Cheese Cave Build (May 2019)

As a budding cheese maker, I wanted to build a cheese cave to support my hobby. Living in Florida, there are no basements or other cool dark places, so I had to create one. There are several tutorials on YouTube along with explanatory blog posts on the web. I took in as much of the info as I could and came up with the following:

Round One:

Based on my research I collected my parts list:

- o Wine cooler
- o Humidity controller
- o Small air humidifier

I put the parts together and set everything up (will cover later). I was very excited. I quickly discovered the humidifier was creating plenty of moisture but there was nothing to circulate the air. This caused condensation and incorrect reading on the humidity controller.

Round Two:

With lessons learned from round one I updated my parts list.

1. Wine Cooler, 28 Bottle – Danby Premiere
2. Humidity Controller, IHC-200 Inkbird Humidistat
3. Hunter Home Comfort QLS03-BK Hunter QLS03 Ultrasonic Personal Air Humidifier
4. USB Mini Table Desk Personal Cooling Fan

Surprisingly, the wine cooler was the easiest part to figure out. Craigslist and Letgo are full of used coolers for around $50.

Refrigerators are another option. You can find a mini-frig for around $35. If using a refrigerator, you will need a controller that handles both temperature and humidity as refrigerators are designed to run at lower temperatures. See controller info below for more details.

Some comments on the parts list.

Wine Cooler: A wine cooler met my requirements; it is designed to hold temperatures in the 50 – 60 degree range. This is perfect for most cheese aging activities. With the wine cooler, only humidity control is needed. The interior of the wine cooler included 6.5 wire racks. I removed 3.5 to give me enough room for the equipment and the cheese.

Wine coolers come with different rack systems. If you need to replace the racks, off the shelf products, such as generic wire racks may work. Be creative. Another option is using wood shelves. Wood is a great material for working with cheese If you go with wood, make sure it is suitable for food and a moist environment.

Humidity/Temp Controllers: I picked the IHC-200 Humidity Controller by Inkbird. This controller is pre-wired to accept a three-pronged plug. The humidifier and the fan plug into the controller power plug and are turned on/off based on humidity readings. I discovered in round one, the humidity sensor on the Inkbird can get saturated without air movement. I was getting 99% humidity (on my backup T/H meter) and condensation in the cooler even though the Inkbird reading was below my humidity threshold. Wet cheese bad!!! Adding a fan reduced the possibility of saturating the sensor and helped distribute the moist air evenly throughout the cooler.

The IHC-200 Humidity Controller allows you to program a Humidity Set Value (HS) as your cooler's baseline or set point. The Humidification Differential Value (HD) is a tolerance number which determines the humidity percent reading that will cycle the power ON.

HS – HD = lower humidity tolerance (75% - 5% = 70%)

HS = upper tolerance = 75%

To create a humid environment, using the example above, a humidity reading below 70% will turn power ON to the power plug. Once the baseline humidity reading exceeds the baseline percent, 75%, the power cycles OFF. There are options for adding a calibration factor, delay protection, high and low reading alarms. Important note: the IHC-200 has two power plugs. One plug powers ON when the humidity reading drops below the lower humidity tolerance (used for humidification). The other powers ON when the humidity reading exceeds the Humidity Setting (used for dehumidification). A light indicator comes on when the plug is powered.

For a good tutorial on how to set up the Inkbird IHC-200 see https://www.youtube.com/watch?v=WMBWsT2wHJI. It covers setting up for a high humidity environment.

If going the refrigerator route consider the Inkbird ITC-608T https://www.amazon.com/Inkbird-Temperature-Controller-Pre-Wired-Thermostat/dp/B07GQWY9HM/. Make sure to verify the watts rating for your setup is below the rating for the controller. Also, a refrigerator compressor needs to be cycled on/off, which can damage the compressor. The controllers listed have a setting to accommodate delay protection to reduce possible damage to compressors.

Mini Humidifier: There are a couple of things to consider when selecting a humidifier. It must be small, have a physical power switch and should hold a reasonable amount of water. The Hunter QLS03 has a dedicated power knob that can be left in the ON position with adjustable mist volume. The device is pictured with a water bottle but is not included. Any standard water bottle should work. The unit comes with a water bottle adapter. The adapter is pressed onto the water bottle, it is not a screw on cap.

Cooling Fan: The fan needs to be small, not too aggressive and have a physical power switch (or always on). The USB fan has a physical power switch and provides a nice volume of air

movement without creating a hurricane in the cave. I repurposed an old USB power adapter and plugged it into the controller. You may have noticed I have two devices plugged into one power outlet. I have a multi-plug adapter that plugs into the controller power cord. Thus two for one.

The Set Up:
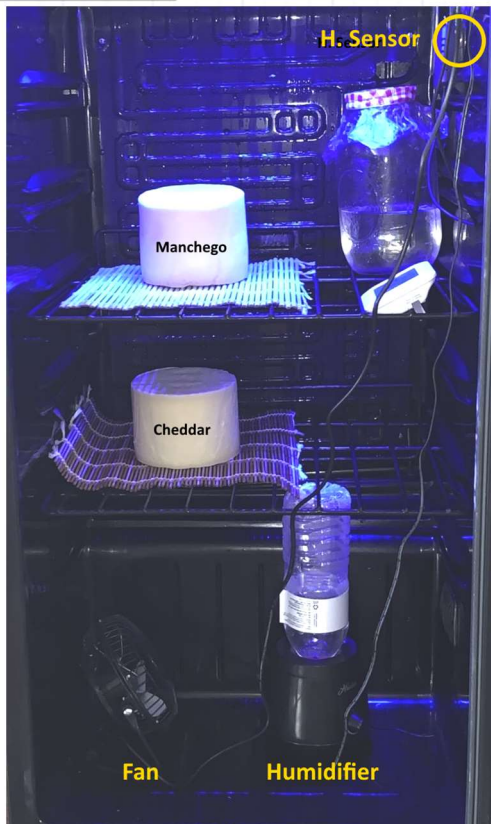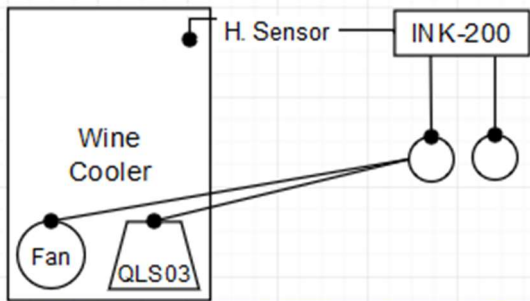
Parts List Reference:

[Wine Cooler, 28 Bottle – Danby Premeire](#)	
[Humidity Controller, IHC-200 Inkbird Humidistat](#)	
[Hunter QLS03 Ultrasonic Personal Air Humidifier](#)	
[USB Mini Table Desk Personal Cooling Fan](#)	

<u>Wrap-up:</u> So there you have it, a cheese cave for around $100.

This set up has allowed me to manage humidity levels within 3 percent. The fan was a critical component for consistent humidity control.

I go through about 8 oz of water per day. I use a 16 oz bottle with a standard water bottle screw top. I recommend using filtered or distilled water as hard water minerals can build up on the equipment and cause them to fail.

The controller exceeded my expectations and wasn't expensive. The manual is not great so go check out the video I linked to above. It walks you through setting it up to control a high humidity environment. You will need to decide what your humidity set point (HS) value is and your Humidification Differential Value (HD). One gotcha, after changing a controller setting you must press and hold the "Set" button. The setting will not be persistent unless you do. Also, there is a time limit for editing a setting. If you change something and let too much time lapse the controller drops out of edit mode without saving changes.

Hope this helps you build your own cheese cave. And save me a wedge.