

NATIONAL MAPLE SYRUP DIGEST NATIONAL

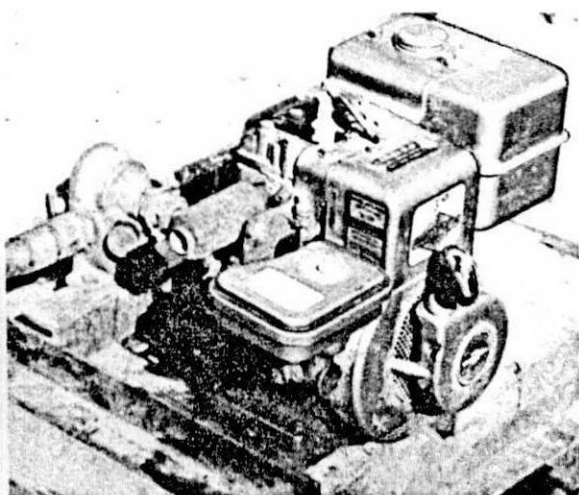


Vol. 13, No. 1

February, 1974

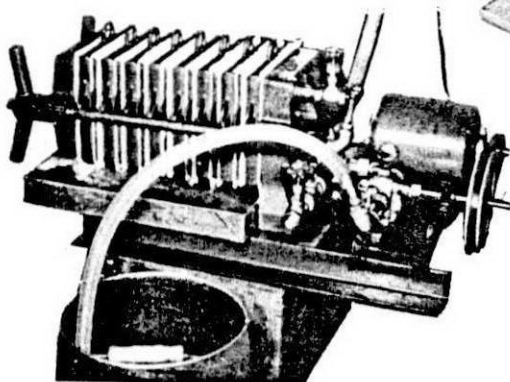
BULK RATE
U.S. POSTAGE PAID
BAINBRIDGE, N.Y.
PERMIT NO. 12

Address
Correction
Requested



SAP PUMP SUCKER FOR EFFORTLESS GATHERING

Pump and engine 50 ft. 1 inch Dia.
Rubber Hose

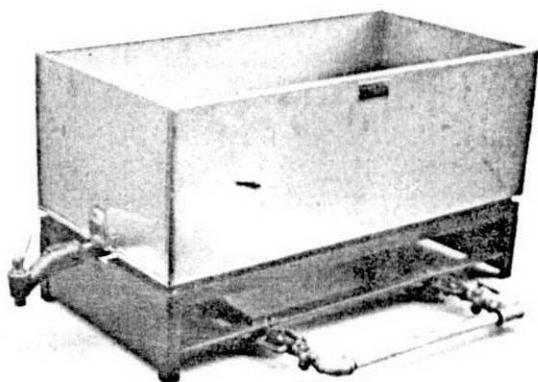


MAPLE SYRUP FILTER PRESS

Takes out all dirt and sugar sand.
Electric motor operates a bronze gear pump to push hot syrup thru filter and lift it to any height.
Capacity 2 gallons per minute.

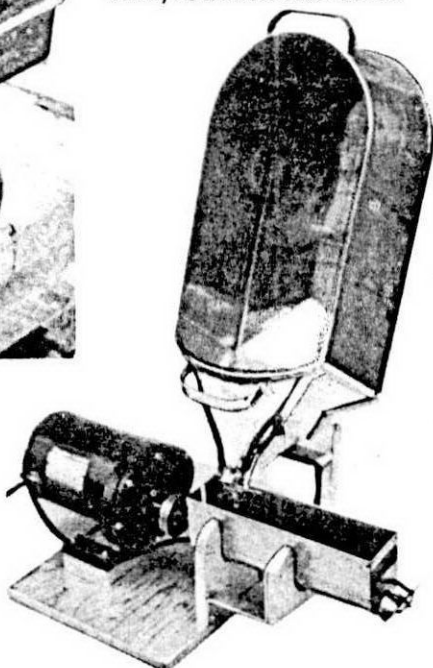
GAS FIRED FINISHING PAN

A new gas fired finishing pan for the smaller sized evaporators. Also ideal for making cream and sugar.
Rugged base and fittings.

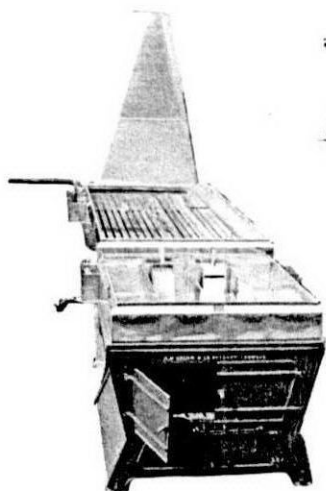


MAPLE CANDY MAKER

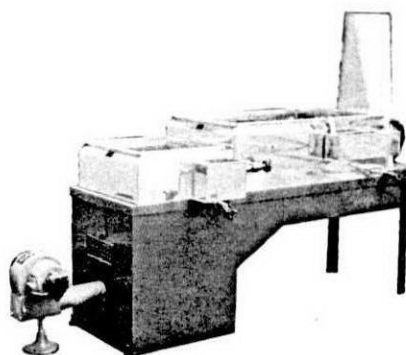
Time saver and profit maker.
Brings out maple flavor in candy. Stainless steel const.



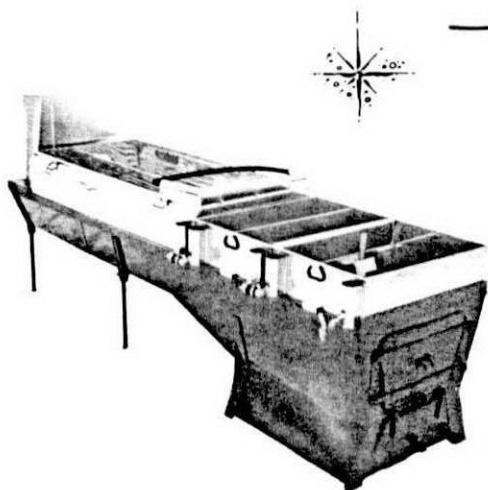
WOOD & OIL BURNING EVAPORATORS



4' x 12' WOOD LIGHTNING



2' x 6' OIL LIGHTNING



3' x 10' GRIMM EVAPORATOR



4' x 14' OIL LIGHTNING

G.H. GRIMM CO.

RUTLAND, VERMONT 05701

AC802 775-5411 773-9519

NATIONAL MAPLE SYRUP DIGEST

Printed by York Mail-Print
Bainbridge, N. Y.
Edited by Lloyd Sipple
Bainbridge, N. Y.

DIRECTORY OF OFFICERS

Kenneth Bascom Chairman
Alstead, N. H.
Rex Alwin Vice-Chairman
Mound, Minn.
Floyd Moore Sec'y - Treas.
Ocqueoc, Mich.
Ted Harding Director
Athens, Me.
Russell Davenport Director
Shelburne Falls, Mass.
Gordon Brookman Director
South Dayton, N. Y.
Ture Johnson Director
Burton, Ohio
Edward Curtis Director
Honesdale, Pa.
Robert Coombs Director
Jacksonville, Vt.
Adin Reynolds Director
Aniwa, Wis.

NATIONAL MAPLE SYRUP DIGEST

Published by: Lloyd H. Sipple
R.D. # 2
Bainbridge, N.Y.

Published four times a year.
(Feb., July, Oct., Dec.)

Postage
Paid at Bainbridge, N.Y. 13733
Mailed outside our circulation
area for \$2.00 per Year.



Printed by:
YORK MAIL-PRINT, INC.
Corner of Pruyn & Parsons Sts.
Bainbridge, New York 13733

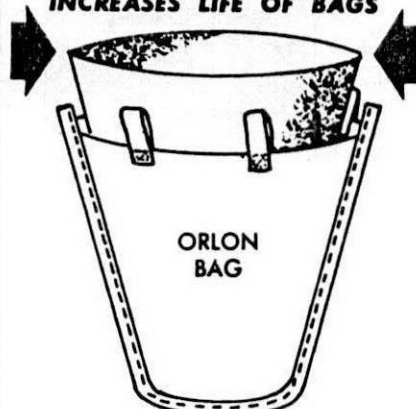
COVER PICTURE

We don't know if this creek is running because spring is approaching, the January thaw, or it just hasn't frozen yet. Anyway, it's a pretty scene taken near Bainbridge, N. Y.

DIGEST ADVERTISING RATES

2 Page Spread \$220.
Full Page 120.
½ Page Vert. or Hor. 65.
Column Inch 9.
Classified25 per word
Deadline for copy—
First of month preceeding issue.

FILTER BAG LINER SAVES TIME INCREASES LIFE OF BAGS



No need to remove filter bag from syrup filtering tank. Just remove liner from bag, rinse out solids in hot or cold water and replace. Liner has long life with careful use.

KOPEL FILTER PAPER COMPANY

2538 S. Damen Avenue, Chicago, Ill. 60608
Serving the Maple Syrup Industry
more than 25 years

Editorial

GOOD NEWS: The Digest had a good year last year. We ended up in the black for the first time in several years. This was due to an increase in both advertising and contributions and I want to thank everyone concerned for making this possible.

BAD NEWS: Just when I thought we were coasting down Easy Street, I got hit with a couple of curves. Everett Willard of Vermont's Dept. of Agriculture & Markets did a thorough job of checking over his state's mailing list and found about 600 producers who were not getting the Digest. These were added for the December issue at a cost of about \$200.00 and the increased cost of printing and mailing amounted to another \$200.00. I hopefully expect the contributions of these 600 to at least partly off-set this cost. But there's more bad news.

Our printer informs me the kind of paper we use has gone up almost 45% in the last six months! Must be folks are burning so much wood to save fuel there isn't any left to make paper.

This all means we've got a tough row to hoe this year but I'm confident we can make it. With your cooperation, I know we can. Just remove the return envelope from the center of this issue, sign your name and address, insert your contribution and drop it in the mail. If you don't care enough about the Digest to send a contribution, just ask to have your name removed from our list. We only do this once a year and now is the time.

Think of Cook's for all your Maple Syrup Supplies

**OUR STOCKS ARE COMPLETE
EARLY — ORDER NOW**

WE STOCK

Leader-King Evaporators (wood or oil fired)

Sap Buckets, Covers, SAP-SAKS

Red "Golden Maple" Syrup Cans
(4-sizes)

(Our stock on CANS is complete all year.)

Tappers, Bits, Spouts, Filters

Rubber Candy Molds (asst. patterns)

Storage and gathering tanks

Maple Cream Tubs - Syrup Bottles

Pellets, Tubing, Plastic Jugs , etc.

**COME TO COOK'S FOR ALL
SYRUP SUPPLIES**

Write for Free Catalog

**H.W. Cook
Farm Service, Inc.**

**Serving the Maple Industry for
53 years.**

Phone: 315-852-6161

DeRuyter, N.Y. 13052

Proven Plastic Containers for Pure Maple Syrup

TOUGH, HOT FILLABLE JUGS of XT[®] POLYMER



This beautifully silk screened container with the quality appearance of pottery is made from an outstanding new material — XT[®] polymer. Already in use for dozens of food products, this polymer has full FDA approval and provides impact strength at a competitive price.

The contour of this lightweight jug remains stable even under a vacuum. A pilfer proof cap is featured along with a choice of standard or custom decoration.

For further information contact your jobber, distributor or Kress Creations, 109 River St., Seymour, Conn. 06483. Ph: 203-888-6482

SAP PRICES

Each year, in the February issue, we publish a chart of the sap prices paid by one New York producer for the past two years and the proposed price to be paid in the coming season along with the respective retail and wholesale price of syrup in consumer packages.

This year the syrup price shows an increase of 15% while sap prices are increased about 6%. This is because the expected increase in fuel cost will affect syrup production more than sap production. Now all we have to do is wait and see if we're in the right ball park.

Year	1972	1973	1974
Retail	9.00	10.00	11.50
Wholesale	6.80	7.90	8.85
Sap Brix	per gal.	per gal.	per gal.
1.5	.023	.027	.029
1.6	.035	.039	.039
1.7	.044	.049	.049
1.8	.052	.057	.058
1.9	.059	.064	.066
2.0	.065	.07	.073
2.1	.070	.075	.079
2.2	.075	.08	.085
2.3	.080	.085	.091
2.4	.085	.09	.097
2.5	.090	.095	.102
2.6	.094	.10	.107
2.7	.098	.105	.112
2.8	.102	.11	.117
2.9	.106	.115	.122
3.0	.110	.12	.127
3.1	.114	.124	.132
3.2	.118	.128	.137
3.3	.122	.132	.142
3.4	.126	.136	.147
3.5	.130	.142	.152
3.6	.134	.146	.157
3.7	.138	.15	.162
3.8	.142	.154	.167
3.9	.145	.158	.172
4.0	.149	.162	.177

TUBING TIPS

By Malcolm Franz
Caledonia Essex County Forester
Montpelier, Vermont

In using plastic tubing and pipelines, many producers must keep tanks for storing sap in the woods. In areas of heavy snowfall, considerable weight can accumulate on the tank covers.

The use of clear plastic as a covering is recommended to allow sunlight into the sap, but this heavy snow can stretch and sometimes tear the plastic.

We have found that building a wood frame and covering it with 1-inch mesh chicken wire will support the plastic very well, and prevent tearing. The wire mesh should be pulled very tightly and stapled all around the edge of the frame. The plastic can then be stapled over the entire cover and will last all season.

Another gimmick which has been tried to solve the problem of sap warming too much in a long line to a storage tank can be solved as follows:

Run the mainline through a larger pipe and direct a cold stream of brook water through the larger pipe. The runoff water will be very cold and will cool the sap back down before it enters the storage tank.



La Beauce

Pure Canadian Maple Syrup Co.

IMPORTER — EXPORTER

— IN DRUMS —

All Produce Graded and Analyzed By
A Registered Government Inspector

10 FLATBUSH AVE.
HARTFORD, CONN. 06106
Tel: 203-246-0185

*PREHEATERS For Open-Pan Evaporators

G. Raithby & W. Hallett

University of Waterloo, Waterloo, Ontario

Probably the most urgent need of the industry today is for more efficient equipment for the evaporation process. The increased cost of fuel and labour, and the probable future scarcity of oil and natural gas, highlights this problem. The work which is described below is a first step towards improving the efficiency of oil- and wood-fired open-pan evaporators.

THE EFFECT OF A HOOD ON THE EFFICIENCY OF AN OPEN-PAN EVAPORATOR

It is clear that modern pan covers are advantageous for several reasons. What is apparently not clear is the effect of a tight-fitting hood on the evaporator efficiency.

A study of this problem was initiated by the writers by performing some laboratory tests. Although this study is not complete, the results so far indicate that the pan cover would decrease the time required to bring the sap to the boiling point but once boiling begins, the rate of evaporation should not be measurably influenced. These tests were run using water; therefore, these results should be valid for boiling sap but may not hold exactly for syrup.

HOOD ALTERATIONS TO IMPROVE EFFICIENCY

While the hood itself does not appear, then, to increase the evaporator efficiency, some progress towards altering the hood to increase the efficiency can be made by recognizing where the energy released in the combustion process flows and how it is used. For

example, most of the energy which passes through the bottom of the pans is used to change the phase of the water from liquid to vapour. The amount of energy required to evaporate one pound of water at atmospheric pressure (called the heat of vaporization) is about 970 Btu, and this energy is carried away with the steam through the hood. Since this steam is dumped into the atmosphere, a great amount of energy is "lost". A simple way of using some of this energy will soon be described. First, however, let us look in more detail at the energy flow and usage in the open-pan evaporator.

Figure 1-A shows sap entering an evaporator at 35° F. Before proceeding with the evaporation, this sap must be brought to the boiling point (around 210° F) and this requires about 175 Btu for each pound of sap. Of the pound of sap now at its boiling point only a small fraction leaves the evaporator as syrup; most leaves in the form of steam. Therefore almost 970 Btu (the heat of evaporation of 1 pound of water), are required to boil off the required amount of water. As shown in figure 1-A, 1145 Btu are then required to process each pound of sap entering at 35° F.

It now becomes clear that a substantial saving could be obtained by

LAMB TUBING SUPPLIES

Electric Tappers
Flomore Pellets

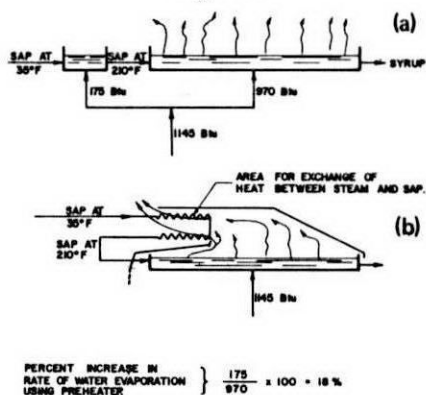
GORDON H. GOWEN

Tamarack Farm

Alstead, N. H. 03602 835-6531

using some of the steam to accomplish the preheating. Figure 1-B is a schematic drawing showing how such a system could operate. In this diagram, the cold sap is brought into the hood through tubing where contact with the hot steam is made. If enough area for heat exchange is provided, the sap temperatures could theoretically be raised almost to the steam temperature (210°). This sap is now introduced to the evaporator where boiling immediately begins. In the drawing, the steam is shown as flowing past the tubing containing the sap. When the steam encounters the cool tubing, the steam changes phase back to water, releasing its heat of vaporization to heat the sap. This condensate (distilled water) drips from the tubing and must not be allowed to fall back into the pan. Fig. 1-b shows a possible scheme where this condensate falls on a tray which carries it away.

Figure 1



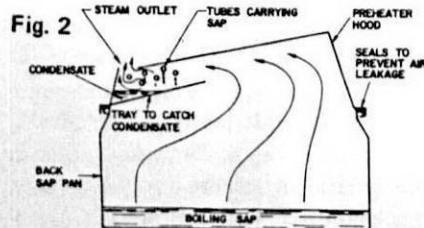
Now the increase in efficiency due to using steam to preheat the sap will be calculated. For every 1145 Btu passing through the bottom of the pans, about 175 Btu could be saved by using the preheater to bring the sap to 210° F. This means that all 1145 Btu

can now be used for evaporation, or that $1145/970 = 1.18$ pounds of sap can now be processed. Without preheating only 1 pound of sap would have been processed. Therefore preheating can result in an 18% increase in the amount of sap processed per Btu passing through the bottom of the pans.

It would not be practical to bring the sap right up to its boiling point in the preheater because a very large heat exchange area would be required. However, it should be quite practical to raise its temperature to 195° F. Supposing also that the sap entered more typically at 45° F, the amount of energy flowing from the steam to the sap in the preheater is $195 - 45 = 150$ Btu per pound of sap. Now 995 Btu must pass through the bottom of the pans to process each pound of sap. Therefore the 1145 Btu will process $1145/995 = 1.15$ pounds of sap, or the preheater allows about 15% more sap to be processed for the same energy input.

Since the total heat transfer through the bottom of the sap pan is controlled almost completely by what is happening (radiation and gas flow configuration) on the hot gas side of the pan surface, it would be expected that the total rate of heat transfer would not depend on the presence or absence of preheating. Therefore, a preheater should allow (or process) between 15% and 18% more sap per hour to be processed at a given temperature firing rate. The job of processing a given amount of sap is then completed with this percentage time saving, and fuel saving also since the evaporator is shut off earlier. As a free bonus, the condensate is a source of pure (distilled), hot water which can be used for washing filters, cans, etc.

A preheater hood along these lines was designed, constructed, and placed over the flue pan (5'x8') of an oil-fired evaporator¹ (5'x18') overall). A cross section of this hood is shown in Fig. 2.



The steam was forced to flow past a bank of tubes in which the cold sap was moving. These tubes were connected so that the sap moved down the first tube for the length of the tube bank, back in the second tube, down in the third etc. until it had moved through each of the tubes shown. The sap, now heated, was then ducted through the float valve into the evaporator. The condensate dripping from the tube bank was caught on the tray shown and ducted away.

Tests were run throughout the 1973 season to determine whether the predicted saving could be realized. The valving leading to the preheater was such that the cold sap could be made to bypass the preheater and enter the pans directly or could be made to flow through the preheater before entering the pans, so that evaporator performance with or without the preheater could be assessed. The oil firing rate was the same throughout all the tests.

In the experiments, the rate of sap flow through the evaporator was measured (by measuring the volume change of sap in the storage tank over timed intervals), the rate at which condensate was formed was found by weighing, and the temperature of the sap entering the pans was determined using a ther-

mometer. The evaporator was operated alternatively for about 2 hours with preheating, and then for about 2 hours with the preheater bypassed. The comparison of the rates at which sap was processed are found in Table 1.

With the preheater in use, about 17% more sap was handled per hour on the average. This is in the range of the predicted increase. The condensate from the preheater flowed at a rate of about 30 gallons of water at 190° F per hour. The temperature of the sap entering the pans was between 184° F and 199° F.

It is clear then, that substantial savings can be achieved by using a preheating hood. Although such hoods have not yet been made available on the market², it appears that fuel savings alone will pay for an entire preheater hood in three to four seasons in large or medium sized operations. This write-off time is about halved if labour costs are accounted for.

OTHER TYPES OF PREHEATERS

Before concluding this article, a few words should be said about other types of preheaters. The writers are aware of several preheaters which have been located in the stack or firebox of evaporators. There have been varied reports of the amount of fuel and time saved. One frequent complaint about this type of unit has been the problem of scorching the syrup which forms in the tubes at start-up and shut-down of the evaporator. From an engineering point of view there are other problems. First, if a preheater is located in the firebox, it is robbing energy which might otherwise have passed through the bottom of the pans; if it is located in the stack, to raise the temperature substantially either requires that the

stack gases be quite hot (so that the evaporator is operating inefficiently) or that a very large amount of heat-transfer surface is provided. If the large amount of tubing is installed, and the exhaust gases are cooled to a low temperature, the pressure drop through the system may restrict the air flow to a degree that efficient combustion in the fire box becomes possible. If, on the other hand, the evaporator is run with a high stack-gas temperature to accomplish the preheating, the same heating could be done more cheaply and efficiently by using, instead, an extra pan on the evaporator.

Preheating using steam appears to be a better method. [Since the sap temperature cannot exceed the steam temperature, there is no danger of

scorching the sap, and for other reasons given in the summary.] It has come to our attention recently that one producer³ already uses steam to accomplish some preheating of the sap. We would appreciate hearing about other producers who have used this method!

*Work supported by the Ontario Ministry of Agriculture and Food.

¹ Evaporator of Mr. E. Reist, Elmira, Ontario.

² Shantz Brothers Ltd. have agreed to market a more advanced design of hood than shown in Fig. 2. Information on these hoods, costs, etc. can be obtained by writing to Box 953, Waterloo, Ontario, Canada.

³ Earl Shiebe, Bayfield, Ontario.

ATTENTION VERMONT SUGARMAKERS

In these days of shortages, careful planning should be a key word. Since products made of steel or plastics will be hard to get if not impossible in some cases, it will be necessary to order well in advance. It is not too soon to be anticipating needs of 1975.

Avoid tapping as many "low sugar" trees as possible.

Remember your state association (VMSMA) has syrup cans for sale in all sizes, also cartons for ½ gals., posters, brochures, tapes, labels and grading sets.

Have you joined VMSMA for 1974? Have you sent your dollar for the Maple Digest yet? If not, please DO IT TODAY! We want to keep it coming to you. Clip and mail the form below to Mrs. Carolyn Perley, RD 1, Richford, Vermont 05476.

=====

NAME _____

ADDRESS _____ ZIP _____

COUNTY _____

VMSMA MEMBERSHIP - \$2.00 _____

DOLLAR FOR DIGEST - \$1.00 _____

NOTE: Send Digest dollar even if you have membership or don't want one.

VERMONT MAPLE SUGAR MAKERS ASSOC., INC.

THE ENERGY CRISIS:

What it means to you as a producer

The energy crisis is having an impact on many different industries in the United States, and the maple syrup industry will begin to feel its effects this sap season.

One of the major energy inputs to the production of maple syrup is No. 2 fuel oil used in processing sap to syrup. And this is where the energy crisis will have a pronounced impact on the industry.

The exact percentage of the U. S. maple crop produced with fuel oil is unknown. Conservative estimates would put it at about 35 to 40 percent of the total. Perhaps the only thing definite about fuel oil is that the price will be higher than last sap season.

The following information was developed to help maple producers cope with the energy crisis. Producers who might need specific assistance not covered here, are urged to contact their maple extension specialist for help in resolving their particular problems.

The Price of Oil

The price of No. 2 fuel oil has risen

significantly in the past year and as this article is being written, is averaging 30c+ nationwide. Most producers buying now will pay that price or higher. World fuel adjustments and another round of price hikes will occur before you read this, and the price may well approach 35c per gallon. Therefore, if you need fuel and can get it at or near these prices, you would be strongly advised to do so.

To assess the impact of increased fuel prices on the total cost of syrup production, we increased the average price paid for fuel oil last sap season (21.5c per gallon) by 10c, 20c and 30c per gallon. We then added the increased fuel price to the annual operating cost per gallon of syrup, as determined in a recent study on the cost of maple sap and syrup production. Table 1 shows the effects of increased fuel prices on the total cost per gallon of syrup.

What does this mean to the sugar producer who uses oil fired evaporators? Basically this, each 10c increase in the price of fuel oil over last year's

LES JONES' "Do It Yourself" instructions available. For convenience buy your burner locally; use "Do It Yourself" DETAILED Instructions for easy and CORRECT installation.

Mrs. Les Jones

Holcombe, Wisconsin

54745

price will increase the syrup cost per gallon by 45 to 50 cents. In other words, if your fuel cost last year was about \$1.00 per gallon of syrup, it will be about \$1.45 this year if the price of fuel goes up 10 cents. If it goes up 20 cents per gallon, add another 45 cents to the \$1.45 cost of fuel. Table 1 shows the breakdown of production cost items over four fuel price levels (21.5c, 31.5c, 41.5c and 51.5c per gallon.

Further, using last year's (1973) average bulk syrup price of 60c per pound and a production cost of \$5.65 per gallon, (fuel price of 21.5 cents per gallon) a profit was made. This year, if the price of fuel oil approaches 41.5 cents per gallon, most producers would be near the zero profit situation (see Table 1). This assumes, of course, that a charge is made for capital (interest, depreciation, etc.) and all labor is paid a wage of \$2.25 per hour. Those sugar makers who do not consider interest and depreciation as a cost of produc-

tion and/or those who have family help, may be able to stand a somewhat higher fuel price before they approach the zero profit situation.

The cost of fuel may weigh heavily this season as a proportion of total cost. It could be as much as 1/3 of your total production cost if fuel reaches 51 cents per gallon. This increase in production cost should, therefore, guide the pricing of your syrup.

The Price of Syrup

Each individual must price his syrup in light of his own cost of production, the demand for his syrup, and the overall supply of syrup in the market he sells in. Based on last year's (1973) prices, all producers using oil and even wood, will have to make adjustments. The following hypothetical examples illustrate these adjustments in price.

1973 Retail Price:

Production Cost - \$5.65, Container - \$.50, Marketing Costs (15% of produc-

SOULE EVAPORATOR & CAN COMPANY

Fairfield, Vt. 05455, Phone: 802-827-4467

We carry only the highest quality sugaring equipment made, the famous "Canadian Lightning". A complete line of storage tanks, filters, gathering tanks and, of course, the complete line of evaporators and arches are in stock. All sizes, wood, oil, and gas are available for your inspection and immediate delivery. These are sold directly to you at factory prices to save you 20 to 30 percent or more.

Come see us at Fairfield. We ship anywhere in the U. S. A.

⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕ ⊕

— Attention —

All grades of bulk syrup for sale at reasonable prices; Vermont grades: Fancy, A, and B (light amber, medium amber & dark amber table grades.)

Table 1. — The effect of increased fuel price on the cost of producing a gallon of maple syrup.

Cost Factors per gal. of syrup	Fuel Price Levels (per gallon)							
	21.5c*		31.5c		41.5c		51.5c	
	dollars	%	dollars	%	dollars	%	dollars	%
Capital Cost	1.83	32	1.83	30	1.83	28	1.83	26
Labor Cost	1.97	35	1.97	32	1.97	30	1.97	28
Fuel Cost	.97	17	1.42	23	1.87	29	2.32	33
Miscellaneous	.88	16	.88	15	.88	13	.88	13
TOTAL	5.65	100	6.10	100	6.55†	100	7.00	100

* Average price paid per gallon of No. 2 fuel oil, in the 1973 sap season.

† 1973 breakeven point (no profit, no loss) based on bulk syrup price of 60c per pound.

tion cost) - \$.85, Total Cost - \$7.00,
Shelf Price (25% markup) - \$8.75.

Adjusted 1974 Retail Price:

Production Cost - \$6.55, Container -
\$.52, Marketing Costs - \$.98, Total
Cost - \$8.05, Shelf Price (25% markup)
- \$10.06.

**SHOW OFF YOUR FANCY
SYRUP IN**

**JUGS BOTTLES JARS
MAPLE PRODUCTS SELL
BEST IN GLASS**

WE ALSO CARRY MANY

TYPES OF PLASTIC CONTAINERS

INCLUDING THE KRESS JUGS.

Send for complete list.

**M.R. CARY CORPORATION
219 Washington Square
Syracuse, N.Y. 13201**

Oil; the problem of supply.

Whether the 1974 short supply of fuel oil resulted from poor management or overindulgence, remains to be seen. The point is that you may not be able to get all or even part of your needs, regardless of price offered. As such, you should make every effort to procure your supply now, or as soon as practical. If you have difficulty, contact your state energy office for assistance. Names of the various state officers and their telephone numbers are as follows, with state, Allocation Officer and telephone number in that order:

Maine, Fred Hayward - 207-622-6201
Massachusetts, Dr. Richard Burns -

617-727-3480

Michigan, Richard K. Helmbrecht -

517-373-1820

New Hampshire, Paul Nelson -

603-271-2711

New York, John Edwards -

518-474-8313

Ohio, Edward Turk - 614-466-7700

Pennsylvania, William Wilcox -

717-783-1835

Toll Free Hot Line - 800-832-0333

Vermont, Forest Orr - 802-828-2768
Wisconsin, Stanley York -
608-266-8234

Also, inform your extension specialist of your problem. These professionals will be abreast of your home state situation.

State Extension Specialists in Maple:

Maine, Lewis Bissell - 207-581-1110

Michigan, Mel Koelling - 517-355-0090

New Hampshire, Joseph Szymujko -

603-543-3181

New York, Fred Winch - 607-256-2114

Ohio, Ture Johnson - 216-834-4417

Pennsylvania, Edward Farrand -

814-865-5331

Vermont, Raymond Foulds -

802-656-2620

Wisconsin, Ted Peterson - 608-262-3357

Minnesota, Marvin Smith -

612-373-2851

Indiana, Ed Lott - 317-749-8111

If you cannot get fuel from any source, or the price is more than you are willing to pay, consider converting your arch to wood fuel. If your arch was originally designed for oil, you can make minor, inexpensive adjustments to convert to wood. Basically, it will require constructing a grate, fire box doors, and a draft door and door

**WANT TO SAVE LABOR
AND BOILING TIME?**

**EVAPORATOR
GAS BURNERS**

Manufactured By
ELMER WINTER

11171 Sisson Highway
North Collins, N.Y. 14111

Engineered for the Job
Clean Pans, Instant Heat, No Soot
Proven since 1952

No Electricity Needed
No Service - Nothing to Wear Out
**CAN BE USED IN ANY
EVAPORATOR**

**Right Now We Have A Good
Stock of Just About Anything
You Will Need to Make Any
Maple Product.**

BUT

ORDER EARLY

**ALMOST EVERYTHING
HAS A PRICE INCREASE
WITH EVERY ORDER!**

**Best Wishes
For a Good Season!**

**WE BUY & SELL
BULK SYRUP**

**Smada
Farms
Inc.**

**Rt. 41, North
GREENE, N. Y. 13778
607-656-4058**

Lamb - Grimm - Lightning - Kress

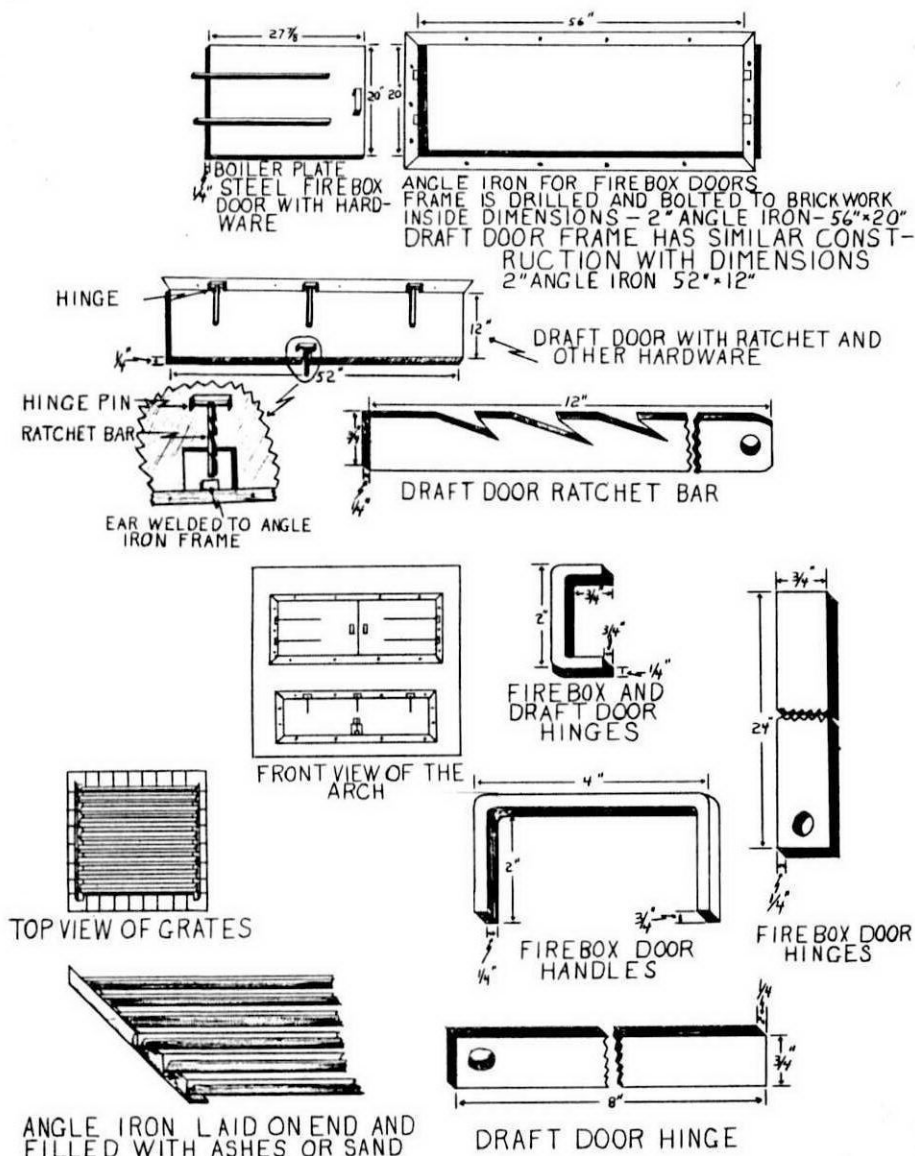
frames.

The following diagrams (figure 2) can be given to any welder, and with boiler plate steel, flat iron, and angle iron you can fabricate the necessary items for conversion to wood. Although the drawings were intended for a 72"

wide arch, you can easily alter them for other equipment.

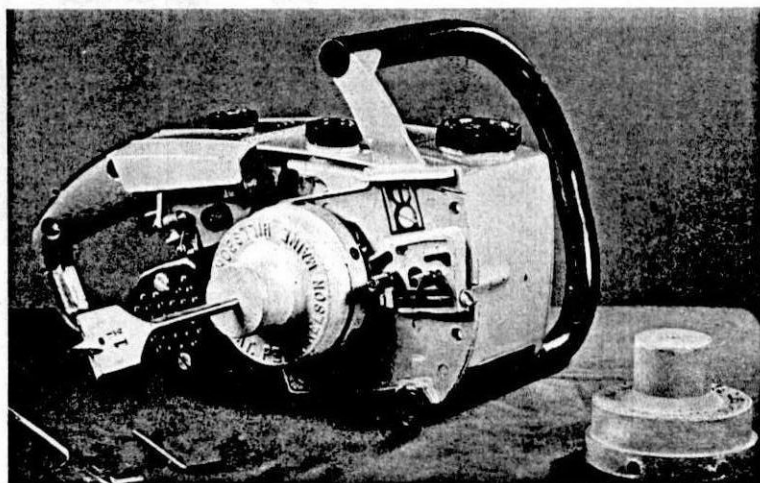
This information was developed from the contributions of the Vermont Maple Industry Council, Energy Committee and developed by David Garrett, U. S. Forest Service Research.

FIG. 2: GRATES, DOORS, FRAMES, AND HARDWARE



E-Z-TACH

DRILLING ATTACHMENT FOR CHAIN SAWS



■ **INSTALLING TIME LESS THAN 5 MINUTES**

Remove Bar & Chain With Wrench Furnished By The Saw Manufacturer.

■ **SPEEDY DRILLING**

Holes From 1/4 inch To 1 1/2 inch Can Be Drilled With Ease. Flat Speed Bits Are Used and They Are Ground To Cut Counter Clockwise. A 1 1/2 inch Hole Can Be Drilled In Hard Wood At About 1 inch per Second.

■ **SAFETY**

Since This Attachment Is Mounted On The Outside Of The Clutch Drum, The Drill Will Stop With The Motor At Idle.

■ **FITS -**

HOMELITE: E2 - EZ - AO - XL101 - 102 - 103 - 104 - 113 - 114
123 - 150 - H-1 (2-3/4"*) - H-2 (3"*)

STIHL: 1020 - 021 - 030 - 031 - S-1 (2-5/8"*) - S-2 (2-7/8"*)

PIONEER: PI-1 (2-5/8"*) - PI-2 (3"*)

POULAN (LIL JON): PL (2-3/4"*)

MCCOLLOCH: M-1 (2-7/8"*) - M-2 (3-3/8"*)

PARTNER

*O.D. Clutch-size. Check O.D. Clutch drums on models not shown

"Tapping the trees is no longer the drawn out job it once used to be. There is now an adapter kit for tapping trees available to chain saw owners and once attached, the sugar maker can tap his trees in half the time. Manufactured by Nelson Maine, Hillsboro, N.H., this drilling attachment is mounted on the outside of the clutch drum. As a safety precaution, it stops when the motor is at idle." —Chain Saw Industry & Power Equipment Dealer, November-December, 1973

See your dealer, or send check or money order for \$30.00 to

NELSON MAINE, HILLSBORO, N. H. 03244

Ph: 464-3256

Please State Model

Price:
\$30.00
At Your
Dealer



IF YOU MAKE MAPLE SYRUP YOU NEED OUR CATALOG

HERE ARE JUST A FEW OF THE ITEMS AVAILABLE



MODERN SAP COLLECTION
Throw-Away Bag



Trouble With Moldy Syrup?
Use FERMIBAN
Inexpensive!



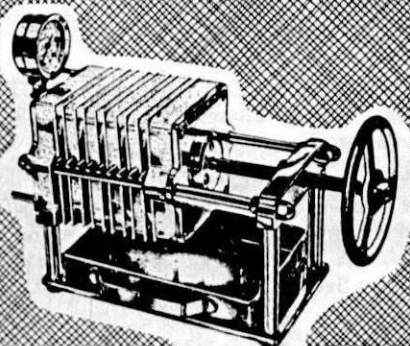
TAPERED BUCKET
BRUSHES
Full Size



REFRACTOMERS
For Extreme Accuracy
In Syrup Testing



Old Fashioned Earthen Jugs
All Sizes
2 Oz. Up To One Gallon



PRESSURE FILTERS FOR
SPARKLING CLEAR SYRUP



POLETHYLENE
LINERS
For Leaky
or Rusty
Buckets

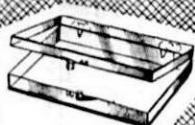


CANDY CUPS

GOLD FOIL
Pressure Sensitive
NAME STICKERS



Light Weight
Big Capacity
GATHERING PANS



Plastic As Well As Paper
CANDY BOXES—Many Sizes



Glass Jugs
Bottles - Decanters
Plastic Bottles
and Jugs
All Styles and Sizes
of Syrup Cans

Non Toxic Paint
For Buckets and Tanks



ALL MAKES
OF EVAPORATORS

WE NEED MAPLE SYRUP - SEE OUR AD THIS ISSUE

SEND FOR A
FREE COPY
OF OUR CATALOG



REYNOLDS
SUGAR BUSH INC.

ANIWA, WIS. 54408 Ph: 715-449-2057

LETTER TO THE EDITOR —

Archie's Sugarbush
Columbis, Ohio

Mr. Lloyd Sipple
Bainbridge, N. Y.

Your Honor:

I've read in your wonderful little magazine about the many nice people who today are making maple syrup in the North East. Now Ohio makes a little dab now and then. In fact, I remember when we was third in this good ole U.S.A. Well anyway, before things change, I thought it best to put it down in writing about a few things which happened in the sugar bush south of Columbus, Ohio.

You have heard of the winter of the blue snow and how deep the snow was and how the steam thrashing engines were fired up to melt the snow between trees. Why, we had paths melted from tree to tree so we could gather sap without mushing through snow neck deep. Those paths were great. By making each guy gathering wear a different color stocking cap I could see the entire operation from a big rock. Those paths were mainly in a big circle. The sap flowed so fast, the gatherers began running in the circle gathering it. The colors of the stocking caps all blended into one color. That was how the colors of the spectrum was discovered.

Some guys think Lamb discovered tubing. Heck, he only made it possible for everyone to use it. Now down in them hills there was one patch of sugar trees growing on an overhanging cliff. The underside, that is. Well, anyway, it came time for tapping so I figured they ought to be real producers. I couldn't use buckets because hanging upside

down on the underside of the cliff all the sap would run out. Now there was a thing called sausage casings. My wife sewed them together and using chewing gum at each sewing made the most beautiful pipeline system going.

The trouble we had with our pipeline was something. I fastened it to a beer keg with a wooden spigot in the end. There was so much pressure coming out of that spigot when the run was on that when I opened it the force dented the bottom of the pan. If you don't believe me, I can show you the dent.

Then we tried elastic sausage casing. That really helped with the storage problem. We put a valve (beer spigot) every 20 ft. in the casing and let it expand to 4 ft. in diameter before shutting off the spigots. Each one of those bulges would store about 15 barrels of sap.

Then there was the time we bought some of Lambs tubing. We tapped this mountain according to the book but Bob forgot about pressures. About the middle of the afternoon of the first run the sap started coming off the mountain and the bottom hose, about 3 inch, was just stuck in a 30-barrel storage tank. Did you ever see a fire hose run wild? It took 4 tough Finlanders to hold it down.

I had to do something about an evaporator that could handle the volume of sap off the mountain so I ordered one out of Cincinnati. I knew an ordinary gravity system wouldn't work so I had them make it for cross-wise flow, even though the partitions ran lengthwise. It was called a double reverse, single action, bio-thermal evaporator. They don't make them anymore.

It also had its problems, like the

time we got the thing all fired up and couldn't handle the syrup as it came off. We borrowed all the milk cans from the creamery and filled them with syrup. The next day they had to shut down the creamery because of a shortage of cans.

And wood—why we had a big Swede who had a special axe for cutting firewood. He fastened it with a thong to his wrist because the handle got so hot it would blister his hands. He would stand in the center of a pole-size stand of hickory and start swinging. Each revolution was about four feet closer to the ground and, as he swung, the axe would click off 4 ft. sticks like matches. Those sticks were just the right size for the evaporator.

I would like to tell you some more interesting things about maple syrup making in Ohio, but my wife says I must maintain my truthful reputation, I sure wouldn't want it spoiled.

Sincerely,
Archie

The Maple Syrup Industry Is Still Alive

By W. A. Humphreys
Barrie, Ont., Canada

There was an auction North of Belleville one Saturday early in September. The flyer had listed a 5'x16' evaporator, used only four seasons, a gathering tank, several storage tanks, a syrup canner, one thousand buckets and covers. Sometimes at farm auctions in the summer time, maple syrup equipment does not sell for a very good price as there is not too much demand at this time of year.

What a surprise when I popped in to

see what was going on! There was Cyril Shaw of Eldorado, standing over the evaporator as though he had bought it.

"Is it sold?", I asked.

"Not yet", said Cyril, "but I'm hoping to bid on it."

There were several other maple people at the auction also, including Bill Robinson of Eldorado, Ken Holland of Crookston and Brien Paul of Lanark. One chap, Mac Neaves, was a very long way from home. He has a maple syrup operation at Dresden, Ontario which is the other side of London and possibly 400 miles from the auction.

All these maple syrup producers and others whose names I did not know were there to bid on the maple syrup equipment. It was almost like a maple syrup convention. The auctioneer started with the evaporator complete with wood-fired arch and smoke stacks. The bidding was brisk and when the auctioneer finally said, "Sold.", the proud owner of this 4-year old evaporator was Mac Neaves of Dresden. Mac is President of the Southwestern Local of the Ontario Maple Syrup Producers' Association and will be at the Sugar Shack at the Plowing Match in Alvinston one of the Plowing Match days.

The rest of the syrup equipment was sold to several other producers at very good prices.

It was encouraging to see that maple syrup equipment is still in demand.

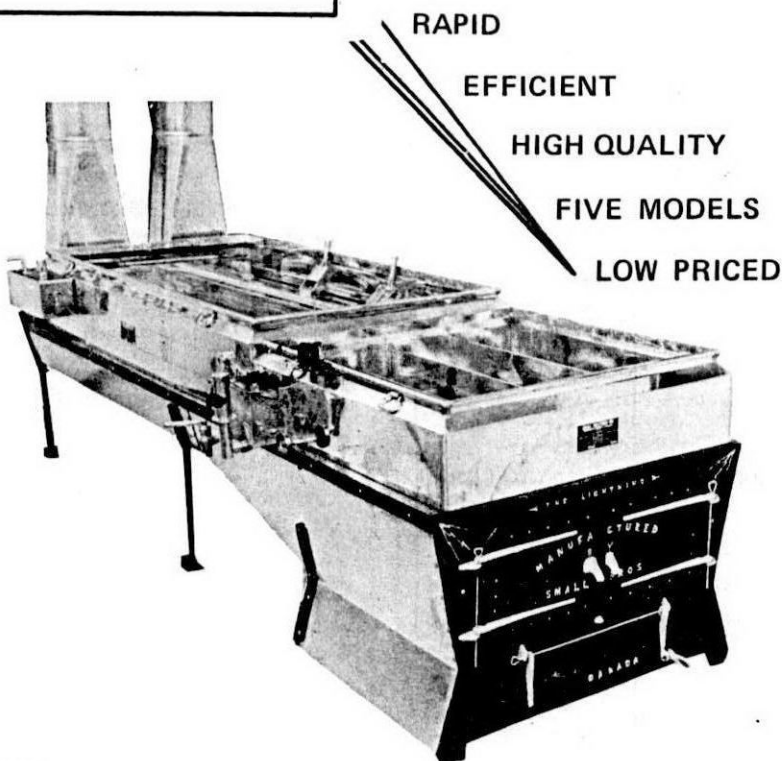
The only piece of equipment that did not sell very well was the sap gathering sled. The auctioneer said, "Who will give me \$5.00?" Nobody said anything. When he got down to 50c, I put up my hand. It was mine.

If we ever get our maple museum going, you may see this sled underneath one of the antique wooden gathering tanks. 50c well spent!

EVAPORATEURS
Lightning
EVAPORATORS

YOUR FASTEST WAY

TO MAPLE SYRUP



RAPID

EFFICIENT

HIGH QUALITY

FIVE MODELS

LOW PRICED

✿ THE MODERN EVAPORATOR FOR PROGRESSIVE PRODUCERS SEEKING QUALITY PRODUCTS WITH SPEED OF OPERATION.

✿ MANUFACTURERS OF A COMPLETE LINE OF MAPLE SYRUP SUPPLIES.

Phone Or Write For Your Nearest Distributor.
Catalogues Available Upon Request.

SMALL BROTHERS INC.
Dunham, Quebec, Canada. Telephone (514) 295-2441

SOMERSET COUNTY Hosts Pa. Maple Tour

By J. A. Bochy

County Agent,

Somerset, Pennsylvania

Approximately 100 persons participated in the Annual Pennsylvania Maple Tour sponsored by the State Maple Syrup Council and which was hosted by the Somerset County Maple Producers Association. The bus entourage was headed by Ed Curtis of Honesdale, president of the state unit, L. J. Stairs of the local group and County Agent Jim Bochy, host county agent who acted as coordinator.

LABELS FOR

MAPLE SYRUP, CREAM & SUGAR.

**Pressure Sensitive Labels & Tapes
for use on Glass, Plastic or Metal
Containers.**

For information write to

WILLIAM L. CHALMER

150 Traverse Blvd., Kenmore, N.Y. 14223

The Holiday Inn of Somerset served as headquarters for the two-day event held under ideal weather and foliage conditions on October 5 & 6. The itinerary included visits to:

1. *Schmidts Sugar Shack*, a new installation set up by Dale Schmidt, an industrial engineer and son of a former maple producer who incorporated a great deal of new technology in his semi-automated maple operation.

2. *Ernest Miller Camp*, this relocated camp was moved into a large machinery shed adjacent to the Miller home. Natural gas is used as fuel and convenience of operation is the key feature of this camp.

3. *Roy Blocher's Camp* featured something old and something new. The Blochers cater to the tourist trade and attempt to maintain a rustic atmosphere about the premises. A modern

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?

kitchen-sales room caught the attention of the visiting group.

4. *The Somerset Historical Center* with its 1850 relocated Maple Camp was visited. A slide illustrated history of western Pennsylvania along with flax and wool craft demonstrations caught the attention of all.

5. At the *George Baer* maple woodlot, tubing demonstrations were installed by Bob McConnell and Garner Mitchell of Coudersport (ground lines) and by Russ Walters of the U.S. Forest Service lab at Burlington, Vt. (Aerial lines) Mr. Walters also operated his tubing washer at this location.

6. *The Mountain Meadow Maple* operation owned by Mr. & Mrs. B. F. Walters was the final point of visitation. This central evaporator has been in operation for eight seasons. The expanded facilities house four giant oil fired evaporators and other modern features. The show and sales room is tastefully furnished and another side room features maple and farm antiques. Saturday lunch was graciously provided by the Walters'.

The Oakhurst Tea Room was the site of the Friday evening banquet which was in smorgasbord style. The evening program started with welcoming addresses by presidents Curtis and Stairs followed by a colored slide program featuring Ralph E. Barnett, retired Superintendent of Schools and outstanding photographer, narrator.

His program featured maple camps and wildflowers of Somerset County. Entertainment followed after which President Curtis held a meeting of State Maple Council Directors.

Tourists came from New York, Ohio, New Hampshire, Vermont and all the maple producing counties of Pennsylvania.

Classified

MAPLE INDUSTRY CONSULTANT — Layout and installation of vacuum tubing systems a specialty. Also, feasibility studies and sugarhouse design. References. Available for work anywhere in the maple region. DAVID R. MARVIN Johnson, Vermont 05656, 802-635-7483.

Use our beautiful four colored gummed for glass labels. Three sizes imprinted with your name, contents. We are western warehouse for Leader, King, and Vermont evaporators. Leader distributor for past forty years. Most replacement sizes stocked. SUGAR BUSH SUPPLIES COMPANY, Box 1107, Lansing, Mich.

Leader Evaporator, gas fired, 2'x5' 55 Complete w/arch, Syrup filter press w/motor, Papers, Hose, Dial thermometer, 1 lb. Molds and Boards, Leader 55G tin filter tank (4 hole) w/wool filters, Cone prefilters. All used once in pilot plant. Excellent condition. \$850 f.o.b., Santa Cruz, CA. Call or write HARMONY FOODS, INC., PO Box 1191, Santa Cruz, California 95061. Ph: (408) 426-5021.

KING 4' x 12' evaporator, 700 buckets, tanks, spiles. Robert Humphrey, Grand Ledge, Mich. 48837. Ph: 517-627-6194.

Complete sugaring outfit. 6 x 12 Vermont evaporator, oil fired, 2 Lynn burners, 3000 buckets, covers & spiles, 3 storage tanks, 5 gathering tanks, 2 trailers, cream machine, electric tapper, 1500' 1" plastic pipe and everything else to make sugar. It all goes in one lot or separate pieces. Excellent condition. HERMAN KATHMAN, East Meredith, N.Y. 13757. Phone: 607-278-5238.

FOR SALE: 60 HP steam boiler, good condition. JOHN ADAMS, 607-656-8112, Greene, N. Y. 13778.

SUPPORT YOUR DIGEST !!

DEALERS & ASSOCIATIONS CARRYING BACON'S JUGS

N. H. Maple Producers Assn.	
Larris Moore, RFD No. 8, Concord, N. H. 03301	(603) 783-6521
R. N. Johnson, Walpole, N. Y. 03608	(603) 756-3321
Berkshire Pioneer Maple Producers Coop.	
Russell Davenport, Shelburne Falls, Mass. 01370	(413) 625-2866
Lesure Farm, Ashfield, Mass. 01330	(413) 628-3268
Agway, Inc., Box 181, Lyndonville, Vt. 05851	(802) 626-5538
Edward Eurich, Waitsfield, Vt. 05673	(802) 496-3854
Harry Jorgensen, W. Woodstock, Vt. 05091	(802) 457-2261
H. W. Leach, Waterville, Vt. 05492	(820) 644-2488
Vermont Sugar House	
Exit No. 3, I. 89, South Royalton, Vt. 05068	(802) 763-8809
Stuart Newton, R. D. No. 2, St. Albans, Vt. 05478	(802) 524-5620
W. S. Mitchell, Inc., Newport, Vt. 05855	(802) 334-2800
Justus "Dutch" Asthalter	
Neversink, N. Y., P.O. Parksville, N. Y. 12768	(914) 292-8569
Frank Barney, Sherman, N. Y. 14781	(716) 761-6071
W. Barry Branon, 31 Tremblay Ave., Plattsburg, N.Y. 12901	(518) 563-1063
Burdick Syrup Supplies, Andover, N. Y. 14806	(607) 478-8103
C. B. Clay, DeRuyter, N. Y. 13052	(315) 852-6237
Leo W. George & Sons	(716) 591-1531
Rt. 77, Bennington, P. O. Strykersville, N. Y. 14145	(716) 591-1766
Kenneth Jordan & Son, Franklin, N. Y. 13775	(607) 829-5634
Puszczy Brothers, Great Valley, N. Y. 14741	(716) 699-2113
Claude Sisson, Sr., Central Bridge, N. Y. 12035	(518) 234-3194
Ralph VanBrocklin, RFD No. 2, Canton, N. Y. 13617	(315) 386-3036
Neil C. Wright	(315) 245-2450
28 Liberty St., Camden, N. Y. 13316	(315) 245-1434
J. Curtis Dom, P.O. Box 56, Wellersburg, Pa. 15564	(814) 324-4414
Northeastern Pennsylvania Maple Producers Assn.	
Box 549, Honesdale, Pennsylvania 18431	(717) 689-2353
Potter-Tioga Maple Producers Assn.	(814) 274-8540
Robert McConnell, Coudersport, Pennsylvania 16915	(814) 274-9143
H. W. Russell & Sons, Maple Farms, Rome, Penna. 18837	(717) 247-7361
Sugar Bush Supplies	
Box No. 1107, 4109 West Saginaw, Lansing, Mich. 48904	(517) 372-1149
Wesley Kinny, Cumberland Center, Maine 04021	(207) 829-5565
Titcomb's Dairy, Farmington, Maine 04938	(207) 778-4959
Wyman W. Manes & Son	
Sycamore Valley Farm, East Orwell, Ohio 44034	(216) 583-2388
Richards Maple Products	
545 Water St., Chardon, Ohio 44024	(216) 286-4160
O. C. Stevens & Son	
Maple Lane Farm, Mt. Gilead, Ohio 43338	(419) 946-3300
Reynold's Sugar Bush, Inc., Aniwa, Wisconsin 54408	(715) 449-2057

UNBREAKABLE POLYETHYLENE* JUGS DEVELOPED FOR PURE MAPLE SYRUP



Pint Quart Half-Gallon Gallon

DESIGNS printed for Pure New Hampshire, Vermont, New York, Maine, Pennsylvania, Ohio and "all states" Maple Syrup. Also Private Labels.

After only four years our "Little Brown Jug" has become a leader in the Pure Maple Syrup packaging field. It is easy to fill and seal, is sized for hot pack, does not rust in storage, ships without losses and keeps good quality syrup well.

The attractive old jug design 'SELLS' quality Pure Maple Syrup at gift shops and roadside stands as well as at your sugar house.

Our dealers, listed on the facing page, are stocked with all sizes of jugs and shipping cartons at LOWEST PRICES. Plastics are in short supply so please get your orders in now to avoid delays and disappointment.

With the price of fuel skyrocketing you can save \$\$\$\$ with the "Bacon" jug.

* Celanese[®] Fortiflex[®] high density polyethylene

See your
dealer
or write

BACON'S SUGAR HOUSE

JAFFREY CENTER, NEW HAMPSHIRE 03454

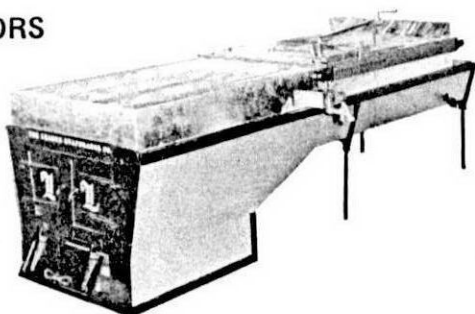
(603) 532-8836

LEADER EVAPORATOR

LEADER SPECIAL EVAPORATORS

MONITOR TANKS

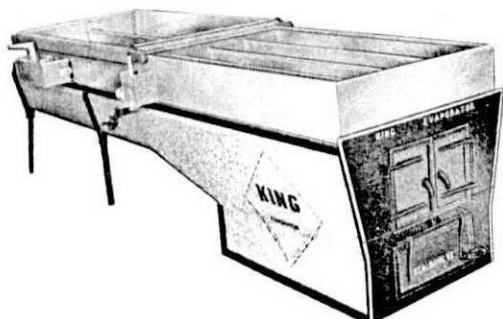
WARNER SPOUTS



KING EVAPORATORS

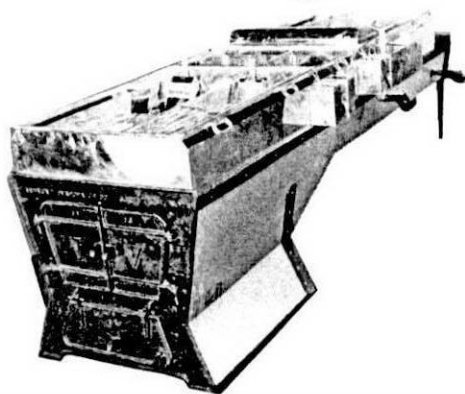
KING TANKS

SOULE SPOUTS



VERMONT EVAPORATORS

VERMONT SPOUTS



We wish to thank our customers for their cooperation during
our recent acquisition of Vermont Evaporator Co.

CO. INC. - SINCE 1888

MANUFACTURED ITEMS OF HIGHEST GRADE
AND FINEST QUALITY

ATTENTION AND CARE GIVEN THROUGHOUT ASSEMBLY.

PERSONALIZED HANDLING OF EACH ORDER.

LONG ESTABLISHED FIRM DEDICATED TO SERVICE

EVAPORATORS - A WIDE RANGE OF -

LEADER - KING - VERMONT

As in the past we will continue to offer the Maple Producer the
the best possible in maple sugar utensils.

When you think of Maple think of:

Leader Evaporator Co. Inc.

Box 588 St. Albans, Vermont 05478
802-524-4966 or 802-524-3931

Something NEW from Lamb's



An exact reproduction of an antique syrup jug, made of XT POLYMER, the best plastic material for storing syrup. When empty, cut off screw neck to make authentic syrup pitcher.

2 sizes available in limited quantities - 125 and 500 milli-liter (4.2 & 16.9 fl. oz. U. S. - 4.4 & 17.6 fl. oz. Can.)

Larger sizes on the way.

R. M. LAMB
P. O. BOX 278

LIVERPOOL, N. Y. 13088
315-457-1410

TUBING - TAPPERS - PELLETS
PUMPS - ELECTRONIC CONTROLS