NATURAL DYE

BUNDLE DYEING BASICS

An introduction booklet to the world of natural dye with a focus on the method of bundle dyeing

LAILA

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PREP

Dye Studio Supplies

There are endless supplies you can gather to start your own dye studio. In this booklet we will go over the basic items needed to start naturally dyeing. Looking at second hand stores or online second hand shops are the best places to start looking to source these items. These items should be used for natural dye use only and not for cooking food. Some natural dyes and minerals can be toxic and should never be consumed.

- 2 Stainless Steel or Enamel Pots
- Steam basket/Strainer
- Pot Lid
- Cheese Cloth
- Wooden Spoon
- 100% Cotton Twine
- Mason Jar
- Metal Spoon
- Tongs
- Thermometer
- Kitchen Food Scale
- 5g Bucket
- Gloves

PREP

Fabric

Material that can be naturally dyed falls into two categories:

Animal fibers (protein): silk and wool
Plant fibers (cellulose): cotton and linen

Knowing what type of fabric you have is very important. To dye a protein or cellulose fiber, it has to be 100% or at least 90% of these fibers. It's important to check the tag and see what type of fabric your item is made of. Polyester fabric cannot be easily dyed and should not be used.

For bundle dyeing, silk produces more vivid and colorful results. Though you may use cotton, silk is the best for bundle dyeing.

WOF is a common term meaning "weight of fiber." It refers to the dry weight of material to be dyed. This term is used when determining how much dye material or mordant you need to dye your fabric a certain shade.

PREP

Scouring

Scouring is the first crucial step to preparing your fabric. To scour is to clean the fabric from impurities. Fabric may have oils, dirt, or even chemicals attached to it and it's crucial to remove those impurities. If you do not scour your fabric you will be left with areas that the dye does not adhere to. Depending on the fabric type, the scouring process can differ. When scouring, it important to use a large enough pot that allows the fabric to float around freely.

Items needed for scouring:

Animals Fibers: spacious pot, wooden spoon, water, pH neutral soap, a heat source

Plant Fibers: spacious pot, wooden spoon, water, jar, soda ash, a heat source

pH Neutral Soaps to look for:
Dr. Bronners Castile, Baby Shampoo,
Natural Laundry Soap

PREP

Scouring

Animal Fibers:

1. Fill a large pot to the top with lukewarm water
2. Add pH neutral soap that is 2% WOF (if fiber is 100 grams, add 2 grams of soap) to pot of water
3. Wet your fiber completely and add to pot
4. Place pot on stove and heat on low/medium until it reaches 140 degrees
5. Keep your water at 140 degrees for 30mins, stirring every 10 minutes
6. After 30 minutes, turn off the heat and let cool till room temperature
7. After cooled, rinse fabric in cold water and transfer to mordant bath

Plant Fibers

1. Fill a large pot to the top with lukewarm water
2. In a separate jar or bowl, combine soda ash that is 5% WOF with warm water and dissolve (if your fiber is 100g then add 5g of soda ash)
3. Once soda ash is dissolved, add mixture to pot
4. Wet your fiber completely and add to pot
5. Place pot on stove and heat on low/medium heat until it reaches 120 degrees
6. Keep your water at 120 degrees for 30mins, stirring every 10 minutes
7. After 30 minutes, turn off the heat and let cool till room temperature
8. After cooled, rinse fabric in cold water and transfer to mordant bath

PREP

Mordant

Mordanting is the second and most crucial step when preparing your item to receive natural dye. To mordant a piece is to "prepare it to receive color." Soaking fabric in a mordant bath helps the fabric bite onto the fabric and keep the color. Mordants insure the color stays bright and long lasting. It is the MOST important step.

Animal Fiber Mordants: The mordant used for these fibers is Alum Sulfate. Aluminum sulfate is a metallic salt derived from bauxite, a mixture of minerals.

Plant Fiber Mordants: The mordant used for these fibers is Alum Acetate. Aluminum acetate is a chemical compound and is a salt which can be produced by the reaction of aluminum hydroxide and acetic acid. Plant fibers also get soaked in a Wheat Bran bath after their mordant bath to help the mordant penetrate the fabric better.

*It is important to note that gloves and a face mark should be used when preparing mordant baths. Mordants can be toxic for you to touch and breathe in.

PREP

Mordant

Animal Fibers: To mordant animal fibers you will need a pot, water, 5g bucket, metal spoon, glass jar, and alum sulfate. Heat from the stove is needed for this fiber.

1. Measure out 15% WOF of Alum Sulfate and add to your glass jar
2. Add hot water to your jar and stir with spoon till alum is dissolved
3. Fill a pot with lukewarm water and slowly mix in alum mixture
4. Add wet and rinsed fabric to pot
5. Place on stove and heat on medium heat until 140 degrees, hold for 45 minutes stirring every 10 minutes making sure the fabric is floating freely. Make sure there are no fold where the mordant is not reaching
6. Let cool to room temperature and then dump bath into 5g bucket, add water so that fabric has space
7. Leave soaking over night or for at least 6 hours

PREP

Mordant

Plant Fibers: To mordant plant fibers you will need a pot, water, 5g bucket, metal spoon, glass jar, wheat bran, cheese cloth, and alum acetate. Heat from the stove is not required for this fiber.

1. Measure out 5% WOF of Alum Acetate and add to your glass jar
2. Add hot water to your jar and stir with spoon till alum is dissolved
3. Fill a 5g bucket with warn water from the tap, water should be around 110 degrees
4. Add wet and rinsed fabric to bucket
5. Stir every 10 mins for the first 45 mins
6. Leave to soak over night or for at least for 6 hours

Wheat Bran After Bath

1. Place 5% WOF of wheat bran in a cheese cloth and place in a pot of warm water (110 degrees).
2. Let wheat soak for 30 mins
3. Remove cloth and place fabric from mordant bath in wheat bran bath
4. Let soak for 30 mins.

DYE

Natural Dyes

Now that you have scoured & mordanted your fabric, it is ready to be dyed! First let's talk about natural dye material and the two categories they fall into: Colorfast/Lightfast Dyes & Fugitive Dyes. Depending on what you would like to achieve, it's good to know the difference.

Ancient Natural Dyes (Colorfastness/ Lightfast Dyes)

Ancient Natural Dyes have been used for thousands of years and have certain colorfast and lightfast properties. Colorfastness refers to how well a dye stays on a piece of fabric without fading. Light-fastness refers to how fast fabric will fade when exposed to sunlight. Popular ancient dyes are cochineal, madder root, indigo, marigold flowers weld, & more. Using these dyes will insure the color will stay on your fabric for a very long time - forever if cared for properly.

Fugitive Dyes “Food Waste Dyes”

Food Waste / Fugitive Dyes Fugitive dyes do not have the same colorfast and lightfast properties that ancient natural dyes do. Fugitive dyes create a lasting stain and can be more prone to fading or changing over time. I use them with the awareness that they will fade a lot quicker. Food scraps/ fugitive dyes are a great place to start for a beginner natural dyer because they are inexpensive and more accessible than most dye materials. In my own practice I combine fugitive plants with long lasting plants to create a unique low waste piece.

DYE

Natural Dye Material

Natural Dye Plants

Osage Orange (tree, native to North America)
Madder root (root of plant, native to India)
Brazil wood (tree, native to Brazil)
Log-wood (tree, native to Central America)
Indigo (leaf, native to India)
Weld (plant, native to Western Asia)
Cutch (tree, native to India)
Quebracho Red (tree, native to South America)
Woad (plant, Central Asia)
Black Walnut (tree, native to North America)
Pomegranate (fruit, native to India)

Natural Dye Flowers

Cosmos (native to Mexico)
Coreopsis (native to America)
Marigold (native to Mexico)
Chamomile (native to Egypt)
Hibiscus (fugitive, native to China)
Roses (fugitive, native to North America)
Carnations (fugitive, native to Eurasia)
Eucalyptus (fugitive, native to Australia)

Natural Dye Food Waste (fugitive)

Turmeric
Onion skins
Avocado Pits & Skins
Black beans
Red Wine
Black Tea
Coffee
Berries
Red Cabbage

Natural Dye Bug

Cochineal (cactus bug, native to South America)

DYE

Dye Methods

Solar Dye

Solar dyeing is the most natural and low energy option because it uses solar power from the sun. It also takes the most time. To solar dye, simply place plant stuff in a glass jar or container with water and seal.. Place in a sunny spot and your dye will extract in 7-28 days depending on the plant material and season.

Immersion Dye

Immersion dyeing is a method where you prepare a liquid dye bath and fully submerge your item. By using heat from a stove top or fire the color is extracted from the plants in the water. To induction dye, place plant material with water and extract by heating a pot on low/ medium for 1-8+ hours depending on the plant material, strain and dip your fabric into the dye.

Bundle Dye

Bundle dyeing is the method that focuses on extracting color/ prints using steam + the bundling of fabric with plant material. This method extracts the dye through direct and tight contact with the fabric. It takes 30 minutes - 3 hours and yields the most unique patterns.

DYE

Color Modifiers

Natural Dyes are pH sensitive. Adding vinegar, iron, citric acid, cream of tarter, baking soda, lemon juice, & more can shift your color into a completely new color. There are many factors you have to consider when trying to achieve certain colors and it's good to remember this when trouble shooting.

We will not get into too much detail about color modifiers in this eBook but I encourage you to try modifying color with these house hold items: Iron, Baking Soda, or Citric Acid. To modify your colors, dip your just dyed fabric into a modifier bath and see the color change in front of your eyes.

Iron will "sadden" or mute your colors and an Acid will "brighten" or even bleach your colors.

Iron Bath: dissolve 0.25% - 3% WOF of iron powder in a cup of cold water. If your fabric is a darker color, use more iron powder.

Baking Soda Bath: dissolve one teaspoon of baking soda in lukewarm water, increase the baking soda for a larger item

Citric Acid Bath: dissolve one teaspoon of citric acid in lukewarm water, increase the acid for a larger item

Take notes on what colors change and what your results are with difference levels of modifiers. The results just might surprise you!

DYE

Bundling Methods

Random Bundle: random bundling is where you place dye material on your cloth in a random pattern and then wrap up from the bottom and secure with twine. It will yield a random and beautiful pattern. (left)

Mirror "Ink Blot Test" Bundle: the mirror bundle method is where you place all dye material on one side of fabric and it's printed on the other side creating a mirroring effect. Simply place dye material on one side of fabric and then fold over the other side of your fabric. Your dye material should be sandwiched between the fabric. Roll into a tight log & wrap with twine. (right)

DYE

Bundle Dye Tutorial

1. Start by filling 1/2 of your pot with lukewarm water
2. Set strainer or steam basket in pot and place lid on top
3. Place pot on stove and heat on medium
4. Remove fabric from mordant bath and rinse thoroughly
5. Spread out wet fabric onto surface
6. Place dye plants on fabric in your pattern of choice
7. Start at one end of the fabric and roll until fabric is fully wrapped
8. Coil into a circle or a U shape and place twine tightly around to secure bundle
9. Check pot and make sure the water is boiling
10. Place fabric bundle into steamer and steam on low/medium for 30 minutes to 3 hours, flipping the bundle every 15 minutes. Make sure your water does not all boil out, add more water to pot if needed.
11. Once you start to see color extracting on all sides of your bundles, take out of steamer and allow bundle to cool completely
12. Unwrap your bundle and see your creation

CARE

The last step in the process is washing your naturally dyed item.

SILK CARE

Washing

I recommend always hand washing your naturally dyed silk items. It's better for the earth and is gentle enough for your precious item. To wash your item, always use cold water and a pH neutral soap. Those soaps are gentle and will not alter the color of your fabric like store bought laundry soap would. If you do get a stain on an item it's better to spot clean that area.

Drying

To dry your naturally dyed item, hang to dry. Letting your item air dry is the best thing for the fabric and helps preserve the natural dye. Heat from the dryer can possibly damage your silk or cause your item to fade. It can be fun to dry your items outside on a clothes line or even inside your home on a drying rack. If you are in a pinch, use your shower rod to hang things to dry.

COTTON CARE

Washing

I recommend machine washing your cotton items. Set the washer to cold water, gentle cycle.

Drying

Machine dry on low or hang to dry.

ALL FABRIC

Storing

Like all dyed fabric, the sun can cause an items color to fade. Storing your naturally dyed item in a drawer or dark closet can help to keep the color vibrant. Treat your naturally dyed item like a living thing - because it is. The color is alive and needs tender care. Avoid prolonged sun exposure if you desire to keep the color vibrant - or don't if you don't mind some fading - it's all part of the process.

Ironing

You may iron or steam your item on low when needed. Silk wrinkles naturally and sometimes it needs a good iron.

CARE

I believe to fully embrace natural dye we must change the way we think about our clothing. We must cherish our naturally dyed items & treat them uniquely. Natural dyes, unlike synthetic dyes are alive & may evolve over time.

Natural Dye Myths

It's important to note that natural dyes are more sensitive than synthetic dyes and need to be cared for thoughtfully. Some myths around natural dye is that they always washout. This can be true for fugitive dyes but colorfast and lightfast dyes (when prepared correctly) are very long lasting. Natural dyes are living dyes and can change color over time, they are their own world.

RESOURCES

Special thanks to my favorite websites and books that have guided me along my natural dye journey.

Websites

www.botanicalcolors.com
www.wildcolours.co.uk
www.nadestudios.com
www.nuts.com - Natural Dye Supplies

Books

The Art and Science of Natural Dyes: Principles, Experiments, and Results
by: Joy Boutrup & Catharine Ellis

Wild Color
by: Jenny Dean, Karen Diadick Casselman

The Handbook of Natural Plant Dyes
by: Sasha Duerr

To learn more about natural dye visit my new blog www.lailatextiles.com/blog

To purchase a dye kit with all the supplies needed to bundle dye, visit www.lailatextiles.com/shop/bundledyekit

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