




**JACKSONELECTRIC
COOPERATIVE**

Your Touchstone Energy® Cooperative 

From Sap to Syrup:

Maple Syrup Production in Jackson County

while they were making syrup,” says Steve. “We sell our syrup at the local farmer’s market under the name ‘Howard’s 80’ in remembrance of the 80 acres of my dad’s land that we continue to tap,” adds Faith.

Over the past several years, each operation has gained experience and expanded production. While the overall process of collecting sap and producing maple syrup is the same, like most operations, each maple syrup producer is not the same and may have different techniques and methods.

The first step is to look for maple trees. All maple trees can be tapped, but the most commonly tapped are the sugar maple, black maple, red maple, and silver maple.

“You shouldn’t tap smaller trees, as you can injure them,” John says. “We generally look for trees 12 inches in diameter or larger,” adds Steve.

When the syrup season begins, holes are drilled in the selected trees, and spiles are tapped into the drilled holes in the trees. A collection container hangs from the spile, or nail, to collect the sap. “Rather than having an individual container at each tree, we’ll connect the spiles with tubing to direct the sap to one collection barrel,” explains Steve. “It’s a very labor-intensive process,” adds John.

“An important step throughout the entire process is to filter, filter, filter,” says Faith as she examines a collection bucket. “The first filtration happens in the woods using terry cloth to filter the sap before it’s carried over to be cooked.”

After the sap is collected, you need a place to cook the raw sap to evaporate off the water content. John notes that restaurant-grade stainless steel pans are ideal for the boiling process. It takes approximately 40 gallons of sap to produce one gallon of finished syrup. Both operations use homemade wood-fueled evaporators to cook their sap. “You can keep adding sap as you boil. With my system, I have to put five gallons of raw sap in every two hours,” shares John. “You always want to main-

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Tap. Tap. Tap. When the days rise above 40 degrees and the nights drop below freezing, this is the sound that echoes through a sugar bush. *Sugar bush* refers to a group of maple trees growing in the same area that are used to produce maple syrup. When the sap runs in the late winter to early spring, that’s where you’ll find maple syrup producers like Jackson Electric members John and Mary Grabert (J&M Sugar Bush, Osseo) and Steve and Faith Ruud (Howard’s 80, Alma Center).

“I always wanted to make my own maple syrup, but had never got around to it,” shares John. “After a neighbor shared a small bottle of syrup he had made, I did my research, bought supplies from a local farm store, and made my own wood-fueled evaporator.”

“Faith’s dad, Howard Shoemaker, started making maple syrup at least 20 years ago, and we would come up to stay



Left: Faith and Steve Ruud show off their outdoor sugar shack and evaporator.
Right: Mary and John Grabert show off their final J&M Sugar Bush syrup.



COMMUNICATION IS KEY to Your New Construction

Building your forever home? A weekend getaway? Communication is key to a successful new service request. You'll be in the know for all of the costs associated with your service install, heating/cooling options, water heaters, rebates, and more. To get started with your new line construction, contact our office or go to www.jackelec.com/new-residential-construction.



ELECTRIC HEAT OPTIONS

Air Source Heat Pump (up to 250% energy efficient)

An air source heat pump (ASHP) can deliver two to four times more heat energy than the electrical energy it consumes, making it very efficient and economical to operate. These systems are dual purpose. During the summer, an ASHP cools your home like a central air conditioning unit. However, during the cooler months it reverses to provide heat. An ASHP will require a supplemental heat source for those days when temperatures drop below freezing. Most ASHPs are installed with a non-electric furnace which qualifies the system for the dual fuel rate. Coupled with Jackson Electric's rebate, the cost of your ASHP may be similar, possibly less, than that of a central air conditioning unit.

Geothermal Heat Pump (up to 400% energy efficient)

A ground source heat pump (GSHP), otherwise known as a geothermal system, is the most efficient heating and cooling system available. It's considered a renewable energy source because it uses the constant temperature of the earth to heat and cool. Even on the coldest night, the temperature of the earth remains consistent. Water circulates through a loop system that is buried in the ground and absorbs the earth's energy. A heat pump, connected to the loop pipe, extracts that energy and converts it into heat. The process can be reversed to cool your home. New installs are not allowed on the dual fuel program.

Electric Boiler (100% efficient)

An electric boiler, along with a radiant in-floor tubing system, heats your home by heating water that circulates through tubing installed in the floor or in hot-water baseboard heaters. An electric boiler can be zoned to regulate the temperature in different areas of a building. An electric boiler can meet the needs of most commercial and residential applications. If a boiler system has an automatic fossil fuel backup heat source or if in-floor tubing is imbedded in sand or concrete to store heat, it can qualify for the dual fuel electric rate.

Baseboard Heat (100% efficient)

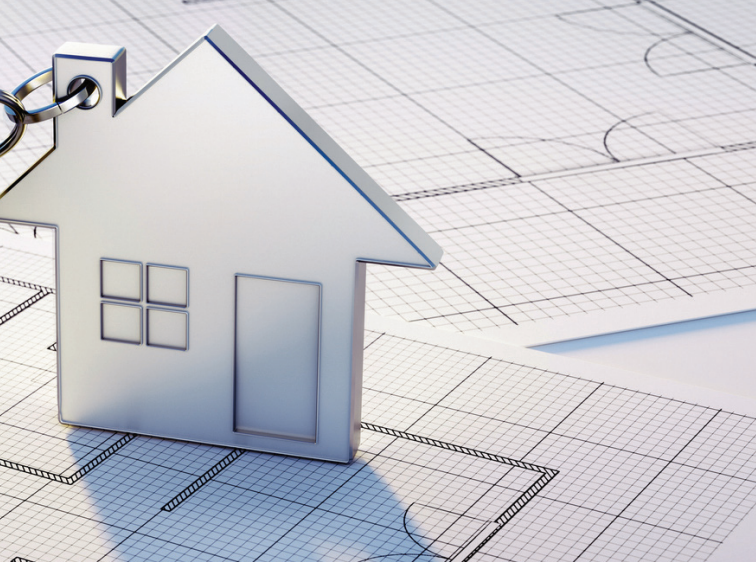
Baseboard electric heat is easy and inexpensive to install to heat "cool spots" in your home or heat your entire home. Baseboard heat allows you to adjust the thermostat setting for individual rooms which can help save on energy costs. Baseboard electric heat qualifies for the dual fuel electric rate if installed in conjunction with an automatic fossil fuel or ETS heating system (it takes 21.33 feet of baseboard heating alone to qualify).

Whole House or Individual Room ETS (100% efficient)

ETS technology is designed to store heat during off-peak hours for heating 24 hours a day and utilize Jackson Electric Cooperative's ETS rate. Room-sized ETS storage units are an ideal option for homes without a central duct system. They consist of specially designed bricks stored inside a cabinet. Electricity heats the bricks during off-peak hours when electric rates are lowest. When the thermostat calls for heat, a fan blows air across the heat-storing bricks to distribute heat throughout the room.

Electric Water Heating

Standard electric water heaters deliver the safest, simplest, and most convenient way to heat water. The water is kept hot and ready for use at all times in an insulated storage tank. You may purchase a 50- or 100-gallon water heater from Jackson Electric Cooperative.



Dual Fuel Program

Members of Jackson Electric Cooperative receive a reduced energy rate for qualified electric heating and cooling systems that are wired for peak load control under this program. Two meters are required in which the electric heat and water heater, if applicable, are metered separately and switched off during high electric demand periods. A minimum of 4 kW of electric heat must be coupled with an automatic, non-electric (fossil fuel) backup source of heat to qualify. Jackson Electric Cooperative offers rebates to qualified heat pumps and water heaters, along with other energy efficient items. Go to www.jackelec.com to learn more.

Double meter sockets are available for purchase from Jackson Electric Cooperative. It is the member's responsibility to contact Jackson Electric Cooperative to have the dual fuel energy management receiver installed after all the wiring to the meter socket is complete.

Rebates

You could save some money on your new construction by communicating with us on the items you are purchasing. Rebates are available for:



- Energy Star rated appliances
- Air source heat pumps, geothermal heat pumps, and ECM blower motors on new furnaces
- LED bulbs
- 75+ gallon electric water heaters

LED Area Light

Don't like the feeling of your property being dark? Contact us about the price to install an energy-efficient LED area light. The light is wired before the meter, so you pay a flat monthly rate. If the light stops working or needs repair, contact our office.

SNOWBIRDS

Update Your Contact Information

If you are back in the area, please be sure to update your contact information. Either contact our office or use our online SmartHub portal. Log in to your account, go to My Profile/Update My Billing Address. You can also enter the dates of your seasonal address.



Can You Dig It?

An underground utility line is **damaged once every 9 minutes** because someone didn't call 811.

Call 811, the "Call Before You Dig Number," at least **2 business days** prior to digging.

811 locators **do not detect** underground sprinkler systems, invisible fences, data communication systems, private water systems, or gas piping to a garage.

Once **all of your utilities** have been located, then you can start your digging project!

Even if you have previously had underground utilities marked, **utilities can shift**, so it's best to call before starting a new project.

Learn more at SafeElectricity.org



Maple Syrup Production Continued from page 15

tain your levels so it doesn't burn or scorch," he continues.

"We use another filtration process to filter out any impurities from the sap while it's cooking," says Faith.

Once the sap reaches 219 degrees, it has officially reached the correct thickness for maple syrup and can be removed from the container to be finished in a smaller pot or pan. "We pull it off the evaporator when it's reached 30 points on the hydrometer, which measures density," says Steve. "We pour it into two half-full five-gallon pails and finish cooking the sap in a turkey fryer. It should be at 32 points when it's done."

"We also use an ultimate test of stirring three to four scrambled eggs into the syrup," explains Faith. "Any remaining impurities in the syrup will bind to the eggs, and the eggs are removed when they float back to the top of the pan. We call it 'clarifying' the syrup."

When it's time to pour the syrup into bottles, John's wife, Mary, joins in. "When we bottle it, we heat it up again, which sterilizes the bottle and seals the cap," says John. "After it cools down, it can be consumed right away."

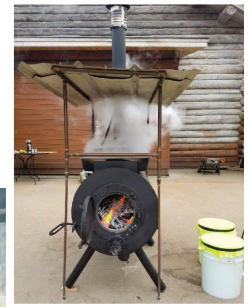
Steve and Faith bottle the syrup directly after their egg filtration, while the syrup is still scorching hot. They have a cus-



Left: Steve Ruud filters the sap through terry cloth. Below: The Ruuds run tubing between the spiles on the trees and collect the sap in one container, rather than hanging a bucket under each tree.



Right: Steam rolls from John Grabert's homemade evaporator as the sap is boiled to remove the water content. Below: Mary Grabert bottles the final product as more sap evaporates behind her.



tom-made container with a spigot. The contraption is placed on the countertop, with the spigot hanging over the edge. Below are buckets stacked together high enough to reach the spigot with a glass syrup bottle in-between. The syrup is poured into the container, filtered once more through orlon and paper filters. "The syrup is very hot and you have to be very careful," says Faith. "You can't touch the bottle or the spigot directly."

John's 150 taps per season equates to 440 to 450 gallons of sap collected and 10 to 12 gallons of finished product. "We keep the neighbors well-stocked," he says.

"Our most successful year was in 2015," Faith refers back to her production log. "We collected 614 gallons of sap, which equates to 19 gallons of syrup."

"It all depends on the weather, and how much rain or snow we got," adds Steve. "One year, there was still four feet of snow in the woods and we could only collect on the outside perimeter of the woods. We even shoveled to make level places for collection buckets."

Once the short one-to-two-week season is complete, all of the equipment is cleaned and sanitized, and the syrup is ready to be paired with pancakes right away. So, what's the difference between this maple syrup and the mass-produced syrup you find on the grocery store shelves? Purity. "Anything you buy in the store has additives, such as high fructose corn syrup," explains John. "Pure maple syrup doesn't have anything added to it, and it is a great source of antioxidants." —*Brandi Shramek, Member Relations Advisor*



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