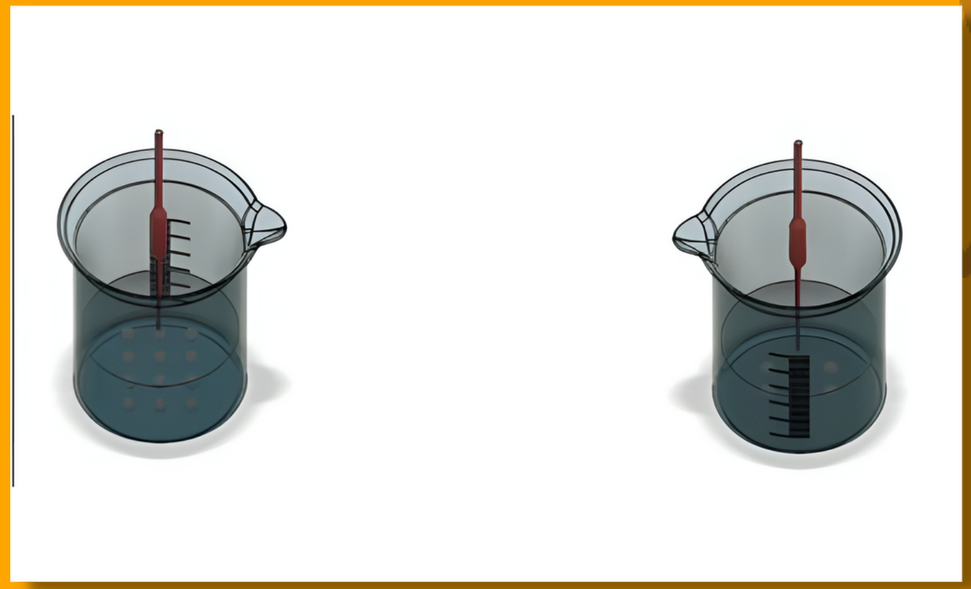
MATERIALS

At first, we put 50 ml of water into each beaker.
Then we add 2 grams of hemicellulose to the first beaker.
We add 1 gram of glycerol to the second beaker.

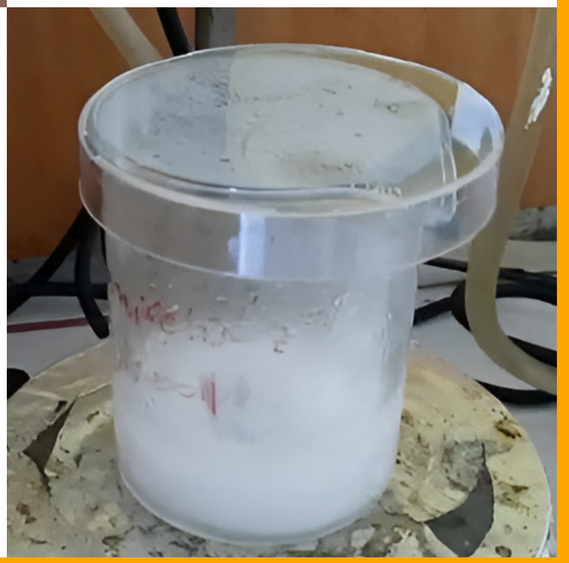
STIRRING

For the mixtures of hemicellulose and glycerol to be homogeneous, we first stir the two in separate beakers.



Hemicellulose

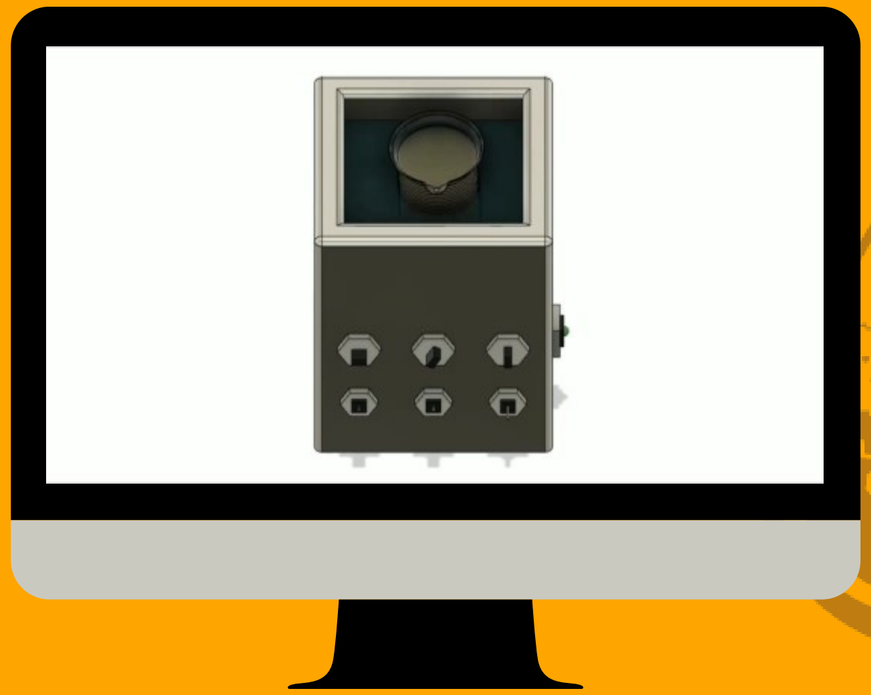
Glycerol



BLENDING TOGETHER

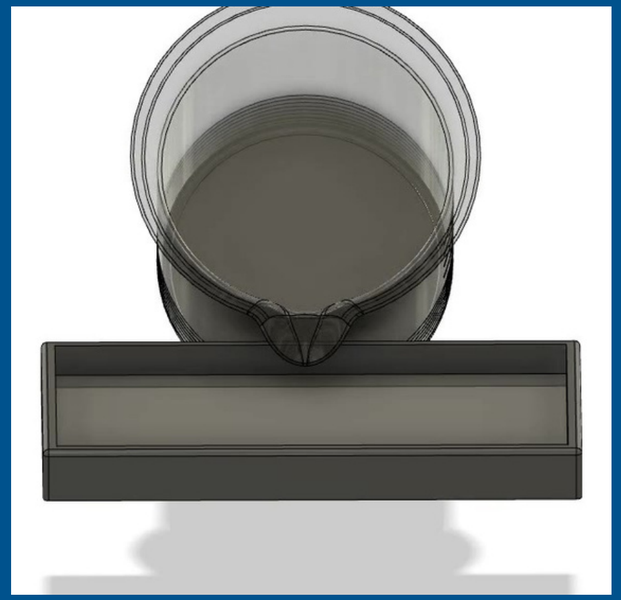
These two mixtures are taken into a new beaker, one in a larger beaker. The newly formed mixture is mixed again until it becomes homogeneous. The result is a new blend of 2% hemicellulose and 1% plant-based glycerol in 100 ml of water.

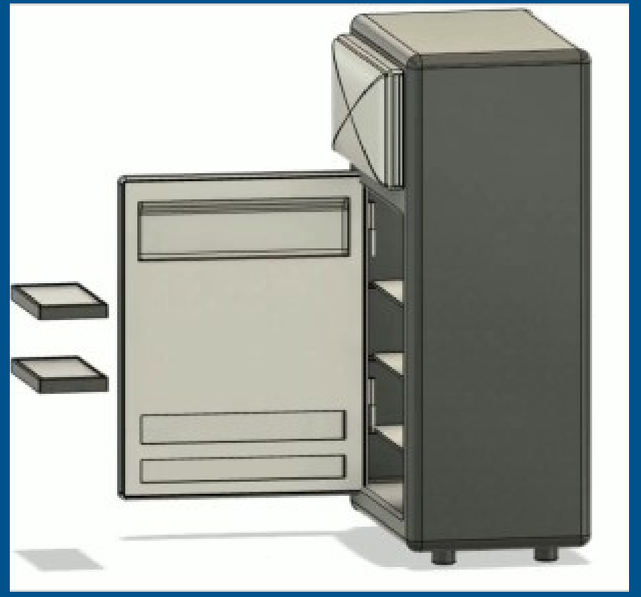
VACUUM EVAPORATION



The new mixture is vacuumed to increase the concentration of substances dissolved in water. The vacuuming process will go on for 15 minutes.

REFRIGERATION





We divide the resulting mixture into two in order to increase the number of plastics we will make, but the number can be changed. We put these two samples to rest in the refrigerator for approximately 12 hours in order to increase the durability and flexibility, which are the physical properties of the plastic.

FINISHED PRODUCT

We prefer hemicellulose because it is suitable for use as a plastic. Hemicellulose is the second most abundant biopolymer found in plant cell walls. We also decided to add glycerol to the mix to increase the plasticity of the hemicellulose. The result is increased film forming and mechanical properties and higher plasticity.

If you want to watch the animation of Hemi Change, you can visit https://www.youtube.com/watch?v=RUVrCr6T9Iw