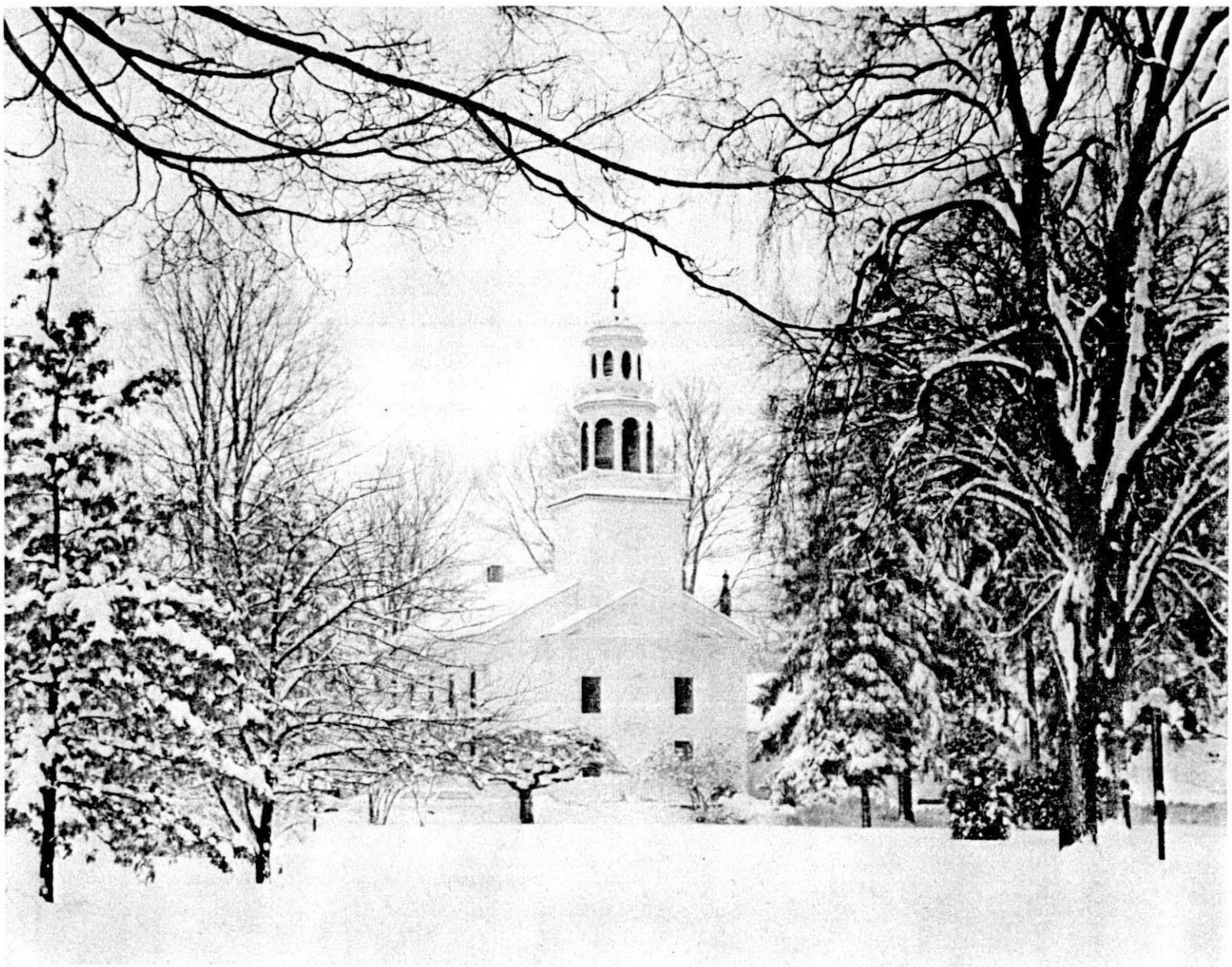
National Maple Syrup
• DIGEST •

PLANS
EVAPORATOR PLANTS
SUGAR KITCHENS



Vol. 3, No. 4 BAINBRIDGE, NEW YORK December 1964

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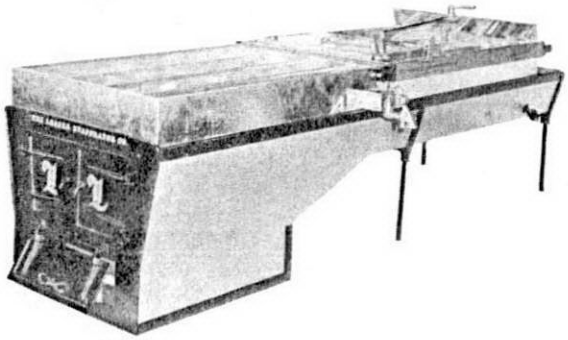

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Editorial

Our Cover Picture this month doesn't have much to do with the maple industry, but we didn't intend it to. What could be more appropriate than a village park with a Church in the background, especially when it is trimmed with a blanket of new-fallen snow?

Makes you think of some place in New England doesn't it? Well, I'm sorry, but it is located right here in Bainbridge, New York, the home of the Maple Syrup Digest.

I guess you could call it part of New England since most of the first settlers of the town came from Vermont. In fact, one family, the Stockwell's, of whom my wife is a direct descendant, came here from Vermont and were quite instrumental in founding this church in 1793, the oldest church in what was then Tioga County, but has since been split up into four counties.

Originally this Church was Congregational, but has followed the Presbyterian faith since the early 1800's. The present building was built about 1835, and most New Englanders will recognize the similarity to the Christopher Wren design of the steeple that is so popular in Vermont, New Hampshire and Massachusetts, to name only a few.

But Christopher Wren was English and did his designing in England. Just goes to show you how most everything came from the old country except corn and maple syrup. These crops were produced by the Indians-which brings up another point. The Indians are the only TRUE Americans in this whole hodgepodge of humans that make up our great country.

Maybe that's why we have progressed the way we have. I saw a sign once that said "No one of us is as smart as all of us" and I thought it made pretty good sense. I guess that's why the National Maple Syrup Council is the success it is today. Since it is made up of people from Maine to Minnesota, we get ideas from everywhere.

At the first meeting of the Council, there were a lot of different opinions regarding most issues, but lately, the representatives have found out there aren't any differences, just the way you look at them.

We've all got the same problems, and with the help of that good old Yankee ingenuity, mixed with a fair amount of the inventiveness of our lazier segment of population, a spattering of common sense here and there, and an occasional dab of foresightedness, we'll lick them all. It will take time, but we'll get the job done.

The National Council is five years old now, and stronger and more unified than ever. We're old enough now to take the bull by the horns and do something. One thing we must have is the support of every one of you to keep this DIGEST going. In the next issues we'll show you what we have in mind.

To get back to the cover, we thought it was a fairly presentable picture and would like to wish you all a **Merry Christmas and Happy New Year.**

Editor

Important information

concerning **YOU** *and the*

MAPLE SYRUP DIGEST

At the Fifth Annual Meeting of the National Maple Syrup Council, one of the directors asked if it wasn't time to put the "Digest" on a subscription basis.

Yes, it is time, but a subscription system envolves a lot of bookwork which takes time and money – a good share of the subscription.

Spending money unnecessarily is against the policy of the "Digest." We feel we should give you, the maple producers, all we possibly can for the funds available.

THEREFORE

We decided to put the "Digest" on a subscription basis but it will be entirely voluntary.

No one will call on you or write to you to sell you a subscription. We think the "Digest" is worth at least a Dollar a year. If it isn't, then we better quit printing it.

THIS IS A
DO IT YOURSELF JOB

We don't care if you send a Dollar for One Year, or Five Dollars for Five Years, but your response will determine the future of this publication.

It just isn't right for the advertisers to have to bear the whole load. In the next issue, we expect to start a new program aimed at relieving the tariff problem. This will cost the "Digest" quite a bit but will be worth many times the cost if we succeed.

Why don't you take five minutes right now and buy yourself a future in the Maple Industry. Since the New Year is coming up, it's a good a time as any to start.

And then keep your subscription up to date. Remember – we're going to leave it entirely up to you ! ! ! !

Our Address is

THE MAPLE SYRUP DIGEST
BAINBRIDGE, N. Y.

MULTIPLE EVAPORATOR INSTALLATIONS

Lloyd Sipple, Fred Winch, and C. O. Willits

Evaporators have changed little since the 1880's; flue pans and flat pans in varied arrangements have been used over this 75 to 80 year period. Each arrangement has been backed by a large number of users. In more recent past, man labor has become the scarce and expensive commodity with the result that the producer with growing markets has attempted to develop ways and means of handling more sap in a working day.

Early attempts were to produce single eveporators which were longer and wider than their predecessors. A more realistic and flexible development was the use of multiple evaporators, passing the sap through a series of units to be finished in the final pan of the last evaporator.

More recent trends, largely dependent, but not completely so, on the widespread use of oil fired evaporators, has been the development of a series of flue pans through which sap passes to the finishing pan. Experience with this setup in New York has been excellent and adoption by large producers has been very rapid. Among the advantages of such an installation is the possibility of growth of the enterprise as markets for sirup develop; its flexibility since any number may be run at any time, however if breakdown occurs that evaporator may be bypassed; oil burners are more easily adapted to small evaporators; the reasonable cost of installation; and the economy of manpower to operate the setup.

General Information. Since every operation in the country varies, consideration must be given to local conditions in developing the installation. Numbers of tapholes as a single factor is a poor base from which to figure. Are the taps roadside (sweeter generally) or woods trees (less sweet)? Is the installation in the northern limits of maple production (fewer quarts of sap per tap) or in the southern part of the range where sap may be produced in greater volume in a longer season? Are **you,** the operator, willing to operate your installation 10 hours daily or 24 hours?

Using 2.5% sugar sap (2.5° Brix) a 5' x 12' evaporator will produce a about 5 gallons of sirup per hour while a 5' x 14' produces about 6 gallons. By adding a 5' x 10' flue pan ahead of either of these outfits, 3 1/2 gallons of sirup will be added; adding two, 7 gallons per hour; three, 10 1/2, thus a 5' x 14', plus three 5' x 10' flue pans produces on an average 16 to 16 1/2 gallons per hour, 160 gallons per 10 hour day, or 380 to 390 gallons in a 24 hour steady operation. From the above figures the operator should be able to figure for himself how many units will be needed based on production he requires rather than the number of taps expected to be handled.

Source of heat. Oil is the most convenient and steady source of heat. With large volumes being used in short periods of time (6 to 10 weeks of operation), it is possible to obtain a price advantage of 2¢ to 3¢ per gallon where bids are requested.

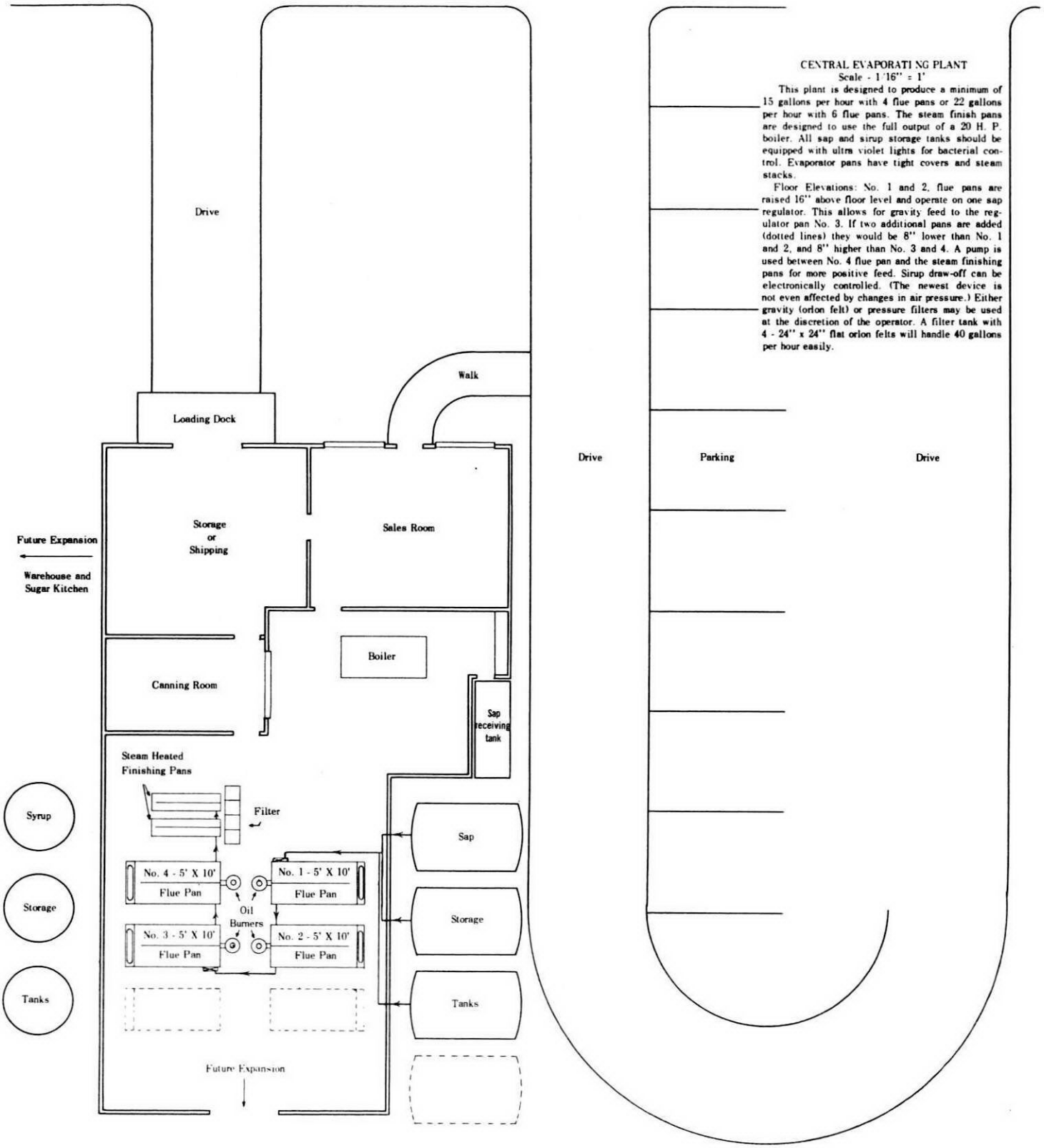
For a 5' x 10' flue pan, a burner with 12 to 14 gallons per hour capacity is needed. A 5' x 12' evaporator needs 12 to 13 gallons per hour or a 5' x 14' requires 14 to 16 gallons per hour. (See Bulletin ARS-73-40 "Arches and Burners for Oil-Fired Maple Sap Evaporators, Jan. 1963, Agricultural Research Service, U. S. D. A.) The heat used in a 5' x 10' flue pan can be as much as that in a larger evaporator (5' x 13') since undiluted sap or partially concentrated sap will not scorch. High pressure gun-type conversion oil burners without controls and with a capacity of 8 to 15 gallons per hour may be purchased for as little as $219.50; with a 15 to 30 gallons per hour capacity the cost would be $349.50.

Evaporators. In practice the usual evaporator used for this setup has been the two pan unit which is simpler to operate and with fewer bottlenecks to slow flow. The flue pan may be set up for either two or three pass (1 or 2 partitions) but the 3 pass is only used when direction of flow makes this necessary, it has no other advantages. Sirup pans of 6 compartments are used for better control and less mixing and hold back time.

Expense of such a setup may be estimated from the following costs:
5' x 12' - evaporator pans 9' flue 3' sirup pan, about $690.00.
5' x 14' - evaporator pans 10' flue 4' sirup pan, about $775.00.
5' x 10' flue pan about $650.00.

On a new installation, a 5' x 12' evaporator would not be recommended, rather a 5' x 14' unit should be used. This allows for 10' flue pan for faster boiling and 4 foot sirup pan which will adequately handle more flue pans and 5' x 14' works equally well with oil burners. Besides this, the flue pan units are interchangeable on all units.

One factor that is very important is to allow adequate flow between units. The outlets on many flue pans are of sufficient size since with larger setup, larger volume of sap must be moved faster. A two inch diameter conductor between flue pans will be large enough provided the entire diameter is used. This can be accomplished in a raised flue evaporator by placing outlets down at the bottom of the flues. In a drop

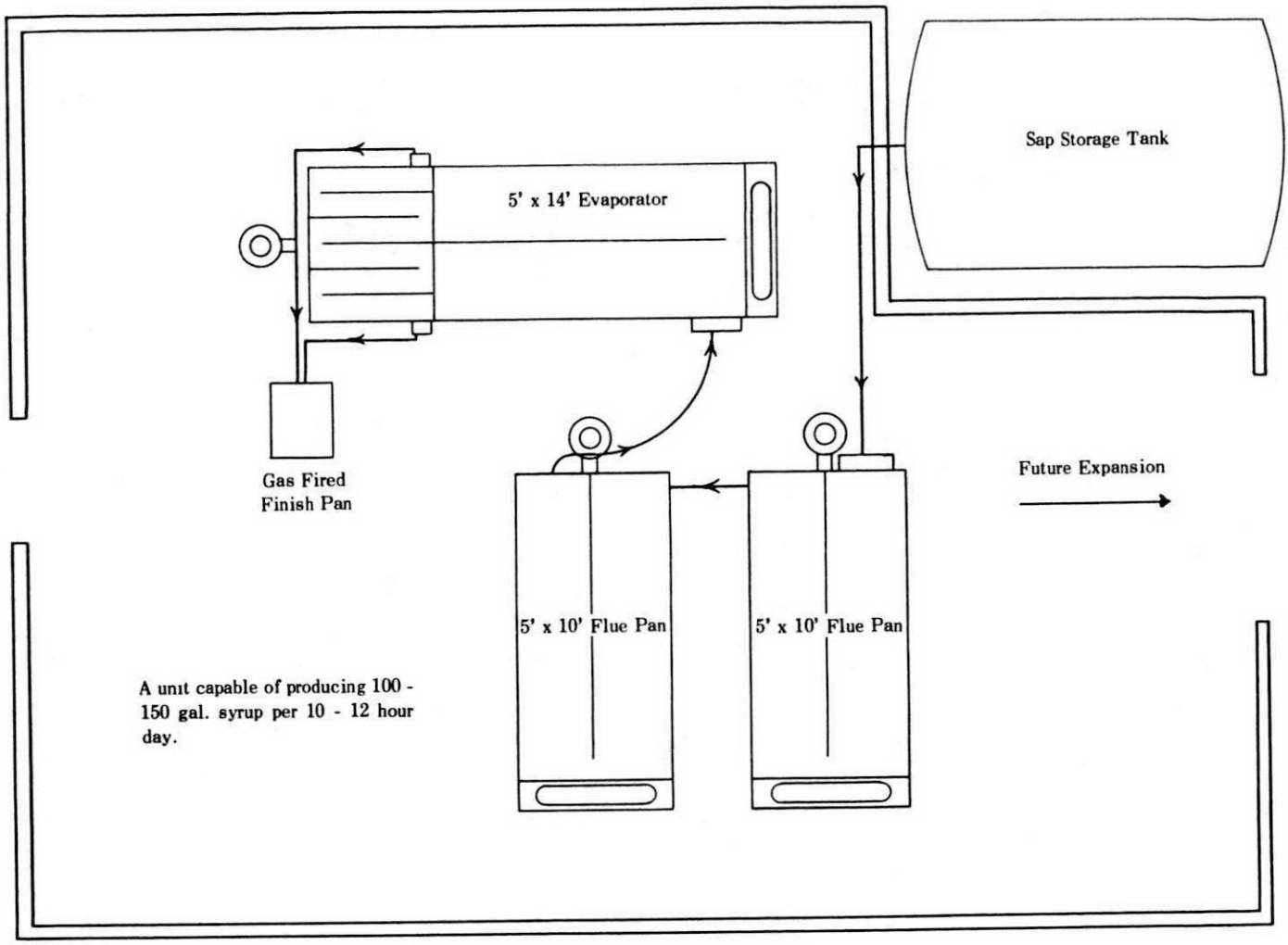


CENTRAL EVAPORATI NG PLANT

Scale - 1 /16" = 1'

This plant is designed to produce a minimum of 15 gallons per hour with 4 flue pans or 22 gallons per hour with 6 flue pans. The steam finish pans are designed to use the full output of a 20 H. P. boiler. All sap and sirup storage tanks should be equipped with ultra violet lights for bacterial control. Evaporator pans have tight covers and steam stacks.

Floor Elevations: No. 1 and 2, flue pans are raised 16" above floor level and operate on one sap regulator. This allows for gravity feed to the regulator pan No. 3. If two additional pans are added (dotted lines) they would be 8" lower than No. 1 and 2, and 8" higher than No. 3 and 4. A pump is used between No. 4 flue pan and the steam finishing pans for more positive feed. Sirup draw-off can be electronically controlled. (The newest device is not even affected by changes in air pressure.) Either gravity (orlon felt) or pressure filters may be used at the discretion of the operator. A filter tank with 4 - 24" x 24" flat orlon felts will handle 40 gallons per hour easily.



flue pan possibly two or three conductors will be needed. Each unit is equipped with tight-fitting steam covers and stacks for control of steam and, more important, for the easy visibility within the sugar house.

There are many reasons for the development of multiple evaporator installations. Above all, with reasonable planning, expansion can be orderly and done without disturbing existing installations. Costs of equipment are reasonable as are costs for fuel. Breakdown of units during rush season are less serious than where individual evaporators are broken down. The flexibility of the setup allows the use of all units or any part of the total units with ease.

The group attending the Fifth Annual Meeting of the National Maple Syrup Council.

Fifth Annual Meeting
National Maple Syrup Council

The delegates, associate members and guests of the National Maple Syrup Council assembled in the Weldon Hotel, Greenfield, Mass. on Oct. 5th. The next morning the group left by car for Ashfield, visiting the Frank and Donald Burnett and Lesure Farm sugarhouses on the way.

President Linwood Lesure called the meeting to order in the Ashfield town hall at 11:00 A.M. The following directors representing their states were present:

Ted Harding, Athens, Maine; Linwood Lesure, Ashfield, Mass.; Putnam Robbins, East Lansing, Mich.; Gordon Gowan, Alstead, N.H.; Lloyd Sipple, Bainbridge, N.Y.; Ture Johnson, Burton, Ohio; George Keim, W. Salisbury, Pa.; Eric Nye, Milton, Vt.; Adin Reynolds, Aniwa, Wisconsin.

Associate Members present: Dr. C. O. Willits, USDA, Philadelphia; Extension Foresters: Ed Farrand, Pa., Fred Winch, N.Y.; Joseph Szymujko, N.H.; Raymond Foulds, Vt.; Ted Peterson, Wisc.; County agent Leland Schuler, Ohio; Equipment Distributor Bob Lamb, N.Y.

Guests, Cooperators and visitors included: Kenneth Bascom, Mrs. Linwood Lesure, Robert Lesure, Mrs. Lloyd Sipple, Mrs. George Keim, Mrs. Fred Winch, Mrs. Robert Lamb, Mrs. Adin Reynolds, Mrs. Ted Harding, Mrs. Putnam Robbins, Professors John H. Noyes, and Arthur H. Westing, Mrs. Gordon Gowan, Edward Curtis, Albert G. Snow, Mr. E. P. Wyman, Mr. L. V. Alwin, Mr. and Mrs. Albert Smith, Mr. and Mrs. Donald Burnett, Forrest C. Curtis, Harold White, Mr. and Mrs. M. Caldwell, Mr. D. T. Thayer, and Mrs. Betty Davis.

President Lesure introduced Prof. John H. Noyes, Extension Forester of Massachusetts who gave a very informative talk on the "Maple Die-Back" problem in Mass. (see article "Maple Die-back" in this issue)

The next speaker was Fred Winch Jr., Extension Forester of N.Y. who gave a good summary of the new methods and equipment employed by New York syrup producers.

Mr. Gordon Gowan, President of the New Hampshire Producers Assoc. gave a short talk on the maple industry of New Hampshire.

President Lesure then called on Eric Nye, President of the Vermont Maple Sugar Makers Assoc. and chairman of the Council's Tariff Committee. Eric reported on the committee's two meetings with U. S. Government officials and congressmen at Washington, D.C. (See Maple Syrup Digest, Vol. 3 No. 1, Jan. 1964).

After a delicious dinner sponsored by the Berkshire Pioneer Maple Producers Assoc., Albert G. Snow, Jr., Head of the Northeast Forest Experiment Station at Burlington, Vt., gave an interesting talk and outline of the maple syrup research now in progress at the station and a description of the research programs planned. This new activity by the station has been made possible by the $90,000 special appropriation to the United States Forest Service for maple research.

The next speaker, Dr. C. O. Willits, of the Eastern Utilization Research and Development Division of USDA, gave a comprehensive report on maple sap and syrup equipment past and present and a look at new equipment and methods for the future.

Raymond T. Foulds, Jr., Extension Forester of Vermont, gave a chart type lecture on how our maple syrup producers may improve the syrup industry.

Tuesday Evening -

A Smorgasbord dinner was served at the Weldon Hotel, complements of Bob Lamb, Liverpool, N.Y. This was followed by an illustrated lecture "Behind The Iron Curtain" by Linwood Lesure. Lin did an admirable job of presenting in a very enthusiastic manner and with excellent colored slides the conditions as he saw them in Communist Russia.

Wednesday, Oct. 7 -

After the meeting was called to order, President Lesure called on Putnam Robbins for the minutes of the last meeting. The secretary presented each director with a copy of last years minutes. After a few minor corrections were made, the minutes were approved. Prof. Robbins presented the treasurer's report as follows:

Balance on hand Oct. 9, 1963	$470.98
Received from dues	175.00
Total	$645.98
Council committee's two trips to Washington on tariff problem.	201.11
President's Sec'y Expense	50.00
Total	$251.11
Bal. on hand Oct. 7, 1964	$394.87

The financial report of the Maple Syrup Digest showed the following totals:

Balance, Nov. 1, 1963	$ 302.27
Receipts: Advertising	4067.55
Contributions	455.75
	$4825.57
Expenditures: Printing, postage, etc.	4113.70
Balance, July 1, 1964	$ 711.87

Ture Johnson, Chairman of the constitution committee reported on the qualifications of voting members. President Lesure appointed Ture Johnson, Ohio, chairman, Leland Schuler, Ohio, Putnam Robbins, Mich., and Dr. Willits to revise the constitution.

President Lesure called on Eric Nye, chairman of the grades committee for his report. The committee had no clear-cut recommendation to make and then there followed considerable discussion of grades. A motion was passed "That the National Maple Syrup Council adopt the color standards as established by the United States Department of Agriculture - LIGHT AMBER, MEDIUM AMBER, DARK AMBER and DARKER THAN DARK AMBER, and that appropriate steps be taken to educate the producers to using these standards.

A motion was passed that the council recommend that all producers use the the proper U. S. color grade label on their maple syrup along with their state grade label.

After a fine dinner at Gould's Sugar House, Shelburne, Mass., the meeting resumed and the following motions were passed:

1. Be it resolved by the National Maple Syrup Council meeting in executive session, that the congressional representatives of the maple syrup producing states be urged to actively support a request for an additional $90,000 for the United States Forest Service to continue research on maple sap production and products.

2. That the Council accept the offer of financial aid from Robert Lamb to follow through and get our Senators and Representatives to take action on the maple syrup tariff problem.

3. That the Council notify the manufacturers of maple syrup tin containers, that the maple syrup producers and the council are not satisfied with the quality of the present tin containers.

Robert Huxtable, Lansing, Mich.; Robert Lamb, Liverpool, N.Y.; Leland Schuler, Burton, Ohio; and John H. Noyes, University of Massachusetts were elected to three year terms as associate members. All officers of the Council were re-elected for one year terms. They are: President - Linwood Lesure, Ashfield, Mass.; Vice-President - Adin Reynolds, Aniwa, Wisc. Sec'y-Treas. - Putnam W. Robbins, Michigan State University.

Condensed from minutes submitted by Putnam W. Robbins, Secretary

Facilities For The Manufacture Of Maple Confections

C. O. Willits[1] and Lloyd Sipple[2]

The central sap evaporation plant operator, like all plant owners, seeks to keep overhead expenses low.

One means of accomplishing this is to have no periods when the plant stands idle since the fixed costs continue regardless of whether or not the plant is in operation. In some instances, a plant in disuse deteriorates at an even faster rate than one in operation. Since the single purpose of evaporating sap to sirup will require plant operation only a few weeks each year, it is advisable to develop other uses for the plant facilities.

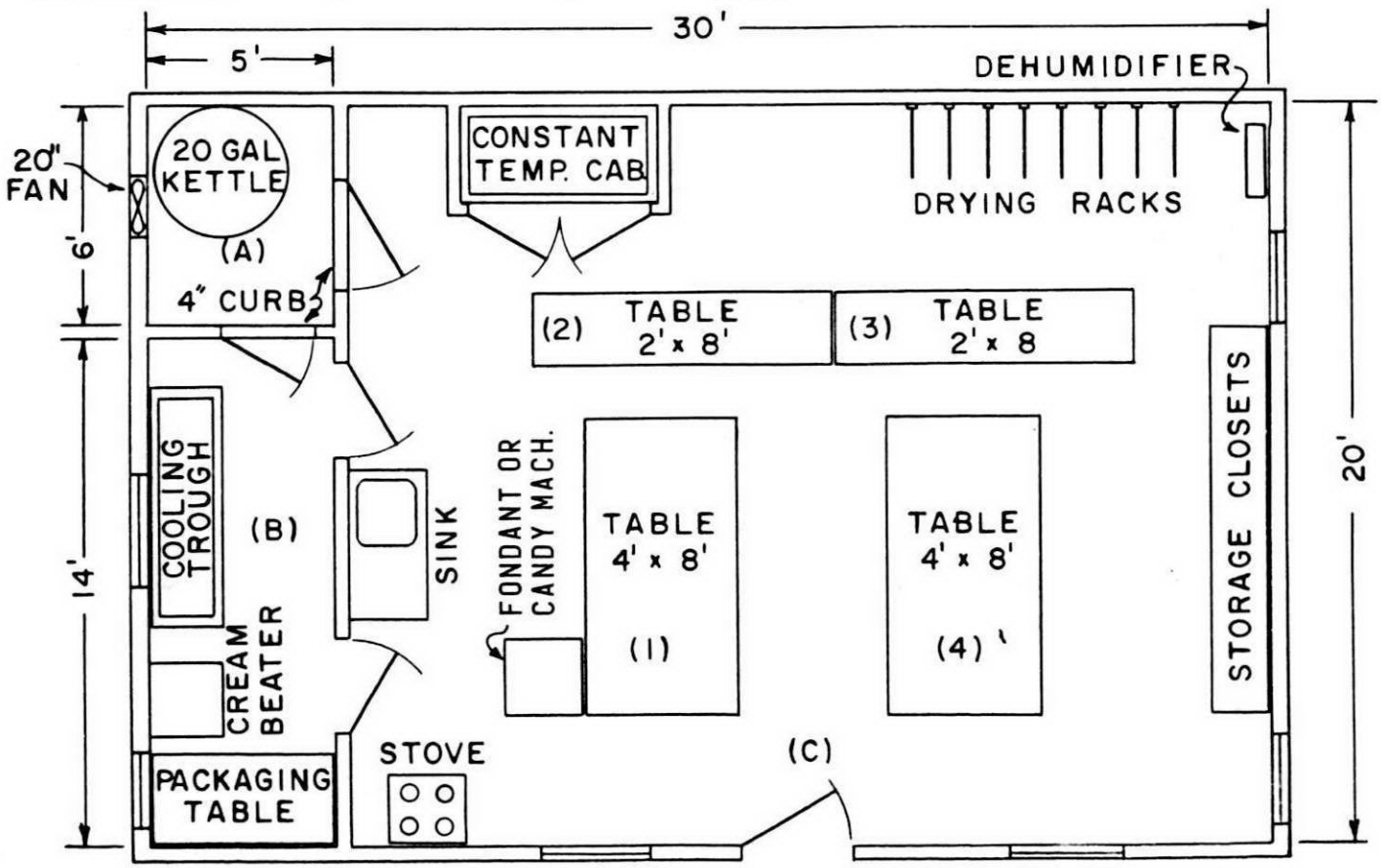
Two such uses would be (1) the after-season filtering, mixing, and packaging of the sirup made during the sap flow period, and (2) the manufacture of confections. These uses could provide for year-round operation of the plant.

The manufacture of maple confections also provides for larger economic returns for sirup. Each gallon of maple sirup will yield 8 pounds of sugar or confections. This sugar in sirup form has a value of 75¢ a pound based on $6.00 per gallon of sirup. When converted to one of the many maple confections it is worth $1.25 to $1.75 a pound, or a gain of 50¢ to $1.00 per pound. The cost of converting 75¢ sirup sugar to $1.25 to $1.75 confection sugar is relatively small, with labor being the principal expense. Central sap evaporation plant operators recognize that addition of confection manufacture to their plant will greatly increase earnings. A number of such operators have avoided this operation principally because they do not know what size facilities should be built to meet their requirement. We have been requested to supply plans which could be used as a guide in setting up a confection making facility.

In response to this, the following floor plan and flow-of-operation diagram have been prepared. This floor plan is an adaptation and combination of several such facilities now in operation. It was based on a plant with an evaporation capacity of 9,000 gallons of sirup per season. This plant currently produces more than 4 tons of confection annually and a minimum of 200 pounds per week.

The facility is divided into three areas designed as Rooms A, B, and C. (Figure 1).

Room A. This room contains the 20 gallon steam-jacketed kettle (candy cooker) which is used in the initial step of all of the different confection making processes. The room, 4' x 5', provided with a wall fan to exhaust the steam



☆ Maple Cream ☆

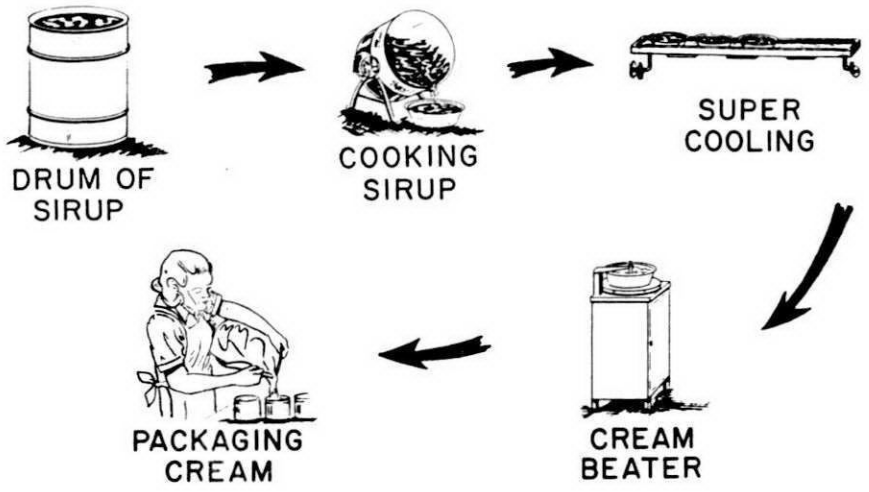


Figure 2A

from the cooking sirup and the kettle room, is separated from Room B (so that steam will be prevented from entering it). If steam were allowed to escape into Room B, the humidity would be raised too high for drying and crystal coating of the candies. The access doors to Room A have 4" high sills and the floor is all masonry with a floor drain. This permits easy washing of the kettle and the floor by hosing in the event that the sirup boils over. The room is provided with a hose bib and a wall receptical for 110 V circuit.

Room B. The maple cream room 14' x 5', contains the open trough of running cold water used to chill the sirup prior to beating, the cream beater and the packaging table. This room is also isolated from Room C to prevent raising the humidity by moisture from the open water trough. The cream beater, when of the rotating pan and stationary paddle type, is located adjacent to the packaging table since it is important that the cream be packaged immediately following its removal from the beater.

Room C. The candy making and crystal coating room is the largest of the three since more operations are involved. The room is designed to permit a smooth and efficient flow of operations. See figures 2 and 3.

Candy manufacture. The sirup is cooked to the correct density, or elevation of boiling point, in the steam kettle, Room A. It is transferred to the deep pans and set in cooling trough (Room B) for chilling. When sufficiently cooled it is taken to the candy or fondant machine, where it is stirred to initiate crystal formation. While it is plastic it is run into molds (Table 1) and the filled molds placed on support trays (1/8" hard board), the same size as the mold, and stacked for temporary storage to firm (completing the crystallization) the candies. The molds are then transferred to Tables 2 and 3 where the candies are emptied from the molds onto metal trays (cookie sheets), the candy edges are trimmed, and the broken and imperfectly formed candies are sorted out. The trays of candies are placed on Table 1 and the candies are transferred to the baskets for crystal coating (Fig. 4). Care should be taken not to load the basket higher than the walls so that all of the candies will be covered when the baskets are submerged in the crystallizing sirup. The baskets of candies are placed in the crystallizing sirup about 4:00 P.M. and are removed about 8:30 A.M. the following morning.

The baskets are immediately hung above the crystallizing vat by the hooks suspended from the top of the vat cabinet. They remain in that position until essentially all of the free sirup has drained from them. The baskets are then taken to Tables 2 and 3 and the candies carefully dumped on trays (cookie sheets). The candies

☆ Sirup for Crystal Coating ☆

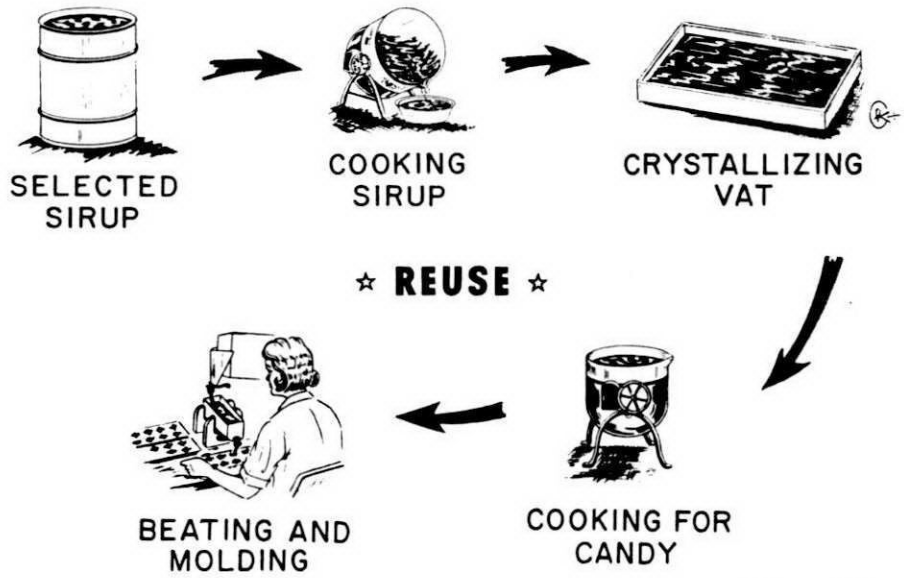


Figure 2B

are then individually wiped by hand with a damp sponge. The wiped, dry candies are then laid flat, one layer thick, on the screen drying trays and placed on the drying racks (Fig. 4) to air dry for 6 to 8 days.

If space permits, the drying rack can be enclosed and a dehumidifier installed to keep the relative humidity below 40. Otherwise, cover the drying racks with cheesecloth and keep Room C at or below 40 relative humidity with an air conditioner and/or with a dehumidifier.

The crystallizing sirup must be made from sirup containing less than 1/2° invert sugar. Usually a first run, extra light fancy sirup

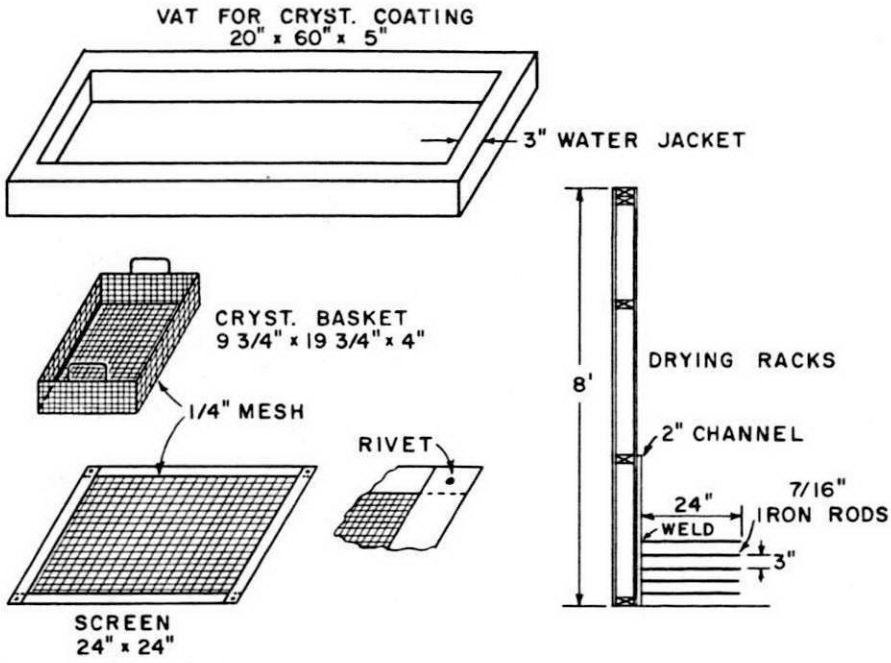


Figure 4

Candy Making and Crystal Coating

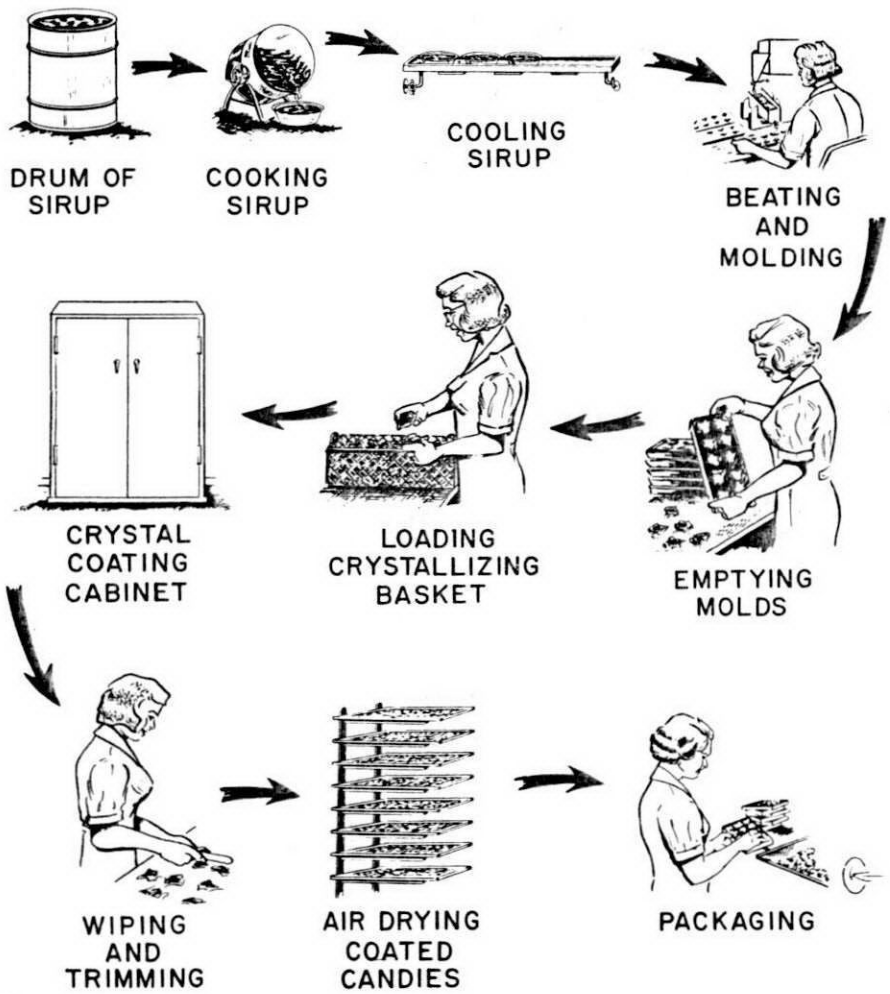


Figure 3

meets this requirement. It is desirable to select at least a drum of this sirup and set it aside for this single use. The sirup is cooked to the correct density or elevation of boiling point (10° - 17° F.) in the steam kettle and transferred immediately to the water jacketed crystallizing vats. If this is done by 10:00 A.M. the sirup will have been cooled to 80° F. by the circulated cold water in the vat jacket to permit placing the baskets of candies in the crystallizing sirup by 4:00 P.M.

The crystallizing sirup is used only once; when it is drained from the crystallizing vats it is combined with the candy making sirups, and a new fresh lot of sirup is withdrawn from the sirup selected and set aside for making the crystallizing sirup.

[1] Eastern Utilization Research and Development Division, Agricultural Research Service, U. S. Department of Agriculture, Philadelphia, Pa. 19118.

[2] J. L. Sipple and Son, Bainbridge, New York.

CURRENT RESEARCH ON SUGAR MAPLE DECLINE AT THE UNIVERSITY OF MASSACHUSETTS*

by John H. Noyes and Arthur H. Westing

Impetus to the current program of research being conducted on sugar maple decline at the University of Massachusetts was provided by State Representative John D. Barrus of Goshen (Second Hampshire District). During the 1963 legislative session Representative Barrus contacted Dr. Arless A. Spielman, Dean of the University's College of Agriculture, about the obvious situation that many of the sugar maples of our Commonwealth had become unhealthy and were in some instances dying. As a member of Gov. Endicott Peabody's Committee on Natural Resources, Representative Barrus had received numerous calls and letters from many parts of the State about declining sugar maples and had confirmed these reports with observations of his own.

A careful preliminary evaluation of the sugar maple decline situation in Massachusetts by Representative Barrus in conjunction with the University brought to light that the decline has been prevalent for several years, that it is particularly widespread among roadside and sugar-bush trees, and that its cause thus far has defied explanation. It was concluded that a more formal investigation of the malady was fully justified and of high priority. The urgency of such investigation was emphasized further by our past experience with the American chestnut and American elm. Through the efforts of Representative Barrus, the State legislature in 1963 appropriated a sum of $25,000 specifically earmarked to aid the University in initiating a program of research into the cause and possible cure of sugar maple decline. In 1964, an additional $30,000 was similarly appropriated. Federal funds for research in forestry have been made available also to supplement the state appropriations.

Although the legislature had been generally appreciative of the value of the sugar maple to the Commonwealth, it was necessary for Representative Barrus to point out its inestimable worth as a shade tree and its vital contribution to the beauty of our landscape. Monetary values for timber can be estimated much easier than such values for aesthetics. There are approximately 170 million board feet of sugar maple lumber in standing sawtimber throughout Massachusetts and perhaps an additional 115 million cubic feet of wood in trees of less than sawtimber size. Furthermore, there are estimated to be 12 million sugar maple trees in the State large enough to be tapped for maple syrup. All told, the sugar maple tree in Massachusetts provides the raw materials (wood and sap) which are the base for a several million dollar contribution to the State's gross annual product.

Exploratory investigations of sugar maple decline in several states including Massachusetts, New York, Vermont, New Hampshire, Pennsylvania, Michigan, and Wisconsin amply demonstrate the obscurity and probable complexity of the cause of this malady. As a result, it was decided at the University of Massachusetts to establish a research team that could attack the problem simultaneously through a variety of approaches. This team includes three pathologists, (Drs. Walter M. Banfield, Francis W. Holmes and Malcolm A. McKenzie), a virologist (Dr. George N. Agrios), a nematologist (Dr. Richard A. Rohde), an entomologist (Dr. William B. Becker), and three soil scientists (Drs. John H. Baker, Donald L. Mader, and Louis F. Michelson), with a physiologist (Dr. Arthur H. Westing) as project leader. The team is assisted by four graduate students and from time to time, as necessary, by various other members of the University faculty. Much credit is due those members of the Berkshire Pioneer Maple Producers' Cooperative who have graciously made their properties available to the research team for field investigative work.

Before closing it may be of value to describe briefly the symptoms of sugar maple decline. Affected trees are characterized by undersized, chlorotic (yellowish), and sparse foliage. The leaves exhibit early coloration and fall prematurely. Twigs and branches of the upper crown die. Three is a reduction in rate of growth. Some of the trees die over a period of three to four years, but others seem to have arrested their decline and some may be recovering. The decline is more apt to occur in old trees than young and is particularly prevalent in trees that have in one way or another been disturbed by man. The decline does not appear to spread from one tree to another. It is noteworthy that several other hardwood species have in recent years also been showing greater or lesser degrees of decline.

We should greatly appreciate learning whether and to what extent the sugar maples in your area are similarly afflicted. Any additional information or comments you may have on the subject would, of course, be most welcome.

MAPLE DECLINE

The University of Massachusetts is initiating an investigation to find and explain the causes of "maple decline" (a die-back disease of Acer Saccharum 'Sugar Maple'). Correspondence is desired with all interested persons, particularly with those who have observed the disease in their locality and those engaged in research pertinent to the subject. Please contact **Professor Arthur H. Westing, Department of Forestry and Wildlife Management, University of Massachusetts, Amherst, Massachusetts, 01003.**

Women's Page

By Ava Marie Peterson
wife, Extension Forester
University of Wisconsin

Perhaps the introduction of new innovations in the woods and sugar house will decrease the 'man-hour' needs, but it is doubtful whether the woman's touch will diminish altogether. Esther S. Zander, Manitowoc county, Wisconsin, shows the woman's grasp of the maple operation in her poem "Sappin' Time."

It won't be long before "Sappin' Time" is here and now is a good time to plan and prepare some foods for your freezer to serve on those busy days. Whether you are making breads, casseroles, cookies, or other foods, why not make two or more and tuck one away for later? Just be sure it's a food or combination of foods that freeze well, and that the wrapping or container is moisture vapor proof.

An idea for a dessert that is ideal for the freezer comes from a Lincoln county, Wisconsin, homemaker Mrs. Orlen Heldt. She won the grand prize in a Dairyland Recipe Contest. When you've tried it, perhaps you'd like to pass it along to friends.

CHOCO-MAPLE MARVEL

2 cups vanilla wafer crumbs
¼ cup melted butter
1½ cups powdered sugar
½ cup butter
3 eggs
3 squares unsweetened chocolate melted
1½ cups whipping cream
½ cup pure maple syrup
1 pkg. (10 oz.) miniature marshmallows
1 cup chopped pecans

Line 8 inch square pan with wax paper, allowing edges to extend above pan. Blend together crumbs and butter. Press crumb mixture in bottom of pan. Cream powdered sugar and ½ cup butter thoroughly. Add eggs, one at a time, and melted chocolate. Beat until light and fluffy. Spoon mixture over crumbs and set in freezer. Combine whipping cream and maple syrup. Chill in refrigerator for ½ hour. Whip until stiff. Gently fold in marshmallows and 2/3 cup nuts. Spread over chocolate mixture. Sprinkle with remaining nuts. Freeze firmly. Remove from pan. (Can be lifted out of the extending wax paper.) Cut as many squares as needed, and return unused portion, wrapped, to freezer. Makes 12 generous servings.

SAPPIN' TIME

By Esther S. Zander

"Come, boys, get the auger and spouts,"
Hear their happy-go-lucky shouts;
Into the woods, away they go
Over the ice and melting snow.

Washed are the buckets, free from grime;
"Hurry, boys, it is tappin' time.
The sun is high; tonight 'twill freeze,
Hang those buckets on the trees."

At sappin' time it is such fun
Up and down hillsides on the run
From tree to tree like squirrels they leap
Carrying pails; some on the jeep.

Hear that tinkling drip, drip, drip,
Ah, for a cool, refreshing sip,
Crystal clear it runs from a tap,
That spring-time tonic, maple sap.

"The pails are full," we hear them say
At the end of the busy day;
With gathering tank on the rack
The tractor brings a full one back.

From tank to tank the clear sap flows
To evaporator it goes;
It bubbles, boils, makes clouds of steam,
Fills the cabin from floor to beam.

A roaring fire, temperature high,
Stacks of wood in the shed near by,
Gathered many months before
To have it handy at the door.

Seems strange that maple trees should know
Just when it's time for sap to flow.
And when a storm is passing by
They feel the east wind in the sky.

They know when it will rain or snow,
And when cold northeast winds blow;
No sap flows then, for maple trees
Need balmy weather — warmer breeze.

The vendor's cry is not our lot,
The amber fluid's been canned hot
In clear glass jars where all can see
How tempting maple syrup can be.

On ice cream, waffles, pancakes, too,
No other syrup quite will do.
For breakfast, dinner, and at night
To pep a waning appetite.

"Come, boys," with busy weeks ahead,
Long, pleasant hours, few spent in bed.
With sunny days, night's freezing clime,
We know it's maple sappin' time.

Two Rivers, Wisconsin

Many of the recipes featuring maple syrup are desserts. Have you thought of using it as a sweetening in a dressing for salad? When appetites need perking up, a fruit salad is sure to do the trick - and it's so nutritious too. Top your favorite fruit salad with this dressing.

MAPLE SALAD DRESSING

½ c. maple syrup
1 T. flour
1 c. cream
¼ c. lemon juice
½ t. salt
speck pepper

Mix flour with lemon juice until there are no lumps. Stir into syrup cold. Cook while stirring until it is thick as honey. Whip 1 cup cream. Fold in the cold mixture. Serve on fruit salad.

NORTHWESTERN PENNSYLVANIA MAPLE PRODUCERS ASSOCIATION

The Northwestern Pennsylvania Maple Producers Association Board of Directors had their monthly meeting Sunday Evening, October 25th, at Hewenthataway Ranch, Saegertown.

Eugene Running and Bernard Tobin, reported on the new cans of the Association, lithographing of same and cost to the Association.

Joe Ray of Joe Ray Associates was present and presented tentative plans and dates for the 1965 Maple Festival of the Association at the Crawford County Fairgrounds.

Kenneth Yochum, President, suggested a free gate this year, and said: "I believe, our Maple Festival under the present guidance will become bigger and bigger each year."

Tentative dates are: May 27th, 28th and 29th . . . with the National Queen contest being the last night, May 29th.

Many new and novel outdoor entertainment features are planned for this year.

Committee chairmen and workers for the Festival will be appointed at the next general meeting of the Northwestern Pennsylvania Maple Producers Association, November 19th at the REA Building, Cambridge Springs.

RESEARCH QUESTIONNAIRE RECEIVES EXCELLENT RESPONSE !

Reed D. Taylor, Jerome K. Pasto,
Herman M. Southworth
Pennsylvania State University

As maple producers you are to be congratulated on your excellent response to the mail questionnaire "Farm Marketing of Maple Products," which was sent to you as part of a study being conducted at the Pennsylvania State University. Almost 70 per cent of all persons receiving the questionnaire returned it (Table 1). Most researchers feel fortunate if they can obtain a response of 25 to 30 per cent. This excellent response is an indication of the esteem in which you hold maple as a product. This type of cooperation between researchers and producers, if continued, will lead to advancement in the maple industry.

Of the 3,772 questionnaires returned, 2,151 were from current producers, 1,047 were from former producers who for various reasons did not produce in 1963, and 574 were returned by county agents, foresters, or others who never did produce maple but are interested in the industry. Of the current producers, 1,493 produced syrup for sale, accounting for 407,758 gallons of all syrup sold. The remaining 658 current producers made syrup for their own use only, sold sap to central evaporators, or they could not be classified because they did not include sufficient information on the questionnaire.

A major portion of the analyses of these questionnaires has been completed. Subsequent issues of the "Digest" will contain articles presenting results of this research.

We wish to thank you for your help in making this research effort successful. We also want to thank the National Maple Syrup Council for its cooperation and for the use of the "National Maple Syrup Digest" in presenting our research results.

Table 1. Response Analysis to Mail Questionnaire "Farm Marketing of Maple Products." 14 States, 1963.

State	Total Sent	Returned Number	Returned Percent	Not Returned Number	Not Returned Percent
Vermont	1,599	1,039	65	560	35
New York	1,563	1,072	69	491	31
Pennsylvania	579	414	72	165	28
Wisconsin	348	276	79	72	21
Ohio	292	219	75	73	25
Michigan	228	156	68	72	32
New Hampshire	231	147	64	84	36
Massachusetts	194	134	69	60	31
Maine	169	121	72	48	28
Indiana	125	100	81	25	19
Minnesota	56	46	82	10	18
West Virginia	40	34	85	6	15
Maryland	10	6	60	4	40
Iowa	9	8	89	1	11
Total	5,443	3,772	69	1,671	31

Lamb Sez:

In this day and age it seems as if all we hear is a certain broken record. It repeats itself over and over millions of times like a TV commercial, and you wake up at night and hear it again. It sings songs and buzzes in your head. It comes from the papers, the radio, the politicians, and from anywhere that someone wants to make a lot of noise and be noticed, and is void of the ability to do something constructive and productive. All they say is "Help, Help, Help; Give, Give, Give!" And as our noisy sound-space fillers pound their chests and holler, they tell us in plain, common ordinary language that they stand ready, at any and all times, to give YOUR shirt right off YOUR back to anyone here or abroad.

Lincoln said: "To do more for a man than he can do for himself, will help him only momentarily." The world hasn't changed a bit.

So, after bleeding out every extra dollar you've got or can borrow to help the basic, lazy, non-progressive man that has the same chance you have, it makes you wonder what it's all about. Why do you work so hard, so many hours, to be a mere self supporting individual, when it's so much more comfortable and easy to just be no damn good?

Take a man with initiative, imagination and foresight - a man that creates jobs, and improves his family's lot - today he is America's No. 1 enemy. If he isn't taxed to death, he's fined to death. A man just can't do right. If another dollar can be wrung out of him, someone will think of a reason to sue him for it.

This Mr. Good American! Who does what for him? Very few and very little. Still, Mr. Good American is tough. The Lord seems to give him the strength to stand up under what he has to bear, and he plods on. A natural born pioneer, an unsung hero, worthy of the greatest heritage and praise our honored forefathers could ever proudly bestow upon him. No greater honor could come to any man.

Mr. Good American looks ahead. He plans to execute new and better ways and ideas. He has the courage to try new products and through his sincere and open ingenuity he is the true inovator of progress.

Besides all his other problems, his aid to industry in building better equipment, methods, and products costs him dearly. The new items he has the courage to buy usually are far from perfected, with undeveloped bugs coming out all over them. In many cases he is just stuck, and even if he does get some adjustment from the manufacturer, it is usually inadequate and not equal to his loss. But he carries on and makes the new ideas work. He himself supplies the engineering and experience that the manufacturer should have had to begin with. With Mr. Good American's help, a manufacturer eventually develops fine products.

Unfortunately, this is just as true in the maple industry as any other way of life. In plain talk - in many cases, if you've got troubles and they are serious, don't go to the one who made it; he don't know as much about it as you do. Besides, he will probably lose the defective part and you'll never get it back.

It has always been my desire to do something for "Mr. Good American," this pioneer and prober of the future, even if it be only in some small, meager way, in comparison to my small ability.

We have been in this maple tubing business for quite a few years now, and all of our well intended steps have not proven out to be the best. Quite a few seasons ago we put out some 1/4" fittings and tubing. Although this 1/4" equipment was used only from the spile to the regular 5/16" lateral lines, it has generally been agreed that, if 1/4" equipment is any good, it is in some other application than tapping maple trees. So, since the season of 1962, we have been offering customers the latest 5/16" set-up in trade for their 1/4" set-up for half price.

If you have any of the 1/4" Lamb set-up you wish to trade, write us for a sheet on the details. There are a few yet who haven't changed over. The condition or age of the tubing does not count.

Through the years we have all together learned a lot, made some mistakes, and made a lot of progress.

Originally our 5/16" tubing was a clear, transparent plastic. Then a few years later the U. S. Department of Food and Drug got all shook up on a Cranberry scare, and bankrupted that industry. As a result of this, we had to change the coloring we used for one year. Then we learned how to use the permanent coloring and make it acceptable to Food and Drug.

So, we have the original 5/16" Polyvinyl clear plastic and then later the 5/16" colored tubing that faded. This particular tubing is not considered as satisfactory as the material used now that does not fade. The non-fading material is much in favor, particularly because it thaws out quicker in the morning.

Again, I am getting at the harm we do our inovators, "Mr. Good American." It is too bad we can't do some little thing for him. He deserves so much and we do so little. So, I would like to offer anyone this proposition:

If you have any of the above mentioned 5/16" polyvinyl tubing, I will take it back, regardless of it's age or condition, and furnish all new 5/16" tubing for 1/2 price, all transportation paid by the owner.

This is a deal direct with Lamb, not through our dealers. It is not fair to ask them to handle this since there is no money in it for anyone. In fact, there is a loss of money in it for us. I am making this deal available just to say "thanks" to my customers and friends that have made our NATURAL-FLOW tubing the success it is. If interested in such a trade, write in and and I'll send you a sheet on the details.

I hope this will do someone some good. Not like paying taxes, where a precious little comes back. Taxes to me are like throwing gasoline on a fire - the more you throw, the bigger the fire you get for a few seconds, but then it's all gone with nothing to show for it.

Again, this is another PAID article by LAMB, at the usual advertising rate of the Maple Digest. It is a great pleasure to be able to contribute to such a worth-while venture.

Bob Lamb

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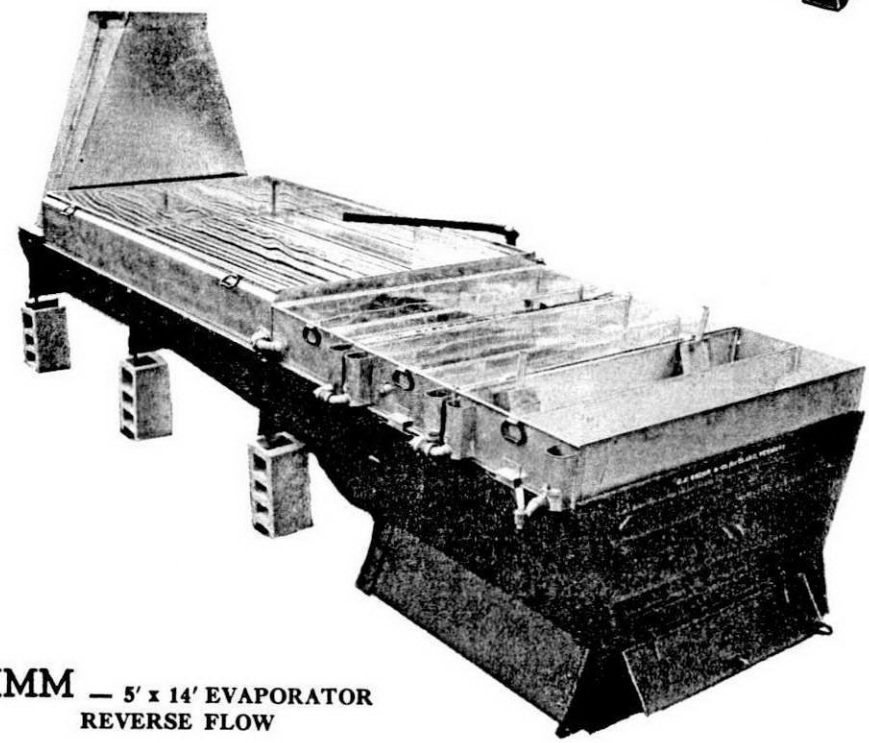

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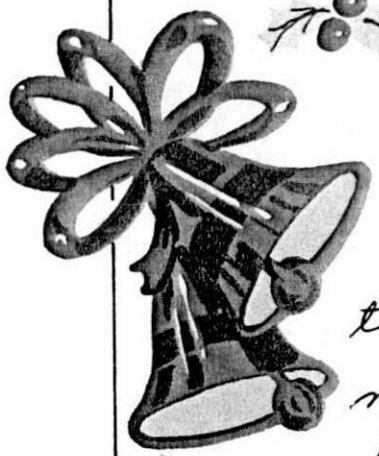

When I think of all
the wonderful friends I've
made all over this maple
belt, it makes me realize
there must be a lot more
just like them that I
haven't met. So I'd like
to take this opportunity
and speak out for the
whole gang here at Land's
and wish you all a

Happy Holiday Season

Bob Land