

# Peat-Fiber – Origin, Qualities, Health-Benefits and Clothing & Bedding Products

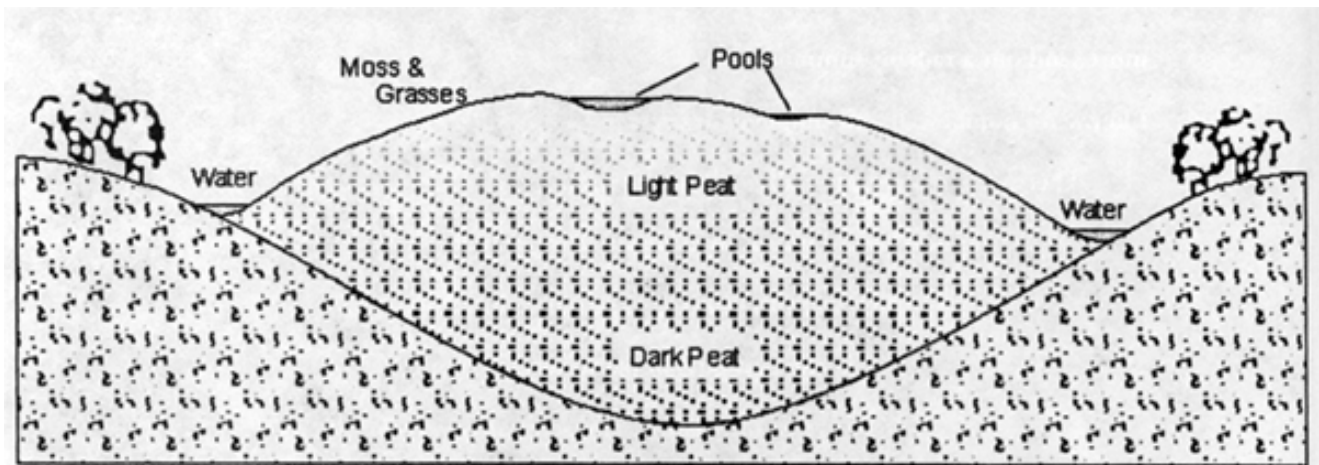
The inspiration to develop Products that have the benevolent potential of Peat-Fiber is based on what the genius and clairvoyant Dr. Rudolf Steiner said about it in 1920:

***"By the refining of Peat-Fiber it would be possible to free the bound elemental beings therein, and these elemental beings would then out of gratitude protect people from what was imminent in the near future, namely that the atmosphere would be so permeated by electricity, magnetic fields, aircraft and much worse, that for the people life on earth would be a torment. But textiles and garments made from Peat-Fibers could protect humans from these influences".***

## The Origin of Peat

Peat is generated in raised bogs and boggy soils. Those are waterlogged mounds of partially decomposed plant materials, which have accumulated naturally over time. Over many decades of decay and regeneration of moss and grass, a spongy decomposing mass develops. As the raised bog increases in thickness and moisture content, peat develops underneath.

Raised bogs always develop on soils with little mineral content where there is almost no drainage. Rainwater collects as though in a bath tub that gradually fills up. Raised bogs are generally found in the cool far Northern latitudes where there is acidic matter, a slow oxidation occurs and partially decayed plant materials build up.



Few plant families survive in such conditions; the original vegetation - trees, bushes, or even whole forests – gradually perish over the centuries: they become peat. Only mosses, heathers and a few grasses survive on the surface in these conditions - plants with few needs as regards to warmth and nutrients, and even these gradually become submerged in the water. Sphagnum mosses are the only plants that flourish in these conditions. They grow over everything, including themselves, creating a layer of vegetation from which new shoots constantly appear; new plants create further layers on top of the dead bodies of older vegetation: a hydromorph (under water) and anaerobic (without oxygen) process resulting in humified plants (turning it into humus).

Over many years a spongy mass of vegetable matter develops. Increasing in thickness it will in the end absorb 25 times its own weight in water. The surface of these raised bogs is noticeably higher than the surrounding ground, hence their name.

Sunken bogs are flatter, as the name implies; they contain more nutrients and therefore support a richer assortment of plants such as birch, alder, sedge and bent.

Peat development is neither de-composition, with microbial activity converting organic into inorganic matter in the presence of air and water, nor the result of putrefaction, with bacteria ultimately converting organic matter into sludge in a process that also generates CO<sub>2</sub>, water, and gases such as hydrogen and methane. Peat develops once the upper layers of vegetation have died when a lengthy process begins in which microbial action takes the organic matter through many chemical stages before **it turns into humic substance systems**. Despite their lack of structure these are relatively stable mixtures of substances on **the way to becoming coal**, with some very special properties.

Sheathed cotton sedge favors raised bogs where it constantly dies down and then regrows. Peat fibers are obtained from the light-colored peat nearest the surface of the bog. The black peat lower down contains almost no recognizable plant remains. Its dark color foreshadows the process in which it will gradually turn into coal.

And so peat is plant material at the start of a process of carbonization with a decrease of oxygen leading to black peat and coal. For coal to form, the sunlight and warmth from plant life has been transformed, whilst for peat this process is arrested and there is a blocking and holding of warmth and cosmic forces. Plant life becomes suffocated and is unable to decay fully. It takes about 1000 years for a layer of 1 meter of peat to come about.

The raised bogs and boggy soils are areas where predominately **sphagnum moss** (*sphagnum cymbifolium*) and **sheathed cotton sedge grass** (*eriphorum vaginatum*) –in the USA it is a.k.a. **Tussock Cotton Grass**– grow on the watery decomposing vegetation underneath. The latter is a constituent of peat and of the **peat fiber** and it.

[https://en.wikipedia.org/wiki/Eriophorum\\_vaginatum](https://en.wikipedia.org/wiki/Eriophorum_vaginatum)

[http://www.efloras.org/florataxon.aspx?flora\\_id=1&taxon\\_id=200026766](http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=200026766)

### **Characteristics of Peat and Peat-Fibers**

A number of physical and chemical properties can be deduced from what has been stated above regarding the development and composition of peat. Due to the limited scientific methodologies of Ordinary Materialistic Science these processes will not show up in any of its research. However for a deeper understanding of all the effects we can resort to points of view and insights gained from Rudolf Steiner's spiritual science and his research done accordingly. We can assume that much of what can be said with regard to peat also applies to peat fibers, since these are a constituent of peat.

Peat preserves not only ancient oak boles, tree coffins or corpses, but fruit and vegetables laid in peat also stay fresh longer. Decomposition and putrefaction of organic matter are not only prevented by lack of oxygen and acidity; certain substances and forces present in peat also counteract decomposition. Compost heaps should be covered in a layer of peat.

**"This would effectively protect the conversion processes in them from disruptive outside influences,"** Steiner said in his lectures on agriculture given in Koberwitz in 1924.

A covering of peat also helps to preserve the processes and activities of biodynamic preparations. Although it may make the garden soil more friable when dug in, it is liable to hinder the stream of substances in plant growth and can even be harmful. It should not be regarded as a fertilizer, for left in its natural state it absolutely has no fertilizing effect.

### **Health and Peat**

As stated above in Steiner's remark he foresaw that ***"the atmosphere would be so permeated by electricity, magnetic fields, aircraft and much worse, that for the people life on earth would be a torment"***. It is obvious that this has come true, and that these meteorological effects have caused a-rhythmia and disharmony targeted at both the etheric organization of Earth's organism as well as those of man. They appear to be distorted in their natural equilibrium and their interwoven conditionality.

In the above mentioned lectures on agriculture Dr. Rudolf Steiner stated that ***"mounds are particularly effective at absorbing positive cosmic forces from the periphery and rejecting disruptive forces"***. These remarks made by Dr. Rudolf Steiner in conjunction with his earlier mentioned remarks about how the elemental beings in peat can help to protect and care for us show that textiles, clothing and substances from peat could offer protection and healing to humanity in the future (i.e. now), particularly such as those in relation to environmental stress including electromagnetic radiation.

In peat, the ascending (etheric) forces in the remaining life processes of the vegetation are met by descending death processes that cause the vegetation to disintegrate. Hence Rudolf Steiner's general suggestion to his colleagues in his book *Fundamentals of Therapy*:

***"In peat the ether forces have a descending tendency; this must be transformed into an ascending one. This divides plant nature into two aspects. One is oriented towards life, it is wholly in the sphere of the periphery; these are the sprouting organs that sustain growth and flower. The other is oriented toward the lifeless, it remains in the sphere of outward radiating forces, it includes everything that hardens growth, providing a firm supporting structure for life, etc."*** Such is the stream of substances in which the lifeless comes to life and what is alive dies; plants exist within such a stream.

In the early 1940's Dr. Rudolf Hauschka –who started the Hauschka body-care products: [https://www.dr.hauschka.com/en\\_US/](https://www.dr.hauschka.com/en_US/) – developed on further some of Steiner's indications regarding peat whilst studying the elemental beings - the nature spirits who are involved in the management of the plant kingdom. Normally when plants die in autumn, the digestive processes of the earth cause the plant life to form humus for future regeneration and the elemental beings are released into the surrounding cosmos. In a peat bog, the elemental beings remain connected and trapped with the partially decomposed plant substances for decades and even centuries. Each year's new growth partially dies and falls mummified on top of the previous layer. Years of accumulated plant matter results in the forming of peat.

**This means that centuries of stored forces of growth and development from an originally healthy, vital natural world free of environmental toxins or electric and electro-magnetic influences are therefore imprisoned in peat and in peat-fibers.**

The proper activity of the elemental beings is to care for the natural world until humans develop to the stage that they can creatively and responsibly carry this task. In the moors, the elemental beings are bound to the peat such that over time they become hostile and angry towards a positive evolution of the cosmos. A sense of this angry, somber nature is in the atmosphere of all moors due to these aberrant elemental beings.

So it makes sense that Rudolf Steiner considered releasing these elemental beings to be a task for humans today. He gave indications that through the right biological care peat can be enlivened, and from it a ruffled, tensile and spinnable fiber can be produced to spun it for textiles and clothing, and the fluids can be used medicinally, enabling people to be strengthened physically and protected from the destructive environmental changes in the future.

These elemental beings can thus be released and liberated through the manufacturing of peat products whereby they have a new task to protect and care for people. Dr. Hauschka says this is the reason peat helps people who suffer under chaotic environmental change.

Dr. Hauschka also researched the therapeutic use of the fluid extracted during processing of the peat substance – the “**solum uliginosum**” – used in oils. It was known over thousands of years in England, Ireland and Europe that organic substances from the moors could be used therapeutically for many illnesses and ailments.

### **Health-Benefits of Peat-Fibers**

In medicine peat has been applied for over 200 years while in the more expanded (alternative and natural) medicinal approaches it has been used therapeutically for thousands of years.

Based on what was previously outlined above the health-benefits of peat-fiber and products made of it can be summarized as follows:

#### **1. Peat-Fiber provides warmth to our body**

The warming, vitalizing effect of peat has been used for a long time in the treatment of **rheumatic or sclerotic conditions**. This is due to the high specific heat of the humic substance system because such heat is easily stored therein.

#### **2. Peat-Fiber supports our skin**

Peat acts a-septically (antibacterial, antiviral, fungicidal), anti-inflammatory, circulation-promoting, in rheumatic diseases, in joint inflammation, but also fertility-promoting. The medicinal effect is mainly attributed to the humic substances (fulvic acid and humic acid).

The antibacterial properties of peat products are directly due to solutes in the peat. Open wounds heal more quickly and are less likely to become infected, which is also partly due to the acid pH of bog water.

Textiles containing peat-fibers provide us with a protective layer that corresponds in some ways to our own physiological protective layer, the skin. Peat fibers, stemming as they do from a grass, contain a lot of silica resulting from the high silicic acid content of sheathed cotton sedge. Silica, SiO<sub>2</sub>, is quartz. Quartz, in turn, has a strong affinity to light, to the cosmic environment surrounding us all. On the other hand, the humin system belongs to the dark carbon. Peat fibers' affinity to light and repulsion of light both react to external stimuli. Human skin, too, contains relatively large amounts of silicic acid, and in the melanin-producing pigment cells we have a process similar to the humin system.

The above-mentioned skin substances also react to external stimuli by triggering an appropriate reaction in the relevant defense system. It is therefore easy to understand why textiles containing peat-fibers can lend a helping hand to our own protective skin layer in its efforts to ward off harmful influences from outside.

### **3. Peat-Fiber supports and protects our life forces**

Our Life forces need warmth and our Life forces need activating wherever damaging influences exercise their inhibiting effects. It is fundamental for us that our Life forces operate well while they play a fundamental part in establishing our sense of well-being, our consciousness and our thinking. While the warmth of our Life-forces is also a conduit for our circulation the peat-fiber also generates support for it to be able to operate in an optimal manner.

So textiles containing peat fibers provide warmth in a specific manner. Textiles containing peat fibers are thus doubly useful: as a prophylactic measure for healthy individuals and as a support to help sick people regain health. Debilitated life forces need plant fibers (linen, cotton, etc.), just like we need food to give us strength. Peat-fiber can provide a re- invigoration of such disturbed life forces.

While peat-fiber supports the human skin as well as our life forces it is understandable that peat-fibers actually works out as in generating **“a skin around our life-forces”** – the protective layer mentioned earlier. The process towards becoming coal – i.e. carbon – corresponds with the foundation of our physical body. No wonder it is often people’s experience they feel well grounded and shielded pretty much right away when putting on clothing that contains peat-fiber. The image that comes to mind is that of a panzer or a rock.

### **4. Peat-Fiber protects from radiation**

So textiles containing peat fibers give warmth in a highly specific way. Another angle here is that this also involves a heat-activating process triggered when high-energy light is converted to long-wave heat radiation by the brown humin substances. Heat and light, which are essential for life, are in continuous wave motion. Light has very short wavelengths, and those of UV light are even shorter.

Light with especially short wavelengths damages proteins and thus cells. Human skin transforms short-wave into long-wave radiation with the help of endogenous melanin. Melanin, which is related to the humins, is the brown skin pigment we know as freckles. It is produced by melanocytes as a protection against the UV radiation constantly reaching the earth from the sun. We protect ourselves against this inimical, cold and invisible radiation by increased sweat secretion (sweat also contains substances that absorb UV radiation) by producing our own active substances (enzymes) which immediately repair cell damage by increasing cell production (horny layer of skin), and by the vital synthesis of skin pigments.

The existence of inimical radiation brings us to the current importance of peat fiber textiles for clothing. UV radiation from the sun and outer space has hitherto mainly been held in check on its way to earth by a protective ozone layer. We know that this is subject to growing damage through industrial use of CFCs, so that exposure to UV radiation is on the increase. The types of radiation reaching the earth from space and from the sun are: radio waves, heat, light, UV light. Wavelengths are progressively shorter in this sequence, reaching zero in X-rays which come next. From this point, more or less continuous radiation turns into the crackle of the Geiger counter caused by gamma, beta and alpha rays: radioactive radiation. The chemical actions of UV light in cells become destructive when X-rays or radioactive rays reach cell tissue.

Radiation damages the DNA in cell nuclei, causing irreparable damage and cell fragments the removal of which has toxic effects on the body. Almost exclusively young, growing tissues are affected or tissues that reproduce rapidly, such as blood cells, reproductive cells, or the cells in the intestinal walls. This is why children are particularly threatened.

In similar manner can peat-fiber also provide protection against harmful effects of Earth radiation.

### **5. Absence of electrostatic charge in peat-fiber**

There is practically no electrostatic charge in peat fibers.

### **6. Peat-Fiber absorbs moisture**

There is another advantage of textiles and clothing made of peat-fiber. We all know the discomforts of wearing easy-care synthetic textiles that quickly make a good many of us perspire and smell. This generally happens because heat is trapped by fibers that cannot ventilate adequately or which lack the ability to absorb moisture. Peat textiles do not have these disadvantages.

Peat has a low specific weight so the fibers are loosely woven and light-weight (high airiness). They absorb moisture because of the colloidal nature of the humin in the fibers. They act like a sponge, and absorbed water can be squeezed out again. It is also the humins that make the textiles specially efficient at binding odors, sweat and salts.

Peat fibers can easily be spun with wool in a 25, 40 or 50% mixture. Those percentages have proven to be a good proportion in a wool & peat-fiber mixture. The properties of peat still work out in such mixtures whereas the peat complements or increases the properties of the thread with which it is spun.

### **7. Lowlevel flammability of Peat-Fibers**

Another also rather important property is that peat fibers bum almost as badly as wool; they just glow or glimmer. Synthetic textiles on the other hand can generate high temperatures when burning, and they also release toxic gases.

## **Summarized:**

### **A. Peat-fibers bedding products**

The above pointed out benefits (for our body, skin and life-forces) show that peat-fiber products also will be of great value in the bedroom, such as comforters and matress top covers. In the case of such beddingmaterials the peat-fiber and wool-sorts can be easily combed into a 50/50 blend of peat-fiber and wool to provide the fillings. Such a blend can maximize the benefits of both of their properties.

The moisture and body heat released during sleep activate the active ingredients in the peat. It can be assumed that a peat bed has the same effect as a moor-bath, especially since you spend much more time in bed.

In this day and age it shows products of peat-fiber are one of those items that would have a legitimate standard place in a household geared towards operating in sound manners.

### **B. Peat-fiber clothing products**

A healthy constitution will to some extent resist radiation damage or cope better, which is why a physiologically and psychologically healthy lifestyle is so very important. However, direct protection against radiation is only provided by such proper protective clothing. Natural clothing can have a place in such a lifestyle, and this is where textiles containing peat-fibers come into the picture.

## Disclaimer:

It is not purported here that the protection of Peat-Fiber can be measured with a radiometer or a Geiger-counter.

Peat products in themselves do not cure us; rather they can be used to form a protective benevolent layer around us, allowing our own life forces to sustain, strengthen and heal us.

Individual reactions must always be taken into account when using Peat-Fiber bedding products, wearing Peat-Fiber textiles or using such products in other ways (such as the medicinal peat-products that contain *solum uliginosum*).

## Peat-Fiber Processing and Production

The part of peat that is eligible for clothing is the peat-fiber of the **sheathed cotton sedge grass** (*eriophorum vaginatum*) –in the USA it is a.k.a. **Tussock Cotton Grass**. It requires the peat-fibers to be from 0.5 to 3 meters below the surface of the moor to be eligible for using it as a product for textiles.

In some of the nordic countries such as Sweden and Finland peat is harvested using sustainable environmentally protected systems for alternative biofuel and horticultural use; it is the by-product in this process that is used for the peat products. The peat used is obtained from the light-colored peat near the surface of a peat bog and moor extract (such as *solum uliginosum*) is obtained as an aqueous solution in the separation/production process of the peat fibers.

There are a variety of peat producers who have managed to develop a technical process that makes it possible to extract the fibers from peat and process them to obtain a substance that can be carded and spun with wool. Fragments of fiber and moss particles shake out of the mixture, after which the textile has all the advantages and benefits described above.

On average peat-fibers are 4cm long and are subjected to mechanical cleaning before processing. The fibers thus remain completely natural and retain their salutogenic, antibacterial, antiviral and fungicidal properties obtained by the fermentation. Peat fibers, however, have no bulking power.

Steiner foresaw that to produce and obtain even more usable peat-textiles it would require an enlivening and refining of peat-fibers. He had made indications on how to re-invigorate the peat-fibers as well as making them more solid, softer and gain elasticity whereby they could become more comfortable to wear in clothing.

Along those lines Steiner had suggested to a man named Henri Smits (he experimented with peat based on Steiners indications) that **the peat-fibers of sheathed cotton sedge found in the peat of raised bogs could be made spinnable**. Textiles woven from such yarn would be warmer and stronger than those made from wool.

Although no one has yet fully succeeded in producing such usable peat-textiles as Steiner envisioned, there have been substantial developments that have allowed the production of peat-fibers to such a degree that it has obtained much of the potential benefits that the peat-fiber has to offer.

## **Washing Suggestions**

The care of peat products should be done exclusively by a professional (hand) wash at 30 ° with the help of acidic detergents (about ph 6) without fragrances. Mild, sour detergent suitable for wool prevents too much humic matter from being washed out. Important is thorough rinsing and, with high water hardness, an addition of some vinegar in the last rinse water. Peat beds have a fungicidal action, preventing the growth of mold fungi.

Nevertheless, daily ventilation is also essential here, so that the bedding can release the moisture absorbed during the night and thus retain its function.

## **References**

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