

## Natural plant dyes: dyeing wool

Using natural plant dyes to dye wool brown, yellow, orange, or green with different natural dyes made from plants. How to correctly determine the amount of alum mordant to use.

If you enjoy working with wool, either spinning, weaving, felting, knitting, or other crafts, sooner or later you will want to dye some of it a different color. White and natural-colored fleeces are lovely to work with, but it is possible to get bored quickly with the lack of bright colors. While it is very easy to dye your fiber and yarn with chemical dyes it is a lot more fun to collect plant material from your yard or nearby fields and make your own dyes.

### Which Plants Will Make Dye

Many garden flowers will make beautiful dye. Most plant dyes are in the yellow, orange, and brown families, but these can be very different and combined to excellent effect. The easiest colors to get are yellow and brown.

**Black Walnuts** - One of the very best browns comes from the husks of black walnuts. This is a multi-purpose project, as you can eat the nuts and use the husks for dye. Walnut husks produce a substantive dye, which means that you will not need to use a mordant to make it permanent. Brown from black walnuts is very light-fast and will not fade over time.

Collect the nuts when they fall from the trees in the fall. They will still be bright green. Wear gloves whenever you are dealing with black walnuts or you will have brown-stained hands. Collect a bushel or so of nuts and put them where cars will run over them for a few days. Every day, collect the broken husks and husked nuts. When you have enough to fill a 12-quart or larger pot about two-thirds full you are ready to start. Cover the nuts and husks with water and let sit overnight. Put the pot on the stove and bring to a boil. Boil for an hour or longer, replacing water as necessary, until the liquid is very dark brown. Allow to cool and strain out all the nuts and husks (the

nuts can now be cracked and the meats will be easier to remove after the boiling).

If you are going to dye yarn, tie the skeins at several places and wet thoroughly. Place in the dye pot and bring back to the boil. Simmer the yarn, stirring often so that they color evenly. Allowing the yarn to cool overnight in the dye bath will intensify the color. Expect to get a rich chocolate brown. Rinse the yarn until the water runs clear and hang to dry.

Fleece can be dyed before spinning and does not even have to be washed first. In fact, if you dye unwashed fleece it will be much easier to clean later and the boiling will improve its handling characteristics. Wet down the fleece before adding to the dye pot. Pull it apart as for regular scouring and do not put heavily soiled or vegetation-contaminated fleece in the pot. Bring to the boil and simmer for an hour or more. When working with fleece, do not stir it too much or you will felt the fibers. Try to move it gently in the dye solution with a wooden paddle, pressing and pushing rather than stirring. Allow to cool in the dye solution and rinse as for yarn. Spread out to dry in the sun.

Goldenrod – There are many species of Goldenrod (*Solidago* Sps.) and all of them will produce a beautiful permanent yellow dye. You will need to use a mordant to make the dye “take.” The easiest and safest mordant to use is alum with tartaric acid and both can be purchased from craft shops that specialize in fiber preparation. Do not use the drug store alum, this is a different chemical and will not work. Supermarket cream of tartar is tartaric acid and works very well. Check prices, sometimes it is cheaper from the supermarket.

Collect a paper grocery bag full of goldenrod flowers when they are almost in full bloom to get a good golden yellow. A greenish-yellow can be produced with flowers that are just starting to open. Do not get leaves in with the flower heads. Boil the flowers until the dye bath is a rich golden yellow. Strain out the flowers and add your alum and tartaric acid. Determine the correct amount to use by weighing the dry wool. Use 10% alum and 5% tartaric acid of your dry wool weight. Using more alum will make your wool

sticky and this will never wash out. Old dye recipes call for much more alum, but it is not necessary to use more than 10% to get excellent colorfastness.

Wet down your yarn or fleece as for the walnut recipe and add to the dye pot. Bring to a boil and simmer for an hour or more. Stir yarn often but treat fleece gently. Allow the fiber to cool in the dye bath and remove and rinse. Dry in the sun.

Onion Skins – Onion skins will produce a beautiful orangy color with alum and tartaric acid. You can usually get the produce manager to save them for you if you ask nicely and are sure to come back when you say you will. A paper grocery bag full of skins will dye many pounds of wool, depending on how dark a shade you want. Boil the skins as for goldenrod flowers, add your alum and tartaric acid and fiber. Simmer for an hour or more, rinse and dry as above.

Zinnia, marigold, and coriopsis flowers will all produce yellow or orange dye with alum and tartaric acid. These flowers can be used separately or mixed in the same pot if you don't have enough of a single kind. The method is identical for all the plants discussed in this article.

### Other Plants to Try

There are two plants that will give you green without over-dyeing. Both of them must be collected in the spring. The easiest one to find and identify is ragweed. Collect young ragweed plants before they start to form buds; once the buds form they will only produce yellow. Treat as above and use alum with tartaric acid. Expect to get a good sage green.

Fiddle head ferns will give you a softer, clearer green. Fiddle heads are also edible, so you may want to save them for food and forgo the dye experiment, especially as they are considered a gourmet treat. However, if you have lots

of them growing and would rather have green wool than a vegetable course by all means boil up a pot-full. Use them the same as ragweed.

It is possible to get a brilliant magenta color from poke berries. Collect a bucketful of berries and cover them with white vinegar for a day or two. Mashing the berries will help the dye run. Strain out the berries and make your dye bath as above. Be forewarned, however, this dye is NOT permanent and will fade within a few years, turning a brassy orange-brown. Additionally, the dye bath has a horrid smell and is poisonous.

### Exhaust Dyeing

Don't throw away that pot of dye after only one batch of wool. You can continue to dye wool until it no longer takes color. Keep adding more alum and tartaric acid, about half as much for each new batch of wool. You can play this one of two ways. Keep each batch of fiber separate and you will have a range of shades or blend it all together in the carding process. Generally you will not notice the different shades after the wool is carded but they will add life to the finished yarn. If you are dyeing yarn, you will have to keep the different batches separate as they will not match exactly and the difference will show up in the finished garments.

Some dye plants produce huge amounts of pigment, goldenrod and walnuts for example. Others vary from plant to plant and with the seasons. This is part of the fun of working with natural dyes as you will never be absolutely sure what shades you will get.