



Medieval Textiles

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Osage Orange and Young Fustic.

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Osage Orange (*Maclura pomifera*) wood has the same dye material (morin) as Old Fustic (*Morus Tinctorum*). Old fustic is the New World dye. According to RAISE, a field organization run jointly by the United States Agency for International Development, this useful tree has a twelve year growing cycle and is sustainably farmed. Osage can be found in hedgerows throughout the United States as it was commonly planted as a wind break along farm fields, and can also be purchased through many dye purveyors.

Per RAISE¹ the dye has a lightfast rating of 4-5 for wool and cotton (darkening with age) 3.5 for cotton, 4 with iron. Washfastness is rated at 4-5 for wool and silk and 4 for cotton. This makes it almost as durable as weld, which is the most lightfast and washfast of the yellow plant based dyes. With the dye chemical morin, fastness is said to increase with the addition of iron in the dye process, but this also is said to change the color to green.

Although morin has been said to not be colorfast by many 17th and 18th century dyers, it is believed that some of these problems are due to poor mordanting rather than being a feature of this dye since reports from that time period are mixed. A 20th century authority, a dye chemist writing in 1910, said that fustic combined with chrome mordant was at that time still regarded by some as the best yellow coloring matter the dyer possessed.² And the fastness results of alum mordanted fibers shared by RAISE uphold the good reputation of morin.

Young Fustic is the dye of *Rhus Cotinus* aka *Cotinus coggygria*, commonly known as the smoke bush. Its primary dye is Fustin. Although it was used in the medieval period, once more lightfast yellow dyes became available through the exploration of the Americas, this dye ceased to be commercially

important. This dye is not available through dye purveyors, but since it has experienced periods of popularity as a specimen plant it can often be found in local gardens.

There is a New World relative, referred to as the smoke tree (*Cotinus obovatus*) that is considered endangered. This tree resists rot better than cedar and thus traditionally has been used for fence posts. It was also a common yellow and orange dye during the US Civil War and it is the overuse of this tree for its wood products and for dye that caused it to become endangered.

The samples were dyed using the following mordant recipes:

To mordant **one pound** of wool, use:
4 Tablespoons of Alum
4 teaspoons of cream of tartar
Water to cover.

Bring water to a simmer. Add alum and tartar and stir to dissolve. Once the water comes back to a boil, add wool and turn off the heat. Allow the wool to steep for 6 hours.

To mordant **one pound** of cotton, one uses three mordant baths. The first and third are the alum mordant:
4 Tablespoons Alum
water to cover.
Bring water to a boil, add alum, stir to dissolve, add yarn and turn off the heat. Allow to steep for 6 hours.

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Complex Weavers' Medieval Textile Study Group

After the first alum bath, squeeze out the alum mordant (reserve the alum mordant), rinse the yarn and place the yarn into the simmering bath made of:
2 Tablespoons Tannic Acid

Water to cover yarn.

As soon as the yarn is in the bath, turn off the heat and allow to sit for 6 hours. Squeeze the tannic acid mordant water out of the yarn, and rinse the yarn. Then bring the original alum bath back to a simmer and place the yarn into the bath. Remove from the heat and allow to steep for six to twelve hours. Squeeze out the yarn and rinse.

In the case of both dyes, I used sawdust created by rasping the yellow heartwood with a farrier's hoof rasp in a quantity equal to half the dry weight of the yarn. The osage wood was cut in the fall and allowed to remain outdoors, unsheltered, until mid march. The young fustic was cut in late March.

The sawdust was added to water and allowed to sit until the dust absorbed enough water to fall to the bottom of the jar. The water was then placed into the dyepot and brought to a simmer at which time the yarn was added and the heat turned off. Immediately upon entering the bath, the yarn absorbed the dye. After ten minutes the yarn was removed from the dyebath and rinsed.

The osage dyed the yarn a golden yellow. The fustic dyed the yarn a bright carrot like orange.

Sources:

Adrososko, Rita J. *Natural Dyes and Home Dyeing*. Dover Publications Inc, New York ©1971 ISBN 0-486-22688-3

Dean, Jenny. *Wild Color*. Watson-Guptill Pubns; © 1999 ISBN: 0823057275

Vines, R.A. *Trees, Shrubs & Woody Vines of the South West*. Univ of Texas Press © 1960 ASIN 029273414X

¹ Light fast - Xenon arc exposure for 20 hours for cellulose fibers and substrates
Xenon arc exposure for 40 hours for protein fibers and substrates

Both were compared to a five step gray scale gradation based on ISO standards.

Wash fast -

All wash fast tests for both protein and cellulose

fibers/substrates were completed according to 2A ISO standards (warm temperature with a neutral pH detergent) which stimulates a typical washing machine cycle in a domestic setting.

Information from www.raise.org

² Adrososko, *Natural Dyes and Home Dyeing*. p. 32

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