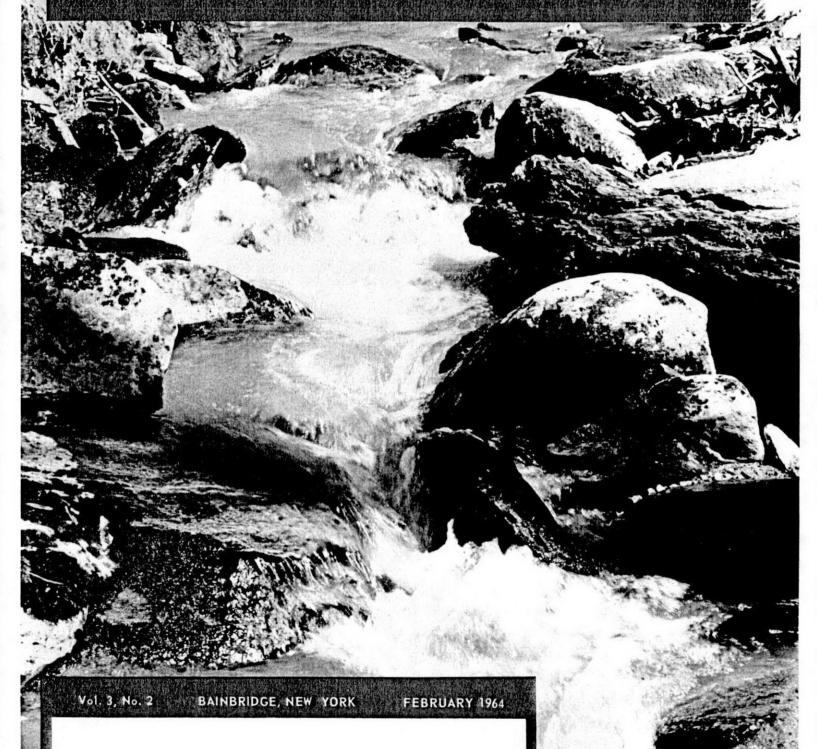
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COVER PICTURE

This little creek flows past Hugh Smith's Sugar House near Richford, Vermont.

Maple Producers used to build their camps near a creek like this to insure a good supply of fresh water. Now that the camps are moving out of the woods, the creeks are no longer needed for this purpose but they still make a pretty picture.

Photo by Bob Lamb

DIGEST ADVERTISING RATES

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DIRECTORY OF

OFFICERS

ADVERTISING DEADLINE

Edited by.....Lloyd Sipple

OCTOBER ISSUE
SEPTEMBER 1st

LIN'S LOGIC

It is the New Year and our 1964 maple season is about with us. It is nice to have a fresh start. We do not have to make the same mistakes we have made in past years. We are given the chance for a fresh approach. Lets make the most of it.

A man once told me that his worst fault was "habit farming." He just seemed to hate to change his ways, and indeed he didn't change much and was far from a success. "Habit farming" in maple can be costly also. My grandfather used to say that a gallon of syrup should should sell for a man's day pay. In 1900 syrup sold for a dollar a gallon but local help could be hired for a dollar a day. By 1920 syrup had moved up to four dollars per gallon but help could still be hired for four dollars a day. Now we sell for six dollars and pay twelve dollars for our help.

We have to make changes. Perhaps the sap roads are in the wrong locations. I tell my men not to set the trees too far from the gathering tank. If they ran with the sap it would still cost us money. Is the

evaporating house still in the best location. Are there trees that we can rent that will be better for us than setting some on the backside of our own groves. These are some of the questions we should ask and honestly answer if we are going to make a success of our sugaring operation.

New equipment should be studied. Some will make money for you but the same item might not fit in with your neighbors set-up. But you should know what is available and what it can do for you. Many of us are so busy during the actual run that we have no time to see what is being done around us. Now is a good time to look through the Maple Digest and make inquires about the items that interest us.

Attend your County Schools and Association meetings. You will be welcomed and you may decide to join your association if you are not now a member. I would like to say a word to association officers. Use the New Year to make your association more valuable to its members. No organization has a reason for existence unless it accomplishes something. Remember that every

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person has his own need to make a living; he has his aims and ambitions. If an association or cooperative to which he belongs helps in his need it will be successful. If it does not do so it will fail and probably should fail.

As you get this February issue it is a little late for "Happy New Year's" but I would like you to know that, as I write this letter on January 1, I do wish you all a happy and prosperous 1964.

Lin Lesure

Editorial

Last month I asked my wife to help me out by writing the editorial. She did. This time I guess I better write it myself.

Oh, I don't mean she didn't do a good job. It was probably the best editorial we've ever printed. I'm the one that got the short end of the stick. But that's the way it goes. Every time I try to get out of some work, I get in trouble.

The other day, at a meeting of the New York State Maple Producers Association, the directors had quite a discussion about why more maple producers didn't belong to the association. They came to the conclusion that it wasn't because they didn't want to belong, but mostly because no one had been around to sign them up and collect their dues.

Well, you know, it doesn't take any longer for the producer to go to a director and sign up than it does for the director to chase all over the hills to call on about a dozen or two producers. It isn't any farther, either. Those directors aren't getting paid. They were elected by the producers and they accepted the job because they're interested enough in maple to want to do something to help the industry survive and prosper.

And the associations have done a great deal already, especially the older ones such as the Vermont Maple Sugar Makers Association. Our's in New York isn't as old and hasn't as many accomplishments and there are some in other states that are just getting organized, but they've all got pretty much the same objectives.

Just because one of the directors doesn't lead a customer by the hand up to your door so you can sell him a gallon of syrup, don't think he isn't doing anything. There are a lot of ways the associations can promote maple products that accounts for a whole lot of sales. And in most cases, the directors don't even get their expenses back.

Now I'll probably make a lot of enemies by saying this, but I just don't see how so many maple producers can ride along on somebody else's coat tail and not even support him by joining up and paying his dues. And some of them aren't just riding along, they're dragging their feet, too.

Just because a director hasn't called on you to get your membership is no excuse. If you don't know who he is, I'll bet your county agent can tell you, and if not, write to the "Digest." We'll try to get you lined up with someone.

It's getting so you can't depend on anybody anymore. Like with my business - if my wife depended on me to do all the paper work and get the meals too, we'd starve to death. So she goes ahead and does it all. Yesterday, she complained about never getting caught up. I told her she'd just have to put in a few more hours.

Another thing, if you pay \$5.00 dues a year, that means you'll save \$1.00 on income tax, because it's deductible.

The other day a guy told me "A penny saved is the governments share of the nickle you earned," and I guess he was pretty near right.

Editor

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Drops in the Bucket

(sort of a January thaw)

West Virginia held its first school for maple producers in November with John Moser emphasizing the opportunity of leasing maple trees located on national forests and on other ownerships — "the maple business is open to people other than landowners." He also emphasized the need to use modern labor-saving devices and the school carried out this theme. Among the participants were Dr. C.O. Willits, Robert Lamb and Robert Bordeau — the latter two discussing some equipment aspects of the maple business.

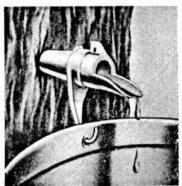
Practically simultaneously the commonwealth of Virginia held its second maple meeting in Highland County with some of the same speakers and discussing some of the same topics. Carl Holcomb, Extension Forester, and County Agent Austin Shephard had excellent participation from the Highland producers of Virginia who were interested in more advanced techniques of testing sirups.

Along with the new year's mail comes announcements of Vermont Association annual meeting on January 28; of New Hampshire's on January 25 and of Ohio on the 30th. These meetings are a real means of getting together with other producers and exchanging experiences; seeing new equipment; and hearing new developments in your industry. Other states will have their meetings or county meetings also. Plan on being there!

Time now that everyone had his new equipment well in mind; that he try one new idea this year, that he try a new angle in marketing and that he tap at least 1% more trees! The industry needs new growth!

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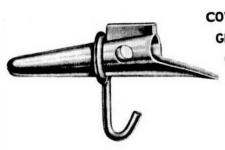
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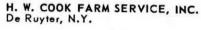
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Quick Test of "Buddy" Maple Sap into

Normal Maple Syrup

Agricultural Research Service U.S. Department of Agriculture

Ьу

J. C. Underwood

In the spring when the daily average temperature rises well above freezing, the buds on the trees, including the sugar maple, begin to swell, indicating that the period of winter dormancy has ended. In the case of the sugar maple, the "sweet water" that the maple-sirup producer has been collecting begins to change in chemical composition to that of the sap of the actively growing plant in the summer. Compounds begin to occur in the sap, which impart the unpalatable "buddy" flavor to sirup made from it. The specific chemical compound or compounds responsible for the buddy flavor are not known, but chemical analysis shows that

the total nitrogen and the amino nitrogen content of the buddy sap and sirup is many times that of sap from which good maple sirup is made.

Based on laboratory experiments, the ninhydrin color reaction used to detect the amino group can be used to indicate the presence of the compounds giving buddy flavor to sirup. A procedure has been developed to test maple sirup for buddy flavor. This is reported in a paper, ARS 73-42, by Dr. J.C. Underwood, and is available from him at the Eastern Utilization Research Branch, USDA, 600 E. Mermaid Lane, Philadelphia, Pennsylvania.

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PLASTIC SAP BUCKETS

The picture below shows the new plastic sap buckets distributed by the GEO. H. SOULE CO., INC., St. Albans, Vermont, with the correct prices. The price printed in the January issue of \$1.90 each is an error. We have no doubt they are worth that much, but the correct price is: \$.90 each.



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VICKSBURG CHEMICAL CO.

CONTAJUS DISEEZES

It is just within the last few years that we have been hearing and reading about "Maple Disease," and the reserch efforts to control it.

Some think its a bug or maybe a worm-or somethin.' Well whatever it is, they should have started this reserch business a hundred years ago. Anyway, I could trace this disease back that far right in my own family.

My Great Grandfather must have had a "touch" of it back in his day, in New York state, and I suppose it was sorta natural that my Grandfather would contract the same dreaded thing. When he moved to Wisconsin, he must have been a "carrier," although our family Bible doesn't show any entry where he had been detained at any state line, (while crossing it, that is,) with this malady. He settled in what is now Jefferson county, and probably due to that particular climate, the disease spread rapidly. It wasn't long before everybody had it. The whole area was exposed and I guess in those days, the authorities just couldn't quarantine for everything that sprung up. I am told that my father showed symtems of having it at quite an early age, anyway he evidently tried to escape it by moving a couple of hundred miles North. I guess that didn't help because the disease had taken hold and he just couldn't shake it. It only follows that I too came down with it, and even with all the modern medical miracles, of today, I still find myself more and more at the mercy of this thing. Now the most tragic part is that it has left its mark on my own sons. My wife and I were determined that our boys would be spared the infection, so they were given every type of vacination and shots known to the medical profes-More of this followed while they were in the military service, but nothing could save them. They received their discharge and faced the stark reallity of being a part of another generation with this malignancy. I am sure that many other families could tell the same sad story, so its high time that some cure was found.

But until that happens, we will just continue makin' maple syrup and sorta hoping that the disease will get worse, and with all the reserch they put into this thing, that more and more will get the "bug."

Author unknown (And for darn good reasons)

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By Mrs. Elmer Franks, Chagrin Falls, Ohio

It is a foregone conclusion that a women's page deals with the two "F's." For the first of these, "Food," we have a cookie recipe that has been a prizewinner in grange contests and at the county fair.

MAPLE CRUNCH COOKIES

Makes 5 dozen

1/4 cup maple syrup
1/4 cup soft shortening
1 cup sugar
1 egg
2 cups flour
unsifted
1/2 teaspoon salt
1 teaspoon cloves
1/2 teaspoon ginger
1 teaspoon cinnamon

Measure syrup in a 1-cup liquid measuring cup; add shortening till syrup comes to 1-cup line. Cream shortening and syrup with sugar. Add egg and continue beating until fluffy. Measure dry ingredients into sifter; sift together twice to blend; then sift all at once into creamed mixture. Stir until thoroughly blended. Drop by teaspoonsful onto ungreased baking sheet. Bake at 375° for 10 minutes, or until golden brown.

Delicious variations:

1. Stir in 1 cup grapenuts, or

2. Fold in 1 cup rice crispies, and/or

3. Add 1/2 cup grated coconut

With some maple syrup on hand you can whip up a taste-tempting dessert for unexpected company in practically no time. To do even better than that you could use a biscuit mix instead of the dry ingredients listed.

MAPLE DUMPLINGS

1 cup maple syrup

1 tbl. butter

1 cup all purpose flour

1 tsp. baking powder

Serves Four

½ teaspoon salt

Approximate

1/3 cup milk

Measure butter and syrup into saucepan. Sift flour, baking powder and salt into mixing bowl with baking powder. Add shortening and blend until mixture resembles small dried peas. Add enough milk gradually to make a soft dough, stirring it into dry ingredients with a fork.

Before you add milk, turn the heat on under the syrup and butter and bring just to a boiling point. Drop dough in by small spoonsful, cover pan and boil gently without removing cover for 15 minutes. May be served with cream, plain or whipped or ice cream.

The proportions in this recipe make it very easy to increase by half or double. The same recipe when the dough is shaped into biscuits and baked in a well-buttered pan for about 12 minutes in a 450° oven is called "Maple Rag-a-Muffin" dessert. I think we should have a contest to get a better name for something that is so positively delicious.

With such a delicious basic ingredient as maple syrup a most delectable dessert can be made very simply: MAPLE MOUSS E Serves 10-12
1½ cups maple syrup 2 cups whipping
2 egg whites cream

few grains salt

Cook syrup to 230° about five minutes.

Add to stiffly beaten whites in a thin stream, beating constantly. Chill. Whip cream with salt and fold in. Freeze rapidly. Stirring once during freezing is sufficient. Serve garnished with a crisp sugared cereal or nuts; or accompanied with crisp cookies.

* * *

Maybe something you hadn't thought of-

MAPLE POPCORN BALLS

1½ cups maple syrup 1/8 teaspoon cream of tartar

Cook to hard ball stage, 265°. Remove from stove, add 1 tablespoon butter and pour over about two quarts of popped corn. Shape into balls, either by buttering the hands or dipping them into cold water.

As we have found that most of what we thought were our own inventions have already been done by someone else, it may be the same with this. However, no one around here had ever heard of this confection and are unanimous in their enthusiasm. We call them:

FRANKS' MAPLE BUTTER BITS

2 cups fancy maple syrup ¼ cup butter ½ teaspoon baking powder

Boil to 260°. Pour without scraping into well-buttered shallow pan floating on cold water. As soon as edges cool, fold into center. When cool enough to handle, pull as for taffy. When pulled, stretch into rope and cut into "bits" with the scissors. Put aside until the next day when these taffy pieces will become the creamiest "bits" ever.

Now for the other "F" of the women's page: You who are in the maple business are interested in a Fashion that uses the beautiful design of the maple leaf. This is something lovely for casual wear and not only when you are speaking or demonstrating the subject or engaged in selling. It is a three-dimensional-veined maple leaf, carved by a professional German wood carver from pieces of hard maple wood that she took back to Germany with her for this pur-pose. This leaf (to which I have applied a pin back) is available through the Historical Museum at Burton and sells for under three dollars. There is a sample at the country store of the museum should you be in the vicinity.

The pin I have is 2½ inches across. However, if you have a sketch or a picture you would like copied, just enclose it in your letter to the museum, in care of B. J. Shanower, Geauga County Historical Museum, Burton, Ohio.

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Microbiology and Sanitation in the Sugarbush and Sugarhouse

Agron E. Wasserman

The Editor has reviewed the above publication and has received permission to condense it for the "Digest." He feels that the publication is much too importhat the publication is much too impor-tant to be condensed, but he has taken the following excerpts for your immedi-ate use. You should write for the pub-lication to: Eastern Utilization and Research Division, U.S. Dept. of Agri-culture, 600 E. Mermaid Lane, Philo-delphia 18, Pa., 19118

Storage Equipment

Sap may be stored in a variety of containers ranging from 20-gallon metal cans to 10,000-gallon glasslined tanks. The glass—lined tanks. such as those used in dairies, obviously are best for the storage of sap. The lining if it is not chipped or cracked offers no place for the micro-organisms to gain a foot-hold. The tanks can be cleaned very easily and as often as neces-

Metal storage tanks, holding about a thousand gallons of sap, are often used. Although they can be washed frequently if necessary, care should be taken that a layer of sap does not remain on the walls of the tank to serve as a source of infection for succeeding tankloads of sap. It is best to locate the metal tanks outside the sugarhouse. The cold weather will help to reduce the rate of bacterial growth. Furthermore, since these tanks are usually purchased with no tops, they can be covered with a sheet of clear plastic to keep out foreign objects and to allow the passage of ultraviolet rays, which will help to reduce the growth of microbes in the sap and on the walls of the tank when it is

Many producers use concrete tanks set in the ground for storage of sap. Concrete, like wood, is extremely porous. It soaks up sap, and the sugar-filled pores become reser-

voirs of microbial contanimation. Keeping the tank cool will merely retard the growth of the organisms, but in the event of extended storage excessive fermentation will occur and the quality of the sap will be reduced. It is possible now to obtain various preparations that will seal the pores in the concrete to make the tank impermeable. Several types of coatings have been approved by the U.S. Food and Drug Administration for use in contact

with food preparations.

When the tanks are completely closed, like the glass-lined ones, or kept indoors so that the sun is excluded, it is necessary to supply a source of ultraviolet rays to reduce the organisms. Special germicidal lamps or sterilamps, which give off rays in the ultraviolet region, are available commercially. They are similar to the ordinary fluorescent bulb and are mounted in brackets similar to, but of slightly different length than, those used for fluorescent lighting. The mounts should be provided with a reflector to deflect all the rays into the sap. Two types of ultraviolet tubes are available. The hot-cathode tubes operate from a starter like the fluorescent lights. Cold-cathode tubes are started with high voltage. The latter is recommended by the manufacturer for use under refrigerator conditions. Not only does it have longer life than the hot-cathode tube, but the high voltage assures instant starting even under freezing conditions. One tube can be used for every 25-50 square feet of crosssectional area. More detailed information should be obtained from the lamp manufacturers. It is important to remember, however, that the effectiveness of the ultraviolet treatment depends on the cleanliness of

the tank walls.
CAUTION: The lamps must be turned off when work is being done on the tank. Never look directly at these lamps; their ultraviolet rays shining into the eyes can cause severe damage to the tissue.

Glass-lined and metal storage tanks are best kept clean by washing with a 20 percent chlorine solution followed by a water rinse. Sanitization of concrete tanks is difficult. If the concrete has been sealed and lined with a plastic preparation, a water wash is probably best, or the use of a cleaning compound recommended by the manufacturer of the plastic material.

In an unsealed concrete tank the problem is to kill the organisms. growing in the pores of the concrete. If steam is available, the concrete can be treated with flowing steam. However, the most practical method is to wash all tank surfaces thoroughly with a chlorine solution and allow sufficient time for it to soak Then rinse with into the pores. water.

Sanitation In The Sugarhouse

The sugarhouse is a food-pro-cessing plant. It must be maintained with good housekeeping and sanitary procedures to meet State and Federal requirements for food

production.

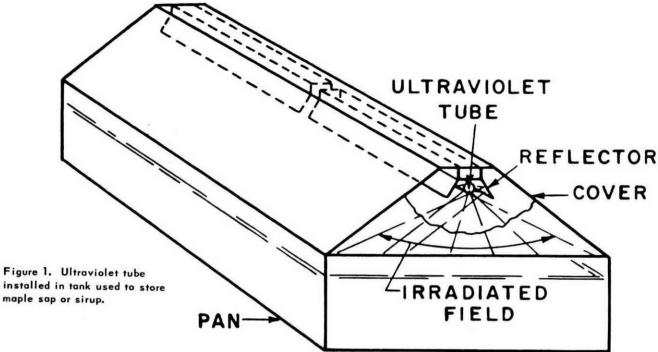
The situation in the maple-sap evaporator plant is perhaps a little unusual in that the sirup leaving the evaporator is sterile. Although it would be very difficult to handle the sirup so that it remains free from contamination with micro-organisms, an effort should be made to set up conditions that will keep down the number of organisms that may infect the sirup. The air in the sugarhouse, for instance, is a serious source of contamination of the sirup. The air should be as free of dust as possible, because mold spores are always associated with dust, particularly around a farm. The floor of the sugarhouse should be made of concrete if possible. The concrete should be sealed and coated, as described for concrete storage tanks, to prevent the absorption of spilled sirup or sap, which could act as a growth medium for micro-organisms. Concrete floors are easy to keep clean and should be swept regularly to reduce the number of airborne dust particles. Regular washing with a chlorine bleach solution will also help keep down bacteria.

Wood piles for stoking wood-burning evaporators should be kept out of rooms where exposed sirup is

handled.

The sugarhouse should not be a storage room for pieces of unused farm equipment, which may be a serious source of infections.

Steam from the evaporators should be vented through a closed system (covered evaporators) to provide a steam-free room. Houses not so provided are damp and the moist surfaces are excellent sites for microbial growth.



Bulk Storage

Instead of being packaged immediately after filtration, sirup may be stored in drums or tanks. these large containers are usually not completely filled and sealed at once, the danger of yeast and mold contamination is greater. Cooling a partially filled tank or drum of sirup results in a layer of condensed water on the surface of the sirup and establishes proper conditions for the growth of mold. For satisfactory storage in drums or other large containers, the same principle should be followed as previously described for small containers. The drum should be filled so that the amount of air in the headspace is kept to a minimum to reduce microbial growth.

Where the amount of sirup is too small to fill a drum, it should be heated to 190° F. and transferred to smaller containers such as 5-gallon tin cans.

Since the volume of this stored sirup can then be anticipated, the small lots can be packed immediately into the smaller containers.

Drums and tanks should be cleaned and treated with steam or boiling water before use. These large containers should be well drained before sirup is placed in them to avoid dilution of the sirup. The containers are filled with sirup at 190° or higher. Partially filled containers are rotated, if possible, after the sirup has cooled.

It has been suggested that sirup in partially filled storage tanks can be preserved by layering with carbon dioxide gas. Since carbon dioxide is heavier than air, it will replace the air over the sirup and prevent the growth of molds. This may prove to be satisfactory for short-term storage, but the carbon dioxide layer tends to mix with air and after a period of time there will be no protection. Under conditions of the lower carbon dioxide concentrations the mold growth may actually be stimulated.

For large open tanks or covered tanks where the headspace is subject to frequent change because of the addition or withdrawal of sirup, ultraviolet lamps have been used successfully to prevent the growth of mold. The action of ultraviolet rays on sap and sirup may differ. Since the sap normally is a waterthin, clear liquid, the ultraviolet rays can penetrate to some depth beneath the surface of the sap, exerting their antibacterial action. Sirup, on the other hand, because of its sugar content and color, is opaque to the ultraviolet rays and the antibacterial action probably occurs only on the surface. Since the ultraviolet rays cannot penetrate layers of sirup, it is important to keep the walls of the tanks as clean as possible. Dried sirup on the tank wall will prevent the killing of yeast and mold, which then may reinfect another tankful of sirup.

Packaging

Sirup may be packaged immediately after filtration or some time after it has been made. Packaging must be done while the sirup is at 190° F. or higher. If it has cooled below this temperature or if it has been stored in bulk for a period of time before use, it must be reheated and held at 190° for 5 minutes before the containers are filled.

The hot-packed sirup containers should not be stacked one upon another. To do so would restrict the circulation of air around the cans and slow down the cooling of the sirup, which would then remain hot for many hours.

NOTICE: No it's not time to renew your subscription. The MAPLE SYRUP DIGEST doesn't sell subscriptions—you receive it free of charge.

HOWEVER... Every time we try to improve it, it costs more. In fact, every issue seems to cost more whether we improve it or not. Right now we would be very pleased to accept your contribution.

Many producers have sent us a Dollar or more to show their appreciation. Have you sent yours?



The Maple Syrup Digest, Bainbridge, New York

National Maple Syrup Council



Putnam W. Robbins

The fourth annual meeting of the National Maple Syrup Council was called to order by President Lloyd Sipple at the Fenimore House, Cooperstown, N.Y. at 9:15 a.m., October 10. 1963. Eight state Directors, eight Associate Members, and eight-een guests were present (see "Di-gest," December 1963, page 13). The minutes of the 1962 annual

meeting of the council were read by the Secretary, Putnam W. Robbins, and accepted.

Discussion on the publication of the "Maple Syrup Digest" led to the following suggestions:

Ture Johnson, Ohio - Each person on the "Digest" mailing list should contribute at least one Pollar toward covering the cost of publication.

Linwood Lesure, Mass. - The state associations add one Dollar to their dues and send it to the "Digest."

Adin Reynolds, Wisc. - One issue of the "Digest" be published in the Fall of each year.

Other members suggested the "Digest" be mailed to all County Foresters in maple syrup producing counties, Directors of Extension in all member states, Central evaporating plants, and towns and villages, Chambers of Commerce, Future Farmers, and others who produce sap and syrup as a cooperative city or organizational activity.

MAPLE DISEASE

Dr. Willits reported on the "Maple Disease Resolution" sent to the Forest Research Advisory Committee of the U.S. Forest Service. He stated that Dr. David Ward, secretary of the committee read our resolution to the Committee at their annual meeting and that the minutes of the meeting show a favorable report on the resolution of the National Maple Syrup Council sent to them in October 1962. David Huston has been assigned full time to the "Maple Tree Disease" problem by the U.S. Forest Service. Mr. Huston is working at the eastern Forest Experiment Station with headquarters at Yale Univ.

Fred Winch reported on Professor D.S. Welch's paper "Maple Decline in the Northeast" as presented at the International Shade Tree Conference held at Toronto, Canada dur-

ing the Summer of 1963.

Ted Peterson, Wisc., suggested a letter be sent to all Directors of the Forest Experiment Stations, and Agricultural Experiment Stations within the maple syrup producing states, calling to their attention the need for research to solve the problem of the "Dieback of Sugar Maple Trees." Letters should also be sent to the Deans of the Forestry Schools encouraging them to interest graduate students to select this problem for their graduate study and

Ture Johnson suggested each member of the council write to their state and national senators and inform them of the gravity of the maple disease to the maple syrup producers. (It would be very helpful if every maple producer wrote letters to their state and national senators.)

TARIFF

Eric Nye and Ray Foulds were called on to present their commit-tee's report on the "Maple Tariff Problem." (See "Maple Digest," Jan. 1964, page 5).

Fred Winch suggested the problem of Canadian vs. United States Maple Syrup and Sugar be studied by the National Maple Syrup Council under

the following headings:

I. Maple Syrup on a National Level. a. Tariff

1. Dollar position

2. Canadian Government subsidy to their syrup producers.

3. Employment of minors in the production of syrup.

b. Pure Foods

- 1. Sanitation and labeling of blends.
- c. Anti-trust Laws.

II. Promotion

- a. Use Vermont's work as an example for the other states.
- b. Production efficiency.

Robert Lamb stated that more young people are going into the maple syrup business in Canada than in the United States. Therefore, this problem of competition with Canadian maple syrup will become more complicated in future vears.

Dr. Willits suggested the Council endeavor to work with the Food and Drug Administration to improve quality and sanitation through the inspection of maple syrup and sugar

camps.

ENTERTAINMENT

During the afternoon of the first day the council visited the museums

in Cooperstown.

The annual banquet was held in the dining room of the Tunnicliff Inn at 7:00 p.m. with W. Dale Brown, Otsego County Extension Agent, actting Toastmaster. Mr. Brown introduced the guest speaker, Mr. Fredrick L. Rath, Jr., Vice Director of the New York State Historical Association. Mr. Rath gave an extremely interesting talk on the "History of Cooper Country and Cooperstown."

OFFICERS AND COMMITTEES

The meeting was resumed on Friday morning, October 11. Linwood Lesure moved that the National Maple Syrup Council go on record for continuous action on the impact and implication of Canadian vs. United States maple syrup and sugar.

The committee on Uniform National Grading had no report to make at this time. Dr. Willits suggested the committee continue in their responsibility and that additional state and federal agencies be appointed to act as consultants.

The officers elected for the Year

1964 are as follows;

President-Linwood Lesure, Mass. Vice Pres .- Adin Reynolds, Wisc. Sec'y Treas.-Putnam Robbins,

Editor of the Digest-Lloyd Sipple, N.Y.

(Continued on page 12)

CONVERSION OF "BUDDY" MAPLE SAP INTO NORMAL SIRUP

A. E. Wasserman and C. O. Willits

SUMMARY

Maple sirup produced from "buddy" sap has a disagreeable odor and flavor and does not meet specifications of the U.S. Department of Agriculture for maple sirup. Inoculation of buddy sap with "Pseudomonas geniculata," strain 4, and incubation for 1 day at 23°C or 3 days at 3°C results in a sirup with typical maple flavor and no "buddy" offflavors. Sirup made from the sap fermented with "Pseudomonas geniculata, strain 4, is dark amber in color.

"BUDDY" MAPLE SIRUP has a characteristic unpleasant flavor that makes it unpalatable and unfit for table sirup by Federal and State specifications (Willits, 1958). The buddy sirup is made from buddy maple sap, but is not the result of improper processing. The undesirable qualities, however, are developed during the boiling and concentrating procedures since buddy sap has no particularly identifiable odor or flavor in itself.

The cause of buddy sap is not known, although several theories have been offered by maple pro-Since buddy sap usually ducers. occurs toward the end of the maple sap season, it has been suggested that (a) there is a change in the composition of the sap related to physiological changes taking place in the tree as it comes out of dormancy, a condition usually accompanied by noticeable swelling of the leaf buds, hence the term buddy sap- or (b) the change is in some way caused by the heavy growth of bacteria (Edson, 1910) that occurs when practices are not sanitary. The latter theory has been disproved. Holgate (1948) stated that buddy sap occured even when the sap had been collected aseptically and was free of bacterial growth. Until recently there were no chemical or physical tests for buddy sap, and it could not be detected until the sap was boiled and partially concentrated*. The characteristic odor becomes noticeable in the vapor of the boiling sap.

A sugar bush may contain some maple trees that are "early leafers." i.e., they come out of dormancy before the other trees. "Early leafers" may occur because of natural variation in tree physiology, or they may be the result of different growth conditions within the bush. The "buddiness" of the sap from these trees is usually not suspected, and the sap may be pooled with large quantities of normal sap. The intensity of the characteristic buddy flavor is so great that the sap from one "buddy"tree can render worthless all the sirup from an entire bush. At other times, mild weather in mid-maple season may cause sufficient changes in all the trees to produce only buddy sap, resulting in serious economic losses.

The fixed costs of maple sirup production are covered by the early sap runs of the season. Profits from this crop are usually made from the mid- and late-season sap runs. Therefore, any treatment salvaging the buddy sap would increase the net returns of maple sirup production.

A paper describing the method of treating buddy sap to obtain a sirup that more nearly possesses a characteristic maple flavor and is free of buddy odor and flavor has been written by Dr. A.E. Wasserman and Dr. C.O. Willits of the Eastern Utilization Research Branch, U S D A, 600 E. Mermaid Lane, Philadelphia 18, Pa. Copies may be obtained by writing directly to them.

Field tests of this procedure have been made and apparently no insurmountable difficulties prohibit the use of the process in central evaporator or reprocessing plants in the maple region.

REFERENCES

Edson, H.A. 1910. Buddy Sap. "Vermont Univ. Agr. Expt. Sta. Bull."
151 484.

Holgate, K.C. 1948. Sterile maple sap prolongs yield, protects quality. "Canner" 27.

Willits, C.O. 1958. Maple sirup producers manual. "U.S. Dept. Agr., Agr. Handbook" 134.

NOTICES

A new Maple Sirup Producer's Manual, "the 'Bible' of the sugar maker," by Dr. C.O. Willits and his staff in the maple division of the Eastern Utilization Research Branch of the U.S.D.A. is now being printed. Dr. Willits expects it will be ready some time this spring. Method of distribution is not yet known.

In the January issue the article on tariff stated that Lin Lesure was on the tariff committee. Lin appointed Kenneth Bascom, Alstead, N.H., to replace him on this committee when he was elected president. I guess Lin figured he'd have his hands full as it is.

Many producers are confused by the irregular printing of the "Digest." They have reason to be. It certainly is irregular. Just to straighten things out, here is our tentative schedule:

This will be the last issue printed this winter. Reason - I gotta tap trees. The next issue will be in October, then December, January and February.

Why do we only print it in these months? Partly because most producers are so busy doing other things they wouldn't have time to read it anyway: mostly because we can't afford it, at least not now.

When the time comes that enough advertisers will support it all year long, we'll be happy to publish it every month.

So -- the deadline for copy and advertisements for the next issue is September 1st and we expect to mail it out by Sept. 28th.

So long 'til then Editor

SAPFLO PELLETS \$5.00/bottle (500 Pellets)

To Be Sure

VICKSBURG CHEMICAL CO.

MAPLE SYRUP SUPPLIES
New and Used Evaporators
Gas-fired Finishing Outfits
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Bulk Syrup Bought
JOSEPH WHITTAKER, JR.
Delhi, New York
Agent, Vermont Evaporator Co.

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VICKSBURG CHEMICAL CO.

MAPLE SYRUP EQUIPMENT

We carry a large inventory of Lamb tubing, Electric Tappers, Flomor pellets, Modified Bearpaw snowshoes, and a whole lot of other stuff you need to make maple syrup.

"If we don't have it, we'll tell you who does."

We'll buy your drum syrup, too.

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LAMB'S MAPLE TUBING

and other Maple supplies in stock for the progressive Maple Procers.

> HAROLD TYLER Westford, N.Y.

ORLON BAGS PREFILTERS

and whatever needed to make your syrup clean.

C.B. CLAY De Ruyter, N.Y.

N.Y.S.—Covered Bridge—Special new design—and Plain Syrup Cans (4 sizes).

Famous LEADER Evaporators, Tanks, Rubber molds, Buckets, Covers, Bucket Washers, Stack, Plastic pipelines and all utensils for the Sugar Makers.

See the all-new 9 lb. power Tapper and the COOK Syrup Packers equipped with gas burners.

EVERYTHING CARRIED IN STOCK AT ALL TIMES.

Write for price list.

H. W. COOK FARM SERVICE, Inc.

Phone 852-6161

De Ruyter, New York

BERKSHIRE PIONEER MAPLE PRODUCERS COOP., INC.

Berkshire Pioneer is not a sales cooperative, but it has always handled some syrup for its members. The bulk goes to manufacturing concerns for use by their sales departments. An increasing amount is now being bought by the members themselves. They may have had a poor year, or what is more likely, they have a chance to take an order that calls for more syrup than they have on hand. The syrup that is bought by the Association is mostly from new producers, those who are expanding their operation, and for at least a half of our members, those who put in a little syrup to pay for their supplies.

We handle around \$10,000.00 in any given year. One person, called a coordinator, is selected by the Directors who is responsible for handling the syrup. He takes the syrup in from the producers, tests and grades it, pays for it and handles the sales. The cans are also handled by the coordinator. He gets no pay except commissions on syrup and cans sold.

At the start of the maple season, letters are sent to each member along with a return card. He is told that he may put up to 25 gallons of syrup in company orders if he returns the card. It is his obligation to then contact the coordinator to find in what size container the syrup is to be canned. When he delivers the syrup and if it passes its tests, he is paid the wholesale price less 10%.

As the supply gets short at our storage point, letters are again sent out for more returns. The past two years we have sent a letter out just before Christmas which has pretty well cleaned up all syrup that was for sale.

We feel that this limited sales program has had a great deal to do with the suc-

cess of our Association.

MAPLE COUNCIL (Cont'd)

Associate Members, 3 year term: John B. Zimmerman, Pa. T.A. Peterson, Wisc. Mr. Szymeczek, N.H.

Dr. C.O. Willits was given a lifetime Associate Membership to the Council.

Committees appointed by incoming president Linwood Lesure are as follows:

Grading: Eric Nye, Vt.

Lloyd Sipple, N.Y. Lin Lesure, Mass.

Tariff: Eric Nye, Vt.

Adin Reynolds, Wisc. Kenneth Bascom, N.H.

By-Laws: Ture Johnson, Ohio Lloyd Sipple, N.Y. George Keim, Penn.

> Putnam W. Robbins Secretary

Value Relations in

Maple Enterprises

To obtain relations of values in the maple enterprise some assumptions must be made. We can assume average opportunities for production efficiency and marketing as well as reasonable opportunities to exploit these conditions. The operator may substitute his own values as they presently obtain.

However, for sake of example we can assume the following inefficient

base figures:

rent

Yield = 43 quarts of sap of 2% sugar yielding 1 quart sirup. Selling price, 1 quart sirup = \$1.50

Fixed costs per quart \$.25 Depreciation Interest .15 Taxes. insurance .05 Total \$.45 Operating costs . 15 Fuel .12 Fixed labor costs (preparation tapping, .20 cleanup) Containers .12 Packaging and .10 marketing Total costs \$1.34 Total receipts \$1.50 Available for tree

In this operation costs of production are of three kinds:

+.16

1) Fixed costs are constant and include fixed labor costs (tapping, setup, cleanup, washup, etc.); fixed investment costs (sugar house, equipment etc.).
2) Variable costs are those costs which are proportional to the amount of sap handled such as fuel, gathering, boiling and similar costs.

 Costs which vary with the amount of sirup produced such as containers, labor of packaging and marketing.

High yield bushes

If you are fortunate to own, rent or lease a high yielding bush, it is of interest to calculate your return from it. In these calculations, about half the fixed investment costs are considered to be variable cost since for an equal number of tapholes these high yield trees require more evaporating space, larger storage and about the same gathering equipment. Operating costs such as power and labor are about half fixed, half variable, therefore, the sum of the costs for the base yield may be broken down as follows:

Constant costs \$.50
Costs varying with the amount of sap \$.65
Costs variable with sirup amounts \$.22

In this very high yielding bush where the yield is 86 quarts of sap at 3% sugar per taphole, the sirup yield will be 3 quarts of sirup.

Selling price 3 quarts \$4.50 sirup Constant costs \$.50 $(.50 \times 1)$ Costs variable with sap (.65x2)1.30 Costs variable with sirup (.22x3).66 \$2.46 Total cost Total sales return × \$4.50 Available for tree rent and return on investment

Producing sap for delivery to a Central Plant

If the yield from the bush is only average 43 quarts of 2% sap per taphole which will yield one quart of sirup, its value at 4¢ per gallon is \$.43.

Fixed investment \$.125 cost Operating costs .04 Fixed labor costs .15 Variable labor costs .06 Total costs \$.375 per quart sirup Total returns Available for tree rent, labor and investment return per tap .055

The per taphole values available for yearly tree rent, labor and investment return varies with quantity and quality of sap yields. If sap sells for 4¢ per gallon for 2% sap; 6¢ for 3%; 8¢ for 4% and 10¢ for 5% sugar, sap per gallon hold

the following table gives yields in \$ per tap hole.

	Yield in Quarts					
Sugar Content	43	64.5	86			
2% (4¢/gal.)	.055	.270	.485			
3% (6¢/gal.)	.26	.59	.915			
4% (8¢/gal.)	.485	.87	1.345			
5% (10¢/gal.)	.70	1.24	1.775			

This points out the value in taping and harvesting from open grown large tapped trees either in groves or roadside - or increasing the management of the stand toward larger tapped trees!

Should I cut the tree for lumber?

To tell whether to cut the tree for lumber or to continue it in sap production, first determine the annual lumber growth; express this as a percent of the total tree value for lumber. Then divide the sap rental value by total tree value to express this as a percent. Then add these together and compare the result with rates of interest in alternative investments. For example: A tree has 200 board feet volume worth \$75 per M.B.F. or \$15 standing. The tree grows 4 board feet per year (\$30). A three tap tree, its value for sap rental is 20¢ per tap. The desired rate of interest is 4½%. Current lumber growth value is \$.30, divided by \$15 or 2%. The sap rental value is \$.60 + \$15 or 4% for a total yearly value growth of 6% - It should remain as a sap producer.

Fred E. Winch Jr.

MAPLE PRODUCTS SELL

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GLASS

We carry a complete line for syrup—cream—sugar. Send for price list.

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

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Serving the Maple Syrup Industry more than 25 years

The WISCONSIN BURNER is a sure The winner in evaporator firing. Model A-13 was primarily designed, at my request, as a SPECIAL burner that would produce a L-O-N-G flame, a flame that enables all areas of the pan surface to SEE the flame. This L-O-N-G flame evaporates more sap per hour that means lower fuel cost per gallon of syrup.
The WISCONSIN BURNERS have

proven themselves over many years in actual syrup making in camps just

like yours.
A "DO-IT-YOURSELF-KIT" that includes burners, oil filters, valves, copper tubing, and complete, detailed installation instructions, is available at a very reasonable cost.

You can make more Remember! fancy grade syrup, do it easier, and at less cost per gallon of syrup with

Testimonials and personal references on request.

> Write - LES JONES Holcombe, Wisconsin

Reynolds Sugar Bush - Mid-West Rep. Aniwa, Wisconsin

CLASSIFIED

MAPLE TUBING and other supplies by Lamb; electric tappers, pumps and mailing cartons at a saving. Send for 1964 tubing book of prices. K.O. PROCTOR Poultney, Vt.

WANTED-Large quantity of good used galvanized sap buckets, covers and spiles. EVERETT SAULTER, Coudersport, R.D. 2, Pa.

FOR SALE - Used Syrup Equipment -We buy and Sell. SPECIAL - 5 x 14 Vermont with steam hoods. Nearly new. Lamb tubing and supplies. READ C. ADAMS, Greene, N.Y.

FOR SALE - 5' x 14' Grimm pans with deep flues, extra syrup pan. 30'' x 8' Grimm champion pans. Gathering tank. LOUIS REDENBECK, Oxford, N.Y. -843-4866

USED AND NEW - KING equipment. Small, high pressure boiler. Naturalflow tubing and Flomor Pellets. WILLIAM CHURCHILL, Jefferson, N.Y.

For Sale-King Evaporator year-old-excellent; Same size Vermont Evaporator, good condition. ERNST MELIN, South Kortright N.Y.

Taphole Pellets

Bottle of 500 - \$5.00

This little pellet won't do everything

lomor And we don't claim it will cure anything.

It won't keep your buckets clean.

Or your tubing.

Or your storage tanks.

It isn't supposed to.

It makes the sap run longer,

By controlling the bacteria in the taphole.

And you can tap early, so you won't miss the first run.

They'll keep running 'til the leaves come out, weather permitting.

We think that's enough to expect from something so small.

If you dealer doesn't have them, write to us.

A. C. LAMB & SONS · Liverpool, N. Y.

Western Mass. Sweetness Wins Big Iranian Market for Pancakes

The hot cakes were going like hot cakes in Molasani, Iran, thanks to a Western Massachusetts gift to an eastern Massachusetts girl who is a Peace Corps volunteer.

Inspired by Voice

Preparations for a big New England-type pancake breakfast for faculty members of Ahwaz Agricultural College in Molasani began about eight months ago, prompted by a Voice of America broadcast about the maple products industry.

Miss Patricia M. Walsh of Boston, serving with the Peace Corps at the college, heard the Voice broadcast. which was a tape recording of a program originally presented on a local

television station.

Interested by a statement on the Voice of America program that very little maple syrup is exported by the United States, she and her roommate wrote to the Greater Springfield Chamber of Commerce, requesting some syrup.

The request, Miss Walsh wrote, represented an effort "to contribute to America's foreign trade, or at least to the maple syrup export bus-

iness.'

Her letter was referred to the Joint Civic Agencies, of which the Chamber of Commerce is a member unit. The JCA arranged with the Berkshire Pioneer Maple Producers Cooperative to ship the syrup to Iran.

At that time, the Union wrote to Miss Walsh and asked her to describe her Iranian friends' reaction to New England Maple syrup.

Her answering letter, which arrived here Monday, explained the delay in her account of the big breakfast:

Arrived in August

"The maple syrup didn't arrive here in Iran until about August, while I was working in Teheran. I had planned to have a pancake party for the Iranian faculty members at Ahwaz Agricultural College here in Molasani, and so I waited until I finished my summer work in Teheran before returning to the college in October...

"On behalf of my roommate, Donna Shalala, and the other Peace Corps volunteers working here at

the college, I would like to express my appreciation to the Berkshire Pioneer Maple Producers Cooperative, whose members made possible the event and whose syrup (what there is left of it) we are still enjoying..."

The following is Miss Walsh's re-

port on the pancake party:

"An invitation to lunch, yes! An invitation to dinner, certainly! But a breakfast invitation, and a pancake party at that?"

"This is a rather loose translation of some of the remarks which came from one of the faculty members when he received our invitation. Not only was ours the campus' first breakfast affair, but Molasani's first pancake party.

"We Americans, being so pancakehouse oriented, thought such an invitation not only a natural, but a "must" considering the fact that we had such a rare delicacy to pour over

them-maple syrup!

Five Volunteers

'WE" are the Peace Corps volunteers working here in Ahwaz and include Donna Shalala of Cleveland. Ohio, my roommate; Jerry Clinton of San Jose, California; John McKee of Mt. Pleasant, Michigan; and Tom Piller of St. Louis, Missouri.

"The invitations went out to the other 14 faculty members and their families. Some of the faculty members have been educated in Europe. so were familiar with the continen-

tal pancake toppings.

But maple syrup! We explained it to the kitchen help by pointing to the tree on the syrup can and then

spooning out samples.

"The pancake-cooking brigade consisted of the above volunteers, with much assistance from the kitchen staff, some of whom had seen the round, flat creation before. other volunteers, Jeff Gritzner of Mesa, Ariz., and Dee Fink of Shumway, Ill., from the agricultural normal school in Ahwaz, also assisted in the flour-sifting, batter-stirring and pancake-flipping.

"Meanwhile, out in the dining room, the hot cakes, served with a side order of scrambled eggs, began disappearing. And the syrup, well-it flowed. Most of our guests hadn't had maple syrup before and were a

The New York State Exposition in Syracuse is raising the premiums on Maple Products entered in competition this coming year. It is hoped that this will encourage more producers to exhibit their products.

A larger display will attract more attention to the maple industry and the result will be more promotion for Maple.

All members of the New York State Maple Producers Assocition will receive a premium book from the New York State Exposition this spring, so save some of your best syrup and let's have a good exhibit this year.

This could be the DEATH NOTICE of the "Digest," since this premium advertising space was not sold. Oh, we're not quite that

hard up yet, but we do need income to pay the bills.

Maybe we'll have to print fewer issues instead of more next year. Any suggestions?

little hesitant about the amount to Fortunately, we have a few other Americans on our faculty who encouraged a lavish use (as did we in the kitchen). A dry pancake was a cue for an introduction to maple

"And so the party went.

Good Time Was Had

'When all the platters were empty and the fruit-peeling started (dessert), then we pancake-makers whipped up our own batch, started them swimming in syrup and let the kitchen

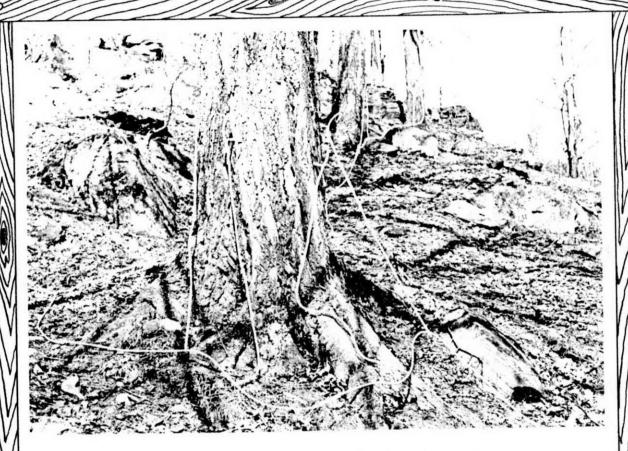
staff take over the griddles.

"Was the party a success? At first we were too busy cooking to know. But then with our own plates of cakes in hand, we table hopped. The comments, all favorable, came in two languages, English and Persian, with a little French and German thrown in for emphasis. The translation: 'A good time was had by all."

"What was left of the syrup is doing wonders for our own pancakes these winter days. We can't have maple-syrup snow here in Ahwaz, but

then who needs it!"

LAMB Naturalflow



Last Month we had a silly little poem about Snow.

And tubing.

And more snow.

The way the weather's been lately, it looks like we might have a lot of snow this year.

Just in case we do, we've got a lot of Snowshoes in stock.

Modified Bearpaw, with bindings, \$24.00.

We've got Snowtravelers, too.

And tubing.

We haven't changed it much, not where it will show.

It worked pretty well the way it was.

We have made a few improvements.

Tee's that don't hold so tight — so you can get them apart easier.

Fixed the Sap Collector so it won't leak. Found out how to vent it better.

But we can't explain the whole system here. We can't afford that much space.

Why don't you write for our new Tubing Book and get the whole story.

Or, better yet, get one from your Lamb dealer. He'll be glad to talk with you about tubing.

That's what he's there for.

And don't forget our offer to take in your old \(\frac{1}{4}\) '' tubing.

Same deal as last year.

Our prices haven't gone up either.

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