

## A FTB Unleashed Guide To The GraviSuite

So first off, your going to want to explore around you, and settle down somewhere with a crafting table and a furnace. If you find any rubber trees from MineFactory Reloaded or the standard IC2 ones, be sure to chop them down and collect their saplings. DO NOT craft the logs into planks because you will need ALOT of rubber, and preferably a rubber tree farm eventually.

Secondly, once you started a basic shelter of some sort, start chopping down every tree you see (I personally like to only get the vanilla trees, as the other ones usually do not work in crafting for other mods) if you find any sheep or animals in general, kill them or trap them in a hole/block them up. They might be useful later on, however it is not necessary if you are planning to make a farm that produces food of any sort.

Now the fun part- mining! You will need to craft yourself a wooden pick and then mine 19 cobble. Six for two pickaxes, three for an axe, eight for a furnace, and two for two shovels. Once you have your basic vanilla tools, you'll want to start actually physically mining. I use the standard method that most people use- dig a three high staircase going down one block for each block you mine straight. Once you find 3 iron or more, head up and make an iron pickaxe, then head back down and continue.

If you are on a server and have access to a /home or /townspawn or anything of the sort, you may want to just dig straight down about 40 blocks away from your home. Once you get to the layer 14 or so, start digging straight and mine every block you see, and beware of lava pits. (be sure to mine EVERY ore you see on the way down, as it WILL be used later on). When you start to run out of space for your inventory, throw out any mob drops or anything of un-importance like fences from a mineshaft or some cobblestone- but be sure to keep at least two stacks of it as it is pretty common in recipes).

Once you finish mining, head back to your base. Make yourself two vanilla wooden chests and put away any diamonds, redstone, lead, silver, or anything except 9 iron, 3 copper, and a stack of coal (If you managed to get that many). Now smelt 6 rubber and make yourself another furnace, and smelt 9 iron ore in that one. When the rubber is done, go ahead and smelt that copper. When all is done, craft yourself a macerator. If you did not find any gravel or flint along the trip, you will want to go find some. Now you need to power it- make a generator and place it beside your macerator. Place some coal or wood inside of the generator and macerate the rest of your ores and craft yourself an electric furnace. Place it beside the generator as well.

Next you will want to make a two redstone engines, cobble pipes, wooden pipes, and two levers. Place a wooden pipe connecting to the macerator and connect cobblestone piping to the wooden pipe and the electric furnace. Now place the redstone engine beside the wooden pipe, and make sure it is facing the pipe, or else it will not work. Connect a lever to power the redstone engine, and connect another wooden pipe to the other side of the electric furnace. Place one cobblestone pipe connecting the wooden pipe, and place a wooden chest connecting to that cobble pipe. Now you have yourself an ore doubler! Take that ore powder that you got from macerating the ores and manually put them in the electric furnace, only one type of ore dust at a time though. The results will be in the chest, so go ahead and take them out if you want, but you may also just keep them in there as your ore storage. Keep in mind that some ores may not work as they are from a different mod.

Now it is time to make a table, and no- we aren't going to start thaumcraft just yet. I am using the table because it is a crafting table but holds the items in it when you leave the GUI. This will save you multiple times from ragequiting -trust me. Craft yourself a mining drill and charge it in the generator. If you found 3 diamonds when you were mining, you may use them now to upgrade the drill into a diamond drill, which can then further be upgraded into an advanced diamond drill. You won't want to constantly put coal and wood in a generator to power your things, right? So now we need to make you a self sustainable power source- a windmill! This is the most basic of power generators, and it is almost of no difficulty to make one. You can mine up your generator that you previously used to power your macerator and electric furnace. Craft the generator into windmills, and craft a batbox and some high voltage or glass fiber cable. Place the cable connecting to the macerator and furnace, and place a batbox on the side of the cable. now place one more wire on the other side of the batbox, and place the windmills connecting to that cable. Now the batbox should start to charge up very slowly. To test that the batbox was placed properly, smelt some cobblestone or any left over ore or dust into the furnace. If the furnace's white smelting progress indicated is at 0 for a long time, then that means you need to re-position your batbox or make more windmills. See the unofficial FTB wiki here:[http://ftbwiki.org/Feed\\_The\\_Beast\\_Wiki](http://ftbwiki.org/Feed_The_Beast_Wiki) for more details on batboxes, or any other item/machine you need help with. The macerator and the furnace should be going quite slow, and thats normal. We will fix that soon by replacing them with biomes engines, obtained from a MineFactory Reloaded tree farm, which is our next goal!

So, clear out a chunk of land (not literally) that is 15x15 blocks and make it flat with dirt blocks only and no obstructions to the sunlight. Then craft a harvester, a planter, and two upgrades (it looks like a computer chip of some sort with the default texture pack) the upgrades should preferably be gold or higher, or else the tree farm would hardly self-sustain its own power. The harvester should have a better upgrade than the planter, but if you can make two diamond ones that is great.

Now find the center of the land you cleared out and dig two blocks down. Place the planter there, and then place a dirt block onto of it so you can't see it. Find one side of the land that is closest to your base and find the middle of that side. place the harvester there so the hole is facing away from the cleared land, and that the black shearing part is facing towards it. You can find a more in-depth tutorial if you go on youtube and search 'MineFactory Reloaded Tree Farm'. Now craft yourself 16 golden transportation pipes, 10 redstone engines, 32 cobblestone transportation pipes, 8 automatic crafting tables, 8 wooden transportation pipes, 16 golden conductive pipes, 8 wooden conductive pipes, 10 levers, and at least 8 stirring engines. The amount of stirring engines (minimum 6 to power the farm itself) is how much power you want the farm to make. If you put more than around 40, the farm won't produce enough fuel to power the engines. Now dig underneath the harvester two blocks and dig straight underground towards the planter. Place a wooden pipe underneath the planter so it connects, and place a redstone engine right beside it (NOT UNDERNEATH). Now place down a gold pipe for every 4 cobblestone ones, connecting from the planter wooden pipe to the harvester. The pipe connecting to the harvester should be replaced with a wooden one and beside it should be a redstone engine. Now place golden conductive pipes connecting the planter to the harvester, and a couple blocks behind the harvester until you run out.

Now place wooden conductive pipe beside that, and the stirring engines so they connect to the wooden conductive pipe you placed. Place redstone dust beside the engines and place a lever to turn the redstone dust on. Now place the 8 auto crafting tables connecting each with to the main transport pipe from the bottom. Place wooden pipe onto of each of the crafting tables and place a redstone engine and lever beside that. Put 2 logs in each of the crafting table's GUI's. The farm should now autocraft the logs into planks and put them into the stirring engines. Now manually place oak saplings (1 is enough, but more will speed the startup up) in the planter, and place the upgrades in both the harvester and the planter. Next put some coal/wood into one of the engines (8 coal should do, which is equal to 64 planks). Now the engine should start moving and there should be a blue line inside the conductive pipes. Right click either the planter or the harvester and look to the right. If the red bar is filling up (slowly, but surely..) then that means you did it correct! Place some torches on the perimeter of the farm to make the trees grow even at night. The planter should have by now placed the sapling(s) that you put in it onto of the dirt somewhere. If you have spare bones then make it into bonemeal and right click the sapling(s) to make it start up faster. Keep in mind that most likely the harvester won't reach the far edge of the farm, which is why we will later on make a second harvester and better upgrades. The farm should now slowly start placing and cutting down trees, and eventually (in around 20 minutes, more or less) have the entire land covered with saplings and trees. Remember that you only need 6 engines to power the farm? Then why do we have the other two? Well.. first off you can disconnect any engines other than six and hook them up to a... QUARRY!

Go mining again if you don't have the resources to make a quarry (11 diamonds, 8 gold, 56 iron) and then make one swell as 3 land marks and a redstone torch. I am assuming you are experienced with quarries, and if you aren't go ahead on the ftb wiki (the link is about 4 paragraphs above) or go on youtube. Connect the power line from the remaining engines to the quarry with golden conductive pipes and place a chest (iron chest is good, but preferably gold) and make the quarry's landmarks 63x63 blocks. Also, connect the generator to the pipes into of the auto crafting tables so that it gets fuel from the farm too.

Let the quarry do its thing as well as the farm, meanwhile making two item tesseracts and two energy tesseracts. If you did not go mining a second time by now, I suggest doing so now and getting a full inventory of ores and goods. Place the item tesseract somewhere that has space to build- this is our storage/sorting system soon. Also, place the first energy tesseract somewhere that you want the machines to go and set the frequency to 1 for both of the tesseracts and make sure that it says "Send And Receive" for the energy, and "Receive Only" for the item one. Place the second tesseracts beside the Quarry and disconnect any pipes leading to it. Place some golden transport pipes from the item tesseract at home and craft some barrels and some iron or golden chests. This is up to you now, since I don't know how you like to organize your things so just sort however you like it, and make sure to have a barrel for cobblestone (or even better, set up an auto crafting bench making compressed cobblestone). Now would be a good time to check on the farm, if the engines that are dedicated to the farm itself have fuel in them, and if the ground is covered with saplings, then all is good. Also, the quarry should be done building its frame by now, so go check to see if it has dug anything. If not, then you'll have to be patient.

While you wait, you should make an ME system. Make an ME Controller, an ME Drive, an ME Access Terminal, and whatever tier and whatever quantity of storage disks you can make. Now, connect it to the main energy tesseract at your base and see if it is on and has sustainable power. You can't make an auto crafting cube yet (is that their name?) because it requires a lot of resources like glowstone and tons of redstone and iron and quite a bit of gold and diamonds. So you should wait for the quarry to get a bit more stuff first. About the quarry, you should hook it up to the auto-smelting plant we made earlier. However, that old thing needs to be upgraded. First, upgrade that electric furnace into an induction furnace, and put a redstone torch next to it. Secondly, make three more macerators and eventually put 4 over clockers in each (I'd save that part for when we have the auto crafting thing). Also, this needs a lot more power than before, so make an energy bridge, a BC producer, and a MV IC2 consumer. Now connect some golden conductive pipe from the farm's power to the bc producer, and connect the glass fibre cable to the IC2 consumer. Now connect the glass fibre cable to the induction furnace, and connect the golden conductive pipes to the pulverizers.

Check on the induction furnace, and see if the heat is slowly going up. Also, you don't want to pulverize and smelt diamonds, do you? So go ahead and make a diamond transport pipe and place it where the quarry's tesseract is. Now make it so only the ores go into the ore processor thing you just made. Now just sit back and watch as you get free resources! But wait, there's more! If you want to take a BIG step forward (and if you're not lazy) then make a second tree farm replicating the first one, with its own individual engines. Now make four laser drill pre-chargers and one laser drill. If you want, make some focuses (I recommend redstone, diamond, lapis, and glowstone because they are used so much) and connect conductive pipe from each of the pre-chargers to the new farm's power. Now make a wooden pipe that sucks the ores from the top of the laser drill and make it go into the sorting system back home. Now this will make infinite ores, but very slowly and power-consuming. This tree farm alone probably won't be able to power it that well, but for now it's all good.

Once you have a lot of iron (5+ stacks) and quite a bit of gold and diamond (you can make some with the minim stone) then start making an ME auto-crafting system connected to the existing ME setup using ME cables. Look up on YouTube of how to make one, or go on the Unofficial FTB Wiki. I would suggest making a small one because even a 4x6x3 one is really resource-intensive. However, the effort is paid off really well. Make some blank patterns and a pattern encoder, and start coding some simple patterns that everyone uses. (There is no ACTUAL programming, it is more of just shift clicking the help button on the GUI a lot.) Keep in mind that the machine can not craft an item that uses another item it doesn't know how to make. For example: If you want to craft an MFSU and you did not teach it how to make lapotron crystals first, then it will get stuck. Also, keep in mind that with rechargeable items it will not work unless you replace them with the rechargeable item you crafted yourself. (Basically, shift-clicking the GUI to make a pattern that needs a rechargeable item like re-batteries or lapotron crystals, does not work unless you manually replace them with the ones you crafted.)

This ME system will require quite a bit of power too, so why not make a second (Or third if you did the laser drill setup) farm? Connect it to the main power grid and make sure to put gold or higher upgrades into both the harvester and planter. Also, make a second harvester for each farm on the opposite side of the first one, and connect that to everything else. This will improve the efficiency of the farms. As long as the ME crafting thing is connected to the ME system with ME cables, then it will receive power too, so no unnecessary pipes are needed.