National Maple Syrup
• DIGEST •

N.H.
WORKSHOP

MAPLE
PROPAGATION

Vol 5, No. 2 BAINBRIDGE, NEW YORK FEBRUARY, 1966

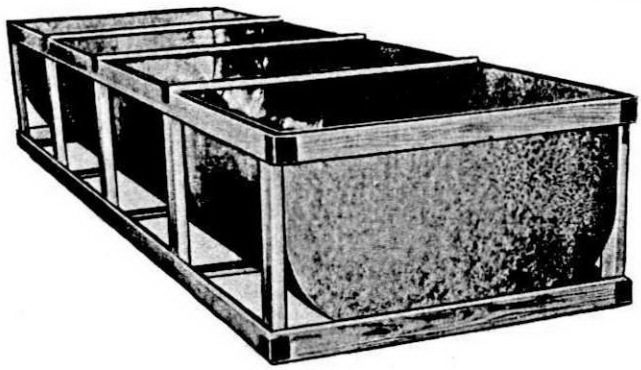
FROM TAP AND TANK

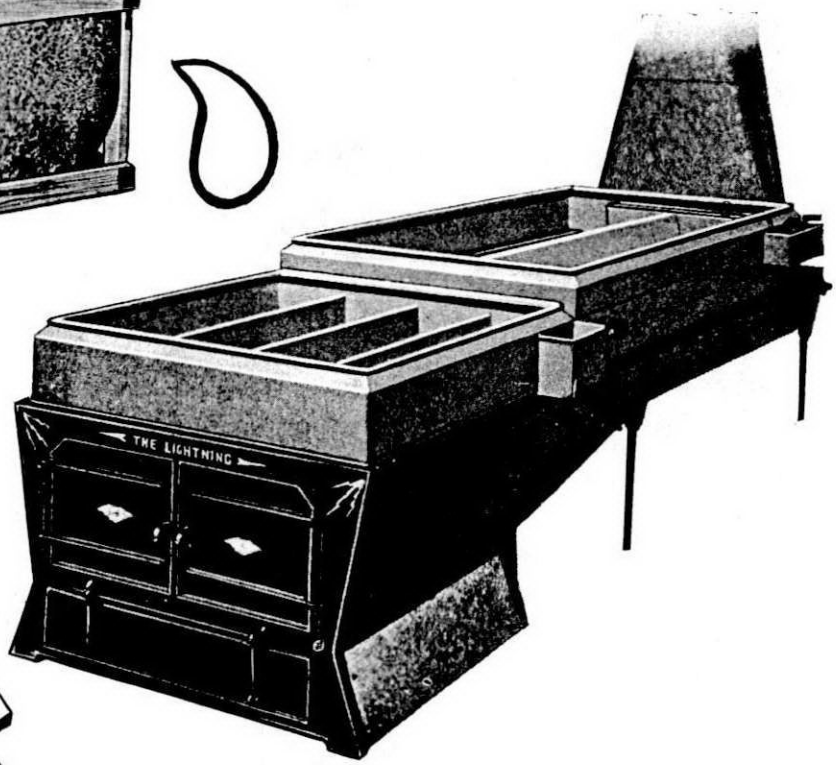
GRIMM

TO MAKING AND MOLDING ///

A COMPLETE LINE OF

MAPLE SYRUP MAKERS UTENSILS





ONE STOP SUPPLY FOR

- EVAPORATORS
- TANKS • TAPS
- BUCKETS
- THERMOMETERS

- HYDROMETERS
- CANS • CARTONS
- MOLDS
- MACHINES

SEND FOR ILLUSTRATED '66 CATALOG FOR A COMPLETE LISTING OF SYRUP MAKING AIDS.

We carry a complete line of syrup makers utensils from the largest installation to the smallest instrument. Our seventy years of quality manufacturing plus the latest in innovations give you a full range of products from one source of supply.

G.H. GRIMM COMPANY, Inc.

RUTLAND , VERMONT

TEL. AC 802 7735-5411 OR 773-9519

NATIONAL MAPLE SYRUP DIGEST

Published by . . . . . Main's Minit-Mail
Bainbridge, N. Y.
Edited by . . . . . Lloyd Sipple
Bainbridge, N. Y.

NOTICE
BACK ISSUES AVAILABLE

The following issues of the Digest have been printed to date:

Vol. 1, No. 1, 2, 3, 4
Vol. 2, No. 1, 2, 3
Vol. 3, No. 1, 2, 3, 4
Vol. 4, No. 1. 2, 3, 4
Vol. 5, No. 1, 2

We still have a supply of most of them but they are getting scarce, and they are expensive to mail. If you lack any, drop us a card stating which copies you would like and we'll send them if available.

ADVERTISING DEADLINE
for
OCTOBER ISSUE
SEPTEMBER 1st

--from the President--

SYRUP MAKERS FROM MAINE TO MINNESOTA – (there are a couple of states in between that makes a little syrup) – if you read the January issue of the Digest, you noted the Editor's plea for help in supporting this paper. You will note that it is now mainly supported or sponsored by the advertizers, and possibly you feel that's the way you like it. However, please remember that this cost to the advertizer has got to come out of your pocket eventually because he has to add this extra cost to his product and of course, charge you that much more as you buy it. A magazine entirely supported by the equipment industry becomes little more than an equipment catalog, but if all the people on this mailing list would contribute a dollar a year towards the Digest, we would have a self-supporting news medium. Don't you feel that it is worth that much to you? I know that one state maple association has a 100% record on this, so let's see more states doing this in 1966, and I hope this will include my own state of Wisconsin.

I wonder if too many of us aren't following that same trail that the calf made? (Jan. issue)

This issue of the Digest will be the last to be mailed for the 1966 syrup season, so I would like to remind you that the Annual National Maple Council meeting will be held in Wisconsin this next fall, and Wisconsin welcomes all of you that can attend this meeting. We hope there will be delegations rather than just a delegate and will do our best to show you around. We don't claim to match some of the wonderful places that we have visited in some of your states but we hope you will still like it here. The exact place or dates have not been determined as yet, but very likely the month will be October. Your Extension Forester as well as your state delegate will have this information in time for all to make plans.

We are arranging with the Weather Dept., the Highway Dept., the Food and Drug people, the Housing Administration, the beverage industry (and Wisconsin has a noted beverage industry), the transportation companies, the entertainment folks, the Law Enforcement agencies (that doesn't sound right, does it?), the outer space controls and anyone else that may be able to contribute towards an enjoyable Maple meeting. October is a beautiful time to take a vacation so I sincerely hope that many of you can make this trip next fall.

How many states or Maple associations are sponsoring a Maple Queen? We know that some are and it would seem that this could be an excellent promotion idea and could capture a lot of state and local headlines. Imagine, "A Maple Queen", they just couldn't come any sweeter than that. Well, anyway, if you are going to have one, Ohio has been chosen as the state for the 1966 National Maple Queen contest, and you will want to enter your contestant for National Honors. As soon as date, place and details are determined, your State Council will be advised.

May you have a most profitable syrup season.

Adin Reynolds

Editorial

Here I am again, right in the same old predicament. The digest is about set up and no editorial. There are several reasons for this, but I guess the main one is – I just haven't had time to think about it.

This has been the busiest January I can remember. In between attending maple schools and keeping up our own business (which Mary Lou has had to do most of) I tried to take care of the Digest mail as it came in, and not have to resort to the "big box" filing system.

The response to our plea for help has been quite satisfactory. I don't mean it's been 100%; (nothing in New York is). Actually, we have heard from only a small percentage of our readers, but there have been literally hundreds of letters.

We thought we should keep some sort of a record, so we have made a list of each and every contribution. This, along with all the additions, deletions, corrections and requests for back issues, has been quite a chore. I wanted to hire a good looking secretary to help, but my wife says our office is too small for another employee. However, if you haven't sent in your contribution yet because you don't want to overburden me, go ahead and do it now – I enjoy being miserable.

Most of the letters were short, simply saying "keep up the good work" or "don't stop now, you're doing fine," and we haven't received a single complaint except some incorrect names and addresses. Here are a few that I thought were exceptionally good just to show what some folks think of the Digest. I hope the writers won't mind. I certainly appreciate their thoughtfullness and want to share it with our readers.

Dear Sirs:

Find enclosed check to help pay for receiving the Digest. My intentions were good in other years but the saying goes "the road to the poorhouse (or hell) is paved with good intentions". Hope this helps keep the Digest going. One resolution (mine) completed for 1966.

Sincerely,
Charles F. Wilcox
So. Lyndeboro, N.H.

Dear Lloyd:

Inclosed is my contribution to the Maple Digest. I think the magazine is very valuable. I recently saved several hundred dollars by buying used equipment advertised in the Digest. I hope it can be kept going.

If you are still checking on the mail schedules, I received the December Digest on December 1 and the January issue on the 6th.

Sincerely,
Robert Patten
Lawrenceville, N.Y.

Dear Mr. Sipple:

This is in answer to your appeal on page 9 of the January issue.

Don't give up the ship !

We feel that MAPLE DIGEST has a service to perform for the industry and there are ways of supporting this service.

At whatever point in time you feel our increased support would be most helpful, please let me know and we'll discuss various possibilities.

Sincerely,
Franklin C. Bishop
Agway, Inc.
Petroleum Advertising
Supervisor

But the one that topped them all was an envelope that simply contained a generous contribution and the following poem, which I think will be pretty hard to beat:

Dear maple friends, I really meant
To get my digest dollar sent,
So you could use it to augment
A budget that needs every cent.

May it help you to prevent
Any need to fold your tent.
You wonder where the money went;
In boosting maple it's well spent.

To get up steam is our intent,
Neglecting you was my lament;
In helping out to this extent,
I've syruped off and am content.

Earl Villers of New Milford, Ohio

I guess this about winds things up for this season. You will notice we have added another four pages to take care of all the material sent in. I hope we haven't goofed and left some out. We'll be back in gear in September (October issue) and until then read every word in this issue, send in your contribution, and have a good syrup season.

Michigan Maple Meetings

Feb. 15—Maple Institute held at the Town Hall in Engadine.

Feb. 17—Maple Institute held at 4–H Center in Petosky.

10:00 a.m. to 3:30 p.m. Noon lunch of pancakes and maple syrup. Equipment will be shown at both meetings.

THIS WILL BE THE LAST ISSUE OF THE DIGEST PRINTED THIS WINTER. WE'LL BE BACK AGAIN IN OCTOBER. IN THE MEANTIME, IF ANYTHING "BIG" BREAKS WE'LL SEND OUT AN EXTRA.

IF YOU HAVE ANY CHANGE IN YOUR ADDRESS PLEASE NOTIFY THE DIGEST GIVING BOTH YOUR OLD AND NEW ADDRESS.

Joint Pennsylvania Exhibit Promotes Maple Syrup Nationally

by E. P. Farrand, Estension Forester
The Pennsylvania State University
111 Forestry Building, University Park

Maple exhibit in the Pittsburgh Hilton Hotel. Beaver County Agent A.L. Curran, convention exhibit committee chairman, is looking on.

The Pennsylvania Maple Syrup Producers Council was one of several organizations invited to place an exhibit at the National County Agents Association convention at the Pittsburgh Hilton Hotel, October 31–November 4, 1965.

Ideas were collected from each of the five area maple organizations comprising the council. These were sifted and consolidated by R.M. Plotts, Associate Wayne County Agent and E.P. Farrand, Estension Forester. They enlisted the help of Exhibits Specialist H.F. McFeely for layout and design.

Each area association contributed either maple products, money, physical labor, or a combination of these and the signs were made commercially.

All components were delivered to the New Centerville Fire Hall in Somerset County and assembled the night before the First Annual Pennsylvania Maple Tour, October 1. Three Somerset maple producers, Anthony Schmidt, Wilbur Snyder, and George Keim, along with two from Wayne County, Ed Curtis and Ivan Stevenson did most of the work. Boards, plywood, roll of burlap, some paint, and two 100 pound sugar maple slabs were put together with screws, nails, bolts, and staples to create the exhibit shown in the accompanying picture, Anthony Schmidt had the slabs especially sawn the same day. The signs were also obtained from the sign shop the same day.

Several changes were made by producers viewing the exhibit during the tour. It was stored in Somerset until November 1 when it was assembled in the hotel mezzanine in Pittsburgh.

Nearly 4,000 county agricultural agent personnel and their guests from all of the fifty states viewed it at the convention.

According to James Bochy, Somerset County Agent, and Dick Plotts, who tended the exhibit at the convention, there were many favorable comments and there was no trouble selling the pure maple products from the display when it was over.

The full cooperation of many people provided a considerable amount of good maple syrup promotion. The exhibit which is portable via station wagon, will be used continuously in prominent locations throughout Pennsylvania during 1966.

Additional maple publicity was obtained at the NCAA convention when the Pennsylvania Maple Council supplied 80 pounds of maple cream and the Somerset County Maple Producers supplied individual small maple sugar cakes for use in the hospitality bar along with other edible agricultural commodities.

Selection and Propagation of Superior Sugar Maple Trees

by Melvin R. Koelling and William J. Gabriel
Northeastern Forest Experiment Station
Forest Service, U.S. Department Agriculture
Burlington, Vermont

A report prepared for the SIXTH CONFERENCE ON MAPLE PRODUCTS, U.S. Department of Agriculture, Agricultural Research Service, Philadelphia, Pennsylvania, October 19–20, 1965.

THE POSSIBILITIES

One important factor in the future development of the maple sugaring industry is the contribution that improves trees, developed through selection and breeding, may make in reducing production costs. The reduced costs would be achieved through increased production of sugar per tree and per man-hour of labor.

Total sugar production may be increased in two ways: (1) by raising the sugar content in sap, and (2) by increasing the total yield of sap. It would be desirable to simultaneously develop the traits of sweeter sap and greater sap volume, but at present we are unable to work on both. Our current plan is to work first on achieving high sugar content of sap. However, much of the knowledge of techniques and procedures gained in this phase of the program will have application to the sap-volume phase when it is undertaken.

Individual tree variation in the sugar content of sap has been observed by a number of people. Moore and co-workers in 1951 noted that variation in sugar content among trees was not related to differences in soil, site, or other natural factors. They suggested that this variation might be inherent.

Taylor in 1956 found consistent season-to-season performances by individual trees in total sugar production. When ranked according to sweetness, the same trees appeared in the same relative position year after year. This suggested that genetic factors were playing an important role in determining sugar content. Marvin (1957) and Kriebel (1963) also pointed out the possibility of sap sweetness being an inherited characteristic.

OUR TREE–SELECTION PROGRAM

A program for selecting trees that are superior sugar producers was begun at the Northeastern Forest Experiment Station in Burlington in 1962. For the first two years, the work was exploratory in nature and dealt primarily with techniques of sampling and selection. The procedure called for an initial sample of 10 trees in each sugarbush to establish a preliminary average. Then a sample of 100 trees was taken. If any tree in the 100 tree sample produced sap 50% sweeter than the average for the 10 tree sample, it was marked for future reference. In 1962, 35 trees were selected on this basis. However, this procedure proved unsatisfactory because it did not provide means for evaluating differences in environment and differences in density, size or age class within sugarbushes.

A new procedure was developed before the 1964 season. Called progressive sampling, this method utilizes only one sample, preferably of 100 trees, although the number is flexible. The fieldman begins a cruise line at a convenient location and records percentage sweetness for each tree he encounters. When he finds a tree with sap that is substantially sweeter than the sap in other trees along the line, he takes sugar readings from 4 or 5 immediately adjacent trees. These trees serve as standards. To be considered for selection, a tree must exceed the sweetest of the standards by at least one-half a percentage point in sap sugar, and relatively it must be at least 30% above the average of the standards.

Each selected tree and its surrounding standards are marked, and each group of trees is tested twice more during that sugaring season and again twice in the following season. At the time of the last test a brief description of the soil and topographical situation is recorded. All within-group testing is completed as quickly as feasible so as to minimize confounding of possible genetic variation with the changes in sugar content that sometimes occur during a day or between days.

The ability of a selected tree to consistently maintain its position, relative to adjacent standards, is a prime factor in determining its status as a superior tree.

The progressive sampling program was in full operation during the 1964 and 1965 sugaring seasons in Maine, New Hampshire, Vermont, Massachusetts, and New York, and during the '65 season in Pennsylvania. Some 70 local, state and extension forestry personnel, under the general direction of William J. Gabriel, participated in this work. Orientation sessions to provide background information and instructions for the field operations were conducted before the sugaring season in each state. A summary of accomplishments by states in the 1964 and 1965 surveys is presented in table 1.

The field survey portion of the selection program is scheduled for termination in 1968. The next logical concern will be what to do with the selected superior trees. Our inten-

tions now are to make a final screening of all the selected trees in 1968, and from these choose about 50 of the most promising ones for propagation and intensive breeding efforts.

PROPAGATION STUDIES

For the benefits of a selection program to be realized, the trees exhibiting superior attributes have to be propagated. Two approaches are planned: (1) vegetative propagation, and (2) sexual propagation involving controlled breeding.

The initial emphasis will be on vegetative propagation. In the summer of 1968 we will try to propagate all the finally selected superior trees by cuttings. Insofar as we are successful, new individuals identical to the parent tree in sap production capabilities will thus be produced. In the following year, 1969, a breeding program with selected parents will be started, with the objective of developing genetic strains of trees characterized by high sugar-production capabilities.

METHODS OF VEGETATIVE PROPAGATION

I would like to consider certain aspects of the current research program in vegetative propagation of maple at Burlington. There are three possible methods: (1) grafting, (2) air-layering, and (3) rooting of cuttings. Grafting has found wide usage and is the principal method employed by nuserymen in ornamental sugar maple propagation. Air-layering and the rooting of cuttings are less frequently used, and when used, have generally been less successful.

Grafting – Grafting as a means of propagating superior maples has been the subject of only one small study at our Station. In this instance, Santamour and Cunningham in 1964 investigated the effect of rootstock on the sugar content of grafted material. They found considerable variation in sap sugar content among bud grafts from the same tree when grown on seedling roots of different genetic origins.

Since the environmental factors were reasonably uniform, rootstock influence appeared to be the most probable cause of the variation.

Air-Layering – Air-layering of sugar maple has been investigated by Cunningham and Peterson (1965). Their work has demonstrated that branches of sugar maple can be rooted by air-layering and that branches so rooted can be over-wintered and grown with moderate success.

To produce air-layers, reasonably vigorous branches in the outer crown of a tree are selected for treatment in late May or early June. At the node marking the base of two year old wood, which may be some 20 inches or so back from the branch tip, the bark is removed in a girdle one inch wide. The girdle is dusted with rooting hormone and then is completely encased in damp sphagnum moss, which is held in place with a wrapper of clear polyethylene film securely tied at each end.

After about a month, the air-layers are inspected at weekly intervals, and when roots can be seen growing through the sphagnum the branch is cut below the girdle and planted in the nursery. About 90% of the branches that develop roots do so within nine weeks after treatment.

Cunningham and Peterson provided shade and automatic intermittent sprinkling for their planted air-layers until the end of August. After that, the plants were exposed to the natural weather to harden off. Survivals over the first winter varied from 11 to 48 percent among layers from different trees. In general, survival was greater among the plants that had rooted earlier and thus had been outplanted a longer time.

Twig Cuttings – Several investigators have attempted to propagate species of maple by cuttings. Studies were conducted at the University of New Hampshire from 1943 to 1957. Albert G. Snow of our own Station worked with maple propagation during the period 1939–41. Several factors that might affect rooting were investigated. These included individual tree variation, age of parent tree, date of cutting collection, length of cuttings, propagation conditions and media, and hormone treatments. Although most of these factors were shown to have some influence on rooting, no completely satisfactory procedure was found.

Results of the first experiments at Burlington in propagating sugar maple by greenwood twig cuttings were reported by Gabriel, Marvin, and Taylor in 1961. These indicated that both parent tree and propagation medium influenced rooting percentage. However, rooting proved to be only the first and easiest step, as almost all the rooted cuttings died during winter storage. Our work since then has been a continuation and expansion of these initial efforts, with particular emphasis on the over-wintering problem. Some of the earlier investigations elsewhere also revealed serious problems in over-wintering rooted sugar maple cuttings.

Our collection and propagation procedure for the past few years has been as follows: cuttings are usually collected from mature trees during late June or early July. They are transported in water-filled pails to the greenhouse, where all except the terminal 3 or 4 leaves are removed. The cutting is cut to a standard 5 to 6 inch length and a small strip of bark is removed on opposite sides of the basal end. The wounded area is then treated with a root-inducing hormone (indolebutyric acid in either liquid or powder form). Thus prepared, the cuttings are stuck to a depth of

1½ inches in small (4 to 5 inch) perlite-filled perforated polyethylene bags. These bags are placed in flats and the flats are then transferred to the propagation chamber.

The propagation chamber is a low outdoor structure – approximately 10 feet wide and 80 feet long. It is constructed of clear polyethylene plastic film over a wooden framework. Incandescent 100 watt lamps over the center of the bed at 8 foot intervals provide light for extended length of day. An automatic mist system, operated either by an electronic leaf or a Solatrol (light-activated) unit, maintains moist conditions and high humidity.

Utilizing this procedure and equipment, it has been possible to obtain roots on the cuttings within 8 to 10 weeks. Rooting percentages have varied from forty to sixty percent. Such percentages, while not optimum, do provide enough material to work with. It is believed that rooting percentages can be increased through more rigid environmental controls during the propagation period.

EMPHASIS ON OVER-WINTERING

Present emphasis is on increasing the over-winter survival of rooted cuttings. Root-cellar storage and direct outplanting have been tried with poor success. Temperature controlled refrigeration treatments also have been tried: cuttings were overwintered at temperatures of 20°, 28°, 33° and 38° F., all under conditions of high humidity. The respective survival rates were 0, 5.8, 9.1 and 3.2 percent. These values certainly can't be considered as optimum.

The importance of well-branched roots was demonstrated in a 1960–61 study. Over-winter survivals, at 33° F. were 22% for a group of cuttings possessing well-branched roots as compared to only 4% for a group of cuttings with sparsely branched roots. Obviously we should attempt to create conditions during the propagation period that favor branched root development.

Work on over-wintering treatments is continuing. We have tried mulched cold-frame storage, mulched outplanting, and spagnum-mulched refrigerated treatments, all without appreciable success.

Our present attempts involve a slightly different approach. We now have a study under way to determine how date of twig collection affects rooting ability. We believe that if cuttings can be adequately rooted earlier in the season, so that they can be out-planted in time to make some growth during the same summer, over-winter survival will be greater. Results in our 1965 rooting trials indicate that we may be able to obtain earlier rooting by collecting the cuttings during the first part of June.

We are also considering dormant feeding of cuttings while in storage. It is known that some root growth can and does occur during the dormant season. Recent work at Cornell has shown considerably greater root growth by selected ornamental cuttings when supplied with nutrient solutions during a portion of the dormant season.

FUTURE PLANS

Relationships between tree vigor and rooting ability need to be established. We also believe more attention should be given to preparing the tree and the cutting for root formation.

Tree fertilization might be one approach. The possibility of banding or girdling to increase carbohydrate concentrations in the cutting before it is removed from the tree should also be investigated.

Finally, we need to fully understand the relationship between the environmental conditions of propagation and the type of roots developed. Water content of the rooting medium and aeration within it are two examples of factors that may affect development of branched roots.

The propagation problem will have to be effectively solved before full use of the trees in the current selection program will be possible.

TABLE 1. --Number of sugarbushes surveyed and trees selected, by states, 1964 and 1965.

STATE	Sugarbushes surveyed			Trees sampled			Trees selected		
	1964	1965	Total	1964	1965	Total	1964	1965	Total
Maine	4	(*)	4	400	(*)	400	2	(*)	2
Massachusetts	34	0	34	2,451	0	2,451	33	0	33
New Hampshire	7	(*)	7	391	(*)	391	9	(*)	9
New York	11	49	60	665	4.057	4,722	9	62	71
Pennsylvania	–	43	43	– –	3,823	3,823	––	26	26
Vermont	34	8	42	2,894	559	3,453	42	6	48
Total	90	100	190	6,801	8,439	15,240	95	94	189

* Reports not yet received.

When Does a Sugar Maple Grow?

by
R. R. Morrow and F. E. Winch, Jr.

During the last few years there have been serious droughts in many parts of the maple area. Many producers have wondered how this effects the trees both as to growth and as to sugar production. No definite statement can be made on this but it is well to look at some of the research that has gone on in preceding years and try to relate this to conditions in the area in which the maple producer is located.

When does diameter growth take place in sugar maple? Around Ithaca, New York, some studies have been made comparing diameter growth of maple and other species. Looking at the maple tree the wood technologists identify it as a tree with **diffuse porous** wood. On the other hand red oak would be considered a **ring porous** wood. Some mention of these two types of woods will be made as we look at growth patterns. Early studies have suggested that initiation of radial growth is triggered by proper temperature or by the proper length of day. In Ontario some studies were made looking at the growth pattern and temperature patterns of the years 1961 and 1962. In 1961 the spring was late and cold. In 1962 the spring was early and warm. There was an unusual nine degree difference in average temperatures for these two years. In 1961 a high proportion of the trees began to grow very early. This was also true in 1962 but in 1961 growth stopped and was delayed due to cold weather in May. In looking at the period that growth occurred in 1961, it covered 83 days while in 1962 only 43 days were covered by the initiation of growth on the first tree to conclusion on the last tree. This suggests that growth acceleration commences when the minimum temperature rises to about 40 degrees F. and does not fall below this level. This is also about the point where we have the last frost. Another factor which has influenced growth has been the amount of rainfall or the amount of moisture in the soil during the growing period. Best growth occurs during the wet season. A droughty year causes the growth to deteriorate and stop early. In studying several species at the McGowan Woods near Ithaca, New York, we find that the ring porous species such as red oak and ash start growth much earlier than the diffuse porous species such as basswood and sugar maple. While the ring porous trees grew earlier it is also a curious fact that diffused porous woods leafed earlier. In fact, oak and ash completed a third of their yearly growth before complete leaf development.

Height growth occurs gradually and it is difficult to pinpoint. However, there are species differences and yearly differences. Growth at the McGowan woods ceased earliest in the driest years. These years were characterized by large soil moisture deficits throughout the total summer period. Growth continues longest in the wettest years when precipitation virtually equalled evaporation throughout the summer and soil moisture supplies were adequate. Nevertheless, while ash grew very little after the first of August, red oak continued to grow into September in this wet year. It appears that cessation of growth varies with species but is emphasized by soil moisture deficit. There is evidence, however, that early, warm springs can partially offset growth loss of dry years. In Ithaca in 1964 and 1965, there were early warm days and even though these were dry years, growth was approximately average for the trees studied. Sugar maple, white ash and red oak grow in height only from early in May to early June or approximately one month. Conifers on the other hand usually start in early May and continue until the first part of July, usually a two month period. Larch, however, is the longest growing tree starting in early June and continuing through August for a height growth period of three months. It is clear that sugar maple has a remarkably short period of height growth and so dry summers affect it little. This is a period in which growth completes at the time leafing is complete, therefore we can expect some of the moisture deficiencies to possibly effect only the shoot growth of the following season. It seems likely that several years of cumulative drought may reduce this growth.

Women's Page

We are grateful to Mrs. Floyd Moore of Ocqueoc, Michigan for this month's maple receipes.

MAPLE SYRUP OATMEAL CAKE

(Especially good !)

Cover 1 cup oatmeal with ¾ cup hot water.

Cool and add:
1½ cup maple syrup
1 cup brown sugar
2 eggs
1 tsp. salt – 1 tsp. cinnamon
1 tsp. soda
1½ cups sifted flour
Beat above ingredients 3 min.
Bake in flat pan – 350 degrees.
Put the following on the hot baked cake. Place under broiler 2–3 min. Watch closely as it browns quickly.

Topping:
1 cup brown sugar
2 tbsp. melted oleo
¼ cup evaporated milk
1 cup coconut
1 tsp. vanilla
½ cup chopped nuts
This will be crumbly so it can be put on with your fingers. Then spread with knife dipped in hot water.

MAPLE SYRUP CAKE

Cream together:
½ cup shortening
½ cup white sugar
Add 1 egg yolk & 1 cup Maple Syrup
Sift together:
2 cups all purpose flour
½ tsp. soda
2 tsp. baking powder
½ tsp. ginger – ½ tsp. salt
Add alternately with ½ cup warm water
This is best baked in a layer pan as it is rich and crumbly. Bake at 350 degrees until cake springs back when touched lightly.

SUGARING–OFF SAUCE
(makes about 1½ cups sauce)

½ cup Maple Syrup
8 marshmallows
½ cup chopped walnuts
Cook syrup and marshmallows in small saucepan over low heat, stirring often, just until marshmallows melt; remove from heat. Cool. Just before serving, stir in chopped nuts.

GINGER MAPLE COOKIES

Mix together:
2/3 cup shortening
1 cup Maple Syrup
1 tsp. soda – 1 tsp. ginger
4 cups flour (sifted)
Roll 1/8 in. thick to cut out in desired shapes. (These are plump cookies – easy to mix up and fun to cut out – anyway, the children love it.

MAPLE SYRUP FUDGE

Mix in saucepan:
1 tbsp. flour
1 cup sugar
Add:
2 cups Maple Syrup
¼ cup white karo syrup
½ cup milk or cream
Cook to soft ball stage. Remove from heat: add 1 tbsp. butter. Cool to lukewarm – beat until glossy look begins to leave – pour quickly into buttered pan.

Hint: After basting ham with maple syrup, I find that the left over juices are a little too sweet for soup, but make a scrumptious pot of baked beans.

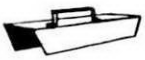
Maple Manual

A completely new Maple Sirup Producers Manual, written by Dr. C. O. Willits is now ready for distribution. This publication is the most complete handbook on maple sirup production ever written. It contains 112 pages of the latest developments in the maple industry. If you want a copy, and we don't see how you can get along without it, send 70 cents to the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402, and ask for Agricultural Handbook No. 134, Maple Sirup Producers Manual by C. O. Willits.

THE SAP-SAK NEW FOR 1966!

THE NEW WAY TO COLLECT SAP

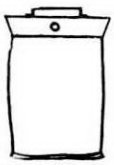
The complete unit consists of a rigid HOLDER which is also a COVER that supports a special made throw - away bag.



COVER - HOLDER

BAND

BAG



Shows hole side of cover that hangs directly on sap spout. (No special spout needed) Just without hook.

Quickly assembled (about 30 seconds). Open end of bag is slipped thru band - folded over band and set into cover.

Pivots to right or left for emptying. No need to remove from spout.

OR — can be carried anywhere — has sturdy handles.

TRIAL KIT (25 complete units) Postpaid $19.95
SAMPLE UNIT COMPLETE Postpaid $1.25

Introductory Price in Quantity

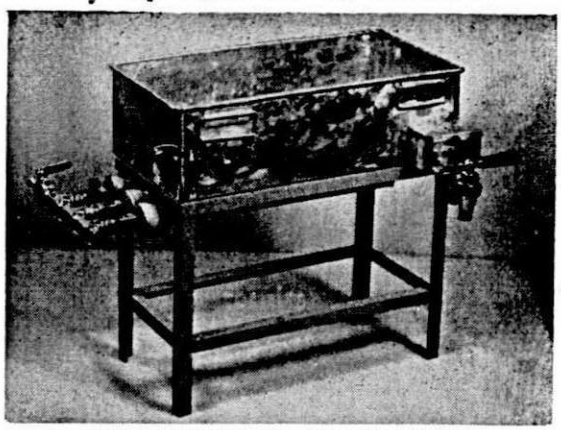
COMPLETE UNITS	**Per 100 — Only $69.00**
COVER-HOLDERS	**Per 100 — Only $65.00**
SPECIAL SAP-SAKS	**Per 100 — Only $ 7.00**

(We suggest ordering extra bags)

F. O. B. ANIWA, WIS.

Order from your dealer or write direct.

Want To Make A Better Maple Syrup And Do It Easier?



MORE POPULAR EVERY YEAR

BOTTLE GAS BURNER — SYRUP FINISHING SYSTEM

Draw off syrup at 28 to 30 Baume. (This is when it requires constant watching as it foams and burns so quickly). Finish on controlled gas heat. Costs less than 3c per gallon of syrup. You don't have to slow down your evaporator fire. This gives your evaporator greater capacity and allows you to push it right along without danger of burning pans or your syrup.

A perfect companion for any make evaporator.

Requires no electricity and can be moved anywhere that you wish to hook on a bottle of gas.

Available with English tin pan or Stainless Steel. Comes complete with draw-off faucet.

This burner was designed and built especially for this job, and proven by many users everywhere. All welded construction. This is not a toy.

Have you tried our Pan Cleaner? We sold 30 barrels of it last year, so it must be pretty good!

Send for our FREE complete catalog. It lists everything in supplies for the syrup maker — no matter how small or how large — from evaporators down to bottle caps. We specialize in oil-fired evaporators and installations. We set up and equip Central Evaporating Plants. We stock Lamb tubing and all fittings.

WE WILL BUY YOUR SYRUP

REYNOLD'S SUGAR BUSH, INC.

ANIWA, WISCONSIN

PHONE AC715 ANIWA 2680 ZIP 54408

Management Can Influence Efficiency

Fred E. Winch, Jr.

Early in professional forestry there was a great deal of study on the influence of sugar bush management on sweetness of trees. In the early thirties MacIntyre in Pennsylvania showed that large trees with large crowns usually produced more and sweeter sap than the trees with smaller amounts of foliage. Also there could be some relationship between the amount of sap flow and the crowns size. In Ohio in 1951 several research people backed up the work of MacIntyre and others in reporting that the tree crowns had a great deal of influence on sap and sugar production. In 1955 Dr. Morrow working at the Arnot Forest and other maple areas in central New York again presented much of the information which would be of help to back up foresters demands for better management of the sugar bush. Sugar maple trees and bushes are greatly variable in their sugar production and both the live crown height (or live crown ratio) and the crown diameter (or width) are definitely related to sugar percentage. In the closed sugar bush most of the influence of crown on production of sugar depends on the crown diameter. Thus we see that it is necessary to do a thinning job to develop a wider crown diameter, let's say from a 20' diameter to a 35' diameter. This then would increase sugar content. At the same time it would also tend to increase the diameter growth of the tree so that in a shorter period of time more taps in better wood could be made on the tree. The amount of openness of the sugar bush has a direct influence on sugar percentage of the sap over and above the size of the crown itself. In other words, the sugar grove typical of Vermont has a tendency to produce a sweeter sap than the closed bush found in many other sections of the maple region of the United States.

There is also influence on sap flow from the size and diameter of this crown. This is not as easy to measure by the researcher nor by the farmer himself. Many complicating factors such as the weather, type of season, etc., enter into the measurement of this type of influence. It does seem, however, that sap flow is related to the same factors that influence sugar percent. Thus trees with large crowns typically produced increased sap flow in addition to producing sap with higher sugar content. Here the openness of the stand is more important in influencing the flow of sap than in influencing sugar content. Openness of the stand influences freezing and thawing of the bush which directly hastens or retards the sap flow. From data collected in many areas we have indication that open trees on favorable aspects (south and east slopes) sometimes have more and longer flow periods than those on the unfavorable aspects such as the northern slopes at high elevations or in closed canopied sugar bushes. One of the direct correlations here is that the size of crown and area for root development influences the rate of growth. Thus trees of the same age in a closed stand will be smaller in diameter than those in an open stand. All of this comes down to the fact that the well managed sugar bush can enable the operator to produce more dollars in his pocket at the end of the season if he follows a few common sense ideas. Since sugar maple is a tolerant tree and can stand much shade it has been assumed that it needs little thinning or developing to become a good sugar bush. However, when vigorous trees are given room to grow on good soil, it is not uncommon to have 10 inches of diameter growth in 30 years. Thus trees can produce their first crop of sirup more quickly than if they are managed for lumber production.

To obtain deep and wide crowns which are the goal of every sugar producer a thinning should be started when the trees are one to four inches in diameter. This thinning should be heavy and it should be frequent enough so that the crowns are kept relatively free of one another. The first thinning, if delayed until the trees are three to five inches in diameter entails some danger of wind damage, sun scale, sugar maple borer and site deterioration for a few years. The released trees soon extend their roots and become more wind firm and the branches quickly close in the openings indicating when the next thinning is required. Possibly thinnings in such a stand should be done about once every five years, each thinning becoming lighter and less dangerous to the young bush than the preceding one. If thinning has been delayed until the trees are six to twelve inches in diameter, a great deal less can be accomplished. Tree crowns can be widened but seldom can they be deepened. If the thinning is not done at all the tree crowns become relatively shallower or less deep because the lower branches are shaded and die off. At the same time these larger trees and older bushes are less vigorous and as a consequence should be thinned more lightly. In fact old, vigor bushes with small crowns cannot be expected to respond greatly to a thinning.

There are several alternatives to the use of wood from thinning. One would be to use the wood as fuel in the sugar evaporator and this will be done in many of the smaller operations throughout the maple region. However, with scarcity of labor for cutting wood many individuals have turned to oil. As a consequence, the quickest and easiest job of eliminating these undesirable trees will be to use hormone type weed killers such as 2, 4, 5–T in oil at the base

of the trunk of the tree. The cost here is minimal, onlv 3 to 5 cents a tree for those in the one to ten inch class. It is well to mark the trees to be killed ahead of time. This can best be done in the summer period when the leaves are on the trees so that the crown friction or the closeness of the crowns can be noted. Another way to determine which trees should be removed is to use a small inexpensive sap refractometer which can test the sugar content from the trees in question if they are already being tapped. This must be done during sap season. This in itself will tend to upgrade the bush for sugar percentage. There are many trees which are "jerseys" while others are "holsteins". In other words, it has been stated pretty well a sweet tree is always a sweet tree but it can be helped by proper management of the surrounding trees.

Pennsylvania Association

Officers elected at the annual meeting of the **Pennsylvania Maple Syrup Producers Council** held January 13 at the 50th anniversary of the Pennsylvania Farm Show were: (seated left to right) Edward P. Farrand, Extension Forester, The Pennsylvania State University, Advisor to the Council; and Robert B. Mc Connell, Coudersport, Pa., Secretary-Treasurer. Standing left to right: Edward A. Curtis, Honesdale, #3, President and alternate delegate to National Maple Council; and George Keim, West Salisbury, Pa., Vice President and delegate to National Maple Council.

The Pennsylvania Maple Syrup Producers Council is composed of delegates from each of the five area Maple Associations in the state and has been very active during the past year in encouraging the production of high quality maple produots, and in promoting the Maple Syrup industry in Pennsylvania.

Ultraviolet Lights Aid In Syrup Storage

Control of Micro-Organisms

Standard-density sirup will not support active growth of micro-organisms with the exception of a few types of yeast and one or two types of bacteria. Because of the possible contamination of sirup with these organisms, no sirup that is offered for sale to the consumer should be packaged cold. Instead, the sirup must be heated to at least 180° F. to destroy these organisms and then packaged immediately (*23*). Any spores of yeast, mold, or bacteria that may have gained access to the sirup will not be destroyed, but they will vegetate and grow only if conditions become favorable.

Everyone has seen mold growing on sirup. However, mold will not grow in standard-density sirup. These apparently contradictory statements are explained as follows: Cold-packed maple sirup may contain mold spores. The mold spores, like the spores of most yeast and bacteria, will remain in a resting state and will not germinate as long as all the sirup is of standard density.

Sirup stored under ordinary conditions usually undergoes some temperature change. When the storage temperature increases, some of the water of the sirup is distilled up into the head space of the container. When the storage temperature decreases, this vapor condenses into small drops of water that run down onto the surface of the sirup and produce a layer of low-density sirup in which mold and other types of spores can vegetate and grow.

Even though the sirup contains spores, their growth can be prevented by momentarily inverting the packaged sirup once or twice weekly (*66*). This destroys the layer of dilute sirup and thus inhibits germination of the mold spores.

Although sirup is packaged under clean, sanitary conditions, this does not guarantee that the sirup will not become inoculated with micro-organisms if it is packaged cold. Once mold or yeast has grown in the area where cold packaging is done, it is almost impossible to package sirup by the cold method without its becoming infected.

Chemical inhibitors have long been used for preserving foods. Recent studies (*26*) have shown that one of these, the sodium salt of propyl para-hydroxybenzoate (PHBA) is effective in controlling growth of yeast and mold in maple sirup. A concentration of only 0.02 percent is required. Sodium propyl PHBA is available commercially under different trade names.

CAUTION

Before using this or any other chemical preservative, determine whether it has been approved by your State for use in intrastate sales and by the Federal Food and Drug Administration for use in interstate sales.

Bulk-stored sirup can be kept free from surface infection with spoilage micro-organisms by irradiating the surface of the sirup with germicidal lamps that emit low ultraviolet radiation, particularly in the region of 260 millimicrons (*120*). The lamps must be mounted to illuminate the entire surface of the sirup (chart 21).

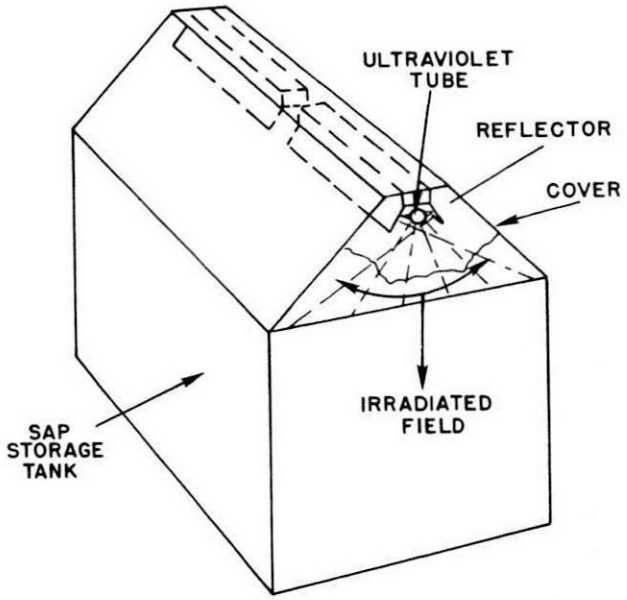


Chart 21.—**Ultraviolet (germicidal) lamp must be positioned to illuminate the entire surface of the sirup. More than one lamp may be required.**

CAUTION

Never expose the eyes to radiation from germicidal lamps since permanent damage can result. Always turn the lights off before working in the area illuminated by these lamps.

Scoharie County Maple Festival

Schoharie County's first Annual Maple Festival will be held in Jefferson April 30, 1966. This was announced by Churchill and Wright, the two men who have sparked the movement from its inception.

The maple producers of Schoharie County banded together to form an organization which was incorporated December 22, 1965 as the Schoharie County Maple Festival, Inc., for the express purpose of holding an annual maple festival. The first festival will be held this year on Saturday, April 30 on the village green in Jefferson, N.Y.

The announcement was made by William Churchill, maple producer and dairy farmer of Jefferson and Stewart Wright, former Schoharie county extension agent of Cobleskill. Officers of the corporation are to be elected at the next meeting.

Plans for the festival have been moving rapidly under the guidance of various chairmen and their committees. An actual sap house is being constructed which will be fully equipped and will be erected and put into operation for the festival. Sap will be processed into syrup, cream, sugar, candies for sale to visitors. A dedication program will incorporate the planting of maple trees on the village green by Boy Scouts of various Schoharie troops. It is anticipated a contest will be held to select a Maple Queen from the junior classes of Schoharie County high schools. The history of maple sugaring from the coming of white men to America, the advancement and improvement of methods of refining maple sap, the modern way sap is harvested will be explained and illustrated. A display of artifacts of by-gone days is planned.

The festival is supported by the Schoharie county board of Supervisors and from the inception of the idea they have assisted in many ways and have been instrumental in getting the project under way.

From Our Ohio Readers

Your magazine has taken out its folklore in syrup making and replaced it with facts. Some of the folklore may be of interest to your readers. In the days when a sugar bush was known as a sugar camp and the sap was boiled slowly and patiently in iron kettles on a round-the-clock basis, two syrup makers in this county spiked the product with whisky, undoubtedly to fight off the chill. It did just that, and put them to sleep. In the night a bear just out of hibernation, and as a result, quite hungry got into the kettle and presumably because of drinking on an empty stomach, he soon joined the syrup makers in sleep. They fortunately awakened before he did. and did him in with an ax. This probably saved him from a bear-sized hangover. This is related in the history of the county of Geauga.

Mark Sperry
Chardon, Ohio

When the pails are on the maples and the sap begins to drop
When the boys are beating batter and the pancakes start to flop,
Then its time to head for Burton for a day you'll ne'er forget
For the pancakes, syrup and sausage are the best you ever et.
See the landmarks in the village as you stroll about the town
Read the plaques upon the boulders as you wander up and down
See the syrup in the making in the cabin in the park
See the black squirrels in the tree tops listen to their saucy bark
See the museum across the highway with its school and store and barn
See the olden church and dwellings; note their beauty and their charm.
Yes its time to visit Burton; Brother, Sister, Mom and Pop,
When the pails are on the maples and the sap begins to drop.

B. J. Shanower
Burton, Ohio

Maple Marketing

Maple syrup marketing was approved by the Board of Directors of New York Farm Bureau at a meeting of that Board on January 3, 1966. In addition, the Board recommended that New York Farm Bureau Marketing Cooperative (NYFBMC) establish a Maple Division within the Cooperative with the responsibility of developing and activating a maple marketing program.

This action is in line with recommendations of a producer committee which has been studying maple marketing problems during the last several months. The committee consists of Gordon Brookman, South Dayton, Chairman; Philip Gravink, Clymer; Gilbert Lehman, Lowville, and Howard Virkler, Croghan.

The committee also recommended in their report to the Board that the Maple Division be under the direction of an operations committee composed of maple producers. It would be the responsibility of this operations committee to act as a "board of directors" in planning and carrying out activities of the Maple Division.

Among activities of the Maple Division would be:

A. **Marketing** – Explore alternative marketing arrangements best suited to the needs of New York maple syrup producers such as:

1. Establishment of a producer-owned and operated marketing organization.

2. Processing facilities for standardizing and packaging pure maple syrup, and for manufacturing maple sugar.

3. Contractual sales arrangements with established marketing firms.

4. Opportunities for marketing through retail and institutional brokers.

5. Possible ways of strengthening price negotiations with existing buyers.

B. **Market Development**

1. New outlets.

2. Multi-state interregional development.

3. Long-range activities with buyers including chain stores and manufacturers.

C. **Market Information**

1. Prices with grade differentials reported by producers and dealers, including terms such as time of payment, who furnishes containers, where delivered, and the like.

2. Identification of the buyers – who they are, where located, etc.

3. Buyer activity.

4. Retail prices by container size from various locations in the state and outside the state.

D. **Special Services**

1. Joint purchase of producer supplies.

2. Information on innovations such as new kinds of supplies, their cost and source.

3. Sponsor research and development of new products.

4. Explore the potential of a trade name, organization label, etc.

5. Better labeling with enforcement.

6. Cooperate with College of Agriculture and Department of Agriculture and Markets.

The maple marketing committee further recommended that New York State producers be given an opportunity to indicate their support of a joint marketing effort by becoming members of NYFBMC and helping finance a program developed by the Operations Committee best suited to their needs. It is anticipated that an Operations Committee will soon get into action and present a proposed program to New York producers.

For further information get in touch with a member of the marketing committee listed above or New York Farm Bureau, 110 North Tioga Street, Ithaca, New York 14850.

Maple Workshop in New Hampshire

by Fred E. Beane

New Hampshire Sunday News

ACKWORTH – A chill wind whistled over the hilltop. It shook the Acworth Town Hall. It blew open the hall door, and strewed the floor with assorted fall leaves. The power line into town had gone dead. There was no heat; nor lights. But the maple sugar makers of the state were gathered there, and there they stayed-and labored. Machinery couldn't be demonstrated, for lack of power. It was a dark day, too, and hard to see.

But the maple gentry had scheduled, at the hilltop Town Hall, the first maple workshop the state, the association, or Acworth ever booked. They were going through with it, they vowed, though the gasoline stove, rushed into the emergency when the electric stove failed, caught fire – which it did. It was just another backfire to a well planned program, again convincing the brethren of the inestimable value of modern power aides.

The call for the state's first maple workshop had been sounded through the hills and dales and sugar bush country in general. It had brought close to 100 of the folks in the maple fraternity chugging up the steep hill to the center of town.

HOT COFFEE – The arranged plan called for an hour of sociability when the clan would gather, grab up doughnuts and hot coffee, and sort of prepare for the maple doings. Nobody, of course, anticipated that high winds or whatever did it, would rob the meeting hall of heat on a chilly day; lights for seeing each other and what went on; or power to crank up the many and varied machinery units, assembled for the big demonstration.

This was to be no ordinary demonstration. Nor was it! It happens that for some years now, experts in the research field have been laboring in distant Philadelphia, Pa. in the Plant Products Laboratory of the U.S. Dept. of Agriculture. They've been hunting for some of the answers to why the maple sugar makers of New Hampshire and northern states of the nation have continued this long, to bring forth their maple syrup and allied products, with just about the same hand labor, toil and back strain, as used by their ancestors, back in the days when the Indians first happened onto the trick of boiling maple water and getting a toothsome sweet out of it.

A great many questions have been answered. The solution to numerous sugar bush problems have been found. Some of this information has flowed back into the far countryside, even into Northern New England, which always, so the boys boasts, has made the finest maple syrup and sugar in the world.

But a lot of this valuable information hasn't got back here, or if it has, too few have heeded it, likely for failure to have the answers in complete enough detail and conviction, to send them scurrying into change. But apparently the time was ripe for change. So when they sort of canvassed the boys, to see if they wanted a workshop, they certainly did! Sure they'd attend, they promised. It seems to make a difference who's your teacher.

TWO EXPERTS – Yes sir. New Hampshire was promised Dr. C.O. Willits. He's the head man in maple investigations at the Plant Products Laboratory, and has been for the many years that red hot and exciting experimental studies have been conducted there. They were promised, too, Dr. J.C. Underwood, one of his able associates in maple problem solution.

So you'd see a sugar maker, boots, reefer, mittens, earlappers and all, sort of poke a nose around the hall door and grin. Both of them were on hand, with oodles of equipment and information.

But before long the maple lads of the Granite State had both experts sort of corralled and penned-in at the front of the hall, and if it's anything the bush gents like, it's informal powwow. At one time everybody was talking at once. Machinery was running around the hall. Speakers and researchers were trying, heroically, to get that final last word across. We are pretty sure they never did.

But it's hats off to Willits and Underwood. Except for the floor caving in, they faced about every other deterrent to progress and chugged right along anyway. By victuals call, they had poked a lot of valuable and new information down the leather-aproners' throats. And there were indications the boys will take a lot of it into the sugar bush, come mid-February and early March, and sing the praises of the USDA knowledgeables, that had come to Acworth town.

SYRUP DENSITY – The perfect syrup, Willits said, has to be just right. If you make it more than 67% solids, you easily can ruin your evaporator by burning if you get crystals, or rock sugar, in the bottom of your cans.

This is all part of the maple sugar content, he noted, but warned that the "uninformed public" will think you adulterated your product with cane sugar, and nothing will convince them to the contrary. Don't be fooled into putting out that "extra thick syrup", that some folks demand. The range, he explained, is 65½% to 67% sugar, and that's all !

Willits is a Brix man and not a Baume gent, he made plain many times. Two degrees on a Brix hydrometer, he said, equals about one degree Baume. He's just plain exasperated, he said, flatly, that equipment people don't carry the Brix units, to end the useless stooping, squinting, and perchance a lot of cussing, that comes from trying to read the "fine

print" Baume style. When you have just a degree and a half of leeway in handling syrup, why not get that mighty small area percentage onto something readable.

Then he turned attention to a giant-sized thermometer, which he recommends as the right style to use. When the fact is that "a very slight change" in the reading will cause "a great change" in the syrup. Who wants to go blind, hunting for small figures on a miniature scale?

USE PAN METHOD – He then surprised the sugar bush land by a flat recommendation that they never again finish syrup off in the rushing evaporator. His recommendation? Shift to the "finishing pan" plan !

Take that syrup out of the evaporator at 45 Brix, and into the finishing pan. You do not need a large pan. One 18 by 18 inches in size and 12 inches deep is plenty big if you are capable of boiling down at three gallons an hour. Willits insisted that he's never heard a complaint against this finishing pan plan once a fellow adopts it. It will not slow down your operation. Instead, it will speed your operation up and you'll make a better product.

And we looked around the room, and danged if we don't think a lot of the boys are going to challenge the Willits statements with a solid try at it, come spring.

AUTOMATION – Research, he advised, seeks a fully automatic rig for taking syrup off the evaporator correctly. One brainy lad has made one such a rig, and is working on a simplified version. Then he turned to this instrument, rather complicated and costly, but capable of accuracy to a thousandth of a degree !

It is capable too, of ringing a bell, blowing a whistle, or apparently blasting a cartridge, or giving the modern sugar maker whatever signal he might want, for syrup accuracy. Willits has hopes for a simpler unit, but indicates the day of automatic take off is not far away.

RAY TREATMENT – Willits recommended the use of "germicidal lamps" in sugar making. They are way down in ultra-violet rays and lethal to micro-organisms. These short waves, he said, really do the job. They penetrate five feet into the sap, before they lose half their effectiveness. Put them over the top of your holding tank and they'll be effective.

However, ultra-violet rays will not undo the fermentation damage that has been done ahead of the lamp application. There's been a lot of study on this, he said. They kept a lamp over a tank and let sap flow into it for two weeks and there were no organisms in the sap, and it made fancy syrup.

CONFECTIONS – Then the Philadelphia researchers turned to confection making. There was a lesson in right cooling, in stirring, in molding, and other methods and rules. Lack of electricity and time cut this part of the program short, but the procedure was, nevertheless, well demonstrated.

TUBING – The group adjourned for dinner and a trip to Gordon Gowan's sugar bush. Here, Gowan, assisted by Lloyd Sipple of the Maple Digest, set up a modern plastic tubing sap line, down a steep side hill. After a lively discussion on tubing installing procedures led by Dr. Willits, the meeting was called to a close and everyone went on his merry way.

I am sure the readers of the Digest will assist me in a project that could, in future years, have considerable interest, as well as a money crop of Pure Maple Products in states not at present growing the Sugar Maple Tree. Population is changing fast in our country and 15 to 25 years from now, why not have Pure Maple Products available in California and Arizona? Just because the Sugar Maple Tree is not a natural tree for these states is no reason that this tree will not thrive at certain altitudes and soil conditions. I have interested parties willing to cooperate with me on experimental plantings in 1966 in these two fast growing states. Certainly some of our readers will have some positive thoughts on this matter and be willing to assist me for a start on this project now. Write me, I am open to any and all suggestions from experimental stations, nursery companies, etc. **Contact Bob Huxtable, Sugar Bush Supplies Co., Box #1107, Lansing, Michigan 48904.**

THE BOB BRAMHALL PLASTIC SYRUP CONTAINER

Just a line to tell you folks about this plastic container business I'm getting into.

Bob Bramhall is to blame for the whole thing. He is one of those guys you honor and respect and wish you could be as good a man as he is.

A few years ago, Bob simply decided that maple should have a new concept in containers. He had no profit motive in mind; he isn't that type of man. He just felt Maple needed it. So we all pitched in, did what we could to help him, and he came up with a pretty nice container.

But, Bob says he only started it. There are attractive labels to be acquired, different sizes to be developed, and an advertising program to be entered into so the containers won't be kept a deep, dark secret.

I guess this is where we come in. We're taking over for Bob and we are really going to put some effort into it. We intend to see that people get what they want.

Come to think of it, this is the way we got into the tubing business. One producer had an idea and we located the material for him. Then, with his help and the help of a whole lot of other producers, it just grew into a pretty respectable tubing system.

Maybe the same thing will happen to the plastic containers. We hope it does, and we'll do everything we can to help it. In any event, regardless of his position with the J.P. Lewis Co., Bob Bramhall will always be just an old friend and woods boss, exactly as I knew him years ago. I only hope that he receives the satisfaction of accomplishment that he was after in this venture.

Bob Lamb

HI PRESSURE STEAM BOILER

A friend of mine has this unit. It has been replaced by a much larger one as his lumber Dry Kiln business has grown. I know absolutely nothing about a boiler. Many times you fellows have asked me about used steam boilers. All I have ever heard of have always been the wrong size. All I can tell you is that this friend has good equipment and takes care of it. If I needed such a boiler I would buy it from him. Thats all I can say.

This hi pressure steam generator is a 50 hp "Ames" boiler made in Oswego, N.Y. It is a complete package unit. All fully automatic. The nozzle in it now burns 25 gal. of #2 fuel oil per hour and produces 1,725,000 BTU per hour.

The complete package unit only has to be hooked up and plugged in to electricity. The unit weighs about five tons and is about 12 feet long, 6 feet wide and 7 feet high. All controls on the boiler are new within the last twelve months.

The stack for the boiler is also included.

The price of this complete unit is $1,000.00 and Jack will have it tested and will load it on anyone's truck for them that buys it at this figure.

Jack will also deliver it to anyone at any place for 40¢ a mile, charging one way. However, his big Diesel tractor unit is hardly the thing to deliver a 5 ton boiler on, when any average farm truck could do the job much cheaper. If Jack delivered this boiler the purchaser would have to have a means of unloading the unit.

If you are interested in the unit, contact JACK WEBB at the H.B. WEBB LUMBER CO., BERNHARDS BAY, N.Y. TELEPHONE OR5–3611 Area code 315.

I know nothing about a boiler and your dealings would all be with Jack Webb. I am just passing this information on as a friend.

Bob Lamb

SOMETHING NEW AT LAMB'S

PLASTIC TABLE DECANTER FOR MAPLE SYRUP

PINT SIZE AVAILABLE IN ANY QUANTITY

PRESERVES DELICATE MAPLE FLAVOR

PRACTICALLY UNBREAKABLE

EXCELLENT SHIPPER

DRIPLESS POUR

NO RUSTING

24¢ each . . . . . Case if 160 – $36.00
F.O.B. Baldwinsville, N.Y. Price includes Labels

IMPORTANT NOTICE

Distribution of the Robert Bramhall Plastic Containers has been taken over by Bob Lamb.

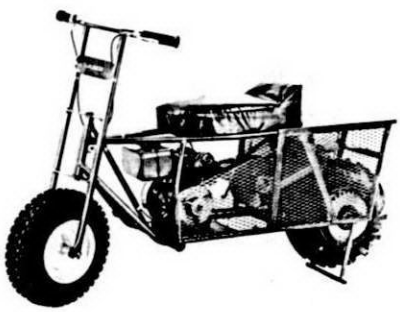
The above prices now includes all necessary pressure sensitive labels designed for use in any state.

COMING NEXT YEAR

Quart and Half Gallon sizes, in addition to the pint size, at comparable prices.

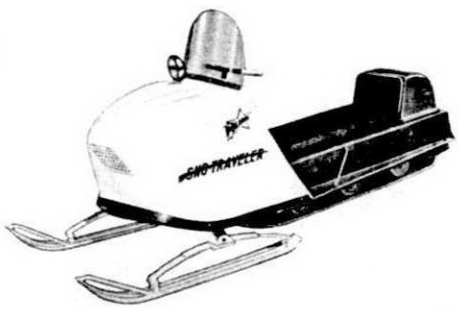
Private labels using your own name and design on 60 day notice.

Automatic custom labeling.



R. M. LAMB

2996 Belgium Rd.
Baldwinsville, N. Y. 13027
Tel. 315-638-0271



The Best Maple Syrup Filter

ORLON FELT–Developed by American Felt Company especially for filtering maple syrup.

- **CLEAN**–Requires no preliminary washing or boiling.
- **NO ODOR OR OFF FLAVOR** imparted in the syrup.
- **USE WET OR DRY**
- **EASIER WASHING**
- **NO STORAGE PROBLEM**–Moths will not eat Orlon.
- **ORLON**–Stays whiter longer.
- **ORLON**–Will last longer.
- **NO SHRINKAGE**–Stays the original size and shape.
- **MANY SIZES AVAILABLE**–

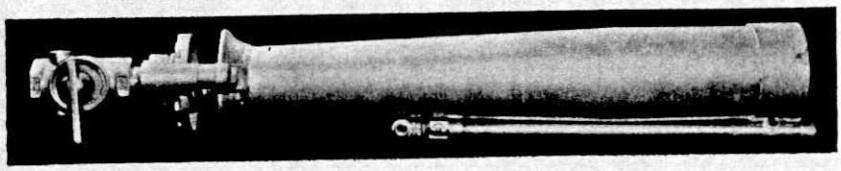
24 x 24———3.85 ea.	30 x 36———7.20 ea.
24 x 30———4.75 ea.	36 x 36———8.50 ea.
24 x 36———5.75 ea	6 qt. Bag———4.50 ea.

We also stock a large inventory of cans, cartons, glass, Brix Hydrometers thermometers and – –

Lamb Tubing, Tappers, Pellets & Pumps

J. L. Sipple & Son, Bainbridge, N. Y.

EVAPORATOR GAS BURNERS



NO SOOT NO SERVICE NO ELECTRICITY NEEDED
ENGINEERED FOR THE JOB NOTHING TO WEAR OUT

5 BURNERS, VALVES, PILOTS, LIGHTER AND FRONT PLATE. **$295.00**

Elmer Winter North Collins, N. Y.

We handle KING AND LEADER EVAPORATORS and all equipment that it takes for making maple syrup. On hand at present – flue brushes, filters, tapping bits, sap & syrup testers and syrup cans. Contact ANDREW B. ZEHR, CROGHAN, NEW YORK 13327.

FOR SALE: Bottle gas burner – syrup finishing system. Tin plated pan. Used one season.-$100. **Richard Lorenz, Minburn, Iowa**

Wanted – 30 to 40 gallon steam jacketed tipping kettle – Contact **William Churchill, Jefferson, N.Y.**

Classified

SAP PUMPS for Bucket and Tank collection - 3 H. P. Gas Engine, ¾" Gear Pump, Instant Pickup, Many Satisfied Users.
Lesure Farm - Ashfield, Mass.

NAME STICKERS. Stick to everything, over 900 in a roll, 3 lines, $6.00 first roll; $5.00 repeat. Dispenser $6.00. All post paid. Sample stickers on request.
LESURE FARM, Ashfield, Mass.

Note: *Elderly owner of large grove of young maples and other young timber wishes to contact young fellow interested in forestry and syrup makeing. Write to* **Edwin E. Snyder, Angelica, N.Y.**

FOR SALE: Sap Storage Tanks 2-1000 gallon tinned steel vats at Munnsville, N.Y. 4-3000 gallon closed glass lined, insulated tanks at Lowville, N.Y. Also stainless steel Syrup Tanks & Vats. **Tinker Sales, Inc., Box 326, Eastwood Station, Syracuse, N.Y.**

Does your neck look bare? *(Bottle necks we mean.) Dress up your bottles with sealing bands, printed "Pure Maple Syrup." 500 - 28mm size bands for $5.00. Postage 50¢. Other sizes too. Write for free catalog.* **Reynolds Sugar Bush, Inc. Aniwa, Wisconsin**

A TRUCK LOAD OF USED VERMONT PANS – **Cheap!**

REBUILT 42"X10 ARCH – **Save money on this.**

2 – 4X12 LIGHTNINGS – **Cheap.**

Smada Farms – Greene, New York

Leader & King Evaporators – Taphole pellets, cans, bottles and supplies. New Designs in Lithographed cans. **D.C. Wholesale Co., Rte. #3–Box 49, Nappanee, Ind.**

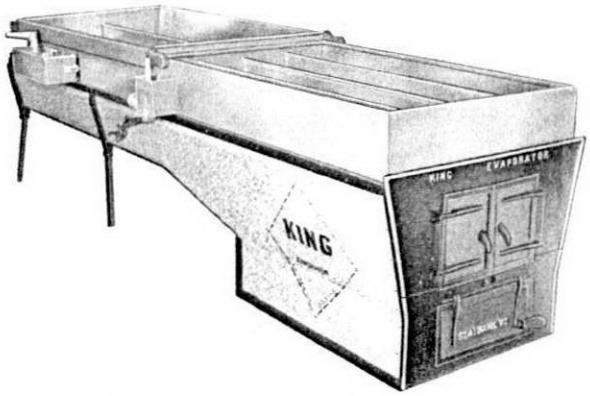
For Sale: *Pure Maple Syrup in drums. Also in gallon cans. Inquire of* **Nelson Widrick, Croghan, New York Phone 2371**

Leader Evaporator Co., Inc.

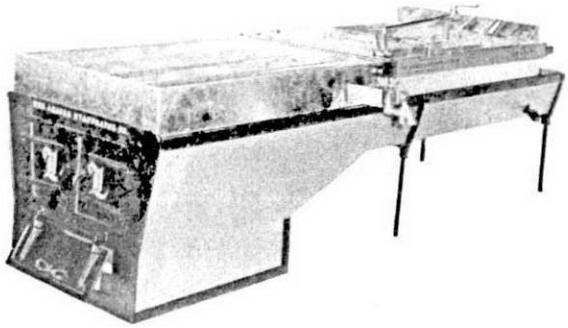
INVITES YOU TO PREPARE NOW FOR THE
1966 MAPLE SYRUP SEASON WITH:

Leader Special Evaporators

and Monitor Tanks



or



King Evaporators

and King Tanks

EVERYTHING FOR THE MAPLE SUGARMAKER

77 YEARS OF CONTINUOUS SERVICE

WRITE US:

For your copy of the new Sugar Maker's Guide

Modern Equipment
at
Appropriate Pricing
with
Proper Engineering
means
Longer Service
with
Excellent Returns

WRITE US:

For your nearest distributor or dealer who is ready to serve you.

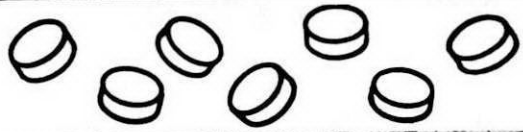
LEADER EVAPORATOR CO., INC

25 Stowell Street St. Albans, Vermont 802-524-4966

Good Arithmetic!

add **LAMB** ELECTRIC TAPPER

\+ *flomor* **Taphole Pellets**



\+ NATURALFLOW **MAPLE SAP, PLASTIC TUBE GATHERING SYSTEM**

= LESS LABOR MORE PRODUCTION LOWER COST

FOR ALL THE "PROFITABLE" DETAILS CALL OR WRITE . . .

R. M. LAMB

2996 Belgium Rd.

Baldwinsville N. Y.