Ontario Hazelnut Association Market Development Report

Ontario Hazelnut Association

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Executive Summary

The Ontario Hazelnut Association (OHA) is a relatively young commodity organization, having been in existence for just over a decade. As such, there are some significant barriers to market for hazelnut producers in the province of Ontario. Thus, the OHA sought funding from the Canadian Agricultural Partnership (CAP) program to further explore these barriers and identify recommendations for the organization.

Within this report, the structures, challenges, and opportunities of the world's top and emerging hazelnut markets are examined, along with a brief exploration of Canada's hazelnut market. Within this section, it is evident that the hazelnut industry varies greatly from region to region due to the prominence of different stakeholders, industry supports, and production processes. With this being said, this report includes an analysis of various business models for the OHA to explore moving forward. Although, as included in the text, there are various considerations to be made, including the overall strategy of the organization and potential for collaboration with supporting organizations/industry. Additionally, the hazelnut value chain is explored through the lens of the OHA. This is done using input received through interviews and surveys with members, stakeholders, and potential purchasers.

The following areas are identified as key pieces of the value chain:

- Tree stock
- Research and development
- Production
- Aggregation and processing
- Distribution and sales
- Marketing and branding

Within each value chain piece, challenges are identified and recommendations for the OHA are included. Some highlights include bottlenecks in identifying and acquiring suitable varieties, issues acquiring appropriate and affordable equipment, limited opportunities for growers to process nuts, and a general lack of branding and overall industry awareness.

While recommendations vary, common themes include the OHA taking a stronger role facilitating collaboration between various actors in the agriculture and education sectors, strengthening communications with members, and better utilizing available resources. These recommendations are further elaborated on within the implementation plan.

Finally, this report provides information on various sources of funding and includes suggested tools for improved data collection moving forward.

Key Findings

Hazelnut Industry

- Canada gets the majority of imported hazelnuts from Turkey (56% in 2020) and the United States (42% in 2020)
- Recently, the reputation of nuts has been improving as studies praise their benefits and Canada's most recent food guide has emphasized choosing more plant-based proteins. Increased cultural diversity in Canada has also led to more opportunity to sell Ontario-grown hazelnuts as ingredients for cultural dishes. However, Canada's hazelnut consumption has decreased in recent years. In contrast, Canada has a high estimated consumption per capita (amount consumed by those who do consume hazelnuts) relative to its overall consumption. This suggests that those already consuming hazelnuts are consuming high amounts. Thus, this presents opportunity to market Ontario hazelnuts to both those already consuming hazelnuts as well as those who do not regularly consume the commodity.
- The top producing countries such as Turkey and Italy are facing significant backlash regarding unsustainable practices. Some of these regions have large and complex marketing channels, often consisting of merchants, who act as the middleperson between producers and processing plants/exporters. It should be noted that in many of these more prominent hazelnut-producing countries, farmers do not get paid well.
- The United States has prominent hazelnut industries in both Oregon and the Upper Midwest. Both industries have strong ties to post-secondary institutions, which provide support with research, breeding, and processing. This has allowed for these regions to build infrastructure and garner funding that further supports their hazelnut industries.

Ontario Hazelnut Association Overview

- The OHA has approximately 85 OHA members with most located in the Southwestern Ontario region and a few in Eastern Ontario. 68 of these members identify as hazelnut growers. Current growers represent over 300 acres allotted to hazelnut production and over 49,000 trees planted, with an annual total yield of 12,000lbs as of early 2021. Because most trees have yet to reach full maturity, yield is low and growers have not given much attention to sales.
- Primary data collection is extremely important as the government does not currently gather any information on hazelnuts. Through an annually administered survey, the OHA can record hazelnut production, trends, yields, etc.
- The OHA may benefit from eventually transitioning to a Market Board. This would allow them to collect and regulate licence fees as well as providing them with controls to potentially regulate the production and pricing of hazelnuts. However, in order to restructure, an Expression of Opinion vote would be required for all hazelnut growers.
- There is no one-size-fits-all business model for a successful hazelnut industry. As demonstrated in the Top Producers and Exporters and Emerging Markets sections above, every region has a unique variety of stakeholders, challenges, and opportunities. As demonstrated by the various commodity organizations interviewed and used as examples above, most rely on partnerships with external organizations/institutions to help with marketing, research and development, etc. Thus, it is important that the OHA explore opportunities for potential collaboration with organizations that can provide additional supports and help them to achieve their goals.

Value Chain

- Tree stock is a significant challenge for the Ontario Hazelnut Association. Most notably, there is misalignment of supply and demand of trees. The OHA needs to facilitate communication between growers and nurseries to allow nurseries to maximize their tree capacity and meet the demands of growers. Additionally, efforts need to be made to develop a breeding program to continue developing cultivars suitable to the region.
- Research and development is necessary for the advancement of the industry. However, up to this point, research has been limited and what has been undertaken has not been well communicated to the membership. Moving forward, the OHA needs to take a larger role facilitating collaboration between researchers at post-secondary education and the Ontario hazelnut industry. Building these relationships are also essential to expanding access to knowledge and increasing growers' education regarding hazelnut production.
- In order to successfully grow hazelnuts, a significant amount of orchard maintenance is necessary. However, there continues to be a shortage of domestic labour and, as it stands, hazelnuts are not currently on the National Commodity List (NCL), meaning growers cannot access the Seasonal Agricultural Worker Program. Thus, in order to develop a long-term solution to labour demands, it is necessary that the OHA lobbies the federal government to have hazelnuts added to the NCL.
- Currently, growers interested in purchasing harvesting and/or processing equipment must pay high costs and experience long wait times in order to ship equipment from overseas. The OHA needs to work alongside growers and local equipment distributors to build a case for the facilitation of Ontario equipment distribution.
- Food safety and traceability is a significant concern for many purchasers. Processes need to be established early on in production and maintained throughout any processing of nuts. While these processes will need to be determined by individual growers, the OHA should identify and share resources, providing opportunities for growers to discuss best practices and personal experiences.
- Aggregation and processing presents significant challenges to the OHA because equipment is expensive and difficult to source and there are currently no shared processing facilities available to growers. However, as expressed during interviews with growers and stakeholders, a co-op model is not desirable for the OHA. Instead, the OHA should look to post-secondary institutions who are already engaged in commodity processing and/or agricultural research to develop some sort of processing partnership. The OHA could also provide interested growers with opportunities to discuss a grower-led co-op model.
- While distribution and sales is largely dependent on grower preferences and capabilities, the OHA can provide growers with basic information on the various pathways to market as well as facilitate networking opportunities for growers and purchasers.
- During interviews with potential purchasers, there was little to no recognition of the Ontario hazelnut industry or the OHA. This demonstrates the substantial need for branding and marketing efforts. The OHA should work with Foodland Ontario to utilize free resources and align themselves with a well-recognized brand. Additionally, the OHA needs to seek funding to establish its own brand and marketing strategy, likely focusing on presenting Ontario-grown hazelnuts as a premium, sustainable crop.

Project Overview

The Ontario Hazelnut Association received funding through Canadian Agricultural Partnership (CAP) for a Market Development Project.

The objectives of the project are to identify suitable options for business model for the Ontario Hazelnut Association and infrastructure needed to support the emerging hazelnut industry in Ontario.

The deliverables of the project as outlined in the funding agreement are:

- To identify current supply chain model needs for the domestic hazelnut market
- To identify best practices for the industry compared to other markets
- To complete aggregator and co-op assessments
- To compile final research recommendations, including an implementation plan

Scope

This report will explore successful hazelnut industries across the world, identifying and summarizing best practices of other hazelnut associations and growing regions. Additionally, other commodity organization within Ontario will be considered in order to document Ontario-specific best practices/case studies. Finally, the hazelnut value chain will be explored by highlighting challenges and opportunities identified through extensive surveys, interviews, and consultation with growers, stakeholders, and potential purchasers.

Methodology

Data collection for this report was done through surveys, interviews, and consultation with growers, stakeholders (nurseries, industry experts, researchers, commodity groups, etc.), and potential purchasers. Dozens of interviews were conducted over the duration of two years. An initial survey was developed in early 2021 to gather data from OHA members followed by a revised survey in late 2021.

Additionally, secondary data was collected through extensive online research. Efforts were made to ensure reliable sources were used. All secondary data sources are denoted in footnotes throughout the document.

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Current Global Environment for Hazelnut Production

According to the FAO, 1,096,571 metric tonnes of hazelnuts (with shell) were produced in 2020. In terms of hazelnut kernels, 512,100 metric tonnes were produced globally in 2020 (International Nut and Dried Fruit Council, 2021). 2019 had the largest hazelnut production in the last 12 years, with 2020 experiencing a slight decrease.

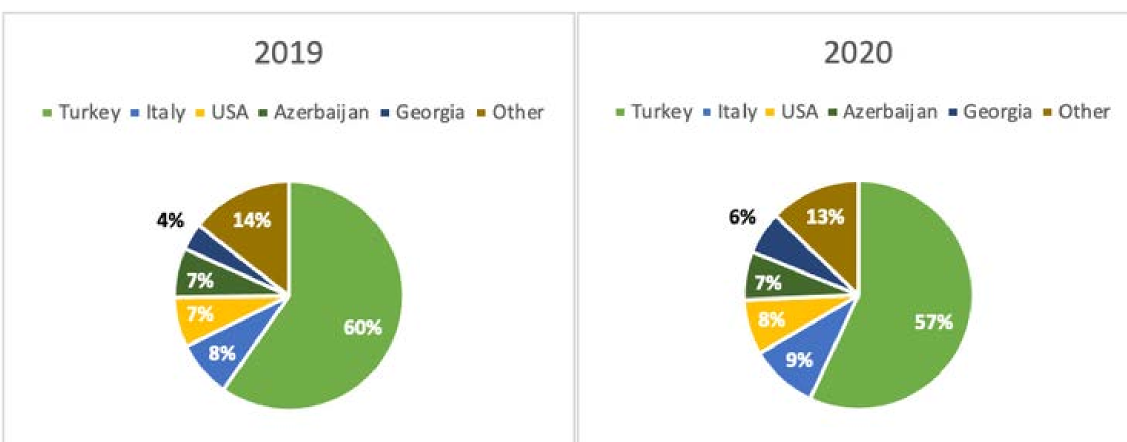
Annual Hazelnut Production, 2009-2020

Year of Production	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Production (Tonnes, In-Shell)	790,966	874,243	766,976	947,338	892,504	734,168	961,211	775,103	1,035,810	909,377	1,154,496	1,096,571
Production (Tonnes, Kernel basis)	321,890	417,950	374,600	469,908	449,380	357,240	497,150	398,060	510,270	460,043	539,925	512,100

Source: Food and Agriculture Organization of the United Nations (FAO); International Nut and Dried Fruit Council, 2021

Between 2009 and 2020, Turkey has remained the largest exporter of hazelnuts. In 2019, Turkey accounted for 60% of all hazelnut exports (324,406,200 kg), followed by Italy (8%), Azerbaijan (7%), the USA (7%), Georgia (4%), and Others (14%). In 2020, Turkey (57%) made up slightly less of the total world exports (275,857,496 kg), while Italy (9%), the USA (8%), and Georgia (6%) accounted for larger proportions of total hazelnut exports.

Top Exporting Countries (by Quantity) as Proportion of Total Annual Hazelnut Exports, 2019 and 2020



Source: UN Comtrade Database, 2021

The top 10 exporting countries (with shelled and in-shell counted separately) have remained relatively similar between 2009 and 2020. Turkey has consistently accounted for the largest quantity of shelled hazelnuts although, within the time period examined, it has failed to make the top 10 list for its in-shell hazelnut exports. Italy, Georgia, and Azerbaijan consistently export large quantities of shelled hazelnuts while the U.S.A, China, Chile, and France consistently export large quantities of in-shell hazelnuts.

Top 10 Exporter Countries, Separated In-Shell and Shelled, 2009-2020

Top 10 Exporters	2009	2010	2011	2012	2013	2014
1 (Most)	Turkey 128,702,181 kg	Turkey 149,603,987 kg	Turkey 146,322,481 kg	Turkey 161,461,534 kg	Turkey 163,081,728 kg	Turkey 147,330,830 kg
2	USA 29,434,727 kg	USA 22,607,402 kg	Georgia 19,092,872 kg	USA 31,546,077 kg	Georgia 27,729,608 kg	USA 32,936,554 kg
3	Italy 14,789,196 kg	Italy 13,870,321 kg	China, Hong Kong SAR 18,332,005 kg	China, Hong Kong SAR 19,928,496 kg	USA 27,091,010 kg	Georgia 18,942,204 kg
4	Georgia 14,366,147 kg	Georgia 11,293,853 kg	USA 17,668,702 kg	Italy 14,063,084 kg	Italy 16,027,869 kg	Italy 18,316,661 kg
5	Azerbaijan 12,134,635 kg	China, Hong Kong SAR 9,882,418 kg	Italy 13,697,549 kg	Georgia 13,609,082 kg	China, Hong Kong SAR 10,496,899 kg	Azerbaijan 11,838,064 kg
6	China, Hong Kong SAR 10,232,387 kg	Azerbaijan 8,467,710 kg	Azerbaijan 12,881,588 kg	Azerbaijan 10,250,244 kg	Azerbaijan 10,414,887 kg	Chile 10,689,609 kg
7	Germany 3,768,067 kg	Georgia 6,699,982 kg	Chile 4,999,890 kg	Chile 5,988,128 kg	Chile 9,036,932 kg	Germany 5,900,380 kg
8	Georgia 3,497,751 kg	Germany 4,098,151 kg	Germany 4,958,629 kg	Germany 5,245,440 kg	Germany 5,212,977 kg	China, Hong Kong SAR 4,578,807 kg
9	Spain 3,248,734 kg	France 3,442,100 kg	Netherlands 4,131,403 kg	Netherlands 3,019,391 kg	France 3,198,409 kg	France 3,717,409 kg
10 (Least)	France 2,647,300 kg	Italy 2,421,241 kg	Spain 2,966,550 kg	France 2,958,117 kg	Netherlands 2,608,179 kg	Netherlands 3,486,815 kg

Top 10 Exporters	2015	2016	2017	2018	2019	2020
1 (Most)	Turkey 143,590,153 kg	Turkey 134,214,056 kg	Turkey 159,817,237 kg	Turkey 161,483,394 kg	Turkey 193,010,245 kg	Turkey 156,753,994 kg
2	USA 35,260,293 kg	Georgia 25,421,053 kg	Italy 27,916,435 kg	Italy 29,089,004 kg	Italy 25,618,625 kg	Italy 25,474,975 kg
3	Georgia 18,362,807 kg	Italy 24,456,480 kg	USA 24,198,900 kg	Azerbaijan 18,223,155 kg	Azerbaijan 22,023,014	USA 19,558,513 kg
4	Italy 17,872,625 kg	USA 21,556,550 kg	Azerbaijan 20,754,400 kg	USA 18,038,132 kg	USA 21,650,856 kg	Azerbaijan 17,867,442 kg
5	Azerbaijan 12,224,457 kg	Azerbaijan 14,812,930 kg	Georgia 13,868,785 kg	Georgia 10,447,412 kg	Chile 11,948,192 kg	Georgia 13,484,421 kg
6	Chile 5,006,054 kg	Chile 6,589,300 kg	Chile 8,140,152 kg	Chile 9,864,425 kg	Georgia 9,735,384 kg	Netherlands 6,749,913 kg
7	Germany 4,789,444 kg	Germany 5,898,159 kg	Netherlands 6,530,334 kg	Netherlands 6,544,963 kg	Netherlands 7,445,265 kg	Germany 6,331,000 kg
8	USA 4,598,915 kg	Netherlands 3,721,355 kg	Germany 4,931,451 kg	Germany 4,747,514 kg	Germany 5,735,567 kg	France 3,720,836 kg
9	Netherlands 3,530,431 kg	France 3,310,603 kg	France 2,644,848 kg	France 4,373,593 kg	China, Hong Kong SAR 4,119,738 kg	Georgia 3,166,901 kg
10 (Least)	France 2,580,409 kg	China, Hong Kong SAR 3,293,220 kg	China, Hong Kong SAR 2,353,480 kg	China, Hong Kong SAR 1,775,994 kg	France 3,630,633 kg	China, Hong Kong SAR 2,706,396

Source: UN Comtrade Database, 2021

Note: represents In-Shell hazelnut exports, represents Shelled hazelnut exports

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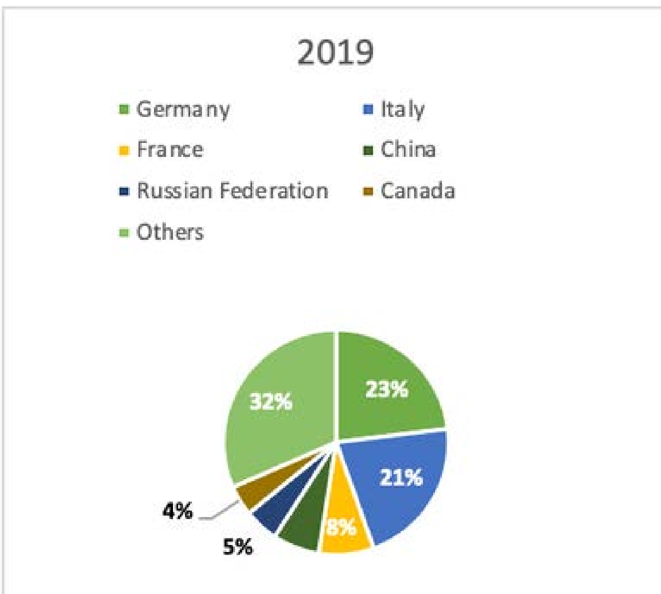
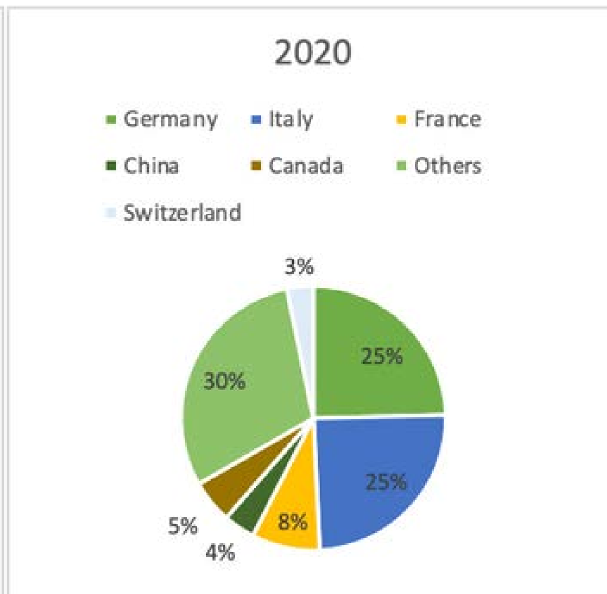
In 2019, Germany accounted for 23% of all hazelnut imports (299,702,122 kg), followed by Italy (21%), France, (8%), China (7%), the Russian Federation (5%), Canada, (4%), and Others (32%). In 2020, Germany, (26%), Italy (25%), France (9%), and Canada (5%) all accounted for higher proportions of the total world imports (272,279,566 kg) while China's proportion decreased (4%). In 2020, the Russian Federation was no longer in the top six countries by imports and was instead replaced by Switzerland, which accounted for 3% of world imports.

Top Importing Countries (by Quantity) as Proportion of Total Annual Hazelnut Imports, 2019 and 2020





Source: UN Comtrade Database, 2021

The top 10 importing countries (with shelled and in-shell counted separately) have remained relatively similar between 2009 and 2020. Germany has consistently accounted for the largest quantity of shelled hazelnuts, been the top importer, with the exception of Egypt in 2010 and 2013. Within this time, Italy has consistently been a top importer of both shelled and in-shell hazelnuts. China has also continued to be a top importer of in-shell hazelnuts while France, Switzerland, Russia, Belgium, Canada, Spain are consistently top importers of shelled hazelnuts. In 2020, Canada made the top 10 importer list for both shelled and in-shell hazelnuts.

Top 10 Importer Countries, Separated In-Shell and Shelled, 2009-2020

Top 10 Importers	2015	2016	2017	2018	2019	2020
1 (Most)	Germany 65,017,878 kg	Germany 62,377,722 kg	Germany 66,200,678 kg	Germany 65,105,894 kg	Germany 68,210,130 kg	Germany 67,882,707 kg
2	Italy 40,750,052 kg	Italy 43,514,367 kg	Italy 43,047,279 kg	Italy 49,307,329 kg	Italy 59,866,066 kg	Italy 61,319,724 kg
3	France 19,876,765 kg	France 21,820,623 kg	France 23,119,127 kg	France 28,534,851 kg	France 23,290,365 kg	France 23,105,864 kg
4	Belgium 11,060,420 kg	Canada 11,907,317 kg	Switzerland 10,220,993 kg	Russian Fed. 14,280,898 kg	China 16,953,936 kg	Canada 10,033,052 kg
5	Canada 10,319,612 kg	Switzerland 9,359,564 kg	Russian Fed. 9,844,854 kg	Poland 13,797,621 kg	Russian Fed. 14,339,355 kg	Switzerland 9,038,430 kg
6	Switzerland 9,025,876 kg	Russian Fed. 7,985,784 kg	Netherlands 8,296,203 kg	Switzerland 9,552,072 kg	Switzerland 9,110,265 kg	China 8,363,740 kg
7	Russian Fed. 7,310,325 kg	China, Hong Kong SAR 4,886,946 kg	Belgium 4,228,191 kg	Netherlands 8,142,092 kg	Canada 8,666,013 kg	Italy 7,918,100 kg
8	Italy 6,468,888 kg	Netherlands 4,667,671 kg	Poland 3,833,884 kg	USA 6,028,854 kg	Netherlands 8,649,517 kg	Netherlands 7,003,516 kg
9	China, Hong Kong SAR 4,512,703 kg	Belgium 4,611,060 kg	Spain 3,669,832 kg	China 5,640,416 kg	Poland 5,907,535 kg	Spain 5,048,525 kg
10 (Least)	Netherlands 4,477,392 kg	Italy 4,065,840 kg	USA 3,441,440 kg	Spain 4,476,513 kg	USA 5,682,665 kg	Canada 4,762,221 kg

Top 10 Importers	2009	2010	2011	2012	2013	2014
1 (Most)	Germany 71,989,315 kg	Egypt 73,689,431 kg	Germany 62,009,110 kg	Germany 53,812,469 kg	Egypt 165,698,834 kg	Germany 58,048,950 kg
2	Italy 30,307,419 kg	Germany 66,830,933 kg	Italy 32,278,632 kg	Italy 26,516,546 kg	Germany 66,364,032 kg	Italy 36,201,254 kg
3	France 18,371,600 kg	Italy 31,002,854 kg	France 19,737,866 kg	France 19,989,875 kg	Italy 35,608,385 kg	France 20,486,294 kg
4	China, Hong Kong SAR 14,025,251 kg	France 21,130,100 kg	Russian Fed. 14,691,645 kg	China, Hong Kong SAR 18,189,806 kg	France 20,311,012 kg	Russian Fed. 11,057,033 kg
5	Belgium 10,750,487 kg	China, Hong Kong SAR 17,985,531 kg	China, Hong Kong SAR 12,555,360 kg	Russian Fed. 13,251,945 kg	China, Hong Kong SAR 15,638,164 kg	Italy 11,030,872 kg
6	Switzerland 10,101,794 kg	Russian Fed. 11,187,829 kg	Belgium 11,085,318 kg	Canada 11,780,262 kg	Belgium 11,070,900 kg	Canada 9,950,842 kg
7	Russian Fed. 9,201,572 kg	Belgium 9,823,726 kg	Canada 10,279,198 kg	Belgium 11,164,180 kg	Canada 10,460,577 kg	Switzerland 9,684,268 kg
8	Canada 6,978,018 kg	Switzerland 9,459,960 kg	Switzerland 9,511,923 kg	Switzerland 8,751,324 kg	Switzerland 10,299,645 kg	Belgium 8,576,653 kg
9	Spain 5,194,152 kg	Canada 8,708,877 kg	Italy 5,211,742 kg	Italy 5,298,551 kg	Russian Fed. 9,256,546 kg	China, Hong Kong SAR 6,298,348 kg
10 (Least)	Italy 4,111,386 kg	Spain 5,646,934 kg	Spain 4,681,562 kg	Spain 4,956,818 kg	Italy 8,592,537 kg	Netherlands 4,689,359 kg

Note: represents In-Shell hazelnut imports, represents Shelled hazelnut imports

Canadian Hazelnut Market Trends

It should be noted that the Government of Canada does not currently track the domestic production of hazelnuts. Between 2009 and 2020, Canadian hazelnut exports have fluctuated greatly, with a high of 858,504 kg in 2014 to a low of 74,293 kg in 2016. In 2020, Canadian hazelnut exports (567,933 kg) were valued at $3,931,156 (CAD). In recent years, the export of shelled hazelnuts has been much larger than that of in-shell hazelnuts, reflecting global demand.

Canadian Hazelnut Exports, 2009-2021

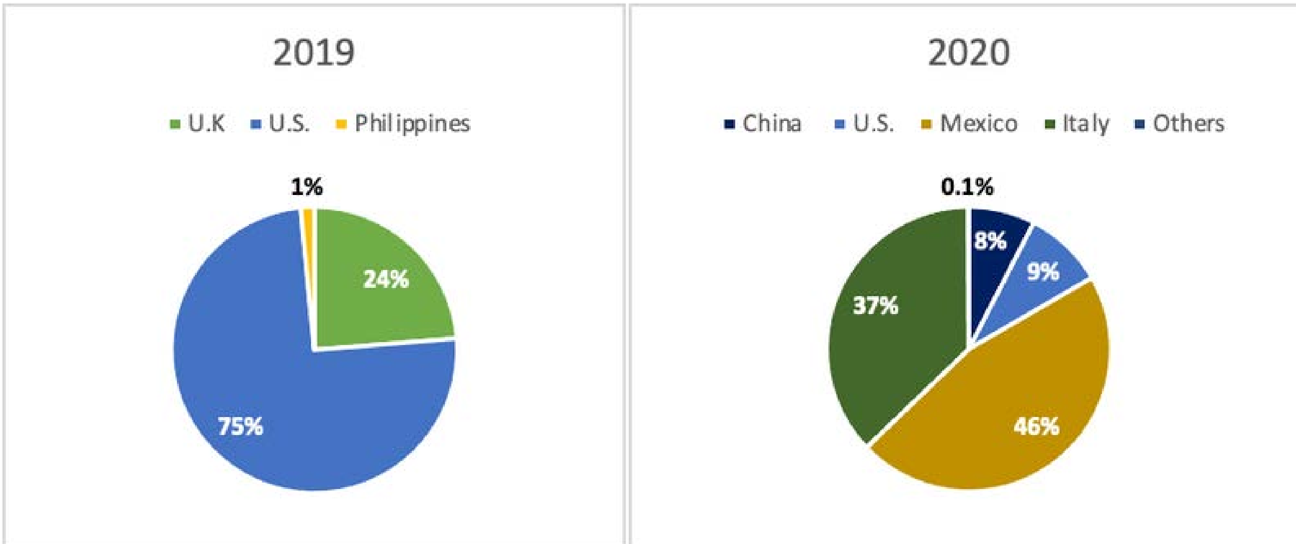
Year	Shelled Exports		In-Shell Exports		Total Exports	
	Quantity (kg)	Value ($)	Quantity (kg)	Value ($)	Quantity (kg)	Value ($)
2020	505,477	3,742,669	62,456	188,487	567,933	3,931,156
2019	84,769	648,903	18,810	60,628	103,579	709,531
2018	182,766	1,111,470	X	X	182,766	1,111,470
2017	29,988	284,735	143,606	502,986	173,594	787,721
2016	45,476	540,282	28,817	141,535	74,293	681,817
2015	95,464	1,448,871	176,390	770,755	271,854	2,219,626
2014	607,313	6,696,704	251,437	875,240	858,750	7,571,944
2013	527,615	5,354,276	318,889	789,348	846,504	6,143,624
2012	15,514	96,398	253,470	593,789	268,984	690,187
2011	24,103	171,237	304,463	731,836	328,566	903,073
2010	24,973	247,625	520,100	1,211,720	545,073	1,459,345
2009	17,206	196,835	530,525	1,156,997	547,731	1,353,832

Source: Statistics Canada, Canadian International Merchandise Trade Web Application, 2021

Note: Data unavailable for 2018 in-shell exports.

Of the 103,579 kg of hazelnuts exported from Canada in 2019, 75% went to the U.S., 24% went to the U.K., and 1% went to the Philippines. Of the 567,933 kg of hazelnuts exported from Canada in 2020, 46% went to Mexico, 37% went to Italy, 9% went to the U.S., 8% went to China, and 0.1% went to Others (Qatar, Saint Pierre and Miquelon, Kuwait, Oman, and France).

Top Exporting Countries as Proportion of Annual Exports, Canada, 2019 and 2020



Source: Statistics Canada, Canadian International Merchandise Trade Web Application, 2021

Between 2009 and 2020, hazelnut imports have remained relatively stable with a gradual increase in recent years. Of the time period examined, 2020 had the largest quantity of imports (14,795,274 kg) worth $158,272,858 (CAD). Shelled imports have consistently been larger than in-shell imports, although in-shell imports have increased in recent years.

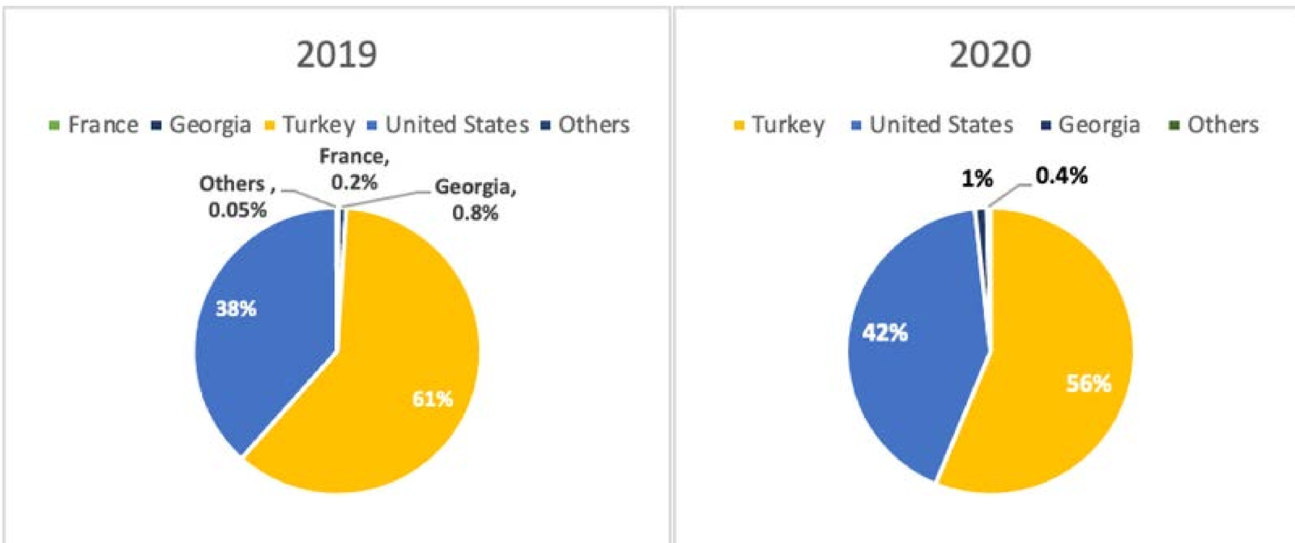
Canadian Hazelnut Imports, 2009-2021

Year	Shelled Imports		In-Shell Imports		Total Imports	
	Quantity (kg)	Value ($)	Quantity (kg)	Value ($)	Quantity (kg)	Value ($)
2020	10,033,053	105,826,305	4,762,221	52,446,553	14,795,274	158,272,858
2019	8,666,013	82,606,079	4,352,300	41,754,969	13,018,313	124,361,048
2018	10,749,074	89,343,407	3,012,939	25,381,385	13,762,013	114,724,792
2017	10,137,471	98,124,747	1,514,447	16,547,808	11,651,918	114,672,555
2016	11,907,316	137,748,049	1,025,944	11,336,943	12,933,260	149,084,992
2015	10,320,509	152,091,877	2,243,882	34,858,119	12,564,391	186,949,996
2014	9,950,841	86,350,362	3,276,138	41,740,210	13,226,979	128,090,572
2013	10,460,577	88,979,119	1,773,917	13,963,632	12,234,494	102,942,751
2012	11,780,262	94,539,261	2,560,767	11,346,725	14,341,029	105,885,986
2011	10,279,198	75,206,681	1,112,892	5,688,316	11,392,090	80,894,997
2010	8,708,877	65,465,268	1,721,756	5,826,118	10,430,633	71,291,386
2009	6,978,018	56,953,721	1,016,685	3,532,826	7,994,703	60,486,547

Source: Statistics Canada, Canadian International Merchandise Trade Web Application, 2021

Of the 13,018,313 kg of hazelnuts imported to Canada in 2019, 61% were from Turkey, 38% were from France, 0.8% were from Georgia, 0.2% were from France, and 0.05% were from Others (Italy, Iran, Vietnam, Brazil, etc.). Of the 14,795,274 kg of hazelnuts imported to Canada in 2020, 56% were from Turkey, 42% were from the U.S., 1% were from Georgia, and 0.4% were from Others (Chile, Italy, Côte d'Ivoire, etc.). This information is conveyed in the following graphs.

Top Importing Countries as Proportion of Annual Imports, Canada, 2019 and 2020



Source: Statistics Canada, Canadian International Merchandise Trade Web Application, 2021

Domestic Consumption

While recent research praises the benefits of nuts, global consumption continues to be below what is recommended by nutrition and clinical guidelines[1]. However, nut consumption has been steadily increasing in some areas, especially middle and high-income countries such as Canada. Nuts are becoming a staple in many Canadian diets, supported by Canada's most recent food guide, which emphasized choosing plant-based proteins, such as nuts, seeds, and legumes[2]. In fact, the Canadian market for nuts is expected to grow annually by 6.06% (CAGR 2022-2026)[3].

Additionally, there may be some opportunity for increased hazelnut sales as Canada continues to become more culturally diverse. While hazelnuts were not identified as a "world food" in the Ontario Ministry of Agriculture, Food, and Rural Affairs' Bring Home the World campaign[4], they are a common ingredient in many cultures' cuisine. Hazelnuts are especially prominent in Mediterranean cuisine, where they are used in dishes such as dukkah and baklava. Hazelnuts are also popular in various baked goods throughout Europe. As Canada continues to welcome immigrants from hazelnut-producing regions, there will likely be an increasing market for fresh hazelnuts.

However, according to the International Nut and Dried Fruit Council, Canada's hazelnut consumption has decreased in recent years. In 2015, Canadians consumed 12,928 metric tonnes of hazelnuts compared to 9,706 metric tonnes in 2019. By estimating the population consuming hazelnuts, it is estimated that consumption per capita has dropped from 1.090 kg in 2015 to 0.786 kg in 2019. As can be seen in the table below, while Canada has a low annual consumption of hazelnuts relative to other countries, its estimated consumption per capita is much higher than some countries with higher annual consumption, such as the U.S.A., China, and the Russian Federation. Thus, the Canadians who are currently consuming hazelnuts eat a significant amount, suggesting that efforts need to be made to market to Canadians who are not currently consuming hazelnuts rather than increasing the consumption of those who are.

1 https://www.utoronto.ca/news/nuts-are-not-linked-weight-gain-u-t-study
2 https://food-guide.canada.ca/en/
3 https://www.statista.com/outlook/cmo/food/fruits-nuts/nuts/canada
4 http://www.omafra.gov.on.ca/english/policy/worldfood.htm#Intro

World Hazelnut Consumption (Kernel Basis), 2019

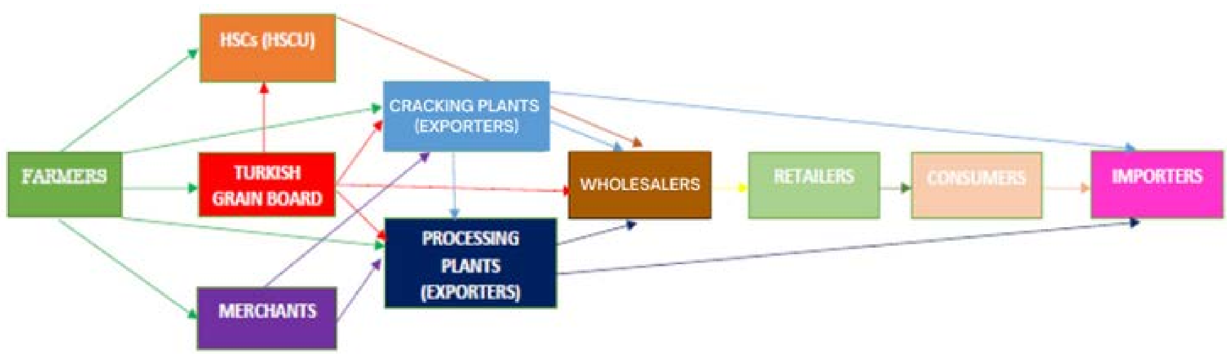
Country	Consumption (metric tonnes)	Estimated Consumption per capita (kg/year)
Italy	111,573	2.457
Germany	91,921	2.201
Turkey	74,323	1.782
France	33,191	1.631
USA	20,411	0.188
China	15,724	0.043
Poland	15,504	1.637
Russian Federation	15,496	0.425
Spain	14,174	0.607
Austria	11,902	3.038
Iran	11,454	0.153
Switzerland	10,302	1.599
Belgium	9,750	1.127
Canada	9,706	0.786
UK	5,479	0.246
Netherlands	4,638	0.543
Brazil	4,592	0.087
Egypt	3,859	0.154
Australia	3,732	0.449
Ukraine	3,635	0.331

Source: International Nut and Dried Fruit Council, 2021.

Top Producers and Exporters[5]

Turkey

Accounting for 60% of the world's hazelnut exports and 67% of the world's production in 2019[6], Turkey's hazelnut industry is made up of approximately 600,000 small family farms[7]. Subject to low market prices and an average farm size of just four acres, Turkey's hazelnut farms struggle to be profitable. Moreover, these farms rely on labourers to care for and harvest the hazelnuts since the rugged terrain makes mechanized harvesting nearly impossible. After harvesting, de-husking, and drying, producers generally sell hazelnuts independently and directly to merchants[8]. There are an estimated 2,000 merchants (hazelnut traders) who act as the middleperson between producers and processing plants/exporters. If the crop is significant enough, producers can sell to the Turkish Grain Board or Fiskobirlik, a hazelnut cooperative, which will then sell to wholesalers.



Source: Bozoglu et al. (2019). An overview of hazelnut markets and policy in Turkey.

One significant issue in Turkey's hazelnut value chain is related to labourers, often migrant workers, Syrian refugees, and sometimes children, who experience hardships that include dangerous working conditions, inconsistent, low, and sometimes stolen wages. Despite this, Turkey continues to be one of the largest suppliers for large companies such as Ferrero, who purchases one third of Turkey's hazelnut harvest.

Italy

Italy was the second largest exporter of hazelnuts in 2019, accounting for 8% of the world's exported hazelnuts and 9% of global production. While Italy has approximately 200,000 acres devoted to hazelnut production[9], small scale producers are disappearing and being replaced by investors and large companies. Ferrero, a leading confectionary company and the world's largest purchaser of hazelnuts, is

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[5] It is important to note that most information included below has been sourced online, from what are believed to be reliable sources. However, information is limited by country and is dependent on factors such as politics, media bias, available research, and language.

[6] U.N. Comtrade Database, 2021; FAO, 2021.

[7] Segal, D. (April 19, 2019). Syrian refugees toil on Turkey's hazelnut farms with little to show for it. The New York Times. Retrieved from https://www.nytimes.com/2019/04/29/business/syrian-refugees-turkey-hazelnut-farms.html

[8] https://www.fairlabor.org/sites/default/files/hazelnut_supply_chain_mapping_0.pdf

[9] https://www.dw.com/en/monoculture-biodiversity-damages-agriculture-organic-soil-water-air/a-55626073

based in Italy and thus has invested in various programs to encourage the growth of the country's industry. Over the years 2016-2019, the Italian National Institute for Statistics recorded a 15% increase in the total area devoted to hazelnut cultivations[10] . Italy is currently facing environmental challenges due to the practice of monoculture in many of the country's hazelnut producing regions. The diminished biodiversity, deterioration of the region's soil and air quality, and overall environmental degradation has led to the hazelnut industry being viewed as unsustainable by many within the country.

U.S. - Oregon

In 2019, the U.S. was the third largest exporter of hazelnuts, accounting for 7% of the world's hazelnut exports and 3% of global production. Nearly all U.S. hazelnuts are grown in Oregon's Willamette Valley, where about 1,000 farm families grow hazelnuts on over 87,000 acres[11]. With the first commercial hazelnut orchard planted in 1903, Oregon has since experienced an incredible growth in the industry, including research conducted by Oregon State University as well as the introduction of marketing boards, co-operatives, and associations. Because of this, within Oregon, processing plants are easily accessible to growers. Additionally, Oregon has focused on various niche markets, including premium quality kernel and the Chinese in-shell market. This has allowed Oregon to charge premium prices, exceeding the Turkish "commodity price" by 15-20% on average [12] . However, Oregon's most significant challenge is now its over-supply of processing plants and shortage of growers/hazelnuts being produced.

Various potential purchasers interviewed for t his project noted receiving poorer quality hazelnuts from Oregon, suggesting potential quality control issues or issues with distribution.

Azerbaijan

In 2019, Azerbaijan was the fourth largest exporter of hazelnuts, accounting for 7% of the world's hazelnut exports and 5% of global production. Composed of over 60,000 family farms[13], Azerbaijan's hazelnut industry has experienced significant support from its government and the FAO. Azerbaijan has high quality hazelnuts and a variety of well-established processing and exporting firms, with the majority of exports going to Russia, Italy, and Germany. However, Azerbaijan experiences a variety of barriers that limit its global competitiveness. Most notably, Azerbaijan struggles to compete with Turkey and Georgia's low prices. This is especially due to the requirement of custom tax when importing to the EU, which Georgia is exempt from. These challenges have recently led a consulting agency hired by Ferrero to favour future investment in Georgia as opposed to Azerbaijan[14].

Georgia

In 2019, Georgia was the fifth largest exporter of hazelnuts, accounting for 4% of the world's hazelnut exports and 2% of the global production. More than 90% of the hazelnuts produced in Georgia are

[10]Spiegel, A., Severini, S., Britz, W. & Coletta, A. (2020). Step-by-step development of a model simulating reutrns on farm from investments: the example of hazelnut plantation in Italy. Bio-based and Applied Economics, 9(1), 53-83.

[11]https://oregonhazelnuts.org/about/

[12]https://www.capitalpress.com/sponsored/oregon-hazelnuts-receive-15-20-premium-room-to-grow/article_09dd78da-adcb-11eb-b374-dbe7958016e0.html

[13]https://www.azerbaycan24.com/en/hazelnut-production-in-azerbaijan-to-grow-by-55-6/

[14]https://developingfinance.org/download/cife2021/G4.%20AJL%20Consulting%20Report%20Georgia-Azerbaijan.pdf

exported[15]. According to a 2017 study, Georgia's hazelnut industry consists of approximately 40,000 small scale growers and 30 processing factories[16]. However, a more recent consulting report found that the share of large-scale growers exceeds 10%. In Georgia, harvesting is done manually, and although de-husking equipment is often utilized, it usually requires some manual labour to ensure proper de-husking. After de-husking and drying the nuts, producers sell to collectors who then sell wholesale to processing factories. At the factories, hazelnuts may go through a variety of processing, including cracking, peeling, sorting, and packaging. These factories then sell to exporters. Georgia's largest export market is Germany, followed by Italy and the Czech Republic .[17]A constant concern for Georgia's hazelnut industry has been quality of product. Heavy rainfall, pests (specifically the brown marmorated stink bug), and the lack of modern drying and storage solutions have heavily contributed to the poor quality of Georgia's hazelnut yield. Additionally, Georgia often experiences price volatility due to its proximity to Turkey, the largest global producer of hazelnuts. Despite these challenges, a recent consulting document for Ferrero favoured the expansion of investment in Georgia as opposed to Azerbaijan.

[15]https://developingfinance.org/download/cife2021/G4.%20AJL%20Consulting%20Report%20Georgia-Azerbaijan.pdf
[16]Shavgulidze, R. & Zvyagintsev, D. (2017). Technical efficiency in the Georgian hazelnut supply chain and policy recommendations. XV EAAE Congress – Towards Sustainable Agri-Food Systems: Balancing Between Markets and Society.
[17]https://developingfinance.org/download/cife2021/G4.%20AJL%20Consulting%20Report%20Georgia-Azerbaijan.pdf

Emerging Markets

Upper Midwest – U.S.[18]

An especially interesting hazelnut industry is that in the Upper Midwest of the U.S. Located along the Great Lakes, this region has a similar climate to Ontario, often experiencing wet conditions and cold winters. In 2007, the Upper Midwest Hazelnut Development Initiative (UMHDI) was created to support the growth and commercialization of the hazelnut industry through grower support, targeted research, and technology transfer. Recent surveys have identified over 130 growers with approximately 135 acres of hazelnut throughout Wisconsin, Minnesota, and Iowa. As a collaboration between the Universities of Wisconsin and Minnesota, UMHDI works to support growers through outreach education, research and development of hybrid cultivars, best management practices, and infrastructure, market, and product development.

Most notably, growers in the region have access to the UMHDI Hazelnut Processing Accelerator, a public/private partnership. The Accelerator conducts research and development projects, including the evaluation of husk-drying methods and the development of low-cost nut sizing equipment. Additionally, the Accelerator's processing incubator has various pieces of equipment, including an aspirator, drum-sizer, and nut cracker. This space is available for use by growers for hobby or commercial processing. Growers are responsible for paying a fee for use and acquiring a food processing plant license if necessary. However, if growers are not interested in processing their own hazelnuts, they can choose to sell to the American Hazelnut Company, a grower-owned processing company started in 2014. The American Hazelnut Company purchases in-shell hazelnuts and processes them into a range of products, including whole kernels, oils, and hazelnut meal.

In 2019, UMHDI launched Grower Clusters, which are networks of growers in close proximity to one another, each with a coordinator. The objective of these clusters is to provide growers with an opportunity to work together with those nearby them to learn about, grow, and sell hazelnuts.

Unlike Ontario and Oregon, hazelnuts in the upper Midwest are grown in a hedgerow system similar to bush fruit. While this is reflective of the region's native hazelnut plant, it is also better for wet conditions, orchard floor diversity, and mechanized straddle-type harvesters.

New Zealand [19]

With less than 100 estimated growers, the New Zealand hazelnut industry is relatively small. The majority of growers have small orchards and send their hazelnuts to be processed at one of the two processing plants in the South Island. However, the price processors are able to offer growers is relatively low due to cheap nuts being imported from Turkey and Italy. Many growers also keep nuts for themselves and their family and friends. Sales at Farmers' Markets are also limited due to high costs to become a registered grower and meet food safety compliance regulations. New Zealand does not currently export their hazelnuts and is quite far from satisfying the domestic demand for hazelnuts. One of New Zealand's most significant challenges is the dependence on the Whiteheart variety and lack of diversification. The majority of planted trees are Whiteheart, a low yield variety. However, due to biosecurity issues, importing other varieties from places like Oregon have been nearly impossible. Additionally, because most growers are small, there is little capital available for further investment within the industry.

[18] http://www.midwesthazelnuts.org/

[19] Data gathered from conversation with the Hazelnut Growers Association of New Zealand (Contact: Rose McDermott).

Australia

There are approximately 100 hazelnut growers in Australia that account for over 6,000 acres of planted hazelnuts and 1.3 million hazelnut trees. While most growers have relatively small family-run operations, Agri Australis, a subsidiary of Ferrero, has recently made a large on-farm investment, planting 1 million trees on 5,000 acres. As of 2021, production was approximately 881,849 lbs, although it is set to increase significantly as trees reach maturity. The majority of production is sold domestically, with a very small amount being exported. The majority of hazelnuts are sold through independent retailers, farmers markets, farm-gate, e-commerce, and localized networks. Currently, most growers manage their own production, processing, and sales, although there are a few aggregators across the industry. There are several growers who value-add to their kernels, creating confectionary and health food products, hazelnut oil, flour, and meal. Additionally, there is interest in forming a cooperative based on one grower's recent purchase of high-capacity processing equipment. Distance between production regions have acted as a barrier for the cooperative/aggregation model. Other challenges have been a lack of resources (people and finances) for research and development, marketing, and knowledge sharing. Additionally, there are very few professional agronomists with a knowledge of hazelnuts. Sustainability is also an issue that the industry and specifically the Hazelnut Growers of Australia are looking to address to ensure proper resource management is established.

The hazelnut industry in Australia is supported by a variety of associations. The Hazelnut Growers of Australia represent "the industry in government and horticultural forums, providing networking and training opportunities through an annual conference, farm walks and workshops[20]". The Australian Nut Industry Council "aims to strengthen and unify the nut industry and promote the production, marketing and consumption of nuts domestically and internationally[21]".

British Columbia

Although hazelnuts are a relatively new crop in Canada, British Columbia has greatly benefited from its moderate climate and close proximity to Oregon's hazelnut industry and available resources. In 2013, over 1 million pounds of hazelnuts were produced in B.C. However, Eastern Filbert Blight gradually devasted 90% of the industry[22], leading farmers to remove and replant their orchards. The Government of B.C. has created the Hazelnut Renewal Program to provide growers with funding to remove dead trees and replace them with EFB-resistant varieties. However, recent (2020) data suggests that there are only about 40 hazelnut growers in B.C.[23], mainly composed of part-time hazelnut farmers located on small farms. Thus, B.C.'s hazelnut industry is struggling to scale up, especially in the face of limited tree stock, wet weather, and the high cost of land.

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20 https://www.hazelnutgrowersaustralia.org.au/
https://nutindustry.org.au/
21 https://www.cbc.ca/news/canada/british-columbia/hazelnut-farming-rebirth-fraser-valley-bc-1.5344557
22 https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/programs/hazelnut-
23 renewal/hazelnut_ref_final.pdf

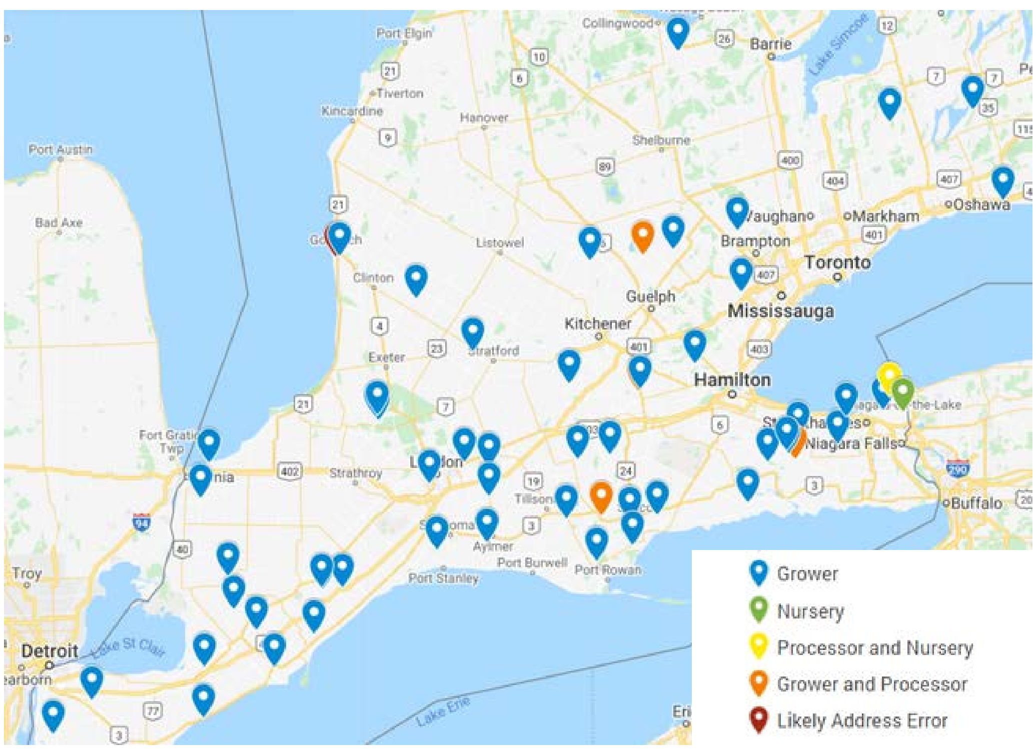
ONTARIO HAZELNUT ASSOCIATION

Overview of the Ontario Hazelnut Industry

The Ontario Hazelnut Association (OHA), established in 2013, is an agricultural not-for-profit organization. Since its inception, the OHA has collaborated with the University of Guelph, Ferrero Canada, and industry partners to develop the hazelnut industry in Ontario. The OHA works to develop market opportunities, provide educational opportunities, participate in research and development efforts, and promote hazelnut production in Ontario.

The OHA has approximately 85 OHA members with most located in the Southwestern Ontario region and a few in Eastern Ontario. 68 of these members identify as hazelnut growers. Most growers started their orchards within the last 7 years, with only a few being established as far back as 30 years ago. Current[24] growers represent over 300 acres allotted to hazelnut production and over 49,000 trees planted . As most growers have relatively young orchards, yield is low, with an annual total yield of 12,000lbs as of early 2021. Approximately half of the membership are not currently selling hazelnuts due to the immaturity of their trees, though many have intentions to sell at local farmers' markets and to local retailers, restaurants, and bakeries. Additionally, most growers are not utilizing any equipment for harvesting or processing their nuts.

OHA Growers, Nurseries, and Processors



There are a variety of opportunities for the hazelnut industry within Ontario. Ferrero, the world's largest consumer of hazelnuts, opened a plant in Brantford in 2006. Additionally, there is a significant domestic demand, with just four potential purchasers requiring a combined annual volume of over 300,000lbs. Additionally, Ontario is home to prime agricultural lands and a variety of government and post-secondary supports for agriculture. However, there are also significant challenges for the industry. There is currently very little supporting infrastructure. Unlike other regions around the world, Ontario does not have grower-owned and operated processing plants, significant post-secondary research and development initiatives, or breeding programs. Additionally, Ontario's cold climate and presence of eastern filbert blight (EFB) makes it difficult to grow desirable European hazelnut cultivars. Instead, Ontario's hazelnut industry has had to rely on the development of hybrid cultivars by local nurseries and breeding programs in the U.S.

24 Data sourced from 2021 OHA Membership Survey, 42 participants.

Primary Data Collection for the Ontario Hazelnut Association

Unlike some commodities, data related to hazelnut supply and production is not tracked by the Government of Canada. Thus, as the lead organization representing growers in the province of Ontario, the OHA should prioritize annual data collection to understand tree stock, growth trends, supply, market pricing, and processing capabilities.

A survey was created early 2021 and administered to growers (see Appendix A). After analyzing the results, the survey was revised to be more concise and include additional questions (see Appendix B). The OHA should administer this survey annually in late January or early February to have up-to-date information from the most recent hazelnut season.

SWOT Analysis

Strengths

- Strong agricultural history and skills development in Ontario
- Research facilities dedicated to agricultural research in the Province (Simcoe, Vineland)
- Access to research facilities and professionals through post-secondary institutions (E.g. University of Guelph)
- Ontario has good network of research and commercialization support especially in agriculture, food and beverage industry
- Supportive government at all levels (Municipal, Provincial, and Federal)

Weaknesses

- Lack of nursery stock
- Lack of clear Association branding and messaging
- Lack of coordinated, accessible primary data on hazelnut industry and membership
- Insufficient communication of research and development efforts
- General lack of communication between all stakeholders exacerbated by no full-time staff/designated communications person
- Lack of strong relationships related to advocacy and support for funding and research
- Industry is in early stages with little internal infrastructure
- Current organizational structure presents limited means of generating revenue
- Hazelnuts are not an initial revenue generating crop- longer wait for return on investment
- Lack of awareness/perceived value of membership resulting in non-member hazelnut growers
- Need for updated strategic plan that addresses Board capacity, staffing, goals and objectives for membership and hazelnut industry

Opportunities

- Domestic and global demand greater than current supply
- Dietary changes in Canada's food guide – nuts as alternative protein sources
- Increased public interest in sourcing local
- Opportunity to attract new growers who are looking to diversify crop
- Development of non-traditional markets, including flour, milk, oil, and uses for by-products
- Largest single user of hazelnuts, Ferrero, has local manufacturing facility – established relationship but currently no sales
- New and emerging commodity with growth potential

Threats

- Other regions making great strides in increasing acreage production and research developments
- Lack of operations/base funding for the OHA and high turnover in staff jeopardize association progress
- No immediate solutions for EFB
- Other crops more appealing to growers due to more established commodity support organizations and faster revenue generation
- Limited tree stock and longer wait on return of investment may limit new hazelnut growers

PESTLE

Political

- Instability in other regions of the world provide an opportunity for Ontario agricultural production
- Lack of political champion (organization or individual)
- Currently no formal advocacy plan that identifies industry targets and aligns them with provincial and federal goals and objectives
- Economies with a growing middle and upper class such as China are now purchasing foods that traditionally they may not have considered such as nuts and other snack products

Economic

- Relatively high volume, low inputs crop -attractive economic proposition for growers
- Longer range ROI due to slower maturity for crop production
- Tariffs and trade agreements make trade with Canada relatively favourable for other countries
- Competition in US market evolving and growing
- Global hazelnut production costs and related consumer/wholesale pricing
- Overall workforce shortage in North America
- Supply chain issues related to global pandemic causing food and beverage companies to shorten supply chains and have domestic options

Social

- Aging population in Ontario
- Canada has overall culturally diverse population and food consumption patterns
- Cultural demand for nut proteins due to human health benefits
- Messaging for growers and consumers that hazelnuts are a sustainable crop with relatively low environmental impact
- Farms in Ontario are typically more bio-diverse, not succumbing to mono-culture operations compared to other hazelnut producing regions
- Canada/Ontario have global reputation for safe, healthy food production

Technical

- Limited primary data collection, including growth and yield
- Planting and harvesting –reliant on foreign equipment or equipment adapted from other crops
- Difficulty accessing equipment results in limited processing capabilities for growers
- Strong regulatory environment supporting food traceability

Legal

- Not part of larger organization that provides legal support (OFA, AAC, Farm and Food Care Canada, OAFT, FBO)
- Past legal issues related to unclear contracts, and lack of documented processes and procedures communicating intended outcomes

Environmental

- Increased interest from purchasers in sustainably produced goods
- Hazelnuts are less resource-intensive relative to other nut crops
- Climate change and extreme weather events (early/late frosts, wind, precipitation) make supply unpredictable
- Ontario has strong production supports and restrictions on chemicals – “good environmental” brand

OHA Organizational Model

Organizational Models

An **Agricultural Association** is a not-for-profit organization incorporated under the Agricultural and Horticultural Organizations Act[25]. Under this act, an agricultural association’s objectives are (1) to promote the development, sale, and export of agricultural products; and (2) to provide educational opportunities related to agriculture and rural life. While agricultural associations are permitted to set up an annual membership fee, license fees are not permitted. This limits an agricultural association’s ability to generate revenue, which may obstruct the association’s ability to fund desired activities such as research. This is the current structure of the OHA and it is incorporated under this legislation.

E Example: Ontario’s South Coast Wineries and Growers Association[26] – Ontario’s South Coast Wineries and Growers Association currently identifies as an Agricultural Association. This structure has allowed the organization to act as the voice of the local industry in wine and grape growing and interact with local municipalities on relevant issues. However, this governance model has made it difficult for the organization to address issues at the provincial and federal levels. It should also be noted that Ontario’s wine industry is unique in the supports available. For example, the Grape Growers of Ontario are a marketing board that provide support to Ontario’s South Coast Wineries and Growers Association.

A Representative Association (Section 12 Organization)[27] is an organization incorporated under the Agricultural and Horticultural Organizations Act or the Not-for-Profit Corporations Act that has undergone the process of Section 12 designation and received approval from the Ontario Farm Products Marketing Commission. Under the Ontario Farm Products Marketing Act[28], the organization is designated as a representative association for all producers of a specified commodity. Unlike marketing boards, Section 12 organizations have limited marketing authorities and are only permitted to engage in advertising, education, research, and other means to improve production and marketing. While Section 12 Organizations are permitted to collect a license fee, this fee is established by the Commission and cannot be adjusted without approval from the Commission. This can act as a barrier to organizations that are in flux and will likely require various adjustments to the budget and the subsequent license fees. However, it is also important to note that license fees of different amounts can be established for different classes, varieties, grades, or sizes of the farm product, providing some flexibility for organizations.

E Example: Ontario Ginseng Growers’ Association[29] – The Ontario Ginseng Growers’ Association currently identified as a Section 12 Organization. This structure was chosen because it allowed for fee collection without being overly intrusive for members. However, this has posed a challenge as this structure provides limited authority to pursue negligent growers. Additionally, growers are not required to disclose information regarding crop size, quality, or selling price, limiting the amount of data the organization has access to. Because of this, the Ontario Ginseng Growers’ Association is currently considering becoming a marketing board to gain more authorities.

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25 https://www.ontario.ca/laws/statute/90a09

26 Information provided by Nick Vranckx (nick@blueberry-hill.ca) of Ontario’s South Coast Wineries and Growers Association.

27 http://www.omafra.gov.on.ca/english/farmproducts/factsheets/3role.htm#associations

28 https://www.ontario.ca/laws/statute/90f09

29 Information provided by Rebecca Coates (rebecca.coates@ginsengontario.com) of Ontario Ginseng Growers’ Association. Additional information on becoming a Section 12 Organizations can be found at: http://www.omafra.gov.on.ca/english/farmproducts/factsheets/5guidelines_section12.htm

A **Marketing Board** [30] is a statutory body that represents producers of one or more specific agricultural commodities in all, or in a specific part, of Ontario. A Marketing Board is created when a group of producers request one be established to control and regulate the production or marketing of a farm product. Regulatory authority primarily comes from the Ontario Farm Products Marketing Act. Thus, a marketing board's objectives reflect that of the legislation: to "stimulate, increase and improve the production or marketing of identified farm products"; and to "provide for the control and regulation of the producing and marketing within Ontario of identified farm products". However, marketing boards vary greatly in the extent to which they exercise their control over the market. The Ontario Farm Products Marketing Commission grants a range of authorities depending on industry needs at a given time. Some regulatory tools include supply management, the setting and negotiating of prices and sales terms, the operation of a pooling program to purchase/sell product, and the use of license fees for promotion, education, research and advocacy, similar to the function of a Section 12 Organization. This structure provides both flexibility and increased accountability to both producers and the Commission. In addition to having autonomy over the license fee, marketing boards also have the flexibility to create various types of licenses. Some boards set license fees by units of output while others have set a minimum size that is exempt from license fees and certain board regulations. This ability to customize regulations and license fees provides the organization with flexibility to work with a diverse group of producers and meet a variety of needs.

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Examples: Berry Growers of Ontario [31] - In 2018, the Berry Growers of Ontario transitioned from a not-for-profit model to a marketing board. The primary reason for this transition was to mandate the ability to collect licence (acreage) fees from members. Currently the Berry Growers of Ontario collect licence fees from all members with two or more acres in production. These collected fees have allowed the organization to more sustainably fund its annual operating costs, research, and market promotion. The majority of the organization's growers are PYO or farm market operations while larger growers, both fresh and processing, pursue their own wholesale and retail markets. The Berry Growers on Ontario provides growers with support through its website, social media, and point-of-sale materials. Additionally, the organization receives additional supports from the Ontario Fruit and Vegetable Growers Association, the Ontario Produce Marketing Association, and Foodland Ontario.

Additional information on becoming a Marketing Board can be found at: http://www.omafra.gov.on.ca/english/farmproducts/factsheets/8becoming.htm

A **Producer Co-operative** [32] is a co-operative that is owned by anyone who creates a food product (farmers, growers, processors, manufacturers, etc.) with the intention of selling it. The objective of a producer co-operative is for members to benefit from reduced costs and barriers to entry through collective equipment, distribution, marketing, value added processing, knowledge sharing and/or bulk purchasing. Like other types of co-operatives, a producer co-operative can be for-profit or not-for-profit and operates with seven principles, including (1) voluntary and open membership; (2) democratic member control; (3) member economic participation; (4) autonomy and independence; (5) education, training, and information; (6) co-operation among co-operatives; and (7) concern for community. Although any organization is free to follow these principles, in order to be legally referred to as a co-

30 http://www.omafra.gov.on.ca/english/farmproducts/factsheets/3role.htm#associations
31 Information provided by Bernie Solymar (info@ontarioberries.com) of the Berry Growers of Ontario.
32 https://ontario.coop/node/3586

operative, it must be incorporated under the Co-operative Corporations Act[33]. When incorporating, the co-operative will be required to decide whether it will or will not have share capital. Share capital, commonly referred to as equity financing, is commonly used to buy equipment, land, buildings, or other fixed assets that the co-operative may require. Without share capital, the co-operative may need to rely on debt financing in order to fund capital expenses, which can be more difficult.

E

Example: Norfolk Fruit Growers' Association[34] – The Norfolk Fruit Growers' Association identifies as a Grower's Cooperative of (primarily) apples. The Association was formed in 1906 by growers looking to pool their resources and marketing power. The growers are responsible for the decision-making process and are able to use one another as resources. However, one limitation is that the success of the group relies on each grower's ability to put the needs of all growers ahead of individual needs. For example, if one grower does not wish to expand their business, they may vote against actions that would help other growers and the overall industry to expand. The Norfolk Fruit Growers' Association has a variety of supports, including a marketing/sales partnership with the Vineland Growers and membership with the Ontario Apple Growers. While the Association does not have a structured approach to research and development, organizations such as the Ontario Apple Growers and various post-secondary institutions take this role on behalf of the industry.

Additional information on becoming a Co-operative can be found at:
https://ontario.coop/node/3586

Attributes of Various Governance Models

	Agricultural Association	Representative Association (Section 12 Organization)	MarketingBoard
Member Fees	✔	✔	✔
Grower Licensing Fees		✔	✔
Autonomy Over Licensing Fees			✔
Advocacy	✔	✔	✔
Education	✔	✔	✔
Marketing	✔	✔	✔
Research and Development		✔	✔
Market Regulation			✔

[33] https://www.ontario.ca/laws/statute/90c35
[34] Information provided by Lisa Herrewynen (lherrewynen@nfga.ca) of the Norfolk Fruit Growers Association.

Transitioning to a Different Model

In order to transition from an Agricultural Association to a Representative Association (Section 12 Organization) or a Marketing Board, an organization must complete a multi-step process with the Ontario Farm Products Marketing Commission. This process includes an Expression of Opinion vote among all Ontario producers of the commodity[35] . This process can take up to two years and should be supported with legal counsel.

Additional information on transitioning to a Section 12 Organization[36] or a Marketing Board[37] is available at the Ontario Ministry of Agricultural, Food, and Rural Affairs (OMAFRA).

Furthermore, there is no one-size-fits-all business model for a successful hazelnut industry. As demonstrated in the Top Producers and Exporters and Emerging Markets sections above, every region has a unique variety of stakeholders, challenges, and opportunities. As demonstrated by the various commodity organizations interviewed and used as examples above, most rely on partnerships with external organizations/institutions to help with marketing, research and development, etc. Thus, it is important that the OHA explore opportunities for potential collaboration with organizations that can provide additional supports and help them to achieve their goals.

Considerations:

- The overall objective(s) and functions the organization would like to perform;
- The amount of time and financial resources the organization is able to contribute to restructuring;
- Current members' interest in restructuring – in order to restructure to a Section 12 Organization or Marketing Board, an Expression of Opinion vote will be needed;
  - Large producers who have already purchased processing equipment may be reluctant to join a co-operative;
  - All restructuring options will likely result in producers paying much higher fees than they are currently paying;
- The feasibility of the business plan
  - For a co-operative, determine the costs of required land, equipment, and other assets as well as the market opportunities for processed product
- Interest for creating a new complementary organization rather than restructuring (e.g. the presence of an agricultural association as well as a co-operative that both support Ontario's hazelnut industry)

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[35] Considering both producers and production, the Commission will generally interpret the vote as being positive when 66% or more of the producers casting valid ballots vote in favour of the question and 50% or more of the cumulative production of the producers casting valid ballots vote in favour of the question. Additional details can be found at http://www.omafra.gov.on.ca/english/farmproducts/factsheets/7expression.htm

[36] http://www.omafra.gov.on.ca/english/farmproducts/factsheets/5guidelines_section12.htm

[37] http://www.omafra.gov.on.ca/english/farmproducts/factsheets/8becoming.htm

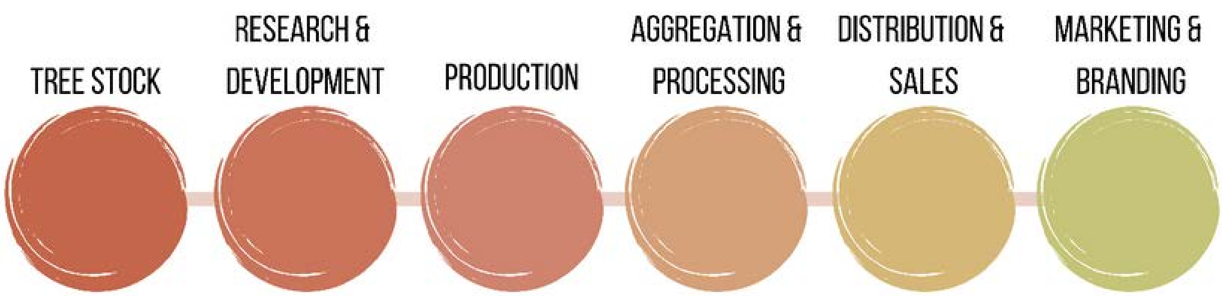
Ontario's Hazelnut Value Chain

A value chain is the full range of activities needed to create a product or service. Anyone associated with a given industry, be it the producer, equipment supplier, processor, researcher all contribute to the success of an industry by adding value at each step from pre-production to consumer.

It's important to note that a value chain is more than a collection of independent activities. Rather, these activities, both primary and secondary, make up an interlinked system. In analyzing any value chain, an organization should consider each step on its own and as part of an inter-connected web that support the success of the entire industry.

The value chain for the OHA report was based on Porter's model however modified for the hazelnut industry in Ontario.

Hazelnut Value Chain



Tree Stock

One of the OHA's most significant challenges is access to trees. This issue is threefold:

1. **Growers are unaware of the appropriate cultivars for their orchard.**
2. **Nursery capacity is not being properly utilized.**
3. **Lack of connectivity/communication between researchers, nurseries, and the OHA.**

Through nursery visits and interviews with growers, nurseries, and other stakeholders, this issue has been further explored. Our findings suggest that a lack of general knowledge is a contributing factor to this issue. As Ontario's hazelnut industry is still relatively new, there are still uncertainties around the cultivars best-suited to different geographies and pests [38] . Additionally, nut size and taste vary by cultivar, making it necessary for growers to understand the market they would like to sell to before planting trees. For example, Ferrero has expressed interest in cultivars such as Jefferson, Yamhill and Gamma, while other purchasers may care less about specific size and shape, as long as the taste is good and hazelnuts are all uniform in size. To address this issue, the OHA should develop standardized basic grower packages that can be distributed by nurseries to hazelnut tree purchasers. This package should include basic information on the varieties that have proven to be successful in Ontario, as well as information on potential markets for each variety.

Another factor impacting access to trees is the lack of communication between growers and nurseries. The cycle for trees to be ready for market is between one to two years from propagation to sales. Thus, communications are necessary to ensure supply and demand are well aligned. More specifically, not all relevant nurseries are being made aware of the quantity and specific cultivars growers would like to purchase. This has led to a reliance on one nursery to satisfy the province's demand for hazelnut trees. However, there are other nurseries with large scale operations, ready to increase production of hazelnut trees. Although, it should be noted that some of the nurseries less experienced with hazelnut trees have expressed concern over their lack of knowledge when it comes to hazelnut production. This provides the OHA with an opportunity to facilitate communication between growers and nurseries to ensure that supply and demand have been sufficiently shared. Additionally, the creation of grower packages will allow for nurseries less experienced in hazelnut production to step up and increase the value they provide to growers.

Finally, there is opportunity for the OHA to engage with nurseries that do not currently sell hazelnut trees and those that currently only sell seedlings. Providing these nurseries with access to information and connections to growers may greatly increase hazelnut tree stock.

Nurseries

Grimo Nut Nursery http://www.grimonut.com/
Grimo Nut Nursery is located in the Niagara region in Ontario. Ernie Grimo has been breeding hazelnuts and other nuts for over 40 years. Grimo has established a breeding program on their 14+ acre site and have several patented cultivars, conducting on-site propagation. They have long standing relationships various research and breeding programs, including Oregon State University. Grimo has been a strong proponent of hazelnut production since the outset.

[38] See section on Research and Development for more information on this.
https://www.fsa.usda.gov/programs-and-services/disaster-assistance-program/tree-assistance-program/index

Upper Canada Growers (formerly Mori Essex) https://www.uppercanadagrowers.ca/
Upper Canada Growers is Canada's largest fruit tree nursery. They service the tender fruit and nut industry. With over 80 acres and a technology lab for mass propagation, they are well positioned to serve a growing hazelnut industry. Upper Canada Growers has also established a strong relationship with Praveen Saxena at the University of Guelph. Mr. Saxeena is an expert in plant cell technology and is undertaking research related to hazelnuts.

Gladstone Nurseries https://www.gladstonenurseries.com/
Gladstone nurseries owner operator is also a hazelnut grower. Mike Gladstone's objective is to work with farmers to establish a thriving hazelnut industry in Ontario. Gladstone offers sales, consultation services related to orchard establishment, maintenance, and services related to pollination.

St. Williams Nursery and Ecology Centre https://stwilliamsnursery.com/
St. Williams Nursery and Ecology Centre is a wholesale conservation nursery and ecological restoration provider in Ontario. They are located in Norfolk County, specializing in native species plants. St. Williams' facilities include 6 acres of modern greenhouses and more than 250 acres of irrigated production fields. They have several native varieties of hazelnuts.

Whiffletree Farm and Nursery https://www.whiffletreefarmandnursery.ca/
Whiffletree nursery is located in Elora Ontario. Although hazelnuts are not the primary focus of this nursery, they do offer a selection of trees including Gene and Carmela.

Recommendations for the OHA:

- Share research on cultivars with all members, including nurseries
    - Expand R&D committee participants to include representatives from all nurseries
- Develop consistent and clear basic messaging for growers
    - Create information sheets for nurseries and growers to use as reference: Seedlings vs. Clones, fact sheets by cultivar, basic growing information including OMAFRA's *Guide to Hazelnut Production in Ontario*
    - Ensure these are available to ALL nurseries to support sales and grower information
- Collaborate with nurseries to better utilize capacity
    - Gather data on desired cultivars, number of trees, etc. using primary data collection (Grower Survey)
    - Facilitate communications between growers and nurseries to discuss supply/demand
- Build collaborative relationships between post-secondary researchers, nurseries, and growers to support collaborative information sharing and cultivar advancements
    - Host bi-annual or annual workshops for OHA members, researchers, and nurseries focused on issues regarding access to trees

Research and Development

Research and Development

As previously mentioned in the section on Tree Stock, it is difficult for growers to determine suitable cultivars. This is due to a variety of factors including, but not limited to the following:

- Climate – Ontario has a colder climate than many of the regions in which hazelnuts are produced. This requires new cultivars to be created in order to be better suited to cold conditions.
- Eastern Filbert Blight (EFB) – Unlike many regions wherein hazelnuts are grown, hazelnut trees in Ontario are especially susceptible to Eastern Filbert Blight. This requires new cultivars to be created that are more resistant to EFB.
- Varying demand for nuts of a specific shape, size, flavour – Because of the aforementioned factors, the cultivars preferred by large purchasers such as Ferrero, do not fare well in Ontario. It is necessary to continue researching current cultivars and new cultivars to identify those suitable to meet market demand.

In order to address these factors, research is needed to develop and pilot new cultivars. However, the OHA currently lacks a comprehensive hazelnut breeding program that can forward this agenda. Instead, it has been left up to nurseries and growers to experiment with cultivars.

In terms of research on pre-existing cultivars, a Trial Grower Project was initiated by the OHA nearly a decade ago. The objective of this project was to monitor and collect data from six 10-acre plots of hazelnut trees wherein different methods of propagation were used. While promising, this project has not been consistently managed or communicated, leaving growers without access to data from the trials. Additionally, two of the six plots are no longer part of the trials.

While various research plots exist in Ontario, largely managed by the University of Guelph, communication between researchers and the OHA has been sporadic.

Recommendations for the OHA:

- Facilitate continuous communications between researchers and growers through the OHA's R&D Committee
    - o Regular section on R&D in newsletters
- Increase data collection efforts
    - o Utilize Grower Survey as a tool to gather information on trees, acres, hazelnut yield, etc.
- Communicate all research and data with membership and external stakeholders
    - o Create annual report of recent research and results of Grower Survey and share with all relevant stakeholders
- Create an R&D strategy in collaboration with local industry stakeholders
    - o Connect with post-secondary researchers and seek funding to establish R&D strategy with timelines
- Further develop connections with OMAFRA and post-secondary institutions in order to gain access to relevant research.
    - o Utilize expertise of OMAFRA Tree Nut Specialist
    - o Re-establish communications with GRIPP Centre and other University of Guelph, Niagara College connections

Production

Production includes the following sections, with each having its own unique set of challenges and recommendations:

- Education
- Workforce
- Equipment
- Food traceability

Education

In the 2021 OHA Grower Survey, a lack of education was a common answer when asked about challenges with hazelnut production. As previously mentioned in the section on Tree Stock, many growers are unsure of cultivars that are suitable for their orchard. Further, many growers struggle to determine best practices for planting, pruning, harvesting, and fertilizing trees. 16% of growers who participated in the survey noted Education and Training as being their top priority for the OHA to focus on. During interviews stakeholders expressed the need for the OHA to act as an authority on hazelnuts, offering resources that are well-supported with research.

Recommendations for the OHA:

- Facilitate more learning opportunities that reflect the needs of current growers
    - o Use Grower Survey and other communications with members to identify interests and gaps in knowledge
- Further develop connections with OMAFRA and post-secondary institutions in order to gain access to relevant research
    - o Utilize expertise of OMAFRA Tree Nut Specialist
    - o Re-establish communications with GRIPP Centre and other University of Guelph, Niagara College connections

Workforce

In order to successfully grow hazelnuts, a significant amount of orchard maintenance is necessary.This includes land preparation, planting, pruning, pesticide application, orchard floor management, crop scouting, and harvesting. While many growers currently perform these actions themselves or with the help of their families, changes are needed in order to expand hazelnut production and become more sustainable. However, Ontario continues to experience domestic labour force shortages. Across the South Central Ontario Region (Middlesex, Elgin, Oxford, Brant, Haldimand, and Norfolk) there were 3,050 job postings for 'General Farm Workers' in 2021, making it the 3rd most frequently posted job last year. Postings took an average of 35 days to fill, compared to the general average posting duration of 19.5 days for all jobs in 2021.

Additionally, since the pandemic, the agricultural sector has been negatively impacted by access to temporary foreign workers. With early crop producers scrambling to find a workforce to get crops to market, 2020 was an especially challenging year. Furthermore, hazelnuts are not currently on the national commodities list (NCL). If hazelnuts were on the NCL, growers could utilize the Seasonal Agricultural Worker Program (SWAP).

Additionally, growers could also work with other farmers to transfer workers – moving them from one job to another. This would allow hazelnut growers to access labour without having to undertake the responsibilities required to be a host farmer. A transfer would only be considered when a worker who has completed the work period for the original employer and not yet exceeded an eight month stay in Canada, wishes to transfer to a second place of employment and obtains approval. The second employer will then become responsible for the worker's airfare home. worker will return home from the second employer who will be responsible for the southbound airfare. An administration fee is required in order to complete this process.

There are also options to take advantage of the TFW program through utilizing the low/high wage streams of the Temporary Foreign Worker Program, which aren't limited to the national commodity list.

Efforts have been made to reach out to other commodity organizations and discuss needs and solutions for orchard maintenance. However, while this may present the opportunity for shared resources and tools, geographical location and time of year workers are needed may present challenges. Additionally, businesses offering landscaping services were contacted. While these organizations have workers and tools that would likely be able to complete the necessary services, these companies expressed relatively little interest in servicing the hazelnut industry. Many of these companies are also experiencing labour shortages.

Recommendations for the OHA:

- Engage with post-secondary institutions to access student workforce and provide students with meaningful work experience
  - o Connect with universities and colleges to support and recruit students from agricultural-related programs – many programs have a practical requirement that work for the OHA may satisfy
- Take advantage of agriculture-specific workforce campaigns
  - o Participate in agricultural job fairs and support agricultural workforce campaigns such as Ontario Federation of Agriculture's Feeding Your Future
  - o Post opportunities on AgCareers
  - o Utilize the low/high wage stream of the Temporary Foreign Worker Program (not limited to the national commodity list).
- Take advantage of government programs
  - o Take advantage of government programs such as the Canada Summer Jobs Program and Youth Employment Skills Program to hire youth
  - o Utilize the low/high wage stream of the Temporary Foreign Worker Program (not limited to the national commodity list

Equipment

Access to industry-specific equipment is critical to the success of a commodity. Although Ontario has a strong agricultural sector, most hazelnut-specific equipment is not yet able to be sourced domestically. Depending on the scale, model of an operation, and intended market, producers may require various types of equipment. Other factors to consider include the terrain (sloped/flat) and the type of orchard (tree/shrub).

Producers who have less than five acres of hazelnuts may be able to utilize handheld/manually operated nut harvester, which are readily available and affordable within Ontario. However, producers growing larger hazelnut orchards will likely need automated equipment that is less labour intensive. Commercial harvesters are often a self-driven machine or an attachment for a tractor, usually utilizing blower or vacuum technology with arms that sweep around trees to gather nuts. After nuts are harvested, they may need to be sanitized, dried, sorted, and cracked. While smaller-scale operations may opt to do this processing by hand, it is less feasible for larger-scale operations.

Currently producers purchasing equipment, particularly post-harvest processing equipment, have had to go through the lengthy process of purchasing European equipment and arranging for cross-Atlantic shipping. This expensive and time-consuming process has been exacerbated by the pandemic and the subsequent supply chain issues. However, preliminary conversations with local equipment distributors have been promising.

Recommendations for the OHA:

- Raise awareness of need for equipment with equipment distributors
  - o Gather and circulate information about equipment used within membership
  - o Send equipment distributors summary of equipment needed, number of growers/acreages, etc.
  - o Invite equipment distributors to farm tours
- Work with local equipment distributors to facilitate Canadian/Ontario distribution.
  - o Send equipment distributors summary of equipment needed, number of growers/acreages, etc.
  - o Work with distributors to plan farm tours and demonstrations of various types of equipment, sharing knowledge and resources with membership

Food Safety

As indicated in our interviews with purchasers, it is necessary for producers to have an established food safety/traceability system. Additionally, although it is not necessarily a requirement for selling at farmgate or farmers' markets, it is a good practice to have to ensure food safety.

Canada has a very advanced food system, including high food safety standards. Food traceability is the ability to follow the movement of produce through all steps in the supply chain. This enables end processors to segregate and remove any affected product from the marketplace if an issue is identified.

Good food traceability practices can be implemented quite easily, as noted in OMAFRA's Guide to Hazelnut Production in Ontario:

"A food traceability program can be added to existing orchard maps and block identifiers that will enable the coding of each block (or batch) of hazelnuts as they are harvested. The identifying code will follow each batch of hazelnuts from post-harvest handling through to storage, to shipping. A code affixed onto each bulk storage container will tell the farm operator the variety and the block location where it was grown. In addition to the container labels, detailed records are kept (hard copy or computer) that will allow growers to track the hazelnuts after leaving the farm (one step forward). If a food safety or quality issue arises after leaving the farm, an effective traceability system can help the grower quickly determine the location of each batch and where products have been marketed, by accessing their records" (2021, p.117-118).

Most purchasers interviewed indicated they did not have a preference regarding the specific food safety system used, although CanadaGAPand ISO were mentioned by multiple purchasers as being common among suppliers. CanadaGAP is a food safety program recognized by the Canadian Government and designed to help implement and maintain effective food safety procedures within fresh produce operations. Through this program, operations are expected to use the provided manual to implement all necessary safety measures, which are then evaluated through planned and unplanned audits. Another food traceability/safety certification that have been recommended by other agricultural organizations include Good Agricultural and Collection Practices (GACP) certification program. This is administered through the Canadian Herb Specialty Agriculture and Natural Health Products Coalition https://www.chsnc.ca/. They specialize in working one-on-one with smaller groups. Depending on number of members interested in certification, the cost for this is around $290-$350 Canadian. This can be delivered virtually.

However, many food safety certifications are expensive. Thus, efforts should be made to thoroughly understand the best practices of food safety, traceability, and any specific requirements of interested purchasers. The following online courses are available for free through the Agriculture and Food Education website, maintained by the University of Guelph – Ridgetown's Business Development Centre:

- Producer: Food Safety Foundations
- Processor: Food Safety Foundations
- The Basics of Traceability
- Processor: Recall
- Processor: Sanitation
- Processor: Personnel
- Producer: Water Use
- Producer: Worker Practices
- Producer: Maximizing your Traceability Investment
- Processor: Profiting from Traceability
- Growing Your Farm Profits

Recommendations for the OHA:

- Encourage members to learn about food traceability
    - Promote the University of Guelph – Ridgetown's Business Development Centre's Agriculture and Food Education website as a food safety resource for growers
- Encourage growers to share food safety practices through farm tours, online communications, etc.
    - Highlight food safety in practice in social media and communications.

ONTARIO HAZELNUT ASSOCIATION

Aggregation and Processing

Aggregation and processing are some of the OHA's most significant bottlenecks. This is due to a variety of issues, some previously mentioned such as difficulty sourcing equipment and proper food traceability requirements. On top of this, very few growers are interested in actually acquiring processing equipment due to the high costs. However, this means that, as hazelnut yields continue to increase as trees mature, growers will have fewer options when selling their nuts.

Growers looking to sell into the processing market must consider the following:

Purchasers require sufficient food safety/traceability measures, including basic testing for foodborne pathogens (e.g., mould, E.coli, etc.). Specific requirements vary from purchaser to purchaser, but in general, growers should implement good food safety practices around their farm and expect laboratory testing costs of approximately $100-200 per test batch.

Sample of Required Batch Analysis

REPORT NO.
C21307-41002

ACCOUNT NUMBER
95000

CUSTOMER
4XXXXXXXX
XXXXXXX

ATTN:CUSTOMER
Phone:xxx xxx xxxx

A & L Canada Laboratories Inc.
2136 Jetstream Road, London, ON, N5V 3P5 Tel: (519) 457-2575 Fax: (519) 457-2664

CERTIFICATE OF ANALYSIS

PAGE: 1

PROJECT NO:
PO#:
LAB NUMBER:

SAMPLE MATRIX:SOLID
DATE SAMPLED:2021-11-01
DATE RECEIVED:2021 11 03
DATE REPORTED:2021 11 08
DATE PRINTED:2021-11-30

SAMPLE ID: CUST #3

PARAMETER	RESULT	UNIT	DETECTION LIMIT	METHOD REFERENCE
E. coli	<10	CFU/g	10	MFHPB-34 *
Coliforms	<10	CFU/g	10	MFHPB-34*
Salmonella spp.	NEGATIVE	P-A/25.0g(ml)	1 CFU	MFLP-38 *
Total Moulds	0.00	CFU/G	10	MFHPB-32*
Total Yeasts	10	CFU/g	10	MFHPB-22*
Total Aerobic Bacteria	000	CFU/g	10	MFHPB-33 *

Source: Interviews with purchasers.

Growers should also think about packaging for the shipment of hazelnuts. Most purchasers interviewed require 10lb vacuum sealed bags of nuts, one purchaser requires 50lb boxes or 2000lb SuperSacs. There are a number of packaging providers in the province of Ontario that have these types of packaging available, including NNZ located in Norwich, and other companies that specialize in packaging across Ontario including Bagwell in Mississauga.

Examples of Hazelnut Packaging Options

Source: Northwest Hazelnut Company, https://hazelnuts.com/buy-hazelnuts/

Finally, growers should understand what processing capabilities are necessary in order to sell to this market. Interviews with potential purchasers confirmed that shelled nuts are in high demand within the processing market, meaning producers must find a way to get their nuts cracked in order to sell to this market. This is already an issue for many growers, as only a handful have invested in equipment to sanitize, dry, sort, and crack nuts.

Currently, there are two potential options for processing in Ontario:

1. Processor purchases nuts outright from producer, processes products themselves and deals directly with food processing purchaser obtaining purchasing contracts with purchasers and assuming ownership and risks associated with nut processing, storage and logistics.
2. Processor processes nuts for fee and returns to producer. The producer then connects with purchaser, taking on storage costs and risks associated with sold goods.

However, both of these options present challenges. The first option is a scenario that is currently taking place between OHA members. However, this option allows processors to set the purchase price of nuts from other growers. Current processors are less interested in option 2 as there is little margin for profits considering the wear and tear on their equipment.

This has led to interest in exploring a co-op/shared model. Ideally, this would consist of a facility with processing equipment or mobile processing equipment that can be used by growers who buy in or pay a fee. However, when growers and stakeholders in the industry were asked about this, there were significant doubts about it being feasible for the OHA.

Instead, the OHA should explore other processing opportunities that involve post-secondary collaboration and grower-led businesses. The hazelnut industry in the Upper Midwest of the U.S. has the benefit of being intertwined with a variety of post-secondary institutions through the Upper Midwest Hazelnut Development Initiative. As part of this project, the Hazelnut Processing Accelerator exists as a public/private partnership. While it is used for post-secondary research and development projects, the facility and its processing equipment is also accessible to growers for a fee. It may be possible to implement a similar model if post-secondary institutions such as the University of Guelph, Conestoga College, or Niagara College are interested in advancing the hazelnut/food processing industries.

Additionally, in 2014, hazelnut growers in the Upper Midwest came together to form the American Hazelnut Company, a limited liability company that processes and sells hazelnuts in various forms. By working together and sharing costs, they are able to “build appropriately-scaled and custom processing equipment to meet [their] needs”[39] and further develop their branding, marketing, sales, and distribution. The American Hazelnut Company utilizes space as Kickapoo Culinary Centre, which allows them to sell state-inspected and licensed food products. As stated by the American Hazelnut Company, the goal is for growers to own the value-chain because “a hazelnut industry where growers are beholden to the processors and distributors means only one thing… the growers lose.”

[39] https://www.americanhazelnutcompany.com/grow-with-us.html

Recommendations for the OHA:

- Raise awareness of need for equipment with equipment distributors
  - o Gather and circulate information about equipment used within membership
  - o Send equipment distributors summary of equipment needed, number of growers/acreages, etc.
  - o Invite equipment distributors to farm tours
- Support processing capabilities across the province
  - o Provide information sessions on funding to support investment in processing
  - o Provide support to growers applying to funding programs through letters of support
- Work with local equipment distributors to facilitate Canadian/Ontario distribution
  - o Send equipment distributors summary of equipment needed, number of growers/acreages, etc.
  - o Work with distributors to plan farm tours and demonstrations of various types of equipment, sharing knowledge and resources with membership
- Leverage post-secondary institutions that are already working in processing/primary production of food and beverage
  - o Connect with Conestoga College/Craig Richards Institute regarding their food and beverage processing lines
  - o Connect with GRIPP center to seek means to collaborate on processing
  - o Connect with Fanshawe college to establish hazelnut awareness into ag programs
  - o Collaborate with organizations such as Food and Beverage Ontario to leverage their membership who may also be interested in developing this market
- Facilitate collaboration and public/private partnerships between members, researchers, and post-secondary institutions

Distribution and Sales

Hazelnut growers have various pathways to market they may choose to explore. The first of these is the fresh market.

Fresh Market

Selling to the fresh market may look like one of three things:

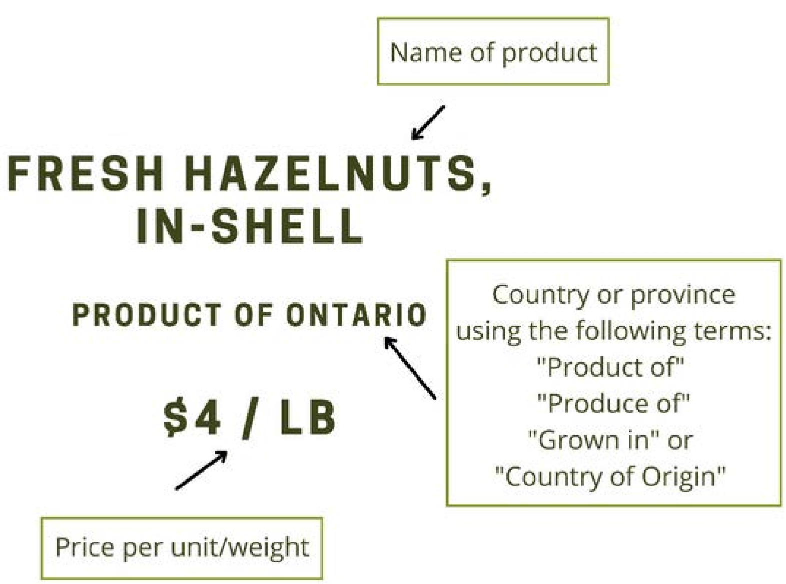
1. Selling on farm – Selling on farm is appealing because there is little to no time commitment required. Additionally, growers can often get a much greater return on nuts than they would get selling wholesale or to a processor. Local growers typically sell hazelnuts on farm for approximately $5.50-9/lb in-shell and $15-18 shelled. There is also opportunity to sell value-added goods such as roasted or flavoured hazelnuts.

A grower could set up a roadside stand with a cash box, relying on an honour system. Alternatively, growers could have a small market set-up on their property. This may be especially appealing for those who have a variety of produce/goods to sell. Goods can easily be promoted online through the creation of a website or Facebook page in order to attract buyers. It is recommended that growers talk to their insurance providers as they will likely be required to purchase liability insurance regardless of the placement of the stand.

2. Selling at farmers' markets – Selling at farmers' markets can be an excellent way to market your goods to thousands of people over a few hours. Again, growers can often get a much greater return on nuts than they would get selling wholesale or to a processor. Local growers typically sell hazelnuts at farmers' markets for approximately $5.50-9/lb in-shell and $15-18 shelled. There is also opportunity to sell value-added goods such as roasted or flavoured hazelnuts.

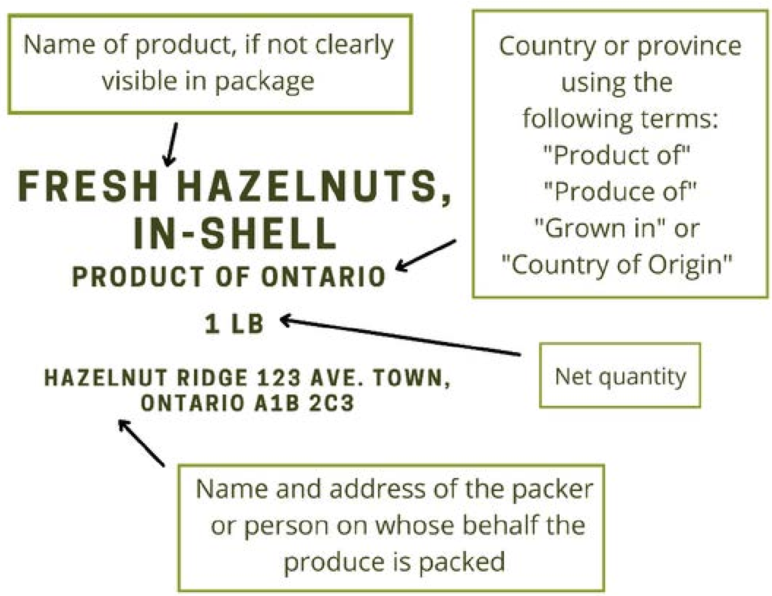
Growers would need to inquire with local farmers markets to reserve a booth and determine costs. Fees can range from approximately $10/day to over $40/day. This fee may or may not include the rental of a tent and table. The grower should also consider the need to have at least one staff person selling the products. Additionally, growers need to ensure they have proper signage (see images below).

Farmers' Market Signage Requirements



Source: OMAFRA, http://www.omafra.gov.on.ca/english/food/inspection/fruitveg/sellingfruitsvegs.htm

Farmers' Market Label Requirements



Source: OMAFRA, http://www.omafra.gov.on.ca/english/food/inspection/fruitveg/sellingfruitsvegs.htm

3. Pick-your-own[40]– Pick-your-own operations generally include visitors paying a fee to harvest nuts off trees. This may be an upfront fee and/or a fee dependent on the volume of hazelnuts picked. Currently, PYO operations in Ontario sell hazelnuts for $4-5/lb. in-shell, with the husk and $7-8/lb. in shell, without the husk. Running a pick-your-own (PYO) operation provides significant advantages for growers as they do not need to be involved in the harvesting or processing of nuts. However, there are a few considerations to note:

- Many hazelnuts may fall on the ground, potentially being wasted. Additionally, as trees grow, visitors may be unable to reach a lot of the nuts. Growers may need to intervene in order to make use of the full yield.
- PYO operations generally work best when there are a variety of activities that encourage visitors. For example, Dixie Orchards, located in Caledon, offers PYO hazelnuts, apples, pumpkins, and gourds as well as sunflower fields, a corn maze, wagon rides, and a farm store with various goods.
- PYO operations will need to include washrooms, parking, and other elements that create a comfortable and safe environment for guests.
- PYO operations will also need to have significant property and liability insurance.

[40] Additional resources can be accessed at: http://www.omafra.gov.on.ca/english/busdev/facts/18-001.htm

Wholesale/Processing Market

Aside from fresh market sales, growers may choose to pursue the **wholesale/processing market**. This includes selling to distributors, food processors, and businesses in the food industry.

Interviews were conducted with various wholesale purchasers. From these interviews, a variety of themes emerged. First, purchasers had little to no awareness of the Ontario Hazelnut Association/Ontario-grown hazelnuts. Second, there is a large domestic demand for hazelnuts, with just four purchasers requiring a combined annual requirement over 300,000lbs. The majority of these processors are interested in shelled nuts, with shipments of at least 100lbs at a time. While most purchasers noted few or no requirements in terms of size and shape, good flavour is required. Additionally, basic testing for foodborne pathogens and food traceability is noted as a requirement for most purchasers, along with some sort of food traceability system. Most purchasers have been sourcing nuts from distributors in Turkey, Spain, and the U.S. Ontario and Canadian food regulatory system should provide for consistently higher quality nuts. Most notably, prices range from $2-5.90/lb for shelled, $8.18-9.10/lb for organic shelled, and $7.73/lb for roasted hazelnuts. All of the purchasers were interested in getting in touch with growers with many noting their intentions to purchase hazelnuts immediately.

Another wholesale purchaser is Ferrero, the largest single user/purchaser of hazelnuts in the world, using over 25 million pounds of shelled hazelnuts a year to produce various confectionery items. This makes up about 55% of the global purchasers for hazelnuts. Currently, Ferrero sources large quantities of hazelnuts from top producers such as Italy and Turkey, however, since opening a Canadian plant in Brantford, Ontario in 2006, the company has been interested in purchasing Ontario-grown hazelnuts. However, Ferrero has strict requirements regarding nut size, shape, and flavour. The strict requirements are mainly due to roasting of the hazelnuts. For example, if the size and shape are off, some nuts could burn more easily than others, creating a loss of product and flavour. The cultivars Ferrero prefers do not fare well in Ontario's climate, leaving a large gap in the market. If research and development present suitable cultivars for Ferrero, growers will also need to accept lower than average prices (<$2/lb) in exchange for long-term, high-volume contracts.

As highlighted in the section above, growers looking to invest in the wholesale market need to ensure proper food safety and traceability practices. Additionally, they need to have access to processing equipment that allows them to ship out large quantities of shelled nuts. Wholesale purchasers also expect to pay a much lower price per pound for shelled nuts ($2-5.90/lb.) compared to the fresh market ($15-18/lb.). However, selling nuts to wholesale purchasers may be more advantageous for large-scale growers looking to sell large quantities of nuts. While selling to the fresh market requires constant effort and no guarantees of volume sold, many wholesale purchasers will buy a grower's entire inventory of nuts. Thus, it is necessary for growers to identify which pathway to market would be most suitable for their operation.

Recommendations for the OHA:

- Provide growers with basic information on various pathways to market
  - o Share this document with members
  - o Provide opportunities for members to share experiences
- Facilitate points of connection between members and potential purchasers
  - o Arrange meetings/networking events
  - o Add purchasers to email list
  - o Create space for sales opportunities in newsletter/communications
- Facilitate networking and training opportunities between members and certification and education specialists
  - o Arrange meetings/networking events
  - o Add certification/education specialists to email list
  - o Create space for certification/education opportunities in newsletter/communications

Current Local Hazelnut Market Pricing

Type of Sale	Pick Your Own($/lb)	Harvested, No Processing($/lb)	Washed, Sanitized, Dried($/lb)	Cracked($/lb)	Value Added($/lb)
Processor	N/A	$1-$4 –In-Shell	N/A	N/A	N/A
Farm Gate	$4-$5 – In-Shell, with Husk $7-$8 – In-Shell, without Husk	N/A	$5.50-$9 –In-Shell	$15-$18, Shelled	$38 – Shelled, Flavoured
Wholesale	N/A	N/A	$2-$4.50 –In-Shell	$3-$6, Shelled	$7.73 – Shelled, Roasted

Marketing and Branding

Throughout interviews with potential purchasers, there was little awareness of the OHA. Furthermore, there is very little public awareness that hazelnuts can be grown in Canada, let alone Ontario. During interviews, many growers noted a desire to see the OHA take on a larger role in the branding and marketing of Ontario-grown hazelnuts to create demand for a premium hazelnut product. As growers and stakeholders noted, Ontario hazelnuts must be considered a premium nut in order to warrant higher prices and not compete with cheaper nuts from countries such as Turkey.

Brands are evolving entities that are developed over time. A brand is a promise made to consumers that strengthens their loyalty so that they will continue to choose a product over other options. Consumers need to feel the authenticity and integrity of what a brand's positioning is; whether that is price, quality, or other brand characteristics. A successful brand strategy will seek ways to consistently build connection between the target market and the commodity. Consumers want to know where their food comes from, how and where it is grown, and the people who grow it. Consumers are becoming more health-conscious and are willing to pay a premium for foods they believe to be fresh, nutritious, sustainably sourced, and supporting a local or regional economy. Thus, there is significant opportunity for the OHA to position Ontario-grown hazelnuts as a higher quality, more sustainable alternative to Turkish or other imported hazelnuts.

In order to create a brand, efforts should first be made to understand who the target audience is and what the brand position should be. As previously mentioned within the Canadian Hazelnut Market Trends section, consumption trends suggest that Canadians who are currently consuming hazelnuts, eat a significant amount. Thus, there is opportunity to both convert current hazelnut purchasers to Ontario-grown hazelnuts and market hazelnuts to new consumers. Ultimately, the brand should bring intrinsic value to the target audience, motivating buyers to continue purchasing a product over other alternatives.

Additionally, the OHA should take advantage of brands that are already well established and that align with the OHA's value proposition. One example of this is Foodland Ontario, a consumer-facing promotion program of the Ontario Ministry of Agriculture, Food and Rural Affairs. It was established in 1977 and has since partnered with producers, processors, retailers, and the foodservice sector to champion, promote, and support the consumption of Ontario food products. The 2012 Foodland Ontario Performance Measures found that 80% of principal grocery shoppers intend to purchase Ontario fresh food[41]. 94% of principal grocery shoppers recognize the Foodland Ontario symbol and 72% associate Foodland Ontario with Ontario fresh food. Thus, utilizing the Foodland Ontario logo would be an asset for hazelnut growers.

Foodland Ontario provides approved partners with a myriad of point of sale (POS) materials. They have developed recipe books, commodity cards, posters, banners, price cards, and shelf toppers and hangers. Producers can use the Foodland Ontario logo and other resources through an application process. These resources are free of charge once the application has been completed. Additionally, Foodland Ontario has a partnership program which many commodity organizations utilize. The process to become a commodity partner is very straightforward. The OHA should connect with Foodland Ontario to be featured on their "Availability Guide", which is updated periodically.

[41] https://ontario.ca/foodland/page/results-consumer-testing

Foodland Ontario's POS Merchandising Materials for Farmers' Markets and On-Farm Markets

Aside from branding, significant effort needs to be made to market Ontario-grown hazelnuts. The exact type of marketing will largely be determined by the chosen target audience. For example, if the target audience is consumers who do not regularly purchase hazelnuts, it may be beneficial to promote recipes that utilize hazelnuts. It may also be helpful to distribute samples at a farmers' market or grocery store. Additionally, social media should be utilized as it is one of the easiest ways to build an extensive network. Through this project, Twitter and Facebook accounts have been created for the OHA. These accounts have experienced significant engagement, providing promotion and opportunities for growers. Additional steps should be taken to use social media as a tool to establish and maintain connections with stakeholders throughout the value chain. An example of this is CTV's Field to Forks initiative, wherein Canadian farmers and other agricultural stakeholders are able to share stories and news through articles, videos, and social media, providing connections to one another as well as to the general public.

The OHA should also leverage agricultural networks to promote Ontario grown hazelnuts. Currently the OHA does participate in the OFVC conference to promote hazelnuts, recruit growers, and raise interest and awareness. The OHA should further its relationship with agricultural networks through participation in organizations potential purchasers may belong to, such as Food and Beverage Ontario (FBO). FBO is a not-for-profit leadership organization dedicated to advancing the interests of Ontario's food and beverage processors. FBO has a very active membership and all events are well attended. They actively seek collaborations and support members and those seeking to meet the needs of members.

Recommendations for the OHA:

- Leverage brands that align with OHA positioning
    - o Connect with Foodland Ontario: lunch and learn session on available POS and marketing products for Ontario producers
    - o Request Foodland Ontario add hazelnuts to their availability guide
- Develop premium brand for Ontario grown hazelnuts
    - o Seek funding to create a marketing and communications strategy
- Market Ontario-grown hazelnuts using various means
    - o Increase engagement with various agricultural organizations through communications and participation in events
    - o Utilize social media to share OHA and member content through various channels (e.g. Field to Forks initiative)

ONTARIO HAZELNUT ASSOCIATION

Implementation Plan
Access to Trees

Short-term

Recommendations	Actions/Outputs	Outcomes
Share research on cultivars with all members, including nurseries	Expand R&D committee participants to include representatives from all nurseries	Nurseries are aware of research and are able to adjust their supply of trees accordingly
Develop consistent and clear basic messaging for growers	-Create information sheets for nurseries and growers to use as reference: Seedlings vs. Clones, fact sheets by cultivar, basic growing information including OMAFRA Guide to Growing Hazelnuts -Ensure these are available to ALL nurseries to support sales and grower information	Nurseries have access to consistent and relevant information pertaining to hazelnut production and are able to provide this to growers purchasing trees

Long-term

Recommendations	Actions/Outputs	Outcomes
Collaborate with nurseries to better utilize capacity	-Gather data on desired cultivars, number of trees, etc. using primary data collection (Grower Survey) -Facilitate communications between growers and nurseries to discuss supply/demand	Nurseries are well-informed of tree demand by cultivar and are able to provide more consistent and regular supply
Build collaborative relationships between post-secondary researchers, nurseries, and growers to support collaborative information sharing and cultivar advancements	Host bi-annual or annual workshops for OHA members, researchers, and nurseries focused on issues regarding access to trees	Further utilization of resources and development of the hazelnut industry

Research and Development

Short-term

Recommendations	Actions/Outputs	Outcomes
Facilitate continuous communications between researchers and growers through the OHA's R&D Committee	Regular section on R&D in newsletters	Increased communication between R&D Committee and stakeholders
Increase data collection efforts	Utilize Grower Survey as a tool to gather information on trees, acres, hazelnut yield, etc.	Establish OHA as experts and source for all information regarding hazelnut production in Ontario/Canada
Communicate all research and data with membership and external stakeholders	Create annual report of recent research and results of Grower Survey and share with all relevant stakeholders	Better communication of R&D efforts; increased understanding of Ontario's hazelnut industry

Long-term

Recommendations	Actions/Outputs	Outcomes
Create an R&D strategy in collaboration with local industry stakeholders	Connect with post-secondary researchers and seek funding to establish R&D strategy with timelines	Moves the OHA and researchers into a position that further supports the commercialization of hazelnut production
Further develop connections with OMAFRA and post-secondary institutions in order to gain access to relevant research	-Utilize expertise of OMAFRA Tree Nut Specialist -Re-establish communications with GRIPP Centre and other University of Guelph, Niagara College connections	Connects OHA, OMAFRA and post-secondary to address real crop issues; Catalyst for Ontario-led breeding program

Production - Education

Long-term

Recommendations	Actions/Outputs	Outcomes
Facilitate more learning opportunities that reflect the needs of current growers	Use Grower Survey and other communications with members to identify interests and gaps in knowledge	Provide value to members through resources and training specific to member-needs
Further develop connections with OMAFRA and post-secondary institutions in order to gain access to relevant research	-Utilize expertise of OMAFRA Tree Nut Specialist -Re-establish communications with GRIPP Centre and other University of Guelph, Niagara College connections	Connects OHA, OMAFRA and post-secondary to address real crop issues; Catalyst for Ontario-led breeding program

Production - Workforce

Short-term

Recommendations	Actions/Outputs	Outcomes
Engage with post-secondary institutions to access student workforce and provide students with meaningful work experience	Connect with universities and colleges to support and recruit students from agricultural-related programs – many programs have a practical requirement that work for the OHA may satisfy	Alleviates short term workforce shortage; Establishes further points of connection with post-secondary institutions and students; Acts as initial point of contact to bring awareness of hazelnut as crop to students in ag related programs (potential future grower)
Take advantage of agriculture-specific workforce campaigns	-Participate in agricultural job fairs and support agricultural workforce campaigns such as Ontario Federation of Agriculture's Feeding Your Future. -Post opportunities on AgCareers	Participating in wider agricultural networks and campaigns increases awareness of the OHA; Further demonstrates workforce need in sector for addition to NCL
Take advantage of government programs	-Take advantage of government programs such as the Canada Summer Jobs Program and Youth Employment Skills Program to hire youth. -Utilize the low/high wage stream of the Temporary Foreign Worker Program (not limited to the national commodity list	Alleviates short term workforce shortage; Increases awareness of the OHA; Further demonstrates workforce need in sector for addition to NCL
Encourage workforce sharing among hazelnut growers where possible	-Encourage OHA members to start an orchard management service amongst themselves-Continue to explore orchard maintenance opportunities with other commodity groups and landscape companies	Could alleviate short term demand amongst growers in identified geographic area

Long-term

Recommendations	Actions/Outputs	Outcomes
Advocate at the Federal level for the addition of hazelnuts to the National Commodities List	Connect with staff to compile Labour Market Information specific to hazelnuts as required for addition to NCL	Long term benefits for access to workforce; Demonstrates leveraging power of commodity organization regarding advocacy efforts, providing value to membership

Production - Equipment

Short-term

Recommendations	Actions/Outputs	Outcomes
Raise awareness of need for equipment with equipment distributors	- Gather and circulate information about equipment used within membership -Send equipment distributors summary of equipment needed, number of growers/acreages, etc. -Invite equipment distributors to farm tours	Better understand growers' demand for equipment; Establish and build relationships with equipment distributors

Long-term

Recommendations	Actions/Outputs	Outcomes
Work with local equipment distributors to facilitate Canadian/Ontario distribution	-Send equipment distributors summary of equipment needed, number of growers/acreages, etc. -Work with distributors to plan farm tours and demonstrations of various types of equipment, sharing knowledge and resources with membership	Hazelnut harvesting and processing equipment can be sourced domestically through local equipment distributors

Production – Food Safety and Traceability

Short-term

Recommendations	Actions/Outputs	Outcomes
Encourage members to learn about food traceability	-Promote the University of Guelph – Ridgetown's Business Development Centre's Agriculture and Food Education website as a food safety resource for growers	Encourages members to initiate practices that lead to more sales opportunities
Encourage growers to share food safety practices through farm tours, online communications, etc.	Highlight food safety in practice in social media and communications.	-Familiarizes members with food safety practices and raises awareness -Encourages collaboration between members

Processing and Aggregation

Short-term

Recommendations	Actions/Outputs	Outcomes
Raise awareness of need for equipment with equipment distributors	- Gather and circulate information about equipment used within membership -Send equipment distributors summary of equipment needed, number of growers/acreages, etc. -Invite equipment distributors to farm tours	Better understand growers' demand for equipment; Establish and build relationships with equipment distributors
Support processing capabilities across the province	-Provide information sessions on funding to support investment in processing -Provide support to growers applying to funding programs through letters of support	Provides equitable industry growth throughout the province by supporting cluster/zone development

Long-term

Recommendations	Actions/Outputs	Outcomes
Work with local equipment distributors to facilitate Canadian/Ontario distribution	-Send equipment distributors summary of equipment needed, number of growers/acreages, etc. -Work with distributors to plan farm tours and demonstrations of various types of equipment, sharing knowledge and resources with membership	Hazelnut harvesting and processing equipment can be sourced domestically through local equipment distributors
Leverage post-secondary institutions that are already working in processing/primary production of food and beverage	-Connect with Conestoga College/Craig Richards Institute regarding their food and beverage processing lines -Connect with GRIPP center to seek means to collaborate on processing -Connect with Fanshawe college to establish hazelnut awareness into ag programs -Collaborate with organizations such as Food and Beverage Ontario to leverage their membership who may also be interested in developing this market	More readily available access to processing equipment; increased awareness of Ontario's hazelnut industry
Facilitate collaboration and public/private partnerships between members, researchers, and post-secondary institutions	-Connect growers who may have an interest in developing a producer-led processing operation -Host meeting to lead conversations with post-secondary institutions (e.g. UogG) to gauge interest in collaborating on processing/market development operation -Regularly communicate global hazelnut processing pricing and demand as well as processing facilities in Ontario	Further immediate processing capabilities of hazelnuts in the province of Ontario; Offers additional benefit of supporting research and value chain integration and growth

Sales and Distribution

Short-term

Recommendations	Actions/Outputs	Outcomes
Provide growers with basic information on various pathways to market.	-Share this document with members -Provide opportunities for members to share experiences	Increase member understanding of pathways to market

Long-term

Recommendations	Actions/Outputs	Outcomes
Facilitate points of connection between members and potential purchasers	-Arrange meetings/networking events -Add purchasers to email list -Create space for sales opportunities in newsletter/communications	Increase visibility of both purchasers and members with hazelnuts to sell; Increase information sharing between both parties
Facilitate networking and training opportunities between members and certification and education specialists	-Arrange meetings/networking events -Add certification/education specialists to email list -Create space for certification/education opportunities in newsletter/communications	Provide opportunities for information sharing; Increase visibility of certification and education specialists

Marketing and Branding

Short-term

Recommendations	Actions/Outputs	Outcomes
Leverage brands that align with OHA positioning	-Connect with Foodland Ontario: lunch and learn session on available POS and marketing products for Ontario producers -Request Foodland Ontario add hazelnuts to their availability guide	Increase awareness of hazelnut production in Ontario and align Ontario Hazelnuts with a well-respected brand (Foodland Ontario)

Long-term

Recommendations	Actions/Outputs	Outcomes
Develop premium brand for Ontario grown hazelnuts	Seek funding for marketing and communications plan	Creation of long-term quality brand
Market Ontario-grown hazelnuts using various means	- Increase engagement with various agricultural organizations through communications and participation in events -Utilize social media to share OHA and member content through various channels (e.g. Field to Forks initiative)	Increase awareness of Ontario-grown hazelnuts and engagement with the OHA and its members

Funding Opportunities

Throughout this document recommendations have been made regarding the advancement of the association and the industry. We have identified potential funding resources to support many of these recommendations.

Funding Program	Description	Website
AgriMarketing Program	The AgriMarketing Program aims to increase and diversify exports to international markets and seize domestic market opportunities. and safe food.	Link here
Canadian Agricultural Partnership (CAP)	The Canadian Agricultural Partnership (the Partnership) provides cost-share funding support to farmers and other businesses (plant health). Funding is available for key priority areas, which include: research and innovation, economic development, environmental stewardship and protection and assurance	Link here
Rural Economic Development	Funding assistance to address barriers to economic development, better position rural communities to attract and retain jobs and investment, and enhance economic growth.	Link here
Ontario Trillium Foundation	The Ontario Trillium Foundation offers a range of grants to support non-profit organizations. Funds such as resilient community funds, community building funds, community investments funds, and youth opportunity funds.	Link here

Greenbelt Foundation	Our Prosperous Greenbelt and Resilient Greenbelt funding streams, invest in projects that protect the Greenbelt and increase environmental, social, cultural and economic benefits, enhance the health of the Greenbelt's natural and agricultural systems, support farmers and foster a sustainable rural economy.	Link here
Fair Finance Fund	The Fair Finance Fund ("Fund") is a non-profit social finance fund dedicated to providing loans and mentorship services to local food and farm enterprises that value strong local food systems, local economies, and a healthy planet.	Link here
ALUS (Alternate Land Use Service)	ALUS helps farmers and ranchers build nature-based solutions on their land to sustain agriculture and biodiversity and help fight climate change for the benefit of communities and future generations.	Link here
Species at Risk Partnerships on Agricultural Land	Species at Risk Partnerships on Agricultural Lands (SARPAL) is an Environment and Climate Change Canada initiative focused on working with farmers to support the recovery of species at risk on agricultural landscapes. that support various species at risk (SAR)	Link here

Canada Summer Jobs (CSJ)	CSJ is a program under the Youth Employment and Skills Strategy, which aims to provide flexible and holistic services to help all young Canadians develop the skills and gain paid work experience to successfully transition into the labour market.	Link here
Youth Employment Skills Program (YESP)	The Youth Employment and Skills Program provides a wage subsidy to employers who hire youth for agricultural jobs.	Link here
AgriInnovate	Supports businesses to commercialize and/or adopt innovative agri-based products, technologies, processes or services	Link here
Canadian Agricultural Strategic Priorities Program (CASPP)	Supports projects that help the agricultural industry mitigate emerging issues and capitalize on opportunities	Link here
Protein Industries Canada	Supporting collaborative product or process research, technology development, and export market development projects related to expanding Canada's plant-based protein sector	Link here

Appendix A

OHA Grower Survey 2021

The purpose of this survey is to assess current members of the OHA who are growing and cultivating land for hazelnuts. The information obtained from this survey will assist with market development opportunities and provide the OHA board of directors with up-to-date quantitative data regarding the current state of hazelnut production in Ontario. All information analyzed in the survey was done so through the use of Survey Monkey and Microsoft. To protect confidentiality, any information that could identify growers has been excluded from this report.

Summary of Findings

As of April 15th, 2021, the OHA has 68 members who identify as hazelnut growers. Of this group, 42 growers responded to the 2021 OHA Membership Survey. The respondents represented a total of 302 acres allotted to hazelnut production with 49,287 hazelnut trees currently planted[42].The approximate annual yield of hazelnuts totaled 12,277 lbs. According to the respondents, the most common hazelnut varieties are Yamhill, Jefferson, and Gamma.

Over half of respondents noted that they were not currently selling hazelnuts due to the maturity of their trees (n=22 out of 38 responses). However, 73% of members (n=29 out of 40 responses) have intentions to sell future hazelnuts at local farmers markets, 53% have intentions to sell at local retailers and restaurants, and 35% have intentions to sell at local bakeries.

The majority of OHA hazelnut growers are not currently utilizing equipment for harvesting (n=33 out of 40 responses). Of those that are using equipment, some use specialty machines while others have repurposed farm machinery or engineered their own equipment. Additionally, the majority of growers are not currently processing their harvested hazelnuts (n=27 out of 38 responses). Of the growers that have harvesting and/or processing equipment, the majority are spending between $1000 - $10,000 annually, with only 2 growers spending over $30,000 annually.

When asked about pertinent challenges, common answers were related to tree stock and growing issues, pests and disease, and a lack of affordable equipment options.
When asked what they would like to see the OHA board focus on in the next 1-4 years, 50% of respondents selected marketing and promotion of hazelnuts as their top priority. Other top priorities included opportunities to meet potential purchasers, and education and training for hazelnut producers.

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[42] Note: Not all planted trees are currently producing hazelnuts.

Question 1: Contact Information

Question 2: How many acres of land do you have allotted to hazelnut trees?

In total, 41 of 42 growers responded to this question. Collectively, respondents account for 302 acres of land allotted to hazelnut trees.

- 5% (n=2) have allotted 0 acres for hazelnut production.
- 34% (n=14) have allotted 0.1-4 acres for hazelnut production.
- 27% (n=11) have allotted 5-9 acres for hazelnut production.
- 20% (n=8) have allotted 10-14 acres for hazelnut production.
- 12% (n=5) have allotted 15-20 acres for hazelnut production.
- 2% (n=1) have allotted 21+ acres of land for hazelnut production

Question 3: How many hazelnut trees are currently planted on acreage?

In total, 41 of 42 growers responded to this question. Collectively, respondents account for 49,287 hazelnut trees.

- 10% (n=4) between 0 hazelnut trees.
- 37% (n=15) between 0-499 hazelnut trees.
- 15% (n=6) between 500-999 hazelnut trees.
- 12% (n=5) between 1,000-1,499 hazelnut trees.
- 5% (n=2) 1,500-1,999 hazelnut trees.
- 22% (n=9) over 2,000+ hazelnut trees.

Question 4: How many hazelnut trees are you planning to plant in the following time frames?

In total, 39 of 42 growers responded to this question. Collectively, respondents are planning to plant 7,342 hazelnut trees in 1 year, 15,347 hazelnut trees in 2-4 years, and 30,230 hazelnut trees in 5+ years[43].

[43] It should be noted that some respondents provided the number of acres rather than number of trees. This has been converted to number of trees, assuming single density (108 trees/acre).

Question 5: What is your approximate annual yield of hazelnuts in pounds?

In total, 39 of 42 growers responded to this question. Collectively, respondents account for a yield of 12,277 pounds (lbs.) of hazelnuts.

- 41% (n=16) are not currently harvesting any hazelnuts, with most noting the immaturity of their trees.
- 38% (n=15) have an annual yield of 1-499lbs of hazelnuts.
- 0% (n=0) have an annual yield of 500-999lbs of hazelnuts.
- 5% (n=2) have an annual yield of 1000-1999lbs of hazelnuts.
- 5% (n=2) have an annual yield of 2000+ lbs. of hazelnuts.
- 10% (n=4) are unsure of their yield.

Question 6: What year have you planted your hazelnuts, how many trees, and what variety? Example: 2019 – 155 Yamhill and 120 Gene, etc.

In total, 36 of 42 growers responded to this question. Collectively, respondents account for a total of 48,158 trees.

Hazelnut Variety	Prior to 2010	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Yamhill	0	0	0	0	0	5	55	2,115	2,448	2,956	2,622	10,201
Jefferson	0	0	0	0	0	0	946	1,975	1,704	654	227	5,506
Gamma	0	0	0	0	0	0	3	310	427	1,860	876	3,476
Gene	0	0	6	0	0	48	0	300	152	276	530	1,312
Slate	0	0	0	0	0	13	0	368	70	66	400	917
Theta	0	0	0	0	0	0	1	0	453	75	125	654
Carmela	0	0	6	0	0	36	0	200	165	13	15	435
Aldara	0	0	0	0	0	0	0	200	10	15	14	239
Alex	0	0	1	0	0	48	0	0	84	0	0	133
Linda	0	0	0	0	0	0	0	0	0	0	133	133
Norfolk	0	0	0	0	0	0	0	0	0	0	100	100
Matt	0	0	0	0	0	0	0	0	0	0	100	100
Lewis	0	0	0	0	0	8	36	13	0	0	0	57
Northern Blais	0	0	0	0	0	0	0	0	0	0	43	43
Cheryl	0	0	0	0	0	0	0	0	0	0	33	33
Grimo 208	0	0	0	0	0	8	0	8	0	0	0	16
Grimo 186	0	0	0	0	0	8	0	8	0	0	0	16
Geneva	0	0	0	0	0	8	0	8	0	0	0	16
Santium	0	0	0	0	0	8	0	8	0	0	0	16
Tonda di Giffoni	0	0	0	0	0	0	10	0	0	0	0	10
Frank	0	0	0	0	0	0	0	0	0	0	10	10
Het E	0	0	0	0	0	0	0	0	0	0	10	10
Marion	0	0	0	0	0	0	0	0	0	0	10	10
Not Specified	7,300	0	50	250	400	700	600	2,850	3,723	1,467	375	17,715
Total	7,300	0	63	250	400	890	1,651	8,363	9,236	7,382	5,623	41,158

Question 7: What varieties of hazelnut trees do you have planted? Check all that apply.

In total, 39 of 42 growers responded to this question.

- 77% (n=30) have Yamhill trees planted.
- 67% (n=26) have Gamma trees planted.
- 67% (n=26) have Jefferson trees planted.
- 51% (n=20) have Gene trees planted.
- 28% (n=11) have Slate trees planted.
- 13% (n=5) indicated they have Chelsea trees planted.
- 79% (n=31) indicated they have Other Varieties planted.

- Answers reflected the varieties included in Question 6.

Question 8: Where are you most commonly selling your hazelnut products? (Select as many as applicable).

In total, 37 of 42 growers responded to this question.

- 19% (n=7) are selling to Local Farmers Markets.
- 8% (n=3) are selling to Specialized Retailers. I
- 5% (n=2) are selling to Major Wholesalers.
- 3% (n=1) are selling to Restaurants.
- 92% (n=34) are selling to Others.

- The majority of those who selected Other indicated that they are not yet selling hazelnuts. Others reported selling to small market stores, online, farm gate, etc.

Question 9: What are your future sales plans for harvested hazelnuts. Check top three.

In total, 39 of 42 growers responded to this question.

- 74% (n=29) want to sell to Local Farmers Markets.
- 54% (n=21) want to sell to Local Retailers and Restaurants.
- 36% (n=14) want to sell to Local Bakeries.
- 15% (n=6) want to sell to National Confectionery Processors.
- 10% (n=4) want to sell to Major Retailers.
- 33% (n=13) want to see to Others.

- Some of those who selected Other indicated uncertainty about where to sell. Others reported wanting to sell hazelnuts to small market stores, via a Community Supported Agriculture (CSA) model, farm gate, keep for personal use, establish a pick-your-own operation.

Question 10: Do you use any specialized/harvesting equipment?

In total, 39 of 42 growers responded to this question.

- 18% (n=7) use specialized/harvesting equipment.
- 82% (n=32) do not use specialized/harvesting equipment.

Question 11: What types of specialized equipment are you using for hazelnut production/harvesting?

In total, 35 of 42 growers responded to this question.
This was an open-ended question. The most common responses included the following:

- 57% (n=20) use no specialized equipment.
- 20% (n=7) use a Harvester, some bought (ball roller, FACMA Harvester, Flori 210 Harvester) and some homemade.
- 14% (n=5) use a Sprayer, some purchased and some homemade.
- 3% (n=1) use a Vegetable washer
- 3% (n=1) use a Dryer.

Question 12: How much are spending on specialized equipment each year?

In total, 34 of 42 growers responded to this question.

- 59% (n=20) reported no spending on specialized equipment.
- 6% (n=2) reported spending less than $100 on specialized equipment.
- 3% (n=1) reported spending $100-$999 on specialized equipment.
- 12% (n=4) $1,000-$4,999 on specialized equipment.
- 6% (n=2) $5,000-$9,999 on specialized equipment.
- 3% (n=1) $10,000-$19,999 on specialized equipment.
- 3% (n=1) $20,000+ on specialized equipment.
- 9% (n=3) reported being unsure.

Question 13: Are you processing your harvested hazelnuts?

In total, 37 of 42 growers responded to this question.

- 30% (n=11) are processing their hazelnuts.
- 70% (n=26) are not processing their hazelnuts.

Question 14: What type of processing equipment are you using for hazelnut processing?

In total, 32 of 42 growers responded to this question. This was an open-ended question. The most common responses included the following:

- 63% (n=20) do not use processing equipment.
- 13% (n=4) use cracking equipment, two use a Chianchia Cracker and Sorter.
- 6% (n=2) use various techniques/homemade processes.
- 9% (n=3) manually process nuts.

Question 15: How much are you spending on hazelnut processing equipment?

In total, 31 of 42 growers responded to this question.

- % (n=22) reported no spending on processing equipment.
- % (n=0) reported spending less than $100 on processing equipment.
- % (n=1) reported spending $100-$999 on processing equipment.
- % (n=1) $1,000-$4,999 on processing equipment.
- % (n=1) $5,000-$9,999 on processing equipment.
- % (n=1) $10,000-$19,999 on processing equipment.
- % (n=1) $20,000+ on processing equipment.
- % (n=1) reported being unsure.
- % (n=1) reported renting processing equipment.

Question 16: What general challenges are you experiencing with hazelnut production?

In total, 35 of 42 growers responded to this question. This was an open-ended question. The most common responses included the following:

- (n=6) Pests (e.g. squirrels, bugs, deer, birds)
- (n=4) Lack of education
- (n=3) Equipment is inaccessible/expensive
- (n=3) Irrigation
- (n=3) Trees not growing as intended
- (n=2) EFB
- (n=2) Trouble lining up sales
- (n=2) Control of suckers/weeds
- (n=2) Pollination
- (n=2) Cultivars unsuitable for climate

Question 17: Please provide any issues you currently have with pests or animals.

In total, 36 of 42 growers responded to this question. This was an open-ended question. The most common responses included the following:

- (n=11) Squirrels/chipmunks
- (n=10) Japanese beetles
- (n=7) Gypsy moths/caterpillars
- (n=6) Deer
- (n=4) birds
- (n=4) EFB
- (n=2) racoons
- (n=2) Mice
- (n=2) rabbits
- (n=1) Aphids

Question 18: Do you utilize any alternative pollination practices (e.g., wind, water, manual, etc.)?

In total, 38 of 42 growers responded to this question. This was an open-ended question. The most common responses included the following:

- (n=20) used no alternative pollination practices.
- (n=6) used water spray pollination practices.
- (n=7) used air spray pollination practices.
- (n=2) used natural pollination practices.
- (n=6) used manual pollination practices.

Question 19: What member related aspects would you like the Board of Directors to focus on over the next 1-4 years. Please rank top 3.

- Marketing and promotion of hazelnuts received the highest score (4.12) with 18 (55%) respondents ranking it as their top priority, 6 (18%) ranking it as their second top priority, and 5 (15%) ranking it as their third top priority.
- Opportunities to meet potential purchasers received the second highest score (3.16) with 3 (9%) respondents ranking it as their top priority, 14 (44%) ranking it as their second top priority, and 5 (16%) ranking it as their third top priority.
- Education and training for hazelnut producers received the third highest score (3.12) with 6 (18%) respondents ranking it as their top priority, 8 (24%) ranking it as their second top priority, and 9 (26%) ranking it as their third top priority.
- Create networking opportunities with other growers received the fourth highest score (3.00) with 4 (11%) respondents ranking it as their top priority, 7 (19%) ranking it as their second top priority, and 13 (36%) ranking it as their third top priority.
- Work on research and development of blight resistant, cold tolerant varieties received the lowest score (2.49) with 6 (16%) respondents ranking it as their top priority, 4 (11%) ranking it as their second top priority, and 7 (19%) ranking it as their third top priority.

Appendix B

2021 Updated Grower Survey Questions (Proposed Year-over-year Data Collection)

The survey is available here: https://www.surveymonkey.com/r/LY28JGS

1. Please provide your general contact information

Name:
Orchard Address:
Orchard Town/City:
Email Address:
Phone Number:

2. Are you **currently** growing hazelnuts? (If no is chosen, survey is finished after this question)

Yes
No

3. How many acres do you **currently** have allotted to hazelnuts? (If yes in question #2 was chosen)

4. How many hazelnut trees do you **currently** have planted?

5. Which varieties do you **currently** have planted in your orchard? Select all that apply.

Unsure, Jefferson, Yamhill, Slate, Gamma, Gene, Chelsea, Linda, Carmela, Norfolk, Alex, Theta, Aldara, Other (please specify)

6. Have you planted hazelnut trees this past year?

Yes
No

7. Approximately how many hazelnut trees have you planted in the last year? (If yes in question #6 was answered)

8. Have you removed/lost any hazelnut trees this past year? (If no is answered, taken to question #11)

Yes
No

9. Approximately how many hazelnut trees have you removed/lost in the last year? (If yes in question #8 was chosen)

10. Approximately when were these removed/lost trees planted? Please indicate the number of trees lost beside each year that applies.

2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021

11. Are you planning to expand your hazelnut orchard over the next 3 years? (If no is answered, taken to question #14)

Yes
No
Unsure

12. Assuming tree availability is not an issue, how many trees would you like to plant **over the next 3 years?** Please write number of trees. (If yes in question #11 was answered)

13. **Over the next 3 years**, which hazelnut cultivars are you interested in planting? Select all that apply.

Unsure, Jefferson, Yamhill, Slate, Gamma, Gene, Chelsea, Linda, Carmela, Norfolk, Alex, Theta, Aldara, Other (please specify)

14. What was your approximate yield **(lbs)** for this past harvest? Please provide approximate number of pounds.

15. Are you currently selling your hazelnuts? (If no is chosen, taken to question #17)

Yes
No

16. Where are you currently selling your hazelnuts? Select all that apply. (If yes in question #15 was answered)

Farmgate (at farm or farmers market), processors, wholesaler, small retail (local store), large retail (chain store), confectionary/bakery, restaurant, none of the above

17. What processing capabilities do you **<u>currently</u>** have. Select all that apply.

De-husking, washing, drying, sanitizing, cracking, sorting, storage, roasting, packaging, value added (e.g., flavoured, mixed with other ingredients, etc.), none of the above

18. Are you interested in offering processing services to other growers?

Yes
No

19. What challenges have you experienced. Please select all that apply.

Pests (e.g., squirrels, bugs), disease (e.g., Eastern Filbert Blight), weather related issues, input challenges (e.g., problems with fertilizer, irrigation, soil quality, etc.), inability to purchase hazelnut trees, inadequate knowledge of tree varieties, necessary inputs, etc., lack of market opportunities, inability to purchase necessary equipment, lack of manual labour, unsuitable climate for tree varieties, none of the above

20. Please provide any additional comments you have here.

ONTARIO HAZELNUT ASSOCIATION

Appendix C

Interview Questions

Purchasers

1. Are you currently aware of the OHA?
2. Are you open to purchasing from new vendors? If no, how often are vendors reviewed? Would you still be interested in participating in a market development questionnaire?
3. Do you have a preferred vendor registration platform?
4. What is your current annual usage of hazelnuts/products volume purchased?
5. What is your minimum order quantity?
6. What is your delivery frequency? What is your frequency of purchase per volume of hazelnuts?
7. What form of nut do you purchase (in-shell or shelled)?
8. Do you require other value add processes?
9. Are their particular varieties or traits you desire (shape, size, flavour)?
10. Do you have specified packaging requirements?
11. Do you have specified labelling, 3rd party product verification, or chemical testing requirements?
12. Do you require specific food safety certifications?
13. What is the approximate price you purchase hazelnuts for ($/lb)?
14. Who are some current vendors/distributors you purchase hazelnuts from?
15. Have you experienced any issues regarding current hazelnut production?
16. Do you have any other requirements for vendors?
17. Would you be interested in connecting with hazelnut growers directly?

Growers

1. What is your role with the OHA?
2. How long have you been growing?
3. How long have you been involved with hazelnuts?
4. Do you grow other crops?
5. What are your top three concerns?
6. What do you see as the biggest barrier for hazelnut growers?
7. What do you see as the biggest gap in the hazelnut market right now?
8. How could the OHA help fill that gap?
9. What are the biggest organizational issues right now?
10. What is the value you get from the OHA as a producer?
11. What would provide you additional value as a producer?
12. What is the biggest opportunity for the OHA and hazelnut growers?
13. What organizational model do you think best fits the OHA now or in the near and far off future?
14. Any additional comments?

Stakeholders

1. What is your role with the OHA?
2. Description of your organization and services you provide.
3. How long have you been involved with the OHA?
4. What do you see as the biggest barrier for hazelnut growers?
5. What do you see as the biggest gap in the hazelnut market right now?
6. How could the OHA help fill that gap?
7. What are the biggest organizational issues right now?
8. Are there any best practices or support that you have seen other commodity organizations do to improve their industry?
9. What is the biggest opportunity for the OHA and hazelnut growers?
10. What organizational model do you think best fits the OHA now or in the near and far off future?
11. Any additional comments?

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Appendix D

Equipment Dealers

Business	Comments/Descriptions	Website
Savage Equipment	Blower, cleaners and pre-cleaners, harvesters, row harvesters, vacs, orchard rakes, sweepers, sprayers	Link here
Serrat	Mulching machinery	Link here
Willsie Equipment Sales	Custom solution farm equipment sales	Link here
Facma	Martin Hodgson trying to get Willsie to be a retailer of Facma. Bill Sharp owns Facma harvester.	Link here
Slater Welding	Fabrication of custom farm equipment	N/A
Monchiero	Harvesters sold are used on hazelnut farms in BC. They have harvesters specific to chestnuts and sell world wide	Link here
Pamukkale Makina Sanayi	Roasting machinery for various types of nuts	Link here
AMVT LLC	Optical colour sorters- sorts glass, pecans, flax, Etc.	Link here
Hasatsan Harvesters	Harvesting machinery	Link here
GJ's Harvest Centre	Kevin Hodge's friend- brought in hazelnut harvesting equipment from U.S.	Link here
Chianchia	Bill Sharp and Rebecca DeHooghe both have processing equipment from Chianchia- sanitizing, cracking, sorting machinery	Link here
Feucht-Obsttechnik	Harvesting machinery- Les High has Freucht harvester-Harvesters can be around $26,000-$35,000	Link here
Flory	Harvesting machinery- Martin Hodgson has a harvester from here. Multiple purchasing locations in USA.	Link here
Weiss McNair	Harvesting machinery	Link here
Ramacher	Harvesting machinery- Ramacher harvester can be purchased through Weiss McNair	Link here
Exact Harvesting Systems	Harvesting machinery	Link here
AC Horn Manufacturing	Roasting machinery	Link here
Tonde Food Machine	Roasting and processing machinery	Link here
Nexeed	Colour sorting and processing machinery	Link here
Cimbria	Colour sorting and processing machinery	Link here
Produce Tech	Orchard equipment	Link here
Craigs Garage Medina	Harvesting equipment-Always has nut wizards in stock-18” units- ~$650.00-36” push and 36” tow models- ~925.00	

Appendix E

Conferences and Events

Conference/Event	Description	Website
Ontario Fruit and Vegetable Convention	OFVC is an annual 2-day gathering of horticultural crop producers involved in the production of fruits and vegetables.	Link here
Canada's Outdoor Farm Show	Located just northwest of Woodstock, Canada's Outdoor Farm Show gives you the chance to be hands-on with field equipment, get the real dirt on crop plots and review innovative products and services relevant to your farm.	Link here
Norfolk County Fair and Horse Show	Ontario's oldest agricultural fair	Link here
Restaurants Canada Trade Show	RC Show 2022 will support the industry's REVIVAL with business solutions for restaurants, hotels and foodservice establishments that continue to evolve and reimagine their operations.	Link here
Ecological Farmers Association of Ontario	Established in 1979 by farmers for farmers, EFAO is a membership organization that focuses on farmer-led education, research and community building.	Link here
Western Fair District	Agricultural fair	Link here
Ontario Agricultural Conference	2-day agricultural event with presentations about all things Ontario agriculture	Link here
OFA AGM	The annual meeting offers members an opportunity to participate in engaged discussions on key issues and priorities impacting Ontario's agriculture industry and rural communities.	Link here
Canadian Crops Convention	Canadian crop conference hosted by the Canola Industry.	Link here
London Farm Show	The London Farm Show at Western Fair District is the largest spring farm show in eastern Canada, featuring over 370 exhibitors and 230,000 square feet of show space, showcasing the latest in agricultural technology & equipment.	Link here

Appendix F

Identified Purchasers

Purchaser	Website
Allo Simone*	Link here
Basse	Link here
Coppa Di Gelato	Link here
Cottage Country (Subsidiary of Scholtens)	Link here
Donini Chocolate (John Vince is the parent company)	Link here
Elan	Link here
Farm Boy	Link here
Fraktels	Link here
Fresh Spoke	Link here
Granny Appleton (Subsidiary of Scholtens)	Link here
Hershey	Link here
Hummingbird Chocolate	Link here
Kernel Peanuts	Link here
Kraft Canada	Link here
Loblaws	Link here
Local Food Marketplace	Link here
Local Line	Link here
Maple Leaf Think Food! Centre	Link here
Mars	Link here
Mondelez International	Link here
Natra Chocolate	Link here
Nestle	Link here
Nuts to you Nut Butter Inc.*	Link here
Peace by Chocolate	Link here
Bloomer Chocolate	Link here
The Original Cakerie	Link here
Picards Peanuts	Link here
Produce Express	Link here

Purdy's Chocolate	Link here
Royal Nuts Co. Ltd.	Link here
Scholtens Candy	Link here
Tootsi Impex	Link here
Walmart	Link here
Waupoos Estate Winery	Link here
Whole Foods	Link here
Yoso*	Link here
Palm Bites	Link here
Cheesecake On The Go*	Link here
Nuts for Cheese	Link here
Ingredion	Link here
Pro Ingredients Inc	Link here
Gordon's Food Service Canada	Link here
Flanagan Foodservice	Link here
Sysco Canada- Food Service, Distributors and Wholesalers	Link here
Johnvince Foods	Link here
Trophy Foods	Link here
Compass Group Canada	Link here
David Roberts Food Corp*	Link here
North American Impex Inc	Link here
Bamford Produce	Link here

* Indicates willingness to purchase immediately.