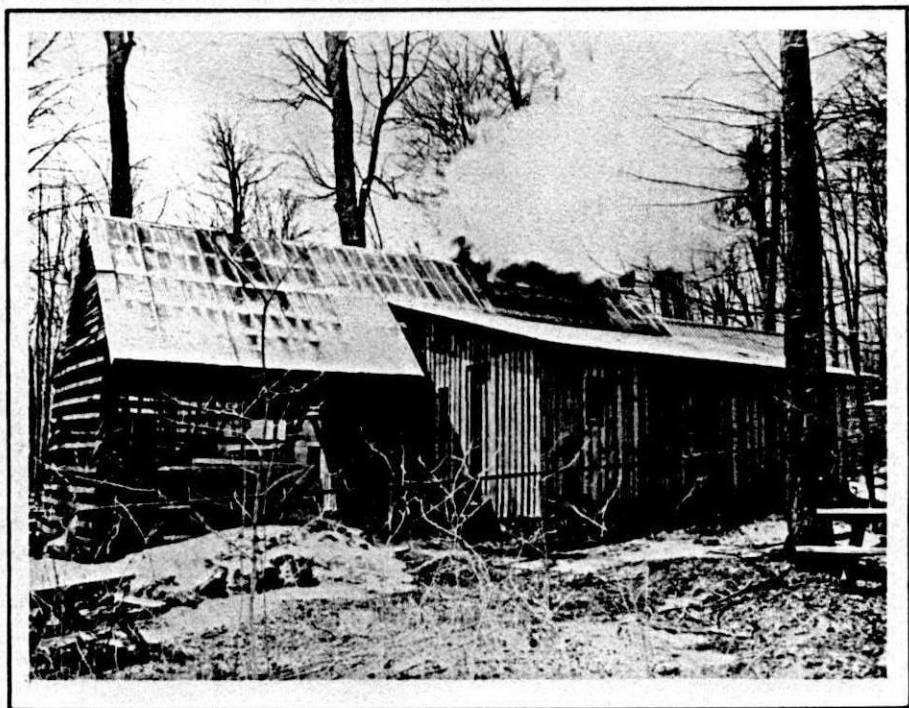


MAPLE SYRUP DIGEST



VOL. 1A No. 2

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June 1989

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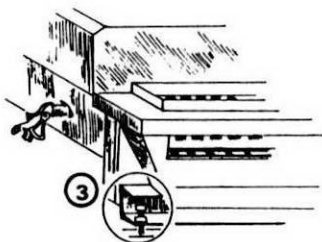
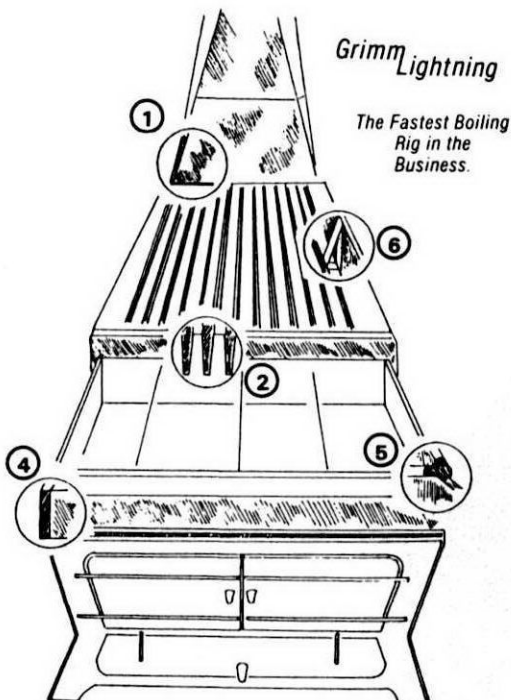
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MAPLE SYRUP DIGEST

Official publication of the
NORTH AMERICAN
MAPLE SYRUP COUNCIL

DIRECTORY

Published & Edited by:

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

Published four times a year
(Feb., June, Oct., Dec.)
Postage paid at Oxford, NY 13830

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Printed by:

La Tourette Rapid Reproductions Inc.
13 No. Canal Street, Box 598
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DIGEST ADVERTISING RATES

- 2 Page Spread \$450.00
- Full Page 240.00
- 1/2 Page Vert. or Hor. 135.00
- Column Inch 19.00
- Classified 70¢ per word
- Deadline for copy: First of the
month preceding date of issue.

Subscription Rates:

- United States: 1 yr. - \$2.00
3 yr. - 5.00
- Canada, US funds: 1 yr. - 3.00
2 yr. - 5.00

EDITORIAL

It's getting so you can't depend on anything. Last summer's heavy seed crop and Pear Thrips damage should have caused a low sugar content this spring. From what I hear it was anywhere from average to exceedingly high.

High sugar content sap should make lots of syrup. That didn't work out either. In this area of south central New York and northern Pennsylvania it was about the worst crop I've seen in the 45 years I've been at it. About 25 to 50 percent of average. I guess most of the warm areas - Connecticut, lower elevations of Massachusetts and New Hampshire, southern Vermont and the Champlain Valley were about the same.

The really warm places - Southern Pennsylvania, Maryland, West Virginia and parts of Ohio were average to above. This was true in the colder bushes such as the rest of New York, northern New England, Quebec, northern Michigan, Wisconsin and Minnesota. In fact, some of the real cold, late bushes made about double an average crop.

In Ontario, where the temperature varies from quite warm to very cold, the crop varied from about a half to the best they ever had.

It's very unusual for the warm and cold bushes to have a good crop when the in-between ones are poor. I can't ever remember this happening before but then, I haven't been in the business very long.

The lower bulk price is about the only thing that really isn't unusual this year. It probably seems so to the poor folks that made the short crops and I can't blame them for feeling that way, but it's about what was expected and there's several reasons for it.

First, there was quite a carry over from last year in Canada where they had a pretty good crop. I'm told over 2000 drums didn't find a home. The over-all

crop in the states this year is fair and Quebec came through with another good one and that's where the bulk of it is made.

When you stop to look at the whole picture, you really can't say this year's price dropped. Last year's was too high. The good hearted buyers/packers found out they'd paid too much when the off season price in the fall was no higher than it was in the spring. In some instances it was lower.

Of course, Grade C is a real disappointment. Many producers used to depend on selling the dark syrup in drums to pay their bills so they could make more on the good stuff. I guess they're going to have to get a different system and market more of it themselves either through retail or wholesale outlets in consumer packages. In other words - get out and sell syrup again.

The days of selling anything in a drum that will come out of a tree is past. In fact, no one should even consider making off-flavored or buddy syrup with the intent of sneaking it past some buyers nose and sticking the poor packers with something they can't sell.

Like I said, you just can't depend on anything anymore.

COVER PICTURE

Our cover picture for this issue is of the sugar house at Paul Smith's College of Arts and Sciences, Paul Smiths, NY. Photo credit goes to Chris Meyer with many thanks from the Digest. Article about their Maple project appears in this issue.

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FROM THE PRESIDENT



by Arthur E. Merle, Council President

Here we are, the 1989 maple season history. Not all areas are accounted for (as of May 1 - copy deadline) but by and large it was a more productive year than the past few have been. There were, however, many producers in low altitudes who have experienced another 25-50% of a crop. Some woodlots experienced so much frost due to no snow that the trees did not do well. The Merle's and most Western New Yorkers enjoyed one of the best years in a long, long time, with excellent sugar content in the sap and top quality syrup.

We hope the parasites that defoliate and stress the trees will not be as plentiful as last year. The unusual weather the past year has to be beneficial somewhere, somehow!

What we sincerely hope is that those syrup producers who are on the short side will buy syrup and keep their customers supplied. If we work together and distribute our crop there should be no problem marketing what appears to be a large supply of good quality maple syrup.

Our Council Secretary-Treasurer, Lynn Reynolds, who had heart surgery in late March is making an excellent and speedy recovery. He should be in tip-top shape for the Council meeting in Portland, Maine, October 26-29 (Thursday-Sunday). Hope to see a good turnout for a very fine upcoming program.

There are many other maple activities scheduled for the summer and fall months across the maple belt. Try to attend at least one of them. There is always a new approach to be found that will help your maple operation production-wise or in marketing. Besides it is good to visit with others and see that we all have problems and successes.

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NOTICE

RESEARCH PROPOSAL GUIDELINES

Research projects may be submitted for consideration based on the following guidelines:

(1) Proposals must be received no later than July 1, 1989 for consideration in 1989. Proposals received after that date will be considered in 1990.

(2) Proposals shall be complete and detailed in content. However, proposals shall contain a short concise cover statement briefly explaining cost, scope, objective, procedure, and anticipated value to the maple industry.

(3) Proposals shall contain detailed estimated cost breakdown, within the detailed report.

(4) Proposals shall be submitted with a minimum of thirty-six (36) complete copies.

(5) Proposals must contain a complete reference section listing and explaining any similar or duplicating research previously accomplished. Proposals for duplication of previously completed research must contain detailed explanations of why such duplication is warranted.

(6) Results or progress of funded projects must be presented annually at the convention of the NAMSC and must be published in the Maple Syrup Digest as soon as possible after completion.

(7) Send proposals to: Lynn H. Reynolds, Research Committee, North American Maple Syrup Council, Route 2, Box 326, Hortonville, WI 54944.

Remember: July 1 Deadline

COMING EVENTS

New Hampshire summer meeting will be held on July 15, 1989 at Richard Vappis in Moultonboro, NH.

New York Maple Syrup July 17 & 18 around Norwich, Chenango Co., NY.

Ontario Summer Maple Tour July 20-

22 in the Orillia - Elmvale Area.

Vermont Maplerama July 28 & 29 in Orleans Co., Newport, VT.

Massachusetts Summer Picnic July 30 at Blandford, MA.

Pennsylvania Maple Tour Sept. 29 & 30 around Waymart & Honesdale, PA.

Wisconsin Fall Maple Tour, Saturday, Oct. 7.

North American Maple Syrup Council, Portland, ME, Oct 26-29.

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NEW YORK MAPLE TOUR

The New York Maple Tour will be held on Monday and Tuesday, July 17 and 18, centered in Norwich, Chenango Co., NY. Registration will begin at 8:00 AM at the Chenango Co. Fair Grounds, Norwich, with sugar making demonstrations at 9:00.

Monday stops:

Tradewinds Maple, Oxford: A family operation of 1200 taps using a wood chip gasifier for heat.

Lunch. General Clinton Park, Bainbridge.

Baker's Maple Products, Bainbridge: A large, central evaporator plant, 3 - 6 x 10 flue pans, 4 x 10 finisher, oil fired, 36' x 68' sugarhouse all new in 1987.

Stipple's Farm: A diversified business of 1000 taps, maple equipment sales, Christmas Trees.

Hansmann's Mills: Packers of several prepared pancake flours, other mixes and mail order gift packages.

Banquet: Canasawacta Country Club, Norwich.

Tuesday stops:

Parry's Maple Products, Smyrna: 5000 taps on mechanical vacuum, Sap Brothers RO, 4 x 12 all flue, 2 x 6 finish, oil fired.

Cook's Maple Products, Sherburne 4-Corners: 6500 taps, mechanical vacuum, Coster RO, 5 x 14 evaporator, 2 x 6 Finish, sugar kitchen & sales room.

Rogers Conservation Center, Sherburne: Woodland tour.

Lunch at Rogers Center.

Pre-registration **must** be mailed by July 1 and/or received by July 7. For more information contact Jerry LeClair, Coop. Ext., 99 North Broad St., Norwich, NY 13815 (607) 334-9971.

**DEADLINE FOR OCT.
ISSUE SEPT. 1st.**

ONTARIO SUMMER MAPLE TOUR

The Ontario summer maple tour is hosted July 20-22 by the Simcoe County Producers in the Orillia-Elmvale area. Highlights of this year's tour are a boat cruise on Thursday, July 20 in the evening and a Maple Olympics on the Friday afternoon, July 21. Registrations are to be paid by June 30 and information on prices and registration forms are available by calling Paul Ritchie at 705-322-2064.

Bill Robinson

VERMONT MAPLERAMA July 28 and July 29, 1989

This year's Maplerama tour will emphasize sugarhouse tours with on-site discussions of tree health and marketing topics. Each bus will have a "Tour Guide" person to prepare everyone for each stop and to lead discussions along the way hosted by the Orleans County, Vermont, Maple Sugar Makers' Association.

Friday stops include:

Beaudry -- G. Buzzell to discuss Tree Health in the bush and point out examples.

Couture -- Tour of sugarhouse with Piggyback evaporation system and their retail showroom to discuss marketing.

Backus -- A smaller operation to visit; on-site discussion of Tree Health.

American Maple -- A tour of American Maple Products Corp., Newport, VT, major national packer, producer and wholesale distributor of: Pure maple syrup and maple sugar; Whole-grain pancake and muffin mixes; Ceramic containers and stoneware products.

Paul's Sugarhouse -- Marketing and production.

Banquet -- Jay Peak International Restaurant.

Saturday stops include:

Augers -- Marketing of maple syrup

and Vermont products. Also a tour of the sugarhouse by horse-drawn wagons.

Waterloo USA Inc. -- Display of up-to-date technology in sugaring equipment to include Reverse Osmosis demonstration.

Sugarwoods Farm -- A tubing washing demonstration on-site.

Walker's Tree Farm -- A small sugaring operation surrounded by a large Christmas Tree Farm with irrigation system.

Jay Peak Ski Area -- A ride on Vermont's largest aerial tram car to the top of 3,800 ft. Jay Peak followed by a dinner at the Jay Peak International Restaurant.

For more information and reservations contact Pauline Couture, Box 147, Rt. 100, Westfield, VT. 05874 (802) 744-2733 or George Cook, RR 1, Box 228, Morrisville, VT. 05661 (802) 888-4972

MASSACHUSETTS SUMMER PICNIC

The Massachusetts Maple Summer Picnic will be held at Leon and Joyce Ripley's "Maple Corner Farm" on July 30, 1989. We will view another sugaring operation in the afternoon.

The address: Leon & Joyce Ripley
Maple Corner Farm, Rt.1, Beech Hill Road, R 348, Blandford, MA 01008
(413) 357-8829

PENNSYLVANIA MAPLE TOUR

The Pennsylvania Maple Tour will be held Sept. 29th and 30th in the Wayne, Lackawanna and Susquehanna County area, hosted by the Northeastern Pennsylvania Maple Producers Assoc. Headquarters for the tour will be in Waymart, Pa., (near Honesdale). For information contact Edward A. Curtis, RD 3, Honesdale, PA 18431. Phone 717-253-3759, or Wayne Co. Extension Service, Court House, Honesdale, PA 18431 Phone 717-253-5970 - Ext. 114.

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NORTH AMERICAN MAPLE SYRUP COUNCIL

The Maine Maple Producers Association have been busy at work making all the preparations for what promises to be an exciting meeting of the North American Maple Syrup Council. The events will begin on Thursday October 26, 1989 at the Sheraton Tara Hotel in South Portland, Maine and continue into Sunday October 29, 1989. The Sheraton Tara is located directly across from the Maine Mall, the largest shopping mall north of Boston. Accessibility to the Sheraton Tara is nearly ideal as it is located just 2 minutes from Interstate 95 and about one mile from the Portland International Jetport.

Program and registration information will be forthcoming as soon as they are final. In the meantime mark your calendars and take pictures.

The Maine Maple Producers Association is sponsoring a photo contest in conjunction with the NAMSC meeting. The contest is open to all amateur photographers in the maple sugaring business or related industries. Amateur photographers with maple or maple sugaring interests are also eligible.

Rules Include:

Color or black and white prints

All prints should be matted and 8"x10"

Each contestant may submit up to three (3) entries

The name, address and telephone number of photographer, photo location and date must be submitted with and recorded on each entry.

Photos will be judged on the basis of expressiveness of the maple industry, artistic impression and photographic quality.

The Maine Maple Producers Association reserve the right to use all photographs submitted.

All submissions become the property of the Maine Maple Producers Association unless return postage (\$2.00 per print) is included with the entry fee. (arrangements can also be made to pick up your prints at the close of the convention).

Entry fee \$3.00 (U.S. funds) per print.

Winning entries will be featured at the 1989 North American Maple Syrup Council meeting in Portland, Maine.

All entries must be postmarked by October 1, 1989.

Prizes will include a \$50.00 L. L. Bean Gift Certificate.

Entries should be sent to:

Photo Contest, P.O. Box 282, Kents Hill, Maine 04349 USA

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MORE ON THE PFA PELLET

By: F.M. Laing

We in Vermont are concerned about the health of our sugar maples, the essential base for our maple industry. I'm sure those in other states and provinces feel the same about their trees. There has been a steady assault on this resource - saddled prominent caterpillars, forest tent caterpillars, drought, "decline" and acid precipitation and now pear thrips are just the major items in recent years. Added stress on the trees from any other source should be avoided wherever possible.

Some recent articles in the Maple Syrup Digest have been aimed at promoting the use of paraformaldehyde (PFA) pellets as necessary for the continuation of the maple industry. Extensive research on PFA in the 1960's and 1970's demonstrated that its use is an added stress to the tree with its effects ranging from light to severe. In the most comprehensive project (Walters and Shigo 1977) 180 mature trees from six localities in Vermont and 75 trees from other locations each in Vermont, Maine, New York, Pennsylvania and Michigan were cut and dissected for examination. It was found that in the trees from the six localities in Vermont tapholes treated with PFA pellets had significantly longer columns of discolored wood than the non-treated tapholes. The wood in discoloration patterns remains solid; where decay is mentioned the wood becomes soft and may be punky. Results of the regional study in trees cut after 20 months were similar to those in Vermont. There was no significant difference in the length of the wood discoloration patterns between PFA and controlled tapholes, but the occurrence of decay in the taps treated with PFA was significantly greater. No differences were found among states and localities in the

regional study. The greater amounts of decay 1) decrease the amount of sapwood available for sap flow and future tapping and for the tree to live on, 2) weaken the stem and also heighten the possibility of further invasion of decay organisms.

I have personally observed that the trees are usually successful in eventually constructing a compartmentalizing boundary around the decay columns. When they are not successful, or when other taps or wounds intrude on the area, a much larger decay column occurs.

The effects I've mentioned so far could be classified as a light to moderate increase in the amount of lost sapwood. But I must recall the severe event that triggered the concern about PFA pellets. A newly established sugarbush, never previously tapped, had PFA placed in most, but not all tapholes. The following year the decay columns from the treated tapholes extended up and down the stem and were visible without removing the bark. The few taps without pellets were around the sugarhouse where the buckets were used to get tastes of sap. These tapholes showed no decay. This situation was an extreme case, and to my knowledge there haven't been similar cases. Other conditions may have contributed to this event but if so they haven't been identified. But it served as a bitter lesson for one producer as to what can happen using PFA pellets.

Paraformaldehyde, as an unregistered pesticide, is banned from use in Vermont and in some other states. The most recent spate of short sap years makes it difficult to say whether the ban has affected production. The increased use of tubing and vacuum also reduces the needs for the PFA pellets. Smith and Gibbs (1970) found that PFA showed no yield increases when vacuum systems are used.

Perhaps the maple industry in those areas where PFA is considered neces-


ary should look for alternatives to PFA or perhaps even to changes in the PFA pellets. The original pellets contained 400mg PFA; this was later reduced to 250mg. Even so, a substantial portion of the pellet remains in the taphole at the end of the season (except where vacuum is used). Marvin and Greene (1959) found that Clorox or alcohol solutions prevented drying up but the need to inject them into the tapholes during the season made a pellet seem more attractive. Dr. G. D. Jones, of MacDonald College, Montreal, Quebec, tried a substance, "Chlorhexidine" (Maple Research Seminar, U. of Vermont 1962) that, used as a pellet, showed promise. My belief is that any substance that will prevent the growth of microorganisms will also kill the living cells near the taphole; I've used a number of substances in tapholes while researching the trees' defense mechanisms. Even Clorox (1:10 solution) will kill the cells if it remains in the taphole, that is if the tap is slanted downward into the tree. But there may be other disinfectants not yet tried that could be of benefit.

However, any action which will serve to lessen stress on the maples should be of primary importance right now. Without our trees the maple syrup industry cannot flourish or survive.

Shigo, A.L. and F.M. Laing 1970
Some Effects of Paraformaldehyde on Wood Surrounding Tapholes in Sugar Maple Trees. USDA Forest Service Research Paper NE-161

Smith, H.C. and C.B. Gibbs 1970
Paraformaldehyde Pellet Not Necessary in Vacuum-Pumped Maple Sap System. USDA Forest Service Research Note NE-118

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Walters, R.S. and A.L. Shigo 1978
Discoloration and decay associated with paraformaldehyde-treated tapholes in sugar maple. Canadian Journal Forest Research Vol. 8 pp. 54-60, 1978

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NEW HAMPSHIRE MAPLE NEWS

by Frank Owen

The Annual Meeting of the N.H.M.P.A. was held at Plymouth High School on January 28, 1989.

Roy Hutchinson reported on the successful North American Maple Council Meeting held in Portsmouth in October. He thanked all those who helped with the meeting. Dave Scanlon reported on the IMSI activities. They hope to make more inroads into the acid rain problem at the federal level. There is a **new** chairman of the committee that hears testimony on acid rain and the environment. He reported that marketing will be promoted this year.

IMSI, the state of Vermont and the Vermont Sugar Makers have made a new educational film for children of all ages on the history of maple syrup. The film is excellent and is being shown at many schools.

Hank Peterson and Dave Scanlon reported on the booth at Eastern States Expo. It was very successful and the living maple tree costume went over very well. Plans are to have a booth at the New Hampshire Farm and Forest Expo in Manchester in February.

Bob Moulton reported on the can and jug situation. Lapel pins are now available promoting New Hampshire maple syrup.

Dr. Stanley Swier, Extension Entomologist at U.N.H. talked on proposed aerial spray program in western New Hampshire for the Pear thrip. A sign up sheet was passed around and eighty members were interested in the program.

Ray Burton of the Governor's Executive Council talked on the functions of the council and how it works. He presented the Carlisle trophy to Ted Ferguson, this year's winner.

Sumner Dole, Program Chairman, introduced an impressive panel of speak-

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ers who talked on the Pear thrip problem - Barbara Burns, Insect and Disease specialist from Vermont; Sandy Wilmont, Pear thrip coordinator from Vermont, and Dr. Swier from U.N.H.

Officers elected for 1989 were Richard Moore, President, Dave Dearborn, First Vice President, David Clark, Second Vice President, Hank Peterson, Secretary and Larry Moore, Treasurer. Board of Directors are Roy Hutchinson, Ex. officio, David Fuller, John Conde, Dave Scanlon, Sumner Dole & Ed Merrill.

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NOVA SCOTIA NEWS

by Avarð Bentley

The Maple Producers of Nova Scotia held their annual meeting at the Agriculture College, Truro, N.S., on Jan. 14th. with a good turn out. Avarð Bentley was elected President. Keith Crowe was elected Vice-President. Max Spicer to head the Research Committee. Donald Pugsley to head Promotion. Dale McIsaac was elected the Secretary-Treasurer. Other Committees will be filled at the next Director's meeting.

A new video on Nova Scotia maple industry (from early beginning to present day) was shown. The video was produced by the Dept. of Agriculture and the Nova Scotia Maple Producers.

The guest speaker was Dr. Bidwell who gave a talk on the chemistry of maple syrup.

The Association is looking for a very active year where a lot of work from the various Committees needs to be addressed and cleared up.

WISCONSIN REPORTS

by Roland Jorns

Just when Wisconsin Maple Producers were getting geared to early sap runs "BINGO", along comes a typical old fashion late spring. It was also ironic that just a week before tapping time there was only a few inches of snow - but that too changed to knee deep drudgery at tapping time. Then after the trees were tapped came a week of warm weather that melted nearly all the snow, but no sap runs til near the end of March. My analysis of this delayed run was perhaps caused by a three to four foot depth of frost. When the sap runs started it still was not a daily affair with lay offs in between. The season ended for most parts of the State by April 21st. All in all nearly all producers are reporting a fair to good crop. Some producers say

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their crop is a bit darker than previous years but they do have quantity.

Some producers reported very sweet sap, with averages of 4 % and better. Ours was just average with 2 to 3% for the season. But I did find one tree that produced a 6% sap. My thoughts reflected on the stress on the tree brought about by last year's drought. When I tested that one although the tree looked perfectly healthy.



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CONNECTICUT NEWS

by Darrell Russ

Connecticut's Annual Agricultural Day took place at the Hall of Flags in the State Capitol building in Hartford on March 22.

The MSPAC display booth was set up and manned by Rich and Avis Norman, Paul Williams and Stephen Broderick. Visitors received a sample of maple sugar. Also, 250 3 ounce containers of pure Connecticut maple syrup were included in the agricultural products hand-out bags presented to the state legislators.

At the April 15th MSPAC directors meeting held at the state office building in Hartford president Richard Norman and his wife, Avis, who is the association coordinator, were appointed as delegate and alternate to the annual meeting of the North American Maple Syrup Council.

The tentative date for the 12th annual meeting of the MSPAC was set for Nov. 11th. The meeting will center around the sugarhills area of the Massachusetts Berkshires.

The 1989 maple syrup season was anything but uniform.

Some 1000 to 2000 tap outfits didn't set a single tap. Most others reduced taps by $\frac{1}{3}$ to $\frac{2}{3}$ of normal. Sugar content started out between 2.0 to 2.5 percent and held fairly steady. While a few warmer spots got runs in late February, most producers didn't make any until mid March.

State-wide the weather didn't cooperate and sap runs were fewer and smaller than normal. The best runs came on Easter week-end and that was the end of it. Some did fairly well but overall production was about one third of the normal crop.

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PEAR THRIPS CONFERENCE HELD

Approximately 140 scientists, foresters, maple association executives, and others attended the International Conference on Thrips, which was held at the Flynn Theater and the Radisson Hotel in Burlington, Vt. on February 21-23, 1989. Coordinated by Dr. Bruce L. Parker, entomologist at the Entomology Laboratory, University of Vermont, the conference dealt with information gathering and exchange on thrips insects; and sought to provide a base of information which could be used in research concerning the management and control of the pear thrips insect. The latter insect has recently damaged thousands of acres of sugar bush and other maple stands in Vermont and neighboring States.

The Thrips Conference was made possible by the close cooperation of several agencies and organizations. These included the Vermont Governor's Task Force on Pear Thrips; Senator Patrick Leahy; the Vt. Dept. of Forests, Parks, and Rec.; the College of Agriculture and Life Sciences, University of Vermont; the Vt. Dept. of Agriculture; the USDA Forest Service (FPM & NEFES); the University of Vermont Extension Service; the Vermont Maple Sugar Makers Association; Rhone-Poulenc Ag Company; the Eastern States Exposition; Maple Grove Farms of Vt., Inc.; The Dakin Farm; and Marvin's Butternut Mountain Farm. Speakers who took part came from as far away as England and California. They totalled 38 in number. The keynote speaker was Dr. Trevor Lewis of the Rothamsted Agr. Experiment Station, England.

As the conference began it was noted that the resource severely affected by the pear thrips insect included \$82,000,00 spent by persons visiting Vermont and observing the fall foliage;

\$2,000,000 of value in sugar maple ornamental trees; \$12,500,000 in the value of maple products made from maple syrup; and \$4,500,000 in the value of maple lumber and wood products. Maple products may be significantly reduced this year due to reduced tapping of maple trees; and reduced income to sugar makers may be as much as \$2,500,000.

Although not much is known as yet about the pear thrips insect and methods for its control, the speakers provided much information about closely related thrips and aphid insects which had been studied and controlled in other parts of the world. Controls included use of insecticides and parasites (such as photoseiids on citrus thrips), also biological control such as insect predators and diseases. It was noted that the thrips insect does not always damage trees by its feeding. Sometimes it transmits harmful plant diseases such as wilt virus on roses.

Dr. Kenneth Raffa of the University of Wisconsin described damage on basswood by Thrips calcaratis Uzel. 200,000 acres of defoliation of basswood (linden) have occurred in Wisconsin each year. It causes a higher amount of calcium and magnesium in the leaf litter. He urged that the pear thrips study look for natural predators that might also control the basswood thrips. (So far there is no formal program for control in Wisconsin or other Lake States.)

Dr. Kenneth Knauer of the U.S. Forest Service described a problem in getting necessary funds for pest management in forests. There are label problems with sprays for thrips control. There is need to monitor forest health - but Congress lacks confidence in the ability of the Forest Service to deal with pest problems. Broad-based support groups are needed to help obtain funds. There is a need to combine good science with good biology for the improvement of the forest.

Dr. Nick J. Mills of the Rothamsted, England, Institute of Biological Control described studies of the natural enemies of thrips (such as Neuropteran predators on thrips which damage bananas in the French Antilles). There are also Dipteran predators, but only one Thysanopteran (pear thrips) predator. There are parasitoids which feed on insect eggs, also nematodes which are pathogens on thrips. There are also some fungi (such as Verticillium) that are pathogens on thrips.

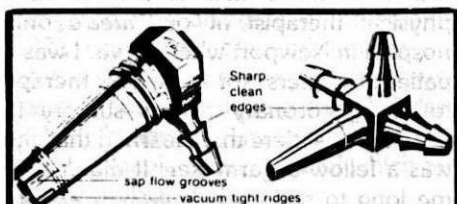
James A. McMurtry from California described a biological control program used to combat thrips on avocados. The damage is to the fruit, although the eggs are laid on the leaves. Predators such as lacewing larvae have been reared and released in California to prevent damage to the Avocados. (A \$100,000,000 industry.)

Lynell Tanigoshi of Washington State University described the control of citrus thrips by the use of predaceous phytoseiid mites.

Dr. Donald L. McLean, Dean and Director of the College of Agriculture and Life Sciences at the University of Vt., concluded the Conference with a summary talk. As an entomologist who studied aphids in California for much of his scientific career, and now as an administrator, he felt that the presentations had shown an overall striking value and quality. He noted comments by Governor Madeleine Kunin the previous evening, emphasizing the need for cooperation, particularly between scientists and the political arm. Cooperation is also needed to achieve a reciprocal exchange of information that will benefit the whole nation. There is need to solve problems and to gain needed resources. He felt the planners of the Conference were to be congratulated for a job well done. (There are many who attended who "speak the same language." It reminded him of an aphid conference in 1964 in Berkeley.)

As to accomplishments, McLean cited an exchange of information, also a debate - an awareness of the significance of the problem. It is obvious that resources are needed - people resources and money resources. Scientists in Vermont cannot do the job alone. Regional cooperation is needed, but also help from other areas where the problem is similar. He thanked the group for their interest and their expertise.

Ray Foulds



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A TRIBUTE TO MAPLE MAIDS IN AN UNIQUE AGRICULTURAL INDUSTRY

by Edward Sherburne Doubleday

This commentary is mainly about an uncommon maple sugar maker acquaintance of mine who happens to be both a young woman and a Vermonter of the old school who loves country life and says;

"The more I travel, the more I appreciate this area. I live here by choice and the harder I work the happier I am." Don't you wish all young people felt that way!

When Shirley Daniels says 'here', she is referring to what is known to southern Vermonters as the Northeast Kingdom, that fabled area of far northern Vermont halfway between the Equator and the North Pole where cows outnumber people and maple trees outnumber both cows and people combined. It is truly a land of milk and maple syrup and woods products industries like furniture, pulpwood and hardwood veneer. Veneer mills, believe me, are pretty cautious about peeling a maple log because there may be old metal sap spouts buried in them that can really ruin a slicing knife mighty fast.

Before we get into the particulars of our subject, Shirley Daniels, and her low-tech maple sugaring methods, like using buckets and horses, let's lay a little background scenario about this remote area of the state and its independent people who live and work in this part of the world where there are just three seasons - Winter, Sugarin' and two months of Mud and Damn Poor Sled-din'. We natives who can't afford to vacation in warm climes have to be rugged to survive snow and mud up to the armpits. Because Sugarin' precedes Spring, we kinda look forward to it.

This is the area in the town of Albany



L to R - Shirley Daniels, Chris Daniels, Donna Daniels

(Vermont that is) to which a young teenager by the name of Alfred Daniels migrated over a century ago to the narrow valley of Lord's Creek. There he found work and a girl whom he married. They bought a piece of land and made a living from it. Shirley Daniels now lives on about 100 acres of the original Alfred Daniels homestead. She is one of seven daughters born to Harold and Alice Daniels.

In addition to her farm work, she commutes 30 miles daily to her job as a physical therapist at our area's only hospital in Newport where I live. I was a patient of hers for exercise therapy following coronary bypass surgery in 1987. It was there that I learned that she was a fellow sugarmaker. It didn't take me long to realize that we had a story worth telling. Finally, this year I made my way to her home in East Albany where she lives with her mother in a neat house by the side of Creek Road.

As the 1989 maple season approached I kept in touch with Shirley and finally got the word that all systems were go, so I headed for East Albany on March 25 for the first boiling of the season. East Albany is not exactly on a busy paved highway, but I had a general idea where it was. I eventually got there and asked Shirley's mother for directions to the sugar woods.

As I said earlier, this is a hillside farm and the sugarbush, which is accessible only by foot, snowmachine, horse or, in

the dry season, by tractor, is on a steep northerly slope about a half-mile from the road. Undaunted, I munched very slowly through ample snow in the direction of the maple trees in the distance. As I approached the edge of the woods I noted that here was a mixture of softwoods, including Northern white cedar from which oil was distilled from the boughs in days gone by for an additional source of farm income. All was quiet and peaceful except for the rickety scolding of a pair of crows, the loud drumming of a woodpecker and the deep voice of Christopher Daniels, Shirley's cousin, commanding his well-groomed pair of Belgian work horses to 'Go' and 'Whoa' as he and his wife, Donna, scurried from tree to tree dumping the sap from well used galvanized buckets into the 5-gallon pails which they lugged to the gathering tank mounted on a wheeled dray.

The loads of sap are drawn by Chris' well-trained horses to the weather-beaten sugarhouse. Shirley presides here in a building that was erected by her grandfather and great grandfather in 1922 using the softwood lumber cut from a single tree with some of the unpainted board siding up to 20 inches wide or better. It is situated in a mature stand of maple trees, some of which are

probably 200 years old. Handy to the door is a covered leanto stacked with wood used to fire the 4' x 14' Leader evaporator that has a Burlington, Vermont address embossed in the fire doors of the arch. It is fired by Shirley who, I would guess because a man doesn't ask women these questions, is just over 5 feet tall and slightly over 100 lbs. in weight. She uses a mixture of hard and softwoods which she and Chris cut during lulls in the boiling and right after sugaring so the wood is seasoned for the following year. There is no electricity, so a gasoline-operated generator supplies the power to light overhead fluorescent tubes.

The finished syrup she draws from the pan is filtered through lined felt strainers into 10-gallon milk cans inherited from the days when her grandfather, Victor, and then her father picked up and delivered milk in cans to creameries in nearby towns before the days of bulk tank trucks. When she fills syrup tins, she uses a milk can with a spigot near the bottom. This year the entire crop of 290 gallons produced from the sap collected from 1420 buckets was all exquisite flavored Fancy Grade. Eat your hearts out, gentlemen!

Shirley is a very modest young lady who doesn't boast of her accomplish-



ments, so I wrote out a series of questions for her to answer and I repeat some of her replies in her own words.

Question: "When and how did you first make maple syrup?"

Answer: "When I was in the third and fourth grades with an old pot-belly stove in the middle of the driveway or on the kitchen stove. Mom didn't like her walls so sticky so eventually I built myself a small 6 ft. x 10 ft. x 6 ft. high log cabin in the pasture and put a 2 ft. x 4 ft. arch with a flat pan on it. Used that until I was in college when one night my sisters left it unattended and it burned down. Then I went into our barn and bought a 3 ft. x 8 ft. flue and flat pan setup in 1979. In 1982 started using the 'big' sugarhouse."

Question: "What other kind of farm work do you do?"

Answer: "I've always done farm work and have raised Holstein heifers to sell since 1978. I do all my own field work such as planting, haying, fertilizing, fence building and wood cutting. Built my own barn and tool shed by myself and only minimal professional and family help."

Question: "If you have time for hobbies, what are they?"

Answer: "When there's a spare moment I enjoy watching most sports on TV, but rarely get to it. My biggest activity is really running 6 to 10 miles a day, or occasionally biking 20 to 30

miles at a time. Field hockey is really what I call my 'claim to fame'. I participated on the University of Vermont team in many national tournaments throughout the U.S.A. and tried out for the 1978 Olympic team." Shirley received her Bachelor of Science degree from the University in 1978.

Probably not many people outside of her family know that Shirley has a health problem. No one would guess it from the strenuous physical activity of her daily life or her ready smile, but she has been hospitalized 12 times in the past two years for a serious illness, but she quietly says, "I'm obviously holding my own at this time."

She's getting ready to sugar next year by cutting the 10 to 15 cords of wood she'll need for the 1990 crop. Up until this year she tapped the trees by hand, but she bought a used power tapper and, as she says, "loves it!" There is no water at the sugarhouse so it must be hauled from a nearby brook for washing the buckets and evaporator.

Shirley modestly gives credit for the life she loves to the other members of her family whom she describes as, "Very close and we help each other out - something that we treasure very dearly." I saw this in action on my visits during sugaring where I observed her cousin Chris, and his wife Donna and their two children, Shannon and Dawn, gathering sap with horses.

Independence is alive and well in maple country!

This piece is written in tribute, not only to an independent young lady with more backbone than wishbone, but to all the women who have supported and helped to perpetuate one of the country's oldest agricultural enterprises. The list is too long to name them all, but this old-timer in his forty-third year in the maple business thanks you ladies sincerely.

I never met a maple tree or a sugar-maker I didn't like! Go forth and hug a maple tree today!

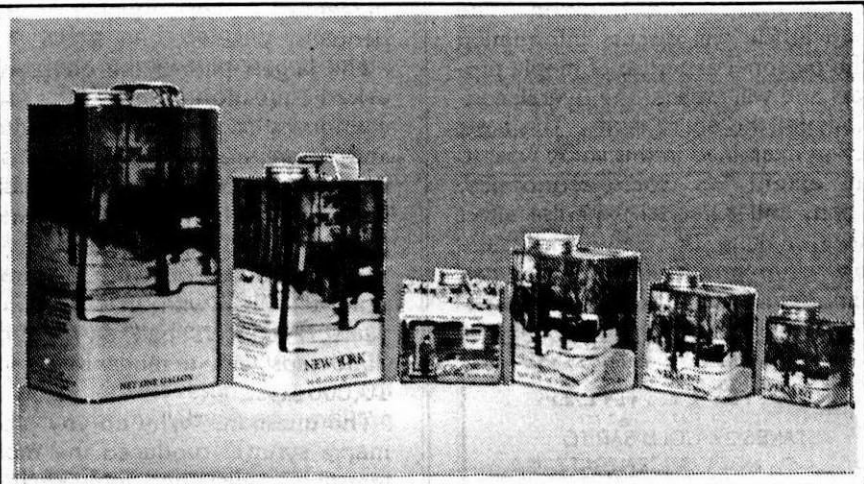


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**CRITICAL
CHARACTERISTICS OF
NEW YORK STATE MAPLE
SYRUP PRODUCERS:
SOCIO-ECONOMICS, TRADITION
AND PERSONAL EXPERTISE
PART ONE**

**By: Catherine K. Tucker and
Gabriel F. Tucker**

Department of Anthropology and Department of
Natural Resources
Cornell University, Ithaca, New York

In this, the first of two articles, we will present our methods for the overall study and the results and discussion for the part of the study that deals with socio-economics and tradition. The second article will discuss information on the personal expertise of maple producers and will present the overall conclusions for the entire study. The basic question examined in this study was: to what extent do socio-economics, tradition, and personal expertise affect decision-making by New York state maple syrup producers and how can this information aid research and exten-

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sion professionals concerned with the industry? Our original intention was simply to use the results for our own information, but after an overwhelming demand, particularly from those answering our questionnaire, we decided to expand the study and to report on its results.

Information was collected by an identical written questionnaire that was presented, with an explanatory cover letter, to all participants in the New York State Maple Tour from 1986 to 1988. Over the three years, 75 different families responded, from 29 of the 60 New York Counties, and five from nearby states. Results for each question were tabulated and are presented here as a percent of the total number of respondents.

The largest part of the questionnaire asked questions about the socio-economics of maple syrup production and where maple production fits into the overall functioning of the farm or family unit. The number of years that participating families had been involved in the production of maple syrup ranged from 1 to 137 with an average of 45 years. Producers had an average of 2550 taps with a range from 315 to 10,000 taps.

The question, "Why do you produce maple syrup?" produced the most interesting answers and some of the funniest as well. Respondents were asked to list several reasons. Responses included 57% who listed profit as a motive, 52% who thought it was pleasurable, fun, challenging or interesting and 19% who said they did it as a hobby. It is also important to note that 27% listed tradition and family as reasons. Several said, "it's in my blood" and one said "it's in my damn blood!" Also, 19% listed the product as a reason and one person said, "because my wife collects saps!"

In the next question, respondents listed their farm activities and ranked the importance of each to their farm's economy (#1 being the most impor-

tant). Most farms showed a variety of activities, with sugaring consistently ranking about second in importance to overall farm economy (average rank for maple came out to 1.8). Altogether 35% listed dairying as an activity, and it was generally ranked #1 in importance to the farm economy. Other activities included: sawmill, firewood, vegetable garden, row crops, custom combining, beef, honey, timber, maple equipment sales, dairy replacements, Christmas trees and renting out land.

These data clearly support the idea that syrup production is often an important secondary source of income that is frequently used as part of a diverse scheme to maximize overall farm output. Also supported is the notion that sugaring and dairying often go together and complement each other. Probably, several reasons are responsible for this coexistence of farm operations including: the spring sugar season, compared to the fall harvest, is a relatively quiet time when the cows are still in the barn; the spring sugaring can supplement cash flow for the farm at a time when money is often badly needed to purchase seed and fertilizer and otherwise begin planting; and vacuum tubing technology for harvesting sap is not unlike vacuum powered milking machines.

In answer to the question, "Do you use maple to offset losses in other farm enterprises", 27% said that maple sugaring did in fact help to make up for losses elsewhere on the farm. It would be interesting to know how many farmers who participated in the dairy buy-out program in turn increased their production of maple syrup. While we did not find that out, it is significant that many families do use maple to offset losses in other farm enterprises. Clearly most farmers do not need sugaring to fill this role, but in these times when many small family farms are struggling to be economically competitive, it is important to note that syrup production can,

for many families, make the difference.

In the last question we asked, "who participates in maple production on your farm?" Maple syrup production is definitely a family affair, according to the answers we received. Of those who responded, 78% said that their spouses were also involved, 68% indicated children, 16% said parents and 41% responded that other relatives participated. The last two categories of participants in the question were friends and hired labor which were each indicated by only 35% of the respondents.

Acknowledgements: First, our sincerest thanks to all those who donated their time and effort by filling out the questionnaire. Funding came from related projects supported by McIntire-Stennis and Kieckhefer Adirondack Fellowship research grants. We also wish to thank Lewis J. Staats who reviewed the questionnaire before distribution and James P. Lassoie who reviewed this article before publication but they are not responsible for any deficiencies that may remain.

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PAUL SMITH'S COLLEGE: A SWEET PLACE TO STUDY



Hans Michielien, sugarbush operator, stands at the sugar house.

“Remember, bring your snowshoes to English class. After the test we have to check for leaks in the tubing lines.”

“Sorry, I can’t go to the party; there was a good run today and our crew is assigned to boil tonight.”

Not your everyday between-class conversation, but then again, Paul Smith’s is not your everyday college. Located on a 15,000-acre campus in the heart of the Adirondack Mountains of New York state, Paul Smith’s College prides itself on providing students an ideal mix of classroom academics and practical, hands-on education.

For forestry students at the College, that means being part of the operation of a 1,000-tap sugarbush. Although small by today’s standards, this sugarbush is not meant to produce commercial syrup, as much as it is to produce syrup makers.

The students’ first trip to the “bush” comes early in their fall semester at Paul

Smith’s College. Since it is vital to know which trees to tap in order to collect sap, **Dendrology** class teaches tree identification; to receive an “A” students must be able to identify that sixty-foot high acer saccharum from the ground in the dead of winter. In **Introduction to Forestry** students spend a lab “putting up wood” that will be used the following spring to boil. **Silviculture** brings the students back to the sugarbush to learn about growth, thinning, regeneration, and the management of a forest for sap production. Finally, it’s during the **Forest Products** course in the spring of the sophomore year that students are responsible for tapping out the bush, maintaining the lines, and taking their late night turns at boiling down the sap.

Last year the College renovated its entire syrup production operation, from new lines in the woods to a rebuilt arch, new pans, a steam hood, and much more. The renovations were made pos-

sible through the donations of equipment, time, and expertise of many suppliers of maple syrup making equipment.

Among the donations received were a canning unit from Leader Evaporator, filters and papers from H.W. Cook Farm Supply, two round bottom storage tanks from Small Brothers, and 4,000 feet of 12 GA. wire from the G.H. Grimm Co. The steam hood was contributed by Waterloo USA, and Mike Berliner donated 8,000 feet of tubing. Also contributing was Schambachs, who supplied enough tubing and supplies to outfit 350 taps.

This wealth of industry support for the bush has enabled Hans Michielen, sugarbush operator, to have a record-breaking syrup season. This past spring, over 300 gallons of maple syrup were produced, far exceeding the old record of 195 gallons. It is Michielen's hope that the renovation of the sugarbush will continue, thereby exposing students of the College to the most modern

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methods of syrup making. Additionally, these improvements will allow the students to have even more fun while learning.

The Paul Smith's College forestry division offers programs of study in forest technology, forest recreation, surveying, urban tree management, and pre-professional forestry. The College also has courses of study in ecology and environmental technology, hotel and restaurant management, chef training, business administration, tourism and travel, and related areas.

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LETTER TO THE EDITOR

Dear Editor,

I read with interest the "editorial" by Lynn Reynolds supporting the tap hole pellet (Paraformaldehyde pill) (MAPLE DIGEST Feb 89) and Bill Clark's reply against it (THE SUGARMAKER Mar. 89).

I used the pellet myself in the mid '70's when its use was commonplace and even recommended. By 1979 the evidence of increased tree injury from paraformaldehyde - treated tap holes was quite conclusive. Mr. Reynolds calls the pellet a "research instrument". From what I could read, see, and hear from sugarmakers and forestry experts, the pellet looked more like an instrument of destruction. When I stopped using the pill out of concern for my trees, I was surprised to find no significant impact on my wallet. Yields seemed to be about the same and the tap holes healed faster and cleaner, especially on younger trees.

Regardless of the positive or negative effect of the pellets on a given season's yield, I feel Mr. Clark is on the right track in today's world with his statements about public opinion. Here in Western Massachusetts we were quite hard hit by the Pear Thrip in 1988. Being a fairly densely populated state, most of our producers tap at least a few trees which don't belong to them. One or two

major sugarhouses rely on such "rented" taps for most of their sap. Normally, the public is happy to see a sugarmaker about his/her work. We are signs of spring, and we give tree owners syrup for their sap. This season, many of the tree owners (both individuals and municipalities) are asking hard questions about the tapping of stressed trees. Usually they leave the decision to us because we have a long history of effective stewardship of maple trees. We have often swung public opinion in our favor by honestly describing how we get the sap, what we do to it, and how little it affects the tree. I know of no producer in Massachusetts who still uses the tap hole pellet, and we often point to this decision as evidence of our concern for the landowner's beloved trees.

This year we are being asked to tap lighter and to skip some trees entirely. One local town board publicly voted to ask producers to be conservative in tapping, and was supported by a newspaper editorial endorsing the board's decision.

Mr. Clark and the Vermont Maple Sugarmakers Association are correct in identifying the tap hole pellet as a tool of dubious economic value to the producer and of certain negative publicity for the public. We can either further our benign custodial image among consumers or be regarded as active agents in the demise of our crop and environment.

Perhaps the strongest argument against continued use of the pill will be economics. I will need to buy a lot of bulk syrup this year to supply my accounts. While explaining to my customers how I will select quality syrup for their use, several have asked if I can guarantee that the producer didn't use "formaldehyde". I will pass this question on to the sugarmakers or wholesalers I want to buy from. If they can't say "yes", I'll have to go elsewhere.

Richard M. Chandler

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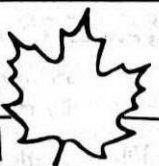
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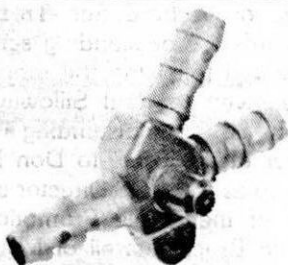
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VERMONT SUGAR MAKERS ASSOCIATION ALMOST 100

by Ray Foulds, Jr.

Wilson Clark of Wells, Vt., President of the Vt. Maple Sugar Makers Association, noted that the Association, organized in 1892, had almost reached the century mark in length of service to Vermont sugar makers. As the Association met for its Annual Meeting as part of the Vermont Farm Show in Barre on January 24, Clark convened the program at 11:30 a. m. with a dinner of stuffed chicken breast, vegetables, rolls and beverages, and Vermont maple syrup on ice cream. Other officers present at the head table were Harold Howrigan of Fairfield, Vice President; and Sandra Tarrier of Westford, Sec.-Treasurer.

Awards for outstanding service were presented following the dinner. These were given to Paul Silloway of Randolph as the Outstanding Vt. Sugar Maker of the year; to Don Harlow of Putney as a former Director and Chairman of the Maple Promotion Board; and to Bruce Martell of Montpelier as Head of the Maple Inspection Program in the Vt. Dept. of Agriculture.

Other awards were given for achievement in the Vt. Farm Show Maple Contests. These included an award for best maple fudge to Katherine and Everett Palmer of Waitsfield; an award to Couture's Sugar House of Troy for best maple candy; a Best of Class award to Ellen Gilman of Chelsea for maple sugar cakes; a Class winner award to Glenn & Ruth Goodrich of Cabot for dark amber syrup; a Class Award to Steve Bartlett for the best Medium Amber syrup; an award to Jean-Marie Laroche of Swanton for best Indian Sugar; a Best of Show Award to Richard & Theresa Taylor of West Glover for Maple Products; and an award to Murray Thompson of Colchester for the Best of Syrup Award. Total

number of entries in competition were 114 samples of Syrup and 102 other maple products.

An additional award was made by Sam Cutting, Chairman of the Vt. Maple Industry Council. This was to Robert Coombs of Jacksonville - an engraved maple scoop - for distinguished service to the Industry over many years. (Maple Person of the Year.)

There was competition of the maple entry in the Miss Vermont Agriculture Contest. The winner was Christy Perry of Ira. Runner-up was Kathy Paglia from Bridgewater Corners.

Dinner speakers included William Paine, Deputy Commissioner of Agriculture. He urged sugar makers to work with Town Planning Commissions; also to let the Governor and the Legislature know what they want.

Donald McLean, Dean of the College of Agriculture at UVM, spoke on the proposed reorganization of the Extension Service. He said that there were plans for establishing 5 regional offices rather than the present 14 County offices; and to have Agents specializing in particular fields such as dairying, beef production, apple production, small fruits, maple & Christmas trees, etc. rather than as generalists for all kinds of agriculture. Hearings will be held, and input from all persons concerned will be welcome.

McLean also described efforts made to obtain funds for rebuilding the Proctor Maple Research Farm laboratory building which was destroyed by fire last fall. These included an Adopt-A-Tree program, a \$50,000 federal grant, a State contribution, and industry efforts. It is hoped that rebuilding can begin in the Spring.

Robert Howrigan of Fairfield spoke on maple promotional activities planned for the future. These included the Governor's Tree Tapping event in Montpelier in March; also a Student's Essay Contest throughout the State for 7th

and 8th Grade Students, with the theme: "Flavor of Vermont." He noted that the Vt. Maple Festival would be held in St. Albans on April 7-9. A State-wide Maple Queen and Maple King Contest will be held as part of it. The rules are the same as in the past.

Tom Hazen, Maple King in 1988, described his activities during the year. These included participation in the Vt. Maple Festival and the Eastern States Exposition. A book has been prepared, "The Making of A Maple King."

In the absence of Dr. Bruce Parker, of the Univ. of Vt. Entomology Lab, George Cook, Extension Area Maple Specialist, spoke about plans for dealing with the pear thrips insect. He noted

that an informational management conference on pear and other thrips insects would be held at the Radisson Hotel in Burlington on Feb. 21-23. International in scope, it would feature speakers from England, Canada, and the U. S. who have worked with thrips insects. The principal audience desired is people who will be involved with future control. Registration fee is \$20. Further information is available from Bruce Parker, UVM Entomology Lab, Spear St., So. Burlington, Vt. 05403. Tel. 802-658-4453.

Another afternoon speaker was Elbert Moulton, speaking on the subject "Looking Ahead." He recalled the same topic as part of the Administration of Govern-

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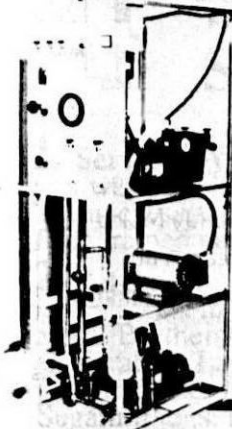
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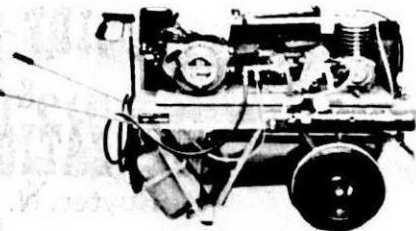
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nor Deane Davis in 1969. There was concern then - as now - for a sound environmental future for the State. Act 200 now deals with this-where people are going to live, also how people make a living. Needed is an economic plan for the future. We now have a 2% - 3% unemployment rate. This is good, but how do we protect the diversification of the economy? Much money has come into the State. How much stays here, and how much goes back out? All aspects of agriculture need to be considered. There are concerns about higher education, which is a major factor in the future ability of our workers. The insurance business is important, also trade with other areas and countries. Are we in danger of losing our manufacturing base? People are making the same products as we do in Taiwan, West Germany, and Japan. - A 25-person Committee has been set up to look at Vermont during the next 12 months and determine the manufacturing base, the higher education base, better jobs

for people - try to make a blueprint for the next 10 years. It is necessary to consider the infrastructure: highways, bridges, buildings, etc. We want the **best** education for our children. In future more people will be **thinking** for a living than **doing** things. We must be able to compete with other schools around the world.

Moulton referred to results of a recent survey which showed that our nation ranks quite low - 15th out of 17 nations studied-in ability of our young people to do math, reading, and writing. Concerned about this are people such as the president of I. B. M., which is competing with Japan, etc. He is interested in what the State of Vermont can do - a better job of education from the 8th through the 12th grades. Needed is motivation to stimulate kids to be the best that they can be. (In Essex Junction I.B.M. is sending new employees back to school to learn algebra, etc.). Some kids today get A's in "How to Use A Skill-saw", but can't do the three "R"s.

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Moulton noted that in the past businesses came to Vt. because people here worked hard, were honest, loyal, etc. A German firm locating here in the 80's did not find this so - had to conduct special training. If we want to compete world-wide we have to educate the minds of our children better. We need to plan for the best possible education.

Moulton stated further that we need an environmental and economic policy that goes from one Governor to another. This is also true of the maple industry. Some people are concerned about the mysterious "they" that is supposed to get things done. A pamphlet has been written about this - it turns out that the "they" is really "we". We must look over the horizon and plan for things ahead.

Moulton said that there would be hearings about this in different parts of the State. There will be one in south-eastern Vt. in Feb. In Franklin County there will be one in April or May.

Raymond Foulds of South Burlington commented on the desirability of work-

ing with FFA groups throughout the State as an effective way of having young people learn about maple sugaring, etc. Moulton agreed, saying that working with 4-H groups was also effective.

Wilson Clark urged the group to be especially concerned this year about what is going on - how it will affect you. Much is happening regarding businesses and people crowding into the State in future. Do we want Vermont as we have known it, or something else? If something else, what?

Thomas Bahre, Addison County Forester, spoke on fertilization of maples - how is it done? He had heard a talk by Dr. Hendershot, who had come down from Quebec. Applying lime to correct the effects of acid rain doesn't always work. You should test the soil first, and find out what is really lacking. Foliar analysis of twigs gives some answers. Soil tests give others. Magnesium is sometimes needed as well as nutrients such as nitrogen, phosphorus, and potassium. It is important to know the right

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Bahre noted further that maples are often affected by more than one problem: acid rain, thrips, drouth, etc. Fertilization will help the trees to withstand several stresses (if needed).

The Association business meeting followed. Secretary Tarrier noted that membership had exceeded 700 for the first time during 1988. The financial statement showed the Association healthy, with income about equalling disbursements and a balance on hand Dec. 31 of \$8,478. There is also \$35,000 on hand in a CD. During the year the Association has made gifts for maple research on thrips control and acid rain, and also for maple market promotion. The Association also has a special fund for providing good syrup cans to members at a reasonable cost. During the coming year it plans to make a contribution to help with the rebuilding of the Proctor Maple Research Farm lab.

After some discussion it was voted to

increase annual dues from \$10 to \$15.

A resolution was presented by David Marvin of Johnson urging the State to provide necessary funds so that research on the pear thrips insect could be continued and expanded. A motion was passed to accept this and send it to the Governor and the Legislature.

The addition of a fourth Vermont color grade for syrup was discussed. This would have to be approved by the Commissioner of Agriculture after several Hearings. There would have to be a provision that the Dept. could charge for grading services. A motion was passed to proceed along these lines. There is a need for language to describe the flavor of such syrup (lower than Grade A - Dark Amber), also to provide that it shall not be damaged and shall be clear. In addition, the Seal of Quality could not be used on the new Grade. It was felt that the principal purpose of the new Grade would be to provide surveillance on the lower syrup grades so that the customer gets an acceptable product.



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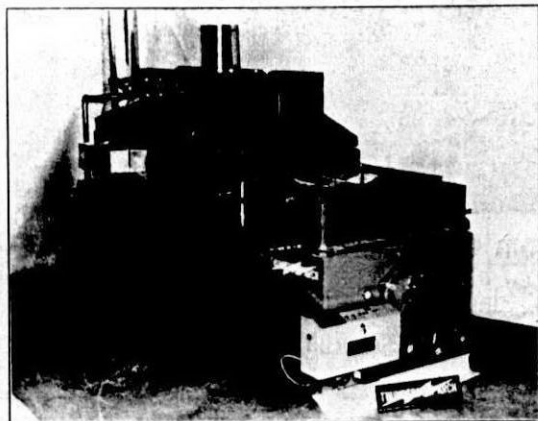
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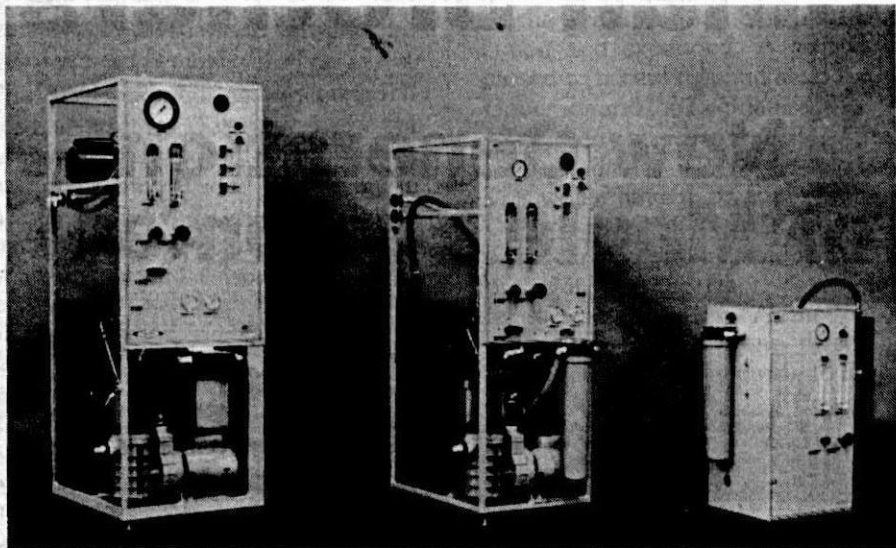
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We had all those split ties left from the time we tried to burn them and had the chimney fire. When nobody wanted to buy them, I got to thinking there's a lot of heat there if we can find a safe way to use it.

First, we dug a hole 20 foot deep about 100 foot from the sugar house and walled it up like a cellar. We built a heavy, steel, wood burning furnace and put it in the cellar with a chute in the draft door on one end to slide the wood in. On the other end we hooked on a 12" steel well casing which we ran over to the sugar house underground to keep it cool, and connected it to one of our 6 x 20 evaporators. We only used one 'cause this wuz just a trial. We expected the long casing would load up with creosote and when it got hot enough it would burn out but the casing could stand it.

For the first two days after we started her up, we just got a good rolling boil. The third day we loaded in more ties and got her warmed up a bit more and all of a sudden the creosote started to burn. It sounded like a volcano erupting. That big old chimney had so much draft it sucked the heat right through the flue pan and, boy oh boy, did the sap ever boil.

I kinda thought this would happen so before we started up I'd put sheet iron side boards 4 foot high around the evaporator pan just to keep them from boiling over. Sure took a lot of sap to keep her from going dry but we didn't seem to get much syrup out of it.

While we were standing around, trying to figure out what was going on,

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our neighbor, who lived down the road, came running in and said her wash was covered with something sticky that tasted like maple. Seems like the pans boiled so hard the sugar went right up the flue with the steam.

We told her we'd pay to have her wash done over on a day we weren't boiling so she was happy but that wasn't the worst of it. There was two maple trees in line with that cloud of steam and I guess they got coated pretty good. A couple of environmentalists happened to drive by and saw a whole bunch of squirrels chewing the bark off the trees. They told us it would kill the trees and made us shut down the whole operation. They're pretty powerful, you know.

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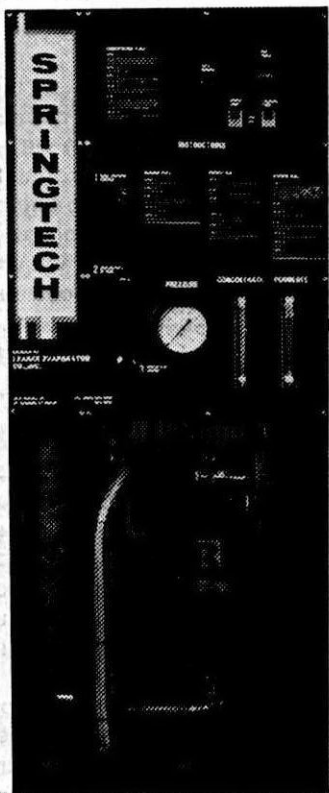
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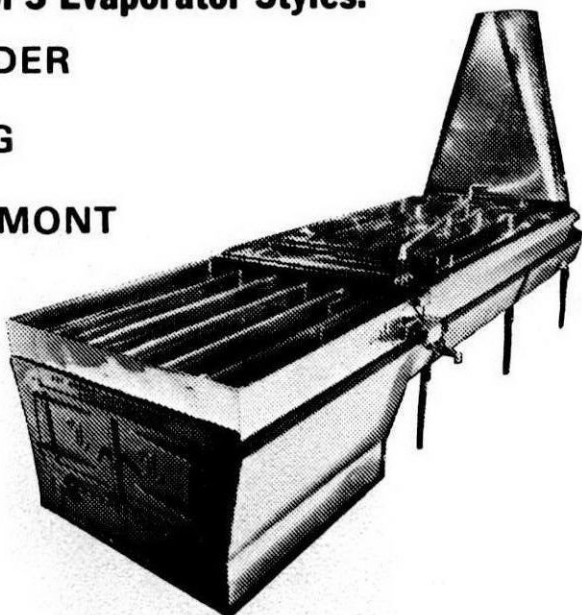
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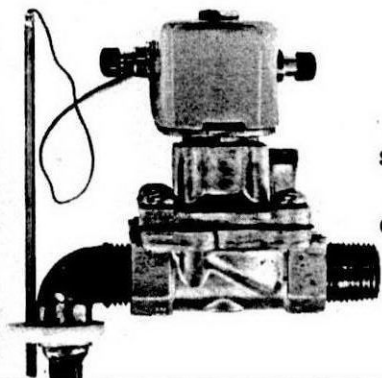
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