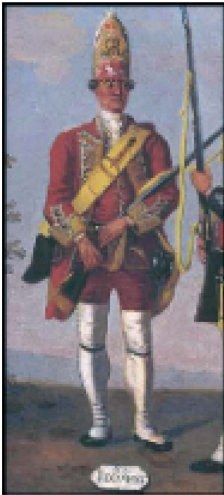
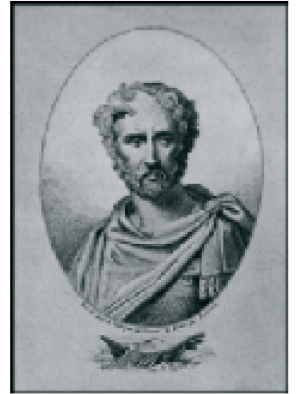


# Turkey Red



## Background

Turkey Red is made from the red root of the madder plant (left), related to the coffee and quinine plant, native to southern Europe. It has small yellow flowers and, later in the year red-black berries.



The root was used by the ancient Egyptians to dye mummy blankets and was mentioned by Pliny the Elder (right above), who was killed when Mount Vesuvius erupted and buried Pompeii (79CE) and has been found in the Viking levels at York. The earliest trace of the dye in European textiles was found in the burial robes of the Merovingian queen Arnegundis (565-570CE). Hildegard of Bingen (right below) also mentions madder in her herbal.



Madder was introduced into Asia Minor in the tenth century, arriving in Europe by the thirteenth century, and eventually became used for British soldiers' uniforms in the American War of Independence (left). The French used the root to make alcohol.

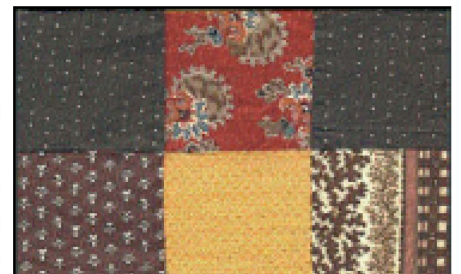
## Turkey Red

The Turkey Red process was introduced into Scotland by Pierre Jacques Papillon in 1785. He was a dyer in Rouen, invited to Glasgow by George Mackintosh and David Dale. The Turkey Red process originated in China and was a foul, costly and complex process involving extracting red dye from the madder root. The process involved animalising – that is adding urine, milk, dung, blood or egg albumen. The roots were washed, dried and ground into a fine powder. Cloth fibres were covered with a cheap vegetable oil, called Turkey Red oil, dressed and treated with tannic acid, before being steamed. The cloth was tie dyed, at this time, to make red and white spotted bandannas and handkerchiefs. Turkey Red was extremely durable and did not fade in water or light.



## Mordants

Many colours can be produced from the root of the madder plant; this is done by extracting the natural dyeing agent in the plant: alizarin; it can produce red, pink, lilac, orange, black and brown pigments and was extremely important before the introduction of synthetic dyes in the nineteenth century. Purpurin, which produces a deep red dye and xanthin which produces yellow, can also be extracted.



With the introduction of cotton ways had to be found to make the cotton fibres take the natural dyes, until this time wool and silk were the only materials available and they were easily dyed naturally.

Mordants were first discovered in India. They were substances that formed a bridge between the cloth fibre and the dye enabling one to take to the other, the amount of mordant affected the intensity of the colour of the cloth, the most common modern mordant is alum.

## Block Printing

The origins of block printing are shrouded in mystery, although it developed from free hand painting with a brush. Blocks for printing have been found in Egypt, in burial grounds dating from the fourth century. In Europe, block printing of fabrics didn't appear until the end of the twelfth century. At first carved wooden blocks were used before copper plates and then metal rollers.



The cloth was printed with mordants which were allowed to dry for a while before reacting in an immersion vat with the soluble dye, the dye on unmordanted areas could then be washed out. Different mordants were painted on at different times to produce more colours and patterns. Blue was produced by pencilling in indigo, while green was produced by pencilling indigo over yellow. This proved fugitive and so eighteenth and nineteenth century cloth very rarely has yellow left.



## Fashions

Turkey Red became extremely popular in the nineteenth century, early quilts show red and green patterns, the green proved fugitive and so from the late nineteenth century red and white quilts are most often seen. Patterns such as the double wedding ring, feathered star and nine patch peaked from the 1880s to 1930. The peacock was another popular motif as can be shown by the number of peacocks in the existing pattern books.

## The End of Turkey Red

In 1868, a synthetic version of alizarin was discovered by German scientists and in 1880 Turkey Red could be approximated synthetically, with a dye called Para Red. Congo Red was also produced and marketed unscrupulously as a synthetic Turkey Red but this proved fugitive and faded to a beige.

Synthetic dye can be traced by examining the fabric with ultra-violet light. The purpurin / alizarin mix that comprises Turkey red fluoresces, while synthetic dye is pale violet.

