Cold Water Dying

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Safety procedures for dying: Dye can and is poisonous. Common sense will address some of your safety needs, for example when using a powder wear a mask or wear gloves when putting your hands in any pots of dye or mordant. More importantly do not use your cooking pots as dye pots!!! Mark all of your dye equipment, so you can tell at a glance when it has contained dye. Do not store dye in food containers, unless they have an obvious label and draw the poison symbol on the container. Be sure to teach the other folks (especially children) who use your space what your markings are and to leave stinky dye pots alone.

Mordant: a mordant is a chemical which makes the fiber receptive to dye. Mordant formulas are specific to protein or vegetable fibers. We are only using wool and the less toxic of the mordants available. All recipes work on the same set of direction, the amount/type of chemicals is the only thing that changes. The use of weight instead of volume as a measurement is more accurate. Use math to scale up or down the basic recipe.

For 1 pound of clean dry fiber use:
4 Tbls of Alum plus 4 tsp of cream of tartar
2 Tbls of copper
2 Tbls of iron (Buchanan, p.37)

14g Alum+ 5g Cream of Tarter (14% Alum sol.)
8g Copper (8% copper solution)
6g iron (6% iron solution)

1. Presoak your wool for one hour. The skein must be completely wet.
2. Dissolve the mordant in a small amount of water and dump it into the larger amount of cold or room temperature water in your pot. Stir the mordant until it has completely dissolved.
3. Put your wet fiber into the large pot of water/mordant and slowly bring it up to a gentle simmer. Do not heavily stir your fibers or you will get a massive knot!
4. Hold at a simmer for one hour.
5. Turn off heat and allow the mordanted fiber to come back to room temperature.
6. Rinse your fiber. (Do not use Pennsic water!!!)
7. At this point the fiber can be used or dried for later use.

Mordant can be reused by adding 1/3 the original amount of chemicals.

Dye: The act of dying is as simple as using a plant or mineral to change a fiber from one color to an other. Most dyes use heat. Most dyes need to be extracted from the plant material. Natural dyes often use 2 or more times the plant material to fiber. (That is not a difficult amount of material to obtain until you think about how much a flower petal weighs.) Many dyes are not light fast and a lot of dyes will change with time. You can experiment with dyes or to save time/resources get a book or go to the library for more in depth information. The 3 dyes chosen for class were carefully selected because they do not need heat to make an attractive color. Tests were run before class to determine how much dye was needed to produce a nice color without a lot of waste. It does not matter how much water you put in a pot, your fiber will only absorb a certain amount of dye. You are supposed to regulate the color by the amount of dye in the pot and not the length of time that your fiber is in the pot. (We will do a little of both techniques.) It is easy to dye a bunch of pretty colors, the skill of a dyer is in repeating the same color over a bunch of different batches. (Think about it, all modern dyed yarn comes with a dye lot number.) After the skein is dyed rinse the fiber well with the same temperature water of the dye pot. Dry the skein.

Do not dry in SUNLIGHT! Do not dry in SUNLIGHT!

Recipes

Bag 1: Madder (2 Tablespoons of dye powder)
1.Copper mordant
2. Iron mordant
3. Alum mordant, pull on day 1, rinse with an iron post mordant or Pennsic water.
4. Alum mordant, pull on day 1, after 2 hours.
5. Alum mordant, pull on day 2.

Bag 2: Walnut (1/2 teaspoon dye powder)
1. No mordant, pull on day 1.
2. No Mordant pull on day 3.

Bag 3: Cutch (1/4 teaspoon dye powder)
1. Copper mordant pull on day 1.
2. Iron mordant pull on day 1.
3. Alum mordant pull after 2 hours on day 1

Dye and Yarn Sources

Your local grocery and garden

Dharma Trading Company sells dye, supplies and fiber: A California company. http://www.dharmatrading.com/

Earth Guild: A North Carolina Company. http://www.earthguild.com/products/dyes/dyenat.htm

Peace Fleece: A Maine Company. http://www.peacefleece.com/

Webs Yarn: Massachusetts company. http://www.yarn.com/

The Woolery: a Kentucky company http://www.woolery.com/Store/pc/Natural-Dyes-c223.htm

Bibliography

Buchanan, Rita *A Dyer's Garden- from plant to pot growing dyes for natural fibers*, Loveland: Interweave Press, 1995.

Dean, Jenny, *Colours from Nature A Dyer's Handbook*, Great Britian: Search Press, 2009.

Goodman, Jill, *A Dyer's Manual*, England: Ashmans Pub., 2003

Richards and Tyrl, *Dyes from Native American Plants*, Oregon: Timber Press, 2005.