

Worksheet No. 5: Dyeing 101

General: Have cloth or fiber soaking in water before dyeing; Rinse thoroughly after washing. Different fiber (cotton, linen, silk, etc.) might take on color differently. Many factors influence color brightness, intensity, and color-fastness. These include: length of soaking, quality of dyestuff (growing conditions, harvest time, weather and climate), mordant, temperature, the amount of dye stuff in relation to the fiber used, the amount of water, the length of extraction of the dye from the dyestuff, type of fiber.

Preparation of Dyestuff Some dyestuff can be put into the water to extract the color as it is. Others work better if made into a powder (for example turmeric) or smooch into a paste such as blackberries.

Temperature Hot and cold dyeing methods can be used, depending on the dyestuff. Often different temperatures will produce different colors. Sometimes a certain temperature is necessary to extract the pigments from your dyestuff, and at other times certain pigments will only bind to the fiber when the water is boiling.

Time is crucial! Some dyes will take a long time to adhere to your fiber – sometimes even hours or days. Usually, you can also produce different shades of color by varying the time you soak the fiber in the dye bath. A good rule for first testing the differences is to check the color at 15-minute or 30-minute intervals.

Kind of Fiber Different kinds of fiber might alternate the colors you can achieve and influences color fastness.

Mordant Depending on what kind of mordant you use, or if you use mordant at all, colors will last differently – and often produce different kinds of color.

PH Depending on the acidity or alkalinity of your dye bath, you will be able to extract different pigments from your dyestuff.

Amount of dyestuff Depending on the preferences of color (intensity, pale, matte, bright) you will want to vary the amount of dyestuff. General rule: equal weights of dyestuff is a good starting point, but you can dramatically decrease or increase the amounts you use for creating a variety of colors. But be careful: fewer quantities could lead to paler colors at a certain point, as the dye has to be “shared” between more fiber – and too much dye stuff might dilute the dye bath.

Amount of water The amount of water (usually) does not affect the color strength, as it does not always dilute the dye color. The strength of most dyestuff is determined by the amount of fiber added in relation to the amount of dye color present in the material.

Testing the plant dye Usually, dyers test the quality of the dye using “test strips” of the cloth or fiber they want to use, to find out how long to soak, at what temperatures, etc.

Cool dyeing method Some natural plant dyes can be applied successfully without heat. It is always worth trying this cool dyeing method to see what colors can be achieved before heating the fibers in the dye bath. First, make sure the fibers are thoroughly wet by soaking them in water. Make sure that there is enough water in the dye bath for the fiber to float freely. Leave the fibers to soak in the bath.

Leave the dyestuff in the water to extract color; sometimes you can put the fibers into the solution right away. Usually, you will want to have a “strong” solution for cool dyeing – adjust the amount of dye stuff accordingly. Some dye stuff also produces different colors at different temperatures, as pigments contained by the dye stuff dissolve at different temperatures.

Hot dyeing method Place the fibers in the dye bath and gradually raise the temperature to simmering point or wished temperature. Varying the time fiber is simmering might produce different colors, brightness, and fastness. Move the fiber around gently while soaking, but do not agitate too much, or they become matted.

Leaving the fiber in the water after removing from heat and let it cool down in the liquid may influence fastness and color intensity as well.