SINGING THE BLUES: Working with *Persicaria tinctoria*

With John Marshall©

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BASIC CONCEPTS

You'll be able to solve your own problems and enjoy the activities presented in this program if you understand some basics about how indigo works.

It is all based on figuring out how to get the main ingredient in the leaf out and onto our fiber so it will stay blue for us.

☞ *Indican* is a molecule contained within the leaf of *Persicaria tinctoria,* or Japanese indigo. It isn't blue in this state. We have to break the cells in the leaves open to access to it.

This *indican*, with the help of an enzyme, also found in the leaf, will combine with the oxygen in the air to turn blue and become *indigotin*.

You can whack the cells and burst them open, you can cook the cells to weaken them, or you can dry the cells to encourage the oxygen and *indican* to join up.

☞ Most of the actual dyeing you will be doing is making use of this conversion process. The trick is to work with it *while* it is turning blue– the blue will develop on the fiber and form a bond or association with the fiber as it oxidizes.

☞ Once the *indican* has combined with the enzyme and oxygen to become *indigotin*, it is blue and will stay blue until you rip the oxygen away.

☞ In fresh-leaf, raw-indigo dyeing you are breaking open the cells– whether it is with a rock or a blender, and bringing the participants (the fiber and the dye source) into contact with one another so that this conversion process can take place.

In all other forms, the dye is blue before you start.

☞ The most efficient way to dye large volumes of fiber–yarn or yardage–is in a vat. To use a vat, you need to strip the oxygen away from the molecule so that you will be able to control when and how it recombines on your fiber. Remember–it has to turn blue on the fiber to make this process work.

You immerse your fiber in the vat, it soaks up the no-longer-blue molecules that are floating around, and when you pull it out, there is a huge gasp as the oxygen-deprived indigo sucks in all the air it can get and turns blue in gratitude. Period.

☞ The third option for working with indigo is to apply it to the fiber while it is still, or already, blue. This is normally used in combination with techniques that use an applicator, such as a brush or stamp.

But remember? –the indigo only holds on if it is allowed to change from *indican* to *indigotin* while in contact with your fiber. So what to do if it's already blue? Easy–force it.

If the indigo won't stay on, this is called *crocking*, you can just glue it on. There are many binders that are used, but I prefer soymilk since it is cheap, easy to make, and soybeans are readily available.

REVIEW–THREE CHOICES:

☞ **Break open the cells while in contact with the fiber** (such as rubbing the leaf against a handkerchief), or bring the not-as-yet oxidized indigo into contact with your fiber before it has a chance to react (put the leaves in a blender to make a slurry and then soak your fiber in the raw mixture).

☞ **Rip the oxygen away from the already-turned-blue indigo** so that you may control it as it re-oxidizes. In this case blue indigo is added to the vat, and the oxygen wrenched away from the *indigotin* molecule using chemicals, a fermentation process, or a combination of the two. When the mixture is mature, the fiber is introduced to the vat. As it exits the vat, it is yellowish, but as it grabs oxygen from the air it turns blue, fixing it to the fiber.

☞ **Glue the already-blue indigo to the fiber** using a binder. In this case it is a pigment and treated like a paint. This is great for adding fine details or helping to cover mistakes.