

ISKIGAMIZIGAN Sugar Camp Guide





Iskigamizigan Sugar Camp Guide is a resource compiled by the Mino Bimaadiziiwin Tribal Farm to provide information for community members interested in maple sugaring. We believe food is medicine, that everyone deserves access to fresh, healthy food, and that local food systems have the power to transform our communities and lives. It is our hope that this guide will help community members connect with sugaring and the medicine it brings.

For more information, or with questions please contact: Mino Bimaadiziiwin Tribal Farm 36735 Aiken Rd, Bayfield, WI 54814 715-779-3782 | Farm@redcliff-nsn.gov

Chi Miigwech (thank you very much) to all the people who contributed knowledge to this guide.

The Iskigamizigan Sugar Camp Guide is published by the Red Cliff Band of Lake Superior Chippewa Indians. All materials within this resource guide may be freely shared, republished, and used for not-for-profit purposes only. Any use which may produce monetary gain must have the explicit consent of the Red Cliff Band of Lake Superior Chippewa Indians prior to reproduction.

Published: March 2022



Table of Contents

- 4 Iskigamizigan Ojibwemowin / Sugarbush Ojibwe Language
- 5 Iskigamizige-giizis / Maple Sugar Moon
- 7 Newago Iskigamizigan Gabeshiwin / Newago Sugarbush Camp
- 9 Moka'ang Giizis Iskigamizigan / Rising Sun Sugar Camp
- 11 Ininaatigoog / Sugar maple trees
- 13 Ozhiga'igan / A tapped tree
- 15 Naazibii She/he fetches/gets water/sap
- 16 Ombigamizigan / Kettle or pail for boiling
- **18 -** Iskigamizo / She/he boils down
- 19 Zhiiwaagamizigan / Maple syrup
- 20 Ziinzibaakwad / Maple sugar
- 21 Izhwaga zinzibakwad / Last run of maple sap
- 22 Gikinoo'amaagoowin / Teachings
- 23 Ozhibii'an / Write it down



Iskigamizigan Ojibwemowin Sugarbush Ojibwe Language

Onaabani-giizis - Hard crust on the snow moon; March Iskigamizige-giizis - Maple sugar moon; April Ininaatigoog - Sugar maple trees Zhiishiigimiiwanzhiig - Red maple tree Iskigamizigan - Sugarbush Ziinzibaakwadwaaboo - Maple sap Negwaakwaan - A spile (for tapping trees) Ozhiga'igan - A tapped tree Naboban - Sap collection pails made of birch bark Naazibii – She/he fetches/gets water/sap Aagim - Snowshoes Onaabanad - There is a crust on the snow Ombigamizigan - Kettle or pail for boiling Iskigamizo - She/he boils down Izhwaga zinzibakwad - Last run (of maple sap) Zhiiwaagamizigan - Maple syrup Ziiga'iganan - Maple sugar cakes Zhiishiigwaansag - Hard sugar cone Ziinzibaakwad - Granulated maple sugar Bigiwizigan - Maple taffy Nase'ige - She/he stirs to form sugar Naseyaawangwaan - Sugar trough





Iskigamizige-giizis Maple sugar moon

In this region, sugaring season often starts in March (onaabani-giizis; hard crust on the snow moon) and may continue into April (iskigamiigegiizis; maple sugar moon). However, in some recent years sap has started flowing as early as February, so it's important to be ready for whatever the season brings. While fluctuations in the weather are normal from year to year, climate change may also be contributing to earlier tapping in this region.

Sap starts to run when the temperatures are above freezing during the day but below freezing at night. There are ecological signs that indicate it's time to tap as well:

- Meme (pileated woodpeckers) return to the area.
- Aandegwag (crows) start to chase each other for mating season.
- Squirrels start nibbling on the ends of maple tree branches.
- Snow pulls away from the base of the trees thanks to more and stronger sunshine.

You can also reach out to elders, family members, and friends to find out when they plan to tap and also keep an eye out for buckets appearing in the woods!



Before tapping, it's also import to consider how many trees you will tap. The amount of sap you will get from each tree varies greatly with the size of the tree, sun exposure, seasonal temperatures, and tapping methods. Trees that are in the shade may start to flow later than trees in the open sun and may also flow for a bit longer after the trees in the open taper off. Likewise, the greatest concentration of sugar is often in the middle of the season.

Since you'll be needing to collect the sap on a daily basis and then store it until you are ready to boil, it's important to consider how many trees you can manage at once. You can estimate that each tap will yield about 10-20 gallons a season, though some may yield as much as 80 gallons in a single year--it all depends on the season and the tree! Sap can also spoil, so also take into consideration your storage capacity and how frequently you can boil. If you're new to tapping, consider starting out with just a couple of taps and build from there!

The ratio of maple syrup to sap also varies depending on a number of conditions, but often about 40 - 50 gallons of sap will produce about one gallon of finished syrup or about one pound of maple sugar. And, if you tap zhiishiigimiiwanzhiig (red maple trees), the sugar concentration is lower, so the ratio may be closer to 60 gallons of sap to 1 gallon of syrup.

It's also interesting to understand a little about the process maple trees are undergoing to produce sap. In the later summer and fall, maple trees virtually stop growing and begin storing excess starches in their roots. Yet, in the late winter, when temperatures start to warm above freezing during the day, the starches change to sugars.

When the temperatures drop below zero at night, the sap inside the tree begins to freeze causing negative pressure and suction which continues to draw sap up from the roots until the sap within the tree becomes frozen. Then, when temperatures warm again, the sap thaws within the tree and the negative pressure becomes positive pressure. Through this positive pressure and gravity, the sap is then drawn back down to the roots. So, when sap is flowing and you're tapping, the sap is actually flowing down trunk!





Newago Iskigamizigan Gabeshiwin

Newago Sugarbush Camp



Keith Newago boiling sap in Red Cliff.

Newago Sugarbush

By Julie Buckles Staff Writer, Ashland Daily Press (2003)

Nearing the tip of Wisconsin, a grove of maple sugar trees reach from the rugged, rocky soil, and spiral skyward. This ancient hardwood forest is a welcome sight against the northern backdrop of spindly aspen forest. People say it's their gnarled grain that spared them all these years from a logger's saw.

Visiting dogsledders have beaten a snowy path through the maple, hemlock and birch trees, and a 1973 Yamaha snowmobile carrying supplies solidified the trail. Winding through the forest for a mile, or so, off the nearest road, the path leads up and over a ridge and down into a small camp where each spring maple sap is boiled into syrup.

There is a cedar log cabin here for sleeping, eating, and having a smoke. The boiling shack - four poles and a blackened tin roof - is a few paces further. A small intermittent stream provides dishwater for the cabin. There is an outhouse, with a broken mirror tacked to its outside wall. And, an old shack patched together by tar paper and tin pieces shelters hundreds of rusting coffee cans, axes, shovels and odds and ends - all necessary equipment for sugaring.

Generations ago, five or six families ran sugarbush operations on this hill alone. Aunts, uncles, cousins, and grandparents would load up the sleds and maybe stay for a month. The uncles would make homemade sleds and haul the wood by hand. Then when it was over, they would trade or sell what they didn't need. "It was a big family thing then," Sam Newago says.

The Newago sugarbush is the last one remaining. Each spring brothers, cousins and friends are drawn to this spot. They come somewhat for the syrup but mostly out of stubbornness. They won't let their sugarbush fade into obscurity.



March 4, 1991 - Boiling sap

The Newago brothers - Sam, Keith, George, and Peter - don't tap the trees for commercial use. It is a family operation where they rely on donated coffee cans to collect the sap, then boil it down over an open fire, and store it in canning jars. "We do it to do it. We do it to keep the family tradition of the Newagos alive," said Keith.

This sugarbush, run by three generations of Newagos, and more before them, sits quietly for most of the year. Just before winter fully gives way to spring, the silence breaks as chainsaws buzz, snowmobiles sputter and axes split hardwood needed for boiling sap. The labor is done by fewer people than in the old days, most who have fulltime jobs and can't stay for a month. "The difference between then and now is it was a part of their livelihood," Keith says.

The four brothers have worked the family sugarbush on-and-off all their lives. Keith stayed away for 20 years after a fight with his dad. But when one brother stays away, another one picks up the slack. Here, no one is in charge and everyone is welcome. "It's tiring sometimes. You'd rather do something else," Sam says and shrugs while taking a drag on his Marlboro Light.

Sam, who is named after his dad, sits inside the cabin, looking out the window that frames the growing pile of chopped wood. He's been away from the sugarbush for awhile, busy working as a elevator installer and repairman in the Twin Cities. Recently divorced, he moved back home and this spring has taken charge of preparing for the days when the lightly sweetened sap will flow from the trees.

The sap begins to flow when the temperatures warm well above freezing during the day and dip

below freezing at night. About 40 to 50 gallons of sap makes one gallon of syrup, so it takes a lot of wood to boil the sap down. Some sugar operations use gas heat but that's not for the Newagos. Besides, Sam likes the smokey taste the wood fire gives syrup.

A plastic jug of store-bought imitation syrup sits in the cabin window - last year's supply of the real stuff has run out, Sam says. Plus, Keith says kids don't like the taste of the wild smokey Newago syrup. A log book records the cabin happenings. Sam has been staying for days at a time so has written his daily activities - cleaning the cabin, receiving visitors, cutting and stacking wood, and shoveling snow.



The Newago cabin.

Keith missed most of these years. At 10, his dad kicked him off the sugarbush because he was playin instead of working. Keith says he "got mad and stayed mad for 20 years. He never went back there with his dad.

He regrets the lost time but is making up for it now. Keith reconciled with his dad, months before he died. It was the spring of 1991 and his dad was too sick to go to the sugarbush. Keith was visiting from Florida. "I told him I'd go back and that I'd keep the sugarbush going," Keith said. "When you get older, you realize that it's a good thing he did and you make a decision to do it."



Moka'ang Giizis Iskigamizigan Rising Sun Sugar Camp



When biboon (winter) begins its retreat, Joe Rose, a Bad River tribal elder, pays close attention to the weather. He waits for sunny days with snow melt and freezing nights. These conditions signal the movement of ziinzibaakwadwaaboo (maple sap) and the time to work the iskigamizigan (sugar camp).

Joe's iskigamizigan, adjacent to the Bad River, has been in his family for many years. He learned from his father and grandfather the process of gathering and processing ziinzibaakwadwaaboo. Some of the equipment he uses today is more than 100 years old.

During onaabani-giizis (March), Joe makes his initial visit to his iskigamizigan. He walks the half mile from the road to the river bottom, pulling a toboggan carrying all his equipment.

Soon he reaches his camp in the rich hardwood forest filled with ininnatigoog (sugar maples), zhiishiigimiiwanzhiig (red maples), wigobatig (basswood trees), and giizhikag (cedar trees).

He surveys his camp for needed repairs. He checks his lean-to: the maple sapling poles that provide the frame work, the thick plastic tarp used as a protective cover, and the sturdy plywood flooring. Occasionally, he finds damage caused by heavy snows or hungry, gnawing porcupines.

For the next two or three days, he shovels snow to clear his camp, exposing the elm bark covering he had previously placed over the soil. This covering keeps the area from becoming too muddy.

He examines the two different sized hearths used for boiling ziinzibaakwadwaaboo and makes any necessary repairs. Then, he spends the next week laboriously cutting wood. He needs at least one face cord, if not more, to provide the necessary fuel to boil the season's harvest of ziinzibaakwadwaaboo.

Finally, he chooses the trees from which to gather. He usually selects large ininaatigoog that measure as much as two feet in diameter. Occasionally, he selects zhiishiigimiiwanzhiig, but the ziinzibaakwadwaaboo from these trees must be boiled longer because of its lower sugar content.

Before gathering ziinzibaakwadwaaboo, he conducts a pipe ceremony and gives an offering of tobacco to demonstrate his appreciation and respect. Any family or friends that might be helping him also participate in this ceremony.

To begin gathering, he inserts negwaakwaanan (taps or spiles) into the maple trees. His father used negwaakwaanan made out of apaakwaanaatig (sumac), then copper. Now, Joe uses commercially produced negwaakwaanan. Below the negwaakwaanan, he nails into the trees one-gallon metal cans, which had been previously sterilized with a mixture of soapy water and bleach. Traditionally, tribal members used naboban (birch bark buckets).

As long as the sun shines, the trees provide an abundance of ziinzibaakwadwaaboo and the gallon cans fill within one to several days. Joe uses his toboggan to gather up the full cans.

He carefully pours the ziinzibaakwadwaaboo into a large holding tank lined with clear plastic. When the holding tank contains more than 300 gallons, he gradually siphons the contents into a large pan placed on the largest hearth ready to be boiled.

He boils the ziinzibaakwadwaaboo at night. The first boiling takes approximately twelve hours which he starts at dusk. He awakens every two hours to keep the fire burning hot.

He uses a paddle with a screen to skim off mineral deposits that float to the top. After he completes the first boiling, he siphons the reduced and thickened ziinzibaakwadwaaboo into a smaller pan on the smaller hearth for a two hour "finishing" boil.

The initial 300 gallons of ziinzibaakwadwaaboo results in seven eight gallons to of zhiiwaagamizigan (syrup). Не pours the zhiiwaagamizigan into one-gallon glass jugs that have been sterilized and warmed over the fire to evaporate any residual water and to prevent cracking.

Years ago, his family would continue the boiling process turning the zhiiwaagamizigan into ziinzibaakwad (sugar). As the zhiiwaagamizigan was heated and thickened, a small amount of deer



tallow was sometimes incorporated to keep the resulting ziinzibaakwad soft.

The thickened zhiiwaagamizigan was transferred to a granulating trough where it was stirred with a hardwood spoon or rubbed by hand. The finished ziinzibaakwad was poured into ziizibaakwadomakakoon (birch bark baskets for maple sugar).

Some tribal members still make ziinzibaakwad. Joe prefers making zhiiwaagamizigan, which he shares with family and friends.

After the harvest and processing of ziinzibaakwadwaaboo, Joe hosts a First Fruits Feast. For this ceremony, he offers a portions of the "first fruit" to the manidoo (spirits). A First Fruits Feast occurs for all harvest through the year.

Gathering and processing ziinzibaakwadwaaboo is very labor intensive, but Joe really enjoys working his iskigamizigan. It allows him serenity when he works alone and good companionship when family and friends offer to help.

This article was originally published by GLIWFC in the "*Tribal Sugarbush* and Birch Bark Gathering Sites on National Forest Lands" Mazina'igan Supplement in 2002 and has been re-printed with permission. Joe Rose Sr. (Moka'ang Giizis; Rising Sun) passed on in 2021 and it is with honor and gratitude that we share this story.



You can identify maple trees when the leaves are out, but you can also identify maples in the winter by looking at the bark, branching patterns, and buds.

Ininaatigoog (sugar maples; Acer saccharum) have the highest concentration of sugar in their sap, though zhiishiigimiiwanzhiig (red maples; Acer rubrum) can be also tapped. Occasionally people tap silver maples, but the sap has very little sugar content compared to sugar and red maples.



Bark

Ininaatigoog

Sugar Maple Trees

In general mature maple trees have bark that is dark grey-brown, rough, and often have patches of green lichen on their trunks. In this region, mature maples and oaks can be the most difficult to tell apart from their bark, but looking at their branching pattern and buds can help you determine which is which.

Once you gain experience with noticing different bark features, you can start identify the to difference in bark between different types of maples. At this point, to identify sugar maples, look for rough bark with deep vertical ridges.



Leaves

Ininaatigoog (Sugar Maples) - Leaves have five prominent points (lobes) with u-shaped spaces between the lobes (sinuses). The edges (margins) of the leaves are smooth and often turn golden in the fall like maple syrup! Also, the five points of the leaves match up with your five fingers and spell S-U-G-A-R!



Zhiishiigimiiwanzhiig (*Red Maples*) - Leaves often only have three prominent points (lobes) and the sinuses form a v-shape. The edges (margins) are jagged. In the fall the leaves turn bright red and look like the flame of a match!



Zhiishiigimewanzh (silver maples) - Leaves have five points (lobes), but the three middle ones are prominent and the sinuses between them are very deep. In the summer, the underside of the leaves are silvery-white.

Branching Pattern

Maple trees and ash are the only trees in this region with an opposite branching pattern, so this is a great characteristic to look for in the winter and spring when leaves are absent. Having an opposite branching pattern means that the branches and buds grow in pairs across from each other. When you're looking for this pattern, make sure to look at multiple branches as there is always some variation. Binoculars can help too!

While oak trees have an alternate branching pattern, sometimes it's hard to tell while looking up into the canopy. However, it's common for oaks to hold onto some dead leaves all through the winter, so if you see any brown leaves in the tree top, chances are you're looking at an oak not a maple!

Bud Characteristics

Ininaatigoog (Sugar Maples) - Buds are brown, slender, pointed, and have flat scales and they even look like sugar cones!



Zhiishiigimiiwanzhiig (Red Maples) - Buds are round and dark red. The branch tips are often also red.



Zhiishiigimewanzh (silver maples) - Buds are red, round, and very large. There is often a large cluster of buds at the end of the branch tip (terminal bud) which is easily visible from the ground. The branches are grey (though the very tips may still be red).







Ozhiga'igan A tapped tree

To tap, you'll need to following supplies:

- Spiles (taps)
- Buckets/bags for each tap
- Drill and drill bit matching your tap size
- Rubber mallet or hammer
- Snowshoes
- Asemaa

1. Offer asemaa - To show your appreciation and respect for the tree and its gift of ziinzibaakwadwaaboo (sap), before tapping give an offering of asemaa (tobacco).

2. Pick your tree - A tree for tapping should be at least 10" in diameter, measured about 4 feet above the ground. Trees between 10" - 20" in diameter should have no more than one tap per tree. A second tap may be added to trees between 20" - 25" in diameter. Trees over 25" in diameter can have three taps, but no tree should ever have more than three taps. Trees that have multiple trunks can have a tap in each of the trunks.

3. Pick your tap hole location - Find a good location to drill your hole. This should be a spot on the trunk with unblemished bark. Drilling a hole on the southern side of the tree will increase the sun exposure and the sap may flow more strongly on that side of the trunk. If the tree has been tapped before, make sure your new hole is at least six inches to the right



or left and also not above or below any older holes. Likewise, if the tree is large and you will be placing multiple taps in the same tree, you want the taps to be at slightly different heights. This is healthiest for the tree. And remember to make sure that when the snow melts you'll still be able to comfortably reach your taps. So drill the holes low if there is deep snow!

4. Drill the hole - Use a drill bit the same diameter of the taps you will be using (likely either 5/16" or 7/16") and make sure it is sharp and clean to minimize damage to the tree. A helpful trick is to wrap a piece of tape around the drill bit so that 1.5" - 2" is exposed. Then, when you drill your holes, it's easy to drill to the correct 1.5" - 2" depth every time! Drill the taphole with a very slight upward angle. If you keep the drill engaged while you pull it out of the hole, it will pull out any wood shavings so the taphole is clean and free of debris.

5. Install the spile (tap) - Tap the spile in lightly with a rubber mallet or hammer so that it is securely in place, but be careful to not pound it in too hard which can damage the tree. Hang your bucket (or container or bag) on the hook of the tap to start collecting sap. If available, cover the bucket with a lid to keep out rain, snow, and other material.



Tapping Wigwasatig (Birch Trees)

In addition to maples, there are many other trees that can also be tapped for sap and syrup, including birch trees!

Wigwasatig (Paper Birch) - The time to tap birch trees is generally at the tail-end of maple tapping season. Birch sap can be drank straight and can also be boiled into a syrup. The sugar content of the sap is lower, so it may take over a hundred gallons of sap to produce one gallon of syrup!





Naaziibii She/he fetches/gets water/sap

Now that your taps are in, check your trees at least once a day. It can be helpful to carry a 5gallon bucket or two with you so that as you check your trees you can pour the sap that has collected into the 5-gallon buckets to haul back to where you will be storing the sap and boiling. If you will be tapping many trees, you will need to figure out food-grade storage containers to store your sap until you are ready to boil.

Sap does spoil if it gets too warm, so take caution if the temperatures are above freezing and make sure to store your sap in the shade. If you are concerned that your sap has spoiled you can taste a small amount and if it tastes off or sour, it should be discarded. Sap will also look cloudy and may have a yellow tinge once it has started to spoil. If sap has spoiled, it cannot be salvaged.

Also, if the temperatures happens to swing back to freezing for an extended time and you already have your taps in, they will likely be just fine and you taps will start running again once the cold snap is over. If your tap holes do close up, you'll have to remove your taps and drill new tap holes.

Drink the Sap!

Drinking the sap is a really simple way to form a connection with the season, participate in tapping, and simplify the process because you don't need to worry about storing or boiling the sap. All you need to do is collect the sap and drink it like water, or make it into tea!





Ombigamizigan Kettle or pail for boiling

Once you have a good amount of sap, it's time to boil. The first thing to know is that you must boil the sap outside! It takes about 40 gallons of sap to make one gallon of syrup which creates a lot of sugary steam. If boiled indoors, this amount of steam can damage walls and ceilings and even cause harmful mold! So, make sure you have a place to boil your sap outdoors. And remember, you can also just drink your sap as is and skip the whole boiling process entirely!



Propane Burner

Materials:

- Propane burner (turkey fryer)
- Large heavy-bottomed pot
- Propane tank

This method is pretty simple - all you need is a large propane burner, large pot, and tank of propane (possibly many). The advantages are that it's a simple set-up, the temperature is easy to regulate, it's low maintenance, and it's easy to stop and start if you only have a few hours at time to boil. The negatives are that it takes a significant amount of propane which can end up costing a lot of money. As such, some people just use propane burners to finish their syrup but do the majority of their boiling over a fire.

Boiling over a Fire

Materials:

- Heavy-gauge wire grate or woven wire mesh
- Large pots/roasting pans
- Cinder blocks (4 6)
- Firewood

A simple method for boiling your sap is over a fire. For this method, you just need to create a set-up to either hang a pot above your fire, or have a grate supported over the fire for your pots/roasting pans to rest on. If you decide to use a grate, just make sure that it is robust enough to support the weight of the sap (a grate from an old refrigerator or oven works well).

The best firewood to use is hardwood, like maple, but other types of firewood can also be used. However, it is best to avoid pine as it sparks heavily and the pitch from the sparks can alter the taste of your finished syrup if they get in your pans!



Backyard Evaporator

If you're going to be boiling a lot of sap or think that you'll have it be a yearly event, you may want to consider making a backyard evaporator. This method is more efficient than just boiling over a fire, saving you time and firewood.

Materials:

- 14 24 cinder blocks (note, cinder blocks may crack after the first year and may need to be replaced annually)
- Large pots/roasting pans
- Firewood

Optional materials

- Hotel pans (full size, 6" deep)
- Heavy gauge grate
- Stove pipe

To assemble your backyard evaporator, start by leveling the ground. Then, stack cinder blocks 2 -3 blocks high to create a three-sided structure. Adding a chimney made of cinder blocks or stove pipe will also increase efficiency.

The simplest and most stable method to then boil your syrup is to put a grate across the top of the cinder blocks and use roasting pans to boil your syrup. However, if you want to increase your efficiency, you can also invest in hotel pans. Hotel pans are typically used for catering and have a 1/2" lip around the edge which can be set directly on the edge of the cinder blocks so that the pans are suspended and the heat of the fire is maximized. A downside is that it is challenging to lift the hotel pans on and off the fire and the risk of spilling your sap/syrup is higher than if using a grate.





Iskigamizo She/he boils down

To start boiling, get your fire going and create a good bed of coals.

Next, get your sap ready. If ice has formed on the top layer of sap, you can remove and discard it. By discarding the ice (which has less of a sugar concentration than the liquid sap), you'll reduce your boiling time. If your sap has debris in it, filter your sap through cheesecloth or a fine mesh strainer to remove any debris. Remember, that sap can spoil if it gets too warm or sits too long, so if your sap smells or tastes sour, or is cloudy or yellowish, discard it.

Then, fill your pot or pans with sap, but leave a few inches of room at the top so it doesn't boil over. (A bit of butter or vegetable oil rubbed on the he rim of your pot will often prevent boiling over.) As the sap boils down, keep adding more sap, keeping at least 1.5" of liquid in the pan so it doesn't burn. You can pour cold sap right into boiling sap or you can preheat it. Some folks like to drip warm sap in slowly so the boil is maintained even when adding new sap. You want to keep your sap at a rolling boil for the entire duration, so keep stoking your fire regularly.

It will take many hours (and even many days) of boiling to make syrup. Never leave boiling sap over a wood fire unattended because sap can quickly boil away and burn the pan. When the sap becomes dark in color and thicker, you can take it off the woodfire and finish cooking it into syrup inside or with a propane burner to have more control of the temperature.





Zhiiwaagamizigan Maple syrup

Materials:

- Cheesecloth
- Large saucepan or Dutch oven
- Candy thermometer
- Large spoon
- Ladle
- Funnel
- Sterilized canning jars
- New canning jar lids
- Optional: hydrometer or refractometer

To finish your syrup, first filter it through cheesecloth to strain out any impurities and "sugar sand" that has accumulated. Then, heat it in a large saucepan or Dutch oven over medium high heat until boiling. Keep a close eye on the temperature using a candy thermometer attached to the side of the pot (make sure it's not resting on the bottom!). The closer your syrup is to finishing, the more likely it is to boil over - so keep an eye on it!

Maple syrup boils at a higher temperature than water because of its sugar content. When the temperature reaches 219 degrees F, the syrup is ready. This can happen fast, so it's important to keep a very close eye on your syrup once the temperature goes above 212 degrees F.



A couple of signs that your syrup is getting close to finished is that the heat setting that you have been using on the stove will suddenly be too hot and your syrup will want to boil over. Traditionally, Annishinaabe put small pieces of deer tallow in with the syrup as it boiled down to keep it from boiling over. If the temperature is not quite to 219, then turn down the heat a little but keep the syrup boiling gently. Another sign your syrup is almost ready is the bubbles will become larger and appear stickier than before.

Once your syrup reaches 219 degrees F, remove from heat. You can then chose to filter it a final time to remove any additional "sugar sand" that has developed during the cooking process, or skip this if you're not worried about the appearance of the final product - sugar sand isn't harmful and some people enjoy eating it!

When the syrup is still hot (at least 185 degrees F or hotter) ladle it into sterilized canning jars. Top with brand new jar lids and then screw on rings. Because the syrup has been boiled and added to your sterilized jars while hot, you don't need to process the jars in a water bath.

Make sure the lids 'pop' down which shows the jar has sealed. To store, keep jarred syrup in a cool, dark place, and store in the fridge once you've opened a jar.

Hydometers & Refractometers

As you get more into sugaring, many people invest in a hydrometer or refractometer. Both are instruments used for measuring the sugar content of your syrup which can help you finetune when it is finished.

19 | Iskigamizigan Sugar Camp Guide



Ziinzibaakwad Maple sugar

Traditionally ziinzibaakwad (granulated sugar) was made by hand. If you're interested in learning this method, seek out guidance from someone with experience who can teach you. However, this recipe makes use of an electric stand mixer so you can experiment with making it at home. You'll need the following:

- 2 cups maple syrup (or more)
- Heavy saucepan or Dutch oven
- Candy thermometer
- Wooden spoon
- 1 tsp butter or vegetable oil
- Optional: stand mixer with paddle attachment

Heat maple syrup in saucepan or Dutch over over medium high heat. To keep the syrup from foaming and bubbling over, run a little butter or vegetable oil on the inside of the pot about 2" above the surface of the syrup. Monitor the temperature of the syrup closely with a candy thermometer. The syrup needs to be heated to between 255 and 260 degrees F which may happen in as little as ten minutes.

Once the syrup is up to temperature, remove from heat immediately to prevent burning. Let the syrup cool to about 200 degrees, stirring occassionally. At this point you can either stir vigorously by hand, or use a stand mixer. If you stir it by hand, as the syrup thickens it becomes very difficult to stir and if you stop stirring it'll harden into a solid brick, so be ready for a work out! A much simpler method is using a stand mixer with a paddle attachment set to low to continuously mix the syrup. In either case, mix until the syrup has cooled and forms granulated sugar crystals.





Izhwaga zinzibakwad

Last run of maple sap

Removing Taps

Taps should be removed at the end of the season. Signs that the season is done include:

- Your sap starts to run cloudy or has a strong yellow tint.
- Maple and poplars (or other deciduous trees) start to bud-out in the area where you're sugaring.
- Willow leaves bud out and are the size of a baby amik (beaver) ear.

Additionally, taps should also be removed if the season is still going but you are not able to process more sap. By removing the taps, you're allowing the trees to keep all of that stored energy and it is most respectful for the trees.

Remove all the taps by gently using the back of a standard hammer to leverage the taps out of the trees. The tap holes in the trees will heal themselves.

Storing Equipment

Clean all equipment (taps, buckets, lids, boiling pans, etc.) with hot water and a mild soap, scrubbing to remove any build up and rinsing well to get any all the soap off. After washing, make sure all equipment is thoroughly dried before storing, and especially before stacking buckets. Equipment should be stored in a dry area. At the start of next season, make sure to give your equipment another wash and rinse before use.





Gikinoo'amaagoowin

Teachings

Iskigamizigan (Sugarbush): A Sequal to Growing Up Ojibwe. GLIFWC, 2006.

https://glifwc.org/publications/pdf/Iskigamizigan_Supplement.pdf GLIFWC publication with information on traditional sugaring methods.

Wateman Wittstock, Laura. *Ininatig's Gift of Sugar: Traditional Native Sugarmaking*. First Avenue Editions, 1993.

Children's book describing Anishinaabe traditions of sugarmaking.

- **Cornell Maple Program.** https://blogs.cornell.edu/cornellmaple/ Information on how to sugarbush, resources for kids, and more!
- **The Ojibwe People's Dictionary.** https://ojibwe.lib.umn.edu/ An excellent Ojibwe language resource. Many of the Ojibwe words used within this guide were sourced from this resource.
- Michigan Flora Online. https://michiganflora.net/ A searchable database for plants in the Michigan (and upper Great Lakes) region. Helpful for tree/plant identification.
- **Seek by iNaturalist.** https://www.inaturalist.org/pages/seek_app An app that uses the camera on your phone to identify plants and animals in real time. Helpful tool for tree identification.
- How to Make a Cheap Maple Syrup Evaporator for Under \$50. hwww.thatyurt.com/how-to/make-cheap-maple-syrup-evaporator/ Online resource with more detailed instructions for how to make a backyard evaporator with cinder blocks.



Ozhibii'an Write it down
