

Maple Syrup Season 2012 – Summary

report by

Stephen G. Saupe

CSB/SJU Biology Department

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Overview: This report documents the activities of the Saint John's Maple Syrup operation during the 2012 season. Although this year was a failure if measured by syrup production, as always it was a tremendous success in promoting Benedictine values and providing educational opportunities for students of all ages.

Staff: Once again the main production crew consisted of Br. Walter Kieffer OSB (Figure 20 & 21), William Mock, John O'Reilly, Stephen Saupe, Kevin Sittauer, Gary Gillitzer, Al Meyer and Dan Weber. Tom Kroll, Saint John's Arboretum Director, provided logistical, administrative, and technical support (Figure 20). We especially missed Sarah Gainey, who is on maternity leave. We were assisted by numerous students, faculty, staff, and friends. Nearly 90 individuals volunteered more than 450 hours to the operation (Table 3).

Tapping: We typically schedule "Community Tapping Day" on a convenient weekend in early March. Unfortunately, Spring Break week occupied the two prime weekends for tapping. To insure having some taps out to catch any early runs, Brother Walter and a small crew installed about 800 taps, all with buckets, on Saturday, March 10th. Then, on Community Tapping Day (March 17th) we installed about 200 taps with bags. By the end of the season, visitors had placed out approximately 200 additional taps. We estimate that there were about 1100 total taps by the end of the season.

Community Tapping Day began with participants assembling the bags and holders followed by the crews installing the taps (Figure 3 & 4). Each crew consisted of a 'tapper' with portable drill (and spare battery), a 'spile driver' with a hammer and bucket of spiles, a 'bag runner' who dropped a bag/holder beneath the taphole, and a 'hanger' who placed the bag on the spile. The trees had been marked with paintballs the previous day by Arboretum Staff. As a side note, the paint is water-soluble and doesn't last too long; near the end of the season the Arboretum marked the trees with a more permanent paint.

Clean Up: Taps were removed starting during the second festival (Mar 31). Spile removal was completed the following week. If there hadn't been a second scheduled festival, we likely would have removed the spiles on March 24th, right after the festival. At this point it was clear the season was over because the sugar maples were budding out and the sap was spoiling before we had a chance to cook it. Arboretum staff washed buckets at the Refectory before Easter. Final clean up, including power-washing the pans (Figure 5), occurred the week after Easter break (April 9 – 12).

Festivals: Once again we held two festivals (March 24 and March 31). As usual, the festivals featured maple syrup sundaes (Figure 6), live music, face painting (Figure 7), children's nature area, tours of the sugarhouse (Figure 8), educational lectures (Figure 9 & 17), tapping demonstrations, horse drawn wagon rides, and a Native American area (Figure 9). Approximately 750 people attended the two festivals. Despite good advertising (Figure 22), the attendance was considerably lower than previous years. We are unsure why but the unseasonably warm weather may have enticed people to consider alternate activities. New this year at the festival was a "Syrup Tasting Booth" (Figures 10 - 15) and a "Story Booth" (Figure 16) for children, both staffed by students in BIOL379 (Natural History of Maple Syrup). At the maple tasting booth, participants were given information about maple syrup grades and quality and then given the opportunity to do a blind taste-test comparing Saint John's pure maple syrup to Aunt Jemima syrup. Reassuringly, visitors preferred real maple syrup to artificial syrup by a margin of nearly four to one (201 vs. 55). Children seemed to prefer the Aunt Jemima syrup.

Publicity: The Arboretum staff maintained a daily blog, posted at the following link: <http://www.csbsju.edu/Arboretum/Stewardship/Projects/LandStewardship/MapleSyrup/Volunteer/DailyUpdate.htm>. In addition, the following publicity/articles about the maple syrup operation appeared:

- Abbey e-News. "Still full of sap, still green. Psalm 92:14."
- Anon. (2012) untitled photo and caption. *Abbey Banner*, Spring; p 31.
- Calloway, TaLeiza (2012) Warm weather doesn't stop syrup festivals. *St. Joseph Newsleader*
- Orth, Nikki (2012) A tasty tradition. *The Record*. March 30, 2012; p 4.
- Saupe, Stephen (2012) Tips for the new maple syrup producer. *Minnesota Woodlands*. February/March; p 4.

Sap/Syrup Production: As is tradition, we maintain our sap and syrup records on scrap boards (Fig 1 & 2). These data are summarized in Tables 1 – 3. In addition, data for all years are summarized in Table 4. During the 2012 season, we collected a total of 2414 gallons of sap on 5 different days. The first day on which there was enough sap to collect was March 15 and the last day of sap collection was March 24 (Table 1). Overall, this was an early season. By the end of the season we jugged 39 gallons of syrup, which yields a sap/syrup ratio of 61.8 with a seasonal sugar concentration of 1.4%.

From a production standpoint, this was the worst year in the 70-year history of the Saint John's maple syrup operation. Even though we installed about 10 times more taps than in Saint John's inaugural syruping year (1942), we made 6 gallons less syrup! It was our lowest syrup yield ever! Unfortunately we were not alone in having a poor year – low syrup yield was common among syrup-producers around the state.

As noted above, we put out about 800 taps before our Community Tapping Day. Had we not done so, we would have lost approximately 26% of the sap that was collected.

Education: We provided educational tours to numerous students, from pre to high school (Figure 18 & 19). In addition, many CSB/SJU students toured the operation including those in FYS classes, Biology 221 labs, and Biology 379.

Licensure: We were again licensed by Stearns County Environmental Services. We are proud of licensure and work hard to maintain it. Each year we contact Mr. Hank Schreifels, Stearns County Environmental Services, at the start of the season to schedule a time for him to visit the operation.

Sugar Shack Renovation: The sugar shack is undergoing constant renovation and improvement. Kevin Sittauer, assisted by Bill Mock and several students, paneled the ceiling of the new portion of the shack. The Plant Science Alliance plans to apply a finish coat before the semester ends.

Last year, the sap pan was significantly damaged during the season. We were able to limp through our abbreviated season with the existing one. We are planning to purchase and install a new evaporator in time for the 2013 season.

Table 1. Sap Collection Data – Spring 2012	
Date	Sap collected (gal)
Mar 15	350
Mar 17	295
Mar 19	795
Mar 21	550
Mar 24	420
Total	2,410

Table 2. Syrup Production Data – Spring 2012	
Date	Syrup (gal)
Mar 22	27
Mar 31	12
Total	39

Table 3: Summary – Maple Syrup Season 2012	
# sap collection days	5
Tanker loads of sap	14
Total sap collected (gal)	2,410
Syrup produced (gal)	39
Ratio (sap/syrup)	61.8
Sugar concentration (%)	1.4
Volunteers	88
Volunteer hours (excluding main crew)	458

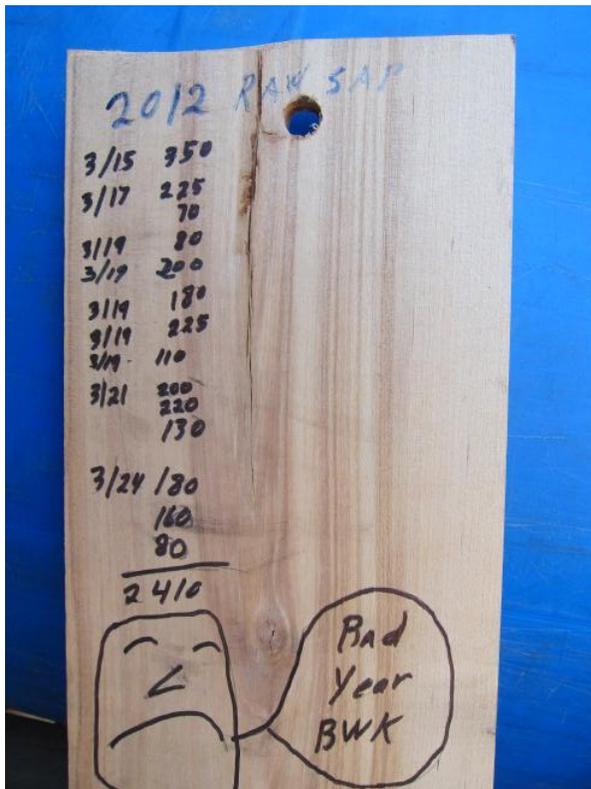


Figure 1. Scrap wood board showing sap collection statistics for 2012 season. Images from Stephen Saupe unless otherwise specified.

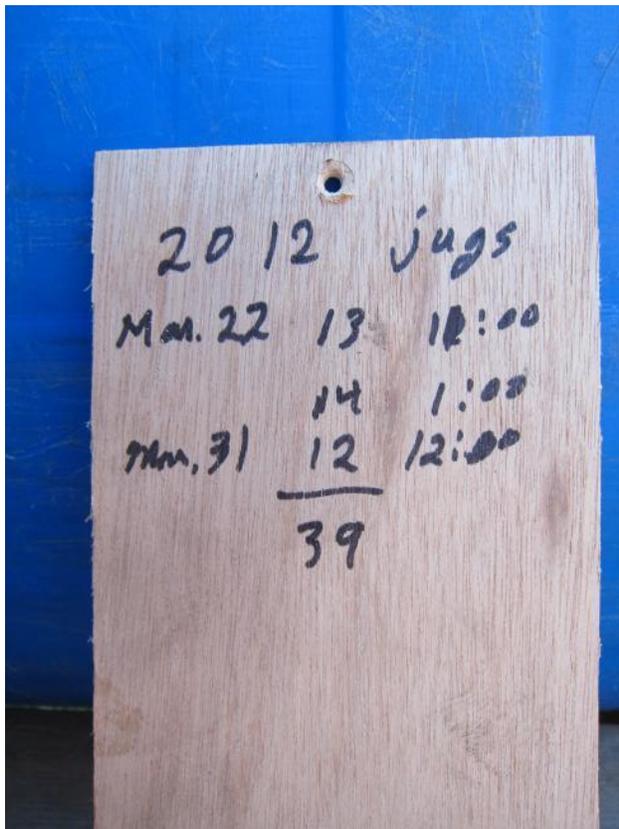


Figure 2. Scrap wood board showing syrup production totals during 2012 season.



Figure 3. Volunteers assembling bags on Community Tapping Day



Figure 4. Volunteers receiving final instructions from John O'Reilly before heading out to tap on Community Tapping Day



Figure 5. Stephen Saupe power washing the sap pan. Image from Br. Walter Kieffer.



Figure 6. Visitors to the Maple Syrup Festival enjoying a sundae.



Figure 7. CSB student Laura Knecht painting faces at a Saint John's Maple Syrup Festival.



Figure 8. SJU student Adam Liske giving a tour of the Saint John's sugar house during a Maple Syrup Festival



Figure 9. MN Master Naturalist and arboretum volunteer Mike Leedahl shows visitors how Native Americans prepared maple syrup



Figure 10. Maggie LoBianco, Julie Hulstrand, and Ryan Miller at the BIOL379 syrup tasting booth at a Saint John's Maple Festival. Alex Yanik, on left, joined the fun.



Figure 11. Bridget Gohmann , Josie Belter, Rebecca Henle, and Nick Zweber at the BIOL379 syrup tasting booth at a Saint John's Maple Festival.



Figure 12. Jack Wittenborg, Sarah Schmitz, and Alex Rahn at the BIOL379 syrup tasting booth at a Saint John's Maple Festival.



Figure 13. Jacob Gran, Jessica Solfest and Rachel Cameron at the BIOL379 syrup tasting booth at a Saint John's Maple Festival.



Figure 14. Josie Belt and Chelsea Komarek at the BIOL379 syrup tasting booth at a Saint John's Maple Festival.



Figure 15. Paul Guzik and Lauren Furmanski at the BIOL379 syrup tasting booth at a Saint John's Maple festival.



Figure 16. Julie Hulstrand and Maggie LoBianco, from BIOL379, at the Children's Story booth.



Figure 17. Dan Flynn, Jake Denning and Colin Goodman, from BIOL379, patiently waiting for visitors to accompany them on a sap flow/physiology tour.



Figure 18. John O'Reilly (Arboretum Assistant Director of Environmental Education) and Hannah Froehle (Arboretum student worker) give an educational tour.



Figure 19. Young visitors to the Saint John's maple syrup operation test the sugar concentration in the sap.



Figure 20. Br. Walter Kieffer, OSB and Tom Kroll, Saint John's Arboretum Director, pumping sap from a collecting barrel into the transport tank



Figure 21. Br. Walter Kieffer and Corva Kutter, the newest member of the Saint John's Arboretum family, enjoy the traditional year-end gathering of the Saint John's Maple Syrup crew. *Image courtesy Br. Walter Kieffer, OSB.*



Figure 22 Email sent by the Arboretum on March 23 before the first festival



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.

updated: May 2012

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



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.

St. John's Maple Syrup - Summary of Data		1942 - present	
updated: April 12, 2012			
Year	# of Taps	total syrup (gal)	total sap collection (gal)
1942	150	45	1440
1943	900		
1945	1750	246	8600
1948			
1949			
1951		273	9000
1953			
1954	800	210	
1958			
1959	800		
1962			
1964			
1966	2200	350	13000
1968	3100		
1972			
1974	3700	369	16447
1978	1850	373	14674
1982	1850	271	9758
1985	1950	580	21179
1988	2000	348	12850
1990	1300	364	11384
1992	1600	344	14481
1994	1600	308	12598
1996	1200	277	10631
1999	1200	181	7369
2000	1200	223	10092
2002	600	107	3413
2003	539	146	6519
2004	600	99	5513
2005	600	45	2770
2006	1000	124	5031
2007	965	116	36890
2008	1000	227	9360
2009	1287	268	10840
2010	938	130	5345
2011	1200	126	5615
2012	1100	39	2410
sum	38979	6168	249379
average	1344	228	9236
minimum	150	39	1440
maximum	3700	580	21179
count	29	27	14

Year	total syrup (gal)	total sap collection (gal)	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	sap/syrup ratio	average sugar conc from rule of 86	interval between tapping (years)
1942	45	1440			28-Mar	12-Apr																						
1943																												
1945	246	8600			16-Mar	12-Apr																						
1948					17-Mar																							
1949					7-Apr																							
1951	273	9000			26-Apr																							
1953																												
1954	800	210			23-Apr																							
1958																												
1959	800				7-Mar	10-Apr																						
1962																												
1964																												
1966	2200	350	13000																									
1968	3100																											
1972																												
1974	3700	369	16447		3-Apr	20-Apr	11-Apr	17	15	63	5.9	24.6	23-Mar	20-Apr	15	6-Apr	5-Apr	28	94.0	2800.0	175.0	1096.5	0.3	4.2	0.10	41.7	2.06	4
1978	1850	373	14674		26-Mar	16-Apr	5-Apr	21	14	58	6.4	26.6	3-Apr	19-Apr	12	9-Apr	8-Apr	16	87.9	2275.0	175.0	1281.6	0.6	7.9	0.20	39.3	2.19	2
1982	1850	271	9758		2-Apr	24-Apr	14-Apr	22	12	42	6.5	22.6	2-Apr	22-Apr	13	3-Apr	4-Apr	20	83.9	1943.0	481.0	1128.8	0.6	7.9	0.20	39.3	2.19	4
1985	1950	580	21179		17-Mar	12-Apr	1-Apr	26	17	71	7.9	32.9	16-Mar	11-Apr	17	28-Mar	31-Mar	26	121.0	2100.0	117.0	1245.8	0.6	10.9	0.29	37.8	2.27	3
1988	2000	348	12850		23-Mar	8-Apr	30-Mar	16	11	47	9.4	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	36.9	2.33	3
1990	1300	364	11384		26-Mar	11-Apr	2-Apr	15	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	31.3	2.75	2
1992	1600	344	14481		20-Mar	4-Apr	27-Mar	16	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	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	41.0	2.10	2
1996	1200	277	10631		31-Mar	24-Apr	12-Apr	23	13	36	7.7	21.3	21-Mar	2-Apr	17	7-Apr	8-Apr	32	60.7	1750.0	87.5	625.4	0.5	8.9	0.23	38.4	2.24	2
1999	1200	181	7369		18-Mar	10-Apr	27-Mar	23	12	22	8.2	15.1	26-Feb	8-Apr	19	24-Mar	24-Mar	42	42.1	992.3	105.0	387.8	0.3	6.1	0.15	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	45.3	1.90	1
2002	600	107	3413		17-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	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	44.8	1.92	1
2004	600	99	5513		15-Apr	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	55.7	1.54	1
2005	600	45	2770		16-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	61.6	1.40	1
2006	1000	124	5031		9-Apr	24-Mar	12-Apr	19	7	7	17.1	17.7	13-Mar	10-Apr	10	28-Mar	23-Mar	28	28.8	1006.3	175.0	503.1	0.5	5.0	0.12	40.6	2.12	1
2007	965	116	36890		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	1060.0	87.5	480.0	0.5	3.8	0.12	31.7	2.71	1
2008	1000	227	9360		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	8.4	0.23	41.2	2.09	1
2009	1287	268	10840		13-Apr	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	40.4	2.13	1
2010	938	130	5345		23-Mar	23-Mar	10-Apr	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	41.1	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	44.6	1.93	1
2012	1100	39	2410		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	795.0	295.0	482.0	0.4	2.2	0.04	61.8	1.39	1
sum	38979	6168	249379					207	634	23.4	19-Mar	10-Apr	11.7	269	30-Mar	30-Mar	22.1	53.9	1600.4	174.5	777.5	0.6	7.0	0.18	40.9	2.2	1.9	
average	1344	228	9236		10-Mar	13-Apr	24-Mar	19.1	9.4	28.8	9.1	23.4	19-Mar	10-Apr	11.7	30-Mar	30-Mar	9	14.0	525.0	52.5	307.8	0.3	2.2	0.04	31.3	1.4	1.0
minimum	150	39	1440		26-Feb	24-Mar	7-Mar	9.0	2.0	3.0	5.9	9.0	26-Feb	24-Mar	5	19-Mar	19-Mar	42	121.0	2800.0	481.0	1281.6	1.1	12.1	0.30	61.8	2.7	4.0
maximum	3700	580	21179		19-Mar	26-Apr	7-Apr	33.0	17.0	71.0	17.1	33.5	3-Apr	22-Apr	19	13-Apr	14-Apr	23	23	23	23	23	22	25	26	26	26	36

Table 4. Summary of sap/syrup data from all years at the Saint John's Maple Syrup operation.