



ONTARIO APPLE GROWERS

Annual Report

Year ending October 31st, 2017





VISION

Ontario Apples...a healthy consumer...a healthy industry.

MISSION

To foster a viable apple industry through advocacy with government and collaboration with partners for the health of consumers and the wealth of producers.

FOURTEENTH ANNUAL REPORT OF THE ONTARIO APPLE GROWERS

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COMMENTS FROM THE CHAIR



Two of the largest challenges affecting the viability of our Ontario apple industry today are weather and government policies and I would suggest that it is government policies more than the weather that will have the greatest influence.

In the spring of 2017, Mother Nature woke up with a hangover from 2016. For most apple farmers in Ontario, the effects of an extremely dry year in 2016 resulted in reduced crops in 2017 by as much as 20 – 50 % or even more. For some farmers 2017 was also the wettest year on record. For others, hail was more prevalent than prior years with some farmers being hit 3 times in the one year. OAG is in constant communication with OMAFRA concerning the crop insurance program to ensure that it is as efficient as possible for the benefit of the apple farmer.

On a more positive note, apple quality was exceptional with the packable fruit being equal or higher than last year, resulting in fewer culls on the packing line. As well, most apple trees are going into next year with little or no stress which is opposite to the fall of 2016 and our trees will be full of carbon for the 2018 growing season.

When it comes to government policies, this was not a good year for the apple industry. First and foremost, on everyone's mind is the extreme hike in minimum wage. Led by OFVGA and LICC, the OAG has been fully engaged in lobbying the government to lessen the short-term impact of this legislation on edible horticulture farmers. I have attended many meetings on the subject and done my best to convey the impact of this legislation on our industry and work continues at the highest levels on this issue. Most farmers have experienced three crop loss years over the past six. With the implementation of the new minimum wage, I believe we will lose more farmers from our sector. In my 42 years as an apple grower, I have never experienced more challenges than I'm facing today.

OAG, in an effort to be proactive, has met with three Ministries to introduce a planting program for the Ontario apple farmers. With the increase in minimum wage, this program is even more important. There are currently tree orders that have been placed and are now being cancelled because apple farmers cannot afford to replant. If we can't replant and adapt to new labour saving systems and new varieties for the marketplace then our industry will cease to exist. OAG has asked the government of Ontario for a grant of \$5.00/tree over a ten-year period up to a maximum of \$25 million or \$2.5 million/year. OAG will continue to push hard for this program.

Two very important studies that OAG has been working on have been released this year. The first is the economic impact study for the Ontario apple industry that states that Ontario cannot supply the needs of the province, let alone an export market. We only supply 45% of apple requirements of Ontario and, by planting more trees, we have the potential of supplying 90% of Ontario's apples and create an export market.

The second study is the Ontario Apple Establishment and Production Costs, a must read for farmers planning on staying in the business. It will be more important for the farmers this winter to sharpen their pencils instead of their pruners. This report could not have been timelier.

OAG has built a positive relationship with the Agriculture and Agri-Food Canada apple breeding staff, Vineland Research and Innovation Centre (Vineland) and the University of Minnesota to ensure access to the new marketable apple varieties for Ontario farmers. Working cohesively is a major coup for the Ontario apple industry and these partnerships are very important.

This summer, OAG had a hugely successful apple tour in Niagara and I want to thank the three hosts of our tour stops, Vineland, Art Moyer and Richard Feenstra for having us in their orchards especially after suffering devastating hail events. In the face of adversity, these two farmers showed us their commitment to the industry and true strength of character.

Continuing to impact our industry are three government policies that include Business Risk programs (SDRM, AgriInvest, AgriStability and AgriRecovery), Integrity Audits on our labour from Service Canada and the CanadaGap Food Safety program. The benefits of all business risk programs have been reduced or eliminated just when our industry needs them the most. Service Canada's Integrity Audit, though I agree with compliance with the LMI contracts, needs to have a more reasonable approach without placing our businesses at great risk. Because of this program, we have farmers not knowing if they can obtain their farm labour and, added on top with the proposed increase in wages, the affordability of the labour staff. Our CanadaGAP Food Safety program needs to be overhauled as some sections are impossible to comply with or not needed. The result is frustration and fear with farmers who are concerned with the ability to market their crops.

Crop Protection is another concern for our farmers. Many new products are being registered for use on apples but the old products under re-evaluation, especially 'M' type fungicides, have the potential of being lost. OAG is working closely with OFVGA and CHC with an excellent team working on your behalf on these issues.

My thanks are sincerely extended to the Ontario Apple Growers' Board of Directors and our staff for their continued commitment to the organization and the sector.

In closing, I would like to invite all Ontario apple farmers, industry and government representatives to join us at the Apple Academy Conference on January 22nd to 24th, 2018. Learn how to survive and prosper in the dynamic and ever-changing apple industry.

Respectfully submitted,



Charles R. Stevens
Chair, OAG



OMAFRA Minister Jeff Leal and Charles Stevens
at the Foodland Ontario Picnic in the Park event.

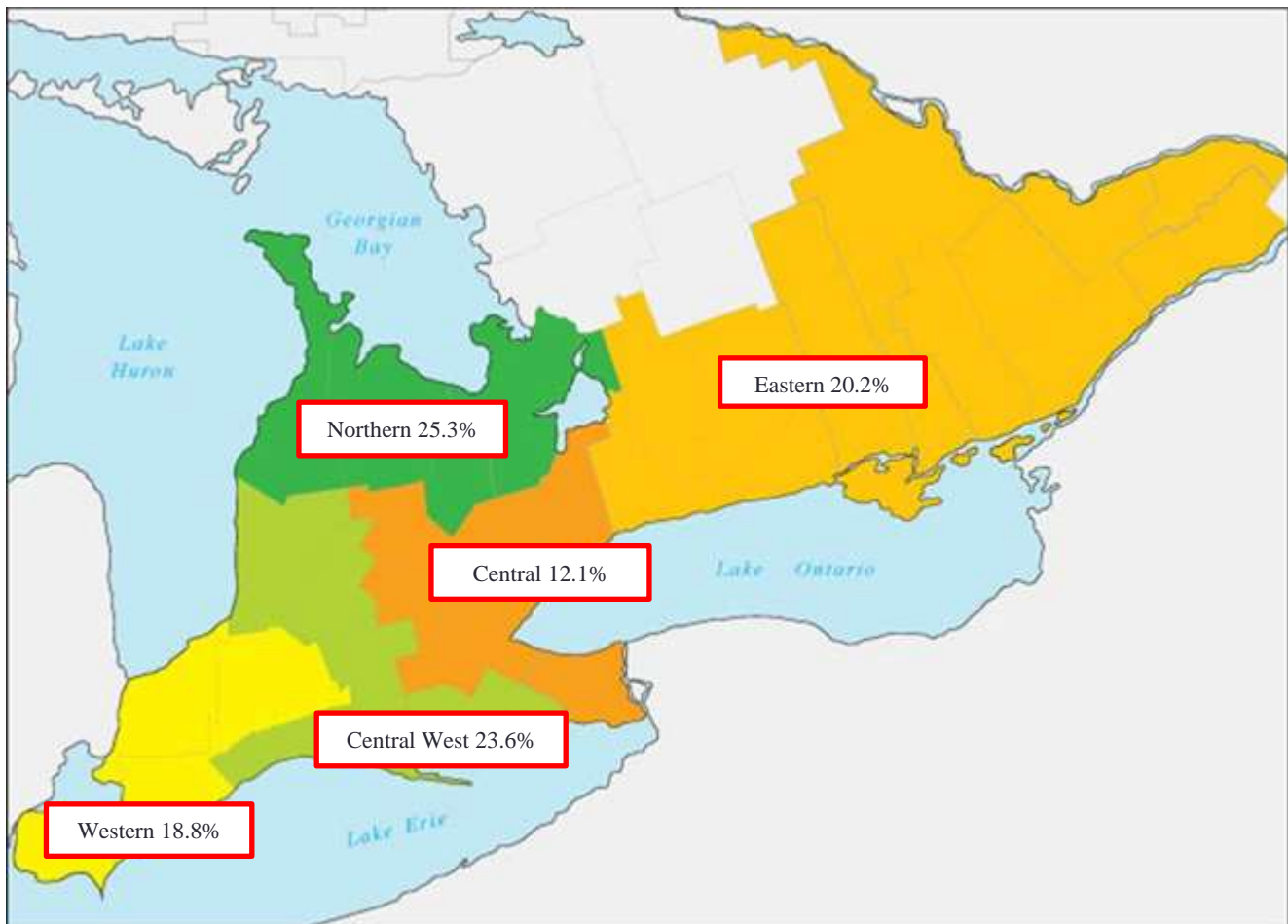
FOURTEENTH ANNUAL REPORT OF THE ONTARIO APPLE GROWERS

CROP AND MARKET REVIEW

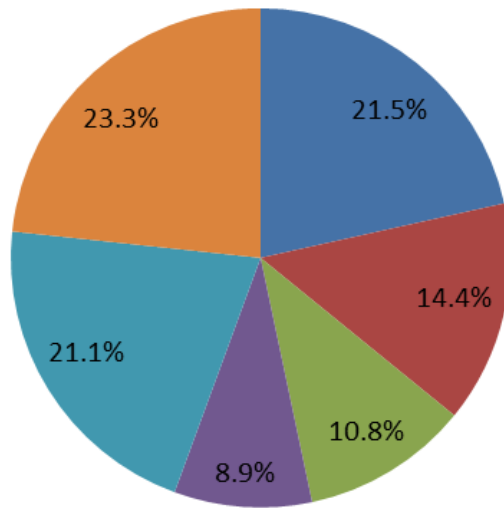
Tree Census

Tree census information (as of December 31st, 2016) is included on pages 12 and 13. This information is based on Agricorp's GPS mapping and information on total acreage provided by Statistics Canada. Agricorp continues to manage the ADaMS 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 15,893 bearing and non-bearing acres in Ontario in 2015. The assumption has been made that the variety mix for the remaining acres were about the same as for those that were mapped.

2016 Ontario Acreage by District

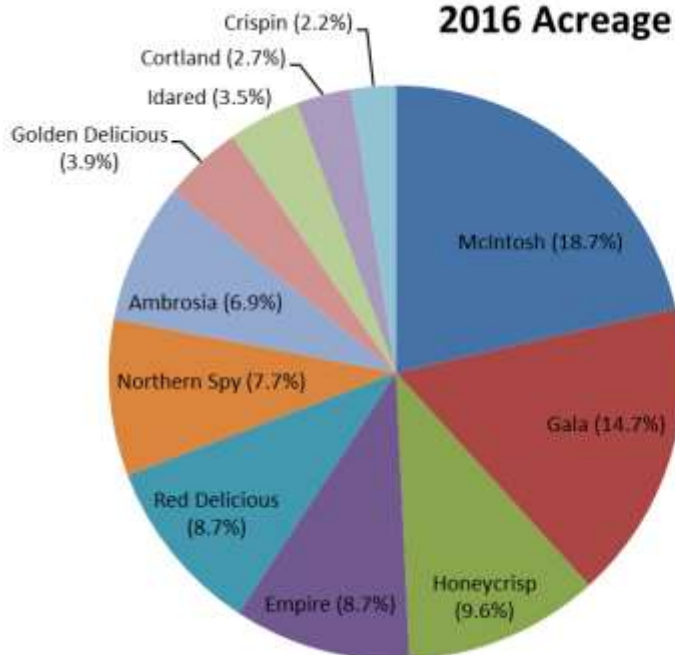


2016 Apple Acreage by Age



- 1 to 5 years (21.5%)
- 6 to 10 years (14.4%)
- 11 to 15 years (10.8%)
- 16 to 20 years (8.9%)
- 21 to 30 years (21.1%)
- 31 + years (23.4%)

2016 Acreage by Variety



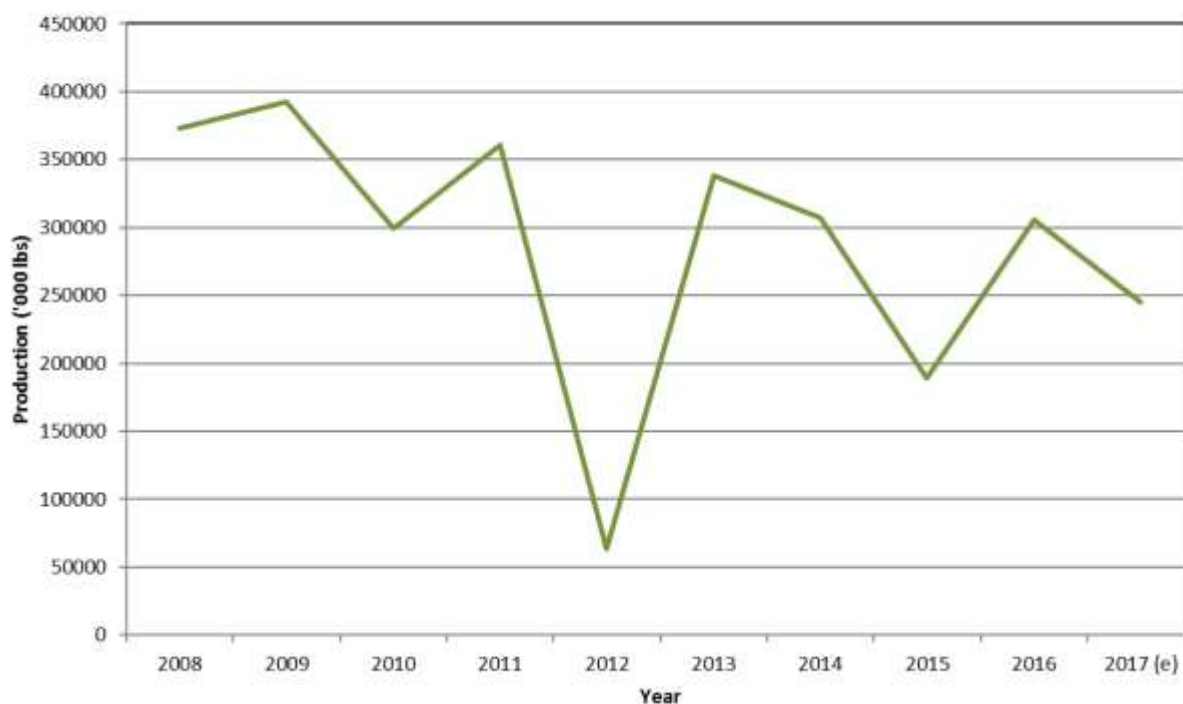
- McIntosh (18.7%)
- Gala (14.7%)
- Honeycrisp (9.6%)
- Empire (8.7%)
- Red Delicious (8.7%)
- Northern Spy (7.7%)
- Ambrosia (6.9%)
- Golden Delicious (3.9%)
- Idared (3.5%)
- Cortland (2.7%)
- Crispin (2.2%)

Crop Estimate

Ontario Apple Production – 2012 TO 2017		
	Production ('000 lbs)	% Change From Previous Year
2012	63,143	-82.5%
2013	399,506	532.7%
2014	328,204	-17.8%
2015	203,533	-38.0%
2016	350,435	72.2%
2017 estimate*	245,357	
5 Yr Avg ('12 –'16)	268,964	

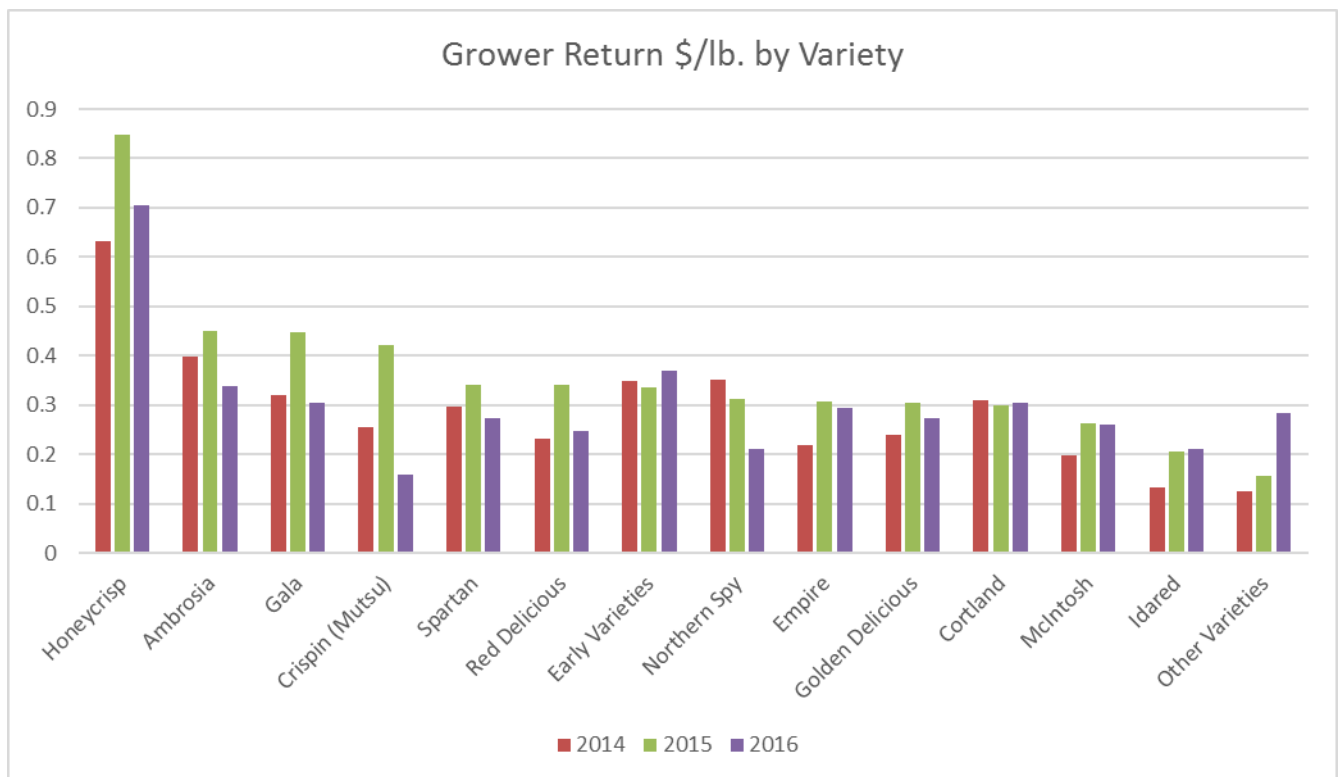
Source: OAG Annual Apple Marketing Survey and Apple Yield Estimate Survey
 * Excludes orchard juice estimated volumes at this time

**Ontario Apple Production
2008 to 2017 (e)**



Marketing Survey

The results of the 2016 marketing survey include comparative figures from the 2015 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. More detail is provided beginning on page 9 of this report.



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.

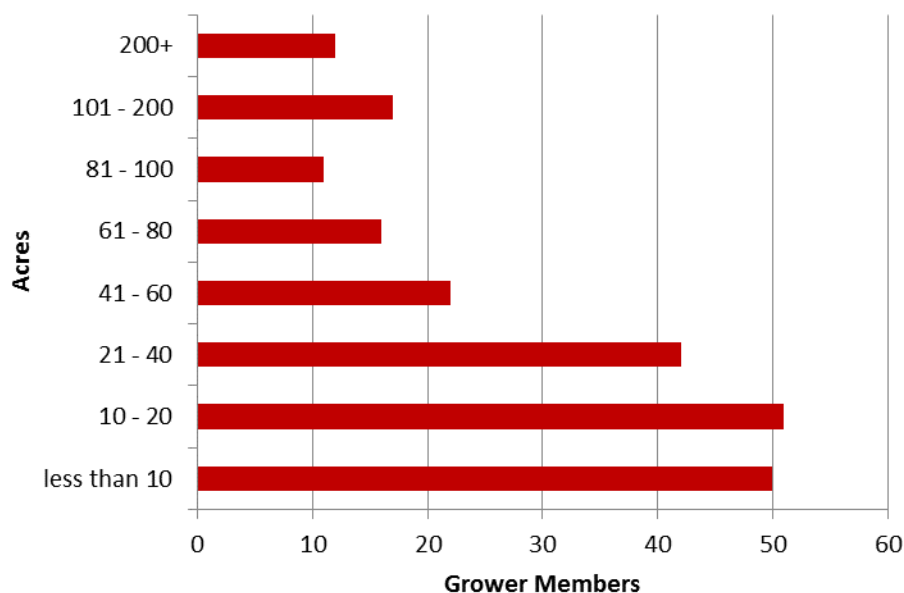


2017 OAG MEMBERSHIP

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	39	3
District 2	33	3
District 3	40	3
District 4	31	3
District 5	28	3
Total - Members	171	15
Voluntary Members	50	
Total - All Members	221	

2017 OAG Grower Distribution by Acreage



APPLE STATISTICS

2017 APPLE CROP ESTIMATE

Varieties	2015 Production ('000 lbs.)	2016 Production ('000 lbs.)	2017 Production ('000 lbs.)	% Change 2017 vs. 2016
Other Early Varieties	3,576	6,512	5,650	-13.2%
Ambrosia	7,388	14,544	13,640	-6.2%
Cortland	5,688	8,310	6,265	-24.6%
Crispin/Mutsu	1,411	2,527	2,731	8.1%
Empire	18,727	46,881	31,807	-32.2%
Fuji	1,359	2,403	1,665	-30.7%
Gala	22,564	41,134	37,894	-7.9%
Golden Delicious	5,839	9,460	7,089	-25.1%
Honeycrisp	17,926	24,596	19,438	-21.0%
Idared	5,330	7,177	5,236	-27.0%
McIntosh	44,353	57,252	53,942	-5.8%
Northern Spy	28,321	46,389	29,397	-36.6%
Red Delicious	13,522	26,585	19,395	-27.0%
Spartan	7,160	5,248	3,313	-36.9%
Other Varieties	5,842	6,928	7,895	13.9%
Total Fresh	189,006	305,947	245,357	-19.8%
Orchard Juice*	14,527	44,488		
All Varieties	203,533	350,435	245,357	

* Orchard juice estimated volumes for 2016 are provided in November 2017. Orchard juice represents apples picked specifically for juice from Ontario orchards.



2016 ONTARIO APPLE PRODUCTION BY UTILIZATION

PRODUCTION (LBS.)								
Variety	Fresh		Orchard Juice*		Other Processing		Total	
	2016	2015	2016	2015	2016	2015	2016	2015
Ambrosia	14,462,519	7,361,363			80,981	26,137	14,543,500	7,387,500
Cortland	7,701,294	4,790,791			609,086	897,259	8,310,380	5,688,050
Crispin (Mutsu)	1,971,151	1,159,727			555,779	251,063	2,526,930	1,410,790
Early Varieties	6,511,900	2,912,942			0	663,538	6,511,900	3,576,480
Empire	44,550,745	17,205,394			2,330,715	1,521,496	46,881,460	18,726,890
Fuji	1,736,698	1,336,689			666,522	21,921.0	2,403,220	1,358,610
Gala	41,055,168	22,350,327			78,942	213,373	41,134,110	22,563,700
Golden Delicious	9,062,584	5,694,906			397,256	143,644	9,459,840	5,838,550
Honeycrisp	24,595,660	17,702,515			0	223,845.0	24,595,660	17,926,360
Idared	914,076	1,125,321			6,262,814	4,204,719	7,176,890	5,330,040
McIntosh	47,403,872	31,143,034			9,848,288	13,209,746	57,252,160	44,352,780
Northern Spy	24,995,964	13,186,848			21,393,506	15,134,452	46,389,470	28,321,300
Red Delicious	26,172,045	13,185,590			412,915	336,590	26,584,960	13,522,180
Spartan	4,155,098	6,333,888			1,093,092	826,572	5,248,190	7,160,460
Other Varieties	3,728,921	4,847,370			3,199,209	994,530	6,928,130	5,841,900
Total	259,017,695	150,336,705	44,488,444	14,527,000	46,929,105	38,668,885	350,435,244	203,532,590

*Orchard Juice represents apples picked specifically for juice from Ontario orchards and includes cider processing.

2016 ONTARIO APPLE GROWER PRICE PER LB.

GROWER PRICE (\$/LB)								
Variety	Fresh (\$)		Orchard Juice Processing (\$)		Other Processing (\$)		Average Fresh and Other Processing (\$)	
	2016	2015	2016	2015	2016	2015	2016	2015
Ambrosia	0.339	0.451			0.115	0.120	0.338	0.449
Cortland	0.315	0.327			0.164	0.149	0.304	0.299
Crispin (Mutsu)	0.157	0.473			0.169	0.178	0.160	0.421
Early Varieties	0.370	0.349			-	0.275	0.370	0.335
Empire	0.301	0.321			0.152	0.163	0.294	0.308
Fuji	0.366	0.359			0.178	0.115	0.314	0.355
Gala	0.318	0.450			0.115	0.116	0.317	0.447
Golden Delicious	0.279	0.309			0.115	0.115	0.273	0.304
Honeycrisp	0.704	0.859			-	0.115	0.704	0.849
Idared	0.318	0.267			0.194	0.189	0.210	0.206
McIntosh	0.273	0.298			0.191	0.181	0.259	0.263
Northern Spy	0.213	0.404			0.210	0.231	0.211	0.312
Red Delicious	0.249	0.343			0.192	0.232	0.248	0.340
Spartan	0.277	0.356			0.254	0.222	0.273	0.341
Other Varieties	0.410	0.150			0.134	0.178	0.283	0.155
Avg. Grower Price - All Utilization (\$/lb)	0.338	0.400	0.092	0.102	0.194	0.172	0.279	0.350
Avg. Transaction - All Utilization (\$/lb)	0.411	0.475	0.092	0.102	0.214	0.192	0.344	0.395

2016 ONTARIO APPLE GROWER VALUE

GROWER VALUE \$								
Variety	Fresh (\$)		Orchard Juice (\$)		Other Processing (\$)		Total (\$)	
	2016	2015	2016	2015	2016	2015	2016	2015
Ambrosia	4,907,874	3,317,414			9,313	3,142	4,917,187	3,320,556
Cortland	2,429,218	1,565,122			100,064	133,740	2,529,283	1,698,862
Crispin (Mutsu)	309,481	548,866			93,890	44,664	403,372	593,531
Early Varieties	2,408,621	1,015,390			-	182,269	2,408,621	1,197,659
Empire	13,424,131	5,514,834			354,564	248,360	13,778,695	5,763,194
Fuji	636,217	480,339			118,900	2,521	755,117	482,860
Gala	13,036,732	10,067,418			9,078	24,738	13,045,811	10,092,156
Golden Delicious	2,532,886	1,758,588			45,684	16,555	2,578,570	1,775,143
Honeycrisp	17,306,845	15,198,487			-	25,802	17,306,845	15,224,290
Idared	290,305	300,809			1,214,830	796,057	1,505,135	1,096,866
McIntosh	12,960,113	9,266,238			1,880,380	2,388,197	14,840,493	11,654,436
Northern Spy	5,322,106	5,327,487			4,487,289	3,498,761	9,809,395	8,826,247
Red Delicious	6,506,702	4,518,399			79,473	78,043	6,586,175	4,596,442
Spartan	1,152,530	2,255,096			278,034	183,866	1,430,565	2,438,962
Other Varieties	1,529,955	725,865			428,250	176,840	1,958,205	902,705
Total Grower Value	84,753,716	61,860,354	4,092,937	1,475,499	9,099,751	7,803,555	97,946,404	71,139,409
Total Transaction Value	106,382,157	71,436,095	4,092,937	1,475,499	10,042,828	7,424,310	120,517,922	80,335,905

Notes:

1. The above marketing data is based on a survey of six major Ontario apple marketers.
2. Juice production is estimated and reported as a total of the crop versus by variety as there is no way to determine the actual volume by variety.
3. Orchard juice price per lb. is the minimum negotiated price and could include any incentives.
4. Transaction price for non-juice uses a factor of 2 cents added to the grower non-juice price.
5. Total transaction value for fresh is determined using the combined bag and tray net return (before grower deductions) and takes into consideration the total pack out percentage from the 2014 marketer's survey.

2016 Ontario Apple Tree Acreage By Variety, By District								
Variety Name	1 Western	2 Central West	3 Northern	4 Central	5 Eastern	Total Acreage	2016 % of Total Crop	2015 % of Total Crop
McIntosh	215	631	1,292	220	623	2,980	18.7%	19.3%
Gala	472	621	143	378	731	2,344	14.7%	14.2%
Honeycrisp	252	307	299	184	482	1,525	9.6%	8.5%
Empire	311	593	185	103	193	1,386	8.7%	9.1%
Red Delicious	331	411	84	251	304	1,381	8.7%	8.8%
Northern Spy	72	294	781	39	40	1,226	7.7%	8.6%
Ambrosia	326	226	189	129	223	1,093	6.9%	5.9%
Golden Delicious	317	127	7	127	48	626	3.9%	4.4%
Idared	103	106	247	23	70	550	3.5%	3.7%
Other	55	55	240	69	54	472	3.0%	3.1%
Cortland	40	91	122	76	95	424	2.7%	2.6%
Crispin/Mutsu	96	78	22	124	23	342	2.2%	2.4%
Spartan	11	38	147	18	47	261	1.6%	1.7%
Fuji	124	44	17	40	16	241	1.5%	1.5%
Paulared	42	39	27	22	100	231	1.5%	1.4%
Mixed	41	7	5	66	62	181	1.1%	1.2%
Ginger Gold	63	29	9	23	31	155	1.0%	1.0%
Crimson Crisp	0	2	82	8	9	101	0.6%	0.1%
Jonagold	36	27	10	27	1	101	0.6%	0.6%
Jerseymac	10	-	62	5	2	78	0.5%	0.6%
Golden Russet	14	3	15	8	25	65	0.4%	0.4%
Jonamac	40	1	6	4	0	51	0.3%	0.4%
Earligold	7	3	22	1	8	41	0.3%	0.3%
Marshall Mac	6	13	2	5	15	41	0.3%	0.3%
TOTAL	2,982	3,744	4,015	1,949	3,202	15,893	100%	100%

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

Sources: Agricorp/OAG ADaMS DMS System and Statistics Canada, CANSIM Table 001-0009

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, Camio, Cox's Orange Pippin, Cripps Pink, Creston, Earligold, Elstar, Fortune, Goldrush, Granny Smith, Liberty, Lobo, Lodi, Macoun, Melba, Novaspy, Quinte, Red Prince, Rome, Roxbury Russet, Shizuka, Silken, Snow, Sunrise, Tolman Sweet, Transparent, Tydeman Red, Viking, Vista Bella, Wealthy, Winesap, Zestar.

2016 Ontario Apple Tree Acreage By Variety, By Tree Age

Variety Name	1 To 5 Years (2012-2016)	6 To 10 Years (2007-2011)	11 To 15 Years (2002-2006)	16 To 20 Years (1997-2001)	21 To 30 Years (1987-1996)	31 Years and Over (Pre-1986)	Total Acreage	2016 % of Total Crop
McIntosh	181	196	262	218	840	1,283	2,980	18.7%
Gala	1,156	474	273	241	165	35	2,344	14.8%
Honeycrisp	574	554	281	109	5	1	1,525	9.6%
Empire	25	61	87	102	705	405	1,386	8.7%
Red Delicious	303	68	63	134	343	471	1,381	8.7%
Northern Spy	5	82	78	168	419	473	1,226	7.7%
Ambrosia	577	308	202	5	0	-	1,093	6.9%
Golden Delicious	70	82	117	103	153	100	626	3.9%
Idared	21	4	12	18	122	371	550	3.5%
Cortland	52	91	35	55	87	103	424	2.7%
Crispin/Mutsu	14	38	65	72	78	76	342	2.2%
Spartan	8	12	4	14	103	121	261	1.6%
Fuji	112	32	22	16	47	12	241	1.5%
Paulared	62	33	4	11	42	78	231	1.5%
Mixed	7	14	29	17	69	45	181	1.1%
Ginger Gold	34	28	20	55	17	0	155	1.0%
Other	95	170	140	19	12	35	472	3.0%
Crimson Crisp	99	2	-	-	-	-	101	0.6%
Jonagold	12	10	7	12	51	9	101	0.6%
Jerseymac	-	2	0	4	38	35	78	0.5%
Golden Russet	2	4	6	20	16	17	65	0.4%
Jonamac	0	4	0	-	16	31	51	0.3%
Earligold	-	2	3	22	10	3	41	0.3%
Marshall Mac	5	13	8	-	14	-	41	0.3%
TOTAL	3,416	2,285	1,719	1,416	3,353	3,704	15,893	100.0%

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

Sources: Agricorp/OAG ADaMS DMS System and Statistics Canada, CANSIM Table 001-0009

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

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IMPORTS OF FRESH APPLES 2016 (LBS)									
PROVINCE	EMPIRE	GALA	GOLDEN DELICIOUS	GRANNY SMITH	IDA RED	MCINTOSH	RED DELICIOUS	UNSPECIFIED	TOTAL
Alberta		922,437	93,297	359,157			423,468	583,215	2,381,574
British Columbia		48,878,690	4,782,189	19,973,044			19,508,283	38,871,309	132,013,514
Manitoba		56,390	17,957	29,463			25,977	135,860	265,646
New Brunswick		358,835	29,480	85,782			55,021	180,237	709,354
Nova Scotia		322,481						1,436,923	1,759,404
Ontario	564,661	83,284,884	8,212,781	29,047,800	840,820	127,822	24,407,721	28,912,987	175,399,475
Québec	149,793	7,763,618	813,110	10,970,467		183,396	1,250,253	5,544,009	26,674,645
Saskatchewan		239,292	461	26,605			10,739	175,913	453,010
Total By Variety	714,453	141,826,626	13,949,274	60,492,317	840,820	311,217	45,681,461	75,840,451	339,656,621

Ontario - 2015	1,319,452	75,724,786	10,569,579	31,717,786	220,980	548,827	26,861,474	32,151,905	179,114,788
Ontario - 2016 vs. 2015	-57%	10%	-22%	-8%	280%	-77%	-9%	-10%	-2%
Total By Variety - 2015	2,480,729	150,186,409	19,622,066	64,729,784	1,206,253	3,938,005	52,345,111	84,360,626	378,868,982
Total By Variety - 2016 vs. 2015	-71%	-6%	-29%	-7%	-30%	-92%	-13%	-10%	-10%

IMPORTS OF FRESH APPLES - 5 YEAR AVERAGE 2012-2016 (LBS)									
PROVINCE	EMPIRE	GALA	GOLDEN DELICIOUS	GRANNY SMITH	IDA RED	MCINTOSH	RED DELICIOUS	UNSPECIFIED	TOTAL
Alberta		1,452,687	48,694	301,938		3,958	192,165	424,420	2,423,862
British Columbia	5,027	51,730,343	9,736,295	21,890,019	26,199	39,019	21,347,758	39,643,944	144,418,604
Manitoba		439,361	23,983	65,128		257,145	57,325	159,048	1,001,991
New Brunswick	28	443,544	140,593	325,600		8,070	233,339	410,432	1,561,606
Nova Scotia		673,169		35,222				1,044,847	1,753,238
Ontario	1,060,011	82,604,473	10,855,731	30,814,793	501,396	295,876	23,185,241	38,103,887	187,421,407
Québec	762,724	15,412,728	1,973,521	8,641,893	1,606,997	861,205	2,786,287	8,521,786	40,567,141
Saskatchewan		454,917	4,560	42,474		47,904	31,668	89,904	671,428
Total by Variety	1,827,791	153,211,221	22,783,376	62,117,067	2,134,592	1,513,177	47,833,784	88,398,268	379,819,276

Ontario - 2016 vs. 5 Year Average	-47%	1%	-24%	-6%	68%	-57%	5%	-24%	-6%
Total By Variety - 2016 vs. 5 Year Average	-61%	-7%	-39%	-3%	-61%	-79%	-4%	-14%	-11%

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 – 2017
(as of October 5th, 2017)

Year	Accounts	Liability (\$000's)	Total Premiums* (\$000's)	Grower Share of Premiums (\$000's)	Total Claims** (\$000's)
2017	134	58,808	6,936	3,628	unknown
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 (2012 - 2015)	142	41,004	6,823	3,453	10,178

* 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 31, 2017)

Year	Processed	Payments	Total	Average
2012	208	89	\$2,343,273	\$26,329
2013	183	30	\$1,169,692	\$38,990
2014	196	56	\$2,031,661	\$36,280
2015	180	19	\$1,224,865	\$64,467
2016	76	4	\$24,476	\$6,119

Note: Processing statistics represent files processed as of August 31, 2017. Potential for additional Apple file processing and payments is possible as processing for 2016 continues.

Risk Management Plan for Edible Horticulture – The Risk Management Plan (RMP) for edible horticulture allows participants to deposit funds into an RMP account, receive government contributions and withdraw funds to cover risks to their farm business. To be eligible, producers must grow and sell at least one of the more than 100 eligible commodities, have an ANS of least \$5,000, file a T1163 to CRA or Statement A to Agricorp, be farming 6 months in the taxation year, and have a premise ID. Beginning in 2015, AgriStability is not required to participate in SDRM.

Introduced in 2013 was the \$100 million in annual government funding available through RMP to be distributed across all six RMP programs including edible horticulture, grains and oilseeds, cattle, hogs, veal, and sheep. Government contributions are made in two installments. The first government contribution is made from September to February and the additional government contribution is made by June.

SDRM as of October 29, 2017:

- 2017 RMP SDRM packages were mailed in September. Producers have until February 1, 2018 to submit their deposit request and withdrawal notice.
- Under the 2016 RMP: Edible Horticulture plan, governments funds of \$34.48 million were deposited in SDRM accounts. The matching government contributions were equal to 62.7% of deposits.
- Under the 2015 RMP: Edible Horticulture plan, governments funds of \$32.06 million were deposited in SDRM accounts. The matching government contributions were equal to 72% of deposits.
- Under the 2014 RMP: Edible Horticulture plan, governments funds of \$27.11 million were deposited in SDRM accounts. The matching government contributions were equal to 87.5% of deposits.
- Under the 2013 RMP: Edible Horticulture plan, governments funds of \$24.40 million were deposited in SDRM accounts. The matching government contributions were equal to 86% of deposits.

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%). The program begins January of each year, and advances are required to be paid the following year in February. Producers must utilize production insurance to participate.

The **Advance Payments Program (APP)** is a federal government cash advance program that provides up to \$400,000 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 2017/18. 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. This year we were very fortunate to have the Local Food Investment Fund, a grant program generously funded by the Government of Ontario and administered by The Greenbelt Fund, provide 47% of the cost to assist us with our promotional initiatives.

Foodland Ontario Promotions

Baked Apple Oatmeal



1 cup (250 mL)
1 cup (250 mL)
2 tbsp (30 mL)
1/2 tsp (2 mL)
1/4 tsp (1 mL)
1
1-1/2 cups (375 mL)
1/4 cup (50 mL)
1 tbsp (15 mL)
1 tsp (5 mL)
diced Ontario Apple (Red Prince, Spartan or Cortland)
large flake rolled oats
hemp hearts
each baking powder and ground cinnamon
each ground ginger, nutmeg and salt
Ontario Egg, whisked
Ontario Milk
Ontario Maple Syrup
butter, melted
vanilla

In medium bowl, combine apple, oats, hemp hearts, baking powder, cinnamon, ginger, nutmeg and salt.

In separate medium bowl, whisk egg, milk, maple syrup, butter and vanilla. Pour over apple mixture and stir. Equally divide among four 1 cup (250 mL) ramekins. Place ramekins on rimmed baking sheet.

Recipe Releases - Ontario Apples were featured in the September 2016, October 2016, December 2016, January 2017, February 2017, March 2017, April 2017 and May 2017 Foodland recipe releases.

2017 Foodland Calendar - Over 500,000 calendars distributed. Ontario Apples were featured as the main ingredient in the December recipe; a delicious caramelized apple tiramisu.

Fresh Perspectives Newsletter - encourages more than 600 print and broadcast media outlets to write and talk about fresh Ontario food. Apples were mentioned 21 times in the September/October 2016 release, 6 times in the November/December 2016 release and 9 times in the Spring 2017 release.

TV Recipe Demos - Ontario Apples were featured in 56 television appearances, reaching an audience of 382,600 Ontario consumers, an editorial value of \$508,400.

Print Articles - Ontario Apples appeared in print articles with a circulation of 5,099,367 Ontario consumers, an editorial value of \$398,400.

Foodland Radio Ads - radio tags across the province for the weeks of October 31st, 2016, March 6th, 2017 and March 20th, 2017 and reminded consumers that “fresh Ontario Apples are available in stores, farmers’ markets and on-farm markets” in 62 English and 9 French markets.

Foodland Retailer Display Contest - store produce managers get creative with their apple displays for a chance to win prizes from Foodland Ontario. The bonus for the Ontario apple growers is increased sales while the displays are in stores. There were 295 entries for the Fall 2016 contest.

Recipe Brochures - a total of 760,000 fall/winter brochures were printed and distributed. Apples were featured in a Honey-Glazed Apple Cake recipe.



Toronto Sportsmen’s Show - From March 15th - 19th 2017, Ontario Apples were featured in two recipes prepared live on the “Cook Your Catch” stage to large crowds of between 50-100 attendees at a time. The two recipes were Jerk-Style Trout with Apple-Carrot Relish and Smoked Rabbit Lettuce Wraps. Chefs Ted Reader and Tawfik Shehata prepared these meals multiple times over the course of the event and served samples at the end of each demonstration.

Social Media - Foodland Ontario further supports Ontario Apples by posting informative content and fresh apple recipes to their social pages as well as sharing OAG posts to their very large and growing social media audience. On Facebook, Foodland Ontario’s posts in relation to Ontario Apples reached 2,435,011 people; on Twitter and Instagram nearly 100,000 impressions were made; and posts on Pinterest resulted in 251 pins.

2016/2017 OAG Activities

Good to the Core - Getting to know Ontario Apples campaign

This year, we enlisted the services of 10 dynamic food blogger/influencers in order to increase awareness of the almost year-round availability and versatility of Ontario apples; encourage consumption of Ontario apples (branded by the Foodland Ontario logo); and educate consumers about the economic impact of the Ontario apple industry.



As part of this initiative, we hosted our influencers on 2 farm tours where they learned all about Ontario apples: apple packing and storing practices, apple varieties and acreage planted, growing conditions and seasons, availability, crop protection use and cooking uses. The influencers then shared their experiences in their blog posts and on social media.

Each blogger developed three recipes which were promoted to their followers and shared on all OAG social media platforms. As a result, over 25 million impressions were made on Twitter, 1 million on Instagram, 80,000 on Facebook and the recipes were “pinned” over 12,000 times on Pinterest. All 30 blogger recipes were compiled into a digital cookbook displayed on the OAG website and was so popular that the number of downloads crashed the website server on the launch day!

For a copy of the *30+ Inspired Ways to Enjoy #ONappleAday* e-recipe book, visit:
www.onapples.com/recipes.

2016 Royal Agricultural Winter Fair – OAG was at the Royal the first weekend in the OFVGA Booth. The popular Royal Apple Competition was back again with entries from Ontario, British Columbia and Quebec. Apples were handed out along with recipe cards and literature. With over 320,000 in attendance, a very successful weekend was had.

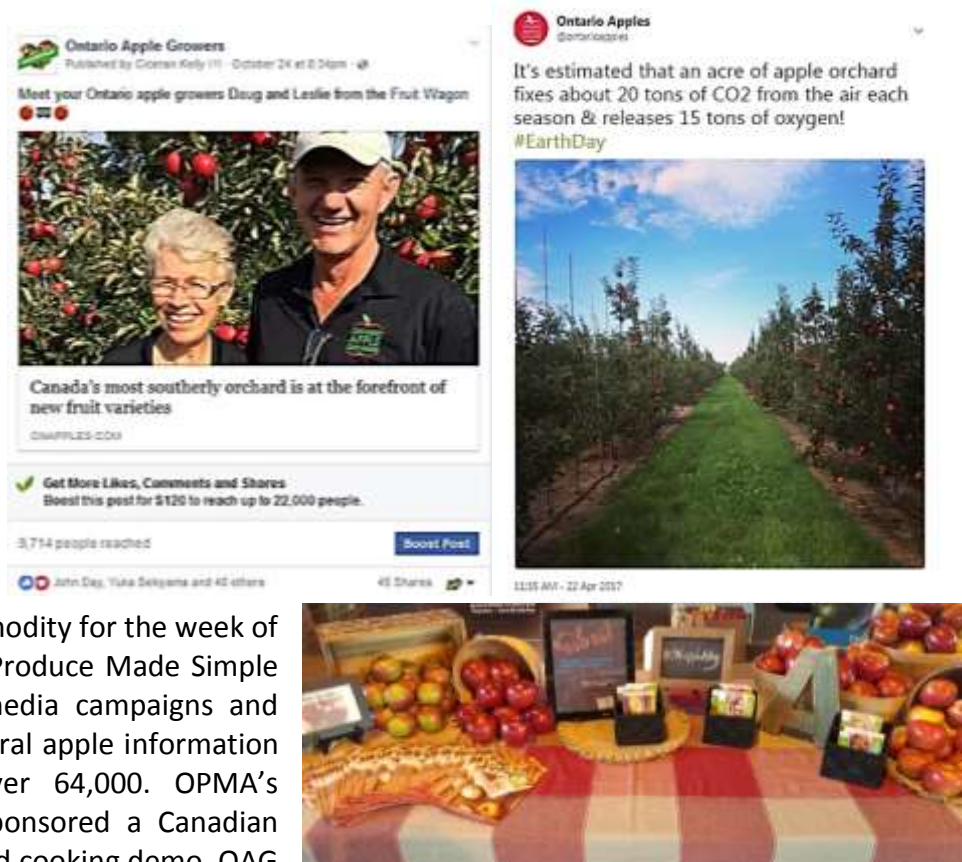
Social Media - @OntarioApples

Officially launched our Instagram page with a monthly contest encouraging consumers to show us how they enjoy an “Ontario apple a day” with a picture, accompanied by the hashtag #ONappleAday. During the season we gained 555 followers and saw 465 public posts using the hashtag which linked followers to other aspects of the campaign.

Top posts on other OAG social media channels included crop updates, apple facts, grower profiles and recipes. Our Facebook has 10,600 followers, and Twitter followers have increased to 2,600. Engagement across both platforms is up by 72.5% vs. last year.

Ontario Produce Marketing Association (OPMA) “Produce Made Simple” - Ontario

apples were the featured commodity for the week of Oct 10th - 14th, 2016 on the Produce Made Simple website and in their social media campaigns and included tips, recipes and general apple information reaching an audience of over 64,000. OPMA’s Produce Made Simple also sponsored a Canadian Living Harvest Market event and cooking demo. OAG was in attendance with an abundance of apples in a harvest-themed booth.



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 2016 and November 2017. The OAG also distributes OMAFRA's Orchard Network Newsletter four times a year. There is a Grower section on the web site where newsletters, industry statistics and information are always available. OAG members can log into this at any time with their grower number.

Young & New Apple Farmers Group

A few years ago, OAG began an informal group for new and younger apple farmers as a way for them to network and learn from each other. The group continues to grow with over 50 members. Each year the group makes an effort to meet at least twice face-to-face. In 2017, the group met for a lunch meeting at the Ontario Fruit and Vegetable Convention in Niagara Falls and during the OAG Summer Tour in Niagara. As well, the OAG would like to thank Dow AgroSciences for hosting a Young Apple Farmer day in March which was very well attended. The group also uses a smartphone group texting app called "*What's App*" to continue their conversation and learn from each other.



INDUSTRY COMPETITIVENESS

Orchard Juice Apples

The OAG negotiated with the processors that the price for orchard (grounder) juice apples to processors be determined based on competitive market forces for 2017. Competitive market forces that exist this year included:

- The Ontario crop size is expected to be down 20% from 2016 with 5.8 million bushels with areas in Ontario having been affected by hail damage;
- There has been considerable hail damage creating additional processing fruit in neighbouring apple producing jurisdictions (Quebec and NY);
- Michigan's crop is down by 27% due to spring frosts (down 7% from 5-year average);

The minimum grounder juice apple price for 2016 is \$.06/lb. FOB farm gate on the first 15 million lbs. and \$0.575/lb. FOB farm gate for volume over 15 million lbs. The processor increased the price to \$0.063/lb. on September 5th on the first 15 million lbs. of apples.

Ontario Craft Cider

The Ontario Craft Cider Association (OCCA) and the OAG welcomed the announcement of the Ontario Small Cider Support Program in March of this year. The program is designed to help independent, small Ontario cider producers increase capacity and hire more staff which in turn will introduce more consumers to Ontario craft cider. Eligible ciders will receive up to 74 cents per litre on eligible sales – to a maximum of \$220,000 per year per producer. In 2015-2016, LCBO sales of craft ciders grew 54 percent, over the

previous year. This program assists all 43 cider producing operations in Ontario and Ontario's apple farmers who supply the fruit used to make craft cider. Ontario Craft Cider Association members are required to use only 100% Ontario apples for their cider.

Consumers continue to find Ontario craft ciders in grocery stores as well as at Farmer's Markets throughout the province. For more information, including a list of Ontario cideries, visit ontariocraftcider.com. You can also follow them on social media.

Research and Development

The OAG has secured more than \$414,069 in research grant funding while providing \$59,775 in grower seed funding. Each year, the Research Committee meets with research extension staff to review the research priorities. Our research priorities are as follows:

1. Increased production efficiencies:
 - a) Labour efficiencies (i.e. automation)
 - b) Pest management efficiencies
 - c) Weather risk efficiencies
 - d) Water use efficiencies
2. Crop Cultural Management Strategies for optimum yield and marketability including but not limited to:
 - a) New variety breeding and evaluation
 - b) Scion and Rootstock evaluation (i.e. winter hardiness, drought efficiency)
 - c) Orchard design
3. Post-harvest strategies for optimal apple quality.

Additionally, apples have a complex pest and disease profile and having the adequate strategies to deal with these issues is critical. Developing innovative Integrated Pest Management (IPM) knowledge and practice in current production systems should include:

- a) incorporating new pesticides
- b) alternative control measures
- c) understanding pest/beneficial dynamics
- d) impacts on fruit quality & storability

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

Performance of Honeycrisp on 15 size-control rootstocks – Dr. John A. Cline and John Zandstra (University of Guelph)

A ten-year project was initiated in 2014 to determine the horticultural attributes of several new Vineland and Cornell-Geneva size controlling rootstocks with Honeycrisp and Aztec Fuji as the scion cultivars.

Ten trees each of Honeycrisp and Aztec Fuji on 17 different rootstock were planted in 2014 as part of the Canadian Horticultural Council's GF2 Science Cluster project at Simcoe and Cedar Springs Research Stations. Trees are trained to a spindle type training system and trickle irrigated. Trees are being

monitored annually for trunk circumference growth, tree height and spread, yield, fruit size, rootstock suckering and longevity.

Honeycrisp is a weak growing cultivar that has suboptimal production on M.9 or other dwarfing rootstocks. Increasing tree vigor through the use of a semi-dwarfing rootstock in the size range of M.26 and M.7 may prove to be beneficial for overall productivity, tree performance, and longevity. This project is being funded for five years by the OAG (through the Canadian Horticulture Council), and is also part of a wider North American NC-140 Project.

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

A three-year project 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 effectiveness 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 organogenesis in Honeycrisp and Gala.

Brevis (metamitron) Fruit Thinning Trials – John Zandstra, University of Guelph.

Trials were initiated in 2017 with Adama Canada to collect data on the effectiveness of Brevis fruit thinner in Ontario growing conditions, with the goal of North American product registration. An orchard of Gala at the Cedar Springs Research Station and Ambrosia at a collaborator site were used. It is anticipated that this trial will continue for at least 1 more season.

Additionally, Cedar Springs is one of the OAG cultivar test sites with 7 cultivars from AAFC’s Pacific Research Centre (PARC) breeding program first planted in 2012. These plantings include Nicola and Salish. Another 5 varieties were planted in spring 2015 and 6 in the spring of 2016.

Sustainable Management of Brown Marmorated Stink Bug in Ontario - Cynthia Scott-Dupree (University of Guelph), Hannah Fraser & Tracey Baute (OMAFRA), Tara Gariepy (AAFC)

Based on surveys and confirmed homeowner finds, brown marmorated stink bug (BMSB) has been detected in 19 counties across southern Ontario and is likely established in many of these areas. Surveys were conducted from 2015 to 2017 using a combination of traps visual surveys and sweep nets. In 2017, trap-based monitoring focused on the Niagara region, where BMSB appears to be established with significant and potentially economically injurious populations. There was also limited survey coverage in Norfolk and Wellington counties. Crops included grapes, tender fruit, and apples. Of 16 sites in the Niagara region, all had detections of BMSB in 2017. In some cases (primarily grape sites east of St. Catharines), weekly counts late in the season (mid-August onward) exceeded 100 individuals per trap, levels which indicate high population pressure. In apples, stink bug injury has been detected at some sites. Pheromone traps for BMSB are recommended and should be included as part of an IPM program for this insect pest. Thresholds are still under development in both Canada and the US.

The work on the phenology of BMSB has been completed. Field collections of adult females in 2016 and 2017 indicate that BMSB has a single generation per year in Ontario. This is in contrast to more southerly areas in the U.S. where BMSB is established and multiple generations may occur. Brown marmorated stink bug begins to emerge in mid-April, with continued activity of nymphs and / or adults into October. Apples are potentially at risk for much of the growing season, although particularly late-season when populations are at a peak.

Several insecticides (9) or mixtures of active ingredients (3) have been screened for their potential use against BMSB nymphs, the most likely life stage to be encountered in crops and a more vulnerable life stage than adults. Bioassays included both direct and / or residual contact toxicity. Products included Actara 25WG, Clutch 50 WG, Closer, Endigo, Sivanto, Malathion 85E, Matador 120 EC, Rimon 10EC, Lorsban 4E, BotaniGard, and boric acid. With the exception of Lorsban, nymph mortality was low (less than 25%) at label rates. Additional research into other pest management approaches, such as attract and kill traps, and alternative to chemical control is required.

Funding was obtained through the OMAFRA / University of Guelph Partnership - Emergency Management and Production Systems - Plants, with the financial support of the Grain Farmers of Ontario, Ontario Apple Growers, and Ontario Tender Fruit Marketing Board, Valent, Dow AgroSciences and Bayer CropScience.

Fire Blight Management in Ontario Apples and Pears – Kristy Grigg-McGuffin, Wendy McFadden-Smith and Amanda Green, OMAFRA and Antonet Svircev, AAFC

The Ontario Apple Growers in partnership with the Ontario Tender Fruit Growers have undertaken a joint apple and pear fire blight research project with grant funding through *Growing Forward 2*. The project seeks to:

- Provide growers with tools to respond quickly and effectively to fire blight outbreaks.
- Gain information on the prevalence and distribution of fire blight resistance to streptomycin in pome fruit orchards across Ontario.
- Evaluate the impact of cultural management practices.
- Develop strategies for integrating biologicals, antibiotics and copper for management of fire blight.

In 2016, samples of fire blight infected shoots were collected across Ontario from 66 commercial apple and pear orchards with a history of fire blight. Based on the results, streptomycin resistance was not present at significant levels in any orchard tested. Of the 32 farms that were fully processed using molecular techniques for pathogen identification, only four colonies (3 sites total) were classified as high resistance, which was determined to be from a mutation rather than reflecting the presence of a population within an orchard. Due to budget and time constraints, 41 farms were screened for Streptomycin resistance on amended media only. A total of 42 colonies (20 sites total) screened as medium resistance and 17 colonies (10 sites) screened as high resistance, albeit at very low levels. Therefore, Streptomycin appears to remain a valuable tool in Ontario for fire blight management.

Also in 2016, an experimental block of high-density Gala apples and Bosc pears on fire blight susceptible rootstock was established at Agriculture and Agri-Food Canada (AAFC) Vineland to investigate the integration of 1) antibiotics, biologicals and copper, and 2) plant health promoters in a fire blight management program.

For objective 1:

- Overall, control at 50-80% bloom appeared most important.
- Under optimum conditions for fire blight development, the biologicals Blossom Protect, Double Nickel (alone or in combination with Cueva) and, to a lesser extent, Serenade were effective rotational partners with Streptomycin when positioned earlier in the infection period (before 50-80% bloom). However, full season treatments of biologicals alone did not provide protection comparable to Streptomycin.
- Kasumin provided control of fire blight comparable to Streptomycin.
- Use of the above alternatives to Streptomycin earlier in bloom appear to provide effective resistance management by reducing Streptomycin use to critical infection times. However, multiple years of study are necessary in order to accurately assess the effectiveness of biologicals under varied environmental conditions.

For objective 2:

- Similar to an on-going AAFC project with Gala apples on M9 and G11 rootstock, Bosc pears on Old Home x Farmingdale 97 and Swiss Bartlett rootstock were treated with Apogee and nitrogen to determine impact on growth in new plantings.
- Due to inconsistent bloom in 2016 and 2017, trees were not inoculated with fire blight to determine impact on shoot blight.
- Apogee had a significant impact on overall tree growth while nitrogen had very little effect.
- Future studies are needed to determine if treatment reduces infection of fire blight such that the benefit would outweigh reduction in growth.

This project is funded in part through *Growing Forward 2* (GF2), a federal-provincial-territorial initiative. The Agriculture Adaptation Council assists in the delivery of GF2 in Ontario.

Fire Blight Risk Initiative - Michael Celetti, OMAFRA Plant Pathologist Horticulture Crop Program Lead and Kassandra Raymond, OMAFRA Summers Student

Fire blight is a very devastating bacteria disease of apple and pears. The models available (Maryblyte 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 April 19 - June 11, 2017. 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.

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

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) 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.

For more than 5 years, 12 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 grower was provided with the trees and asked to plant a supported system and to provide their observations. All growers can harvest and use the fruit, unless sampling is needed for the OAG's evaluations. 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))

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 – Dr. Daryl Somers, Vineland Research and Innovation Centre

The Vineland apple breeding program budded its first trees in 2012 with the promise to build a competitive breeding program reaching 20,000 – 25,000 trees by 2017. These large numbers are required in plant breeding because the chance of finding high value, marketable apples is rare. The Vineland team reached a significant milestone in 2016 by exceeding 20,000 budded trees on the Victoria Avenue research farm.

The 2016 season of the Vineland apple breeding program resulted in 3 selections that passed several rounds of taste testing. Vineland researchers accelerated making trees of these selections by budding in December 2016 and now have field planted and potted trees growing. The potted trees are in a protected environment and many resemble 2-year old trees though they are only 10 months old. The 2017 season has included tasting approximately 400 apple selections, of which we expect 7-15 may be advanced to the second test. Our apple selections are driven primarily by superior texture and juiciness upon first examination and followed by more detailed evaluation of acid and sweetness at a later date.

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

The goal of this research project is 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. We hope that this research will lead to affecting 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 collects bark and leaf tissue from approximately 200 different trees over 2 years. The trees are 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 will test duplicate samples of the same material and the results compared to gauge reproducibility of the new CFIA technology. In the third year of the project, testing of the 200 replicate samples will be completed and experiments will be performed aimed at reducing the costs of the technique for industry to monitor their own material.

Vineland is the lead on this CAAP funded project which was approved in February 2017 (10 months later than expected). To catch-up to the original timeline, additional technical staff has been hired. We have extracted viral genetic material from the 1st year bark samples and have begun sending them for DNA sequencing. Extraction of first year leaf material is taking place now and we are on schedule to be completed all of the 1st year samples by mid-December. With the extra staff we are projected to complete the second-year bark samples in February 2018 and the 2nd year leaf samples in May 2018.

Canadian Agri-Science Cluster for Horticulture 2

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 2 (within the Growing Forward 2 program) with total funding of \$1.5 million over 5 years (2013 to 2018). These projects are managed by The Canadian Horticultural Council on behalf of the Canadian apple sector.

1. Optimizing Storage Technologies to Improve Efficiency, Reduce Energy Consumption, and Extend the Availability of Canadian Apples – Dr. Jennifer DeEll, OMAFRA
2. Improving tree fruit storage management using weather based predictions of fruit quality at harvest – Dr. Gaetan Bourgeois, AAFC
3. Performance of Honeycrisp on New Size-Controlling Rootstocks – Dr. John Cline, University of Guelph
4. New biological control agents for postharvest diseases of pome fruit – Dr. Louise Nelson, University of British Columbia

Tree Fruit Cost of Establishment & Production/Profitability Tracking & Reporting System

This multi-year project which aims to modernize the way Ontario's tree fruit industry (apples and tender fruit) tracks and reports cost of production data both at the industry level and the individual grower level.

At the industry level, the Ontario Tender Fruit Growers and the Ontario Apple Growers survey grower members for industry cost of production data. This data is compiled into a Cost of Production (COP) document that serves as a valuable benchmark for our stakeholders.

Growers will benefit from a user-friendly tool designed to help track their costs and gauge profitability by selected criteria. FruitTracker.com currently exists as a record keeping, orchard management software system. It draws on grower's GPS data and tracks production activities such as spray, fertilizer and harvest events to which cost tracking functionality would be linked. The design and development of tools for capturing labour costs accurately and efficiently would provide valuable information that growers could use to expedite work flow and enhance labour productivity.

This project is funded in part through *Growing Forward 2* (GF2), a federal-provincial-territorial initiative. The Agriculture Adaptation Council assists in the delivery of GF2 in Ontario.

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

The current research project, with funding from OMAFRA-University of Guelph Partnership Program, Products and Value-Chains theme, will identify consumer liking drivers amongst the most popular apple varieties identified through current consumer trends over the next three years. This information will be converted into an apple quality screening process that links consumer preference to apples in the orchard. Apples will then be evaluated using a sensory panel and several methods to uncover sensory parallels across apple varieties. A range of consumer tolerance for flavour and texture attributes will be determined and these tools will allow for a reliable screening of apple sensory quality to ensure that the best apples are commercialized to maximize returns for the local apple sector.

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 a process for screening the flavour and texture quality of apples created by Vineland's apple breeding researchers;
3. Correlate consumer preference drivers to allow the selection of the highest quality apples for commercial release.

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 overall goal of this project is to study bioactive-rich Ontario Gala apples as one potential dietary strategy to improve lipemia and metabolic endotoxemia-induced inflammation in obese individuals at risk for chronic disease. The researchers overarching hypothesis is that consumption of whole apples will

beneficially affect chronic lipemia, gut microbiota profile, and ensuing metabolic endotoxemia-induced inflammation in obese individuals.

The specific objectives are to determine:

- 1) if whole fresh apples (3 medium-sized apples/day, equivalent to ~450 g apple/day, consumed raw with peel) incorporated into the typical daily diet for 6 weeks affect the gut microbiota and improve metabolic endotoxemia and inflammation in obese adults;
- 2) how apple bioactives affect relevant metabolic processes at the cellular or molecular level;
- 3) effective methods to broadly communicate “apple health benefits” and to identify long-term motivators and strategies that would lead to a sustainable increase in apple knowledge, purchase and consumption in target groups, especially principal grocery shoppers in Ontario.

All approvals for the Apple Study were received and all methodology related to human sample work, lipid digestion/absorption, and inflammatory/metabolic outcomes has been established in the laboratory. The Apple Study participant recruitment and screening (to determine eligibility for the study based on criteria, such as obesity status, medication use, health status, etc.) began in 2017 and will be ongoing into 2018. An apple delivery plan with our apple supply partners (Martin’s Family Fruit Farm and Norfolk Fruit Growers’ Association) was established and we received our first load of Ontario Gala apples in October 2017. The Apple Study clinical trial and data collection also began in October 2017. Apple Study participants are currently in various stages of the clinical trial, with more participants being screened on a regular and ongoing basis for study eligibility criteria. To date, we have screened 44 participants by phone and 14 of these resulted in in-person screenings in the clinical trials lab. We currently have 2 participants who have started the study and another 8 participants confirmed to start in January 2018. Our research team is continuing to recruit participants through various venues (e.g. social media, newspaper, emails, posters, presence at local farmers markets and other public venues in the community). The Apple Study clinical trials and data collection will be ongoing throughout 2018.

We have also made progress towards wide dissemination of new knowledge of apple health benefits via various venues. Graduate students have presented project information (no results yet) at various venues such as University of Guelph College Royal, Ontario Fruit and Vegetable Convention and on campus seminars/conferences) in the past year. Our study was featured in GuelphToday.com. We have made significant progress towards the training/education of students with extensive apple knowledge, laboratory research and knowledge translation experience. To date, 10 graduate students and 5 undergraduate students have been actively engaged in different areas of this project and are gaining knowledge and experience of apples, research and knowledge translation. Of note, PhD student (Danyelle Liddle) has attended numerous meetings (e.g. Ontario Agri-Food Education, KT Canada Annual Scientific Meeting) to gain expertise in knowledge translation methodology that will be valuable as project results become available. Lastly, project team members are continuing to advance our goal of providing effective strategies for a sustainable increase in apple purchase through studying barriers and strategies to apple purchase and consumption. A consumer survey is in development and a Research Ethics Board application is in progress so that the team can further advance this objective of the project.

Growing Forward 2 Organic Science Cluster Projects

The OAG is a partner on two projects within the Growing Forward 2 Organic Science Cluster. Both projects will run until March 31, 2018.

Development of organic control strategies for apple scab - Dr. Deena Errampalli, AAFC

The project has two main objectives:

(1) To test or evaluate full season organic spray programs consisting of Sulphur, liquid lime sulphur alone or in combination with the following:

- a. *Bacillus sp. Trichoderma* or other biocontrol agents (endophytes)
- b. Methyl jasmonate, chitosan (Elexa) or other plant resistance activators
- c. Evaluation of full season spray program field trials
- d. Management of leaf debris: with biological sprays and shredding of debris

(2) Project evaluation, using the data from the objectives above, generate economic analysis of organic spray programs and improve recommendations for the control of apple scab and postharvest diseases in organic apple orchards was initiated this year with data to be analyzed in 2017 and 2018.

Integrated organic practices in apple orchard management - Dr. Julia Reekie, AAFC

The overall objective of the project, 'integrated organic practices in apple orchard management', is to develop innovative ground cover systems for supplying nitrogen to organic apple orchards for the maintenance of tree health and to devise effective pest management practices to safe guard marketable organic apples so as to meet consumer demands. There are three project studies:

(1) The impact of a modified 'Swiss sandwich' system on fruit production in an organic 'Honeycrisp' orchard in Nova Scotia (project lead: Julia Reekie, AAFC)

(2) The efficacy of Quassia Extract in the control of European apple sawfly (EAS) (project lead: Julia Reekie, AAFC)

(3) Rates, timing and trunk injection of promising scab-resistance inducing compounds (project lead: Pervaiz Abbasi, AAFC)

Other Research and Services

AppleTracker.com – The web-based system 'AppleTracker.com' is maintained by the Ontario Apple Growers as an online system providing a comprehensive tool for growers to record their spray records, harvest data as well as shipping and storage information. This program also provides growers with the reports needed for CanadaGAP food safety program.

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 report we have acknowledged the partners for each of the projects.

Growing Forward 2 is a federal-provincial-territorial initiative. The Agricultural Adaptation Council assists in the delivery of GF2 in Ontario.



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. CanadaGAP has been benchmarked and officially recognized by the Global Food Safety Initiative (GFSI). Audit and certification services for the program are delivered by third party, accredited Certification Bodies. Over 3,000 produce companies in Canada and the USA are participating in CanadaGAP. Apple farmers, packers and wholesalers across Canada have been active participants since 2009. In Ontario, 103 apple growers and packers are CanadaGAP-certified.



In 2017, CanadaGAP achieved a long-standing goal of receiving full recognition under the Canadian Government Food Safety Recognition Program. This effort began in 2004 with the first technical review of the manuals that have now become the backbone of the CanadaGAP program. Government Recognition involves an endorsement not only of the technical standards, but also of effective delivery of audits and program administration. Full recognition for CanadaGAP coincides with the introduction of the new *Safe Food for Canadians Regulations*, expected in 2018, and positions CanadaGAP as a “model system” for fresh produce suppliers subject to federal regulations.

This year CanadaGAP also published a number of resources regarding the Food Safety Modernization Act in the United States, to assist exporters and program participants involved in the U.S. market. A series of fact sheets and other tools are available for download from the CanadaGAP website.

CanadaGAP will be busy in 2018 with re-benchmarking the program to updated GFSI requirements. This process is now underway, and typically takes about a year to complete. Several new GFSI requirements have already been incorporated into the program, including the introduction of an unannounced audit program, Food Fraud mitigation, and enhancements to assessing auditor competency consistent with the GFSI Auditor Competency initiative.

CANADIAN HORTICULTURAL COUNCIL (CHC)



The year 2017 has been extremely busy with government consultations and the gearing up for the NAFTA re-negotiations.

CHC staff are well aware that the onslaught of these consultations has no doubt taken you a lot of time to answer, and we greatly appreciate the feedback that you have provided us, as that helps us to adequately relay your needs and concerns to the government.

Staffing changes occurred with the CHC welcoming Jennifer Babcock as the new Manager, Policy Research and Development and Caleigh Irwin joining as Manager, Crop Protection. Katherine Strong is the new Administrative Assistant.

A sampling of 2017 Activities and Initiatives at CHC include:

- 9 submissions to government consultation requests including topics such as (but not limited to) NAFTA negotiations, CFIA cost recovery, pre-budget consultations, corporate tax changes, plant health strategy, national food policy and others.
- In August, participated in
 - Seasonal Agriculture Worker Program tour in Norfolk County with AAFC, Immigration, Refugee and Citizenship Canada (IRCC) Service Canada and Employment and Social Development Canada (ESDC)
 - Crop Protection tour in Ottawa area with PMRA, PMC, CFIA and AAFC
- 4 appearances at Parliamentary and Senate Committees on climate change issues, Foreign Affairs and International Trade issues, non-tariff trade barriers and the National Food Policy.
- In November, co-hosting with the Canadian Produce Marketing Association the Fall Harvest: Meetings on the Hill.

CHC Apple Working Group Update

The CHC Mid-Summer Apple Meeting was held in July in Mont Tremblant, Quebec. The event was hosted by the Producteurs des Pommes du Quebec. The industry meeting and orchard tour were well attended by apple growers and industry representatives from across the country.

The working session included discussions on market situations and trends, research and innovation strategies and priorities, National Apple Planting and Replant Program Opportunity, Ministerial Exemptions, and HS Codes for Honeycrisp.

CHC also manages the Canadian Agri-Science Cluster for Horticulture for the apple sector. As Cluster 2 is now in its final year, CHC has begun planning for Cluster 3, which is anticipated to be part of Agriculture and Agri-Food Canada's next suite of programs and aim to begin in April 2018. CHC has worked with commodity groups to update research strategy documents, review national research priorities, identify projects for funding through the Cluster and garner industry support.

For more information on CHC activities or to obtain a copy of the Annual Report, please visit their website: www.hortcouncil.ca.



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TREASURER* Maureen Connell
OFFICE MANAGER* Sylvana Lagrotteria
MARKETING COORDINATOR* Kelle Neufeld

*Shared Staff

ASSOCIATION DELEGATES

CHC Apple Working Group - Brian Gilroy, Kelly Ciceran
Ontario Fruit & Vegetable Growers' Association - Charles Stevens
Ontario Federation of Agriculture - Joe Van de Gevel
FARMS - Steve Versteegh (Shane Ardiel – Alternate)
Horticultural Crops Ontario - Kelly Ciceran
Ontario Agricultural Commodity Council – Greg Ardiel
Presidents' Council - Charles Stevens