Maple Syrup Season 2017 (75th Anniversary) – Summary

by

Stephen G. Saupe
CSB|SJU Biology Department
Collegeville, MN 56321; ssaupe@csbsju.edu

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Overview: This report documents the activities of the Saint John's Maple Syrup operation during the 2017 season. Saint John's started making syrup in 1942, making this season the 75th Anniversary of this springtime tradition (**Appendix 1** & **2**).

Staff: The leader of the operation was Br. Walter Kieffer, O.S.B. He was assisted by Core Crew members Gary Gillitzer, Jean Lavigne, Al Meier, William Mock, Stephen Saupe, and Dan Weber. Incredibly, this team invested more than 625 hours in the operation (**Table 4**). Saint John's Outdoor University staff members – Sarah Gainey (**Figure 14**), Kyle Rauch, Jenny Kutter, Ashley Walker, and Tom Kroll – provided additional support. This was Tom Kroll's final season with the operation in his role as Outdoor U director because he retired at the end of the spring 2017 semester (**Figure 26**).

At least 163 volunteers including students, faculty, staff, and friends joined Br. Walter and the Core Crew. These volunteers collectively donated more than 1323 hours to the operation (**Table 4**). The hours are self-reported by the volunteers who either sign the logbook at the sugar shack or enter their data in our online database. The motivation for volunteers to keep track of hours is that they are rewarded for their participation by receiving an amount of syrup proportional to how much time they donated. Adding together the time worked by the Core Crew and other volunteers, a grand total of 1948 hours went into the production of Saint John's Maple Syrup during 2017 (**Table 4**).

Four volunteers – Jim Preusser, Harold Zip, Darrell Ashfeld, and Mark Ludowese – deserve special mention because they invested such a large amount of time and worked so closely with the Core Crew. Together, they donated 380 hours, or nearly 30% of the total volunteer hours. Their large contribution to the operation led to discussions at our year-end meeting about what constitutes a Core Crew member, with no resolution to the question.

Organizing a large group of people can be a daunting task, but the Outdoor University staff does an amazing job. Sarah Gainey maintains a blog and sends regular "Maple Syrup Updates" by emails to volunteers who have signed up to be on the distribution list. This year, volunteers received at least 18 updates including those on Feb 28; Mar 5, 2 on the 6th, 10, 16, 19, 23, 26, 29; and Apr 4, 7, 17, 18, 20, 25; and May 1. To encourage volunteers to read the updates,

Sarah includes informational "Snippets." (**Table 11**). Sarah also sent out regular "Core Crew Updates," too.

Tapping: The weather was uncharacteristically warm in early February. By February 8th, Br. Walter had activated the Crew and they had distributed collecting barrels and buckets throughout the woods, and made 500 droplines to be used with buckets. The latter was a new innovation (**Figure 9**). By February 14th, Br. Walther and a small crew had installed at least a hundred taps including the gravity-vacuum lines (**Figure 23**). This was the earliest tapping date on record at Saint John's. Our average first tapping date is Mar 8th (**Table 7**).

Community Tapping Day was held on Saturday February 25th. More than 100 volunteers (**Figure 13**) joined us for the festivities that included refreshments, "Crew" buttons, MJ Bach's Maple Syrup Song, and Br. Walter's traditional prayer (**Appendix 3**). As always, the Outdoor U staff did an amazing job organizing the event. Several tapping crews, each led by a Core Crew member or other experienced person (*i.e.,* Dan Beyer, MJ Bach, Larry Schug, Nick Overby, and Michael Roske), handled the tapping. Each group was assigned a different area of the sugarbush (**Figures 28** & **33**). Kinderwald, Triangle, Pond North, WalterWald, and the east side of West Horseshoe were not tapped so that they could be used for educational groups later in the season. The tapping crew leaders were trained the morning of Tapping Day and then given lunch at the Refectory before tapping began that afternoon. By the end of the day, volunteers had installed about 1000 taps.

By the end of the season, 1537 taps had been installed (Jean Lavigne email, May 29, 2017). This number was based on the number of spiles that were marked with GPS. This year, all taps were 5/16th. Of these, 120 were in the education areas, which means there were 1417 production taps.

Clean Up: The clean-up process was much the same as last year. The mechanized bucket washer was put to good use. To clean the gravity-tubing lines, Br. Walter squirted water through them with a backpack sprayer (**Figure 10**). To provide an idea of just how much there is to do during clean-up, below I've paraphrased an April 16th email from Brother Walter to the Core Crew in which he outlines the day's chores:

1. Get the generator and air compressor and then pump up tires on trailers and old truck.
2. Clean out tractor shed to dry pails in.
3. Setup up the washing tub and rise the sink stored in the skidder shed.
4. Rake straw up before it turns to mud.
5. Drain the finishing pan, and then put a couple of pails of cleaner from the extra syrup pan into the finishing pan
6. Lift both steam hoods
7. Take the manifold off syrup pan and clean.
8. Flush the sap supply lines with hot water. Cap the lines after blowing out with air.
9. Bring in the pails to get them ready for washing
10. Bring out the pressure washer and start pressure washing big sap pan.

11. Bring out tanks of water, fill a couple storage tanks with water. We need hot water for the pails, barrels and covers.
12. Clean the syrup pans
13. Then, there is wood to split.

Sap Production: Continuing the Saint John's tradition, we maintained our sap production records on a scrap board (**Figure 1**). The data from 2017 are summarized in **Tables 1, 3** & **5**. Data for all years are summarized in **Tables 6**.

This was an early year for sap flow. The first sap collected was on February 18th, which is the earliest date on which sap has ever been collected (**Table 7**). In fact, it was about 2.5 weeks earlier than the average first sap collection date, which is March 18th (**Figure 2**; **Tables 6** & **7**).

The season was somewhat discontinuous. After the early sap run, it turned cold about March 7th which essentially shut down sap flow for about two weeks until the next big run about March 20th (**Table 5; Figure 32**). The on-again/off-again conditions resulted in the formation of some nifty sap-sickles (**Figure 15**).

The last sap for the year was collected on April 7th, which is close to the historic average of April 11th (**Figure 2, Tables 3, 6** & **7**). Because of the early start to sap flow, it made for the longest syruping season on record. There were 48 days between the first and last sap collections compared to an average of 24 (**Tables 6 & 7**). Similarly, sap was collected on more days (17) than usual (12.4 average)(**see Tables 6 & 7**).

There is a clear trend to our sap season getting earlier. A plot of the first date on which sap is collected versus year shows that since 1972, sap production has occurred 3.2 days earlier per decade (**Figure 19**).

In a typical year, if sap flow begins early, it tends to end early as well. This relationship can be seen in a plot of last sap collection date versus first sap collection date (**Figure 20**). Due to the early sap flow, this year was an exception to this generalization.

A total volume of 10,355 gallons of sap was collected (**Tables 1**, **3**, & **5**). The largest daily sap collection during the season was 1875 gallons (**Table 1**). Based on the number of taps, it was an average year for sap production. We collected 7.3 gallons of sap per tap compared to an average of 7.4 (**Tables 1, 5,** & **6)**.

Syrup Production: Syrup production data were also recorded on a scrap board (**Figure 3**). Based on these data we produced 291 jugs of syrup (**Table 5** & **10**). Since we bottle into a mixture of various-sized containers (gallon, three-liter, four-liter, five-gallon pails), this equates to 263.8 gallons of syrup (**Tables 2** & **10**). In other words, we produced 9.3% fewer gallons of syrup than the number of jugs that were bottled.

We produced an average amount of syrup (0.74 quarts) per tap (**Table 6**). The sugar concentration of the sap was 2.19%, which was average (2.2%). This yielded a sap-to-syrup ratio of 39.3 which was slightly better than average (40.3).

We have had to replace the rubber valve in the fitting between the sap pan and syrup pan several times. To solve this problem, Brother Walter suggests the valve between the sap and syrup pan should not be opened until after the sap is hot and boiling.

As always, we burned lots of wood (**Figure 18**).

Syrup Analysis: We keep a sample of nearly every batch of syrup that was jugged (**Figures 4** & **5**). These samples were evaluated for clarity, density, flavor and color/transmittance.

The majority (61%) of syrup produced this year was USDA Grade Dark / Robust (Tc = 49.9 – 25%). We produced no Golden/Delicate syrup (Tc >75%) (**Table 12; Figure 29**).

The color/transmittance of the syrup was initially very dark (Tc = 24). By the fourth batch on March 7th the syrup reached it lightest color (Tc = 66) and then slowly got darker, in an approximately linear fashion, over the course of the remainder of the season (**Figure 30**). The gap in syrup production from about March 8th until Mar 22nd occurred because the weather was not conducive to sap flow (see Sap section).

Few (13%) samples were clear, most were cloudy. This is due to sugar sand that is not completely removed during the filtration process.

The majority of the samples (87%) were of legal density (66 – 68.9% sugar). However, three samples were below the minimum density. In the future, we need to insure that all syrup is finished to a minimum of 66%.

Sweet Predictions Award: The Sweet Predictions Award is given to the person who, at the beginning of the season, has the closest guess to the amount of syrup that will be made (**Table 9**). The winner this year was Ashley Walker (**Figure 8**). Ashley guessed 257 gallons, which differed from our final production tally (263.8) by only 6.8 gallons. Ashley's performance is very impressive considering this was the first time she had ever been involved in syruping.

Jim Preusser was a close second. His guess of 272 gallons was only 8.2 gallons off. If we included in our total syrup production the amounts eaten during festivals and by visitors, Jim's guess may have been the winner.

The competition for the Sweet Predictions Award is very fierce. This has motivated some nefarious individuals to clandestinely revise their guess to win the award (**Figure 21**).

Festivals & Celebrations: There were two festivals this year (**Figure 27**) with a total of nearly 1330 participants (**Table 4**). There were 501 visitors and 85 staff/volunteers at the first festival on March 25th and 652 visitors and 91 staff/volunteers at the second festival on April 7th (**Table 4**). The festivals featured the standard activities including maple syrup sundaes, live music, face painting, children's nature area, tours of the sugarhouse, educational booths (**Figures 12** & **24**), tapping demonstrations, horse drawn wagon rides, research activities (**Figure 22**), and a Native American area. A new feature this year was a branding iron that participants could use to stamp the Saint John's maple syrup logo (***at right***) onto a wood cookie.

The BIOL379 class (Natural History of Maple Syrup) provided visitors with the option of tastings both golden/delicate and dark/robust syrups and asked to record their preference. Visitors were almost evenly divided (**Table 13**).

To encourage student participation in the maple syrup operation, the Outdoor University staff sponsored a variety of events during the syrup season including a maple syrup cook off (**Figure 16**) and flapjack Friday at the Sexton bus stop (**Figure 17**).

In honor of the 75th Anniversary, Outdoor U designed beautiful new T-shirts (**Figure 31**).

Publicity/Honors: The operation maintains a website (see address below), daily blog (link below), and email distribution list to those who sign up.

As a part of the assignments for their BIOL379 (Natural History of Maple Syrup) and art classes, Ian Fritz and Conor Murphy created a movie about the operation (**Figure 11**). Their outstanding, 8:42 minute movie, featured interviews with Brother Walter, Abbot John Klassen, and Core Crew members. Their movie won two prizes, including Best-of-Show, at the annual student film festival. The movie is available to view at the link below.

In addition, the following publicity/articles about the Saint John's Maple Syrup Operation appeared:

- Anon (2017) *Abbey Banner*, p 35 (Spring).
- Anon (2017) *Abbey Banner*, p 45 (Fall).
- Anon (2017) A Sweet endeavor. *The St. Joseph Newsleader* 29(9): 1 (Friday, 3 March 2017). Image and text on the first page.
- Frye, Michael (2017) Maple syrup tradition sees 75 years of community involvement. *The Record*, 31 March, 2017, p 6.
- *Saint John's Maple Syrup* – A movie by Ian Fritz & Conor Murphy.
- Saupe, Stephen. (2017) A Sweet Taste of Spring, in *Sagatagan Seasons*, 20: 4-5 (Spring).
- Core Crew member Steve Saupe served as a judge for the MN State Fair Maple Syrup contest and was included in a piece that aired on MN Public Radio:

https://www.mprnews.org/story/2017/08/14/minnesota-state-fair-food-judges-study-in-good-taste.

- Website: http://csbsju.edu/outdooru/abbeyarboretum/maplesyrup
- Blog address: http://www.csbsju.edu/Arboretum/Stewardship/Projects/LandStewardship/MapleSyrup/Volunteer/DailyUpdate.htm.

Maple Sap Award: Nominees for the 2017 Maple Sap Award included Steve Saupe for breaking the sight-glass when cleaning the teaching evaporator ("Little Larry"), everyone who drove the tractor for failing to check the fluid levels damaging the transmission, and Gary Gillitzer for smashing the sap trailer into a tree (**Figure 7**). Though Gary claimed it was the tree's fault, he won the coveted prize (**Table 8**; **Figure 6**).

Education & the Community-at-large: The maple operation provided educational tours to 1259 students, from pre-school to college (**Table 4**).

Licensure: The operation is licensed by Stearns County Environmental Services (**Figure 25**). We are proud of licensure and work hard to maintain it. We contact Stearns County Environmental Services at the start of the season to schedule an inspection. We were inspected on March 24, 2017 by Ms. Jane Knott.

Upgrades: There were a few upgrades to the operation this year including the floor of the shack was scrubbed and sealed at end of season. A new syrup pan was purchased and new hoists to raise the hoods were installed.

Among things to do that were carried over from last year include:

1) Finish the sign above the north doors;
2) make a plaque listing the syrup boss & crew members;
3) make a plaque listing the winners of our various awards (*Sweet Predictions & Sap*);
4) complete the paneling on the west wall;
5) build a structure to stabilize the bottler when it is full of syrup;
6) install more attractive fire screening around the wood stove;
7) construct a more attractive wood box or other structure to hold the wood, paper for burning in the wood stove;
8) label all buckets with their purpose (*i.e.,* collecting pails; drip pails; filter cleaning pails and so on) which will serve to keep things tidy, prevent them from being used for other purposes so they remain where they are expected;
9) remove any items from the main shack that are not directly used in the syruping operation;
10) sort all the materials in the shack into well-labeled bins to keep materials tidy and functional so that multiple people working in the space know where things belong;
11) finish the area beneath the windows and around the window above the NW door;

12) build shelves or other system beneath the current maple jugging shelf to store the empty jugs waiting to be filled; and
13) attach to the outside of the shack a bracket and holder system for the propane tank.

Tables, Figures & Appendices

(Unless otherwise indicated, all images, figures, and tables provided by SG Saupe)

Table 1. Sap Collection Data – Spring 2017	
Date	**Sap collected (gal)**
18 Feb	225
20 Feb	560
23 Feb	375
5 Mar	500
6 Mar	1530
9 Mar	450
15 Mar	40
20 Mar	1060
21 Mar	1875
24 Mar	190
25 Mar	200
27 Mar	1050
29 Mar	120
31 Mar	695
1 Apr	180
3 Apr	675
7 Apr	630
Total (gal)	**10,355**

Table 2. Syrup Production Data – Spring 2017	
Date	**Syrup (gals)**
6 Mar	32.5
7 Mar	21.8
22 Mar	50.5
23 Mar	34.7
27 Mar	45.3
3 Apr	30.9
8 Apr	22
9 Apr	26.2
Total (gal)	**263.8**

Table 3: Syrup Production Statistics Summary – Spring 2017	
Spiles (5/16ths)	1417
# sap collection days	17
Sap collection dates	18 Feb – 7 Apr
Sap Season length (days)	48
Tanker loads of sap	52
Total sap collected (gal)	10,355
Syrup produced (gal)	263.8
Batches of syrup finished	29
Ratio (sap/syrup)	39.3
Sugar concentration (%)	2.2

Table 4: Saint John's Maple Syrup Operation Volunteers & Visitors – Spring 2017	
Volunteers *(counts families as one so total number even higher)*	163
Volunteer hours *[includes Jim Preusser (131), Harold Zip (113), Darrell Ashfield (77.5) & Mark Ludowese (58) hours]*	1323
Core Crew hours (*excluding Br. Walter & SJOU staff*)	625
Total Volunteer hours	1948
Festival Mar 25: Visitors (*includes 185 adults, 96 youth, 27 child, 106 CSB students, 87 SJU students*)	501
Festival Mar 25: Staff & Volunteers	85
Festival Apr 1: Visitors (*includes 251 adults, 168 youth, 28 child, 118 CSB students, 87 SJU students*)	652
Festival Apr 1: Staff & Volunteers	91
Total Festival Participants	1329
Student tours (*pre K – 12*)	999
Student tours (*post- secondary; incl. biology labs & others*)	260
Total students	1259
Other visitors (*community*)	10
Tapping Day participants	*ca*. 100

Table 5. 2017 Summary Data *(continued on next page)*

2017 Summary: Sap & Syrup Data

# of Taps	1537	all 5/16ths	120 in education areas, thus 1417 production
Taps 5/16th (bags/buckets)			
Taps 5/16th (vacuum lines)			
Taps total (actual count)			
Taps total (GPS count)			
Taps Placed	14 Feb (initial); tapping day Feb 25		
Taps Pulled	11-Apr		
Wood Used (cords)			
volunteers	163	(counts families as one so actual total higher)	
volunteer hours	1323		
Core Crew hours	625		
festival particip	1329		
Students preK-12	999	(doesn't include chaperones, etc, just kids)	
Students post (CSBSJU)	260	(io labs, FYS)	
Community	10		
Tapping Day participants	ca 100		
Syrup boss	Walter Kieffer, OSB		
Syrup Crew	William Mock, Jean Lavigne, Stephen Saupe, Gary Gillitzer, Al Meiers, Dan Weber. Although not officially on the crew, Harold Zip, Daryl Ashfield, Mark Ludowese & Jim Preusser were ever present and contr		

2017 festival details

March 25 501 (185 adults, 96 youth, 27 child, 106 CSB students, 87 SJU students)

40° cloudy 85 staff and volunteers

586 total participants

April 1 652 (251 adults, 168 youth, 28 child, 118 CSB students, 87 SJU students)

55° partly 91 staff and volunteers

sunny **743 total participants**

continued from previous page

	Syrup Production												Sap Production							
	DATE	Batch	Time	3L	Gal	4L	5 Gal	Total (jugs)	Total (gallons)	Total (Gal/day)	Batches finishe	Ttl Jugs / day		DATE	Full Loads	Partial Loads	Ttl loads	Gal partial load	GALLON	SAP/DAY
24																				
25	6-Mar	1	10:40	5	1	1		7	6.0	32.5	4	36		18-Feb	1		1		225	
26	6-Mar	2	11:30	5	3	2		10	9.1					20-Feb	2	1	3	110	560	
27	6-Mar	3	1:30	4	5	0		9	8.2					23-Feb	1	1	2	150	375	
28	6-Mar	4	3:15	5	1	4		10	9.2					5-Mar	2	1	3	50	500	
29	7-Mar	5	12:15	8	1	2		11	9.5	21.8	2	25		6-Mar	6	1	7	180	1530	
30	7-Mar	6	1:45	9	2	3		14	12.3					9-Mar	2		2		450	
31	22-Mar	7	11:00	10	1	1		12	10.0	50.5	6	56		15-Mar		1	1	40	40	9-10% sugar
32	22-Mar	8	12:00	5	2	2		9	8.1					20-Mar	4	1	5	160	1060	
33	22-Mar	9	1:30	5	1	2		8	7.1					21-Mar	8	1	9	75	1875	
34	22-Mar	10	2:30	4	2	3		9	8.3					24-Mar		1	1	190	190	
35	22-Mar	11	3:30	3	2	3		8	7.5					25-Mar		1	1	200	200	
36	22-Mar	12	5:30	4	1	5		10	9.5					27-Mar	4	1	5	150	1050	
37	23-Mar	13	11:00	4	3	1		8	7.2	34.7	4	38		29-Mar		1	1	120	120	
38	23-Mar	14	12:30	6	0	6		12	11.1					31-Mar	3	1	4	20	695	
39	23-Mar	15	2:15	3	0	5		8	7.7					1-Apr		1	1	180	180	no foolin'
40	23-Mar	16	3:45	7	0	3		10	8.7					3-Apr	3		3		675	
41	27-Mar	17	11:15	3	3	1		7	6.4	45.3	5	51		7-Apr	2	1	3	180	630	
42	27-Mar	18	12:30	9	2	1		12	10.2											
43	27-Mar	19	3:30	2	4	3		9	8.8											
44	27-Mar	20	4:00	7	2	1		10	8.6											
45	27-Mar	21	5:15	9	0	4		13	11.4											
46	3-Apr	22	12:15	7	3	4		14	12.8	30.9	3	33								
47	3-Apr	23	2:15	4	1	6		11	10.5											
48	3-Apr	24	3:45	3	1	4		8	7.6											
49	8-Apr	25	12:00	8	2	3		13	11.5	22.0	2	24								
50	8-Apr	26	2:00	4	2	5		11	10.5											
51	9-Apr	27		4	3	3		10	9.3	26.2	3	28								
52	9-Apr	28		3	3	1		7	6.4											
53	9-Apr	29	7:00 PM	4	3	4		11	10.4											
54																				
55																				
56																				
57									ttl	263.8	29.0	291.0								
58									avg	33.0	3.6	36.4								
59																				
60	29									count			SAP DAYS	17		#LOADS	52	TTL SAP	10355	0
61				154	54	83	0	291	263.8	sum										
62	9-Apr			10.0	5.0	6.0	0.0	14.0	12.8	max				7-Apr	8				1875.0	0.0
63	6-Mar			2.0	0.0	0.0	0.0	7.0	6.0	min				18-Feb	1				40.0	0.0
64	24-Mar			5.3	1.9	2.9	#DIV/0!	10.0	9.1	average				17-Mar	3.2				609.1	
65	23-Mar			5.0	2.0	3.0	#NUM!	10.0	9.1	median				21-Mar	2.5				500.0	
66	34									difference			length	48						

Table 6. Summary from all years

St. John's Maple Syrup - Summary of Data
1942 - present
updated: 6/3/2016

Year	# of Taps	total syrup (gal)	total sap collection (gal)	Wood used (cords)	Taps placed	Taps Pulled	first day syrup	last day syrup	Mean Syrup date	# days between first & last cooking	# cooking days	batches finished	avg gal per batch	avg gal per cook day	first day sap	last day sap	# sap collecting days	mean sap collection date	Median sap collection date	Length sap season (last - 1st collect day)	# tanker loads	max daily sap collected	min daily sap collected	average gal sap collected per collecting day	average gal sap collected per tap per collecting day	Sap (gal) per tap per season	Syrup (gal) per tap	Syrup (qt) per tap	sap/syrup ratio	syrup/cord	average sugar conc from rule of 86	interval between tapping (years)
1942	150	45	1440				28-Mar	12-Apr																							2.69	1
1943	900																															
1945	1750	246	8600				16-Mar	12-Apr																		4.9	0.14	0.56	35.0		2.46	2
1948							17-Mar																									3
1949							7-Apr																									1
1951		273	9000					26-Apr																		5.9	0.16	0.64	37.1		2.32	2
1953																													33.0		2.61	2
1954	800	210						23-Apr																								1
1958																											0.26	1.05				4
1959	800						7-Mar	10-Apr																								1
1964	1500	182			17-Mar																						0.12	0.49				5
1966	2200	350	13000																							5.9	0.16	0.64	37.1		2.32	2
1968	3100																															2
1972			16447												23-Mar	20-Apr	15	6-Apr	5-Apr	28	94.0	2800.0	175.0	1096.5							4
1974	3700	369	15379				3-Apr	20-Apr	11-Apr	17	15	63	5.9	24.6	3-Apr	19-Apr	12	9-Apr	8-Apr	16	87.9	2275.0	175.0	1281.6	0.3	4.2	0.10	0.40	41.7		2.06	2
1978	1850	373	14674		19-Mar	15-Apr	26-Mar	16-Apr	5-Apr	21	14	58	6.4	26.6	22-Mar	15-Apr	13	3-Apr	4-Apr	24	83.9	1943.0	481.0	1128.8	0.6	7.9	0.20	0.81	39.3		2.19	4
1982	1850	271	9758		16-Mar	26-Apr	2-Apr	24-Apr	14-Apr	22	12	42	6.5	22.6	2-Apr	22-Apr	13	13-Apr	14-Apr	20	55.8	1225.0	350.0	750.6	0.4	5.3	0.15	0.59	36.0		2.39	4
1985	1950	560	21179		13-Mar	13-Apr	17-Mar	12-Apr	1-Apr	26	17	71	7.9	32.9	16-Mar	11-Apr	17	29-Mar	31-Mar	26	121.0	2100.0	117.0	1245.8	0.6	10.9	0.29	1.15	37.8		2.27	3
1988	2000	348	12850				23-Mar	8-Apr	30-Mar	16	11	37	6.8	31.6	23-Mar	6-Apr	12	30-Mar	30-Mar	14	73.4	1807.8	175.0	1070.8	0.5	6.4	0.17	0.70	36.9		2.33	3
1990	1300	364	11384		9-Mar		26-Mar	11-Apr	2-Apr	16	12	47	7.7	30.3	22-Mar	10-Apr	11	31-Mar	30-Mar	19	65.1	1662.5	52.5	1034.9	0.8	8.8	0.28	1.12	31.3		2.75	2
1992	1600	344	14481				20-Mar	4-Apr	27-Mar	15	12	38	9.1	28.7	19-Mar	4-Apr	15	26-Mar	27-Mar	16	82.7	2100.0	306.3	965.4	0.6	9.1	0.22	0.86	42.1		2.04	2
1994	1600	308	12598				17-Mar	5-Apr	27-Mar	19	14	45	6.8	22.0	16-Mar	4-Apr	14	24-Mar	24-Mar	19	72.0	1750.0	87.5	899.9	0.6	7.9	0.19	0.77	41.0		2.10	2
1996	1200	277	10631		13-Mar		31-Mar	24-Apr	12-Apr	24	13	36	7.7	21.3	21-Mar	22-Apr	17	7-Apr	8-Apr	32	60.7	1750.0	87.5	625.4	0.5	8.9	0.23	0.92	38.4		2.24	2
1999	1200	181	7369		26-Feb	10-Apr	18-Mar	10-Apr	27-Mar	23	12	22	8.2	15.1	26-Feb	8-Apr	19	24-Mar	24-Mar	41	42.1	992.3	105.0	387.8	0.3	6.1	0.15	0.60	40.7		2.11	3
2000	1200	223	10092				16-Mar	2-Apr	25-Mar	17	9	33	6.8	24.8	6-Mar	30-Mar	10	20-Mar	20-Mar	24	57.7	1925.0	175.0	1009.2	0.8	8.4	0.19	0.74	45.3		1.90	1
2002	600	107	3413				1-Apr	25-Apr	11-Apr	24	5	12	8.9	21.4	28-Mar	13-Apr	7	4-Apr	6-Apr	16	19.5	1138.0	175.0	487.6	0.8	5.7	0.18	0.71	31.9		2.70	2
2003	539	146	6519				27-Mar	9-Apr	2-Apr	13	5	17	8.6	29.1	17-Mar	9-Apr	11	28-Mar	29-Mar	23	37.3	1225.0	175.0	592.6	1.1	12.1	0.27	1.08	44.8		1.92	1
2004	600	99	5513			15-Apr	24-Mar	16-Apr	2-Apr	23	8	10	9.9	12.4	18-Mar	5-Apr	10	27-Mar	26-Mar	18	31.5	1575.0	175.0	551.3	0.9	9.2	0.17	0.66	55.7		1.54	1
2005	600	45	2770		5-Mar	16-Apr	4-Apr	16-Apr	8-Apr	12	5	6	7.5	9.0	24-Mar	10-Apr	9	2-Apr	4-Apr	17	15.8	525.0	57.8	307.8	0.5	4.6	0.08	0.30	61.6		1.40	1
2006	1000	124	5031		11-Mar	9-Apr	24-Mar	12-Apr	4-Apr	19	7	7	17.1	17.7	13-Mar	10-Apr	10	28-Mar	27-Mar	28	28.8	1006.3	175.0	503.1	0.5	5.0	0.12	0.50	40.6		2.12	1
2007	965	116	3680		10-Mar	21-Apr	24-Mar	26-Apr	11-Apr	33	6	13	10.5	19.3	18-Mar	14-Apr	8	1-Apr	2-Apr	27	21.0	1050.0	87.5	460.0	0.5	3.8	0.12	0.48	31.7		2.71	1
2008	1000	227	9360		1-Mar	18-Apr	29-Mar	20-Apr	8-Apr	22	9	24	9.5	25.2	21-Mar	19-Apr	12	4-Apr	3-Apr	29	41.6	2025.0	200.3	780.0	0.8	9.4	0.23	0.91	41.2		2.09	1
2009	1287	268	10840	12.5	14-Mar	13-Apr	23-Mar	14-Apr	5-Apr	22	8	27	9.9	33.5	17-Mar	13-Apr	13	1-Apr	3-Apr	27	53.0	1915.0	80.0	833.8	0.6	8.4	0.21	0.83	40.4	21.4	2.13	1
2010	938	130	5345	4.5	13-Mar	11-Apr	23-Mar	10-Apr	29-Mar	18	6	11	11.8	21.7	17-Mar	29-Mar	7	23-Mar	23-Mar	12	53.0	1915.0	80.0	763.6	0.8	5.7	0.14	0.55	41.1	28.9	2.09	1
2011	1200	126	5615				2-Apr	11-Apr	6-Apr	9	5	12	10.5	25.2	18-Mar	10-Apr	9	31-Mar	2-Apr	23	29.0	1310.0	225.0	623.9	0.5	4.7	0.11	0.42	44.6		1.93	1
2012	1100	39	2410		10-Mar	24-Mar	22-Mar	31-Mar	26-Mar	9	2	3	13.0	19.5	15-Mar	24-Mar	5	19-Mar	19-Mar	9	14.0	796.0	295.0	482.0	0.4	2.2	0.04	0.14	61.8		1.39	1
2013	1326	557	19055	24.0	9-Mar	26-Apr	5-Apr	29-Apr	16-Apr	24	19	48	11.6	29.3	30-Mar	26-Apr	19	13-Apr	14-Apr	27	87.0	2925.0	225.0	1002.9	0.8	14.4	0.42	1.68	34.2	23.2	2.51	1
2014	1493	317	12160	12.5	15-Mar	22-Apr	7-Apr	24-Apr	16-Apr	17	10	29	12.1	31.7	1-Apr	22-Apr	13	11-Apr	11-Apr	21	57.0	2250.0	220.0	935.4	0.6	8.1	0.21	0.85	38.4	25.3	2.24	1
2015	1577	345	11785	13.3	8-Mar	14-Apr	19-Mar	13-Apr	31-Mar	25	11	37	9.3	31.3	12-Mar	11-Apr	15	27-Mar	28-Mar	30	56.0	1800.0	130.0	785.7	0.5	7.5	0.22	0.87	34.2	26.0	2.51	1
2016	1743	382	15380		25-Feb	8-Apr	8-Mar	12-Apr	23-Mar	35	14	45	8.5	27.3	28-Feb	11-Apr	13	22-Mar	22-Mar	42	72.0	3455.0	100.0	1183.1	0.7	8.8	0.22	0.88	40.2		2.14	1
2017	1420	264	10355		14-Feb	11-Apr	6-Mar	9-Apr	24-Mar	34	8	29	9.1	33.0	18-Feb	7-Apr	17	17-Mar	21-Mar	48	52.0	1875.0	40.0	609.1	0.4	7.3	0.19	0.74	39.3		2.19	1
sum	48038	8214.5	318114	66.8							269	822					346				24.1	55.9	1754.1	168.8	799.9	0.6	7.4	0.19	0.76	40.3	25.0	2.2	1.9
average	1373	249	9941	13.4	8-Mar	14-Apr	24-Mar	14-Apr	3-Apr	20.6	10.0	30.4	9.3	24.7	17-Mar	11-Apr	12.4	30-Mar	31-Mar	9	14.0	525.0	40.0	307.8	0.3	2.2	0.04	0.14	31.3	21.4	1.4	1.0
minimum	150	39	1440	4.5	14-Feb	24-Mar	6-Mar	31-Mar	23-Mar	9.0	2.0	3.0	5.9	9.0	18-Feb	24-Mar	5	17-Mar	19-Mar	48	121.0	3455.0	481.0	1281.6	1.1	14.4	0.42	1.68	61.8	28.9	2.7	5.0
maximum	3700	560	21179	24.0	19-Mar	26-Apr	7-Apr	29-Apr	16-Apr	35.0	19.0	71.0	17.1	33.5	3-Apr	26-Apr	19	13-Apr	14-Apr	28	28	28	28	28	27	30	32	32	31	5	31	40
count	35	33	32	5.0	19	18	32	32	27	27	27	27	27	27	28	28	28	28	28	28	28	28	28	28	27	30	32	32	31	5	31	40

Table 7. Summary of Maple Stats – 1942 – 2017

This document provides a summary of data from the St. John's Maple Syrup Operation. Ranges are shown in parentheses. Data prior to 1972 are incomplete because they were destroyed when the original sugarhouse burned down. Data compiled by Stephen G. Saupe, CSB|SJU Biology Department.

General

First season to make syrup	1942
Number of years since St. John's began making syrup	75
Number of seasons during which St. John's has made syrup	41
Average time (in years) between successive syrup-making seasons	1.9

Tapping Data

Average date trees are tapped	8 March (14 Feb – 19 Mar)
Average date taps are removed	14 April (24 Mar – 26 Apr)
Average number of taps (*for all seasons*)	1373
Average number of taps (*prior to 2002*)	1613
Average number of taps (*since 2002*)	1087
Fewest number of taps *(& year installed)*	150 *(1942)*
Maximum number of taps *(& year installed)*	3700 *(1974*)

Sap Collection Data

Average first date of sap collecting	17 March
Earliest date on which sap was first collected *(& the year*)	18 Feb *(2017)*
Latest date on which sap was first collected *(& the year*)	3 Apr *(1974)*
Average last date of sap collecting	11 April
Earliest date on which sap was last collected *(& the year*)	24 March *(2012)*
Latest date on which sap was collected *(& the year)*	26 April (*2013*)
Average number of days during the season on which sap was collected	12.4 (5 – 19)
Average number of days between first and last sap collection *(= length of sap production season)*	24.1 (9 – 48)

Saint John's Maple Syrup

Sap Volume Data

Most sap collected, in gallons, during a season *(& the year)*	21,179 *(1985)*
Average sap collected, in gallons, during a season	9941
Average sap collected, in gallons, on a collecting day	800 (308 – 1282)
Most sap collected, in gallons, on a single day *(& the year)*	3455 *(2016)*
Average gallons of sap collected per tap	7.4 (2.2 – 14.4)
Average gallons of sap collected per tap per collecting day	0.6 (0.3 – 1.1)

Sugar House & Evaporator Info

Year sugar house constructed (first season of use/syrup production)	1971 (*1972*)
Year South addition added to sugar house	1999
Year West addition to sugar house completed and wood shed renovated	2009
Teaching Evaporator (Little Larry) size	2 ft. wide x 6 ft. long
Teaching Evaporator (Little Larry) capacity [gallons sap boiled per hour / gallons syrup produced per hour]	20 / 0.5
Production Evaporator (Big Burnie) size	3 ft. wide x 14 ft. long
Production Evaporator capacity [gallons sap boiled per hour / gallons syrup produced per hour]	200 / 5

Syrup Production Data

Average gallons of syrup produced during a season (*data for all seasons*)	249
Average gallons of syrup produced during a season (*since 2002*)	206
Maximum gallons of syrup produced in a season	560 (*1985*)
Minimum gallons of syrup produced in a season *(& the year)*	39 (*2012*)
Average quarts of syrup per tap	0.76 (0.14 – 1.7)
Wood used (gallons syrup / cord burned)	25.0 (21.4 – 28.9)

Sugar Concentration Data

Average sap/syrup ratio	40.3 (31.3 – 61.8)
Average seasonal sugar content of sap, in percent	2.2%
Lowest seasonal sugar content of sap, in percent *(& the year)*	1.4% (*2005*)
Highest seasonal sugar content of sap, in percent *(& the year)*	2.7% (*1990*)

Table 8. Great moments in Saint John's Maple Syrup History – A Summary of the Maple Sap Award Winners		
Year	**Award Winner**	**Great Moment**
2017	Gary Gillitzer	Wrapping the sap wagon around a tree
2016	Br. Walter Kieffer	Burning Big Burnie's syrup pan
2015	Br. Walter Kieffer	Getting whacked in the head with a tire jack handle
2014	Tom Kroll	Forgetting to order desperately need gallon jugs
2013	Gary Gillitzer	Driving a full sap tank into the woods to collect more sap

Table 9. Great moments in Saint John's Maple Syrup History – A Summary of the Sweet Prediction Winners	
Year	**Award Winner**
2017	Ashley Walker
2016	Bill Mock
2015	Br. Walter Kieffer & Al Meiers (tie)
2014	Br. Walter Kieffer
2013	Bill Mock

Table 10: Analysis of Actual Syrup Production during the 2017 Season.		
Container size	**Number Jugged**	**Volume (gallons)**
4-liter glass jug	83	87.7
3-liter glass jug	154	122.0
Gallon glass jug	54	54.0
5-gallon plastic pail	0	0
Total	**291**	**263.8**

Table 11. Sarah's Syrup Snippets from 2017 *(Fun facts by Sarah Gainey in her daily update emails sent to volunteer distribution list)*

Want to tap your own trees? Fleet Farm and local hardware stores often sell supplies needed to tap a few trees at home. Roth Sugar Bush, where we get a lot of our supplies, also sells a beginner kit with everything you need for 12 taps.

Reminders like this are always helpful after days like today.

You can cook maple syrup on just about anything…from our Big Burner evaporator similar to this or this MacGyver-inspired set up. No official word on how successful the filing cabinet is.

Looking for your own Minnesota spring break adventure? Check out this list of MN State Parks also offering maple syruping programs.

We have made 61 'jugs' of syrup so far this year. Because we bottle them in a variety of 3 liter, 4 liter, and gallon containers, the exact amount of syrup isn't calculated until the end of the season.

We aren't the only ones with strange weather this winter/early spring.

Have a stinky roommate? Does your dog smell up the house? Or you just can't get enough of the smell of maple syrup? Give this a try!

What gives pure maple syrup it's color? Chemistry!! One of the chemical reactions that happens when you heat syrup is the Maillard reaction, which causes the color change. The same reaction happens when you make toast. What gives other 'pancake' syrup it's color? Caramel coloring!

Did you know the monks at Saint John's first started making syrup 75 years ago? To celebrate this milestone, we have some limited edition long and short sleeve shirts available for purchase. Get yours here!

When is the syruping season over? It all depends on the weather. If the nights no longer get below freezing, the sap will not flow out of the tree during the day. Or, if the buds burst on the maple tree, the sap changes chemical composition and is no longer good for making syrup. Who knows how much longer the 2017 season will last!!

How will climate change affect the maple syruping season? Check out the research of the Acer Climate and Socio-Ecological Research Network or ACERnet. ACERnet is an international consortium dedicated to advancing understanding of maple (genus Acer) ecology and its management in the face of climate change. Possible changes they are tracking include tree health, timing and duration of tapping season, and quality of sap.

Just a little song to get your weekend started.

One of my favorite parts of syruping season is teaching young students about it. Here are some great books to help share this tradition with the young or young-at-heart ones in your life!

We are a little behind with the most recent ones, but you can see past annual reports from our Saint John's maple syruping season here!

In other parts of the world, there is a tradition of drinking just the sap of a maple tree and not cooking it down to syrup. Read about it here!

We estimate we put out about 1400 taps this year (plus or minus about 50). On a good year, we would get 10 gallons of sap per tap, which should equal about 14,000 gallons of sap this year. Using the Rule of 86, we estimate we need about 40 gallons of sap to equal one gallon of syrup. 1400 taps should equal about 14,000 gallons of sap, which should equal about 350 gallons of syrup. But we 'only' made 272 gallons. The difference? Mostly the weather and a lack of good freeze-thaw conditions. But why worry about what you can't control. Just enjoy what's happening and we are grateful for what we did get.

Today is the last day of work for Tom Kroll, Outdoor U director and Land Manager for the Abbey Arboretum. Tom's role in our syruping operations is mostly behind the scenes but if it wasn't for him, we wouldn't have the resources we need to make the syrup in the first place (tractors, evaporators, a wonderful crew of core volunteers). We wish him well in his retirement and look forward to seeing him out at the shack on a purely volunteer basis!

Table 12. Light Transmittance of Maple Syrup Samples Produced During 2017. N = 40.

Grade (Color / Flavor)	**Light Transmittance (%)**	**Samples**	**% Total Samples**
Golden / Delicate	>75	0	0
Amber / Rich	74.9 - 50	7	30.4
Dark / Robust	49.9 - 25	14	60.9
Very Dark / Strong	<25%	2	8.7

Table 13. Syrup preference. Visitors at the Saint John's Maple Syrup Festivals (March 25 or April 1) were provided with a sample a golden/delicate syrup and a dark/robust syrup and asked to record their preference. N = 325.

	Golden/Delicate	**Dark/Robust**
Visitors that preferred	173	152
Percent of visitors (%)	53.2	46.8

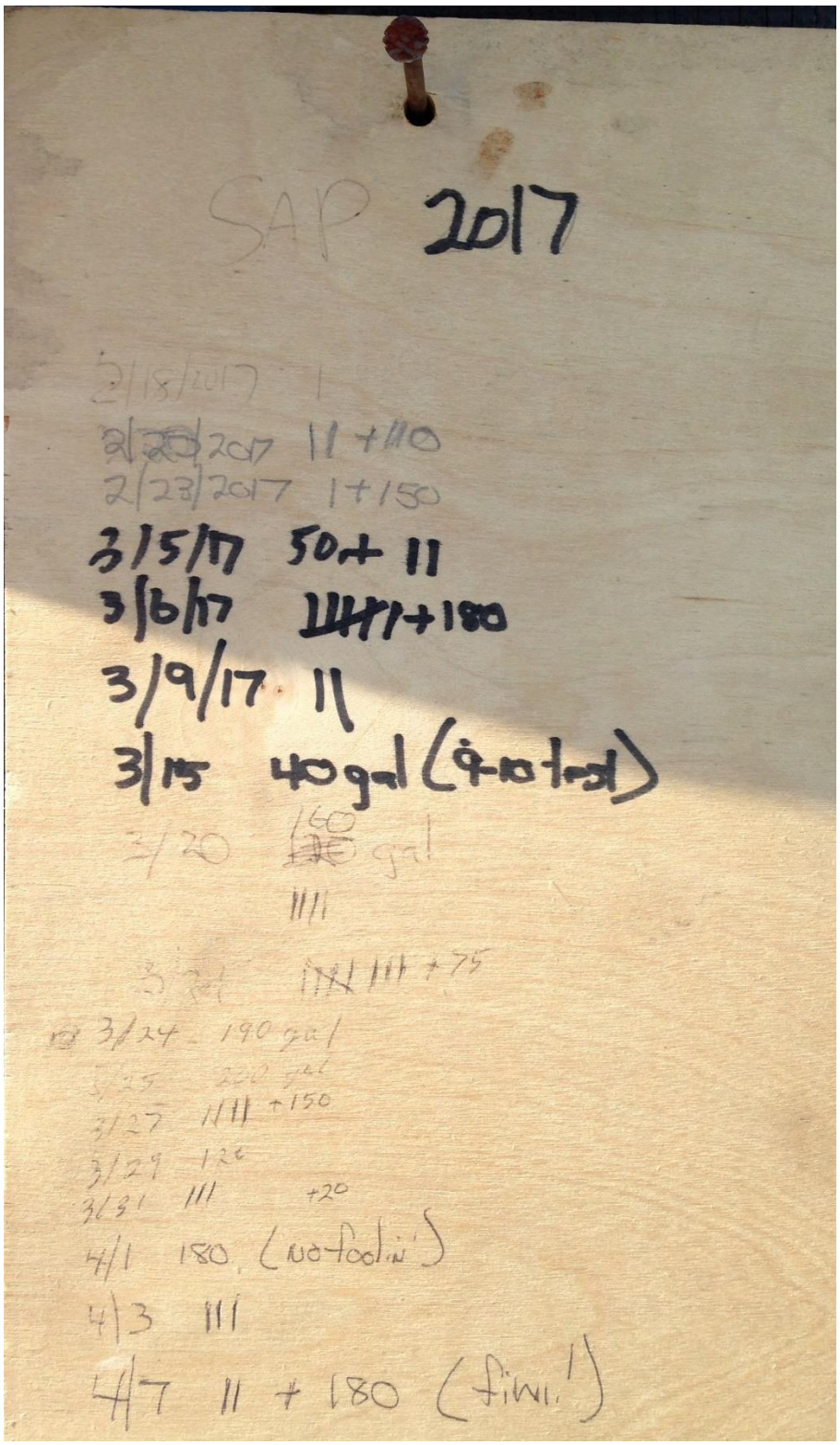


Figure 1. Sap Collection Data from 2017 season

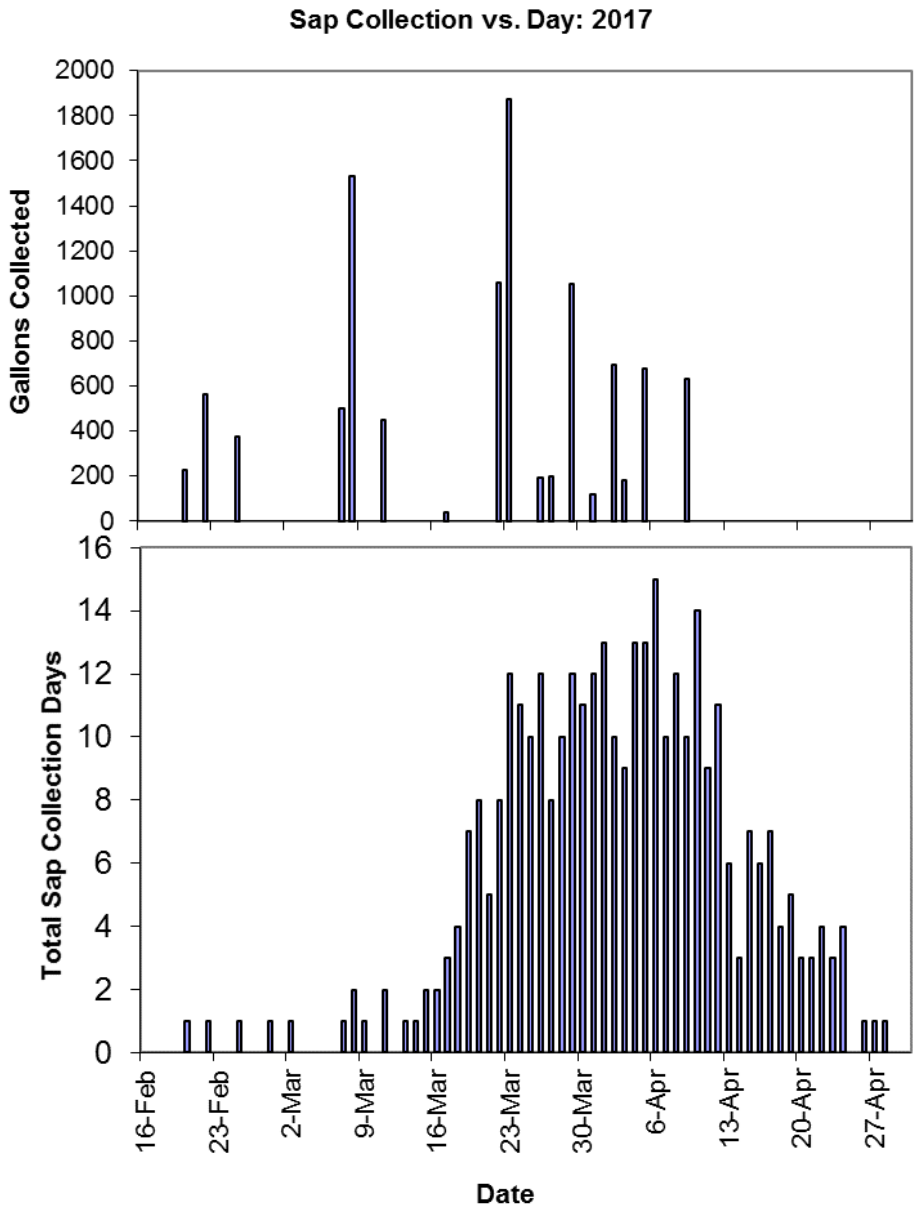
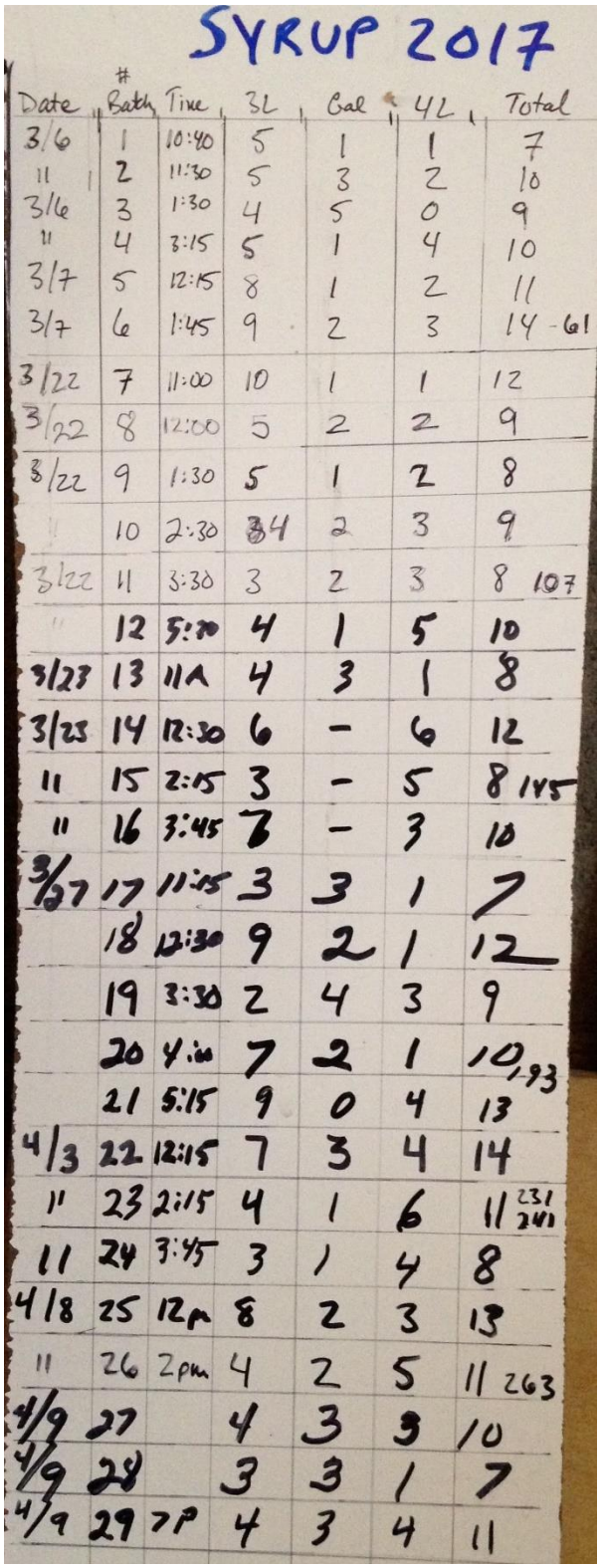


Figure 2. Sap production statistics from the 2017 season (top graph) compared to all years (bottom graph) in the Saint John's Sugarbush.



SYRUP 2017

Date	# Batch	Time	3L	Gal	4L	Total
3/6	1	10:40	5	1	1	7
"	2	11:30	5	3	2	10
3/6	3	1:30	4	5	0	9
"	4	3:15	5	1	4	10
3/7	5	12:15	8	1	2	11
3/7	6	1:45	9	2	3	14 - 61
3/22	7	11:00	10	1	1	12
3/22	8	12:00	5	2	2	9
3/22	9	1:30	5	1	2	8
"	10	2:30	34	2	3	9
3/22	11	3:30	3	2	3	8 107
"	12	5:20	4	1	5	10
3/23	13	11A	4	3	1	8
3/25	14	12:30	6	-	6	12
"	15	2:15	3	-	5	8 145
"	16	3:45	7	-	3	10
3/27	17	11:15	3	3	1	7
	18	12:30	9	2	1	12
	19	3:30	2	4	3	9
	20	4:in	7	2	1	10 193
	21	5:15	9	0	4	13
4/3	22	12:15	7	3	4	14
"	23	2:15	4	1	6	11 231 241
"	24	3:45	3	1	4	8
4/8	25	12p	8	2	3	13
"	26	2pm	4	2	5	11 263
4/9	27		4	3	3	10
4/9	28		3	3	1	7
4/9	29	7P	4	3	4	11

Figure 3. Syrup production statistics from the Saint John's Maple Syrup Operation in 2017

Figure 4. Samples of each batch of syrup that was bottled during 2017. Top Row (batch #/sample date): (2) Mar 6. Second Row from Top: (3) Mar 6, (5) Mar 7, (6) Mar 7, (7) Mar 22, (8) Mar 22, (9) Mar 22, (10) Mar 22. Third Row: (11) Mar 22, (12) Mar 22, (13) Mar 23, (14) Mar 23, (15) Mar 23, (16) Mar 23, (17) Mar 27. Bottom Row: (18) Mar 27, (19) Mar 27, (20) Mar 27, (21) Mar 27, (22) Apr 3, (24) Apr 3, (25) Apr 8, (29) Apr 9.

Figure 5. Sample from 2017. Note the swirl of sugar sand at the bottom.

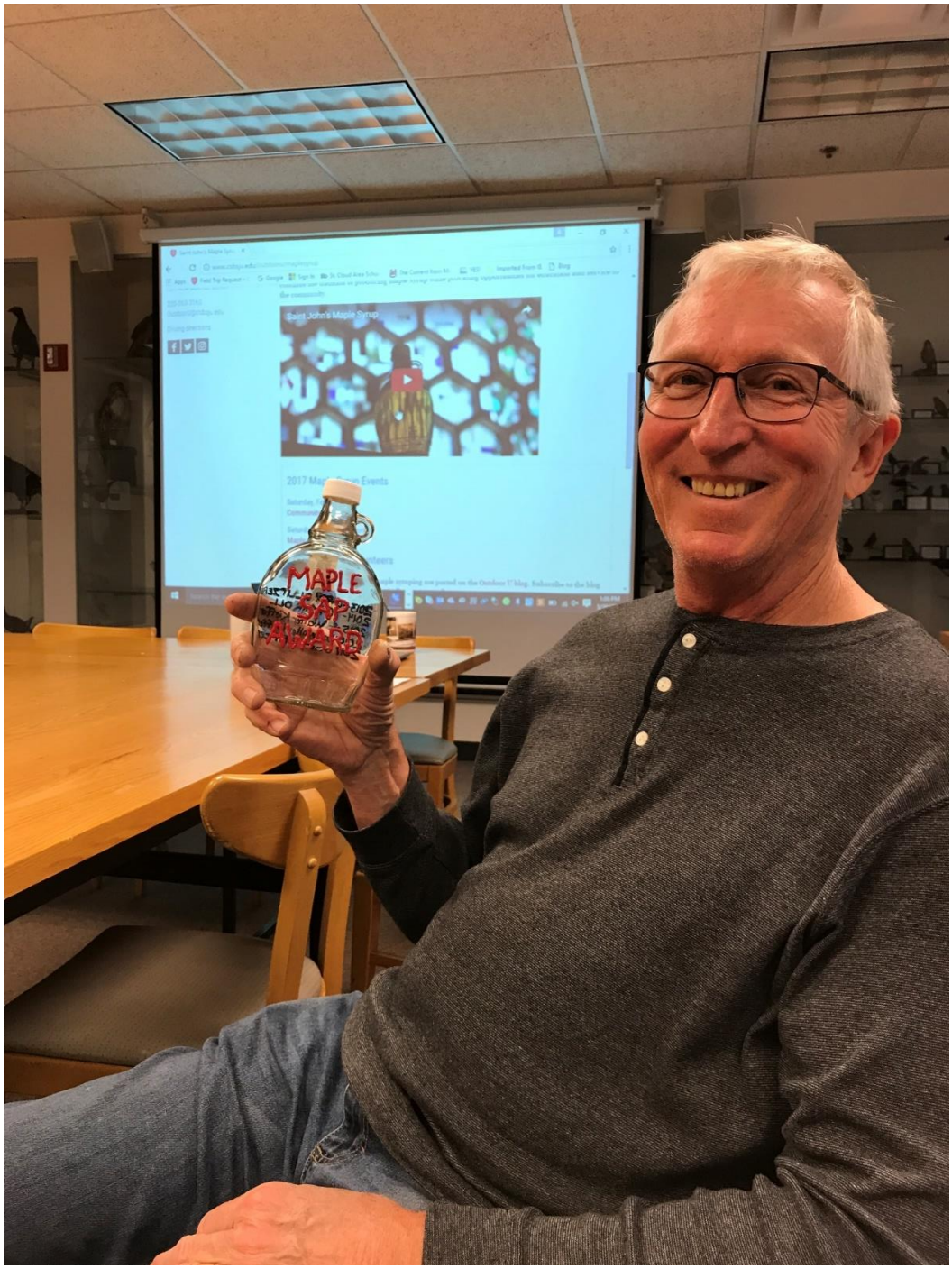


Figure 6. Gary Gillitzer proudly displaying his Sap Award for wrapping the trailer around a tree.

Figure 7. Mangled trailer that earned Gary Gillitzer the Maple Sap Award. Image by Br. Walter.

Figure 8. Ashley Walker, Saint John's Outdoor Education Fellow, displaying her Sweet Prediction award.

Figure 9. Droplines empty sap into a five-gallon pail.

Figure 10. Jean Lavigne and Br. Walter working on the gravity-vacuum lines.

Figure 11. Conor Murphy (left) & Ian Fritz, filmmakers who made the Saint John's video.

Figure 12. Students in the BIOL379 - Natural History of Maple Syrup - at the first festival waiting for guests.

Figure 13. Amy Saupe hauling lids on Tapping Day.

Figure 14. Gary Gillitzer and Sarah Gainey share a relaxing moment before the crowd arrives on Tapping Day

Figure 15. Sap-sickle that formed from sap that had dripped out of a broken branch and frozen on a twig below.

Figure 16. Maple Syrup Bake-Off in the McKeown Center. The judges were Aelred Senna OSB., Hannah Weis, and Pearce Jensen.

Figure 17. Flapjack Friday at the Link stop by Sexton.

Figure 18. Wood shed at the end of the 2017 season.

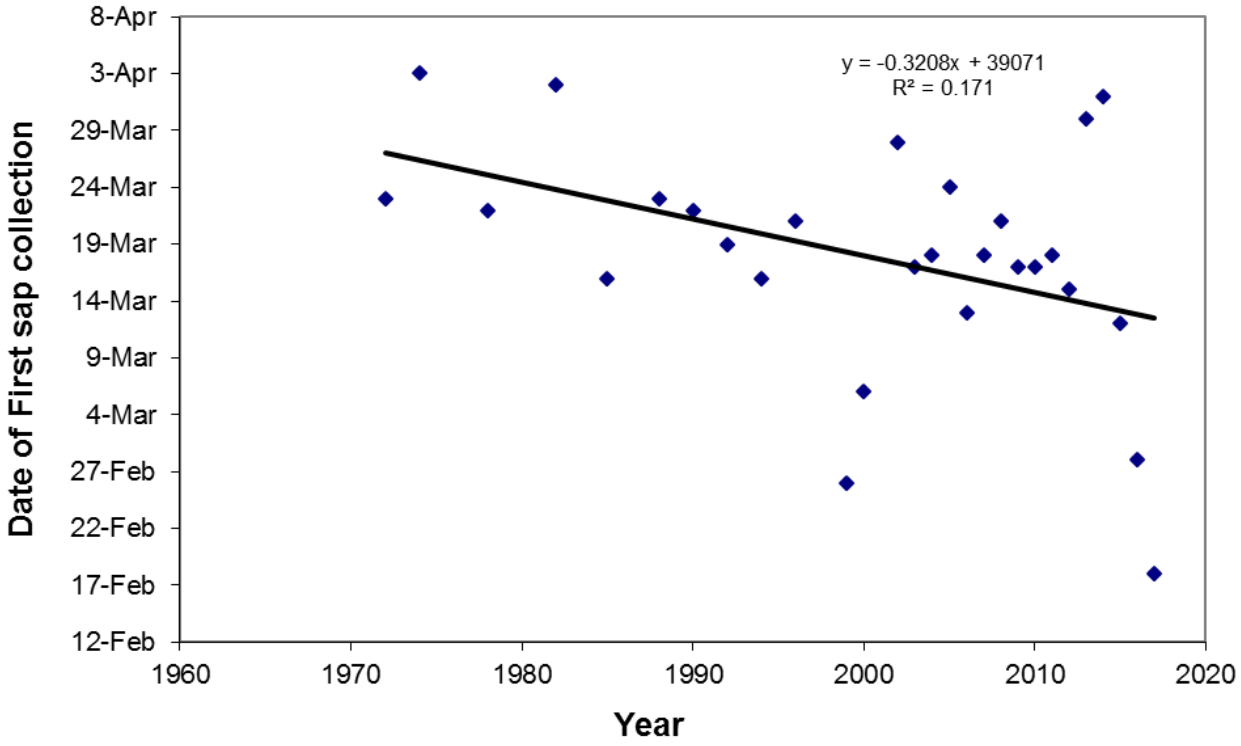


Figure 19. Graph showing the relationship between the first day sap is collected and time.

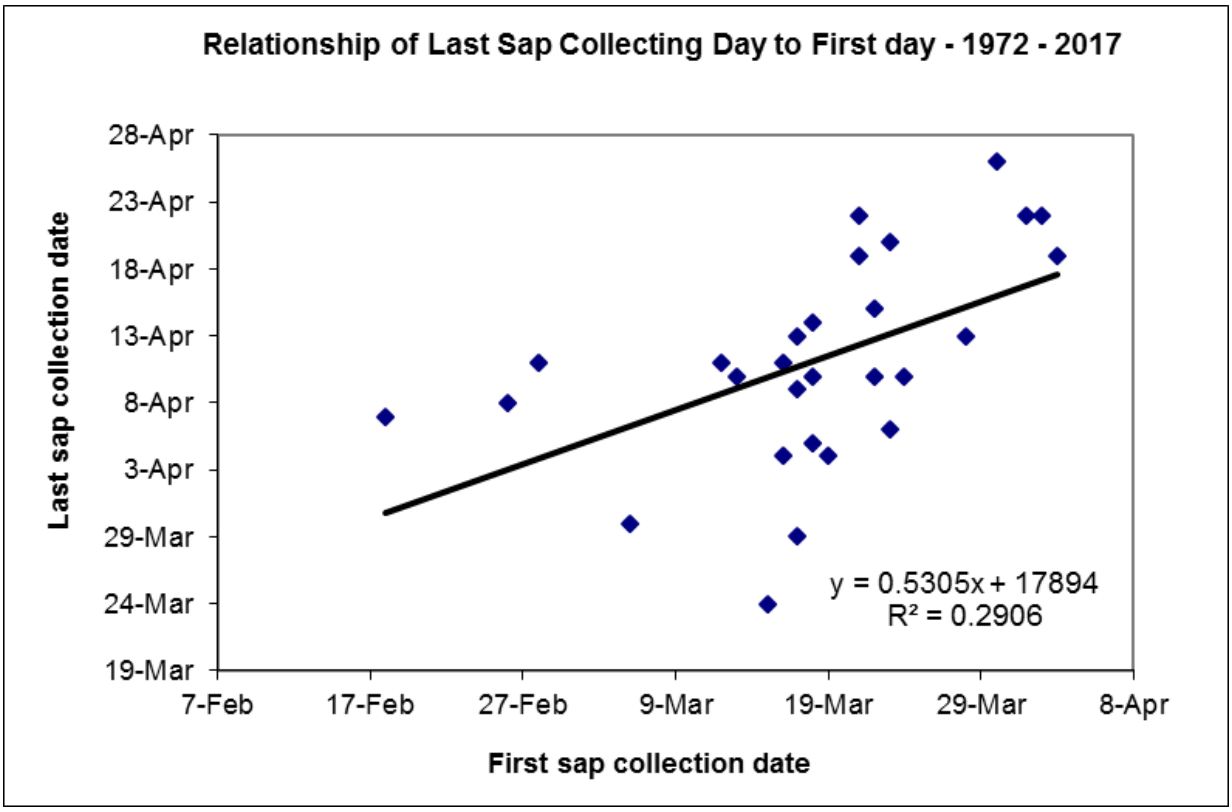


Figure 20. Graph showing the date of last sap collection as a function of the date of first sap collection.

Figure 21. Scrap board showing the guesses for the Sweet Predictions contest.

Figure 22. Caitessa Venables at the April 1st festival collecting data for her study to see if people can discriminate between syrup samples with small differences in light transmittance.

Figure 23. Vacuum gravity lines

Figure 24. Students in BIOL379, Natural History of Maple Syrup, interacting with visitors at the April 1st Maple Syrup festival.

Stearns County Environmental Health
705 COURTHOUSE SQ RM 343, Saint Cloud, MN, 56303
320 656-3613

Type: Routine
Date: March 24, 2017
Report: JKNT-AKUKEH

Food and Beverage Establishment Inspection Report

Location:
ST JOHN'S ABBEY/MAPLE SYRUP
05.02600.0500
Collegeville, MN

Establishment Info:
ID #: NFRY-AJJP7Q
Risk: High
Announced Inspection: No

License Categories:
Maple Syrup Processing

Expires on: 12/31/2017

Operator:
ST JOHN'S ABBEY

Phone #: 320 363-2326
ID #: NFRY-AJJNWA

Equipment Temperatures

Description	Temperature (Fahrenheit)

NOTE: All new food equipment must meet the applicable standards of NSF International. Plans and specifications must be submitted for review and approval prior to mew construction, remodeling or alterations.

Food Temperatures

Description	Temperature (Fahrenheit)	State of Food

Warewashing Info

The violations listed in this report include any previously issued orders ans deficiencies identified during this inspection. Compliance dates are shown for each item.

The following orders were issued during this inspection.

Observed Critical Violations
Total # 0
Repeated # 0

Observed Violations
Total # 0
Repeated # 0

Comments

EVAPORATOR WAS NOT IN USE TODAY.
SEASON STARTED VERY EARLY, WITH FIRST TREES TAPPED ON FEBRUARY 17TH. MOST TREES WERE TAPPED ON FEBRUARY 25TH.
THE DURATION OF THE SEASON IS UNKNOWN AND WEATHER DEPENDANT. IT COULD BE

Figure 25. Inspection Report of the Saint John's Maple Syrup Operation.

STEEL BULK TANKS UP BY THE SHACK. THE BULK TANKS FEED THE EVAPORATOR IN THE SUGAR SHACK.
EACH BULK TANK IS ABOUT 1400 GALLONS.
FOR THE SECOND YEAR, THEY ARE USING GRAVITY/VACUUM HOSES ON SOME OF THE TREES WHERE THERE IS AN ADEQUATE DROP IN ELEVATION, AND THIS IS WORKING WELL.
THE SAP FROM THESE SYSTEMS FLOW INTO LARGE PLASTIC DRUMS.
ALL PAILS, DRUMS, AND TANKS ARE WASHED, RINSED, AND SANITIZED (USING CHLORINE BLEACH) PRIOR TO USE EACH SEASON.
THE SPILES FOR THE TREES ARE AUTOCLAVED AFTER EACH SEASON, TO KILL ALL PATHOGENS.
EVAPORATORS ARE POWER WASHED AND SANITIZED WITH CHLORINE BLEACH PRIOR TO USE EACH SEASON.
SAP IS HEATED IN THE LARGE EVAPORATOR, AND FILTERED TO REMOVE THE SUGAR SAND, PRIOR TO BEING TRANSFERRED TO THE SMALL EVAPORATOR. IT IS HEATED A SECOND TIME IN THE SMALL EVAPORATOR AND FILTERED AGAIN. FOLLOWING THE SECOND FILTRATION, IT IS PLACED IN FOOD GRADE GLASS JUGS. ANY SYRUP INTENDED TO BE USED AS GIFTS, IS HEATED A THIRD TIME IN ONE OF THE UNIVERSITY KITCHENS, PRIOR TO BEING PLACED IN GIFT BOTTLES.
ALL SYRUP PRODUCED IS USED ON CAMPUS OR GIVEN AS GIFTS. NO SYRUP IS SOLD.
IT TAKES ROUGHLY 40 GALLONS OF SAP TO MAKE A GALLON OF SYRUP.
THE GOAL IS TO PRODUCT ONE QUART OF SYRUP PER TAP.

I acknowledge receipt of the Stearns County inspection report number JKNT-AKUKEH of 03/24/2017

Certified Food Manager:
Certification Number: Expires:

Person in Charge

Sanitarian

Jane Knott

Figure 26. Announcement of Arboretum director, Tom Kroll's, retirement party.

Figure 27. Advertisement for the maple syrup festivals.

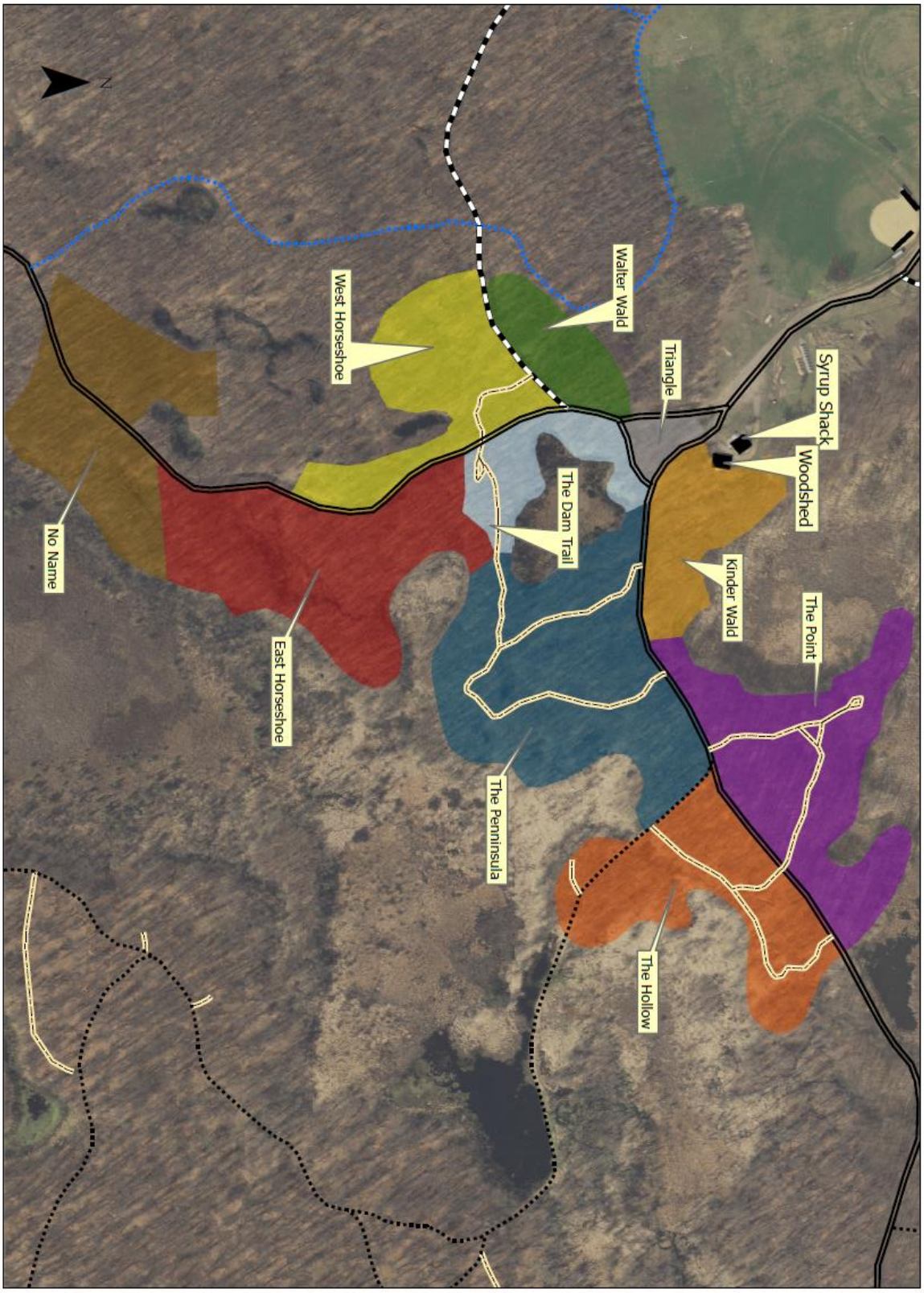


Figure 28. Map of the Saint John's Sugarbush

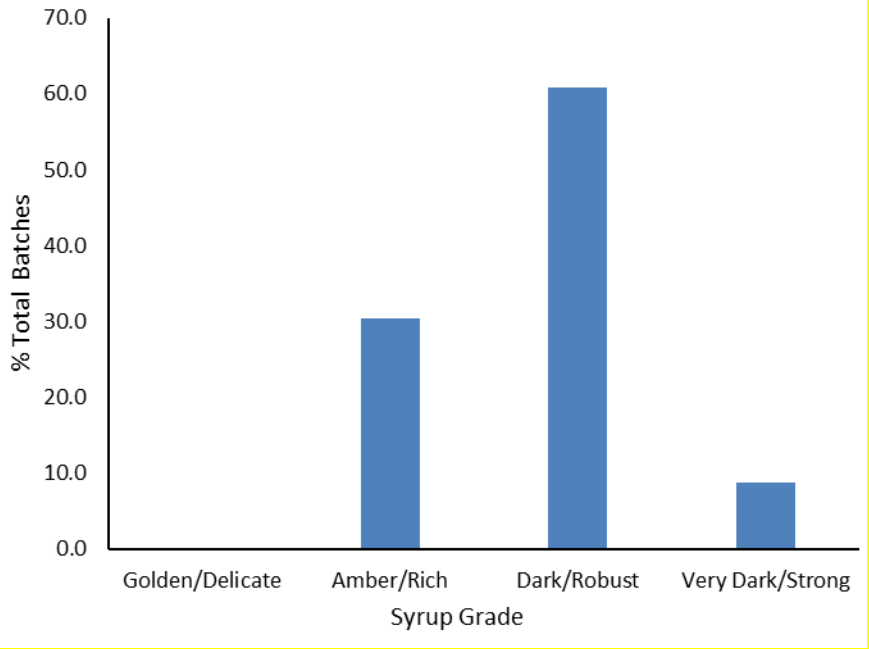


Figure 29. Syrup grades produced during 2017

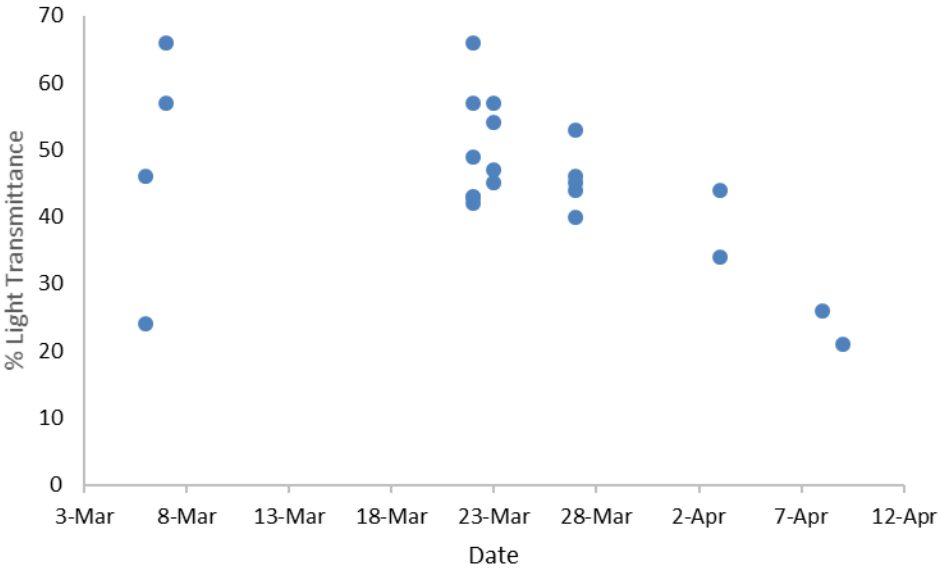


Figure 30. Transmittance (Tc) of samples of Saint John's maple syrup produced at various times during the 2017 season.

Figure 31. 75th Anniversary T-shirts designed by Outdoor U.

Figure 32. Sap sack full of sap on March 19, 2017. Image by Jean Lavigne.

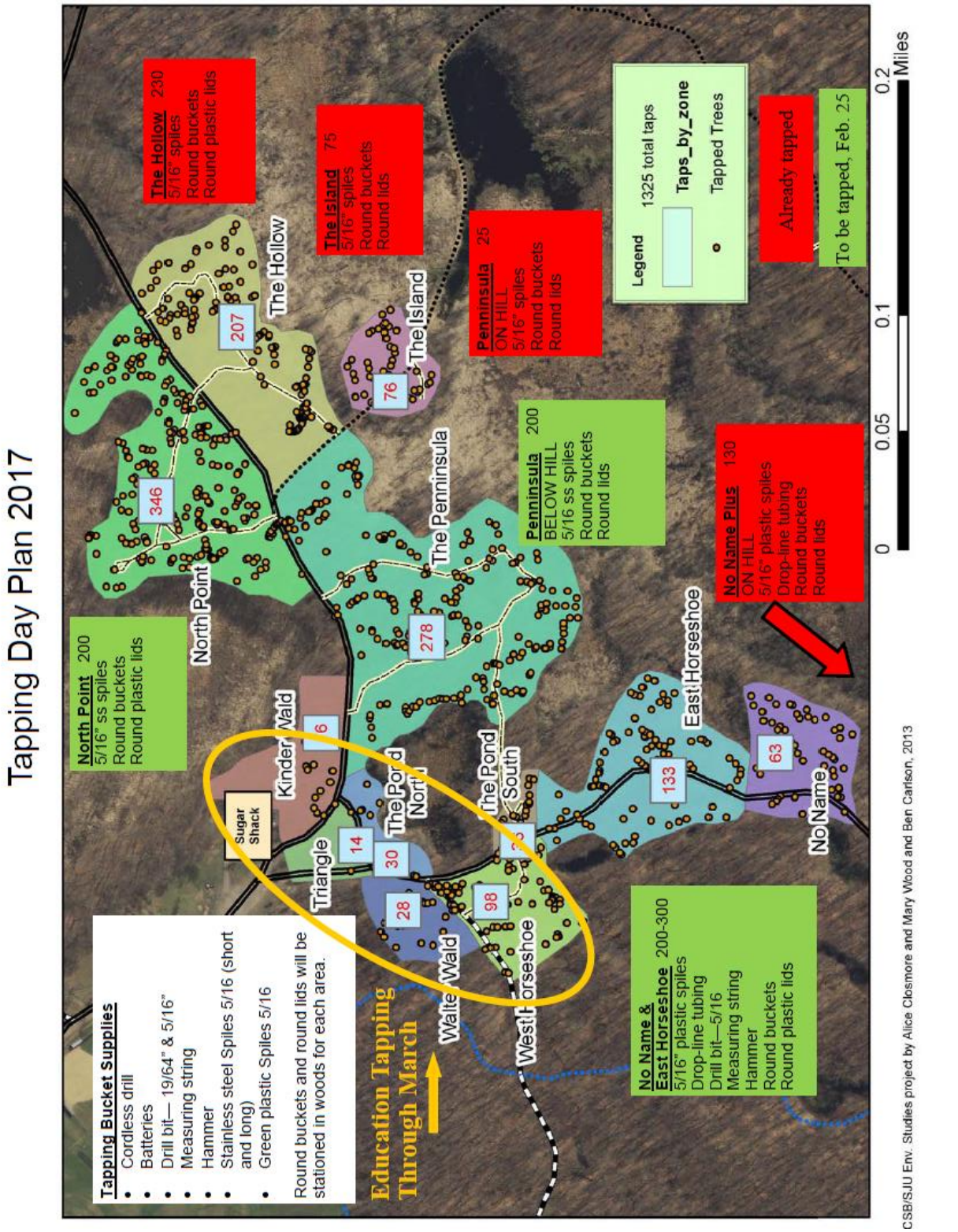


Figure 33. Tapping Day Plan for 2017

Appendix 1. Saint John's Maple Syrup Mission Statement

The mission of the Saint John's Maple Syrup operation is to continue the long-standing Benedictine tradition of making maple syrup. Since 1942 the monks and their friends have gathered together to tap trees, collect sap and boil it down to produce a heavenly confection that is a testament to the forest stewardship of the Benedictine community. In addition, we strive to provide opportunities for the Saint John's community, including monks, students, and the public at-large, to learn about, and participate in, the process of making this sustainable forest product.

Saint John's Maple Syrup

updated: May 2012

Appendix 2: Saint John's Maple Syrup Goals & Objectives

In 2001, Abbot John Klassen, OSB, requested that the Saint John's Arboretum take joint responsibility with the Abbey for the Saint John's Maple Syrup operation. A Mission Statement (*above*) and the following goals and objectives were established:

Goals. *The goals of the Saint John's Maple Syrup operation are to:*

1. maintain the tradition of Benedictine syrup-making on campus
2. provide educational opportunities for the Saint John's community including monks, students, staff and the general public
3. provide the Abbey with maple syrup

Objectives: *To accomplish the goals elucidated above, the specific objectives of the Saint John's Maple Syrup operation are to:*

1. annually produce maple syrup and welcome visitors in the Benedictine tradition
2. collect sap and make syrup from approximately 1000 taps
3. make enough syrup to meet the needs of the Abbey and Arboretum (including festivals, visitors, and guests) and to reward our volunteers.
4. provide educational opportunities for CSB/SJU students, pre-college students, and the Saint John's community.
5. host annually a Community Tapping Day and Maple Syrup Festivals

updated: May 2012

Appendix 3: A Blessing – *by Walter Kieffer, O.S.B.*

Oh, God of all goodness.

In the beginning you created the earth and divided it between the lands and the waters.

On the lands you created all kinds of vegetation; plants and trees of all kinds, and commanded them to cover the earth, providing both shelter and food for all.

Of the multitude of trees you have given us in this forest, you gave us the sugar maple to provide your gift of sweet sap from the healthy trees, and fuel for the cooking from the old and culled trees.

Today, following the rich traditions of our native brothers and sisters, we ask your blessing on this spring ritual of sapping.

May all the tap holes be clean and of a correct depth.

Help us to tap the spiles correctly – hard enough to seal the spile and hold the bag, but without damaging the tree, splitting the wood and losing the sap.

We ask your blessing on this season's collecting, boiling, jugging, cleanup and wood restocking.

May you reward our labors with a fruitful harvest.

Lord, we ask your blessing on all nature.

Protect the woods and waters of our lands for generations to come.

Bless all who come out to work, observe, and visit.

May we be ever mindful of all gifts you provide for us.

We make this prayer as always through Christ our Lord, and in the power of your Holy Spirit. Amen.