

# BIOSPHERE

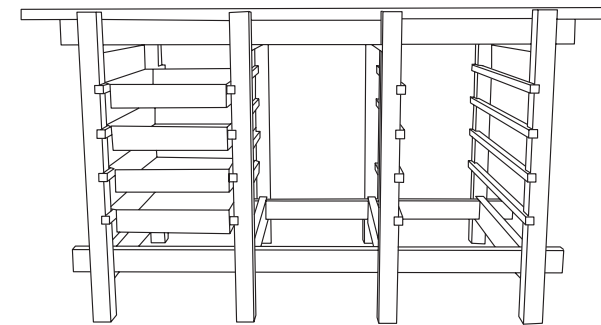
ATLANTA



CELLULOSE KITCHEN



# THE FUTURE IS BIODEGRADABLE



“The future is plastic.” That is what designers believed over one hundred years ago when the first synthetic plastic was invented in 1907. This new durable, flexible, and lightweight material promised an easier life and cheaper products. Much to our dismay, the future has been indeed plastic as it is a ubiquitous part of our daily lives. A material we are constantly disposing of but follows us everywhere we go. Littered across sidewalks, in rivers, in oceans, and now as microplastics in our guts. The ultimate design flaw of plastic is that it doesn’t degrade. At least not in our lifetimes. Or our children’s. Or our grandchildren’s. And many many generations after that. Why would we use a permanent material for things we want to be temporary? Plastic is the ultimate design oversight.

The Biosphere Cellulose Kitchen Capsule presents how the production of bacterial cellulose, as a replacement for single-use plastic, can be integrated into our everyday routines. In between doing your laundry and taking out the trash, you could be fermenting, washing, and drying cellulose right at home. This cellulose kitchen is a kitchen island furniture piece that creates storage bags and film cover.

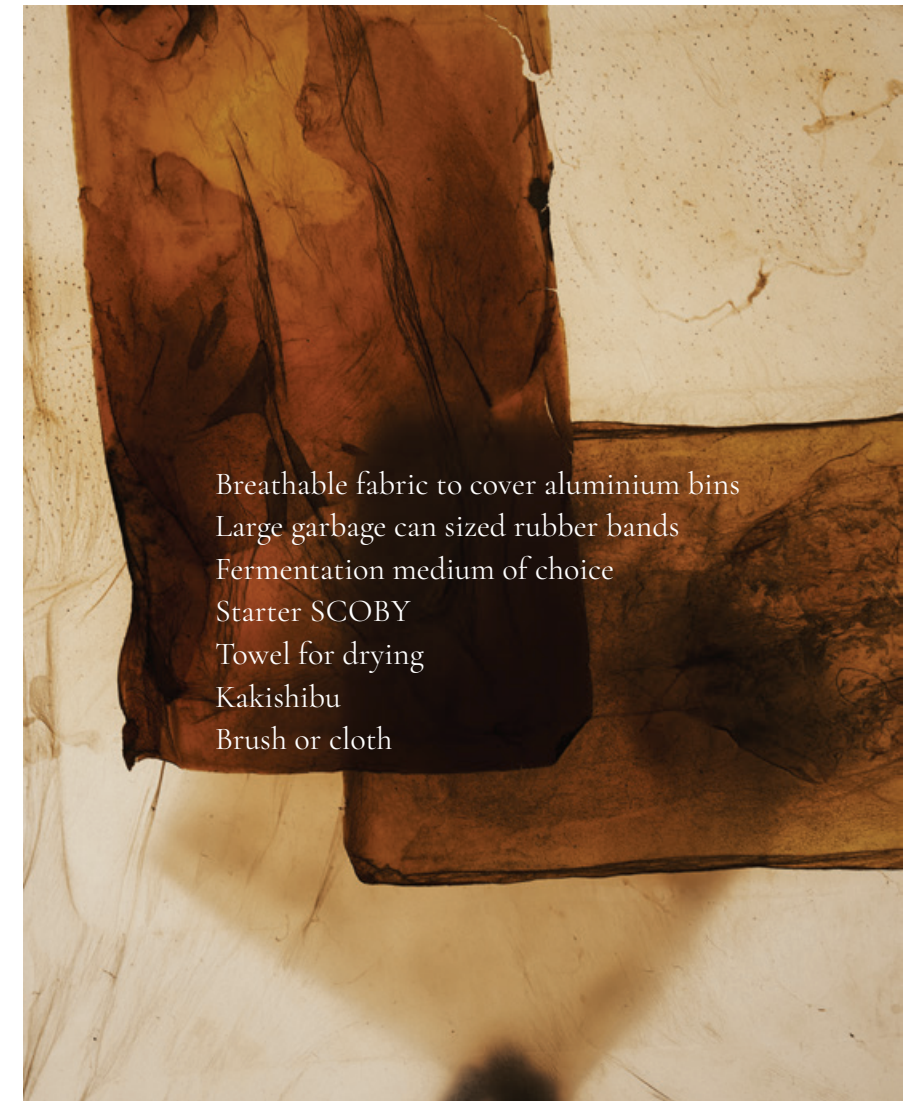
Cellulose Kitchen designed by Abi Lambert in collaboration with Silt Studio. Fabrication by Silt Studio. Photography by Austin Presley

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# SUPPLY LIST



- Breathable fabric to cover aluminium bins
- Large garbage can sized rubber bands
- Fermentation medium of choice
- Starter SCOBY
- Towel for drying
- Kakishibu
- Brush or cloth



# START MEDIUM

Remove the cutting board from top of the table.  
Pour 4L of medium into an aluminum tub.  
Add 1 SCOBY.  
Move the aluminum tub to the empty slot below the table.

## TEA MEDIUM

4 L Water  
8 bags green or black tea  
200 g sugar dissolved into tea





# YEASTRIN-SCHRAMM MEDIUM



Sugar, Peptone, Yeast Extract, Disodium Phosphate, Citric Acid











## FERMENT

Ferment times vary depending on medium of choice and temperature. Hestrin-Schramm medium will require around 7 days to ferment. Sweet tea will require around 30 days. Add more than one SCOBY to accelerate the process.





# WASH

Once a cellulose layer of about a centimeter in height develops on top of the medium, remove the cellulose from the tub and move to a tub of water under the cutting board.

Gently wash the cellulose in the tub.

Soap is not required but can be used to remove any excess goop.

Repeat. You will have two clean cellulose pieces to move on to the drying step.





# DRY

Remove the cellulose from the tub of water squeezing out as much liquid as possible.

Dry cellulose off with a towel.

Lay one large frame down on the table.

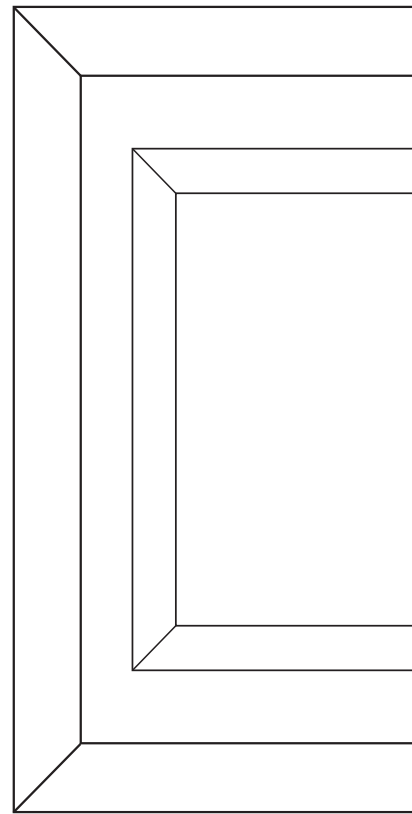
Lay one piece of cellulose down on top of the frame.

Lay a small frame inside.

Lay another piece of cellulose down on top.

Lay one large frame on top.

You will have a stack in the following order from bottom to top: frame, cellulose, frame, cellulose, frame.





Kakishibu is a traditional Japanese wood treatment made from fermented unripe persimmons.



# WATERPROOF

Depending on the temperature and humidity, the dry time will take anywhere from 1-4 days.  
Once dry, bring dry cellulose to the top of the table.  
Cut off one side and remove the wooden frame inside of the cellulose bag.  
Pour kakishibu into a bowl and use a brush or cloth to coat the bag inside and out.  
Return to the drying rack for several hours.





