

Japanese Red and Blue

Cultivation and Dyeing of

Rubia Akane and *Polygonum tinctorium*



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Rubia Akane and *Polygonum tinctorium*

AKANE(*Rubia Akane*) , which was described as the sunset red in Manyoshu(Ten Thousand Leaves, a poetry collection of the 8th century), and TADEAI(*Polygonum tinctorium*) called "Japan Blue", are recognized as dyes that are known for fastness to sun light, so many regional textiles dyed with it remain in many places and museums around Japan and abroad.



Area of producing indigo, farm and garden cultivating Akane and Tadeai



Rubia Akane



Isatis tinctoria L.
Yezoensis var.



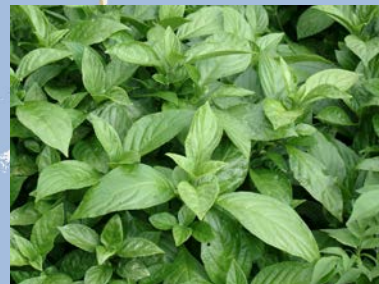
Polygonum tinctorium Aiton



Rubia Cordifolia
L. var pratensis



Indigofera suffruticosa
Indigofera tinctoria



Strobilanthes cusia

Japan Blue : Indigo vat with SUKUMO

indigo textiles were dyed using a fermented indigo vat "SUKUMO" made from dry leaves of *Polygonum tinctorium* and water.

Indigo vat: 270L
Pottery vessel,
20kg SUKUMO
7kg wood ash
Lime from shelfish
Bran



1st day: SUKUMO and ash liquid



3rd day



5th day



7th day, possible to dye



in dyeing



Cultivation of *Polygonum tinctorium* in Hokkaido, Northern Japan

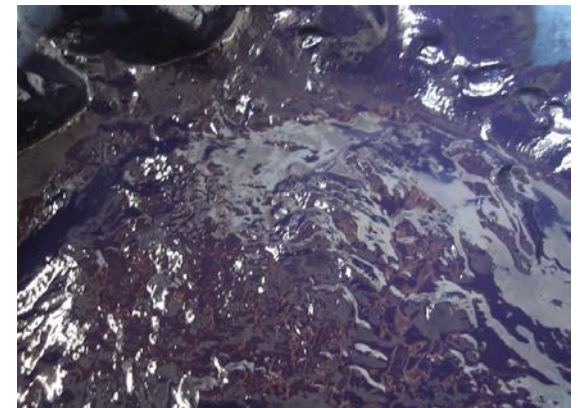
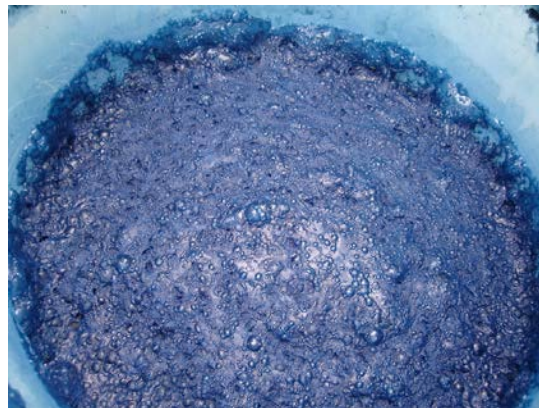
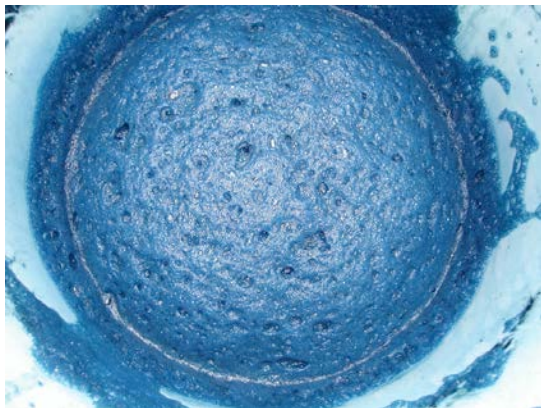
- TADEAI is easy to cultivate with no use of pesticides, so it has started to be used not only for dyeing and painting but also for many various uses like quasi-drugs, soaps, cosmetics and others.
- In Hokkaido, the northernmost area of Japan, we cultivated TADEAI in summer, and produced indigo pigments in small quantities with cold water and tried to learn how the color and smell changes by changing pH levels.

Indigo pigments were also produced and sold exclusively under the mentorship of pharmacology doctors around 1870~1900 in Japan.

Regulating pH with no lime and lime for making indigo pigments using *polygonum tinctorium* and cold water



Souse fresh leaves in cold water for 3~5 days, surface change to deep violet, put out leaves



Oxidizing for 20 minutes, and put liquid of shellfish lime(pH7-10) after filter, get indigo

Wild Akane in IWAI-shima, Hiroshima, Tokyo

Rubia Akane like wet and half sun shine, and
in anywhere of the fields and hills but digging up is hard.



Cultivation of Akane since 2004

Starting to cultivate from only 2 pieces seedlings, for three years, become very fertile dyestuff.



After picking seeds in late autumn, 2 months later, harvest roots and dye

We have also cultivated Akane for 8 years and now can harvest mature roots, and also its germinating rate has become 80%.

- Moving out snow, and harvest roots.



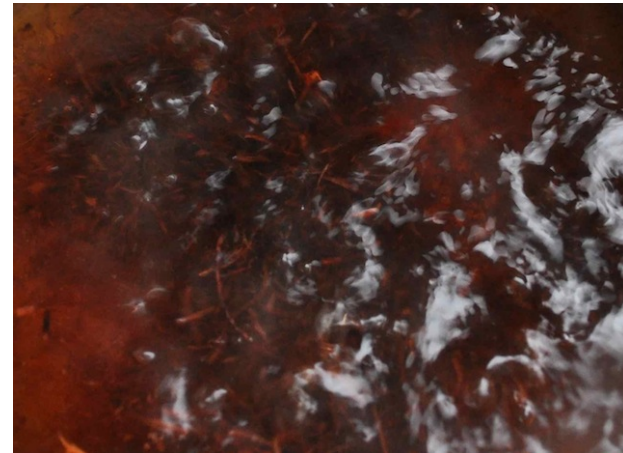
←
1.5m
snow
→
Under
snow



Dyeing with fresh Akane's roots

The pigments are on surface of roots, and while the roots become dry, red pigments are broken.

So, we dye clothes with 2 times weight of roots.



Extracting
by boiling

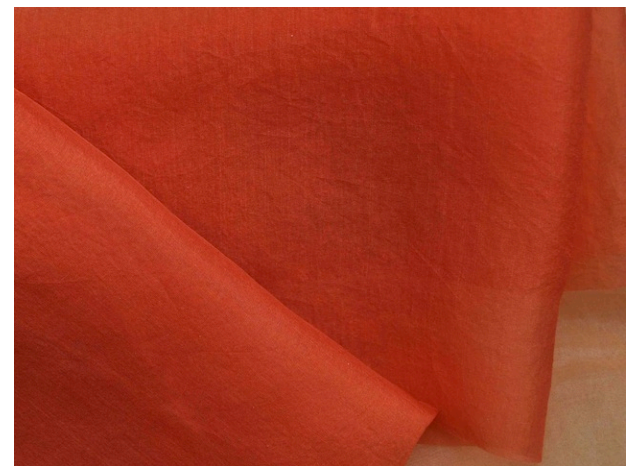


Ramie and
Wood
painted
pigments
of Akane.

materials of Pre mordant for dyeing

Japanese red : Akane

Liquid(**alkaline**) from ash of leaves contained
much Alumina: *Camellia japonica*, *Cleyra japonica*



Pre mordant with various sinter deposits from Beppu and dyeing various clothes with Akane



Various Beppu Sinter deposit Liquid:acidity,pH4↑



Silk, wool, cotton, ramie thread ↑→



Effect of using by fresh



↑ From fresh leaves of polygonum tinctorium, we make pigments, use the enzyme for settled indigo, and make SUKUMO from dry leaves.



← ↑
Akane's 2~3 years
fresh roots have
much pigment on
surface

← MURASAKI, *Lithospermum erythrorhizon* Sieb, et Zucc, of the Boraginaceae family, the pigments of dry roots are poorly soluble in water. But the pigment of fresh roots are soluble in water. So it's possible to dye a beautiful purple with water.

Dye plants as sustainable resource

Cultivating regional dye plants
under a suitable environment
and property-based dyeing
bring good result.