

Biomaterials

At the beginning of this academic year I took a Domestika course by Loana Flores on making biomaterials from organic waste.

The Failures

I chose to use the agar agar and cornstarch recipes from the course. All samples went mouldy (see below). This could have been for a multitude of reasons: I could've not had the mixture over the heat for the appropriate amount of time, the samples may have been poured out too thick , or they may have not been in optimal conditions to dry (not enough ventilation or controlled enough to avoid contaminants).



First attempts: agar agar biomaterial.



First attempts: cornstarch biomaterial that has gone mouldy.



From left to right: small cornstarch biomaterial sample, large biomaterial sample, and small agar agar biomaterial sample.



Large, mouldy cornstarch biomaterial sample.



Close-up of the large, mouldy cornstarch biomaterial sample.

Following this I decided to trial different conditions such as covering or uncovering the sample, keeping it in the fridge or not, and airing it out on a drying rack or not. I attempted this with the cornstarch recipe first. The result can be seen in the video below:

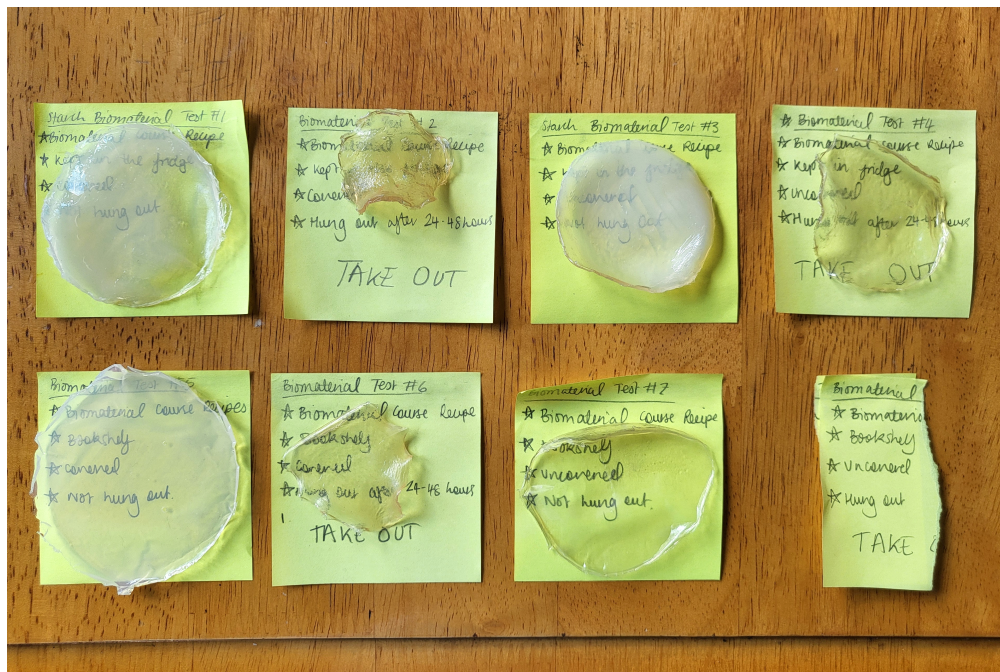


<https://youtu.be/x6B6MH7FhOY>

Whilst making this sample, the cornstarch was clumping and so the consistency wasn't quite right (not enough cornstarch had dissolved into the water and glycerin mixture). This meant that it didn't solidify completely. Due to this I began to refer to other recipes such as the recipes listed in Margaret Dunne's *Bioplastic Cook Book* and Miriam Ribul's *Recipes for Material Activism*.

Following on from the cornstarch trials and my further research, I decided to use an agar agar recipe, replicating the varied conditions of the cornstarch trials.

The Agar Agar Trials



Agar agar biomaterial trials, sample 8 showed signs of mould developing and so was removed.



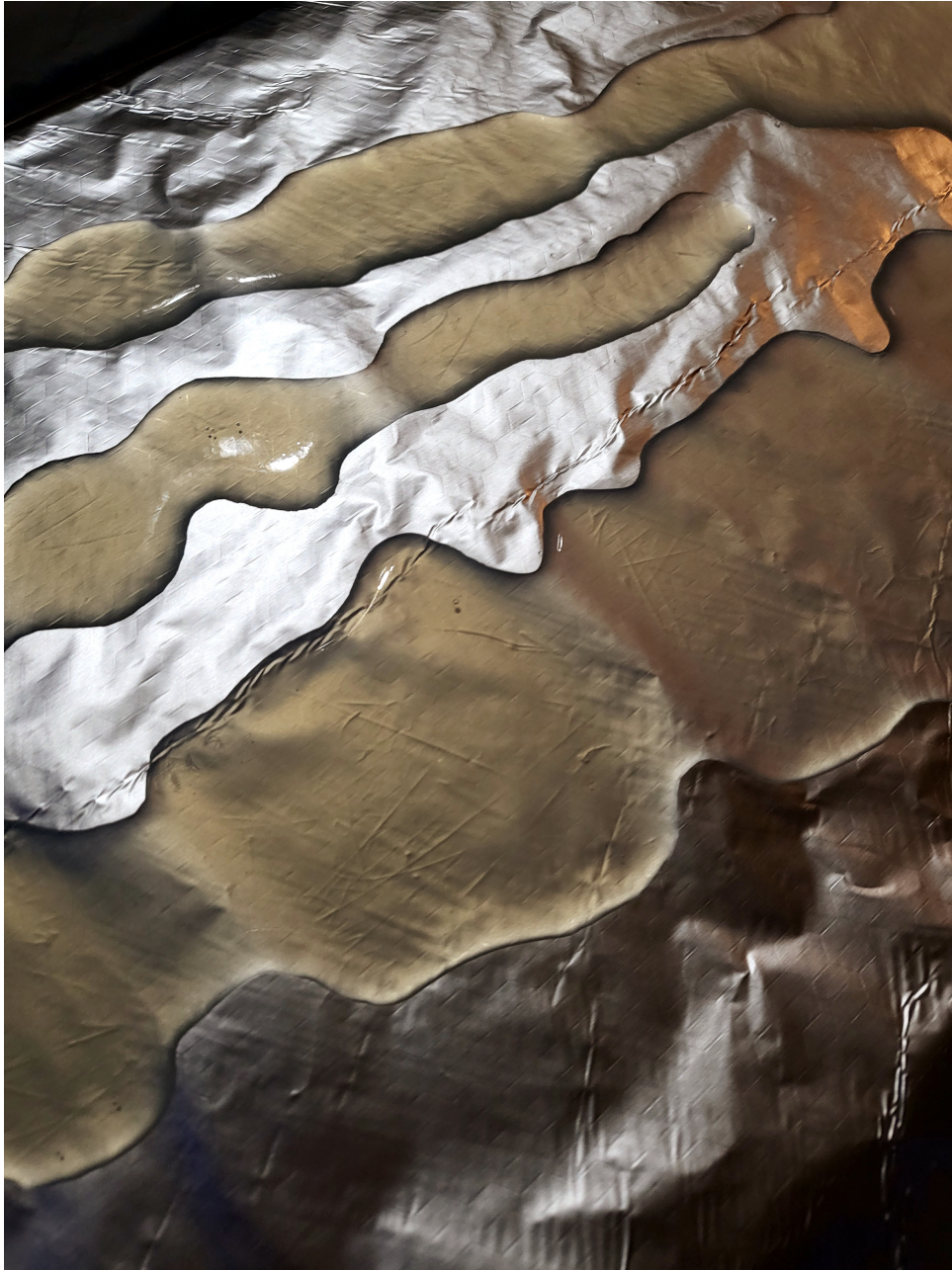
Cornstarch and agar agar samples: A & B were cornstarch, C, D and the trail like blobs were agar agar biomaterials.



Solidified but delicate cornstarch sample.



Slug trail shaped agar agar samples drying.



Close-up of agar agar biomaterial that had been poured to look like slug trails.

Unfortunately, the slug trail pours of the agar agar biomaterial were too thin and couldn't be peeled off the tin foil. Therefore, I wasn't able to use the biomaterials for Snail Trail, as originally planned.

Links to Social Medias

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