



Carbon offsets and liquor spirits: Drinking your way to a low-carbon footprint

by Michael and Arika Menzies

Starting a new micro distillery to produce high-end liquor spirits provides many challenges. One that is foremost in our minds at Braeside Farms is how to do so with renewable energy and low carbon footprint. From vegetable oil fuel oil replacement to green building, this article describes the efforts we're making to offset and sequester our green house emissions while we build Braeside Farms Distilling and offers ideas for other farmers looking to expand into liquor spirits production.

Fuel Consumption

Distilling requires fuel. Grains, fruits and roots need to be heated and/or cleaned, requiring fuel to run the equipment. We are reducing our impact by replacing the 100 gallons of diesel fuel per year we would use with farm made biodiesel. We are using a solar thermal heater to eliminate future diesel needs as the distillery expands its production. And when the sun is not shining, we will support the heater with a wood fired backup boiler and aerobic digester.

Soil Sequestration

Crops must be grown to supply our distillery. In doing so, we sequester between 1.4 and 2 tons of CO₂ each year. To do this we do not till the soil. Instead we lightly turn the top 2-4 inches of soil after adding compost. This greatly slows the release of carbon and maintains soil life. We also grow in wide planting beds using 75% less space than "conventional" farms. More soil depth and less soil breadth means better CO₂ storage. Our unplanted pathways are kept in cover crops so these areas capture runoff nutrients, which are returned to the beds after the crops are harvested. Finally, we leave crop residue in place after harvest so stalks, stems, roots and leaves are turned back into the soil.

Building Heating

Distillers like beer brewers are a rugged bunch. But they, and we, like to keep warm. We have 14 acres of forested and semi-forested land on the farm. In this area, crops, livestock and trees are grown. Every year, trees are damaged by winds and rain. We carefully harvest firewood from these downed trees to heat our buildings and provide heat for the stills. The wood based heating is carbon negative.

Electricity and Green Building

Although we are far from the city, we are still connected to the electric grid. We use electricity for power, backup heating, pumping, crop refrigeration, etc. We don't have access to natural gas and only use propane for small heating needs. We get our power from Portland General Electric's Renewable Energy program. This allows our power use to be generated or offset with a renewable source.

On the construction side of things, we are building the distillery using lumber from our property. By doing so, we can re-grow the trees used to construct the facility. We actually mill the logs ourselves right here on our farm. In addition to hyper local lumber, buildings are constructed using easy-to-recycle, long-life steel roofing and siding, efficient lighting, radiant in-floor heating and passive solar design. Finally, much of the refrigeration needed for the distillery will be supplied by an in-ground cooler, similar to an old-time root cellar with a super efficient cooling unit added to balance the temperature needs.

Animal Feed

Where does all the waste from the distillery go? We raise many animals on our farm: cattle, sheep, pigs, chickens and rabbits. They all eat crop leftovers from distilling. Most years we will purchase approximately 8,000 lbs of grains for our distillery, mostly barley and corn. But we will grow approximately 40,000 lbs of grapes, sunroots, potatoes and other crops. So, how can we lessen the footprint of the imported crops? We are working with fellow farmers to eliminate Midwest-grown corn and barley from our system and replace them with Oregon-grown crops. This will knock 1,000 or more miles of travel off of the barley and corn. Better still, we are increasing the amount of on-farm-produced crops each year.

