

Mycelium-composite

Mycelium, the root network of mushrooms, absorbs nutrients from its environment and adapts to different shapes depending on the mold it is growing. Mycelium can grow in agricultural waste such as hemp, flax or coffee grounds.

RECIPE

Ingredients

1. Inoculated and dehydrated mycelium bag with hemp as a substrate (GIY material) - 0.45 lb
2. Flour - 2 tbsp
Functions as the food for the mycelium.
3. Water - 1.5 cups
To dissolve the flour and provide humidity to the substrate.

Tools

- Mixing bowl
- Measuring spoons, cups
- Moulds (PETG, PVC, cooking sheet, etc).
- Sanitizing supplies: gloves, alcohol, paper towel, saran wrap
- Binder clips or tape



A recipe from:
<https://www.youtube.com/watch?v=wXlfK0GaF1Q>
https://www.youtube.com/watch?v=UW_QEGYHuo4

Instructions:

- 1. Conditions for activation process (4-6 days):**
 - 70-80F room temperature
 - Not direct light (dark environment)
 - Clean area to avoid contamination
- 2. Transferring to a mold (3-4 days):**
 - Add 2 tbsp of flour to your 0.45lb bag
 - Cover the mold with saran wrap and poke a few holes to allow breathing. You can also use the extra bag we sent on your kit for this step. Leave the filter bag facing up.
 - 70-80 room temperature
 - Not direct light (dark environment)
 - Clean area to avoid contamination
- 3. After growth (2-3 days)**
 - To grow the fuzzy layer on your mycelium-composite object, you need as close as 100% ambient humidity. Follow these steps:
https://grow.bio/blogs/learn/how-to-make-an-incubation-po-d-for-after-growth?_pos=1&_sid=6ad658548&_ss=r
- 4. Drying process (hours):**
 - The time to dry your object will depend on the size of it.
 - Weight your mycelium object. After drying in the oven at 200F it should weight 35% of the original weight or 5-12% moisture (if you have a moisture measuring tool).

1



2



5



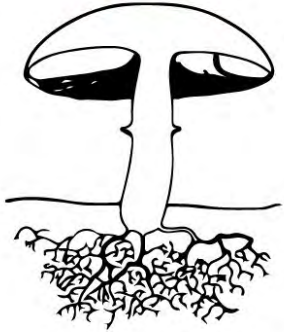
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BIOFABRICATION

Designers as makers of their prototyping material

DAY 1



Mycelium

Roots of mushrooms

+



Organic substrate
(ie. coffee grounds, hemp, flax)

=

DAY 6



Growing process (natural binder)

+



Transferred to a mold

=

DAY 12-15



Bio-based material
(myco sheets)

Heat resistant
Insulator
Light weight
Malleable
Hydrophobic