



FRUCTOSE FERMENTATION VAT BIO (natural) INDIGO

This is a simple alternative bio vat for Indigo dyeing based on traditional dye vats from Morocco and India. Instead of using chemical reduction agents and alkali, this vat uses the reaction which takes place between Lime (Calcium Hydroxide) and Fructose to reduce the dyebath (removing Oxygen) and put the Indigo into an environment where it is able to bond with the fibre. To begin you will be making a stock solution – use a heatproof glass jar so you can see the reaction taking place.

The natural dye world is not perfect – so you need to be patient and learn from your mistakes and failures. You need to respect the process and the history and expertise that has gone into giving you a successful result.

INGREDIENTS

25gms Bio Indigo
50gms Lime (Calcium Hydroxide)
75gms Fructose Crystals
25gms of Bio Indigo will dye 1kg fabric
Light to Medium Blue

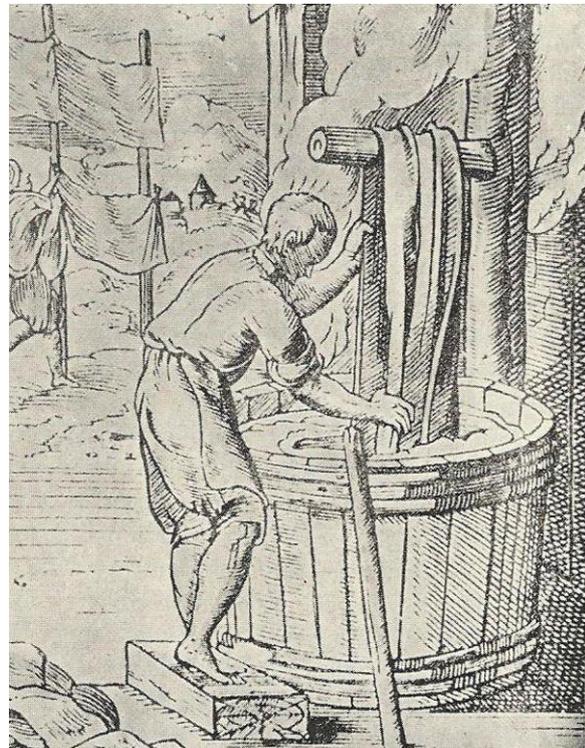
50gms Bio Indigo
100gms Lime (Calcium Hydroxide)
150gms Fructose CRYSTALS
50gms of Bio Indigo will dye 1kg fabric
Medium to Strong Blue

MAKING A STOCK SOLUTION

Add your Indigo powder to a 2ltr container.
Paste the Indigo with some warm water then add 500mls of hot water & stir well.
Add the Fructose Crystals and stir again.
Add the Lime and gently stir to make sure it thoroughly mixed into the solution.
Fill the jar with extra hot water.
Initially the solution will be a dull cloudy Yellow green. Keeping it warm will help the vatting out process so you can sit it in some hot water.

Stir every 15 minutes for 45 minutes then allow it to sit for the last 15 minutes undisturbed.

Unlike a chemical vat which goes clear, the Fructose Vat will stay cloudy and will turn a yellowish green or sometimes brown. You'll see some sludge in the bottom of the jar – this is normal.



DYEING YOUR FABRIC

Fill your dyepot (stainless steel, plastic or glass) with hot water.
Add the entire stock solution (including the sludge) to the dyebath and stir gently.
The dyebath will gradually turn yellow green - allow at least 30mins.
You should also see a coppery flower develop on top of the dyebath. This means the dyebath is ready to use.
Rinse your fabric or fibre in warm water and completely submerge in the dyebath.
Leave it there for up to 5 minutes then remove it and gently squeeze out the excess dye solution into a second container (this can be returned to the dyebath when you've finished)

The fibre will gradually oxidise and turn from dull green to indigo blue. Leave it for 30 mins to completely oxidise then return it to the dyebath for another 5 mins. Repeat the process until you have the depth of colour you are after – Note YOU WILL LOSE SOME OF THIS COLOUR IN YOUR RINSING PROCESS SO DON'T BE AFRAID TO GO QUITE DARK . When you're satisfied with the depth of colour rinse well to remove excess unfixed dye. Air dry.

REPLENISHING & STORING THE DYEBATH

If the dyebath goes back to being dull blue, you will need to replenish it with a tablespoon of Fructose. Before doing this, heat the dyebath back up to 50 C. If it doesn't go back to being yellow green, add the same amount of Lime. Stir well and wait for 30mins. You can also make another stock solution and add this to the dyebath. For reuse, store in a covered container. This will keep at least 6 months but may need to be reheated & may need the addition of extra Fructose and Lime.



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