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Types of Handicrafts

# Woolen Fabric



**Woolen fabric** is woven from wool or wool mixed with cotton. It is an adapted textile which is a handicraft from the traditional knowledge of Paganyaw or Karen. An important weaving source is located at Ban Huay Hom, Mae La Noi District, Mae Hong Son Province, where sheep are raised for their wool for further weaving process. It is the only woven fabric handicraft in Thailand under the royal initiative project of Her Majesty Queen Sirikit. It provides an option for villagers to earn supplementary income. Woolen fabric at Ban Huay Hom has become an identity product that has been accepted both in Thailand and foreign countries.





## Woolen Fabric: Identity that reflects wisdom and knowledge

A traditional woolen fabric weaving process of Paganyaw women employs a traditional backstrap loom of Paganyaw. This is the knowledge of their ancestors that has been passed on from generation to generation. Traditional patterns include Look Kaew Ta Yai, Look Kaew Ta Lek, Dok Khem, Dok Khem Koo, Kon Nok Pirab, Khaopod, zigzag, square and cross, ladders, etc.

Woolen fabric made by Karens in Baan Huay Hom is regarded as an indigenous knowledge to bring natural-dyed cotton woven with woolen yarn. Its outstanding pattern and evenly smooth texture is created by using traditional method of Paganyaw women. The difficulty depends on pattern and color dyes. Woolen fabric has become the product which makes income and creates profession to Karen people within the community.





Sheep raised in Baan Huay Hom are Dorset mixed with local breed, which is a mix between Bond and Corriedale, given by Mae Hong Son Provincial Livestock Office. Sheep shearing is done when a lamb is one year old. After the first shearing, it must wait for another year then it can be sheared again. Dyes are made from natural ingredients such as soil, tree bark, leaf, fruit or root. Woolen weaving uses wool horizontal yarn (weft) and cotton vertical yarn (warp) to realize delicate woolen fabric for winter outfit and for several other uses.

Woolen fabric weaving requires several steps to get high quality. These include wool quality control, shearing, cleaning, sun drying, spinning and dyeing with natural colors such as plant roots obtained from turmeric or wild Indian mulberry (Yor Pa), coffee ground, mulberry leaves, jackfruit bark or Broken Bone tree bark.



## From animal fibers to fabric

Wool fiber has special characteristics since it is composed of keratin, which is a chemical compound of 18 amino acids forming long polypeptide chain with thiol (SH) groups of cysteine creating disulfide bond. This protein type contains sulfur in its molecule. The molecular structure is in shape of long and twisted chain connected with hydrogen bond. With uneven arrangement of the molecular structure caused by the connection of sulfur in cysteine molecule, wool fiber has elasticity, wrinkle resistance and recovery. Therefore, wool was one of the first fibers that human learned to spin into yarn and weave it into fabric. Before industrial revolution, wools from animals such as rabbit and sheep were commonly handspun only.



Afterwards, leather and sheep wool were popular for making clothes, especially in cold countries because wool could absorb humidity and keep wearer warm. It was easy to iron and adjustable to fit the body. Brushing is enough to get rid of dirt and dust from wool fabric.



Wool quality grading can be done by specialist examination by looking and touching it. There are over 20 grades considering from various factors, for example, type, length, fineness and strength of fiber.

In the US, the comparison of wool grading system uses Merino wool, which is the best, as the standard. However, other countries use British grading system that is based on the yarn fineness. The best yarns are no. 80s, 70s and 64s. There are 2 main types of wool yarn depending on the length. The short one is called “woolen yarn” while the long one is called “worsted yarn”.

For sheep shearing, shoulder fleece gives the top quality as it’s the softest wool with crimp (wavy fiber). The softness will depend on the frequency of waves. During the shearing, it’s necessary to remove the sweat point.

Wool from flank part, from shoulder to chest, belly till back legs, is thick, heavy and

lustrous. Normally buyers will determine the pricing based on this part. Next, wool from back legs is coarser than flank wool, so it should be removed. Black wool will be removed as well. The wool removal of each sheep depends on its fleece characteristics. This often happens in mixed breed lamb.

For shearing, considering from breed, fleece quality and length, it’s recommended to separate sheep into groups: lamb (up to 1 year old), yearling (older than 1 year old) and ewe. New sheep and ill sheep must be separated.

There are 2 types of fleece. The most widely-used is fine fiber or wool while another type is coarse fiber called “hair” or “kemp”.

1. Fine fiber or wool is most widely-used.
2. Coarse fiber is also called “hair” or “kemp”.





## Background of Woolen Fabric of Ban Huay Hom

In Thailand, there are attempts at sheep farming in cold areas where landscape is similar to Australia, such as in Mae Hong Son and Chiangrai. The purposes are for tourism and for making fabric. Several sheep breeds are raised there. Meat breeds are raised to be weighty and produce high quality meat. Examples of this group are Katahdin, Santa Ines, Barbados Blackbelly and Dorper. However, some are dual purpose breed, for example, South African Mutton Merino. The most popular and suitable wool breeds for Thailand are Corriedale and Bond. They give high standard fleece. They are easy to take care of and able to survive Thailand climate.

Bond sheep breed was developed in Australia by mating Peppin Merino ewes to imported Lincoln rams. Bond sheep are used both in the production of wool and meat. They can give fleece weighing up to 5 kg. The fleece has off-white color, long staple and a diameter of 22-28 microns. This breed is well-known for its long, bulky body. Lambs have good growth rate. They can adapt themselves to quick-changing weather. They grow up fast and have good health. The fleece is lustrous, long, durable, flexible and easy to dye.

Corriedale breed was developed in Australia and New Zealand by mating Lincoln Leicester to Merino. Nowadays, this breed is farmed in North America, Latin America and South Africa. Corriedale can produce meat and good quality white fleece. They have broad body. Mature Rams weigh 84-113 kg while ewes weigh 56-84 kg. Corriedale fleece is dense but soft. It has suitable length. It can be insulator for both cold and warm. It last long and can be spun easily.





In Thailand, wool sheep have been farmed for more than six decades in Baan Huay Hom, a small village in a valley in Mae La Noi District, Mae Hong Son. It's said that in this village, the majority of villagers are Paganyaw or Karens who have settled down for 200 years or 7 generations. Most of them are Protestants. They have simple lifestyle blending with nature. The primary occupation is agriculture: growing rice and local plants and farming animals such as cows, meat sheep and wool sheep. They still wear traditional outfit, and strongly preserve Karen tradition and culture, including weaving wool fabric.

About in 1957, missionary arrived at Baan Huay Hom for religious purpose. They saw that Karen textile was splendid and unique. The textile was made from local cotton spun into yarn. The weaving technique used backstrap loom unlike anywhere. The missionary, then, taught wool spinning to them.







At first, they made wool fabric mainly for home-use. They could sell only a few because the style and skills were not suitable for general market and also because of the location of the village is in remote area, so there were not many tourists there. Eventually, Her Majesty Queen Sirikit visited Baan Huay Hom in 1971. She saw their wool fabric and encouraged them to do it as a job by asking local authorities to help improving both meat and wool breeds. Her Majesty gave imported breed for crossbreeding with local ones until wool lambs were successfully developed. The Queen said that wool fabric could be improved further, especially if there are good breeds giving soft wool like wool fabric in other countries.

This is the reason why the Queen gave 70 Australian new breed sheep: Bond and Corriedale. Several organizations studied and researched about their genetics data to develop the sheep.



Finally, the wool fleece has high quality. Then, they support villagers to create products and handicrafts made from wool.



## Wool making process

### Tool / Equipment

1. Backstrap loom
2. Comb
3. Fleece
4. Cotton

### Process

Sheep shearing is done in summer (March-May). Make the sheep lay down still. Gently shear its fleece. This step requires expertise and carefulness in order to avoid any cut on sheep skin. After shearing, sheep will return to normal life waiting for new fleece cycle.

Fleece will be cleaned by soaking in detergent for a while and rinsing it with water. Repeat this step 2-3 times. Make sure that the detergent is completely rinsed off.

Boil the fleece to get rid of grease. Softly wring it and dry it in the sun for 2-3 days.

At this stage, wool is like hard and brown lump. Use special comb imported from New Zealand until the wool is soft and fluffy. Remove all skin and grass. The wool now is clean and white. Brush again till it's refined.

Spin the wool into long yarn. This step needs energy and spinning skills.

If preferred, dye with natural colors made from tree bark, shoot, branch, plant roots obtained from turmeric or wild Indian mulberry (Yor Pa), coffee ground, mulberry leaves, jackfruit bark or Broken Bone tree bark, etc.

Yarn is ready now. Weave it by using traditional backstrap loom, an example of local wisdom. With this ancient loom, warp (vertical yarn) will define the width of fabric. Continue weaving as the loom is set. The fabric will be soft and have nice pattern.





An example of traditional pattern is corn. Nowadays, new style patterns like pagoda or lotus are applied to represent the identity of Mae Hong Son. Moreover, 'The Geometer's Sketchpad' (GSP) is also used to design patterns by adding geometric shapes.

Woolen fabric features a soft texture, suitable to make various kinds of product, such as a bag, a carpet, a scarf, a shawl, a table cloth, etc. It has been sent for both domestic and export sale. It is popular in Japan, Korea, and Malaysia.



## Care tips

Wool fabric can be cleaned easily. If it gets wet, shake it. Once it is dry, use soft brush to clean it again. For long-term use, dry cleaning is highly recommended.

However, if normal wash is necessary, use soap or mild detergent, squeeze it softly, but do not twist it. Do not soak it for a long time because the fiber will shrink. Do not use chlorine bleach because it ruins the wool.

For drying, lay the fabric on towel to absorb water. Make it keep its shape. Do not hang it because the shape will be damaged. Leave it dry in shady area with moderate wind. For ironing, cover wool fabric with another piece of cloth. Use low to medium temperature. Gently iron in order to not stretch its shape. High temperature can cause the wool becomes hard and yellowish.

Wool fabric is an indigenous knowledge that can create jobs and incomes to the community. This handicraft is exotic and worth to be preserved for the country.







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