

Documentation for Chuck the Growbot

Youtube video: http://youtu.be/s9Rh_62YpA0

Welcome and congratulations on wrangling yourself the one and only Chuck the Growbot!

Chuck is made up of a few key parts:

- One Arduino Uno ATXMega Microcontroller
- One Parallax SHT 11 sensor
- One Powerswitch Tail II
- One 12V Dc Fan
- One Beurer Humidifier
- One growbox
- One Breadboard
- One 1000 ohm resistor
- One diode
- One TIP120 transistor
- One 9v Battery
- Your laptop computer (optional)
- One USB B cable (optional)

Chuck the Growbot is an Arduino controlled Grow environment designed specifically for home mycology hobbyists. Mushrooms of all varieties can be grown in the Growbot.

Though Chuck will run by simply plugging him in, to get the most out of him, you will want to download the Arduino environment at www.arduino.com, as well as the "Processing 2.2" environment.

"Processing is language as well as an environment which allows for the visualization of data from the Arduino. It can be downloaded at <http://processing.org> .

Once you do that, you will want to open chucks_brain.ino, which was included in the same .zip file as the document you are reading, in the Arduino environment. This has all of the logic required to run Chuck, and inside of this file you can reset the parameters of the grow environment by altering the values for temp_max, humid_max, and humid_min. As default, Chuck is set up for growing oyster mushrooms of all varieties and King Stropharia or "Wine caps".

That is not all that Chuck can do though. We have designed it so that you can graph the temperature and humidity inside of Chuck to keep an eye on what's going on. Also, Chuck will send your computer a log of the humidity and temperature of the grow environment, just in case anything goes wrong. To access the graphing and log functions of Chuck, simply connect your laptop by USB cable to the Arduino USB port on Chuck and open up the Processing 2.2 environment. Then open "graph," which was included in this .zip file. Once you have the code loaded, simply hit the "play" icon in the top left corner, right under the file menu. A file called templog.txt will be automatically created on your computer (it will be stored wherever the "graph" file is stored), and a black graphing window will open so you can watch Chuck the Growbot do his thing in real time.

Now you can sit back, relax and watch the magic of mycelium and Chuck the growbot, enjoy!