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Medieval Textiles

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In this issue:

Woad Dyeing

(Isatis tinctoria)

by Gayle Bingham

The Variables of Woad Dyeing

Now, I know why the Medieval Woad Dyers were known as the "elite" of the dyers. There are so many variables when dyeing with both woad leaves and woad pigment. For these samples, woad pigment was used.

Water is one of the variables. I was unable to get good depth of color and the yarn had a greenish cast with water-softener water. Therefore, I used the water from the reverse osmosis unit, which removes the salt from the water. All three of our sources of water: city, water-softener, and reverse-osmosis water tests ph 7.

The Method of preparing the yarn for dyeing is the second variable I discovered. As many of us who dye with cotton, bast, and Tencel ™ fibers, I usually use cotton scour and soda ash to thoroughly clean the fibers. I discovered this method was not advisable when dyeing with woad, because the scour and soda ash method produced a yarn with a very greenish cast.

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"A Grass that Grows in Bologna": Dyeing with Weld

Written dyeing records from various parts of medieval Europe cite the use of several plants to achieve a yellow color: young fustic (*Cotinus coggygria*) and saffron (*Crocus sativus*) for warm shades; and weld (*Reseda luteola*), broom (*Genista tinctoria*), sawwort (*Serratula tinctoria*), trintanel (*Daphne gnidium*), and buckthorn (*Rhamnus catharticus*), also known as "Persian berries," for colder shades. This article focuses on weld, perhaps the most accessible medieval yellow to the modern dyer. It is cheap, quick and easy to grow, and safe and easy to dye with; the astonishingly vivid yellows it produces can also be overdyed in an array of interesting colors.

Weld gives a rubfast, fairly lightfast bright lemon-yellow dye that is slightly soluble in hot water (*Colour Index*, 3586), and it softens wools as it dyes them. In Europe it was one of the most common commercially utilized dyestuffs from at least the early Middle Ages onward, and William Partridge notes its popularity in England in the early 19th century (Partridge, 106). The earliest Western written recipes for weld come from the *Mappae Clavicula*, a Carolingian manuscript much copied in the early Middle Ages. Therein are found several recipes for dyeing skins, leather, horn, and bone green using weld, usually cooked in urine and sometimes in tandem with other colorants. There is a modern conceit that the term "Lincoln green," found in later medieval fictional literature, refers to a green dyed with woad over weld. So far I have not traced any reference that leads to actual historic proof of this identification; most significantly, there seem to be no surviving later medieval recipes for dyeing cloth green from the area of Lincoln. It is true that weld makes

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Woad Dyeing cont'd from page 1

Consequently, I found washing all yarns: cotton, bast, wool, linen, and silk in Joy™ liquid, produced the truest blues.

The basic recipe is from Ancienne Tannerie-Pont de Pile. It was translated from the French by Gayle Bingham who also added notes based upon her dyeing experiences.

Cuve Mére ("Mother Tub" = Stock Solution)

15 grams dry powdered woad (1 soupspoon)
125 ml of water (1/8 liter)
Mix with a whip. (I use a hand eggbeater) Take time doing this!
Add 12 grams of hydrosulfite of sodium (1 teaspoon). You may substitute Spectralite, or Thiox (thiourea dioxide). Be sure to use 1/3 less of the Spectralite or Thiox than the measurement of hydrosulfite of sodium.

The original recipe calls for 15 cm cubed of a solution of caustic soda (washing soda). In France, washing soda is in liquid form. The measurement translates out 1 cubic inch or 1 oz in weight**.** Do not use the washing soda sold in the grocery store, it may contain additives! Purchase soda ash from a chemical supplier or a dye supplier.

During 10 minutes, heat this solution to 120 degrees**.** *Do not heat over 120 degrees***.**

Put the solution in an opaque container; close lid firmly, and leave in this container for at least 24 hours before using.

Dye Solution:

Dark Blue:
Put three liters of water in a stainless or enamel pan; Heat to 120 degrees
Add 10 grams of hydrosulfite (1 teaspoon). Use a little less of Spectralite.
Add 25 cc of ammonia
Pour 30 cc of stock solution into the water. Pour this very gently.
Do not stir; this will prevent as little oxygen as possible from entering the bath.
Very gently, lower the fiber or textile to be dyed into the dye bath. Leave in the dyebath for 15 minutes. Remove the textile and air for 15 minutes. Repeat this process until desired shade is reached.

Medium Blue:

Put three liters of water in a stainless or enamel pan; heat to 120 degrees.
Add 5 grams of hydrosulfite (1/2 teaspoon). Use a little less of Spectrolite.
Add 13 cc of ammonia
Add 10 to 15 cc of the stock solution.
Do not stir; this will prevent as little oxygen as possible from entering the bath.
Very gently, lower the fiber to be dyed into the dye bath. Leave in the dyebath for 15 minutes. Remove the textile and air for 15 minutes. Repeat this process until desired shade is reached.

Light blue:

Put three liters of water in a stainless or enamel pan; heat to 120 degrees.
Add 5 grams of hydrosulfite (1/2 teaspoon) Use a little less Spectralite.
Add 13 cc of ammonia
Add 5 cc of the stock solution
Do not stir; this will prevent as little oxygen as possible from entering the bath.
Very gently, lower the fiber to be dyed into the dye bath. Leave in the dyebath for 15 minutes. Remove the textile and air for 15 minutes. Repeat this process until desired shade is reached.

Remarks:
Two defects may occur:
The solution is opaque, thick and milky. This is caused by too much hydrosulfite or Spectralite. Add more soda ash, a little at a time, just until the liquid becomes yellow and clear.

If you are getting little dark particles on the textile, this shows that the woad is not yet dissolved completely and needs more hydrosulfite or Spectralite; add a little at a time until the liquid turns yellow at last.

After dyeing, rinse the textile in water until the water runs clear.

Reduced version of dyeing with woad leaves:
Based on the instructions found in Jill Goodwin's book.

12oz. of woad will dye 1 1/2 oz. of fiber

woad dyeing, cont'd

Tear woad leaves into small pieces and scald with 1-1/4 gal. of NEARLY boiling soft water.

Infuse for 30 minutes

Strain off liquid and squeeze juice from leaves, adding this juice to the liquid.

Add soda ash, gradually, to liquid, until the liquid turns a dark green and whisk well with egg beater until the froth is **no longer blue** (about 5 to 10 minutes)

Heat liquid slowly to 120 degrees.
USE A THERMOMETER!

Add up to 1/2 oz. Thiox (this is the same as Spectralite). Set off stove. Leave for 40 minutes, until liquid clears to yellow-green.

Enter wet fiber, very gently. Soak 30 minutes. Lift out and air repeatedly until color is as dark as desired; or until it will get no darker.

Revive the dye bath with soda ash and Spectralite until color is exhausted.

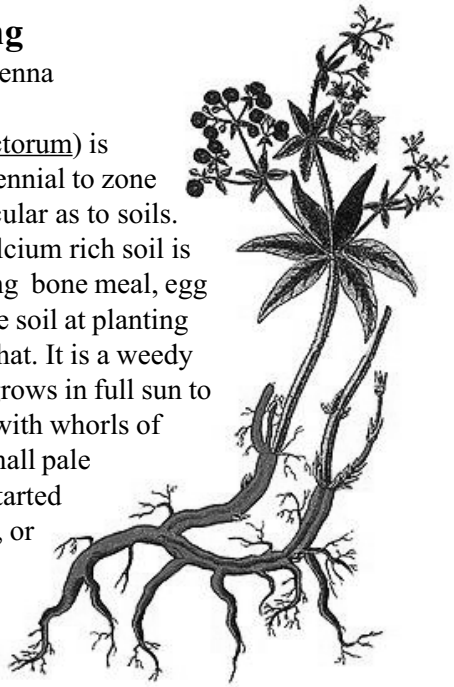
Rinse fiber in soft water with 1 Tablespoon of salt; wash (I usually use ph neutral—Joy detergent) and rinse; dry in the shade.

The temperature is very important with woad leaf dyeing—NEVER go over 120 degrees. This is true with woad pigment, too.

This is my "down and dirty" recipe. You will be amazed how many woad leaves it takes to make up 12 oz.

Madder Dyeing

By Nancy M. McKenna



Madder (Rubia tinctorum) is easy to grow; a perennial to zone 4 and not too particular as to soils. For best color, a calcium rich soil is preferred, but adding bone meal, egg shells, or lime to the soil at planting time takes care of that. It is a weedy looking plant that grows in full sun to about two feet tall with whorls of green leaves and small pale flowers. It can be started from seed, cuttings, or by taking a stem, bending it to the ground and placing a handful of soil atop it. Wherever the stem is buried, roots will form. For ease of harvesting this plant is best grown in containers or raised beds in soft loam or sandy soil. I use a steel garbage can that has holes punched in the bottom.

It is the roots that you want. After about two years of growing, the roots will be pencil diameter and have a red interior. They can extend as far as three feet into the ground. After harvesting, dry the roots, and grind them into a fine powder using a coffee or spice grinder or a mortise and pestle. Grind small amounts at a time and do not let the madder powder to become heated. If the grinding is being done inside, a dust mask is advisable to keep the powder out of your lungs, as it may be irritating although it is not a toxic substance.

The dye substance that madder produces is alizerine (dihydroscyanthraquinone). This dyestuff is the first duplicated by chemistry for use in dying calico fabrics and is also known as Red Lake. Alizerine can be purchased in this chemical form to produce clear reds easily, however, like any other pure chemical dye it will not harmonize with other natural colors as easily as dye from madder roots. Madder, like many natural dyestuffs contains dyes besides alizerine – most notably yellow. Alizerine becomes available in the dyebath at about 120 degrees farenheit, but as you raise the temperature to or above 180 degrees alizerine will cease to affix itself to the material in the dyebath and the yellow dyestuff becomes the predomi-

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nant dye.

Madder was the first dyestuff duplicated because it is lightfast and washfast. Color reproduction can be achieved with careful measurement and by using powder from the same grind as previous dyebaths, but just as commercially dyed yarns have dyelots to allow the matching of skeins, it is always advisable to dye enough yarn for a particular project in one dyebath. If the color is not deep enough, the yarn may be remordanted and redyed. Using madder root is no more time consuming than using synthetic dyes since both usually require mordanting as well as time in a dyebath. Using alum and cream of tartar for mordanting, and madder root for the dyebath, however, allows you the option of disposing of the remaining mordant and dyebath in your compost pile.

In using natural dyes, time is the most important element. There are no substitutes. All the recipes and procedures I have read or discussed with other dyers have insisted that mordanting must take no less than three days. Some sources specify immersing the fiber in the mordant for at least 30 days not exceeding 40 degrees Celsius (104 degrees Fahrenheit). Liles mentions in his madder section, "If the material turns out to be a pale color or unevenly dyed the chances are good that the material was not adequately mordanted."

I tried several methods; each method is outlined below. All the sources I consulted used J & R Bronson's mordant for wool:

Mordant:
Per pound of wool:
3 oz. Alum (potassium Alum Sulfate)
1 oz Cream of Tartar (potassium bitartrate)
5 gallons of soft water

Sample 1 (after Bronson):
As Bronson specifically mentions using a copper pan for mordanting, I placed a 2" copper pipe cutoff in one of the mordanting baths. After simmering ½ hour I poured the yarn and mordant into a colander and let sit till cool enough to handle. I squeezed the water out and rinsed well. On to the dyebath…

Sample 2:
Bring mordant bath to a simmer, add wool. Let simmer for ½ hour then pour wool and mordant into a glass jar and let sit on the counter (in my house this is at 68 degrees Fahrenheit) for 48 hrs. Drain & rinse. Proceed to dye bath.

Sample 3:
Bring mordant to a simmer, add wool. Pour immediately into jar and let sit on the counter for 14 days. Drain & rinse. Proceed to dye bath
Dyebath:
Per pound of wool:
8 oz ground madder root
½ oz slaked lime (Calcium Hydroxide)

Sample 1: Quick Bronson Variant:
Chop dried madder root into ¼" pieces. Use mortar and pestle as long as patience allows to reduce the size further, add water and grind to make a coarse paste Add to hot tap water in pot – about 120 degrees. pH is at 4. The water becomes an opaque brick red, and a white plastic spoon is not visible below the surface when placed in the bath. Add the wool. Immediately the water goes to a clear straw color and the wool takes on a raspberry color. Slowly bring the heat up to 180 degrees.

After 10 minutes, the water was at 130 degrees Fahrenheit, still clear yellow and still a pH of 4. Yarn same color.

After ½ hour the water was at 150 degrees Fahrenheit, wool is the color of ripe strawberries, water is still clear yellow.

At the two-hour mark, wool is darker, water is still yellow & clear and I quickly brought the water to a boil and then turned off the stove. I lifted the yarn out of the dyebath and into a waiting container. The dyebath becomes orange. I then added enough lime to bring the pH to 7. The water becomes a brilliant opaque red. The wool is dumped back into the dyebath, stirred, and brought to a boil again. The heat is turned off and the yarn allowed to sit for 10 minutes. It is then drained and rinsed well. About 2 hours start to finish.

Sample 2: same as sample 1, but temperature kept between 120 and 180 degrees Fahrenheit throughout.

Sample 3: Same as sample 2. The time mordanting meant that the color achieved by 2 hrs in the dye bath occurred within 15 minutes of initial immersion in the

dye bath and by keeping the wool in the dye bath the same amount of time as previous samples a deep purple red was achieved.

Other observations: if the dye bath is brought up to neutral or alkaline before the wool has been in the dye bath for awhile, the wool does not take up the color, at best you get pale pinks. If the lime is added before the wool has taken up color, the wool will not take up the color well, resulting in weak pinks or reds. If the lime is added at the end of the dyeing, a chemical reaction takes place and the color of the wool becomes deeper. I have not checked colorfastness between yarns that have and have not been treated with lime as all recipes I have found call for lime to be added. Mordanting time is critical, as well as time in the dye bath. The more time in the mordant, the less time one can spend over the dye bath, which would probably limit felting of the yarn.

Notes for sample "iron mordant"

The wool used for this sample is the medium grade worsted spun used for the other samples. All singles were running c. 3600 yards/lb. About 1/4 pound (1000 yards) of yarn was spun for this dye batch, measurements were not as exact as for other dyebaths. The hypothesis was that using an iron mordant would result in purple hues rather than red hues. This was borne out by the dyebath results. I will be experimenting with iron more in the future to see the range of colors I can achieve in conjunction with madder.

Note: Iron is more toxic than many other mordants. Getting even a small amount more into one's system than one needs can prove fatal: most fatalities in overdose of vitamin tablets is due to iron poisoning. Please be extremely careful in handling the iron mordant. After use, however, it is safe to add to compost or the garden. The acidity and the iron affect acid loving plants positively in my experience.

Mordant:
about 1 inch of 000 steel wool was pulled off the rollog of steel wool, held over a flame to burn off the manufacturing oils, and dropped into 2 cups of vinegar mixed with 4 cups of water. After 1 week, all the wool had been dissolved into solution. Add more water to allow mordant to cover the wool if necessary.

After washing in dish detergent, the above wool singles yarn was placed into the mordant, at room temperature (approx. 78 degrees) for 24 hours.

1/4 oz of madder was mixed with sufficient water to cover the wool (for comparison, if the original recipe were followed, approx. 2 oz of madder would have been used), brought to 100 degrees Fahrenheit and the wool added. The dyebath was brought to 150 degrees Fahrenheit and kept there for no more than an hour. This was to keep the yellow/orange component of madder from affecting the dyebath.
Because of the relatively small amount of madder used, and the short mordant time and time in the dyebath, I believe that the sample is one of the lightest shades that can be produced with an iron mordant.

Sources of further information:

Liles, J.N. The art and craft of natural dyeing : traditional recipes for modern use . Knoxville : University of Tennessee Press, ©1990

Bronson, J & R. The Domestic Manufacturer's Assistant, and Family Directory, in the Arts of Weaving and Dyeing, Utica, NY 1817 - reprinted by Dover press in 1977 under the name Early American Weaving and Dyeing.

D. E. Rougemont, A field guide to the crops of Britain and Europe, © 1989 Collins London.

Goodwin, J. A Dyer's Manual. © 1981 Pelham

Dean, Jenny. The Resourceful Natural Dyer Part One: Mordants, The Journal for Weavers, Spinners, & Dyers. Issue 198, June 2001 pp.24-25

Conversion Factors

you have	mult. by	to get
grams	0.0527	ounces
ounces	28.349	grams
fluid ounces	29.573	milliliters (cc)
Milliliters (cc)	0.0338	fluid ounces
liters	0.2641	U. S. liquid gallons
gallons	3.7854	liters

Temperature:
Farenheit = 9/5 (celcius + 32)
Celcius = 5/9 (farenheit - 32)
Celcius = kelvin - 273.15

excellent greens. Medieval recipes often call for it as the yellow component of greens, but they also call for other yellows to be used as substrates for greens. Additionally, weld was used either by itself, in combination with a warm yellow such as fustic, or as a component in oranges, tans, and "quince" shades.

The two major colorants in weld are a pair of flavonoids, luteolin and luteolin 7-glucoside (Andary et al., 34). In the leaves, more luteolin 7-glucoside than plain luteolin is found; in the seed capsules more plain luteolin than luteolin 7-glucoside is found. Neither is very concentrated, however: reports put the concentration at anywhere from 1% to 6.4% . The seed capsules carry the most color, followed by the leaf; the flower and stem have much less colorant (Andary et al., 35).

Growing and Using Weld

So far I have not been able to find a commercial source for weld as a dyestuff in North America. The seeds, however, are readily available; I got my start with a packet from Richter's. Since weld is easy to grow but hard to purchase, it makes a good choice for dye gardens. It's a biennial weed, a low-growing rosette with a taproot that can tolerate a range of soil qualities and weather conditions. Partridge actually warns that it produces less colorant when grown in good soil (Partridge, 111). In the first season it only produces leaves; in the second season it bolts, producing at least one long shoot and several subsidiary shoots covered with tiny yellowish green flowers that become seed capsules. This stalk is likely the source of one of weld's nicknames, "dyer's rocket," as it really does look kind of like a slender yellow-tipped rocket. The huge numbers of tiny black seeds it produces guarantee that weld can readily take over any plot of ground upon which they fall.

I always start a spring crop of weld indoors using peat pellets. After the danger of frost is past, they can be transplanted. If there is a cold spell after the plants are outside, the plants might get confused and think they're in their second year of life. If that happens, they'll bolt in the first year, which is a bonus! If you want to force bolting in the first year, you could try setting seedlings in the refrigerator for a day or so before planting them outside. After second-year plants have bolted (around midsummer), you can pull them up and re-plant the bed for a fall crop of leaves; the plants will bolt the following year.

Weld leaves can be cut and used at any time; I've even used frostbitten ones successfully. However, in order to take advantage of the highest levels of colorants, it's a good idea to harvest the flowering shoots in the second year, as soon as the seed capsules have formed. As the capsules ripen, the leaves turn yellow; ideally you should harvest while the leaves are still green. If you harvest after the seeds have fully ripened, be sure and save some for the next planting.

Medieval sources do not specify whether weld was used dry or fresh, although given the proportions involved in some of the recipes I believe it must have been dried. Partridge also mentions that it was habitually pulled up and dried (Partridge, 110). Weld leaves and seed capsules, which are all I save when I dry it, dry down to about one-quarter of their fresh weight. I haven't had any luck using dried weld yet, but that's probably because I have only tried to do so in extremely small quantities. Instead, I prefer to use weld fresh from my garden.

Mordanting and Dyeing

Medieval recipes for the use of weld usually call for alum as a mordanting agent. A few mention lye (e.g., Titus D.XXIV) or urine (e.g., *Mappae Clavicula*), either by themselves or as an additional mordant; lye or lime is said to warm up the color (Brunello, 28). However, I haven't been able to find any medieval recipes for weld over an alum and cream of tartar mordant. All the yellow recipes I found that called for cream of tartar, even if they called for weld, also involved the use of fustic or sawwort. Interestingly, I have found that my own experiments with weld over alum and tartar never come out as bright and clear as those using only weld over alum. This fact also seems to hold true for all the other yellow-dyeing weeds I've used. One of the apparent functions of cream of tartar as a mordant is to soften the hand of an alum-mordanted wool, which by itself can feel harsh. Since weld naturally softens wools dyed with it (Partridge, 111f), cream of tartar may be safely omitted at least in weld dyeing. Accordingly, I recommend that weld be mordanted with alum only rather than with alum plus tartar.

Spectrochemical analysis may have a contribution to make to this issue. Two-dimensional thin-layer

Dyeing With Weld, cont'd

chromatography examinations of weld extract differ from those of weld-dyed wools that have been mordanted with alum and tartar. Specifically, the luteolin 7-glucoside spot is much more faint in the profile of tartar-mordanted wool than in that of the weld extract (Andary et al., Figs. 5 and 6, p. 35), while the luteolin spots in the two samples are more similar in size and brightness. I suspect that the presence of tartar may inhibit take-up of luteolin 7-glucoside.

The basic process for weld dyeing is simple: make weld soup, strain, and gently cook the yarn in the broth. Although weld is not as notoriously sensitive to prolonged heating as many of the weed yellow dyes, nevertheless low heat always gets better results when working with weld. The higher the heat, or the longer it lasts, the duller the result. A potful of fresh weld (a pound or so of leaves) will extract very nicely in about an hour of simmering time, and it never takes me more than about 15 minutes to exhaust the bath. Often as little as five minutes of dyeing time suffices.

Here's a tested recipe utilizing the quantity of weld you can easily grow in a smallish plot, say, 8-12 plants. With this recipe you'll get very saturated yellows, like those at the bottom of the sample card. Using the proportions of three parts weld to one part wool, or by including the stalks in your pound of weld, you'll get lighter yellows, more like those at the top of the sample card.

4 oz scoured wool
(fine yarns give the best results)
1 lb fresh weld leaves and/or seed capsules
2 level tablespoons granulated alum
(potassium aluminum sulfate)

Dissolve the alum in a potful of blood-warm water. Add the thoroughly wetted yarn; slowly raise heat and maintain it below a boil until the yarn has been in the pot for two hours. Let cool in the pot five hours. Remove, wring, and dry without rinsing.

Cover weld with warm water. Heat and simmer gently until the weld has been in the pot for one hour. Strain out the weld and put the dyebath back into the pot. It will be fairly light in color, with a greenish cast.

Rinse the mordanted yarn well and add to the dyebath. Maintain a hot temperature in the dyebath but do not permit it to simmer hard. Stir a few times and check the yarn in five minutes. If there is still color in the dyepot, stir and leave for another five minutes, repeating if necessary. After 15 minutes, the dyepot should be exhausted; if not, proceed until it is.

Weld can be overdyed to a number of orange and green shades using madder and woad or indigo; see the sample card for an assortment of shades. Or you can simply stop at yellow. You can level your dye job with Synthrapol, as desired. However, heating weld-dyed yarn in water will remove some of the color, whether you're overdyeing with a hot bath or leveling. In my opinion, it's worth the slight loss of saturation to level weld-dyed yarns. Once your yarn is leveled, though, don't ever wash it again in hot water.

Sources:

Society of Dyers and Colourists/American Association of Textile Chemists and Colorists. *Colour Index*, Second Edition, Volume 3. Bradford, Yorkshire/ Lowell, Mass.: Society of Dyers and Colourists/ American Association of Textile Chemists and Colorists, 1956 [1957].

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The M.I.T. Press, 1969 [1548].

Smith, Cyril Stanley, and Hawthorne, John G. "*Mappae Clavicula*: A Little Key to the World of Medieval Techniques." *Transactions of the American Philosophical Society*, New Series, Vol. 64, no. 4 (July 1974).

The materials for mordanting and dyeing may be carried by your local weaving shop, pharmacist, or through suppliers such as:

Hill Creek Fiber Studio
7001 Hillcreek Road
Columbia, MO 65203
573-874-2233
http://www.hillcreekfiberstudio.com/

Maiwa (Ottowa, Canada)
#6 - 1666 Johnston Street, Granville Island
Vancouver, BC V6H 3S2
Phone (604) 669-3939
http://www.maiwa.com/Maiwacat14.html

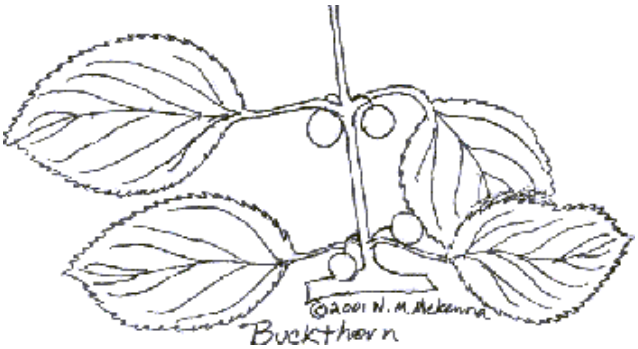
Dharma Trading
PO Box 150916
San Rafael, CA 94915
(800) 542-5227 (USA and Canada)
(415) 456-7657 (Elsewhere)
http://www.dharmatrading.com/index.html

Late Breaking News:

Damask Steel Recreated
A Iowa State professor, John Verhoeven, and a Florida blacksmith, Al Pendray, have re-discovered how to make Damascus steel. Their hard work has allowed them to not only get the recipe for the steel right, but they have achieved the damask patterning unique to Damascus steel that other metalurgists have been unable to recreate. Source: Chicago Tribune, Monday August 13, 2001 Section 1 page 1.

Genghis Kahn's Grave
Thursday, August 17th, 2001: A team including lawyer Maury Kravitz, U of Chgo professor John Woods, Professor Emeritus Denis Dinor, Jack-of-all-trades Jim Kersting, and American/Mongolian liason Luvsanteren Orgil report that they think they have found Genghis Kahn's grave near Batshireet, Mongolia. Or at least, out of at least 19 possible sites that they have examined, they have found a graveyard which includes 60 tombs of nobility and shows much promise as "Burkhan Khalduns". This location has been guarded by area herdsmen since 1227 and is surrounded by a wall 2 miles long and reaching as high as twelve feet. More news as it unfolds, especially if it includes cloth. Source: Chicago Tribune, Friday August 18th, Section 1 page 1

Albrecht Durer, The Birth of the Virgin (detail)



Dyeing with Buckthorn

(Rhamnus cathartica)
by Nancy M. McKenna, SFO

Known as common or European buckthorn, it was known as a healing herb hundreds of years ago in Anglo-Saxon England, where it was called waythorn, highwaythorn, hartshorn, or ramsthorn. It is also sometimes called purging buckthorn because of its laxative properties. The berries of European buckthorn can be used in healing. The ripe berries of this species are black and the size of a pea. *R. cathartica* is a shrubby tree that grows to a height of about 18 ft (6 m). Its twigs are often tipped with small spines, accounting for the "thorn" in its name. It has dull green, ovate-elliptic leaves which are smooth on both surfaces and have minute teeth on the margins. Common buckthorn is found throughout Great Britain, continental Europe, and North Africa, where it grows wild in partial sun along the edges of roads and woodlands. It was introduced into North America as an ornamental landscaping plant, but it has naturalized and become a nuisance plant in much of Canada and the northern United States. It can be controlled thru burning underbrush annually or bi-annually. Cutting will cause it to sprout anew from the roots.

This plant is not found among period manuscripts outlining medieval dyes as readily as weld, however, it was available and may have been used by the home dyer. Since only the berries are used, this would have been a more difficult commercial dye as compared to weld, and would have been available for a limited time of the year.

To get right to the point:
Mordant used: See the Madder article. Simmer for 20 minutes, drain & rinse yarn.
Dye:
Take green berries and smash them. I used half as much berries as yarn by weight. Add sufficient water to cover the yarn and bring to a simmer. Keep at this heat for about 10 minutes. When the water hit about 170 degrees Farenheit, the dyebath exhausted. Results were a bright yellow yarn.

Sources:
Davison, Tish. Buckthorn The Gale Encyclopedia of Alternative Medicine. Gale Group (c) 2001

Dyeing with Balck Walnut

(*Juglans nigra*)
by Nancy M McKenna, SFO

Using Walnuts to dye cloth a brown or black is featured in the Innisbruck Manuscript (c. 1330 AD) and others and is thus well known and documented. It was also used to dye yarns for the Bayeux Tapestry, and the pair of men's pants from Hedeby (10th century Denmark). I include it here not so much to point out its historical significance which can easily be found, but to allow those who do not have confidence in using natural dyes to try the simplest natural dye there is, in my opinion.

Very simply, beat the squirrels to your local walnut tree and gather as many nuts as you can from the ground. If the tree is a prize specimen producing large nuts keep some for eating. If it is the wild variety that only the squirrels want, put all in a bag and crush the nuts. Touching the crushed nuts hulls with your hands will cause your hands to turn black and stay that way for quite awhile. If you do not want to use a bag, then use gloves when crushing the nuts.

Place crushed hulls into a pot, and fill with water. After about a half hour, the water will be brown/black. You can strain the liquid from the hulls or just add the wool/yarn. Simmer for about a half hour or until the shade of brown you wish is reached. Adding iron or premordanting with iron will create black hues.

Bayeux Tapestry: Harold swearing on the relics. "Harold Sacramentum Fecit Willelmo Duci"

Upcoming events:

Art Institute of Chicago
The Magic of Lace
June 27-September 30
Galleries 57-59
http://www.artic.edu/aic/exhibitions/lace.html

Indian Prairie Library, Darien, Illinois
September
The display cabinet (approx. 5' x 4') will feature the Medieval Textile newsletter, handspun dyed using Woad, Weld, & Madder as well as samples of textiles woven by Nancy McKenna, including TC#64 as well as featured books on weaving and the Medieval period

If your weaving is being featured somewhere, or if a musuem near you has an exhibit of interest, let me know and I'll add it to this column.

Samples:

Gayle Bingham: "q" from Bender-Jorgensen (warp float pattern)
Diana Frost: Textiles & Clothing sample #49
Lynn Meyer: Broken Lozenge twill from Coppergate
Holly Schaltz: York 1268, Diamond Twill using Icelandic Fleece
Nancy McKenna: Textiles & Clothing sample #64
Carolyn Priest-Dorman: unspecified linen weave

Please weave enough for 26 samples. Samples & draft are due November 15th. *This is a piece of cloth as small as 12 inches x 21 inches (30cm x 52.5 cm) You do NOT have to cut the fabric into squares - I'll be doing that as part of the calendar making process. This could be fabric "left over" from another project. It need not be handspun, nor of painstakingly accurate grist yarn, either. Everyone is invited to contribute since everyone gets a calendar.*

Note:
The date next to your name on your mailing label is the renew date for your membership. If you have forgotten to mail in your dues, please do so. If you do not intend to renew, please let me know. I can be reached at *nmckenna@mediaone.net* if you have internet access.

Grants

by Nancy M McKenna

We're getting beyond the basics, and its time for YOU to pick a topic to work on if you have not already. But that may mean you have to get off the couch and to the nearest museum to see what you want to do. If your ideas are bigger than your checkbook, especially if they would be of interest to the public, you may need to look for funding. Although grants have a certain mystique, and are not necessarily easy to obtain, you *can* get them.

The bigger the grant, the more difficult it usually is to get. One place to find big grants is the National Endowment for the Humanities
http://www.neh.gov/
National Endowment for the Humanities
1100 Pennsylvania Avenue NW
Washington, DC 20506
General Information:
1.800.NEH.1121

Also, each state has a NEH council which offers smaller grants that are offered locally. Check your local phone book, and/or the phone book of your local large city or state capitol.

For regional Arts organizations that may help you, see:
http://arts.endow.gov/artforms/RAO_SAAs.html

Even if you do not have a concrete idea about what you are going to study, contact your local arts or humanities council. Every year they sponsor grant writing workshops, and these are often offered for free. You should attend one before beginning to fill out your grant application, and you should attend even if you think your chances of getting a grant are slim because:

1) you dont want to waste your time. You need to know the questions before you put your answers on the application.

2) You may realize that the grant process is something you really dont want to deal with or

3) Although you thought grants were out of your reach, they are more approachable and more applicable to your project than you initally thought.

Woad

Note: Samples are scanned and colors are not exact. Please check out the notebooks to see the actual samples.

Complex Weavers'
Medieval Textile Study Group

Dye Sample Card 2

Woad Dyes

by Gayle Bingham

Medium Blue

Material:

3/2 cotton

5/2 merc. cotton

Material: wool

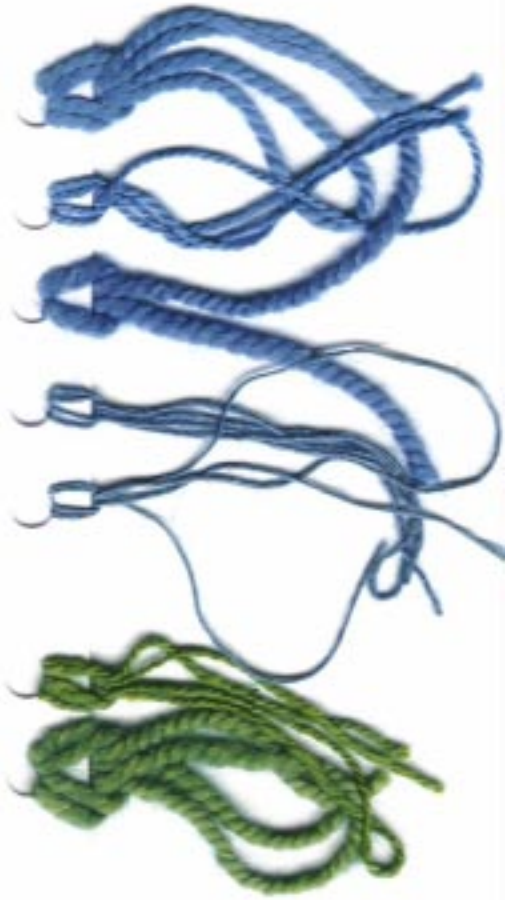
Material: silk

Material: linen

Weld overdyed with woad:

Material: cotton

Material: wool



See Issue 29, Sept. 2001, for instructions

Note: Samples are scanned and colors are not exact. Please check out the notebooks to see the actual samples.

Complex Weavers'

Medieval Textiles

Dye Sample Card 1

Madder Dyes

by Nancy McKenna, SFO

Quick Bronson 1:
Material: Medium staple worsted wool

Quick Bronson 2:
Material: Medium staple worsted wool

Slower method:

Material:
Ramboullet x Finn sheep wool, 2 ply, woolen

Baby Camel, 1 ply, woolen

Australian Merino, 2 ply, woolen

Slow method, Iron mordant:

Merino mix singles undyed

Ramboullet x Finn singles, undyed

Unknown Scottish wool, before dyebat

Ramboullet x Finn light brown: Walnut

Merino mix, buckthorn dye

Scottish wool, buckthorn dye

ee Issue 29, September 2001, for instructions

Note: Samples are scanned and colors are not exact. Please check out the notebooks to see the actual samples.

Complex Weavers'
Medieval Textiles

Dye Sample Card 3

Weld Dyes
by Carolyn Priest-Dorman

YELLOWS

Alum/weld 20/2 worsted

Alum-tartar/weld Eingirni (Icelandic singles)

Alum-tartar/ weld exhaust 12/2 worsted

GREENS

Alum/weld/indigo 20/2 worsted

Alum-tartar/weld/indigo Eingirni (Icelandic singles)

Alum-tartar/weld exhaust/indigo 12/2 worsted

ORANGES

Alum/weld/madder 20/2 worsted

Alum/weld/madder exhaust 20/2 worsted

Alum-tartar/weld/madder exhaust 12/2 worsted

Alum-tartar/weld/madder 12/2 worsted

See Issue 29, September 2001, for instructions

The Medieval period in England is usually classified as the time between the fall of the Roman Empire to the beginning of the Renaissance, roughly the years AD 410â€“1485. For various peoples living in England, the Anglo-Saxons, Anglo-Danes, Normans and Britons, clothing in the medieval era differed widely for men and women as well as for different classes in the social hierarchy. The general styles of Early medieval European dress were shared in England. In the later part of the period men's clothing The best new research on medieval clothing and textiles, drawing from a range of disciplines and with a special focus on reconstruction and re-enactment. Robin Netherton is a professional editor and a researcher/lecturer on Western European dress, specializing in the depiction and interpretation of clothing by artists and historians. Medieval Clothing and Textiles. Download list of titles. Other actions. Download list of titles. About Medieval Clothing and Textiles. Visit. Refine search.Â Medieval Clothing and Textiles. Volume 14. Edited by Robin Netherton, Gale R. Owen-Crocker.