

ICE BOX FERMENTER

by Mike Retzlaff

Some time back, I had been using an old refrigerator to manage ferment temperatures. It wasn't energy efficient but it was paid for and worked just fine. One day it crapped out and I was left with ambient temperatures which work okay for about three or four weeks out of the year. Brewing seasonally is not for me so I had to do something. I wasn't about to purchase a new fridge just for fermenting so I started looking around and thinking about my situation.

I found plans on the Internet for **Son Of Fermentation** which is an insulated box designed for fermenting beer. It has a large ferment chamber and two smaller ice chambers. It uses a regular household A/C thermostat which controls a 12v cooling fan for the power supply from an old computer. The fan circulates air across a jug of ice and back into the fermentation chamber through a plenum. When the temp drops to the set point, the thermostat shuts off the fan. It's about as simple as a bag of rocks.

I started gathering the necessary parts and then cut out the pieces, glued them together, and finished sealing it with a caulk gun. I wired it up and did a dry run. It worked! With a 25 degree differential between ambient and ferment temp, it simply idles along on one jug of ice per day. With a 20 degree differential, it only requires a change of ice every two days. I use bleach jugs, fill them with water, and freeze them in my kitchen freezer. Once equilibrated to the set temp, everything runs like a clock. I have used it to ferment down to 60° but it's certainly capable of lager ferment temps by using up to four jugs of ice at a time. The amount of ice required, of course, depends on the temperature differential.

For those of you who don't have the room or a fat enough wallet for an extra fridge or chest freezer on which to fit an external thermostat, this type of chill chest just might be the thing. It is 32" tall by 22" wide by 29" long. It is compact enough for the confines of an apartment and light enough for one person to easily move when empty. When not in use, it can be stored in a closet, shed, or attic. Application of contact paper could dress it up. I keep my ice box where it isn't required to be attractive; Martha Stewart has never insisted on visiting my garage. The real beauty of this chest is in how well it works.

Another option, for those of you who are capable of simple cabinet work, is to build a plywood box to house Styrofoam as the insulation. I used closed cell urethane foam insulation which is an underlayment for roofing. The original plans call for 2" material but I stumbled into 2 sheets of 1.5" thick material. I glued the two sheets together and cut them as per the plans. My ferment chamber is 1" smaller all around and I had to use some 1/2" plywood as the fan board but it worked and I've got better insulation than the original design. Styrofoam is a lot more delicate but much easier and cheaper to get. With a protective "hard shell" made of plywood, you could attach hinges and clasps which might prove more durable.

There are several sites on the internet which exhibit 2nd and 3rd generation designs. Several look like furniture. Some will house two fermenters at once. I saw one which utilized two thermostats and allows for different temps in each section of the unit. It is amazing to see how others have modified the basic design to suit their own purposes. Google - SON OF FERMENTATION and get the plans in pdf.



Basic box



Better finish



Cabinet finish