Maple Syrup Digest

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The Newsletter of the North American Maple Syrup Council

Greetings from your President

As a new year dawns we become aware of another sugaring season drawing near. It is my hope that a successful season lies ahead for all sugarmakers. But, of course, we are at the mercy of the weather and it can be very unpredictable. I am often asked to predict the type of season we might have and my response is always "wait until April." If there is anyone out there who can predict the upcoming season with any degree of success, I would like to know who it is.

Here in Indiana we have several young and beginning producers who are just starting to tap their trees or are expanding their operations. This is good news as we need to bring in new blood to the maple industry and I hope this is the trend throughout the maple belt. I think this is at least partly due to the trend of consuming natural products, along with people's interest in producing their own food. It is now physically easier to make maple syrup than it used to be. The widespread use of tubing, vacuum systems, reverse osmosis machines, more efficient evaporators, and other technology appeals to these new producers. It also appeals to us old timers as well. If I had to go back to buckets, firing with wood and no R/O I would not be able to tap as many trees.

I just got back from the New York Maple Conference in Verona. It was my first time there and, except for the weather, it was a great experience. Let's hope that the 2015 season brings abundant and timely sap runs.

With Best Regards,
Dave Hamilton, NAMSC President

We turned up the volume

If the cover confused you, don't worry – you didn't miss some issues. Back in 1989 the editor chose to reset the volume number, going from Volume 27 to Volume 1A. We've tried to figure out why, but nobody's sure. To better reflect the longevity of the *Maple Syrup Digest*, we're now using volume numbers that accurately reflect the age of the oldest continuously published publication in the maple industry.

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You can!

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Cover photo: Jo-Ann Merrifield, of Merrifield Farm in Gorham, Maine, won first place in the 'Creative Maple Photography' category contest at the 2014 annual NAMSC/IMSI meetings with this shot of her family's sugarhouse.

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In this issue...

Research: Syrup chemistry

Chemical composition of five standard grades of pure maple syrup

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Maple syrup is a natural sugar product produced by evaporating the water from sap collected from sugar maple (Acer saccharum Marsh.) trees. It is categorized into four basic 'table' grades and one commercial grade (Marckres et al., 2006). The primary determinant of maple syrup grade is color, with lighter syrup generally demanding premium prices. All syrup must also meet standards of clarity, density and flavor.

Differences in color and flavor between individual grades are the result of differences in the chemistry of sap used to produce the syrup as well as chemical processes which occur during sap collection and processing, including microbial conversion of a portion of the sucrose in maple sap to invert sugars, as well as carmelization and Maillard reaction processes during evaporation (Perkins et al., 2006; Perkins and van den Berg 2009). These factors also yield differences in the general chemical composition of maple syrup and although syrup is generally composed primarily of sucrose, with small quantities of glucose, fructose, minerals, organic acids, phenolic compounds and amino acids (Potter and Fagerson, 1992; Perkins et al., 2006; Perkins and van den Berg 2009; Stuckel and Low, 1996), the relative quantities of each can vary widely between individual syrup samples (Stuckel and Low, 1996).

Due to the observed variation in the chemical composition between samples and the complexity of the mechanisms which result in the development of differential color and flavor, the chemical composition is expected to vary between the standard grades of maple syrup. To our knowledge, a published range of the chemical composition of the individual maple syrup grades is not currently available.

Thus, the objective of this study was to characterize the chemical composition of the five maple syrup grades, including their pH, conductivity, mineral and carbohydrate contents. In general, quantification of the range of chemical composition for each standard maple syrup grade will strengthen the existing knowledge of maple syrup chemistry. It may also identify characteristic chemical profiles of individual grades. Knowledge of the natural range in chemical composition, particularly for each grade, may also aid in the detection of adultered syrup by facilitating the detection of an unusual lack or abundance of a particular chemical constituent.

Materials and Methods

Ninety-nine pure, unblended maple syrup samples were collected in 2004 from individual producers across a wide geographic area. The percent light transmittance (%LT) at 560 nm was determined for each sample with a Hanna C219 maple syrup transmittance analyzer (Hanna Instruments, Woonsocket, RI, USA) using glycerol as

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a 100% transmittance standard. These values were used to categorize each syrup sample in one of the following five standard Vermont grades based on established values (Marckres et al., 2006): Fancy (%LT ≥ 75.0), Grade A Medium (60.5 ≥ %LT ≤ 74.9), Grade A Dark (44.0 ≥ %LT ≤ 60.4), Grade B (27.0 ≥ %LT ≤ 43.9) and Commercial (%LT < 27.0) (Table 1). The lower threshold for grade Fancy was expanded by 2% to compensate for the sensitivity and accuracy of the grading instrument.

Table 1. Light transmittance values used to determine the grade of maple syrup samples

		Light transmitance (%)		
Grade	*n*	Min	Max	Mean
Fancy	10	73.0	77.7	75.2 ± 0.6
A Medium	20	60.6	72.9	67.5 ± 0.7
A Dark	16	44.5	60.1	52.5 ± 1.2
B	25	27.0	43.5	32.5 ± 0.8
Commercial	28	3.3	25.8	18.3 ± 1.2

Conductivity (μS/cm2) and pH of each sample were measured with an Oakton pH/CON 10 dual probe meter (Oakton Instruments, Vernon Hills, IL). Nitrogen (N) content (%) of each syrup sample was determined with a Thermo Electron Corp Flash EA 1112 Series NC Elemental Analyzer (Thermo Finnigan Italia S.p.A. Rodana, Milan, Italy). For mineral analysis, 0.5 g of each syrup sample was digested with 10mL concentrated nitric acid for 15 min at 190 °C and 2.1 MPa pressure. Digested samples were then analyzed for calcium, iron, magnesium, manganese, phosphorous, potassium, sodium, sulfur and zinc content (mg/kg) by inductively coupled plasma atomic emission spectroscopy (ICP-AES, PlasmaSpec 2.5, Leeman Labs, Hudson, NH, USA). Total percentages of glucose, fructose and sucrose in each sample were determined by a commercial food analysis laboratory using high-performance liquid chromatography (HPLC). Sample sizes for carbohydrate analysis differed from the other analyses due to sample loss from spoilage during transport.

Minimum and maximum values, means, and standard errors were calculated for each parameter for each syrup grade. One-way analysis of variance was used to test the hypothesis that means of each parameter were equal between syrup grades. The nonparametric Wilcoxon Rank Sums procedure and Kruskal-Wallace tests were used to test this hypothesis for parameters which were not normally distributed. (Statistical assumptions of normality were verified by examining normal probability plots, and homogeneity of variance assumptions were verified

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Table 2. Conductivity and pH of samples representing five maple syrup grades

		Conductivity (μS/cm^2)			pH		
Grade	*n*	Min	Max	Mean	Min	Max	Mean
Fancy	10	96	241	167.7 ± 15.3	5.8	6.7	6.2 ± 0.6
A Medium	20	132	259	183.2 ± 7.2	5.6	7.3	6.3 ± 0.6
A Dark	16	114	238	174.8 ± 8.1	5.8	7.2	6.2 ± 0.6
B	25	104	303	202.8 ± 10.0	5.5	7.1	6.2 ± 0.6
Commercial	28	113	318	195.4 ± 8.7	5.5	7.1	6.1 ± 0.8
P				0.1088[a]			0.4342

P-values are for tests of hypotheses that parameters were equal between syrup grades. [a] indicates standard F-test used; all other comparisons used nonparametric Kruskal-Wallace tests.

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with Levene's and Brown-Forsythe's tests for normally and non-normally distributed populations, respectively.)

Results and Discussion

Conductivity and pH values (Table 2) were within the general range published for maple syrup (Perkins et al., 2006; Perkins and van den Berg 2009). Values varied within samples of each syrup grade, however neither pH nor conductivity varied significantly between grades. In addition, mean pH and conductivity did not exhibit consistent patterns of increasing or decreasing values from lighter to darker syrup grades. The results indicate individual syrup grades do not have characteristic values for pH or conductivity.

Carbohydrate compositions of the different grades of syrup (Table 3) were within the general range published for maple syrup (Perkins et al., 2006; Perkins and van den Berg 2009). Glucose and fructose contents have been anecdotally reported to increase, and sucrose content to decrease, from lighter to darker grades of maple syrup. However, the samples analyzed in this study did not follow this pattern. Although mean values of glucose and fructose varied significantly between the different grades of syrup, values were not consistently greater in darker than in lighter grades. Sucrose content was also not consistently lower in darker than in lighter syrup grades. These results indicate that individual syrup grades do not have characteristic carbohydrate compositions.

Mineral composition values (Table

Table 3. Carbohydrate composition of samples representing five maple syrup grades

		Fructose (%)			Glucose (%)			Sucrose (%)		
Grade	*n*	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
Fancy	9	0.0	0.4	0.1 ± 0.0	0.4	1.6	0.7 ± 0.1	63.1	69.3	65.9 ± 0.6
A Medium	12	0.0	1.0	0.7 ± 0.1	0.2	1.1	0.6 ± 0.1	62.4	67.8	65.1 ± 0.5
A Dark	11	0.0	0.9	0.3 ± 0.1	0.2	1.4	0.7 ± 0.1	60.5	73.8	66.2 ± 1.1
B	15	0.0	0.9	0.5 ± 0.1	0.0	1.1	0.4 ± 0.1	63.0	70.1	67.1 ± 0.5
Commercial	8	0.1	1.1	0.6 ± 0.1	0.1	1.2	0.6 ± 0.1	59.4	70.0	65.4 ± 1.3
P				0.0210			0.0375			0.3653[a]

P-values are for tests of hypotheses that parameters were equal between syrup grades.
[a] indicates standard F-test used; all other comparisons used nonparametric Kruskal-Wallace tests.

4) were within the general range published for maple syrup (Perkins et al., 2006). For most of the minerals analyzed, content ranged widely within samples of each syrup grade. In addition, the ranges of composition for each grade often overlapped those of other grades and very few mineral constituents varied significantly between syrup grades. With the exception of calcium, mean mineral composition of each grade did not exhibit consistent patterns of increase or decrease from lighter to darker syrup grades. These results indicate mineral content can vary markedly between individual syrup samples and that syrup grades do not exhibit unique, characteristic mineral compositions related to light transmittance.

Conclusions

The results of this study confirm previous findings that chemical composition varies substantially between individual samples of maple syrup (Stuckel and Low, 1996; Perkins et al., 2006; Perkins and van den Berg 2009). In addition, these results indicate that individual grades of maple syrup do not have unique, characteristic chemical compositions. Although this study did not identify consistent chemical profiles for each syrup grade, the established ranges expand the existing knowledge of maple syrup chemistry and may facilitate the detection of economically adultered syrup.

Acknowledgements

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Table 4. Mineral composition of samples representing five maple syrup grades

		N (%)			Ca (mg/kg)			Fe (mg/kg)			K (mg/kg)			Mg (mg/kg)		
Grade	*n*	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
Fancy	10	0.00	0.06	0.03 ± 0.01	381	602	479 ± 27	0.01	13.90	3.42 ± 2.23	1492	2575	1864 ± 136	96	264	172 ± 19
A Medium	20	0.01	0.06	0.03 ± 0.00	361	984	617 ± 38	0.01	60.99	5.02 ± 3.17	1424	2865	1983 ± 93	73	323	196 ± 15
A Dark	16	0.00	0.07	0.03 ± 0.00	278	1466	691 ± 69	0.01	13.04	2.13 ± 0.86	1415	2509	1951 ± 88	25	543	171 ± 32
B	25	0.00	0.08	0.03 ± 0.00	446	1492	900 ± 65	0.01	6.17	2.25 ± 0.42	963	2795	1888 ± 96	29	500	156 ± 19
Commercial	28	0.00	0.07	0.03 ± 0.00	501	2494	1195 ± 88	0.01	48.68	6.63 ± 1.94	1281	3319	2132 ± 115	43	284	174 ± 12
P				0.8179[a]			0.0001			0.0601			0.7233			0.1677

		Mn (mg/kg)			Na (mg/kg)			P (mg/kg)			S (mg/kg)			Zn (mg/kg)		
Grade	*n*	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
Fancy	10	8.95	80.14	33.89 ± 9.14	0.01	4.17	1.41 ± 0.59	0.01	9.79	2.93 ± 1.50	0.01	0.01	0.01 ± 0.00	0.7	19.8	6.6 ± 2.7
A Medium	20	1.41	72.54	22.31 ± 4.45	0.01	218.43	20.05 ± 11.83	0.01	29.14	7.47 ± 2.32	0.01	84.00	24.32 ± 5.55	1.3	63.8	15.6 ± 4.4
A Dark	16	1.72	164.43	29.64 ± 11.78	0.01	492.13	48.28 ± 33.58	0.01	62.56	10.62 ± 4.37	0.01	69.44	15.68 ± 6.13	0.01	35.7	6.1 ± 2.4
B	25	1.26	99.38	31.08 ± 6.25	0.01	261.43	66.71 ± 18.18	0.01	58.87	19.26 ± 3.50	0.01	100.00	19.60 ± 5.51	0.3	361.4	47.9 ± 15.8
Commercial	28	0.01	223.24	37.04 ± 10.06	1.66	193.18	17.64 ± 6.63	0.01	90.70	17.92 ± 4.63	0.01	82.05	20.05 ± 4.56	1.6	527.2	39.1 ± 18.7
P				0.6003			0.0004			0.0615			0.0286			0.0121

P-values are for tests of hypotheses that parameters were equal between syrup grades. [a] indicates standard F-test used; all other comparisons used nonparametric Kruskal-Wallace tests.

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Research: Trees and sap

Examining the impact of seed production on sap sugar content

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Annual reports on the sugaring season are filled with references to the weather. Cold snaps and warm-ups alike are blamed for poor seasons, and a long season benefits from "good sugaring weather." Good weather for sap flow is well known to those who tap maple trees. Cold clear nights followed by warm sunny days cause the sap to flow, so those who tap trees are well advised to watch the weather during the tapping season. But sap flow is only part of what determines the total amount of syrup made (and how much money ends up in a syrup producer's pocket). New research suggests sugar makers may be advised to look to their trees' canopies as well as the weather forecast if they want to predict the tapping season.

Along with the volume of sap, how much sugar is in that sap is a major determining factor of how good a sugaring season is. With vacuum lines increasing sap volume and reverse osmosis machines taking out a large portion of the water with relatively low energy input, sap sugar content has received perhaps less emphasis than in the past, but it still matters. Sap with a sugar content of 3% will produce 50% more syrup than sap with 2% sugar, given an equivalent amount of sap. Sap sugar content can easily vary this much between trees, and even in the same tree in different years. Some of this variation between trees is due to genetics, and efforts to breed maples with sweeter sap have led to some success.[1,2] However, sugar maples grow slowly, and most sugarbush owners do not plant trees to tap. For the most part, you are stuck with what you have in the sugarbush already. Thinning the sugar bush to give trees more light, or fertilizing[3] may help to increase sap sugar content of individual trees, but is unlikely to influence the perhaps most enigmatic type of variation in sap sugar content: variation in the same trees from year-to-year.

In the October 2014 issue of *Maple Syrup Digest*, M. Isselhardt and colleagues described nonstructural carbohydrates (NSC), the energy stores of trees.[4] As they noted, some portion of the total NSC reserve of sugar maples makes it into a trees' sap, and can then be collected to make maple syrup. The balance in this "savings account" may vary between years and therefore account for variation in sap sugar content. But why does it vary, and why do trees have a savings account anyway? As the authors noted, trees use some of this reserve in the spring to fuel growth before leaves are on the trees, and may call upon their savings in times of need – defoliation by insects or frost, damage from wind or ice storm, or any number of other stressors. If a tree has recently been damaged, it may use this reserve to recover, and this is why many people will not tap damaged trees. Trees have another use for these NSC reserves that is often overlooked: making seeds.

Plants can put a tremendous amount of energy into reproduction. Agricul-

ture is largely in the business of maximizing this investment – think of a champion pumpkin at the state fair. Forest trees invest less than agricultural crops and indeed most annual plants. They need to save energy for the next year and invest in woody growth. But maximizing reproduction over the lifetime of a tree, what biologists call "fitness," is a primary goal for a tree. Like all organisms, trees pass on their genes through reproduction, and the tree that makes the most seeds is most likely to pass on genes to the next generation. We can therefore expect trees to invest considerable resources in reproduction.

Sugar maples are a masting species. This means they don't produce large seed crops every year. Instead, big seed years are followed by years with little to no flowers and seeds. This in itself suggests that there is a cost to reproduction. Trees likely don't have the resources to invest in making seeds year after year without some trade-off with other plant functions, such as woody growth or defending against pests and pathogens. Theoretical ecologists have seized upon the observation that many plant species alternate high and low years of seed production to develop the resource budget model of masting.[5] The idea is that 'mast years' – big seed years – deplete stored resources (NSC), which plants then replenish during low flowering years. If this is true for sugar maples, it provides one reason why NSC, and hence the amount of sugar in sap, varies from year to year.

In addition to individual trees having a pattern of high and low seed years, groups of trees tend to all flower and produce seeds at the same time.

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Indeed, my own observations, and data from across the northeastern U.S. and adjacent Canada[6-10] suggest a high degree of regional synchrony in seed production. Not only could masting provide an answer for variation in sap sugar for individual trees, but masting could influence syrup production regionally.

How does this ecological theory hold up in practice? In a recent study published in the peer-reviewed journal, *Forest Ecology and Management*, my co-author Elizabeth Crone of Tufts University and I analyzed data on seed and syrup production over 17 years in Vermont. The seed data were from 30 sugar maple stands throughout Vermont tracked by the Vermont Monitoring Cooperative. Every year, researchers visit each stand to measure tree growth, canopy condition, and other tree health metrics. They also observe whether or not the trees have seeds. The syrup data were from the National Agricultural Statistics Service, which sends out surveys to maple producers in the U.S. each year. While these data under-estimate syrup production since not every sugarmaker receives or returns a survey, the data do provide a good measure of the year-to-year variation in syrup production for entire states. Syrup production has increased over the past decade due to an increase in the number of taps, as well as the amount of sap collected per tap as more and more taps are put on vacuum. We wanted to remove this overall increase and only look at the year-to-year variation in syrup production. We therefore fit a trend line to the syrup production data, and then subtracted the yearly values from the overall trend. We used these values as the measure of year-to-year change in syrup production. We then compared these data to seed production in the previous year, since we expected seed production to deplete stored resources, leading to lower syrup production in the following year.

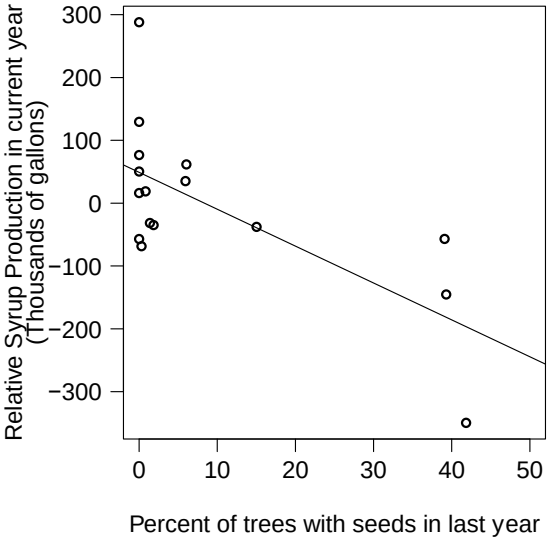

Figure 1. The relationship between maple syrup production and the percentage of trees making seeds in the previous year in Vermont. The y-axis shows the difference in annual syrup production from the overall (increasing) trend. Following mast years, when about 40% of sugar maple trees in plots monitored by the Vermont Monitoring Cooperative make seeds, syrup production is lower.

We found a surprisingly strong relationship between seed production and syrup production (Figure 1). Syrup production for Vermont was on average more than 200,000 gallons lower after a mast year that in other years, and 43% of the annual variation in syrup

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production was explained by seed production alone.

What about the weather during the tapping season? We also tested if the monthly minimum and maximum temperatures from January through April could explain annual variation in syrup production, as had been seen in Quebec.[11] While average monthly temperatures are only coarsely related to the daily temperature fluctuations that cause sap to flow, a warm or cold season can affect the length of the season and how many days of sap flow there are, so it is not unreasonable to expect a relationship between monthly temperature and syrup production. However, in comparing different statistical models that only contained these temperature variables (but not seed production), the model that best accounted for the annual variation in syrup production was the model that didn't include any temperature variables at all. Hardly resounding support for temperature being important.

Does this mean climate is not important? No. When we included seed production along with the temperature variables in a single analysis, we found that maximum and minimum March, and maximum April temperatures helped explain variation in syrup production. Intuitively, this makes sense. March temperatures that are variable – cold nights and warm days – lead to the best sap flow, and a cold April lets the season hang on. These relationships are exactly the ones predicted by the data, but only after seed production in the previous year was accounted for. This model accounted for 79% of the annual variation in syrup production. In other

words, about half the variation in syrup production was due to seeds and half to weather.

Can taking a look into the tree canopy in the fall help predict the next syrup season? This study suggests that it might be more effective than trying to predict the weather, and certainly easier.

Notes

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Rethinking how we determine sap prices

Michael Farrell, Director, The Uihlein Forest, Cornell University

Traditionally the *Maple Syrup Digest* has published sap prices before each season in a table that is based solely on the sugar concentration of the sap. There is always a disclaimer stating that these are only suggested prices and will not work for all producers and all situations.

In reality, there are many factors that can and should affect sap prices, so having a one-size-fits-all approach doesn't work. Think about it: would you want to pay the same for 1.8 brix sap that produces high-quality table grade syrup, versus 1.8 brix sap that yields commercial, off-flavored syrup? Or what if bulk prices are significantly different than expected due to a bumper crop or disastrous season? Wouldn't you want a way to adjust pricing based on the vagaries of production and bulk prices in a given year?

I've also never met a maple producer who wants to pay the same for sap that needed to be picked up as sap that was delivered to the sugarhouse.

The prices a maple producer can pay should also be tied to the processing capability of that sugarmaker. Someone who can make more than 100 gallons of syrup an hour for less than $3 per gallon in fuel costs should be able to pay much more for sap than someone who is only making a few gallons of syrup per hour and spends more than $10 in fuel for every gallon of syrup produced. In reality, there are sugarmakers who offer less than 50% and others that pay up to 65% of the bulk syrup value for sap delivered to the sugarhouse.

Given all of these considerations, a few years ago I developed a spreadsheet with a sap-pricing table that can be customized for each individual sugarmaker's situation. Prices are displayed in a table according to sap sugar content and bulk syrup prices by simply entering the percentage of the syrup revenues given to the sap seller. The *Digest* prices have typically hovered around 50% distribution in the past, so the default is often given as 50%, as seen on the facing page. However, you can customize the spreadsheet to whatever works best for your situation by simply plugging in a different value for the percentage distribution.

You can download a Microsoft Excel file with the customizable sap pricing spreadsheet at: http://maple.dnr.cornell.edu/sapbuying.htm. The website asks you to put in your name and email address in order to download it, as I plan to eventually conduct further research on how people are using it, exploring the pros and cons of this method, and trying to gauge the effect of buying sap on the maple industry. More than 1,000 sugarmakers are already using this spreadsheet throughout the maple industry, and I believe everyone who buys sap should use this type of pricing method. I encourage you to give it a try, and as always, feel free to contact me at mlf36@cornell.edu or 518-523-9337 with any questions.

Sap prices

This table presents suggested prices per gallon for a maple producer to purchase sap. The variables that affect sap prices in this table are sap sugar content and bulk syrup price. It assumes that the sap buyer is paying the seller 50% of the bulk syrup price.

	Bulk Syrup Price ($/lb)										
Sap Sugar Content	**$ 2.00**	**$ 2.10**	**$ 2.20**	**$ 2.30**	**$ 2.40**	**$ 2.50**	**$ 2.60**	**$ 2.70**	**$ 2.80**	**$ 2.90**	**$ 3.00**
1%	$ 0.13	$ 0.13	$ 0.14	$ 0.15	$ 0.15	$ 0.16	$ 0.17	$ 0.17	$ 0.18	$ 0.19	$ 0.19
1.1%	$ 0.14	$ 0.15	$ 0.15	$ 0.16	$ 0.17	$ 0.18	$ 0.18	$ 0.19	$ 0.20	$ 0.20	$ 0.21
1.2%	$ 0.15	$ 0.16	$ 0.17	$ 0.18	$ 0.18	$ 0.19	$ 0.20	$ 0.21	$ 0.21	$ 0.22	$ 0.23
1.3%	$ 0.17	$ 0.17	$ 0.18	$ 0.19	$ 0.20	$ 0.21	$ 0.22	$ 0.22	$ 0.23	$ 0.24	$ 0.25
1.4%	$ 0.18	$ 0.19	$ 0.20	$ 0.21	$ 0.21	$ 0.22	$ 0.23	$ 0.24	$ 0.25	$ 0.26	$ 0.27
1.5%	$ 0.19	$ 0.20	$ 0.21	$ 0.22	$ 0.23	$ 0.24	$ 0.25	$ 0.26	$ 0.27	$ 0.28	$ 0.29
1.6%	$ 0.20	$ 0.21	$ 0.23	$ 0.24	$ 0.25	$ 0.26	$ 0.27	$ 0.28	$ 0.29	$ 0.30	$ 0.31
1.7%	$ 0.22	$ 0.23	$ 0.24	$ 0.25	$ 0.26	$ 0.27	$ 0.28	$ 0.29	$ 0.30	$ 0.32	$ 0.33
1.8%	$ 0.23	$ 0.24	$ 0.25	$ 0.26	$ 0.28	$ 0.29	$ 0.30	$ 0.31	$ 0.32	$ 0.33	$ 0.35
1.9%	$ 0.24	$ 0.26	$ 0.27	$ 0.28	$ 0.29	$ 0.30	$ 0.32	$ 0.33	$ 0.34	$ 0.35	$ 0.36
2%	$ 0.26	$ 0.27	$ 0.28	$ 0.29	$ 0.31	$ 0.32	$ 0.33	$ 0.35	$ 0.36	$ 0.37	$ 0.38
2.1%	$ 0.27	$ 0.28	$ 0.30	$ 0.31	$ 0.32	$ 0.34	$ 0.35	$ 0.36	$ 0.38	$ 0.39	$ 0.40
2.2%	$ 0.28	$ 0.30	$ 0.31	$ 0.32	$ 0.34	$ 0.35	$ 0.37	$ 0.38	$ 0.39	$ 0.41	$ 0.42
2.3%	$ 0.29	$ 0.31	$ 0.32	$ 0.34	$ 0.35	$ 0.37	$ 0.38	$ 0.40	$ 0.41	$ 0.43	$ 0.44
2.4%	$ 0.31	$ 0.32	$ 0.34	$ 0.35	$ 0.37	$ 0.38	$ 0.40	$ 0.41	$ 0.43	$ 0.45	$ 0.46
2.5%	$ 0.32	$ 0.34	$ 0.35	$ 0.37	$ 0.38	$ 0.40	$ 0.42	$ 0.43	$ 0.45	$ 0.46	$ 0.48
2.6%	$ 0.33	$ 0.35	$ 0.37	$ 0.38	$ 0.40	$ 0.42	$ 0.43	$ 0.45	$ 0.47	$ 0.48	$ 0.50
2.7%	$ 0.35	$ 0.36	$ 0.38	$ 0.40	$ 0.41	$ 0.43	$ 0.45	$ 0.47	$ 0.48	$ 0.50	$ 0.52
2.8%	$ 0.36	$ 0.38	$ 0.39	$ 0.41	$ 0.43	$ 0.45	$ 0.47	$ 0.48	$ 0.50	$ 0.52	$ 0.54
2.9%	$ 0.37	$ 0.39	$ 0.41	$ 0.43	$ 0.45	$ 0.46	$ 0.48	$ 0.50	$ 0.52	$ 0.54	$ 0.56
3%	$ 0.38	$ 0.40	$ 0.42	$ 0.44	$ 0.46	$ 0.48	$ 0.50	$ 0.52	$ 0.54	$ 0.56	$ 0.58

Download a customizable spreadsheet to calculate sap prices (see facing page) at http://maple.dnr.cornell.edu/sapbuying.htm.

News from the states

Ohio

On November 22 the Ohio Maple Producers Association (OMPA) held its annual meeting. Thirty-one producers attended the evening meeting after an afternoon tour of the Second Street Market. The evening agenda included a delicious meal followed by the annual business meeting and the election of directors. Returning to the board from District 2 was Dean Dohner; District 3, Eric Dilts; and At Large, Nate Bissel, Jen Freeman and Tom Brundage.

A report was given on the Maple Madness Tour. The Tour, now known as the Maple Madness Trail, will be supported by a $25,000 ODA Grant over the next two years. This will not only fund the trail but will also support the publishing of the *Ohio Maple Magazine* designed to promote the tour and Ohio maple Industry.

Attendance at the 3rd Annual Lake Erie Maple Expo (LEME) topped the 500 mark for the first time. Mark your calendar for the 2015 LEME being held at the same location, Northwestern HS in Albion PA, November 6-7.

Indiana

About 130 Indiana maple syrup makers and equipment dealers met December 6 for the annual meeting of the Indiana Maple Syrup Association. The keynote speaker for the event was Gary Graham, Extension Specialist in the School of Environment and Natural Resources at Ohio State University.

Dr. Graham's opening session described the new international maple grading system. "Between the maple producing states and within the Canadian provinces there were half a dozen ways that the grade of 'Pure Maple Syrup' has been described," Graham noted. "With the increased attention to food labeling and the wide distribution of syrup from multiple sources, a common definition for grading syrup has become an absolute necessity." Graham emphasized that it's time for producers to become familiar with the new system and to educate their customers about the new terminology that employs flavor descriptors.

Graham's afternoon session focused on hydrometers and their use to deter-

New York

The 2015 NYS Maple Conference and trade show was held in Verona, NY on January 9-10, and featured numerous workshops and panel discussions ranging from marketing, to maple beverages, to reverse osmosis, and more. The trade show was the largest ever, with 57 vendors, and attendance topped 1,000 people.

mine syrup density. "Hydrometers are a must-have tool for sugar makers," he said. "Their accuracy can make or lose money for you." Graham spoke about how to care for and use the instrument properly, skills often overlooked in the sugarhouse.

"How many of you make syrup?" Graham questioned. "How many of you have broken a hydrometer?" he asked, laughing as the same hands went up. "You should have more than one instrument available as they always seem to break as the worst possible time." An accurate backup hydrometer is as important as the primary one, he said.

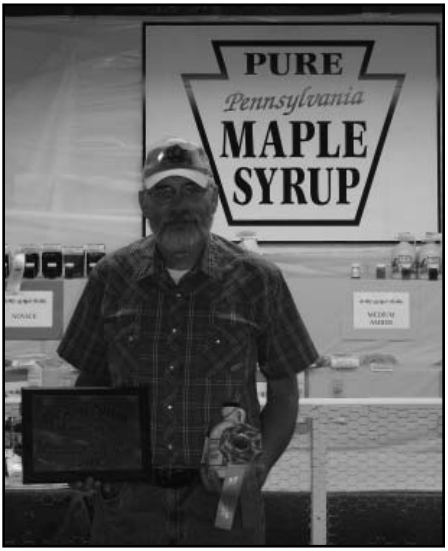
Rhode Island

The Rhode Island Maple Syrup Producers Association's annual meeting was held on November 7. Dr. Navindra Seeram, an associate professor in the College of Pharmacy at the University of Rhode Island in Kingston spoke to membership and guests from Connecticut and Massachusetts. He and his scientific research team are responsible, with the financial and product support of the Federation of Quebec Maple Syrup Producers, for the discovery of Quebecol, which is produced through the heating process of sap to make maple syrup, and for the publication of the nutritional benefits of maple syrup in comparison with other sweeteners.

The discussion included a presentation on increased presence of obesity in our society, the benefits to healthy living through consumption of plant-based products, including fruits and nuts, and the benefits of maple syrup and the potential for a market for products from the maple tree beyond maple syrup. Additional discussion included the need to protect the limited resource of sugar maple trees.

Pennsylvania

The Maple Syrup and Maple Sugar Products competition at 69th annual Crawford County Fair in Meadville, PA was judged on August 16. James Miller from Middlefield, Ohio did this year's judging. There were 44 entries from 19 producers in nine categories. Pictured below is Chris Casbohm from Albion, PA with his Medium Amber entry that won Best of Show.



Massachusetts

The Massachusetts Maple Producers Association held its annual meeting on January 17, with more than 170 people in attendance for the trade show, business meeting, and a workshop presented by Tim Wilmot from the University of Vermont Extension, "Maximizing sap yield and preserving our maple trees." The business meeting covered MMPA's 2014 work, including the state's first-ever Maple Weekend, the publication of new outreach materials, and policy advocacy on issues ranging from Asian Longhorned Beetle eradication to access to tappable trees on public land.

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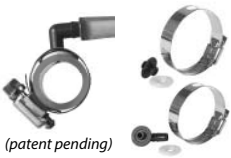

(patent pending)

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Drill bit 5/16" to perforate the Mainline

Extra short drill bit with triple lips for drilling the mainline by using a cordless drill. A lot faster and easier.

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Calibrated hammer to install STARS sap spouts and adapters. Our snow brush fits our hammer and allows cleaning to see the ideal place to tap.

Multifunctional Cap

Allows to plug a notch drilled in the wrong place and also to indicate the location of the notches for the coming seasons, while avoiding the spread of beetles and other pests.

Order your sap spouts to guarantee your supply

First come, first served!

Visit ***www.tappingtree.com*** to see all our products

To order :
1- Consult the list of our authorized dealers (or)
2- Complete the order form on ***www.tappingtree.com***

We wish you great happiness in a spirit of health and hope for 2015, and an excellent Sugar Season to all !

Dear maple producers and customers,

It is important for me as a manufacturer to share with you the results of our customers who confirm that their maples, by using our thin walled sap spouts, had a longer flow and enabled them to harvest more water than their neighbor producers as well as maples that healed within the same year.

3 years worth of convincing results on more than a million notches

Thin walled Sap Spouts and Adaptors

- It is proven that our sap spouts 0.225" are as good as sap spouts with a larger diameter, while causing a lot less damage. This allows to extend the harvest period for up to 4 or 5 additional days.

- The use of polycarbonate in the design of our sap spouts allows a better flexibility and retention of the spout in the notch. Preventing any re-tapping throughout the season even during the freezing and thawing period.

- Thanks to the thin walled spouts, every notch even the very oval ones will be perfectly sealed, preventing the entry of bacteria and the drying out of the notch. Also ensuring maximal harvest and delaying the protection reaction of the tree and the production of the "out of specification" grade syrup, for up to 4 to 5 days, in comparison to the traditional sap spouts.

Léandre Vachon
Designer of sap STARS products

Zero leakage on the main line.

The profits comes from the maple trees as we all know ... to maximize production, the secret is to stop all micro-leaks. The most important micro leaks are mostly found on the main line and prevents a group of maple trees to flow until the complete thawing of the main line.

In order to stop these micro-leaks, we have developed perfectly sealed saddles, which are very fast and easy to install.

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We have developed the only drill bits specially designed to tap maple trees and pierce the mainline with ease and speed.

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Organic maple syrup producers: all our products are free from human contact (all handling is done with gloves) and packed hermetically spouts in bag of 250 units.

List of our Authorized Dealers

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Bellevue, MI
269 763-2210

Suga Country Products
Vassalboro, ME
207 923-3355

Sugar Grove Maple Products
Covington, OH
937 570-9691

Backbone Mountain Maple
Oakland, MD
301 616-1446

The Maple Guys LLC
Lynderborough, NH
888 627-5349

Homestead Maple
Chazy, NY
518 846-3192

Memprotec
Swanton, VT
844 382-2244

Leroy Burnham
Watertown, NY
315 767-2845

Wolcott Maple Equipment
Dale, NY
585 786-3893

Sugar Bush Creek Farm
Middlefield, OH
440 636-5371

Maple Run Sugar Product
Saegertown, PA
814 763.2317

CANADA

Dave Roy & Noël Vigneault
La Guadeloupe, QC
418 459-3669

Les Évaporateurs Jean Faucher
Ste-Marie, QC
418 387-2215

Denis Labbé
Oka, QC
450 479-8559

Jérôme Pouliot
Compton, QC
819 620-2827

Distribution Dominique Demers
Thetford Mines, QC
418 332-5632

Les Entreprises Brault 4 Saisons
Woburn, QC
819 544-2020

Érablière DP Inc.
Saint-Juste-du-Lac, QC
418 899-0394

Luc Royer
St-Isidore, QC
418 882-8006

Érablière Brochu
La Trinité des Monts, QC
418 387-9135

Therry Levasseur
Pohénégamook, QC
418 859-1310

MemProTec
Chesterville, QC
819 382-2244

Patrice Brien
Ste-Anne-de-la-Rochelle, QC, 450 539-4953

Therry Gingras
St-Ubalde, QC
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Industry: Marketing

Pure maple gaining on artificial syrups

Michael Farrell, Director, The Uihlein Forest, Cornell University

Pure maple syrup is on the rise in a declining overall market for pourable syrups. We are moving in the right direction, but still have a long way to go. That's the upshot of recent market research from the Nielsen Company looking at the market for "pancake syrups" from July 2013-July 2014.

This past summer I was fortunate to get access to this data via Mark Harran of the International Maple Syrup Institute. The data is extremely valuable to provide a snapshot of how pure maple fits in the overall marketplace for pourable syrups.

Many people are familiar with Nielsen from its TV ratings system, but they do much more than that. When you purchase an item from a grocery store or many other outlets that uses bar codes, the information on that transaction is stored for future research and analysis on market trends by companies such as Nielsen. This covers a lot of food transactions, particularly for supermarkets where most food in the U.S. is sold, but some notable markets that it misses are sugarhouses, farmers markets, small natural food stores, convenience stores, websites, and mail order. It also doesn't include pure maple sales in the ingredient market or at restaurants and other food service providers. So while these numbers are useful at providing an overall gauge of how well pure maple is doing compared with its artificial competitors in the mainstream consumer market, this data should not be seen as a complete assessment of the overall market for pure maple. Further research would be necessary to fully quantity the industry sales.

Nielsen divides pourable syrups according to six broad categories: Maple Flavored, Maple Flavored (reduced calories), Pure Maple, Molasses, Cooking Syrup, and Fruit Syrup.

The Nielsen data reveals that pure maple syrup represented $174 million in sales (21% of the market) whereas the artificial pancake syrups made up 70% of total sales with $574 million for the one-year data period. Sales were up 4.7% for pure maple as compared to a loss of 3.8% for the artificial pancake syrups. Since pure maple is much more expensive in comparison to the artificial syrups, the actual market share in terms of volume is much lower. Pure maple sold 22 million units compared with 200 million units of the artificial syrups, a whopping 83% of the pourable syrup market. Thus, even though pure maple made up 21% of sales, it only comprises 9% of the volume. In terms of number of units sold, pure maple is up 6% while artificial syrups are down 4.7%.

So what does all of this mean? First of all, it's certainly good news that pure maple sales are up! People are consuming fewer pancakes and waffles, and generally aren't cooking as much as they used to, so sales of all of the other pourable syrups are heading down. If pure maple was going the same way as all its competitors, we would be in serious trouble. There are at least three possibilities for why overall sales of pure maple may be growing in an overall declining market for pourable syrups:

1. People are switching from imi-

Maple Sales: continued on page 29

Maple Sales: continued from page 27

tation syrups to pure maple syrup.

2. People are discovering new uses for pure maple syrup, beyond as a breakfast topping.

3. Existing pure maple consumers are increasing their overall use of maple syrup.

We can only speculate as to the importance of each of these factors in the overall consumption of pure maple. Further consumer research will be necessary to determine who is consuming pure maple, what they are using it for, and why they chose pure maple over other options. The market demand is growing at about 6% per year, and while that is good news, production is growing even faster than that. If we want to keep supply and demand in balance and continue to be able to grow the industry at profitable levels, even better marketing and promotion will be necessary to improve upon the gains we are already making.

This article is submitted as part of the Market Study Group sponsored by the International Maple Syrup Institute. To learn more, go to www.internationalmaplesyrupinstitute.com.

The potential value of a joint marketing program for the maple industry

"Everyone working together will lift the whole industry," said Ellen LaNicca Albanese, Senior Vice President of Padilla CRT, a communications firm that specializes in food, beverage and nutrition, at the IMSI annual meeting in Wolfville, NS in October. Maple producers need to extend how we think about how our products are used, she said, and try to extend how consumers use them.

A thorough industry-wide marketing campaign would need to include extensive studies of consumer usage and attitude, gathering data on the profile of purchasers, how maple products are used, how frequently the products are purchased and why, as well as other information. "Marketing without data is like driving with your eyes closed," she said.

Albanese spoke about the success of checkoff assessments on other foods, such as blueberries. Money raised in this way from blueberry growers went toward health research and promotion, and nearly tripled consumption of blueberries in the U.S. and rallied growers. Checkoff campaigns ensure that all producers contribute, since everyone will benefit from the industry's growing sales, she said.

"Great sustainable brands are grounded in emotion," said Albanese. In the case of blueberries, a study that mapped how competitive berries were being marketed in an effort to find a niche, and decided on 'sociable' as the guiding message for marketing blueberries, with terms like 'playful,' 'warm,' and 'loving' resonating with consumers. Maple producers could undertake a similar effort, she said, if enough funds could be raised to do so.

In comparing maple with other foods, Albanese found that the maple industry spent significantly less on marketing. For a crop valued at roughly $500 million in 2013, she estimates that

Marketing Maple: continued on page 31

Marketing Maple: continued from page 29

around $4.2 million was spent on marketing and research aimed at promoting maple. By comparison, that year's mango production was about half as much – $251 million – but the industry spent $5.9 million on promotion. And returns can be great. An investment of $3.75 million on marketing by the Hass Avocado Board yielded $12.3 million in benefits for their growers.

"Breakfast habits are changing," said Albanese, "and pancake consumption is down. That's still the greatest usage of maple syrup – as a breakfast topping – but people aren't sitting down to have breakfast as much anymore." The anti-gluten and anti-carbohydrate movements have contributed to the decline in pancake and waffle consumption as well, and are likely to continue to do so.

"If you have a product that is so delicious, natural and versatile, but its primary usage is in a market that is dropping, you need to do something different. Why not work together to come up with five new usages for maple that we want to tell America about?"

Looking ahead to October: The 2015 international maple syrup conference

The 2015 international maple syrup conference (annual meetings of the NAMSC and the IMSI) will be held October 19-22 2015, in Seven Springs Pennsylvania at the Seven Springs Mountain Resort. Seven Springs is a beautiful resort with activities for the whole family.

This year's conference will feature some new things. We are going to run some workshops along with the technical sessions. Workshop presenters already confirmed are Nate Bissell, Ruth Goodrich, and Stihl with a chainsaw safety workshop, with many more in the works. There will also be an antique sugaring equipment display.

Seven Springs is located in Somerset County, Pennsylvania, a county with a rich history in maple production and home to many interesting sights and scenes. It is home to many Old Order Amish, with many communities scattered around the county. Ten covered bridges dot the landscape around the county as well; including the longest covered bridge in Pennsylvania. The Barronvale Covered Bridge is 163 feet 3 inches and is not far from Seven Springs. The Flight 93 National Memorial, the Quecreek mine where nine miners were rescued, and Mount Davis, the highest point in PA are all located in Somerset County.

Exhibitor and program book advertising packets are already available. If you are interested in being an exhibitor or would like to place an ad in the program book please contact Mike or Sherry Lynch at 814-445-1930 or email them at mikejdeerelynch@aol.com. For general information contact Matthew or Stephanie Emerick at 814-324-4345 or email them at emerickspuremaple@yahoo.com. We hope to have the registration packets available by June 1.

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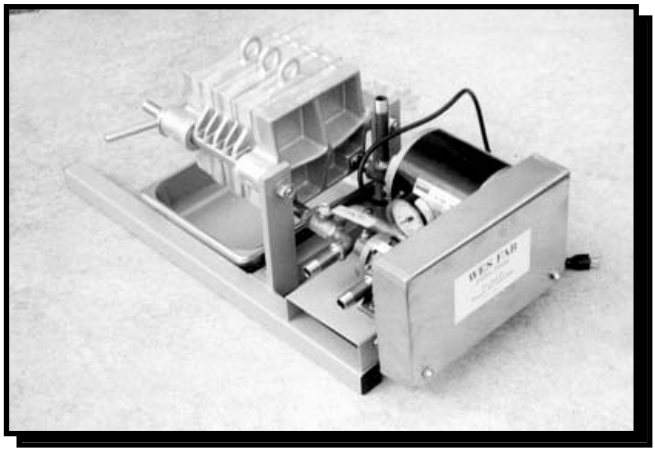

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Misrepresentation of maple syrup

Issue

In the marketplace today, there are numerous instances where a product that does not contain any real maple syrup conveys in various ways, on its packaging or in its advertising and promotion materials, that it does contain real maple syrup or, even, is real maple syrup. The International Maple Syrup Institute (IMSI) and the North American Maple Syrup Council (NAMSC) believe that such behavior is misleading and deceptive to consumers, be it intentional or not, and should be curtailed, much as with any truth in advertising or labeling issue.

Goal

The North American Maple Syrup industry seeks to prevent products that contain no real maple syrup from using the word "maple," "maple syrup" or the imagery commonly associated with maple syrup production or packaging (e.g. trees with buckets hanging on them, a sugarhouse surrounded by snow with steam coming out a vent on its roof, etc.) to convey and, thereby, mislead consumers into thinking that they contain some level of pure maple syrup or are 100% pure maple syrup.

Definition of Pure Maple Syrup

Pure maple syrup is most commonly produced by the concentration (often referred to as "boiling") of maple sap to 66 to 68.9% sugars (brix), with no added ingredients. Alternatively, but far less commonly, it can be produced from a pure maple product that has a sugar (brix) greater than 68.9% by diluting it in potable water back to the aforementioned range.

Recommended action steps to achieve the maple industry goal

1) ARTIFICALLY MAPLE FLAVORED PRODUCTS: It is recognized that companies are allowed by the US Food and Drug Administration (FDA) and the Canadian Food Inspection Agency (CFIA) to use approved flavoring agents in their products to legally deliver a maple taste and/or flavor. In such cases, it is the IMSI position, with the endorsement of NAMSC, that the package or advertising and promotion materials must clearly communicate an "artificial flavor" has been added to the product. That declaration should be in the same type style and size and placed next to the word "maple," or right next to the maple syrup related imagery. The disclosure should be displayed prominently in a manner that allows the consumer to easily discern that it does not contain any real maple syrup.

2) PRODUCTS THAT CONTAIN SOME REAL MAPLE SYRUP: It is also recognized that food manufacturers and food service establishments use real maple syrup as an ingredient or flavoring/sweetening agent. Indeed, the IMSI and the NAMSC encourage this alternative versus the artificial route. In such cases, the maple industry's position is that the inclusion of real maple syrup should be listed on a product's ingredient line, as usually required by law, and on the food service establishment's menu as an ingredient in a particular offering. Moreover, the inclusion of real maple syrup can be flagged on the product package or menu listing as long as it is not used in trace amounts, defined by the IMSI as 2% or less.

International Maple Syrup Institute publishes invasive species position statement

Executive Summary

The maple syrup industry is worth close to $1 billion to the overall economy of Eastern North America. "Sugaring" is a significant cultural, economic, social and community activity that has occurred each spring since European settlement and thousands of years before that by Native North Americans.

The maple syrup producers throughout the maple producing region are very concerned about the threat of the Asian Long Horned Beetle, Anoplophora glabripennis (ALHB), to the viability and economic health of the maple syrup industry in Canada and the United States. The industry is informed and aware of the outbreaks in both countries and the subsequent actions and reactions that have taken place in response to the presence of this pest.

The industry understands that the responsibilities are jointly shared for managing the various stages of a successful ALHB prevention program as well as any potential eradication programs. This position paper outlines the concerns, potential implications, and suggests the necessary actions that must be taken to manage this threat by both those responsible for managing any ALHB program and the maple syrup industry.

The positions outlined by the maple syrup industry are presented in four approaches: prevent, detect, respond and manage/adapt. Specific positions are expressed under these four categories with stated tactics under each, focusing on both the responsible government agencies and the maple syrup industry.

It is vital that a large focus of the efforts be placed on eliminating any further potential introductions of ALHB to Canada and the United States, and the maple syrup industry is urging respective government agencies to aggressively pursue measures that will achieve this goal. It is extremely important that the threat to our forests and maple syrup industry is taken seriously now so that everything possible can be done to keep the situation from getting out of hand.

Further, if this species is detected anywhere, then it is the position of the maple syrup industry that aggressive action for eradication must occur, and that long term monitoring and communications must follow to ensure success.

The full, detailed statement is available at http://goo.gl/aOwsBF.

International Maple Syrup Institute presents annual awards

The International Maple Syrup Institute presented its two annual awards during the annual NAMSC/IMSI meeting held October 21-23 in Wolfville, Nova Scotia.

Henry Marckres

Henry Marckres, the Vermont Agency of Agriculture's Consumer Protection Chief and resident maple syrup expert was awarded the Lynn Reynolds Award for Leadership. Established in 1999 in honor of long-time IMSI supporter and director Lynn Reynolds, the prestigious award is bestowed annually on a worthy IMSI member in recognition of outstanding leadership in the International Maple Syrup Industry.

L to R: IMSI President Dave Chapeskie, Henry Markres, IMSI President Yvon Poitras.

"Henry has been a huge asset to the maple community both in the State of Vermont and internationally," said IMSI Executive Director, Dave Chapeskie. "He has graciously been a guest speaker all around the maple community and is considered by many to be the go-to expert for maple syrup grading. Henry is well respected, and held in high regard by all who know him. He is a true leader in the maple community."

Marckres, a 30-year veteran of the Vermont Agency of Agriculture, Food, and Markets, has been tasting and grading Vermont maple syrup since the tender age of three. Now 60, Marckres is one of the world's leading maple experts, spearheading educational and professional trainings (also known as Maple Grading Schools) throughout maple-producing states in the U.S. and Canadian Provinces with colleague and fellow maple expert Kathy Hopkins, from the University of Maine. When he's not teaching Grading School, or judging maple contests, Marckres uses his finely-tuned "Maple Palate" to grade syrups, help producers identify and address off-flavors, and protect the integrity and reputation of Vermont's signature agricultural crop.

"I was very surprised to receive this award," says Marckres. "I have always enjoyed working with the international

IMSI Awards: continued on page 41

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IMSI Awards: continued from page 39

maple community. I think I've judged syrup from every single maple producing state and province, including syrup from Iowa for the first time this year! I am very pleased and honored to have selected by the (IMSI) executive committee."

Jean-Marie Chabot

Since 1971, Jean-Marie Chabot has been owner of an maple production facility currently operating with 80,000 taps. He is Chairman of the Board of Directors of CDL inc. and is widely recognized as a pioneer and major player in the development of maple syrup production techniques and equipment. He has accumulated more than 40 patents associated with maple, including plastic barrels, pan washers, evaporators, a maple sugar machine, tubing used under vacuum, and others.

Jean-Marie is recognized by the IMSI with the 2014 Golden Maple Leaf Award for his outstanding leadership in contributing to innovations in maple production equipment and technology benefitting the North American maple industry. Jean-Marie's family values and innovative experience have been passed on to his children. He introduced his sons to the maple syrup industry early on, and they are now owners of CDL Inc.

L to R: Jean-Marie Chabot, Marthe Chabot, Laurette Poitras, Yvon Poitras.

Please Consider Including NAMSC in Your Estate Plan

The North American Maple Syrup Council has received a number of generous bequests from sugarmakers who wanted to ensure that the important work of our organization can carry on. Those funds helps us promote the maple industry and support our members. Planned giving like this is a way for you to show your support for the maple syrup industry for many years to come. It's a simple process.

You can give a dollar amount or a percentage or your estate, or you can list NAMSC as the beneficiary of your bank accounts, retirement plan or life insurance. Contact your attorney for information on how to revise your will, or your financial institution, plan administrator, or life insurance agent for the procedures required to revise your beneficiary designations.

The information needed for your legal documents is: North American Maple Syrup Council, PO Box 581, Simsbury, CT 06070.

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North American Maple Syrup Council Research Fund

The NAMSC Research Fund funds research that supports and advances the maple industry. In recent years we have given tens of thousands of dollars to projects that have developed innovative practices and technologies, helped deepen our understanding of the science of sugarmaking, and promoted the products we all make.

You can make a difference!

Concerned about the future of the Maple Industry? Make a contribution to support the maple research we fund. One easy way is to pledge to send $.01 per container to the NAMSC Research Fund. Grant recipients are announced at NAMSC Convention each October.

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For more information contact:

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413-634-5728, editor@maplesyrupdigest.org
Joe Polak, Treasurer: W1887 Robinson Drive, Merrill, WI 54452
715-536-7251, fax 715-536-1295, joe@maplehollowssyrup.com

The NAMSC Research Fund is a non-profit, volunteer committee of the North American Maple Syrup Council, Inc.

NY maple events

The 2015 New York State Maple Tour will take place June 28-30 and will be hosted by Paul Smith College in beautiful Adirondack State Park. We will be visiting maple sugarhouses and sugarbushes both large and small.

The fifth annual Cornell Maple Camp is scheduled for July 22-25 at Cornell's Arnot Forest, just south of Ithaca NY.

More information on these programs will be available on the Cornell Maple Program Website, cornellmaple.com, the New York State Maple Producers website nysmaple.com, and in the maple media.

Int'l conference on birch sap and syrup

The first ever International Conference on Birch Sap and Syrup will take place from June 12-14, 2015 at Paul Smiths College in the Adirondack Mountains of New York. The main purpose of the conference is to bring together many people who are currently producing birch sap and syrup products to network with each other, share ideas, and learn about the latest research and developments in this growing industry. It is also intended for sugarmakers who have birch trees and are considering adding birch syrup production to their existing operations. If you currently produce birch syrup or are considering doing so in the future, this is the conference for you.

The activities will kick off Friday evening with a welcome reception featuring birch-themed dishes along with a tasting competition during which everyone will get a chance to taste birch syrups from throughout the world and vote on their favorite. Saturday will feature several technical sessions and workshops along with a tour of Paul Smith's College birch and maple sugaring operations and a birch BBQ dinner. On Sunday there will be additional workshops and a tour of the maple and birch sugaring operations at Cornell's Uihlein Forest in Lake Placid. Because the conference will be drawing people from throughout eastern Europe, Scandinavia, Alaska, and western Canada, we are also scheduling an optional tour of sugaring equipment manufacturers in northern Vermont on Monday, June 15.

The registration fee is $150 and includes all meals and activities from Friday evening through Sunday afternoon. Registration forms and additional information is available at www.adirondackmapleschool.com Please contact Michael Farrell at mlf36@cornell.edu or 518-523 9337 with any questions.

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