ONTARIO APPLE GROWERS

ANNUAL REPORT

YEAR ENDING OCTOBER 31, 2019

SIXTEENTH ANNUAL REPORT OF THE ONTARIO APPLE GROWERS

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ONTARIO APPLE GROWERS

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CHAIR'S REPORT

This year in Ontario, I experienced the wettest Spring in my 45 years as an apple grower. The main consequence of our Spring weather is, that it created more sprays for scab but, it also created an almost frost-free Spring in many growing areas. Trees also experienced less stress going into a cooler Summer than they have in the past. Growers in some areas in Ontario had adequate rainfall in the 2019 growing season whereas other growers suffered from lack of moisture that resulted in small apples. With a cool, reasonably dry Fall and a late harvest; it looks like Ontario will have a smaller crop than last year but, a better quality one.

Speaking of quality, my great-grandfather had a very pertinent quote: "Never spend your money until it is in your pocket." Last year a lot of us thought that we were going to receive more for our apples than we did. To most apple growers' surprise, in Ontario and other regions in eastern Canada, the 2018 apple crop came out of storage in worse shape than it went in. Many apple growers had apples that packed out less than 50% for the fresh market while some apples were not packed out at all. In my opinion, this was caused by an increase in summer diseases and low pressure derived from the prolonged and extreme summer temperatures of 2018. As a result of this stress on our trees in the past number of years, the poor crops have added to the financial stress to our industry. In my 6 years as Chair one of my goals was to expand the apple acreage in our industry. Instead our apple acreage has been maintained. The production and quality of our apples, however, will increase moving forward as the many high-density orchards that were planted in the last 10 years reach full production. In our industry we cannot meet market demand; not even close. Of the fresh market apples consumed in Ontario only 45% are grown here. We can do better. We just need to plant more trees.

Over the past year OAG has been updating the latest Establishment and Production Costs document to include the new labour and value rates. This document is invaluable for obtaining loans, valuating blocks of apples to determine profitability, succession planning and preparing cash flow projections. I would like to thank Larissa Osborne for her continued work on this project.

Because of the greater environmental risks in growing apples, the cost of growing apples, and smaller margins; Crop Insurance for apples is more important than ever. Over the last number of years, OAG has worked with Agricorp to revamp the apple plan to better align with the new technologies and practices related to current practices. The proposed changes to the apple plan could be available as soon as the 2021 crop year which is a short turnaround to implement changes. I believe that this plan will help to reduce some of the increasing risks in our everchanging industry. I would ask that you take the time to review the new proposed plan and provide us with your feedback. I would like to thank Rebecca Metzger and the team at Agricorp for their work to date on the proposed apple plan.

I would like to sincerely thank The Greenbelt Fund for assisting the tree fruit (apples and tender fruit) and fresh grape growers in 2019 with the grant funding they provided to offset the cost of trees and vines. A total of 94 growers planted 333,730 trees/vines under this program. This represents $3.4 million in grower investment, approximately 25 million pounds of fruit and over $15 million in farm gate sales. This was a welcome program and we look forward to working with them in the future.

OAG is currently putting together a small group of crop protection experts to devise a plan that concerns the imminent restriction on the uses of the products Captan and a group of chemistries under the umbrella of

EBDC. We will be concentrating on resistance management, cost, disease control, and the complexity of spraying caused by these changes. I look forward to our continued work on this critical issue for our grower community.

On behalf of all Ontario apple farmers I would like to acknowledge and thank our many funding partners. The OAG has been fortunate to receive funding from the Canadian Agricultural Partnership, a federal-provincial-territorial initiative. Additionally, we thank the Apple Marketers' Association of Ontario, Horticulture Crops Ontario, Georgian Bay Fruit Growers' Association and Ontario Fruit and Vegetable Growers' Association for their continued support of our programs.

I would like to conclude by saying that I have enjoyed the past 6 years as your Chair immensely. This would not have been possible without the professionalism of the Board and the staff at the OAG. I highly recommend the experience to any apple grower. Thank you to my family and my Wilmot Orchards team – you have been unwavering in your support and have picked up the slack when I was attending to OAG business. Lastly, I am going to miss my conversations with our General Manager, Kelly Ciceran. You have made my job easy.

Respectfully submitted,

Charles R. Stevens
Chair, OAG

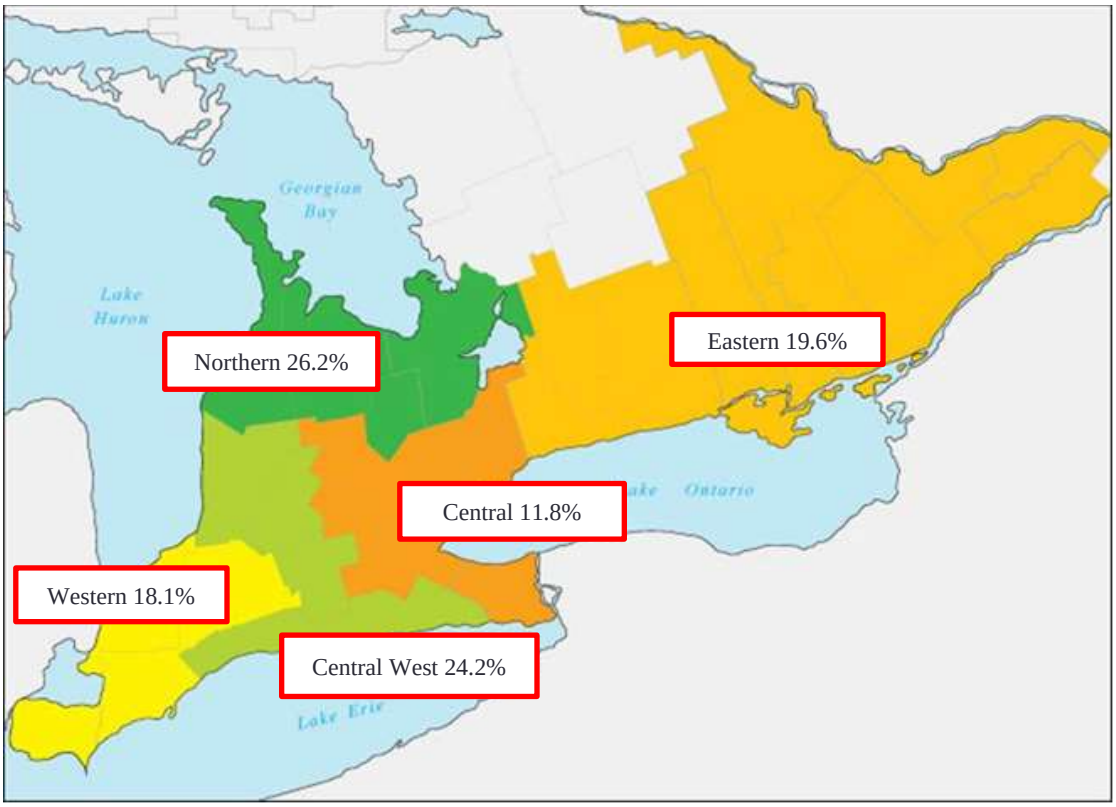
SIXTEENTH ANNUAL REPORT OF THE ONTARIO APPLE GROWERS

ACREAGE REVIEW

Tree Census

Tree census information (as of January 1st, 2019) included in this report is based on Agricorp's GPS mapping and information on total acreage provided by Statistics Canada. Agricorp continues to manage the DMS system in partnership with the OAG. The system provides reports on plantings by age, by variety and by district for all OAG members. Statistics Canada estimated that there is a total of 15,581 bearing and non-bearing acres in Ontario in 2019. The assumption has been made that the variety mix for the remaining acres were about the same as for those that were mapped.

Ontario Acreage by District



District Boundaries

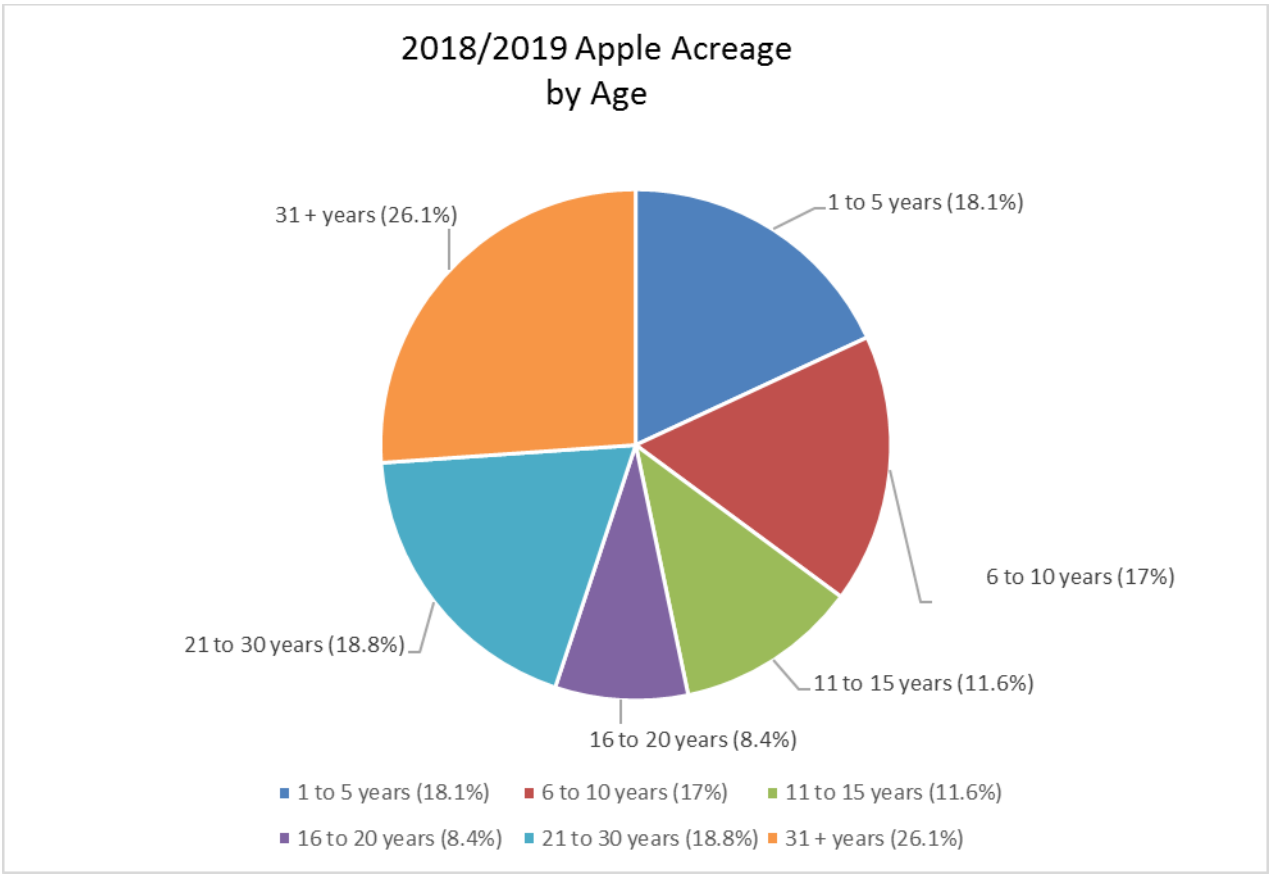
District 1 Western is comprised of the upper-tier municipalities of Essex, Lambton & Middlesex and the single-tier municipality of Chatham-Kent.

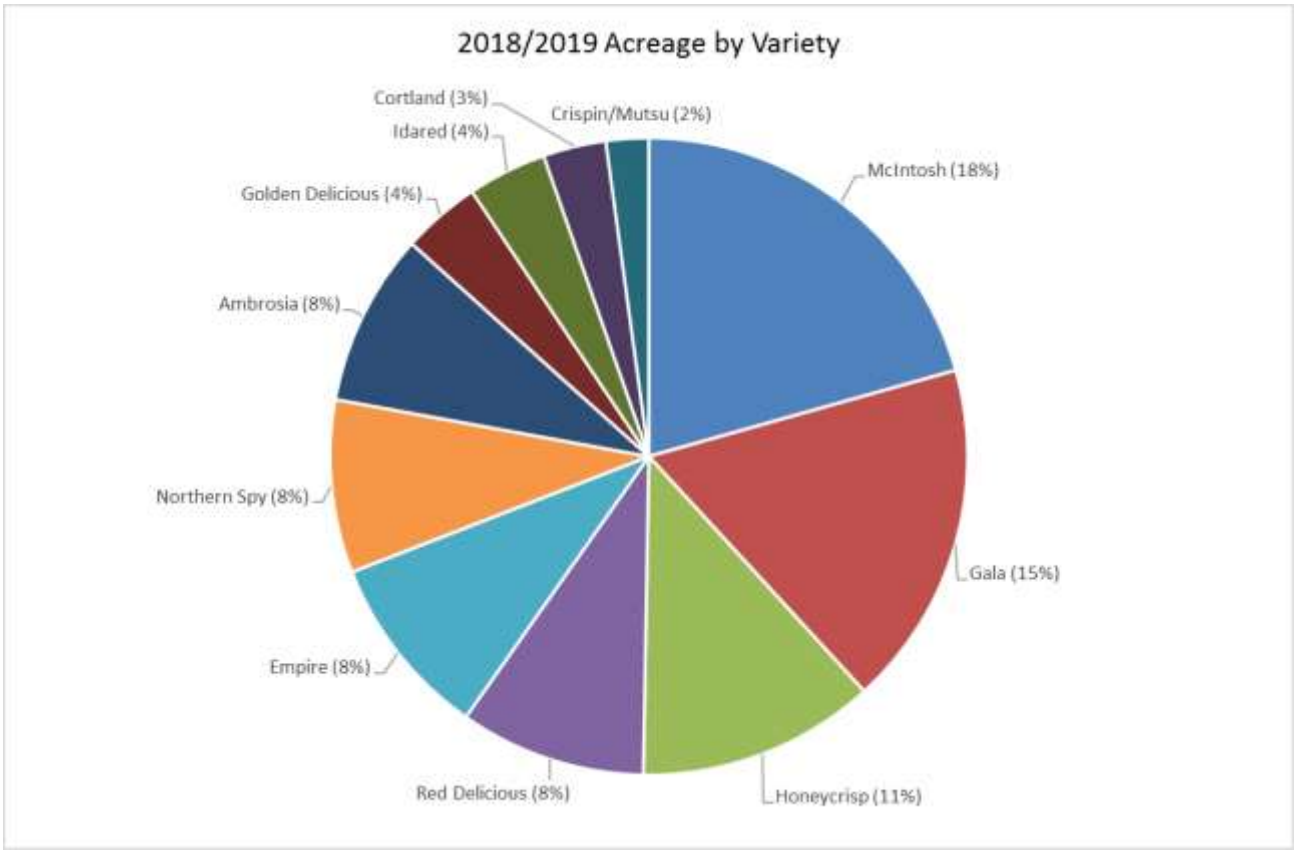
District 2 Central West is comprised of the upper-tier municipalities of Huron, Perth, Oxford & Elgin and the single-tier municipalities of Haldimand and Norfolk.

District 3 Northern is comprised of the upper-tier municipalities of Bruce, Grey, Simcoe and Dufferin.

District 4 Central is comprised of the upper-tier municipalities of Wellington, Peel, York, Halton, Waterloo and Niagara and the single tier-municipalities of Brant, Toronto and Hamilton.

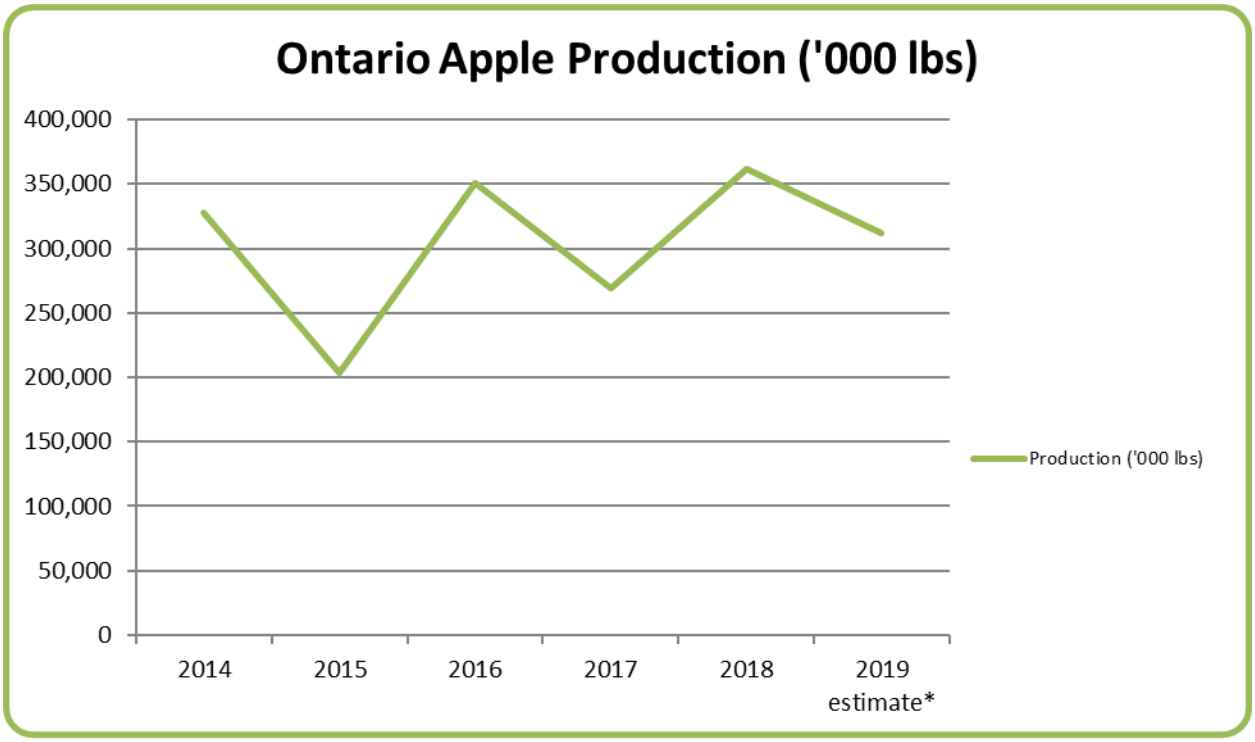
District 5 Eastern is comprised of the upper-tier municipalities of Durham, Northumberland, Peterborough, Frontenac, Hastings, Lannark, Lennox & Addington, Leeds & Grenville, Renfrew & Stormont, Dundas & Glengarry & Prescott & Russell and the single-tier municipalities of Kawartha Lakes, Ottawa and Prince Edward.


2018/2019 Apple Acreage by Age
31 + years (26.1%)
1 to 5 years (18.1%)
6 to 10 years (17%)
21 to 30 years (18.8%)
11 to 15 years (11.6%)
16 to 20 years (8.4%)
1 to 5 years (18.1%)
6 to 10 years (17%)
11 to 15 years (11.6%)
16 to 20 years (8.4%)
21 to 30 years (18.8%)
31 + years (26.1%)


2018/2019 Acreage by Variety
Cortland (3%)
Crispin/Mutsu (2%)
Idared (4%)
McIntosh (18%)
Golden Delicious (4%)
Ambrosia (8%)
Northern Spy (8%)
Gala (15%)
Empire (8%)
Red Delicious (8%)
Honeycrisp (11%)

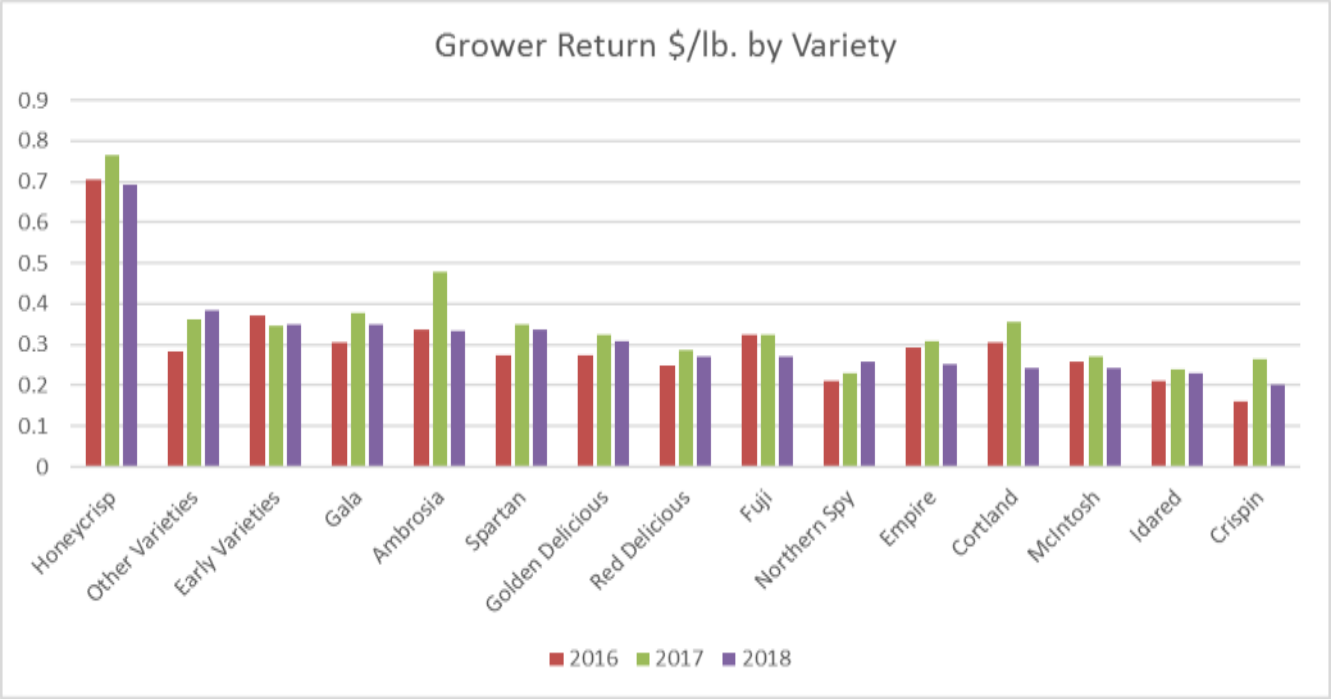
CROP ESTIMATE

Ontario Apple Production - 2014 to 2019		
Years	**Production ('000 lbs.)**	**% Change from previous year**
2014	328,204	-17.8%
2015	203,533	-38.0%
2016	350,435	72.2%
2017	269,513	-23.1%
2018	361,959	34.3%
2019 (est.)*	311,705	-13.9%
5-year ave.	**302,729**	
Source: OAG Annual Apple Marketing Survey and Apple Yield Estimate Survey		
*November 2019 estimate excludes orchard juice estimated volumes at this time.		



MARKETING REVIEW

The results of the 2018 marketing survey include comparative figures from the 2018 year begin on page 9. The survey provides the industry average returns per pound and per bin (820 lbs.) by variety and represents the prices for 100% of the apples in the bin, not just those for the fresh market pack out. With this information, growers and packers can compare their results with the average. This information also provides valuable information for government programming.



Flyer Ad Tracking

The OAG tracks apple flyer ad activity at major retail. We record retail chain, variety, pack (bulk or bag), price/lb. and country of origin. This information is shared with the apple packers on a weekly basis.

Storage Holdings

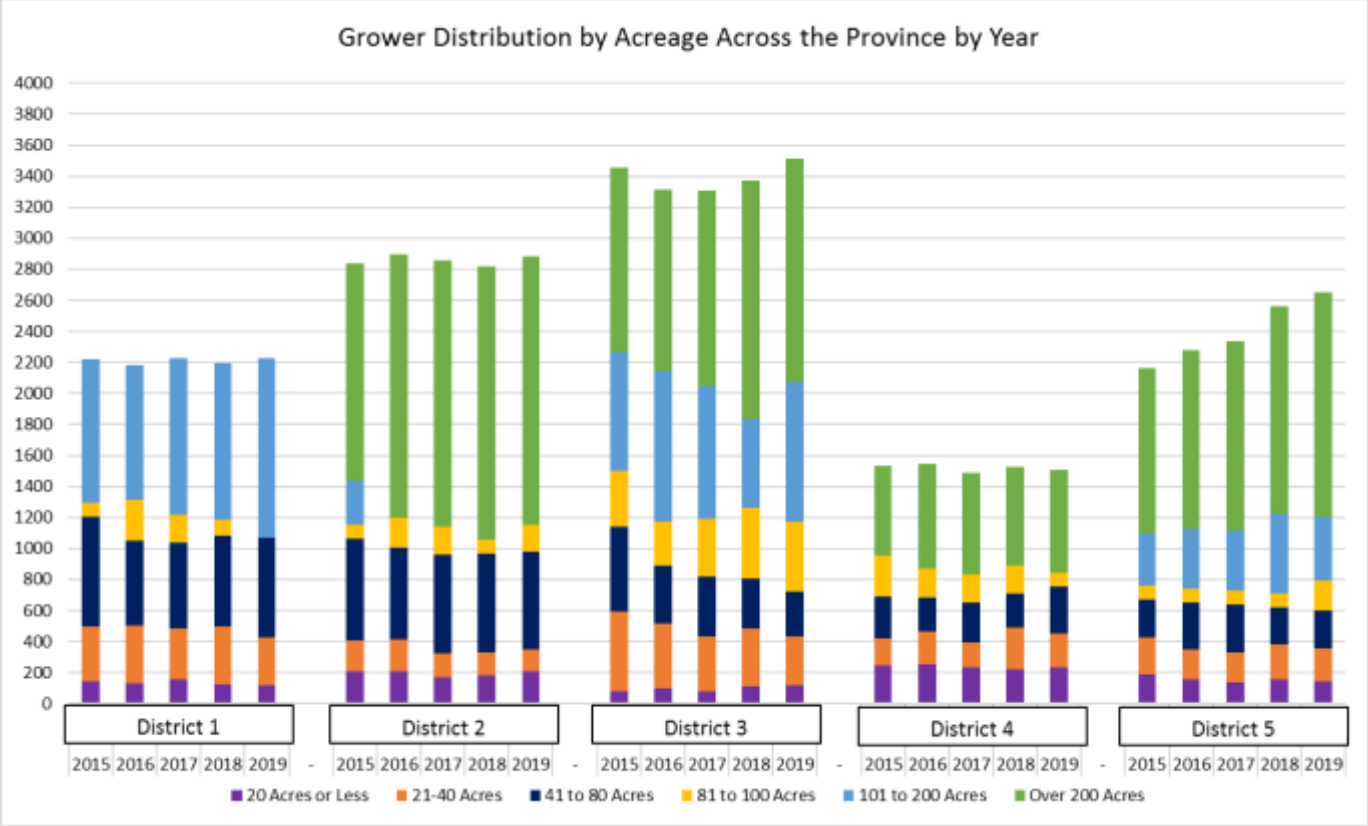
The OAG continues to collect storage holdings for the industry. As always, individual storage holder data is kept confidential. Similar information is collected in other apple producing provinces. This information is entered into AAFC's InfoHort system and published on their website. The OAG summarizes the Canadian data and combines it with similar statistics on the U.S. crop and provides it to the marketers, storage holders and our grower members. The OAG thanks all the storage cooperators for their excellent participation.

2019 OAG MEMBERSHIP

Each District has a District Apple Producers' Committee and each District may elect one committee person for each 20 growers. If the District is not a multiple of 20, then there shall be one grower representative for each 20 growers plus one additional representative. On or before December 31st of each year, each District Apple Producers' Committee will elect two members to the board of directors of the Ontario Apple Growers. Based on the current membership, the number of growers to be elected to the District Committees is as follows:

District	Grower Members	District Committee Representatives
District 1	36	3
District 2	36	3
District 3	37	3
District 4	31	3
District 5	29	3
Total - Members	**169**	**15**
Voluntary Members	54	
Total - All Members	**223**	

2015 - 2019 OAG Grower Distribution by Acreage



APPLE STATISTICS

APPLE CROP ESTIMATE

ONTARIO APPLE GROWERS 2019 APPLE YIELD BY VARIETY					
Variety	**2017 Production ('000 lbs)**	**2018 Production ('000 lbs)**	**2019 Production ('000 lbs)**	**2019 Production ('000 bushels)**	**% Change 2019 vs. 2018**
Other Early Varieties	5,650	8,622	9,159	218	6.2%
Ambrosia	13,640	19,706	21,384	509	8.5%
Cortland	6,265	13,025	13,063	311	0.3%
Crispin/Mutsu	2,731	2,444	2,818	67	15.3%
Empire	32,807	39,328	30,400	724	-22.7%
Fuji	1,665	2,874	6,176	147	114.9%
Gala	37,894	56,965	58,795	1,400	3.2%
Golden Delicious	7,089	7,595	9,725	232	28.0%
Honeycrisp	19,438	32,903	29,427	701	-10.6%
Idared	5,236	5,614	4,138	99	-26.3%
McIntosh	51,942	63,466	51,781	1,233	-18.4%
Northern Spy	29,397	47,093	26,203	624	-44.4%
Red Delicious	19,395	25,540	28,571	680	11.9%
Spartan	4,313	4,644	4,754	113	2.4%
Other Late Varieties	7,895	12,003	15,309	364	27.5%
Total Fresh	**245,357**	**341,823**	**311,705**	**7,422**	**-8.8%**

2018 ONTARIO APPLE PRODUCTION BY UTILIZATION

PRODUCTION (LBS.)

Variety	Fresh		Orchard Juice*		Other Processing		Total	
	2018	2017	**2018**	2017	**2018**	2017	**2018**	2017
Ambrosia	**19,876,877**	12,956,001			**86,586**	122,991	**19,963,463**	13,078,992
Cortland	**11,589,102**	5,316,023			**1,002,396**	719,040	**12,591,498**	6,035,063
Crispin (Mutsu)	**2,871,153**	1,968,804			**465,594**	676,561	**3,336,747**	2,645,365
Early Varieties	**8,970,113**	5,405,692			**316,297**	10,000.00	**9,286,410**	5,415,692
Empire	**36,287,856**	28,971,315			**1,683,731**	2,581,549	**37,971,587**	31,552,864
Fuji	**3,715,266**	1,247,494			**20,153**	363,715	**3,735,419**	1,611,209
Gala	**56,654,572**	35,996,618			**193,149**	338,835	**56,847,721**	36,335,453
Golden Delicious	**8,213,823**	6,582,567			**73,883**	220,947	**8,287,706**	6,803,514
Honeycrisp	**31,680,200**	18,528,587			**38,473**	107,398	**31,718,673**	18,635,985
Idared	**506,271**	173,866			**6,088,539**	6,054,228	**6,594,810**	6,228,094
McIntosh	**48,141,007**	38,897,811			**13,525,436**	11,359,810	**61,666,443**	50,257,621
Northern Spy	**19,610,575**	16,011,852			**16,749,853**	11,692,074	**36,360,428**	27,703,926
Red Delicious	**24,464,184**	18,327,067			**161,841**	274,615	**24,626,025**	18,601,682
Spartan	**4,197,403**	3,609,084			**1,289,981**	547,302	**5,487,384**	4,156,386
Other Varieties	**10,466,341**	3,737,197			**2,145,668**	3,995,498	**12,612,009**	7,732,695
Mixed Varieties - Juice**	-	-	**20,136,021**	12,072,035	**10,736,498**	8,562,565	**30,872,519**	20,634,600
Total	**287,244,744**	197,729,977	**20,136,021**	12,072,035	**54,578,078**	47,627,128	**361,958,843**	257,429,140

*Orchard Juice represents apples picked specifically for juice from Ontario orchards.

**Juice production cannot be accurately reported by variety therefore it is reported as a total of mixed varieties.

2018 ONTARIO APPLE GROWER PRICE PER LB.

GROWER PRICE ($/LB)									
Variety	**Net Return/ 820 Lb. Bin**	**Fresh ($)**		**Orchard Juice Processing ($)**		**Other Processing ($)**		**Average Fresh and Other Processing ($)**	
	2018	**2018**	2017	**2018**	2017	**2018**	2017	**2018**	2017
Ambrosia	**$ 275**	**0.335**	0.482			**0.172**	0.135	**0.334**	0.478
Cortland	**$ 203**	**0.248**	0.374			**0.192**	0.211	**0.243**	0.355
Crispin (Mutsu)	**$ 169**	**0.206**	0.295			**0.176**	0.175	**0.202**	0.265
Early Varieties	**$ 290**	**0.353**	0.347			**0.266**	-	**0.350**	0.347
Empire	**$ 206**	**0.251**	0.323			**0.246**	0.165	**0.251**	0.310
Fuji	**$ 222**	**0.271**	0.366			**0.140**	0.178	**0.270**	0.324
Gala	**$ 286**	**0.349**	0.381			**0.162**	0.148	**0.348**	0.378
Golden Delicious	**$ 255**	**0.311**	0.329			**0.127**	0.162	**0.310**	0.323
Honeycrisp	**$ 568**	**0.693**	0.769			**0.140**	0.134	**0.692**	0.766
Idared	**$ 185**	**0.225**	0.342			**0.230**	0.236	**0.230**	0.239
McIntosh	**$ 207**	**0.252**	0.297			**0.208**	0.180	**0.243**	0.271
Northern Spy	**$ 213**	**0.260**	0.213			**0.259**	0.255	**0.259**	0.231
Red Delicious	**$ 222**	**0.271**	0.289			**0.345**	0.224	**0.272**	0.288
Spartan	**$ 293**	**0.357**	0.355			**0.273**	0.298	**0.338**	0.348
Other Varieties	**$ 345**	**0.420**	0.581			**0.208**	0.159	**0.384**	0.363
Mixed Varieties - Juice	**$ -**	**-**	-	**0.087**	0.095	**0.137**	0.109	**0.137**	0.109
Avg. Grower Price - All Utilization ($/lb)	**$ 295**	**0.359**	0.402	**0.087**	0.095	**0.213**	0.192	**0.307**	0.329
Avg. Transaction - All Utilization ($/lb)		**0.431**	0.471	**0.087**	0.095	**0.233**	0.212	**0.382**	0.405

2018 ONTARIO APPLE GROWER VALUE

GROWER VALUE $

Variety	Fresh ($)		Orchard Juice ($)		Other Processing ($)		Total ($)	
	2018	2017	**2018**	2017	**2018**	2017	**2018**	2017
Ambrosia	**6,661,404**	6,239,246			**14,922**	16,604	**6,676,326**	6,255,850
Cortland	**2,869,191**	1,989,862			**192,367**	151,784	**3,061,558**	2,141,646
Crispin (Mutsu)	**591,664**	581,625			**82,122**	118,688	**673,785**	700,313
Early Varieties	**3,168,569**	1,877,789			**84,237**	-	**3,252,805**	1,877,789
Empire	**9,106,507**	9,343,885			**414,190**	425,086	**9,520,697**	9,768,971
Fuji	**1,005,581**	456,892			**2,821**	64,852	**1,008,403**	521,744
Gala	**19,755,966**	13,701,959			**31,221**	50,250	**19,787,187**	13,752,209
Golden Delicious	**2,555,818**	2,164,613			**9,384**	35,808	**2,565,201**	2,200,421
Honeycrisp	**21,951,357**	14,257,743			**5,386**	14,371	**21,956,743**	14,272,114
Idared	**113,949**	59,501			**1,399,686**	1,428,419	**1,513,635**	1,487,919
McIntosh	**12,143,123**	11,558,260			**2,814,291**	2,046,298	**14,957,414**	13,604,559
Northern Spy	**5,098,603**	3,410,524			**4,330,233**	2,985,886	**9,428,836**	6,396,411
Red Delicious	**6,636,333**	5,289,743			**55,827**	61,616	**6,692,160**	5,351,359
Spartan	**1,500,427**	1,282,753			**352,566**	162,898	**1,852,993**	1,445,651
Other Varieties	**4,399,802**	2,170,279			**447,344**	633,536	**4,847,146**	2,803,815
Mixed Varieties -Juice	-	-	**1,741,785**	1,151,598	**1,475,208**	932,473	**3,216,993**	932,473
Total Grower Value	**97,558,293**	74,384,675	**1,741,785**	1,151,598	**11,711,805**	9,128,567	**111,011,882**	84,664,840
Total Transaction Value	**123,935,177**	93,112,023	**1,741,785**	1,151,598	**12,707,796**	10,119,977	**138,384,758**	104,383,598

2018 Ontario Apple Tree Acreage By Variety, By District

Variety Name	1 Western	2 Central West	3 Northern	4 Central	5 Eastern	Total Acreage	2018 % of Total Crop	2017 % of Total Crop
McIntosh	186	650	1,290	203	493	2,822	18.1%	19.1%
Gala	481	663	139	337	773	2,393	15.4%	14.7%
Honeycrisp	272	340	345	204	494	1,655	10.6%	9.8%
Red Delicious	298	411	88	206	296	1,298	8.3%	8.6%
Empire	280	569	194	84	158	1,285	8.2%	8.5%
Northern Spy	64	282	786	36	30	1,199	7.7%	7.9%
Ambrosia	332	241	194	176	255	1,199	7.7%	7.2%
Other	68	66	291	70	92	588	3.8%	3.4%
Golden Delicious	264	122	9	115	41	551	3.5%	3.7%
Idared	87	104	227	16	33	467	3.0%	3.5%
Cortland	37	83	129	79	103	431	2.8%	2.7%
Crispin/Mutsu	83	63	20	107	18	291	1.9%	2.0%
Fuji	124	37	16	39	29	246	1.6%	1.5%
Spartan	9	35	139	15	40	239	1.5%	1.6%
Paulared	38	37	28	26	93	222	1.4%	1.4%
Ginger Gold	57	27	18	21	36	160	1.0%	1.0%
Mixed	38	8	7	59	42	153	1.0%	1.1%
Crimson Crisp	5	3	73	12	8	101	0.6%	0.6%
Jonagold	33	26	9	23	1	92	0.6%	0.6%
Jerseymac	11	2	57	4	1	76	0.5%	0.5%
Golden Russet	17	3	15	8	21	65	0.4%	0.4%
Jonamac	37	5	6	2	-	49	0.3%	0.3%
TOTAL	**2,819**	**3,778**	**4,080**	**1,845**	**3,059**	**15,581**	**100%**	**100%**

Notes: Includes bearing and non-bearing acreage in Ontario.

Sources: Agricorp/OAG ADaMS DMS System and Statistics Canada, CANSIM Table 32-10-0364-01

See Ontario Apple Growing Regions section in this annual report for a more detailed description of Districts 1 to 5 above.

Other includes: Aurora Golden Gala, Braeburn, Cameo, Cox's Orange Pippin, Creston, Cripps Pink, Dabinett, Earligold, Elstar, Fortune, Goldrush, Granny Smith, Kingston Black, Liberty, Lobo, Lodi, Macoun, Marshall Mac, Mascad De Dieppe, Melba, Michelin, Novaspy, Porter's Perfection, Quinte, Red Prince, Rome, Roxbury Russet, Russet, Shizuka, Silken, Snow, Sunrise, Tolman Sweet, Transparent, Tydeman Red, Viking, Vista Bella, Wealthy, Winesap, Yarlington Mill and Zestar!.

2018 Ontario Apple Tree Acreage By Variety, By Tree Age

Variety Name	1 To 5 Years (2014-2018)	6 To 10 Years (2009-2013)	11 To 15 Years (2004-2008)	16 To 20 Years (1999-2003)	21 To 30 Years (1989-1998)	31 Years and Over (Pre-1989)	Total Acreage	2018 % of Total Crop
McIntosh	114	183	243	192	663	1,427	2,822	18.1%
Gala	806	879	264	209	211	25	2,393	15.4%
Honeycrisp	624	418	463	137	13	1	1,655	10.6%
Red Delicious	219	146	31	94	305	503	1,298	8.3%
Empire	15	48	54	87	583	497	1,285	8.2%
Northern Spy	6	60	53	132	385	562	1,199	7.7%
Ambrosia	557	357	252	33	-	-	1,198	7.7%
Other	154	89	226	36	44	39	588	3.8%
Golden Delicious	17	115	46	122	152	99	551	3.5%
Idared	5	21	11	5	90	336	467	3.0%
Cortland	64	73	39	46	98	111	431	2.8%
Crispin/Mutsu	12	21	36	77	59	87	291	1.9%
Fuji	92	62	20	13	49	10	246	1.6%
Spartan	3	7	11	11	80	127	239	1.5%
Paulared	45	43	9	11	23	90	222	1.4%
Ginger Gold	21	41	17	54	28	1	160	1.0%
Mixed	9	10	25	23	32	54	153	1.0%
Crimson Crisp	36	64	-	-	-	-	101	0.6%
Jonagold	11	13	1	8	49	9	92	0.6%
Jerseymac	1	-	2	2	33	39	76	0.5%
Golden Russet	7	4	1	20	17	17	65	0.4%
Jonamac	-	3	-	-	12	34	49	0.3%
TOTAL	**2,817**	**2,655**	**1,804**	**1,310**	**2,926**	**4,068**	**15,580**	**100.0%**

Notes: Includes bearing and non-bearing acreage in Ontario.

Sources: Agricorp/OAG ADaMS DMS System and Statistics Canada, CANSIM Table 32-10-0364-01

See Ontario Apple Growing Regions section in this annual report for a more detailed description of Districts 1 to 5 above.

Other includes: Aurora Golden Gala, Braeburn, Cameo, Cox's Orange Pippin, Creston, Cripps Pink, Dabinett, Earligold, Elstar, Fortune, Goldrush, Granny Smith, Kingston Black, Liberty, Lobo, Lodi, Macoun, Marshall Mac, Mascad De Dieppe, Melba, Michelin, Novaspy, Porter's Perfection, Quinte, Rome, Roxbury Russet, Russet, Shizuka, Silken, Snow, Sunrise, Tolman Sweet, Transparent, Tydeman Red, Viking, Vista Bella, Wealthy, Winesap, Yarlington Mill and Zestar!.

IMPORTS OF FRESH APPLES 2018 CROP YEAR (LBS)										
PROVINCE	**EMPIRE**	***HONEYCRISP**	**GALA**	**GOLDEN DELICIOUS**	**GRANNY SMITH**	**IDA RED**	**MCINTOSH**	**RED DELICIOUS**	**UNSPECIFIED**	**TOTAL**
Alberta		14,193	649,089	70,083	222,481			117,028	621,183	1,694,056
British Columbia		1,344,368	40,351,654	4,497,511	19,165,086	80,967		15,437,441	44,193,592	125,070,619
Manitoba			57,404	17,386	30,613			22,046	32,161	159,610
New Brunswick		23,446	672,539	4,475	19,612		1,967	24,460	610,885	1,357,385
Nova Scotia			1,052,012			728,880			848,157	2,629,049
Ontario		**870,646**	**64,073,297**	**7,124,362**	**21,525,859**	**440,924**	**107,522**	**15,155,327**	**28,417,362**	**137,715,299**
Québec			7,431,223	899,842	10,930,821	48,502	293,214	1,449,692	6,353,770	27,407,064
Saskatchewan		9,800	203,083	12,011	184,533			13,719	293,913	717,059
Total By Variety		**2,262,454**	**114,490,299**	**12,625,669**	**52,079,006**	**1,299,273**	**402,703**	**32,219,714**	**81,371,023**	**296,750,141**
Ontario - 2017			74,912,542	8,995,487	28,212,837	1,060,682	101,741	19,747,083	27,876,128	160,906,501
Ontario - 2018 vs. 2017		**100%**	**-14%**	**-21%**	**-24%**	**-58%**	**6%**	**-23%**	**2%**	**-14%**
Total By Variety - 2017			127,850,418	14,408,023	56,251,874	1,171,930	1,091,086	39,284,047	80,086,045	320,143,422
Total By Variety - 2018 vs. 2017		**100%**	**-10%**	**-12%**	**-7%**	**11%**	**-63%**	**-18%**	**2%**	**-7%**

IMPORTS OF FRESH APPLES - 5 YEAR AVERAGE 2014-2018 CROP YEARS (LBS)										
PROVINCE	**EMPIRE**	***HONEYCRISP**	**GALA**	**GOLDEN DELICIOUS**	**GRANNY SMITH**	**IDA RED**	**MCINTOSH**	**RED DELICIOUS**	**UNSPECIFIED**	**TOTAL**
Alberta		2,839	1,043,107	60,536	284,153			183,125	443,404	2,017,164
British Columbia	5,027	268,874	49,678,188	6,101,386	21,211,623	59,143		19,548,704	41,913,448	138,786,394
Manitoba			244,458	19,701	61,867		170,928	46,944	85,086	628,985
New Brunswick	28	4,689	324,125	34,151	100,577		6,351	76,596	267,085	813,602
Nova Scotia			871,928		10,827	145,776			1,126,150	2,154,681
Ontario	**579,630**	**174,129**	**75,601,675**	**9,630,078**	**28,092,184**	**676,263**	**203,653**	**21,854,785**	**29,352,567**	**166,164,963**
Québec	341,606		8,984,050	1,096,526	9,225,299	248,244	929,272	1,946,172	6,377,124	29,148,294
Saskatchewan		1,960	371,612	4,248	62,402		7,536	24,170	208,323	680,251
Total by Variety	**926,291**	**452,491**	**137,119,142**	**16,946,626**	**59,048,934**	**1,129,426**	**1,317,740**	**43,680,497**	**79,773,187**	**340,394,334**
Ontario - 2018 vs. 5 Year Average	**-100%**	**400%**	**-15%**	**-26%**	**-23%**	**-35%**	**-47%**	**-31%**	**-3%**	**-17%**
Total By Variety - 2018 vs. 5 Year Average	**-100%**	**400%**	**-17%**	**-25%**	**-12%**	**15%**	**-69%**	**-26%**	**2%**	**-13%**

*Data available for full crop year starting in 2019 as a new harmonized system code for Honeycrisp was introduced part way through 2018

Note: The province denotes the port of entry and may not necessarily reflect the final provincial destination of imported apples.
Source: Statistics Canada

RISK MANAGEMENT

The Risk Management Committee and Board aims to ensure that government cost-shared programs are meeting the needs of the apple farmers. Following is a review of the current programming.

Agri-Insurance - Production Insurance covers production losses and yield reductions caused by insured perils. Depending on the plan, coverage is available on a total-yield, dollar-value, or acreage-loss basis. Producers can choose the type and level of coverage that best meets their needs. The Risk Management Committee's priority is to communicate to government the needs and ensure a production insurance plan that is responsive to the changing needs of the Ontario apple sector.

Apple Crop Insurance, 2012 – 2019
(as of October 4, 2019)

Year	Accounts	Liability ($000's)	Total Premiums* ($000's)	Grower Share of Premiums ($000's)	Total Claims** ($000's)
2019	138	69,503	8,571	4,499	unknown
2018	135	62,202	9,292	4,811	4,569
2017	134	58,628	8,038	4,211	12,654
2016	142	49,843	8,632	4,516	2,835
2015	140	45,427	7,077	3,432	13,735
2014	143	41,128	7,868	4,112	2,828
2013	144	33,755	7,053	3,675	4,632
2012	140	34,866	3,482	1,528	26,858
5-year average (2014 - 2018)	**139**	**51,446**	**8,181**	**4,216**	**7,324**

* Total grower and government premiums
**Claims data refers to approved claims only

AgriStability - AgriStability covers margin declines caused by any combination of production losses, adverse market conditions or increased costs. If a producer's margin falls below 70% of their recent average, AgriStability helps to offset the difference. The following table shows Apple AgriStability Program participation and payments. Reporting is done by sector and can fluctuate year to year, as the annual sector determination is based on program-year reported income. Sector determination (apple, G&O, cattle, etc.) is based on income at or greater than 50% of total reported income in the program year. This means that an "apple" producer could be reported as a grain and oilseed producer (for example) if their apple income is less than 50% of their total reported income in a given year.

AgriStability Apple Statistics

(as of August 30, 2019)

Year	Processed	Payments	Total $	Average
2018	29	8	$ 136,410	$ 17,051
2017	146	28	$ 1,134,188	$ 40,507
2016	159	27	$ 621,918	$ 23,034
2015	180	21	$ 1,300,909	$ 61,948
2014	193	53	$ 1,579,291	$ 29,798
2013	183	30	$ 1,197,289	$ 3,910
2012	208	89	$ 2,343,273	$ 26,389
2011	212	44	$ 1,534,914	$ 34,884

Note: Processing statistics represent files processed as of August 30, 2019. Potential for additional Apple file processing and payments is possible as processing for 2018 continues.

Edible Horticulture Support Program – The Edible Horticulture Support Program was terminated on February 28, 2019 by OMAFRA. This program provided financial support to help Ontario producers of edible horticulture products adjust to new and challenging cost pressures in the small business environment. Payments were based on net sales of edible horticulture.

AgriInvest - AgriInvest is an additional business risk management program that producers can use to either cover small income declines or support other investments. Each year, producers can deposit up to 1.0 percent of their ANS into a bank account and receive a matching government contribution. Producers can withdraw funds at any time.

Commodity Loan Program (CLP) & Advance Payments Program (APP) - Apple growers currently have access to two government cash advance programs through Agricultural Credit Corporation. Both programs are available to all apple growers in Ontario.

The **Commodity Loan Program (CLP)** is a provincial government cash advance program that provides up to $750,000 of available financing at bank prime rate (currently 3.95%). The program begins January of each year, and advances are required to be paid the following year in September (19 months). Producers must utilize production insurance to participate.

The **Advance Payments Program (APP)** is a federal government cash advance program that provides up to $1,000,000 in available financing to producers with the first $100,000 interest free and the balance at the bank prime rate. Apple growers can access this program starting April 1st of each year based on anticipated production using either Production Insurance or AgriStability insurance. After October 1st of each year, security may be based on inventory on hand, without the Production Insurance or AgriStability requirement.

Major improvements have been made for both programs in 2019. Five advance/loan rates are now available ranging from 9 cents to 31 cents per pound for the APP program and from 13 cents to 46 cents per pound for the CLP program. These price levels recognize higher priced apple varieties. The new application process can be completed by the producer by simply contacting our office and completing the application over the phone with one of our trained staff. Producers who are interested in applying

or have questions regarding either program can contact the ACC office for further information at 1-888-278-8807 or by visiting our website at www.agcreditcorp.ca for details and updates.

PROMOTIONS

The Ontario Apple Growers work in collaboration with Foodland Ontario and the Apple Marketers' Association of Ontario (AMAO) on promotional programs to entice consumers to purchase Ontario apples. The OAG would like to sincerely thank the AMAO for their funding contribution towards the 2018/2019 crop year promotions.

FOODLAND ONTARIO ACTIVITIES

A strong partnership with Foodland Ontario enables us to reach a diverse group of consumers through their promotional efforts surrounding Ontario apples. These include:

- ✓ Monthly Recipe Releases which encourage more than 350 print/online and broadcast media outlets to write and talk about fresh Ontario food. Ontario Apples were featured November 2018-February 2019, April 2019 and September 2019.
- ✓ Foodland Website has approximately 100 recipes that feature Ontario apples.
- ✓ Television Advertisements showcasing Ontario Apples on 23 different occasions, reaching an audience of 218,800 Ontario consumers with an editorial value of $347,200.
- ✓ Radio Tags making consumers aware that fresh Ontario apples are available in stores aired for 2 weeks at 20-30 tags/week in 72 radio markets. This particular campaign generated 2.8 million consumer impressions for the week of September 24th, 2018 and March 25th, 2019.
- ✓ 2019 Calendars featured apples in December in a Maple, Apple and Carrot Layered Cake (250,000 English copies and 2,500 French copies distributed).

Foodland Social Media

- **Facebook** - approximately 3.5 million reach and over 12,000 engagements
- **Instagram -** 57,472 impressions, 6,374 likes, 825 saves and 74 comments
- **Twitter -** 49,973 impressions, 66 retweets and 168 favourites
- **Pinterest -** 40 saves and 1469 impressions

Point of Sale Materials (POS)

• Over 10,750 pieces of POS material were physically placed by the Foodland Ontario field team during their regular merchandising visits around apples in grocery stores

Retailer Display Contest

• Retail Display Contest ran from September 10 to November 30, 2018

• 362 Entries (this is a 5.8% increase from 2017)

2018/2019 OAG ACTIVITIES

Winter 2019 Instore Sampling Program

- 195 stores executed (98% Activation) over 2 days for 12 hours per store (6 hours per day)
- January 2019 – March 2019
- 286,621 units sold
- 22% sales life vs. previous week

Brand ambassadors asked shoppers to try a sample of Ontario Apples and talked about the variety they were sampling (Honeycrisp, Ambrosia or Gala) and sharing 2 main attributes. The objective was to attempt to close sale by offering recipe card, mentioning current price and location of the product, and suggesting to purchase. When asked for feedback, consumers loved the fresh, crisp taste of all 3 apples and that they were grown locally.

Food Influencers

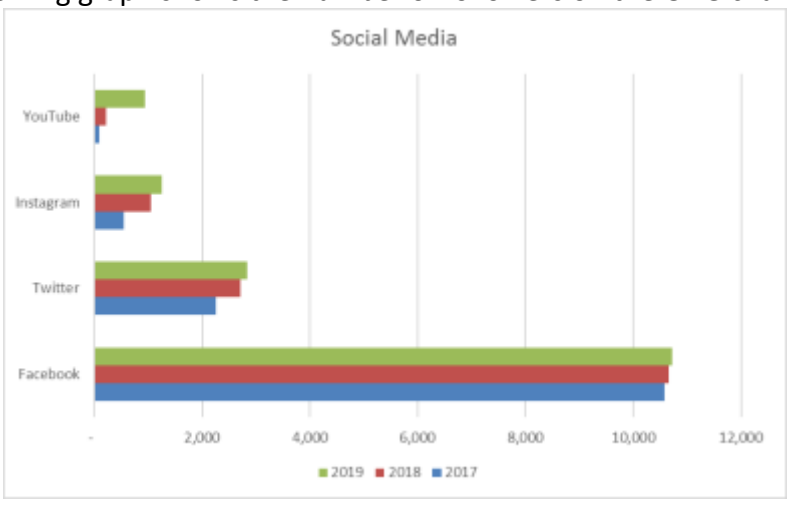
OAG worked with 10 bloggers who collectively developed 30 recipes. Thirteen of these were purchased by OAG and are now on our website recipe page. OAG also toured Wilmot Orchards and Algoma Orchards with 18 blogger participants which allowed our influencers to gain a deeper knowledge of Ontario apples, how they grow, how they are harvested, stored, packaged, and so much more. These tours are invaluable education.

FBC Conference

Staff attended the Food Bloggers of Canada conference at Penguin Random House in Toronto this year. This networking event is a great way to develop deeper connections with food and lifestyle bloggers who are actively talking to the public about where Ontario food comes from, farm practices and food safety. OAG donated apples to both this event and a smaller FBC-related one in Trent Hills.

Social Media

Social media continues to grow and be an economical way to share information about Ontario apples and recipes. The following graph shows the number of followers on the OAG channels.



For 2019 specifically,

- 10,720 Facebook Likes
- 2,831 Twitter Followers
- 1,248 Instagram Followers*
- 948 YouTube Views

*Use of #ONappleAday hashtag has over 1,000 posts on Instagram alone.

Website

This year OAG tracked 55,000 website sessions, of which 34,276 were new users. Four new grower profiles and 3 new blog posts were developed for the website and sharing on social media.

Advertising (Print and Video)

OAG placed a full-page advertorial in the January/February 2019 issue of Horizon Food & Travel Magazine showcasing healthy comfort food – an Ontario apple shepherd's pie – to align with consumers rethinking their diets at the start of the new year. In the September/October 2019 Thanksgiving issue we shared a sweet & savoury pork tenderloin and roasted apples dish (and featured on the front cover!) which was developed by one of our bloggers.

In addition to the print campaign, consumers were reminded that "fresh local apples were available in stores" throughout the TTC path screens from February 1 - 28, 2019 & October 1 - 31, 2019. Dundas Square digital billboard ads also ran from February 4 - 10, 2019 and October 1 - 31, 2019.

Produce Made Simple

The Ontario Produce Marketing Association's Produce Made Simple team was very busy this year promoting Ontario apples through their website, newsletters and social media channels. Some newly developed content includes:

- ✓ apple videos with live host
- ✓ simple recipes with photography for website - Ontario Apple Monster Bites & Applesauce
- ✓ New Article: DIY Ways to Decorate with Apples in the Fall + E-Newsletter Features x3

As part of these initiatives, Produce Made Simple collaborated with a local chef on TV appearances to demo a Thanksgiving recipe which included an Ontario Gala stuffing and aired on both CTV Morning Live (800K impressions) and CP24 Breakfast! (1 million impressions).

Farm and Food Care Ontario

Farm & Food Care Ontario is a whole-sector coalition made up of representatives from all farming types and associated businesses, and positions itself as the helpful expert on Ontario agriculture. The common goal is to build public trust in food and farming in Ontario and across Canada. The Ontario Apple Growers is proud to be a silver sponsor of Farm and Food Care.

Staff attended at Union Station along with other commodity groups, stakeholders and government in support of the #ONcommonground initiative during 2018 Ontario Agriculture Week. Pre-packaged apple slices were handed out to Toronto GO commuters as part of an all-Ontario breakfast.

Farm and Food Care Ontario also created a new series of videos on the apple sector including a new virtual reality video allowing people a full 360-degree view of an apple orchard. These videos about apples can be viewed at https://www.farmfood360.ca/en/apple-orchard/360-video/.

On September 14th, 2019 we were please to attend **Breakfast on the Farm** at Barrie Hill Farms which was a big hit. At the Ontario Apple Growers booth attendees got to "guess how many apples in the bin" to win an Ontario Local Food prize pack. OAG staff engaged several Ontario consumers throughout the day and handed out materials and recipe cards.

Royal Agricultural Winter Fair

OAG shared the OFVGA booth space once again during the Royal Agricultural Winter Fair on November 2nd – 4th, 2018. Honeycrisp, Gala, Ambrosia and Empire apples were handed out to attendees along with print materials containing Ontario apple availability, nutrition information, and of course, recipes!

CIBC Run for the Cure

With over 12,000 participants at the Toronto-based run, providing a nutritious after-run snack is a natural fit. Fresh Ontario Empire apples were supplied by the OAG. Sponsorship recognition was displayed throughout the event and online.

The Ontario Apple Growers thanks and acknowledges the support of our many funding partners including the Canadian Agricultural Partnership (CAP) program which is federal-provincial-territorial initiative. The Ontario Ministry of Agriculture, Food and Rural Affairs assists with the delivery of CAP in Ontario.

CANADIAN AGRICULTURAL PARTNERSHIP
Innovate. Grow. Prosper.

Ontario

Canada

GROWER INFORMATION & COMMUNICATIONS

The OAG uses several means to reach our membership. All newsletters are currently distributed by mail with 9 newsletters sent between December 2018 and November 2019. The OAG also distributes OMAFRA's *Orchard Network Newsletter* four times a year. There is a "Grower" section on the website where newsletters, industry statistics and information are always available. OAG members can log into this at any time with their grower number. There is also a Classifieds section on the Grower section of the website.

Cost of Establishment and Production – 2018 Update

The 2018 updated report aims to reflect the current management practices presently being used by apple growers today; it is not a guide to production. The main change from the 2016 version includes the use of the price indexing rates to reflect 2018 values for both variable and fixed costs. Adjustments have been made to update apple prices and to reflect the value for 100% of the apple yield with an average of 80% allocated for fresh market pack out and 20% allocated for processing markets. The COP provides information for both high-density and medium-density planting systems.

Economic Impact Study

The Ontario Apple Growers, Ontario Tender Fruit Growers and Ontario Fresh Grape Growers' Marketing Board partnered to conduct an Economic Impact Study of the Ontario tree fruit and fresh grape industry. Funding was provided by the Canadian Agricultural Partnership.

The Ontario apple, tender fruit and fresh grape sectors continue to be increasingly efficient. There are investments in advanced technologies (at all levels – growing, packing, shipping and processing), improved storage techniques and the gradual conversion of older orchards and vineyards to newer varieties and higher-density orchards for certain crops. Given the extensive range of activity taking place across the entire industry in Ontario, a comprehensive industry economic impact assessment is a valuable tool to inform industry stakeholders and farmer members of the total impact and value-add of such a range of activities, and appropriately strategize for the future.

International Fruit Tree Association (IFTA) Summer Study Tour

Ontario proudly played host to the IFTA Summer Study Tour this summer. The three-day tour visited a total of 12 farms in Norfolk, Georgian Bay and Milton areas July 22nd to 24th. The OAG sincerely thanks the many, many people who helped to make the event a success including the many sponsors of the event. The tour visited the following farms:

- Simcoe Research Station
- Hedges Apples
- Northland Ginseng Farms
- Schuyler Farms
- Lingwood Farms
- To No End Orchards
- Sandy Creek Orchards
- Apple Springs Orchards
- T&K Ferri Orchard
- Botden Orchard
- Bamford Family Farms
- Chudleigh's Apple Farm

Ontario Young Apple Farmers

Since 2014, the Ontario Young Apple Farmers group has been bringing together new and young apple farmers in Ontario as a way for them to network and learn from each other. The group continues to grow with over 60 members. This year the OAG was able to provide one registration to a Young Farmer Group to attend the International Fruit Tree Association's Summer Study Tour in Ontario. The group also tries to meet face-to-face each year. In March 2019, the group met in Thornbury for a workshop with Aad Wise, a horticulture consultant from the Netherlands. The group continues to use the texting app called "*What's App*" to continue their conversation and learn from each other on a daily basis.

INDUSTRY COMPETITIVENESS

Establishment and Production Costs

A full survey of the establishment and production costs was done with grower and stakeholder input in 2016. Since then, there have been a number of increases to inputs, including the increased minimum wage. The report tries to reflect the current management practices presently being used by growers today; it is not a guide to production. There are two sets of information in the report representing costs of production for high-density and medium-density orchards.

Orchard Juice Apples

Crop Year	Orchard Juice Price (/lb.)
2019	$ 0.075
2018	$ 0.075
2017	$ 0.060
2016	$ 0.575
2015	$ 0.065
2014	$ 0.055

The OAG negotiates the price of orchard (grounder) juice apples with the juice processor in August of each year. Pricing is determined based on competitive market forces. The 2018 Ontario crop estimate was projected to be up 39% from 2017 with 8.1 million bushels in total yield (fresh and processing). The minimum orchard juice apple price for 2018 was $.075/lb. FOB farm gate on the first 15 million lbs. and $0.063/lb. FOB farm gate for volume over 15 million lbs. The minimum orchard juice apple price for **2019** is $0.075/lb. FOB farm gate on the first 15 million lbs.

Ontario Craft Cider

The Ontario craft cider industry recorded another strong year of growth in 2018 as it doubled in size. Founded in 2012, the Ontario Craft Cider has grown to be a 50-member strong association, and is committed to working with key stakeholders in the industry to ensure sustainable growth. For the first time, OCCA partnered with OAG in a pilot program in October to organize 19 consumer samplings of Ontario apple and Ontario craft cider at selected grocery chains, handing out more than 6,000 samples and resulting in over 10,000 intercepts. The OCCA is also working closely with the Ministry of Finance on its alcohol modernization review. For more information, including a list of Ontario cideries, visit the newly redeveloped ontariocraftcider.com. You can also follow them on social media.

Research and Development

The OAG has secured more than $465,000 in research grant funding this year while providing $77,969 in grower seed funding to additional projects. Each year, the Research Committee meets with research extension staff to review minor use priorities and discuss research project results and proposals. Our research priorities are as follows:

Technology, Mechanization, Automation & Efficiencies

Increased production efficiencies through the use of the latest technologies and precision agriculture. Priorities (not ranked) include, but are not limited to:

- Labour efficiencies
- Pest management and crop protection efficiencies
- Weather risk efficiencies
- Water use efficiencies
- Modelling (for example, modelling for crop load management and integrated pest management)
- Remote sensing, software development and robotics
- Orchard design

Sustainable Practices

Sustainable cropping practices (crop load management, training systems, carbon capture, irrigation, fertigation, soil management, nutrition) are optimized according to variety and agro-climatic conditions. Priorities (not ranked) include, but are not limited to:

- Production efficiencies
- Integrated Fruit Production (IFP)
- Lower environmental impact
- Area wide practices
- Organic

Variety & Rootstock Development and Evaluation

New varieties and rootstocks are developed and selected according to consumer preferences and their performance in the different regions with the goal of achieving greater market share. Priorities (not ranked) include, but are not limited to:

- New variety breeding and evaluation
- Scion and Rootstock evaluation (i.e. winter hardiness, drought efficiency)
- Genomics
- Consumer preference studies

Maximizing Quality & Minimizing Losses

Crop maturity management and post-harvest storage conditions and treatment strategies with the goal of delivering a larger percentage of high-quality fruit for the fresh market. Priorities (not ranked) include, but are not limited to:

- Post-harvest research (for example, storage disorders and diseases)
- Optimal harvest management and timing

The following is a synopsis of the many research projects that the Ontario Apple Growers has either managed or provided support (financially or in-kind).

Emerging fruit tree decline in Canada: identification and characterization of the causal agents and epidemiological studies - Ontario Team: Jonathan Griffiths, Oualid Ellouz, Antonet Svircev, Tahera Sultana, Aiming Wang, Justin Renkema, Qing Yu (AAFC); Kristy Grigg-McGuffin, Amanda Green, Kathryn Carter, Wendy McFadden-Smith (OMAFRA)

Symptoms of tree decline leading to unusually widespread and rapid mortality of pome (apple, pear) and stone (apricot, peach, cherry) fruit trees have been reported in the past 2-3 years in Ontario, British Columbia, Prince Edward Island and Nova Scotia. In apples, this syndrome is known as Sudden or Rapid Apple Decline (SAD/RAD). The decline in pome and stone fruit are likely unrelated and caused by a complex combination of pathogen pressures and abiotic factors.

In 2018, pathogen isolations from symptomatic trees were conducted in British Columbia, Ontario and Nova Scotia. Preliminary work has yielded a number of potential bacterial, fungal and viral pathogens and plant-parasitic nematodes.

A North American team of 28 researchers lead by Agriculture Canada began a multi-year project with the following objectives:

1. Identification of pathogens and abiotic factors, including characterization of tree fruit decline symptoms associated with individual pathogens;
2. Fulfilment of Koch's Postulates to determine which pathogen(s) are responsible for the characteristic disease symptoms observed in pome and stone fruit;
3. Develop and/or implement molecular-based diagnostic tools for detection of decline-associated pathogens;
4. Provide communication regarding the status of SAD/RAD to the scientific community, growers and stakeholders to develop and implement future integrated pest management practices for the control of decline in Canadian orchards.

Throughout summer and fall of 2019, symptomatic and asymptomatic trees were collected from various orchards in Ontario. Fungal, bacterial and viral isolations are on-going from leaf, crown and root tissue samples. Soil and root sampling was also done at each orchard to identify densities of key plant parasitic nematodes. Plant water relations (transpiration rates, leaf mineral nutrients) and cold hardiness are being monitored in an experimental orchard in Vineland, ON with trees exhibiting varying decline symptoms. Ethanol traps (6 traps/site) were monitored in 14 apple orchards in various regions of the province to evaluate presence of Ambrosia beetles (*Xylosandrus* spp. and related genera).

Koch's Postulate evaluations will be performed on 2-3 year old trees in greenhouse trials in Vineland, ON over Winter/Spring 2020 using identified bacterial and fungal pathogens associated with SAD/RAD. Depending on the pathogen species, inoculations will be carried out by either dipping roots in a spore suspension, inoculation of wounds in trunk and/or scion with a spore suspension or insertion of mycelial plug into a wound created on the trunk. Pathogens will be inoculated both individually and in combinations. Potential viral pathogens will be tested using infectious clones with the viral genome to infect clean apple trees and tested in combination with other pathogens.

Further work on potential pathogens and abiotic influences will continue in coming years.

Optimizing Production and Quality of Ambrosia, Honeycrisp Apples through Advanced Thinning and Mitigating Biennial Bearing Strategies – Dr. John A. Cline (University of Guelph)

A three-year U of G/OMAFRA project funded, in part by the OAG, was initiated in 2017 to develop new strategies to thin Ambrosia and Honeycrisp apples with the use of Carbaryl (Sevin XLR™). In addition, the physiology of biennial bearing will be investigated on Honeycrisp. The specific objectives of this project are to: 1) investigate the thinning efficacy of ACC and metamitron (if available) in comparison with 6-BA and Carbaryl on Gala and Ambrosia; 2) determine the effectives of the flower inhibitor GA4+7 in adjusting the crop load on Gala and Honeycrisp; 3) determine the effectiveness of dormant "precision" pruning in combination with NAA on Gala and Honeycrisp; 4) measure the biennial bearing of Honeycrisp trees in comparison with Gala, and; 5) measure flower bud induction and initiation and organogensis in Honeycrisp and Gala.

Chemical fruitlet thinning experiments conducted in 2018 demonstrated that metamitron to be an effective thinner compared with untreated control trees and trees treated with standard commercial thinner products (2019 data are not available at the time of preparing this report). Metamitron (formulated product name is Brevis), an herbicide used on sugar beets, is a photosynthetic inhibitor (PSII) that temporarily reduces carbohydrate supply to developing fruitlets, trigging earlier and enhanced fruit abscission. Registration for this product is being sought by Adama Canada. Metamitron did not cause marked leaf or fruit phytotoxicity or leaf drop when tested at concentrations ranging from 1.1 to 3.2 L/ha. For Gala, 2.75 L/ha metamitron was required to thin Gala to an equivalent level of hand thinning while 2.2 to 2.75 L/ha metamitron was required to reduced fruit set of Honeycrisp to an acceptable level. The response to metamitron was generally linear with increasing rates. Our data suggests the response may vary from year to year, as with other thinners currently on the market. In the same study, the efficacy of 1-ACC applied at different rates and timings on the fruitlet thinning of 'Gala', 'Honeycrisp' and 'Ambrosia' apples was studied. When 1-ACC was applied between 200 and 400 mg/L, it failed to reduce the fruit set (thin) of Gala apples, but provided similar fruit set as hand thinning treatments for Ambrosia apples. For Honeycrisp, 300-400 mg/L of 1-ACC reduced fruit set when applied at 9-10 mm, but was ineffective when applied at the 15 mm fruitlet size (later application). Overall, 1-ACC proved to be a mild thinner in 2018 when applied between 200 -400 mg/L and later (~15 mm) applications were less effective than results from years.

Experiments to investigate the biennial bearing (BB) are ongoing and further yield data are required to calculate the BB index for the Honeycrisp and Gala crop load experiment. In another BB experiments on Honeycrisp, tree crop load was adjusted after June-drop to moderate, low and zero fruit per tree. One scaffold limb was also de-fruited while the remainder of the tree was left unthinned. Return bloom and fruiting were monitored in 2019 to determine the treatment effects on flowering and biennial bearing. Only trees that were completely defruited in 2018 had significantly higher return bloom ratings in 2019 in comparison with the other treatments. With increasing rates of thinning (zero, light and moderate) at "June drop", trees had an increasing amount of return bloom, but flowering was still insufficient to set a commercial crop, even with trees that where thinned to commercial levels.

Fire Blight Risk during 2019 Bloom – Kristy Grigg-McGuffin, OMAFRA Horticulture IPM Specialist and Michael Pupulin, OMAFRA Summer Student

Fire blight is a very devastating bacteria disease of apple and pears. The models available (Maryblyt and Cougar Blight) were intended to be site specific. However, many apple growers have indicated time constraint challenges in collecting and entering environmental data daily into the models to determine fire blight infection risk during bloom. The 7-day weather forecast data from 72 sites, representing most counties in southern and eastern Ontario where apples are grown, was put into the Cougar Blight model and updated 3 times per week during apple blossom time May 1 - June 25, 2019. Risk were developed into animated maps based on the fire blight situation of the orchard that were posted on the OMAFRA website and the link was emailed to OAG members. A recap of the year can be found on the OMAFRA website at http://www.omafra.gov.on.ca/english/crops/facts/fireblight-2apples.htm.

Using Genetic Tests to Confirm Herbicide Resistant Weeds – Kristen Obeid, OMAFRA Weed Management Specialist - Horticulture

From previous project work 23 genetic tests have been developed to determine the presence of herbicide resistant weeds on Canadian farms. Currently, more tests are in development. In order to continue to verify the presence or absence of herbicide resistant weeds and continue to develop genetic tests for different herbicide resistant weeds in Ontario agriculture, weed samples need to be collected and tested from across the province in all cropping systems.

This project will:

- continue to document where herbicide resistant weeds (Groups 1, 2, 5, 7, 9 and 14) are found throughout the province,
- discover new herbicide resistant weeds,
- develop new genetic tests for herbicide resistant weeds,
- determine new mechanisms of herbicide resistance,
- inform farmers of their resistant weed species quickly, enabling changes to their management programs in-season, and
- provide proof that resistant weeds are present to obtain new minor use priorities and support from crop protection companies for new product registrations.

Project partners, along with the OAG, include AAFC, PMC, OFVGA, OPVG, FVGO and FMC Corp.

Incidence, timing of infection and management of bitter rot in Ontario - Katerina Jordan, Asifa Munawar and Cathy Bakker, John Cline, Mary Ruth MacDonald and Stephen Reynolds, University of Guelph and Kristy Grigg-McGuffin, OMAFRA

Bitter rot, caused by species of the fungal genus *Colletotrichum*, is an emerging disease in Ontario apple orchards. Prior to 2010, the disease was mostly documented in the southern USA, Central and South America. However, with changing weather conditions the disease has become more common in Ontario orchards and its management is a concern for apple growers.
The objectives of the project are:

1. Determine the incidence of bitter rot in Ontario apple orchards using both symptomatic and asymptomatic fruit samples.
2. Investigate the timing of infection on apple fruits and co-relate it with weather data.
3. Determine the sensitivity of *Colletotrichum fioriniae* isolates to pyraclostrobin and captan.

4. Evaluate the efficacy of different fungicides and calcium chloride to control bitter rot, identify fungicides with potential for registration and collect data to support registration

In 2019, work on Objectives 1 and 3 is underway.

Objective 1: Incidence of bitter rot in Ontario Apple Orchards
In Fall 2019, 2 susceptible cultivars of 'Empire', 'Ambrosia' or 'Honeycrisp' were assessed for visible symptoms or bitter rot in 15 orchards from across the province. Number of infected fruit and number of trees in a block/rows were assessed and the disease severity index calculated. Incidence of black rot was also noted.

Additionally, from each orchard, 100 asymptomatic fruit was randomly collected. The fruit is being stored at 4-5^{o} C for four months and will be placed thereafter at 20^{o} C for two weeks prior to assessing symptom development.

Objective 3: Determine the sensitivity of *Colletotrichum fioriniae* isolates to pyraclostrobin and captan
In Fall 2019 approximately fifty *C. fioriniae* isolates have been collected from Ontario populations. Effect of fungicides on mycelial growth and conidial germination of these isolates will be tested. The five different concentrations of the fungicides will be tested.

This project is funded by the OMAFRA-University of Guelph Partnership Program with support from the Ontario Apple Growers.

Canadian Tree Fruit Products Development – Erin Wallich, Summerland Varieties Corporation, Amanda Green, OMAFRA, Leslie Huffman, Maureen Balsillie, Larissa Osborne, OAG

The Grower Testing project is led by the British Columbia Fruit Growers' Association (BCFGA) in partnership with Ontario Apple Growers (OAG), Summerland Varieties Corp. (SVC), Scotian Gold and the Québec-based consortium, Le réseau d'essai de cultivars et de porte-greffes de pommiers (RECUPOM). The partners work with the apple breeding staff at Agriculture and Agri-Food Canada's Summerland Research and Development Centre (Summerland RDC) in Summerland, BC to test promising new apple selections under a range of growing conditions. The project has just been awarded funding through the Agri-Science Program and will continue for another 5 years with funding from the federal government and all the partners, including those mentioned above plus Vineland Research and Innovation Centre (Vineland).

For more than 8 years, 11 grower-cooperators across the province planted advanced selections of apple breeder's selections to evaluate for suitability for various climatic regions and markets in Ontario. Each cooperator was provided with the trees and asked to plant a supported system and to provide their observations. All cooperators can harvest and use the fruit, unless sampling is needed for the OAG's evaluations. The OAG would like to thank our cooperators for the time and expertise that they have provided to this project.

Below is a chart of the plantings since 2012:

Year	Sites	Selections
2012	11	7 (all AAFC/SVC)
2015	11	5 (4 AAFC/SVC + Evangeline AAFC/NB)
2016	10 (2 new, 3 declined)	4 (3 AAFC/SVC + 1 from U Minnesota)
2018	2 larger plots	4 best from 2012-2015
	7 (to date)	7 new (2 from VRIC, 4 from AAFC/SVC, 1 from AAFC Ontario test plots (2000))
2019	10	1 new (AAFC/SVC)

The OAG Cultivar Committee had developed this list of desirable traits:

- Large fruit size – nothing smaller than Empire
- Good fruit quality – firm and juicy
- Fire blight – not more susceptible than Gala
- Scab – not more susceptible than McIntosh
- Trees suitable to high density systems
- Harvest season outside of Gala/Honeycrisp time
- Yellow fruit is of special interest
- Unique varieties for direct marketing is of interest

Update on Varietal Testing at Vineland Research and Innovation Centre – Rachael LeBlanc, Vineland Research and Innovation Centre

Vineland continues to build the Test 1 orchard. Each year 3,000 - 5,000 new seedlings are added. The orchard contains over 25,000 trees and an extremely large variety of fruit in every possible characteristic (size, colour, shape, texture, flavour, harvest date, etc). Approximately 1,700 trees were removed this year after 3 seasons of evaluations.

Evaluation of fruit from our Test 1 orchard continues each fall. This year staff are once again tasting and selecting fruit from the approximately 2,100 trees that were budded in 2014. They are also examining fruit from about 3,000 of 6,000 trees budded in 2015. The remaining 3,000 trees are expected to fruit next year. Selections are made by a team of Vineland staff using guidelines developed by the Consumer Insights Department.

In 2018, 14 trees were advanced to the Test 2 replicated trial bringing the total number of selections to 39. The three selections made in 2016 are now producing a large number of fruit and will be evaluated by Vineland's sensory panel for texture, sensory, analytical and biochemical properties.

A budwood orchard has been established containing the 39 selections. Trees will be maintained in order to maximize budwood production. This will allow Vineland to respond quickly to demand and provide trees for stage 3 testing at additional sites.

Additionally, staff are evaluating the use of a DA meter and Felix F750 produce quality meter to assist the breeding program in making selections or assessing fruit quality before and after storage using non-destructive methods.

Rapid Virus Indexing of Fruit Trees – Travis Banks, Vineland Research and Innovation Centre

The goal of this research project was to validate new Canadian Food Inspection Agency (CFIA) technology to reduce the time needed to certify tree fruit material as being free of harmful viral infection. The intention is that this research will lead to new policy within CFIA to use the technology to 1) allow the rapid introduction of new fruit tree varieties into Canada by reducing time in quarantine at Sidney, BC and 2) give industry a definitive single-test for their own Gen 1/1A and 2 materials.

This project collected bark and leaf tissue from approximately 200 different trees over 2 years. The trees were a mixture of material from CFIA clean-stock at Sidney and samples known to be carrying various viral pathogens. In the first two years of the project, Vineland and CFIA were to test duplicate samples of the same material and the results compared to gauge reproducibility of the new CFIA technology. In the final six months of the project experiments were to be performed aimed at reducing the costs of the technique for industry to monitor their own material.

Vineland was able to meet the project goals of carrying out replicated analysis of fruit tree samples from CFIA. Preliminary results indicated that CFIA's new technology can reliably identify the presence of viral infection in both leaf and bark tissue from fruit trees. We also demonstrated that the detection technology can be used on pools of plants, potentially reducing costs enough that it becomes practical for growers to use on their own material. Our work should also enable more streamlined transfer of the methodology to other labs. CFIA is continuing to analyze the results of the project. I will update the OAG once CFIA has completed the analysis and shared the results with Vineland. The OAG would like to recognize and thank the Georgian Bay Fruit Growers' Association for their funding contribution towards this project.

Canadian Agri-Science Cluster for Horticulture 3

The following industry-driven issues, which were common throughout the collaborating provinces, are being investigated with funding from the Canadian Agri-Science Cluster for Horticulture 3 with total funding of $1.3 million over 5 years (2018 to 2023). These projects are generously funded through the Canadian Agri-Science Cluster for Horticulture 3, in cooperation with Agriculture and Agri-Food Canada's AgriScience Program, a Canadian Agricultural Partnership initiative, the Canadian Horticultural Council and industry contributors. The OAG would also like to recognize and thank the Apple Marketer's Association of Ontario (AMAO) for their funding contribution.

Optimizing Storage and Postharvest Practices to Reduce Apple Loss and Improve Quality – Dr. Jennifer DeEll, OMAFRA

Objectives of this project include:

1. Optimize postharvest practices and storage regimes for rising cultivars (i.e. Honeycrisp, Ambrosia and Gala strains)
2. Evaluate new low oxygen storage and dynamic regimes to reduce apple loss
3. Investigate new technology for harvest management and fruit maturity

Apples will be evaluated yearly.

Sustainable Control Practices for Apple Pests in Canada - Suzanne Blatt, Jean-Philippe Parent, Justin Renkema and Gaetan Bourgeois (AAFC), Michelle Cortens (Perennia), Garth Nickerson (NB Ministry of Agriculture), Joanne Driscoll (PEI Hort Association), Hannah Fraser and Kristy Grigg-McGuffin (OMAFRA), Susannah Acheampong and Tracy Hueppelsheuser (BCMA), Daniel Cormier and Gerald Chouinard (IRDA)

While the five main apple-growing provinces (Ontario, Quebec, British Columbia, Nova Scotia and New Brunswick) experience insect pest pressure to varying degrees, there are some species of common concern including apple maggot, apple leaf curling midge and leafrollers such as eye spotted budmoth and obliquebanded leaf roller. Control of these pests is critical for the apple industry to remain competitive in a global market where differing regulations often provide other countries with a competitive edge. De-registration of pesticides throughout Canada is driving the need for alternative and effective management strategies for many of these species.

Objective of this project are to:
1. Develop improved control methods for apple maggot through determination of the number of sprays required to effect control with currently available products,
2. Further understanding of apple leafcurling midge phenology and refine a recently developed degree day model, and
3. Investigate the utility of host volatiles for mass capture of multiple species of leafroller.

In 2018, four commercially available insecticides (Exirel, Imidan, Assail, Calypso) plus a water control were applied in Nova Scotia to 3-tree plots of Honeycrisp 2, 3 and 4 times once apple magot was captured in the orchard block. Treatments were replicated 4 times. Number of stings and tunnels were recorded for each apple. Due to high maggot pressure as a result of low cropload (June freeze), only Imidan showed some control. The application of a 4th spray did not further reduce the number of stings or tunnels. Trials were conducted again in 2019 in Prince Edward Island, New Brunswick and Nova Scotia.

In 2018 and 2019, apple leafcurling midge capture data was collected from multiple orchards in British Columbia, Ontario, Quebec and Nova Scotia. Resulting population curves have confirmed there are 3 generations in all regions sampled. Capture data is now being used to determine the number of degree-days required to reach 5, 50 and 95% threshold for each generation and whether regional models are required (i.e. one model per province).

Trapping for various leafroller species, including lesser appleworm, eye spotted budmoth, redbanded leafroller, fruittree leafroller, variegated leafroller and tufted apple budmoth, began in Ontario orchards in 2019 to determine regional populations. Field trials of identified host volatiles for eye spotted budmoth, redbanded leafroller and obliquebanded leafroller were conducted in British Columbia and Nova Scotia.

Development of a consumer-driven sensory quality process for Ontario bred apples – Dr. Amy Bowen, Dr. Alexandra Grygorczyk and Dr. David Liscombe, Vineland Research and Innovation Centre and Dr. Lisa Duizer, University of Guelph and Amanda Green, OMAFRA

This project aims to develop instrumental analysis protocols that can be used to screen apples in a breeding orchard for consumer eating quality.

The objectives of this project are to:

1. Identify consumer preference drivers among top apple varieties; and segment consumers based on preference and demographics;
2. Develop instrumental tests that can be used to screen apples for flavour and texture quality;
3. Correlate consumer preference drivers to allow the selection of the highest quality apples for commercial release.

Year 1 (2017-18) focused on addressing the first objective of the project. Apple sensory profiling data from Vineland's trained sensory panel was combined with 228 Greater Toronto Area consumers' apple liking scores to define three consumer segments:

- Consumer group 1 (29%): Prefer apples that have crisp and juicy textures with sweet, honey and floral characteristics.
- Consumer group 2 (49%): Prefer apples that are sweet with honey and floral characteristics. Texture is not as important to these consumers.
- Consumer group 3 (22%): Preference drivers could not be determined. This group had low liking scores for all varieties.

Year 2 (2018-2019) of the project focused on the development of methods to measure differences in apple texture to correlate with sensory perception, and the investigation of the aroma compounds that are correlated with drivers of consumer liking.

The texture research focused on detection of mealiness as preference mapping work indicated that it was a key detractor of liking. Apples that are mealy, generally lack crispness and juiciness and have a granular mouthfeel. Together, these three characteristics create the perception of mealiness. While penetrometers have been used for many years to measure apple firmness, to date, no instrumental method has been developed that can reliably predict human perception of apple mealiness. In year 2 of the project, various instrumental methods were investigated to identify analyses that had strong correlations with each of the components of mealiness. Sensory crispness was highly correlated with compression force using a Kramer-Shear cell. Perception of juiciness was highly correlated with the weight of juice expelled after compression with the Kramer-Shear cell. Mealiness perception was highly correlated with the friction coefficient of apple flesh.

For aroma analysis, 41 volatile chemicals were quantified in 28 commercial apple cultivars. Very diverse aroma profiles were observed across these cultivars, including many instances of specific aroma volatiles present at high concentrations in some varieties, while undetectable in others. The aroma volatile profiles were integrated with sensory attributes evaluated by Vineland's trained sensory panel, which allowed the identification of at least 13 volatile chemicals exhibiting moderate to strong correlations with aroma-related sensory attributes.

In year 3, we will validate sensory-instrumental correlations for key apple flavour and texture attributes to ensure these correlations hold across harvest seasons. This information will then be related back to consumer liking scores to define target ranges for instrumental measures that indicate when apples should be screened out or retained for further testing.

This project is funded by the OMAFRA-University of Guelph Partnership Program, Products and Value-Chains theme with support from the Ontario Apple Growers.

All About Apples: Obesity-related health benefits and communication strategies to increase apple knowledge, purchase and consumption in Ontario - Dr. Lindsay Robinson, University of Guelph

The Apple Study clinical trial had two phases: an acute phase wherein participants were monitored for 6 hours after consuming 3 (100 g) Ontario Gala apples and a high fat meal in one sitting; and a chronic phase wherein participants consumed 3 Ontario Gala apples every day for 6 weeks. Eligible participants chose to take part in one or both phases of the study. The acute phase of the study was completed (with 26 participants total) in September 2018, while the chronic phase was completed in December 2018. As of October 2019, we have completed the majority of the hands-on laboratory analysis of the samples that were collected from participants in the clinical trials. The remainder of the data/statistical analysis, manuscript writing and conference presentations will be finalized in the coming months, bringing the Apple Study to full completion. In the sections below, I have highlighted further aspects of the Apple Study.

Key Findings to Date

As mentioned above, we have now completed two clinical trials in overweight and obese adults to assess both the short-term (acute) and long-term (chronic) effects of consuming Ontario Gala apples on risk factors for chronic diseases. For the short-term trial, 26 participants ate 3 apples and drank a high-fat beverage or drank the high-fat beverage alone on separate days. During the 6-hour post meal period, apples did not affect participants' digestion rate or blood levels of triglycerides, chylomicrons (markers of lipid transport in the body) or glucose levels but did transiently increase blood levels of another marker of lipid transport, Apo48, as well as insulin. In contrast, apples reduced levels of inflammatory markers in blood-derived immune cells. For the long-term trial, 23 participants ate 3 apples every day for 6 weeks while another 23 participants ate none. After 6 weeks, apples did not affect participants' blood levels of triglycerides, glucose, or insulin, but did reduce levels of inflammatory markers circulating in the body and in immune cells. The long-term effects of apples on the gut microbiota profile are still being analyzed. Overall, our data suggests that Gala apples may be an effective dietary strategy to mitigate obesity-associated inflammation, which precedes and exacerbates metabolic disease risk.

Update on the Apple Study human clinical trials and data analysis

Our most significant accomplishments over the past year have been the completion of both the acute and/or chronic phase of the Apple Study, as well as the majority of the laboratory analyses. The majority of the hands-on laboratory work has been completed, including the analysis of key outcome measures in blood samples collected from the study participants, e.g. lipids, glucose, insulin and a measure of gastric (stomach) emptying after the acute apple intervention, as well as analysis of blood samples and isolated immune cells for inflammatory biomarkers and immune mediators. Lastly, fecal samples were collected from participants in the chronic phase of the study (i.e. pre- and post-6-week apple intervention) for analysis of bacterial species and short-chain fatty acids. This laboratory analysis was completed in July 2019 (in collaboration with Dr. K. Power, formerly at AAFC, now at University of Ottawa) and data/statistical analysis is in progress with results expected by December 2019.

Update on the Apple Study consumer survey

Another major accomplishment in the past year was the launch and completion of our comprehensive survey aimed at addressing barriers and motivators towards apple purchase and consumption in Ontario. This consumer survey was developed with significant interaction and input from collaborators, Dr. Sunghwan Yi (University of Guelph) and Kelly Ciceran at the Ontario Apple Growers. In spring 2019, the survey was administered to 800 adults across Ontario (balanced by age, sex, region and education) via Maru/Blue, a data services/marketing company. As of October 2019, all data has been collected and this large data set is currently being analyzed.

Update on the dissemination of Apple Study information and results

We have been actively participating in various types of knowledge dissemination, providing information about the project at various venues e.g. University of Guelph College Royal, Arrell Food Summit, Annual Food Structure and Functionality Forum Symposium, Natural Health Product Research Society of Canada Annual Conference, Canadian Nutrition Society Annual Conference, and on campus seminars/conferences. In the past year we have given a number of presentations at local or national level conferences, which have provided valuable opportunities to showcase the Apple Study to intended target audiences, e.g. consumers, agri-food experts, nutritionists, researchers, etc. We plan to continue similar knowledge translation activities to enable wide dissemination of new information about apples and health as additional results become available in the coming months.

Update on training/education of students involved in the Apple Study

The Apple Study has provided the opportunity to train and educate a significant number of students at the University of Guelph. Since the project start, 12 graduate (PhD or MSc) and 6 undergraduate students have been/are actively engaged in different areas of the Apple Study and are gaining knowledge/experience of apples, research and knowledge translation. In particular, two PhD students, Danyelle Liddle and Xinjie (Lois) Lin are the student leaders of the Apple Study on a daily basis and have been instrumental in the progress to date on our OMAFRA/OAG-funded Apple Study.

Other Research and Services

CropTracker.com – The web-based system 'CropTracker.com' is available to Ontario Apple Growers members as an online system providing a comprehensive tool for growers. Developed especially for the fruit and vegetable industry, the Canadian-made crop management software platform is used by growers, associations, and cooperators of all sizes. The platform schedules and tracks chemical usage, monitors employees and harvest on site, cuts operational costs associated with creating GAP reports and auditing, enhances traceability, and provides data so operators can make more informed decisions.

In partnership with the Ontario Tender Fruit Growers and the Fresh Grape Growers, the OAG is also working with CropTracker developers to integrate aggregate data and reports that are used by the sector. For example, storage holdings and yield estimates will be submitted electronically through the system reducing the time for data entry. The development of this enterprise system will speed up data collection and dissemination of information which will greatly benefit the activities undertaken by the OAG.

The OAG Storage Lab – The OAG Storage Lab is located at Norfolk Fruit Growers' Association in Simcoe, Ontario and continues to pay benefits for the Canadian apple industry. When first established, the storage lab was supported by the Apple Working Group members of Canadian Horticultural Council with cost-

shared funding from the CanAdvance Program. The Lab continues to be fully utilized again this year. The industry very much appreciates the cooperation of the Norfolk Fruit Growers' Association and Dr. Jennifer DeEll, OMAFRA Post-Harvest Lead.

Acknowledgements

The Ontario Apple Growers acknowledges and thanks the support of our many funding partners. In the above research reports we have acknowledged the partners for each of the projects. Canadian Agriculture Partnership is a federal-provincial-territorial initiative.

NATIONAL REPORTS

CANADAGAP REPORT

CanadaGAP® is a food safety program for companies that produce, pack, repack, store, wholesale and broker fresh fruits and vegetables. The program is designed to help implement effective food safety procedures within fresh produce operations. Audit and certification services for the program are delivered by third party, accredited Certification Bodies. Over 3,100 produce companies in Canada and the USA are participating in CanadaGAP. There has also been interest in the program from Latin America and Asia.

Apple farmers, packers and wholesalers across Canada have been active participants since 2009. In Ontario, approximately 100 apple growers and packers are CanadaGAP-certified. While overall program enrolment has stabilized in the last couple of years, some regions and commodity sectors continue to see increased participation (e.g., repackers and wholesalers, the greenhouse sector, and BC blueberry growers).

In 2019, CanadaGAP was focused on ensuring full alignment between the new *Safe Food for Canadians Regulations* (SFCR) and CanadaGAP program requirements, and communicating with industry about the program's status with government. The federal regulations came into force on January 15, 2019 and members had many questions about the impact. To ensure that CanadaGAP-certified companies were well-positioned to meet the new regulatory requirements, CanadaGAP renewed participation in a CFIA-led project that involved CFIA completing a comparison of CanadaGAP program requirements with the published regulations. The comparison project was a success, showing that CanadaGAP is 100% aligned with the SFCR with respect to food safety requirements. CanadaGAP is recognized as a "model system" for food safety preventive controls that fresh produce operations must have in place under the new regulations. The positive results of the comparison, as well as further details about how CanadaGAP fits with regulatory initiatives in Canada and the U.S., are published at www.canadagap.ca/publications.

CanadaGAP first received full Government Recognition in March 2017 under the Canadian Government Food Safety Recognition Program. This year CanadaGAP underwent the required 20-month "Maintenance of Recognition" process. On an ongoing basis, to maintain recognition, CanadaGAP must continue to align with all applicable regulatory requirements and must receive approval from CFIA for any proposed changes to the program.

CanadaGAP has been benchmarked and officially recognized by the Global Food Safety Initiative (GFSI) since 2010. The program is subject to an annual office audit by GFSI to maintain our international recognition, as well as re-benchmarking when GFSI updates its requirements. These activities remain crucial to securing support for CanadaGAP certification from retailers, processors and food service customers.

The CanadaGAP Stakeholder Advisory Committee and technical staff have been working hard since this summer to finalize updates to the Food Safety Manuals, which will be issued in late January or early February 2020. A number of changes are being driven by new GFSI initiatives to be published in Version 8 of the Benchmarking Requirements. Changes to the program take effect for CanadaGAP audits occurring on and after April 1, 2020.

Canadian Horticultural Council (CHC)

2019 has once again been extremely busy with government consultations and advocacy efforts leading up to the 2019 federal election. CHC staff have been actively engaging with the federal parties and their representatives, while equipping our members with the tools they need to have their voices heard as Canadians elect a new government. As always, we greatly appreciate the support and hard work of our members who consistently demonstrate their support while helping to ensure the sustainability of our industry.

This year, CHC has welcomed Karl Oczkowski as the new Manager, Communications, and Stephanie Ross as the new Projects Accountant.

A sampling of 2018 Activities and Initiatives at CHC include:

- 7 submissions to government consultation requests including topics such as (but not limited to) emerging food and nutrition trends and technologies, labeling, changes to EU import requirements, and regulatory modernization and red tape reduction.
- 3 trade-specific consultations.
- CHC staff/Board visits to members and farm tours, including a PMRA Minor Use Field Tour in Regina, July 9-12, and a PMRA/CHC Crop Protection Field Tour in Ottawa on August 22.
- 3 Submissions/Testimonies to House of Commons Standing Committees. Topics included improving trade remedies, consultation on Mercosur FTA, and consultation on accession of new members to CPTPP.
- 13 advocacy and lobbying initiatives, including (but not limited to) meetings with the USDA, a premier and additional screenings of CHC's documentary on international farm workers, the Farm to Plate event on Parliament Hill, and conference calls with multiple MPs regarding the Temporary Foreign Worker Program.
- Development of a 2019 Election Advocacy web page and a suite of resources on the CHC website which equipped members and growers with the tools they need to influence policy- and decision-makers.

CHC Apple Working Group Update

The CHC Mid-Summer Apple Meeting was held in July in Hamilton, ON. The event was hosted by the Ontario Apple Growers. The industry meeting was well attended by growers and representatives from across the country. The working session included discussions on:

- market situations and trends,
- crop protection,
- Vineland Research and Innovation Centre activities,
- Public trust and farming with Farm and Food Care, and
- CFIA regulations and related activities.

ONTARIO APPLE GROWERS

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2018/2019

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Horticultural Crops Ontario & Ontario Fruit and Vegetable Convention - Kelly Ciceran
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