique, which aims to activate self-healing mechanisms of the body so as to avoid the need for antibiotics (Camerlink, Ellinger, Bakker & Lantinga, 2009).

No till

No-tillage farming is a soil conservation measure that has become increasingly adopted by farmers worldwide, amongst conventional and alternative producers alike (Derpsch, Friedrich, Kassam & Li, 2010). Rather than ploughing the land with a disc of 8 to 12 inches deep, planting is instead done through the residues of previous plantings and weeds (Mother Earth News, 1984).

Appendix 3: List of interview questions

Example of a list of interview questions for a producer:

1. Can you provide me with a brief overview of your farm?
 - a. Where are you located?
 - b. How many acres do you have? How many acres are in production?
 - c. Are you renting, leasing, or do you own the land?
 - d. How long have you been on the property?
 - e. What do you grow or produce on your land?
2. How long have you been farming?
3. What steps do you take to practice and promote ecological methods?
4. What were your reasons for deciding to farm, specifically with organic methods?
5. How is your additional labour compensated? (Probe: Is your wage labour self-employed, cooperative, reciprocal, in-kind, or volunteer?)
6. Are you certified by any accredited certification bodies?
7. Is it important for you to grow products other than grains on your farm? (Prompt: economically, ecologically, personally, etc.)
8. What grains do you grow? (Follow-up: Do you process your own grains?)
9. Where do you source your seeds? (Follow-up: Do you save any of your own seeds?)
10. Who do you sell your products to?
11. Is the location of your customers a factor in who you target for sales? (Probe: Do you favour customers based on their proximity to your business or is this not a factor in your business model?)
12. Does the location of your farm affect your business or livelihood?
13. Do you think that the length of food supply chains affects the sustainability and resiliency of agriculture in Ontario?
14. What networks or organizations are you a member of? Do they help you with your pursuits as a grain farmer?
15. Are there specific skills needed for being a grain farmer that are unique from other types of farming?

16. What marketing challenges do you encounter as a grain farmer and how do you overcome them?
17. Do you have any additional questions or comments?

Example of a list of interview questions for a processor:

1. How did your brewery begin?
2. Why do you try to source locally?
3. How much local grain do you source?
4. What challenges exist in accessing local grain?
5. Why are organic production methods important to your brewery?
6. I see that you note that you use processes that reduce waste around brewing: can you provide an example of that?
7. Why do you think more emphasis has been given to local hops as opposed to grain malts?
8. What kind of skills and expertise are required of brewers?
9. Are the employees at the brewery full-time?
10. Why is the cooperative model an important component of your business?
11. Do you know if there are any other worker's co-operatives breweries opening outside of Quebec?
12. Do you have any questions or comments?

Example of a list of questions for a non-profit representative:

1. Can you provide a brief overview of what your role is at your organization?
2. Do many of your organization's members grow cereal or field crops?
3. Do members need to meet any requirements to be considered 'ecological' growers or is it self-regulated?
4. Do you find that your training programs are oriented towards certain crops more than others?
5. I see that many of the upcoming and recent workshops deal with topics of production. Do any of the your organization's workshops deal with marketing?

- a. If they do work with marketing, is it mostly for direct marketing?
6. I see that your organization offers many services to support information sharing amongst farmers in Ontario.
 - a. Does your organization's stock exchange provide tools or implements that are helpful for grain farmers?
 - b. How does the advisory service operate? (Follow-up: do they advise on marketing?)
7. Is your organization hoping to provide more services in the future that are not being offered at the moment?
8. Do you have any observations about demand of ecological grain in recent years?
9. Do you know if it's challenging for producers to sell ecological grain and/or grain products in Ontario (either certified or not)?
10. Is it challenging for consumers to access ecological grain and/or grain products in Ontario (either certified or not)? (Follow-up: why or why not?)
11. Is it important for grain farmers in Ontario to access local markets?
12. Are you aware if provincial or national regulations affect ecological grain farmers in Ontario? If yes, how so?
13. Do you have any additional questions or comments?

