

# THE NATURAL FERMENTATION VAT

## *Blue is indigo - indigo makes blue - all shades!*

*Indigo leaps through the eyes, straight to the heart. It mesmerizes, especially on a flowing satin, with depths and highlights as hypnotic as the ripples of the ocean as seen from the air.*

**THE PLANT :** Like alfalfa, a bush legume, a soil builder, a green fodder, and by the simple magic of fermentation, a beautiful and permanent blue dye.

**THE SOURCE :** Indigo of commerce is produced in India and Central America. As a legume, it is a soil enricher and typically grows wild in even the poorest of soils once introduced. Producing the dye from the plant is a long, traditional process: fields of plants are harvested, placed in large cement basins, covered in water, and allowed to ferment. Then the water is drained into another tank and eaten to oxidize the indigo to blue. The fine blue powder is left to settle, the water drained off, and the paste dried into cakes. These cakes are perhaps the oldest trade item of history, a valuable and precious commodity used for dye, paint, and medicine.

**THE TECHNIQUE :** To dye with indigo is like making bread, yoghurt, or beer. The finely ground indigo blue dye is mixed with something that will ferment. The traditional European "Madder Vat" is what I have used for 42 years. Madder root is used not for its color, but for the enzyme ferment it contains. This is mixed in warm water with bran, for "food", and washing soda to make the vat alkaline.

The basic recipe, plenty to dye a typical t-shirt or about a pound of silk fabric :

**4 oz natural indigo, finely ground**  
**2 oz madder root, in small pieces or chopped**  
**2 oz wheat bran**  
**12 oz washing soda (also called "soda ash")**  
**3 gallons of warm water**

This brew must sit covered, in a warm place, for about a week. A temperature of 90-100 degrees F is perfect. When the fermentation has happened and the dye is ready, it will have a beautiful coppery film on the surface. When dyeing, gently squeeze the fabric under the surface for about 10 minutes. When it is taken out to air, it will be greenish; in the air it will turn to blue. To darken the color, repeat the procedure three or four times, with "dips" spaced about 20 minutes apart, allowing for the "airing" in between. After the last 20 minute airing, the fabric is rinsed three or four times.