



Vol. 24 No. 4

December 1984

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MAPLE SYRUP DIGEST

Official publication of the NORTH AMERICAN MAPLE SYRUP COUNCIL

Published & Edited by:

Lloyd H. Sipple, RD 2, Box 126 Bainbridge, New York 13733 Phone: 607-967-7208

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DEADLINE FOR FEB. ISSUE - JAN. 4

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Editorial

I heard by the "grapevine" and also officially that the annual American Maple Syrup Council meeting was successful again this year. I was unable to attend (Doctor's orders) but I'm all right now and busy putting another issue of the Digest together.

The Digest was one of the more important items discussed this year. A committee was appointed last year to look into what could be done to improve the Digest. Their report given to the Council included several suggestions for improvement, most of which is a matter of spending more money. They made three recommendations, all approved by the Council and all of which are already being done or something we have wanted for some time.

- 1. The mailing list is to include only those who belong to an association who pays for their members subscription or those who subscribe individually. All "dead wood" will be eliminated. We started this last winter and expect it will be completed by the February issue.
- 2. An editorial board is to be set up to consist of one member in each maple producing state and province to send news and editorial items to the Digest for publication. This was suggested some years ago but never got started. I hope it will work this time.
- 3. All associations must support the Digest financially. All I can say about this is: Amen. You will find an official report of the Council proceedings in another article by Michael Girard in this issue.

Mary Lou and I hope you all have a Very Happy Holiday Season.

DEADLINE FOR FEB. ISSUE - JAN. 4

GREETINGS FROM THE **CHAIRMAN**



Having just returned home from the 25th annual meeting of the N.A.M.S.C. at Danbury, Conn., I am taking a few moments to reflect on what happened.

I feel we took several long strides in the right direction on several issues. There will soon be a research committee to screen applications from various research areas for moral and monetary (small) support from the council. This committee may well be recommending what types of research we need also.

Many of the Digests subscription problems have or will be remedied very soon. An editorial board will be announced. This board will help the editor chase down articles and material for digest issues

We will also take an overdue look into the legal status of the council. Several of the men who helped form the Council 25 years ago were honored. They performed a great service to the maple industry and I am proud to know them.

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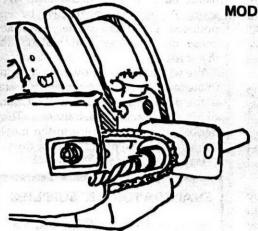
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1/11	Chatauqua	Andy Dufresne 716/664-9502		Ross Grange, Falkoner, NY - \$4.50 pancake luncheon
1/12	Wyoming	Eric Schimke 716/786-2251	10:00 am 3:00 pm	Bryncliff Country Club, Rt. 20A
1/15	Cortland	Debra Perosio 607/753-5077	10:00 am 3:00 pm	Cortlandville Grange, Junction Rts. 281 & 222, Cortland, NY -\$3.75 pancake luncheon
1/16	Chenango	Gerald Le Clar 607/334-5841	10:00 am 3:00 pm	VFW, Norwich, NY-\$5.00 cold meat luncheon
1/17	Delaware	Tom Donnelly 607/865-6531	10:00 am 3:00 pm	Delhi Grange, Elm St., Delhi, NY-\$4.00 pancake and sausage luncheon
1/18	Otsego	Bill Gengenbach 607/547-2536	10:00 am 3:00 pm	THE PARTY OF THE P
1/22	Lewis	Pat Beyer 315/376-6551		Deere Hill Restaurant, Rt. 12, Lowville, NY-\$5.50 buffet
1/23	St. Lawrence	Mike Sullivan 315/379-2311		Canton Free Library, Park St.,
1/24	Clinton	Bill Pauling 518/561-7450	10:00 am 3:00 pm	Miner Center, Miner Institute,
1/25	Washington	John Thurgood 518/747-2861	10:00 am 3:00 pm	

For further information and/or directions, please contact the Host Agent for that county.

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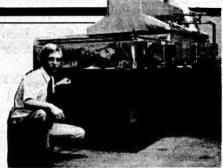
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David Buttolph, maple producer and operational manager of the Swanton Maple Syrup Equipment Service Center, in front of the 4'x12' 19-50 LIGHTNING EVAPORATOR.

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The 1985 North American Maple Syrup Council annual meeting will be held Oct. 21 - 22 in Wellsboro, Pa. Located in north-central Pennsylvania, Wellsboro is in the center of the maple production area of the northern tier from the Delaware River to Ohio. U.S. Route 6 runs east and west through Wellsboro and U.S. 15, a few miles to the east, is a major North-South highway.

Tourists describe Wellsboro and it's population of 5,000 people, as a quaint town with it's grassy boulevards and gas lights. The Penn Wells Hotel, our head-quarters for 1985, is nationally known for it's hospitality, simplicity and good food.

Pennsylvania's Grand Canyon, a national natural landmark 50 miles long and 1000 feet deep is one of the area's most famous attractions. The Pennsylvania Lumberman's Museum is of special interest to those of us who relate so well to the woods.

We hope you will come early and stay late and enjoy your trip because, to misquote our state slogan, "You've got lots of Maple Friends in Pennsylvania."

Bob McConnell

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LAMB'S CORNER

There are always two sides to every story. Lloyd gave you a fine report on the history of the Council in the July issue of the Digest. Now, I'll try to write a condensed version of it as I told it at the Council meeting.

Us old guys are always trying to help out. Years ago Gordon Gowen was asked to do an errand for the Council on a certain day. He said he couldn't do it that day because it was opening day of the hunting season. I took Gordon aside and said, "You go ahead and do the Council errand on opening day. Do your hunting 3 or 4 days earlier. It's a lot better hunting."

The maple revolution, as I call it, started about 30 years ago. Not only did Dr. Willits and other innovators have new ideas but the darndest things were being tried out all over. You never know how a mistake will turn out if you don't try it and if it ain't fun, it ain't worth doing.

Before the Council was formed, we used to meet at the U.S.D.A. Lab in Philadelphia. There was a motel just outside the city we'd all hole up in so we'd be together. One time, as Florence and I arrived, the first one we saw was Dorothy Zimmerman. Dorothy shouted out, "Why, there's Bob Lamb, and he's got the same woman with him he had last time." I was lost for words and finally blurted out, "But my first wife insisted on coming!"

One night we all started out for a fancy restaurant - Book Binders, I believe. Only one person knew the way so we all followed. As soon as we got in the main drag all heck broke loose. Cars passed and cut in front of us at 60 miles an hour. We tried to keep up, went thru stop lights and finally found out the car

in front of us wasn't the one we were supposed to follow. In 15 minutes we were completely lost.

About this time a car with two ladies in it pulled along side and proceeded to chew us out for screwing up the traffic flow for the entire city of Philadelphia. I had never heard such eloquence and pronounciation. They had many new cuss words I had never heard of and it greatly enlarged my cussing vocabulary. When I was able to tell them I was lost, they told us where to go. Finally, we all arrived at the restaurant just before closing time and had a fine meal.

Another time, we went to an elaborate smorgasbord. I never saw so much food in all my life. You could get

a full meal just by smelling it.

At the Pennsylvania Maple Tour this fall, a bunch of us were having breakfast and talking about the Council's beginning at the lab. One asked how many did we have at the banquet and I said "Oh maybe 30 or 35." They didn't believe me, but we had a small, serious group that came from all over. Just think of the progress that has been made since then. In those days, an oil burner was big news.

Ture Johnson hosted the first Council meeting in Ohio. The second one was in Luxemburg, Wisconsin. Our picture was in the July Digest. I set the camera on a stump and everyone moved back so all could get in. I set the timer on the camera and ran to get in the picture, when the shutter clicked, my shirt was still flapping in the wind.

In Luxemburg, a one street town, the church steeple was the tallest building. All the store windows had our names on them with welcome in big letters. The meeting didn't take long so I showed my film on hunting Bobcats with dogs. This seemed to fill out the day.

The Philadelphia Lab was a great calling card. The fact that it belonged to all of us drew us together.

We attended meetings from Maine to Minnesota and south to Virginias. I remember the time Florence and I left a Massachusetts meeting and ended up the next day at 3:00 A.M. in Somerset County, Pa., for their meeting, over 600 miles away. We had to have fast cars simply to travel more miles and get more done.

One time I was attending all the Wisconsin maple meetings with Adin Reynolds and Fred Trenk, and old time Extension Forester. Fred always seemed to ride with me although he was scared stiff. The others knew better. One time he asked me if I always drove 70 with just one finger. I answered, "Oh no, Mr. Trenk, when I'm in a hurry I use two fingers."

Say, by the way, is there anyone here that can fix a 75 mile an hour Connecticut speeding ticket? It isn't for me, Florence was driving.

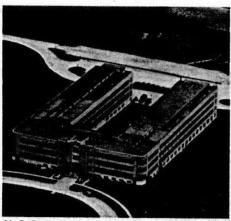
No matter where we traveled, we soon found out that maple knew no boundaries. Anyone that thinks there is doesn't belong in this group.

I followed Will where ever he went to help get people out, as a drawing card. Their programs stated that a nut with a plastic tube would be present, a freak. It wasn't uncommon to hear someone say, "He doesn't seem to be too bad a guy, but he's nuts."

I always figured if a fellow wanted to gamble he didn't have to go to Las Vegas. He could just stay home and make maple syrup. Of course, I've seen years it would be cheaper to go to Las Vegas.

From this sort of a beginning our Council kept gaining members and as Canadian Provinces joined us we became the North American Maple Syrup Council.

In the mid 70's a suggestion by Fred Winch, New York Extension Forester, resulted in the establishment of the



U. S. D. A. Laboratory in Philadelphia where the North American Maple Syrup Council was born.

American Maple Museum by the Lewis County Maple Producers in a rented building in Beaver Falls, N.Y. A few years later they moved it to a larger building in Croghan, N.Y., that they purchased.

One of most important functions is the Hall of Fame. Each year, two members of the maple industry who are famous either nationally or internationally are inducted into the Hall of Fame. The list is the who's who of the maple world.

I figured this was a good time for a break so I called on Adin Reynolds to introduce the past chairmen of the Council. All were present except Milton Thibaudeau, deceased, Lloyd Sipple, who was ill and Rex Alwin of Minnesota. Adin, Lin Lesure, and Ture Johnson, the "old timers" of the group, gave a short talk. Right after this the fire alarm, which turned out to be false, went off and we all had to go outside for 15 minutes to let the room cool off.

I guess this is enough baloney for now. Maybe I'll finish it in the next issue.

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Bob famb

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THE AMERICAN MAPLE MUSEUM

by Martha B. Campany

The number of tourists, including several senior citizen groups, that visited the American Maple Museum during the 1984 season was about twice the registration of the previous season.

Through the encouragement of Professor Fred Winch, former Extension Forester at Cornell University, the Museum was started by a group of maple producers who were interested in preserving the history of maple syrup production and it's related products. A building was leased in Beaver Falls. N.Y. Volunteers donated and collected equipment and artifacts used in the production of maple syrup and it's products representing the progression of changes from past to present. The museum opened to the public in June, 1977.

In November, 1980, the former Father Leo Memorial School in Croghan (two miles from Beaver Falls) was purchased by Robert and Florence Lamb and donated to the American Maple Museum. This is the present location of the museum.

Renovations, by volunteers, created several rooms displaying old and modern methods of collecting sap, a natural sugar house containing equipment used in the production of syrup, and a Hall of Fame honoring individuals for their contributions to the maple industry. The building also has a gift shop, a modern kitchen, and a dining/meeting room where pancake breakfasts are served perodically. Recently, the Lamb's Room, displaying logging and lumbering equipment, was added.

During late fall and early winter another room will be renovated to house additional equipment and articles



which have been donated. Anyone willing to volunteer three or more hours of work should write American Maple Museum, Box 81, Croghan, N.Y. 13327, or phone 315-346-6060 to learn when work will be in progress.

Also, anyone who has an item he or she may wish to donate should first write to the museum to learn if an identical piece is already on display.

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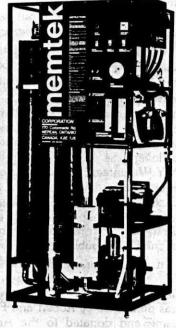
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Wamen's Page

edited by Mary Lou Sipple
-some Maple desserts for your
Christmas dinner

MAPLE PUMPKIN PIE

1 unbaked pie shell

2 cups cooked, strained pumpkin

1/2 tsp ginger

1 tsp cinnamon

1/2 tsp salt

1 TB flour 4 eggs, beaten

1 cup Maple Svrup

1 cup evaporated milk (undiluted)

Blend together pumpkin, flour & spices. Add beaten eggs Maple Syrup and milk. Pour into unbaked pie shell and bake 350 degrees for 1 hour - or until knife inserted in center comes out clean.

MAPLE PUDDING CAKE

from the Larry Smiths, Napanoch, NY.

1 Cup flour

2 tsp baking powder

1/4 tsp salt

1/2 cup sugar

1/2 cup milk

2 TB soft shortening

1 cup chopped nuts

Cup Maple Syrup

3/4 cup boiling water

Sift flour, bkg pwdr, salt & sugar together. Stir in milk & shortening. Blend in nuts. Spread in a 2 Qt baking dish.

Mix the Maple Syrup and the boiling water and spread over mixture in baking dish.

Bake 350 degrees for 40 - 45 min. Cake rises to top and sauce settles to the bottom. Serve warm with whipped cream.



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AN ECONOMICAL ULTRAVIOLET-IRRADIATION UNIT FOR PASTEURIZING FLOWING MAPLE SAP

by J. C. Kissinger and R. A. Bell East. Util. Res. Br., USDA Reprinted from Maple Syrup Digest Vol. 12, No. 1, Feb. 1973

The following is a condensation of the A. R. S. report carrying the above title.

Editor

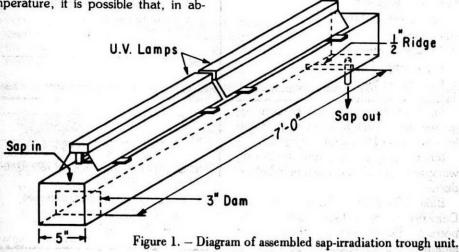
Germicidal ultraviolet (U.V.) lights have been used by maple producers primarily for the control of microbial growth in stored sap during periods when profuse sap flows exceed an evaporator plant's sirup-processing capacity. Since the lethal U. V. rays do not penetrate deeply into statically stored maple sap, sap storage for periods up to 5 days can be carried out only by using agitation to renew the surface of the sap exposed to U. V. irradiation. However, in cases requiring less than 48 hours storage, the sap usually can be safely held by passing it through an inline ultraviolet irradiation unit of the type used to sanitize home water supplies. Since the surviving bacteria multiply at a rate controlled by the sap temperature, it is possible that, in abnormally warm weather, degradation could take place in even less than 48 hours after pasteurization.

One of the major deterrents to the use of in-line U. V. irradiation units in the maple industry has been their cost. A commercial in-line U. V. irradiation unit suitable for a small maple evaporator plant costs in excess of \$500.00. Because of this, the in-line U. V. irradiation unit has not been used by many maple sirup producers. But the concept of using U. V. irradiation to pasteurize flowing maple sap is technically sound. and an inexpensive U. V. unit capable of performing this function could be of value to the small maple producer. This paper decribes the construction and operational characteristics of an economical basic U. V. unit, which the maple producer can assemble or fabricate from readily available materials.

MATERIALS USED

Pump - A centrifugal pump producing flow rates up to 9 gallons per minute (g.p.m.) through the irradiation troughs.

Control valve - A gate valve in the pump discharge line to control flow rates.



Flow meter - A Fischer and Porter Flowrator, calibrated in O.2 g.p.m. increments from 0 to 12 g.p.m., was used to measure flow rates. (Note: Trade names are used in this publication solely for the purpose of providing specific information. Mention of a trade or company name does not constitute a guarantee or warranty of the product by the U.S. Department of Agriculture or an endorsement by the Department over other products not mentioned.)

Irradiation troughs - Two irradiation troughs were constructed of dull-finish stainless steel with dimensions identical to those of commercially available 5-inch box type guttering. (fig. 1)

A 3-inch sheet-metal dam was placed at the feed end of each trough to create a well for the sap. Splashing and foaming was minimized by feeding sap into the well below the surface of the contained sap, and the even flow of sap over the dam eliminated cavitation of the sap-flow pattern through the irradiation area. A ½-inch ridge of sheet metal was emplaced 7 feet downstream from the dam, directly before the sapoutlet line. This maintained the sap at a

depth of ½ inch in the irradiation area and helped provide turbulent flow through the trough.

Ultraviolet lamps - Two single-tube fluorescent lamp fixtures with white enameled reflectors were mounted in series directly above the irradiation area of each trough. The fixtures were fitted with General Electric G30T8 ultraviolet light tubes. The lights were placed on the top of the trough to minimize splashing of sap on the light tubes. Splashing and subsequent drying of sap on the lamp tubes would have drastically decreased the intensity of U. V. rays emitted by the lights. Sheets of aluminum-foil wrap were placed over the lights to shield the operator's eves from the U. V. rays when the unit was in operation.

Irradiation system - A flow diagram of the irradiation system is shown in figure 2. The inoculated simulated sap was pumped from the sap-feed tank and successively passed through the flowcontrol valve, flow meter, and irradiation troughs, and then it was discharged.

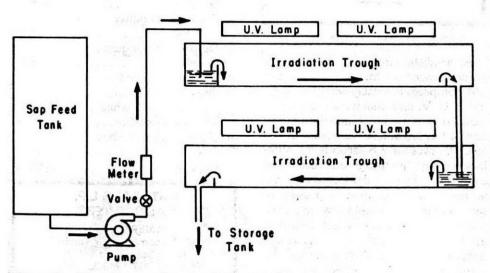


Figure 2. - Flow diagram of sap-irradiation trough system.

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RESULTS AND DISCUSSION

An irradiation trough is, admittedly, a crude device, but the efficiency of this unit compares favorably with that of the in-line U. V. units that were used in previous studies of irradiation pasteurization in this laboratory. Exposure of sap to U. V. rays for 7.8 seconds during its flow through the trough unit resulted in a decrease of bacterial population. Similar results were obtained by passage of sap containing comparable microbial populations through commercial in-line irradiation units with a 7-second exposure time. As could be expected, the commercial unit was somewhat superior to the trough unit as a sap pasteurizer,

but the trough unit is quite capable of meeting the need of the average maple sirup producer for a method of storing sap for periods as long as 48 hours.

Sap that was treated by passage through the trough pasteurizer had storage stability similar to that of sap passed through a commercial in-line irradiation unit. Storage of the treated sap at 65° F. for 48 hours resulted in bacterial growth that restored the bacterial population to pre-pasteurization levels. Therefore, the maple producer must regard U. V. irradiation pasteurization as only a temporary measure, permitting storage of sap for periods as long as 48 hours. It should be further noted that the 48-hour storage time can be valid only for sap stored in a carefully cleaned and sanitized tank. Storage of pasteurized sap in an unclean tank can result in immediate massive contamination and rapid deterioration of the sap, without regard to its sanitary quality at the time of storage.

COST OF MATERIALS

2	White enameled gutter troughs (sold in 10-foot
	lengths)
4	End caps for gutter
	troughs 1.20
2	Drop outlets for gutter
	trough 2.60
4	Fluorescent light fix-
	tures, 36 inches long,
	single tube with white
	enameled reflector 68.00
4	Ultraviolet lamp tubes
	G30T8
	Estimated cost \$115.80

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SILVER ANNIVERSARY MEETING

North American Maple Syrup Council

by Michael A. Girard Secretary, NAMSC

Photos by Russ Davenport



Chairman Gordon Gowen and Betty Gowen.

The Maple Syrup Producers Association of Connecticut hosted the 25th Annual meeting of the North American Maple Syrup Council, on October 26th and 27th 1984, at the Ethan Allen Inn in Danbury, Conn.

The business meeting began Friday morning and Delegates from 12 of the 13 member states and provinces. Each reported on last season's syrup production and activities within their respective state and provincial maple organizations over the past year. Syrup production last season was in general above average in quantity. Many states and provinces experienced a very early sap season which caught many producers unprepared. Many surprisingly continued to gather sap into April.

Retail syrup prices did not increase substantially during last season, although bulk syrup prices have risen this fall. It was also reported by many that maple syrup inventories are low for all grades at this time.

The Maple Syrup Digest Report was given by Roger Sage of New York. Lloyd Sipple was unable to attend this year's meeting for health reasons but submitted a complete report of the Digest's financial status. Lloyd noted some changes being made, including

computer mailing labels, and a complete mailing list revision. Lloyd requested input from individuals and associations on articles for the Digest. Schedules of festivals, maple schools and meetings, research reports, etc. are welcomed.

A letter from the New Brunswick Maple Producers Co-op Ltd., was received and read. Jean-Francois Cyr regreted that New Brunswick would not be represented at the Council this year.

Mr. Cyr expressed New Brunswicks continued interest in the Councils efforts and the N.A.M.S.C.'s invitation to join remains open with hope of their support in the near future.

Gordon Gowen reported on a recent court case regarding "Mississippi Fake Maple Syrup".

Counterfeiters Pay Up

The following is reprinted from the July 1984 edition of The Speedy Bee because of its interest to syrup producers:

Oliver Anthony and Dewey Garland Clark have been convicted by a Federal Court in Mississippi of selling adulterated honey and syrup. Mr. Anthony was sentenced to four years on probation and to pay \$20,000 in fines. Mr. Clark must serve four years proba-

tion and pay \$10,000 fines.

The judgement in the Jackson Division of U.S. District Court for the Southern Division of Mississippi came 14 months after the pair were indicted. The were charged with counts involving different instances in which corn syrup and other sweeteners had been substituted for honey and maple syrup in shipments.

Mr. Anthony, who operated out of Philadelphia, Miss., as Anthony Syrup Co., and Southern Farms Syrup Co, was found guilty on six counts of the indictment; seven counts were dismissed. Both honey and syrup were included in

the six counts.

Mr. Clark, who also operated out of Philadelphia, Miss., as Clark's Farm, was convicted on three counts involving sales of adulterated syrups; the others were dismissed.

Both men were afforded the privilege of paying their fines in installments, the final payments of which are due on May 22, 1986.

Technical Presentations From the North East

Joseph A. Szymujko, County Extension Forester, University of New Hampshire presided over a series of

presentations.

Fred M. Laing, Research Associate Professor, Botany Dept. and Director of Proctor Maple Research Lab, U.V.M. spoke on "The Effects Of Maple Competition on Sap Production". Sugar Maple decline it's causes and symptoms were outlined as well as overtapping problems and a study on Gravity Flow vs. Vacuum.

Mr. Laing noted that sugarbush thinning should be done based on sweetness and form of tree, and should be done over a five year period to avoid excessive stress on the remaining trees.

During a question and answer perod Mr. Laing commented that small trees (10"D.B.H.) are not worth tapping unless tested very sweet.

Dr. Mariafranca Morselli, Research Associate Professor, Botany Dept. University of Vermont, outlined a presentation on "Microorganisms Adhering to Tubing & Cleaning Tubing". Dr. Morselli also spoke on the species of fungi found in improperly packed maple syrup. A packing temperature of 200°F was suggested and turning the container on it's side for a few seconds to sterilize the top of container is important.

Dr. Morselli introduced Mary Lynn Whalen and Warren King who are working with her at the U.V.M. Maple

Research Lab.

Warren King's presentation was based on a 1983 study of adhesion of bacteria and yeast to tubing walls and sap flow decrease within the tubing line. Results of the study indicated that

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7288 Hayes Hollow Road West Falls, New York 14170 (716) 652-8189 bacteria does not survive between seasons, but organic buildup within the tubing walls over several seasons will increase the "surface" of the inner walls. This increased surface will create more area for new microorganisms to attach. Cleaning tubing thoroughly and rinsing with water is important in reducing the bacteria and organic buildup within the tubing.

Mary Lynn Whalen spoke on the use of ultraviolet light treatment of maple sap. Controlled and uncontrolled sap stored for different hours produced different quality syrup. Results were, the use of an in-line ultraviolet light is more effective than surface ultraviolet light treatment. Use of the in-line U.V. light with a high flow rate at the beginning of the season and a slower rate of flow later in the season is beneficial. The use



cold water and replace. Liner has long life with careful use.

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2512 S. Damen Avenue, Chicago, III. 60608 Serving the Maple Syrup Industry more than 25 years of U.V. on cloudy sap later in the season has a lesser effect on control of microorganisms. Thus the decrease in flow will increase the effectiveness of the U.V. light treatment of sap.

An overview of Maple Research by Extension Service in New York State was given by Mr. John Kelly, Director of Maple Research Program, Cornell University and Lewis J. Staats, Extension Specialist, Maple Program, Cornell University.

Mr. Kelly gave a slide presentation of a sweet tree plantation recently established, its success rate and maintenance over the past two seasons.

Lewis Staats reviewed the progress of the use of the vapor compression alternative and other technology in the industry. Mr. Staats explained the design of the V.C.E. and noted the results of the syrup produced as similar in flavor with better color than some of the other methods of sap evaporation.

Stanley R. Swier, Extension Specialist, Entomology, University of New Hampshire gave a slide presentation on "Insect Enemies of the Sugar Maple in the North East".

A description of the types of insects that have defoliated maples within recent years as well as the mortality rate of trees infested was presented. Recommendations were not to tap trees that were defoliated the previous summer and not to thin before or during a defoliation outbreak or anticipated outbreak.

The International Maple Syrup Institute was represented by President Leo Werner. I.M.S.I. activities over the past year and future plans, were highlighted. The new film "Pure Maple: Frost & Fire" was shown and will be available for use by associations and groups for the cost of shipping & handling. Those interested should contact the I.M.S.I.



Elmer and Mary Kress, members of the Connecticut association helped organize the meeting.

Technical Presentations From Canada

John Butler, Extension Specialist, Ontario, introduced Bill Robinson, a large scale syrup producer from Western Ontario. Mr. Robinson spoke of the history of Ontario's Maple Association, and new regulations on grading. The Ontario pure maple syrup logo and its application on brochures, posters, signs, aprons, etc., was noted.

Bill Langenberg, Kemptville College Ontario, updated us on research at the college. Recommendations on the use of U.V. light treatment of sap included: First two weeks of season use U.V. unit at maximum rated flow. Mid season reduce the flow rate to increase exposure time by half the rated flow. Mr. Langenberg discussed the profitability and economics of maple syrup production. Also an update on the Economizer, it's design and successful use to concentrate sap.

A talk on Maple Decline research in Ontario and the causes of stress on maple was given by John Butler. The study underway in Ontario on Maple Dieback includes permanent observation plots, sample trees, soil pits, pathological studies and producer/owner surveys to generate data to try to determine the causes of Maple Dieback. Acid

Precipitation (rain & snow) is also a concern in Maple Decline.

Sugarbush Management in Ontario by Clarence Coons, Agro Forestry Coordinator, described factors for an economically feasible sugarbush. The location, condition of trees, species mixture, sap sweetness and site suitability or capabilities are important. Mr. Coons encouraged thinning early in the stand to encourage large crowns. He noted a good time to thin a sugarbush is when trees are 3" - 5" in diameter. Recommendations are as follows:

10" - 14" 1 tap 15" - 19" 2 taps 20" - 24" 3 taps 25" + 4 taps

Another note is that tie wires used to secure main line, when improperly installed, damage and kill many trees. He recommends the use of posts as much as possible in suspending main line.

Midwest Presentations

Introduction by Melvin R. Koelling, Professor, Dept. of Forestry, Michigan State University.

Frank Majszak, Maple City Michigan, commented on "A large Maple Operation". Slides presented on ideas utilized at Mr. Majszaks 16,000 tap, 200 acre sugarbush in Michigan included: buried 4" mainlines, vacuum pumps, cleaning procedure for tubing, concrete sap storage tanks and underground syrup storage tanks with U.V. lights that stores syrup at 55°F.

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HAROLD TYLER MAPLE FARMS R.D.2, Worcester, N.Y. 12197 607-638-9474 Also Mr. Majszak described his successful solution to the rodent vs. tubing problem in the sugarbush.

Mel Koelling introduced Phil Cook, Natural Resource Research Institute, University of Minnesota, Deluth.

Mr. Cook presented slides of the economic feasibility of maple syrup production in North East Minnesota. Also Mr. Cook described research underway on tap hole closure.

Steve Broderick, Extension Forester from Connecticut, presented Connecticuts version of maple syrup production and an interesting overview of the Connecticut forests history. This was followed by the Maple Syrup Producers Assoc. of Connecticut's 8th Annual Meeting and Elections.

The continuation of the N.A.M.S.C. Business Meeting brought on a report of the Research Recommendation Com-



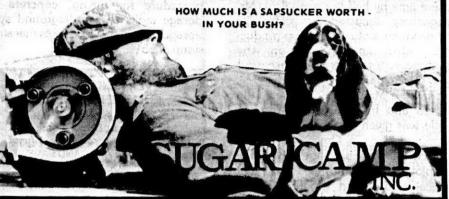
Bob Lamb speaks at the banquet. L. to R.: Connie Girard, Michael Girard, Bob, Gordon Gowen, Betty Gowen and Florence Lamb.

mittee and a resolution was drafted and adopted recognizing current serious conditions effecting the health and vigor of maple and hardwood stands throughout the Sugarmaple Belt. It is felt that it is imperative that more indepth research on the problem be vigor-

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ously persued and that the N.A.M.S.C. strongly endorse all current efforts underway and that we consider this imperative for the health of maple trees as a whole.

N.A.M.S.C. Elections were held and elected officers for the coming year were as follows:

Chairman - Gordon Gowen - New Hampshire

Vice Chairman - John Kroll -Minnesota

Secretary-Treasurer - Michael

Girard - Connecticut

The Publication Committee comprised of Mel Koelling, Michigan, and Walter Humphreys, Ontario, reported on the results of the Maple Digest study. Questionaires were sent out requesting comments on the Digest from the Council Mailing list of 137. Returns were received from 56, or 41% of the people directly associated with the N.A.M.S.C. and the Digest. After com-



Bob Lamb asked Adin Reynolds to introduce the "old timers" who helped get the Council going and are still active members. L. to R.: Ture Johnson, Lin Lesure, Adin and Bob. Absent: Lloyd Sipple.

piling the assorted comments and ideas, the Publication Committee made the following recommendations to the Council:

 The distribution of Digest must be addressed, the mailing list of each state or province should be evaluated by each individual association and distribu-

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Prime Container Corporation P.O. Box 38, 40 Marble St. West Rutland, Vt. 05777 802-438-2312 tion made only to those individuals authorized by the association and who are paying an individual subscription. Eventually (within one year) distribution (with few exceptions) of all issues of the Digest should be by subscription only.

- 2.) Editorial policies of the Digest must be changed. The establishment of an editorial board comprised of regional representatives should be completed. Design, layout and content of the Digest should be improved to address those several concerns relating to scope, perspective, and content. In short, the Digest must be made more professional.
- 3.) All state and or provincial members of the Council must support the Digest as the official publication of the N.A.M.S.C. Each individual association should not be responsible for distribution and or subscriptions other than

those who are members of the individual association.

The above recommendations were voted on and approved by the Council. Gordon Gowen will appoint an editorial board to serve as communicators to the Digest from the various Maple Regions and to assist the Editor as needed to carry out the adopted recommendations.

The Saturday Nite Banquet featured Bob Lamb as our Guest Speaker. Bob's humorous reminiscing of the past 25 years of Council history with further comments by Adin Reynolds, Ture Johnson, and Lin Lesure (a few of the Councils original members), was enjoyed by all. Bob Lamb also presented awards of appreciation for service to the maple industry to: Mrs. Mary Coombs, Vermont; Bob McConell, Penn.; Harold

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Tyler, N.Y.; Lew Staats, N.Y.; "Shorty" Danforth, VT.; and Mel Koelling, Michigan.

Wellsboro, Pennsylvania for 1985 and Vermont for 1986. These are the locations for the next few North American Maple Syrup Council Meetings.

As for 1984; the Maple Syrup Producers Association of Connecticut thank all who participated in the Silver Anniversary Meeting, and hope in 13 or 14 years we can again be as honored to host N.A.M.S.C. Meeting as we were this year.

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Don't drive tubing spiles too tight. The best hammer we have found is a 4 ounce rawhide. Check yourself by grasping the spile with one hand and twisting it out. It should come without too much difficulty. If one leaks occasionally it can be tapped in when you check it the first time.

When taking the tubing down, you would be able to twist the spiles out by hand with no spile puller and without applying pressure enough to break the part the tubing goes on.

SEALED OR VENTED

There's a possibility this may be the reason some find sealed tubing systems produce more sap than vented. It could be because of improper venting.

I've heard lately about some producers who are venting only one tap on a line or just part of them. This can not be done. You have to vent every tap or none of them.

Level land must use vents and some side hill bushes have some nearly level lines where vented systems will work better. The sealed system may work better on perfectly graded lines but are your lines graded perfectly?

SALT CAUSES RODENT DAMAGE

Salt could be the prime cause of rodent damage to tubing. One source can be the tubing itself. Some tubing contains more salt than other makes and will attract rodents more.

The cleaning solution is more likely the worst offender. If you use a strong solution (5% - 10% Clorox in water) you should rinse thoroughly after cleaning. A $1\frac{1}{2}$ % to 2% solution does a good job if the solution is in the tubing long enough and it won't leave much of the chlorine salt on the tubing to attract rodents.



HOW TO USE ULTRAVIOLET RAYS FOR SAP PRESERVATION

by John Kissinger Agricultural Research Service Philadelphia, Penna. 19118

Reprint from Maple Syrup Digest Vol. 7, No. 4, Dec. 1968

- Q. Is it desirable to irradiate stored sap with ultraviolet light?
- A. Yes. All sap should be irradiated since it helps keep microbial growth to a low level (prevents fermentation).
- Q. Must all sap be irradiated with ultraviolet light?
- A. No. Only sap which must be held 24 hours or longer. However, as a safety factor, all sap should be irradiated.

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- Q. Can spoiled sap be recovered by irradiation with ultraviolet light?
- A. No. Sap which has been degraded by bacterial action cannot be recovered by irradiation.
- Q. Will ultraviolet irradiation of sap having a high bacterial count improve the grade of sirup made from such sap?
- A. No. However, irradiation will prevent further damage to the sap.
- Q. Does irradiation of sap cause any damage to the sap?
- A. None.
- Q. Should on empty tank be irradiated by ultraviolet light?
- Yes. UV light will control microbial growth on the walls of a tank while it is empty.
- Q. Will UV irradiation substitute for cleaning a tank between uses?
- A. No.
- Q. Does foam on the surface of the sap influence the effectiveness of the UV rays?
- A. Yes. Foam must be avoided. This can be done by bottom filling the tank.
- Q. Can anything be done to increase the germicidal effect of UV light on stored sap?
- A. Yes. Use a slow speed mechanical agitator to gently re-circulate the sap, to renew the sap surface exposed to UV light. Renewal of the sap surface is a must if the stored sap is more than 2 feet deep.

Q. How many UV lights should be placed in a sap tank?

A. The number of lamps required for a tank is determined by its size. A good rule of thumb is one lamp for each 4 ft. length of the tank.

Q. How high above the tank should the lamps be mounted?

A. Only high enough to permit the illumination of the entire width of the sap surface.

Q. Should reflectors be used on the lamps?

A. Yes. Without reflectors more than half of the UV radiation of the lamps is lost.

Q. Should the lamps be kept lighted throughout the sap harvest season?

- A. Yes and at least one week prior to the season.
- Q. What is the cost of operation of UV lamps?

A. A 30 watt UV lamp uses the same amount of current as a 30 watt illuminating lamp bulb.

Q. What is the life of a UV lamp?

A. Like any light bulb, one month to several years, generally two or more years. Check your lights occasionally. An unlit or burnedout light kills no organisms.

Q. Should UV lights be cleaned?

 A. UV lights should be cleaned twice a season, but only when the lamps are turned off. Do not clean UV light tubes with soap or detergent residual scums will completely absorb the ultraviolet rays.

Q. Is ultraviolet light dangerous?

A. Yes. UV light can cause irreparable damage to the eyes. Never look directly at an ultraviolet light or at the reflected light from the sap surface or tank walls.

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Letter to the Editor

Most everyone thought the 25th anniversary meeting of NAMSC was an interesting, reflecting, and enjoyable event. As usual, there wasn't time enough to do everything that needed to be done. It would seem the council should devote more of its time each annual meeting to its own business - at least the first morning and the last afternoon. Comments Saturday evening indicated that it was felt the Research Committee had not functioned very well. As chairman of that committee, I agree that it did not.

One matter it had to deal with was the continued Federal funding of the "Sweet Tree Program", now under Peter Garrett, USFS, N.H. A letter and other information was in the council chairman's hands in mid March 84. The letter indicated the ending of present funding was October 1, 1984, nearly a month before the meeting in Danbury. The chairman should have taken action on this matter long before

October 1.
Ontario presented two research projects to the committee to consider for some financial assistance. Both UVM and Cornell also had projects, but didn't present any specific proposals at this time. The committee soon found itself both short of time and background knowledge to make any concrete decision during the meeting.

Ed Curtis of PA. complained that some significant resolutions get passed too quickly in the final minutes of the meeting for lack of proper time to discuss such. An important resolution from Vermont, regarding the Clean Air Act, was also defeated by misinformation and lack of proper time for discussion.

Vermont was once again asked why it did not support The Maple Digest, and

once again reiterated that we have made it very clear for five years why we do not, and consistently have made recommendations for change.

A statement was made Saturday evening that the NAMSC was the only body in the world representing all maple producers, yet there was not one person there from Quebec, home of 70% of the worlds maple producers. On page six of the December '83 Digest, chairman Gowen explains that one of the "purposes" of the council is to "cooperate at all times with other organizations promoting the maple industry", yet when Leo Werner of IMSI, speaking to the council Friday afternoon invited the council to work with IMSI, it brought no response, nor was any action taken later.

Vermont also presented a concern to the council for the need to establish agricultural status for maple in the IRS code. (no time to take any action on this!) Thus, much more advanced planning of meetings is needed.

In reviewing the financial statement for the Digest, one finds a disturbing figure for the phone bill - \$115.00. This is an area that needs much more communication.

In reviewing all the above, it seems to be apparent the council should devote much more time at each annual meeting to its own business. It also seems there is another problem throughout the year - COMMUNICATION - or the lack of it. In reviewing the treasurer's report for the council, there is one very disturbing figure, the phone bill - .74¢ for an entire year, whereas in 1983 it was \$91.00. How can any organization the size of NAMSC supposedly represent the maple world, do a years business on .74¢ worth of phone calls? Well obviously it can't and it shows!

NAMSC does not have large sums of money, but it does have some. Not

enough to make a dent in research requests, however it can endorse research projects, and research quests for funding it deems worthwhile. A research committee of the council could make these judgements, when full and proper information is supplied well in advance of the annual meeting or decision date. While letterwriting has its place, the chairman, delegates, and various committees should make wider use of the phone and phone conference calls. A \$500.00 to \$1000.00 phone bill would look much better.

The council's 1983 mandate on the Digest was partially carried out by the chairman. A committee made an extensive review and came up with a list of eleven concerns. It further made three recommendations to the council. All three were passed by council.

One of these concerned the mailing lists and that each recipiant pay \$2.00 per year. The October Digest indicates Lloyd is well on his way to correcting this problem. With the dead wood gone, printing and mailing should be somewhat less.

Other recommendations were to

broaden the scope of the Digest in several ways. This would cost more money both in editor's time and expenses. Raising the fee from \$2.00 to either \$3.00 or even \$4.00 per year, could accomplish this. To this end should come a magazine Vermont producers would once again support.

IN SUMMARY

- Council should devote more time to its own business at annual meetings, at least 50% more.
- Communication improvements throughout the year via phone conference calls, chairman, delegates, committees, and Digest.
- Digest should continue to reach goals as set for by review committee and approved by the council.
- Council should communicate and work with IMSI whenever possible or necessary always keeping an open line of communication.
- More detailed accounts of the Council's business and financial statements should be published in the Digest.

Wilson "Bill" Clark Vermont Delegate

American Maple Products

Newport, Vermont 05855

- produces maple syrup,
- buys bulk Maple Syrup from other producers,
- packs Pure Maple Syrup,
- makes Maple Candies, Maple Sugar and Maple Butter,
- wholesales these products to the retailer
- and supplies leading food manufacturers with Bulk Maple Syrup or Maple Sugar.

CAN WE HELP YOU WITH YOUR MAPLE REQUIREMENTS?

TUBING CONNECTORS SPOUTS

SPOUTS

- Black color aids in rapid taphole thawing.
- For removal use 1" wrench or hammer.

SPOUT-PLUG

 Interconnection between "T" and spout.



SPOUT-PLUG

· Tight seal with spout allows pressure or vacuum washing of tubing in place.



Tapered with smaller first ridge for easier tubing insertion.



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"SUPER-COLD" - Green translucent color. I.D. is standard for complete interchangeability. Minimizes ultraviolet sunlight deterioration. Blends with nature in summer for year round lines. Has a broad temperature range in which elasticity remains the same. Excellent for cold weather use and reduces extreme sags in warmer weather.



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U.S. Maple Inc. is owned by the following producers: Bruce Bascom, Bascom's Sugar House, P.O. Box 138, Alstead, NH 03602 603/835-6361, 835-2230

Mayottes Maple Products, R.D. 2, East Fairfield, VT 05448 Maple Syrup Supplies, P.O. Box 245, Potterville, MI 48876, 517/645-7305 Troy Firth, 136 Mechanic Street, Spartansburg, PA 16434

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4' x 12' Grimm Lightning evaporator, wood fired, SS pan complete, 20 hp steam boiler with SS 2' x 8' V type steam finishing pan and stand. 1600 gal, SS truck tank. 2 Lynn oil burners, 15 GPH (excellent). Will sell or trade for Syrup. (518) 853-4022

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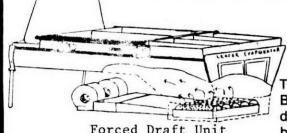


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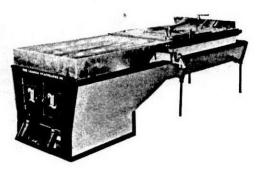
LEADER EVAPO COMPLETE SUPPLIER TO THE

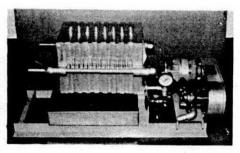


This unit will increase the BTU's by 10% to 20% and reduces the wood consumption by 30% to 50%. Can be installed in any wood fired arch.

LEADER KING VERMONT EVAPORATORS

STORAGE - GATHERING TANKS
MADE WITH DOUBLE SEAM
LOCKS FOR DURABILITY
RAITHBY ECONOMIZER
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Leader Maple Syrup filter press.

10" plate & frame filter Press, filters upwards to 150 gallons before needing paper change. No cloths needed.

Leader Evaporator Co. Inc.

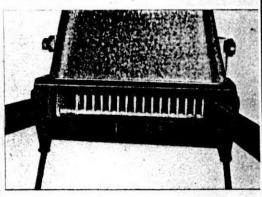
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REAR VIEW OF LEADER ARCH

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pipe 1 1/8" square, firmly soldered to the bottom of the flues which, through a 3/8" hole in each, are quickly drained, flushed and automatically cleaned.

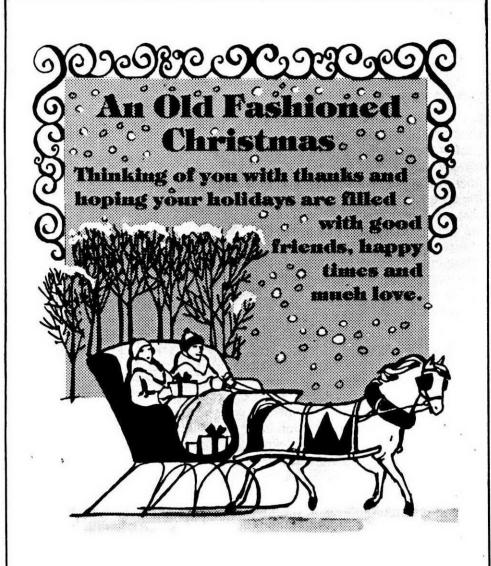
STASONS



LEADER FLUE CONSTRUCTION

Notice the double locked seam construction used in our flue ends resulting in four thicknesses of metal at this point. The ends are then saturated with hot solder. Each step is carefully brought out in the picture at the left. To give added protection the flue ends at the front of the flue pan which come in direct contact with the flames are also soldered on the inside. These sections are then fastened together by a special method of locking seams which ensures a tight rigid joint. This method eliminates

any danger of moisture accumulating in the seam itself. The inside of a Leader seam has never been known to rust out. Notice heavy brass flange securely attached to end of drain pipe and side of flue. Here again you see that extra quality found throughout the LEADER.



Bob & Florence Samb