

BIO COUTURE

Grow your own material recipe

Ingredients



200 ml
organic cider vinegar



200 gm
granulated sugar



One piece
live kombucha* culture



Two
green tea bags

This recipe is to brew two litres of liquid. It is sufficient to fill a container of 20 x 17 cm to a depth of approx 6 cm. This will grow you a sheet of microbial-cellulose the size of the container. Scale recipe (and container) proportions to grow a larger sheet.

Step 1: Brewing the liquid



1. Boil two liters of water to 100 °C.
2. Pour into container, add green tea and allow to steep for 15 minutes.
3. Remove the tea bags and add the sugar.
4. Stir until dissolved.

Step 2: Addition of the live kombucha culture



Make sure the liquid is
below 30 °C.

Pour the liquid into
the container.

Take one piece of
the material.

Add the material to the
liquid.

1. Allow the liquid cool to below 30 °C.
2. Pour it into the growth container.
3. Add the organic cider vinegar.
4. Add one piece of live kombucha culture.

B I O C O U T U R E

Step 3: Growth and harvest



Growth occurs at the surface.



After 2 to 4 weeks the material should become 2 cm thick.



Harvest the material by lifting out.



Wash with cold soapy water.

1. Cover the container with a breathable cloth.
2. During growth the liquid needs to be maintained at approx 25 °C.
3. At first the culture will sink to the bottom, fermentation should start to occur within 48 to 72 hours.
4. Bubbles and a transparent skin will start to appear at the surface of the liquid.
5. Over time the culture will rise to the surface and a new thickening layer will form on the top.
6. To ensure an even surface, dispel any bubbles that appear by gently coaxing to the edges.
7. Once the material reaches approximately 2 cm in thickness remove from the container.
8. Wash with cold soapy water, rinsing thoroughly.

Step 4: Drying



Dry on a wooden sheet allowing water to evaporate.



Treat like a vegetable leather.

1. Once the the material is washed allow the water to evaporate by smoothing it on to a wooden sheet. Drying time will depend on surrounding temperature and ventilation.
2. When dry it can be cut or sewn conventionally.

NB observe these guidelines

1. Always handle the culture with clean hands.
2. The implements and containers must be completely clean and free from soap residues.
3. Growth container should preferably be either glass or plastic.
4. Ensure the breathable cover is secured so that fruit flies may not enter.

* Kombucha is a symbiotic colony of bacteria and yeasts (SCOBY). The main bacteria, *Gluconacetobacter xylinum*, produces nanofibrils of cellulose which self-organise in to a nano-structured, textile-like material.

To obtain kombucha cultures try:

Global kombucha network: kombu.de/suche2.htm

UK supplier: happykombucha.co.uk

Follow: @Biocouture

Join: Google+ 'Growing materials' community

Watch: ted.com/talks/suzanne_lee_grow_your_own_clothes.html

Web: biocouture.co.uk



biocouture.co.uk/resources
creativecommons.org/licenses/by-nc/4.0/legalcode