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Mycelium Leather

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Staff Creative Residencies Summer 2024 Self-Assessment

Mycelium Leather

Michael Andrew (Andy) Smith, Systems Analyst III in Student Housing, learned how to grow and use mushrooms to make vegan leather.



I ran into some hiccups with this project. At first, I didn't realize I had received the stipend, until a couple of weeks after I had. Once I had received the \$500 stipend, I scrambled to make some purchases that had been burning a hole in my Amazon cart. One thing I had purchased before even applying for the residency was a book called *Myco Domicilia*, which is a little how-to book of several different projects and uses for mushrooms and mycelium outside of simply eating them. The other things I purchased included: 30 pounds of straw pellets, two 16x24x12 propagation boxes, 100g plug spawn kits for Golden Oyster Mushrooms and Pink Oyster Mushrooms, a grain spawn kit of Golden Oyster Mushrooms, carbon fiber mesh screen, micropore tape, and several liters of vegetable glycerine/glycol.

Only for many of the items to be delivered a week or more later than projected. I used most of my time while setting up the first box. I cleaned it

thoroughly with isopropyl alcohol, assembled the propagation box, and once it was dried, I poured enough straw pellets to cover the bottom, and added hot filtered water. This caused the pellets to expand and fill the bottom section of the box. I then implanted some of the plug spawn dowels into the pellets, covered with the mesh material, sealed the vents of the box with micropore tape, and covered the entire thing with its lid and upper sections. From there it was a waiting game, and after a few days of no growth, I began the second box. This time I used grain spawn which is essentially the same thing I was attempting but on a smaller scale, that had already been started. I broke up the grain spawn and added it to the expanded straw pellet mush in the second box. These are still growing, and I haven't been able to produce the amount I wanted to make the mycelium leather. Once there is enough of the mycelium built up over the mesh, I will be able to remove it, compress it, dry it thoroughly to stop the growth, then soak the material in the vegetable glycerine, once that has dried, it should have a comparable suppleness and durability to cowhide leather. I hope to continue this process and have some actual successful products for the winter residency.

My goal was to produce a leather-like material from mycelium and mushroom hyphae, and I may have underestimated the timeline, but I learned so much and had a nice break from my day-to-day job.



