

Introduction to NATURAL DYEING

with Trudi Pollard

Session 1 Workshop Booklet

Captured by Colour

Trudi is seen as a pioneer and foremost expert on Western Australian natural dyes and pigments. Through this on-line course you will explore the wonder of the natural colour from the Western Australian Bush at her recycled stone studio and colour garden and the beautiful bush land setting of Bedfordale overlooking the waters of the Wungong Dam. Trudi has documented more than 280 colours from the Australian Bush and you will see how the colour of magic happens.

Trudi has been working, studying, lecturing and teaching in the areas of textile arts and ceramics in more than 40 years of creative practice. Her work has a strong focus on colour from the earth's minerals and plants using designs and techniques that reflect both primitive and contemporary art. She observes insects, shells, fish, flowers, and stones with particular interest in their intricate patterns, colours and detail.

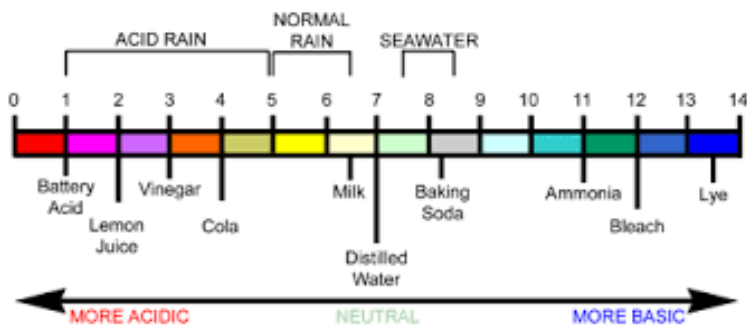
You will be learning how to dye natural fabrics with a variety of Australian natural dyes and explore other wonderful dye colours that nature provides. Using 100% natural plant materials, you will learn the basics of effective, sustainable, natural dyeing practice from a Master Dyer.

"No synthetic dye has the luster, that under-glow of rich colour, that delicious aromatic smell that soft light and shadow that gives so much pleasure to the eye. These colours are alive."



This Free on-line course has been sponsored by the City of Armadale. Western Australia.





pH Values

- Within the dyeing process pH refers to the measure of acidity or alkalinity of the water or solution you are using.
- A **pH** value is a number from 1 to 14.
- 7 is the middle or neutral point.
- Values below 7 indicate acidity which increases as the number decreases,
- (1 being the most acidic)
- Values above 7 indicate alkaline level which increases as the number increases, (14 being the most alkaline)
- **pH** stands for 'potential of Hydrogen'

Procedure for testing pH values

- Dip your pH paper into the water.
- The paper will change colour - this is your pH reading.
- Use the colour guide in your papers which should be similar to the chart above to see what pH is indicated.

Some tips on pH when applied to natural dyeing

- Sometimes it's only the pH levels that will be the difference between success and failure in your dye process.
- You will need to test the pH of your water every time you dye fabric.
- Different dye stuffs will like different pH levels. Indigo loves soft water!
- Madder likes hard water and therefore you are aiming for a pH above 7 being around 8 – 10.
- It is important to wash the dyed materials in pH neutral or similar pH to your dye bath or you may get colour changes from washing that you may not want.
- It's best to use a roll or booklet of pH papers that can be purchased easily from the suppliers in the back of this booklet. www.kraftkolour.com is our go to supplier for ph booklets.

What does hard water mean?

Hard water is water that has high mineral content (in contrast with soft water). Hard water minerals primarily consist of calcium (Ca^{2+}), and magnesium (Mg^{2+}) and sometimes other dissolved compounds such as bicarbonates and sulfates. The simplest way to determine the hardness of water is the lather/froth test: soap or toothpaste, when agitated, lathers easily in soft water but not in hard water. (Reference: Wikipedia.com)

Water from rain tanks are usually on the soft side of pH. Town water or water from city water supplies are usually hard.

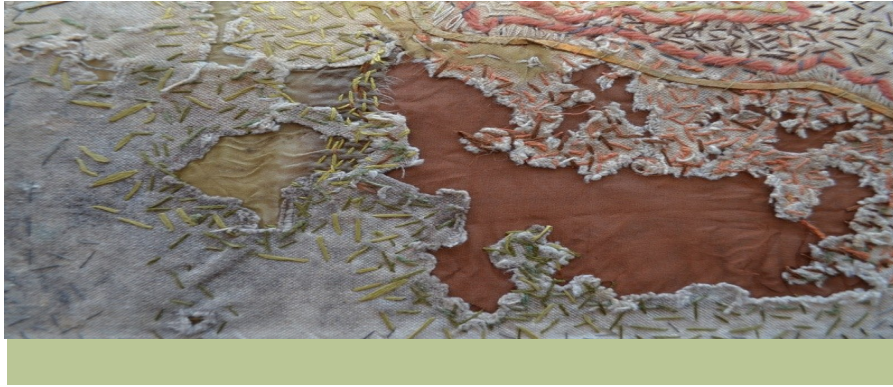
How to make your water hard:

Add Carb soda which you can buy at the supermarket.

How to make your water soft :

Add a few drops of clear vinegar that is 5% acetic acid (read the label for level of acetic acid before purchasing) or you can use lemon juice.

Then re-test with your litmus paper.



Preparing your fabric for dyeing

If you are going to mordant your fabric - don't forget to weigh your fabric before you do anything and make a quick note of it. You never know if you will want to mordant your fabric which could include over-dyeing. That way you will have a measurement to work with when calculating materials to further your creation.

You need to make sure your fabric or yarn is very clean. If using wool yarn you will need to scour it before dyeing for best results. Scouring removes the oil and grease in the fabric to allow the dye to penetrate the fibre.

Pure soaps with no additives are the only ones to use as most commercial soap products contain irritants and bleach compounds which changes the pH.

Protein Fibres: Soak your wool/silk in warm water for a couple of hours or overnight. Then rinse but be very careful not to agitate your wool too much as you may create felt. Allow your fabric to cool naturally for best results. This is especially true if you are scouring wool tops.

Cotton and other cellulose fibres:

1. Fill a sink or pot with enough water so that the fibre may be well covered
2. Add 20gms soda ash for each 250gms of cotton.
3. Simmer for approximately 1 hour.
 - Cotton is full of wax, peptic substances, and oil, all of which must be removed. The resulting wash water will be yellow brown.
 - Bleached white cotton yarns and fabrics may not need as long.

Natural acid and alkali materials to use as mordents that I like to use.

There are many more that are covered in the advanced workshop.



ACID

Lemon Juice

Vinegar

ALKALI

Soda Ash (sodium carbonate)

Wood ash (sodium carbonate)

Usually it's better to use more dye stuff in your bath than mordants but you can try both ways to see what happens.

Sometimes using more mordant to W.O.F. ratios can cause your yarn or fabric to become stiff, harsh or sticky. This is particularly true for iron.

Too much alum can make wool, mohair and silk sticky.

W.O.F - weight of fabrics

What are mordants?

Mordants are metallic or mineral salts which when added to the natural dye bath either enhance, intensify or change the colour. They also play a large role in making the resulting shade more fast to light and washing.

All mordants should be treated with care and common sense. They need to be kept dry, away from sunlight, children, pets and food. Always wash hands before eating, drinking, smoking or using the bathroom. Never use equipment for cooking or food preparation if it has been used in dyeing. As a precaution it is very important to always add chemicals to water, not the other way around.

Alum is the only mordant that Trudi usually uses on natural fabrics. Alum does not affect the colour of the dyestuff but increases the wash and light fastness. Other mordants will alter the colour of the natural dye bath.

SAFETY

Please Exercise
EXTREME CAUTION
when using a heat
source and ensure
you practice safe
methods of
handling hot and
boiling water.

Please do not
conduct this
method with
children in the
vicinity.

Burns from both
flame and water
are a risk to
everyone.



- It is up to everyone to ensure that they maintain a safe working environment .
- Be aware of what you are doing and what is going on around you.
Do not put others at risk.
- We are a chemical free studio. We do not recommend using any chemicals in natural dye processes.
- Although we use natural materials please take note of any toxic materials you are using and take the appropriate action to ensure your safety. An example of this is appropriate face masks for using fine powders.
- Always plan any move of your equipment during your dyeing process and ensure your path is clear and safe.
- Always wear the appropriate personal protection equipment. If you do not know how to use a tool, chemical, materials or machinery always research first.
 - Safety glasses are to be worn when drilling, cutting, using chemicals or operating power machinery.
 - Dust masks must be used when preparing and handling specific dyes/materials/ ingredients or performing dust producing tasks.
 - Don't wear loose clothing that can get caught in equipment for example scarves, loose jewellery)
 - Long hair must be tied back, when using powered machinery, heat sources or gas torches.
- Immediately clean up spilt chemicals or water.
- Place all rubbish/waste in the correct bins.
- When using gas burners or cooking equipment, be aware of the flame. Ensure that nothing nearby can catch on fire. Watch for other people and hot objects lying around (eg metals). Have fire safety equipment on hand. E.g Fire blanket., extinguisher.
- Use the appropriate tools and vessels for your medium. In particular do not use your household kitchen equipment in your natural dye procedures.
- When collecting plant material in the bush/forest dress appropriately. Be aware of insects and animals that may endanger your safety. For example wear long sleeves, long pants, secure/safe footwear and gloves and be safe.
- Research thoroughly whether the plants you are using as dye material are rare, protected or poisonous. Protect your environment.

**In an emergency in Australia please ring 000
or your countries equivalent.**



Trudi's Main On-Line Material Suppliers

- KraftKolour Australia. www.kraftkolour.com.au (Ask for Bonnie)
- Dye Man (formally known as Batik Oetoreo) www.dyeman.com
- Botanical Colours—Kathy Hattori from Seattle U.S.A www.botanicalcolors.com
- DHARMA TRADING ONLINE www.dharmatrading.com

www.pollarddesigns.com



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A huge thank you to Andrew Pheasant & Karen Hudson from Jak Films who were the film makers. They are truly amazing.

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