

The Organic Sericulture in the Context of Biological Agriculture and Organic Textile

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The Bioagriculture

The organic agriculture is a method of production which aims to preserve the natural resources, the health of people and animals. The bioagriculture has a multiple effect on the whole agriculture sustainable development, such as high added value, quickly developing market, free market niches, export potential, preservation of the nature, rehabilitation the soils and preservation of the biodiversity, higher necessity of manual labor, job opportunity and association of marginal and socially weak groups of people.

What Are Natural Fibers?

The most common natural fibers used to make clothing are cotton, hemp, ramie, linen, wool, and silk.



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Natural Fibers vs. Organic Fabric

When evaluating the eco-friendly properties of any clothing garment, must look at how the fiber was grown and produced and also at how the fiber was processed to create fabric and ultimately the clothing garment. For example the organic plants require to be produced without using any pesticides, hormones, fertilizers, sewage, sludge-based fertilizers, bio-engineering, ionizing radiation, or any other synthetic or toxic substances.

No artificial flavors or colors can be added. They should not be irradiated or produced from Genetically Modified Organisms. Both the fiber growing and the fabric manufacturing must be free of harsh, toxic chemicals to quality the garment as being organic and healthy for the consumer and the environment in which it was produced and manufactured.

Growing the natural fibers organically is only half the equation to qualify as organic clothing. The manufacturing process is the other half and often the half that is the most abused by toxic chemicals.

- **What is Organic Clothing?**
- **Organic clothes do not receive any synthetic chemical finishes or treatments such as moth resistant, fire retardant, easy care, anti-pilling, stain resistant, or wrinkle-free. Dyes used on organic clothing should be either plant or mineral derived, or if not of natural origin are environmentally responsible low impact dyes. No heavy metals or other harmful chemicals should be used in the dyeing process.**

An ethically and environmentally aware approach is extended to all aspects of the organic clothing industry. Fair Trade practices to insure that the farm and garment workers receive a fair and just wage for their efforts are also a cornerstone of the organic clothing industry.



Why Wear Organic?

The rate of people experiencing a wide barrage of health problems such as rashes, allergies, respiratory problems, and difficulties focusing mentally due to chemical sensitivities has been growing alarmingly.



HAVE YOU COTTONED ON YET?

The organic cotton initiative

choose to support farmers and protect the environment.
I choose organic cotton.

A joint Soil Association GOTS campaign



There is another reason why people are becoming excited about organic clothing and that is because of the fashions that are starting to come from some of the hot, new designers turning to eco-fashion.



The organic textile standards

One last important development in organic textile standards has been the development of the Global Organic Textile Standard (GOTS) that begins the process of harmonizing all the different and slightly varying organic textile standards.



The High Cost of Organic Clothing

At first blush, might think that organic should be less expensive to grow because organic doesn't use expensive GMO seeds, expensive petroleum-based fertilizers, or expensive toxic herbicides and pesticides like conventionally grown crops. But organically grown crops still must contend with weeds and fight devouring insects and this all costs money, actually more money than conventional chemical methods which is why conventional methods use all those toxic and deadly chemicals.

Concerning the sericulture if not implement chemical fertilizers and herbicides that means the labor costs for delivery and spreading farm yard manure and for mechanized or manual weed control will increase.



Organic fabrics are more expensive to manufacture. If the organic fabric is manufactured in facilities that also process and manufacture conventional fabrics from conventionally grown agriculture crops, before the organic fiber can be processed in these facilities, all the weaving or knitting machines must be cleaned of all residues from the processing of the conventional fiber.

But there is another more significant factor why much conventional clothing is so inexpensive – cheap labor, by exploiting the poorest and most desperate workers and paying incredibly low wages to workers. Fair trade and fair pay for workers are important cornerstones of the organic and natural clothing industry and significantly add to the cost of organic and fair trade apparel.

Organic garments are more expensive to ship to distributors, retailers and customer because the market size is so much smaller. Organic clothing retailers find it more expensive to advertise and market. Organic growers, manufacturers and retailers lack the mass buying power and the economies of scale found in the large retail chains.



What Means Organic Silk?

Presumably organic silk would involve growing the mulberry trees organically, without chemicals, and raising the silkworms humanely and without hormones.



Organic and sustainable certification organizations are working on standards for organic silk but they have not yet been finalized and adopted. Only the raw silk, just pure silk fibers without any chemicals or treatments added may be considered as fully organic, of course if mulberry and silkworm have been grown by an organic manner. However there appears the ethical problem that in order to produce high grade raw silk the pupae in the cocoons should be killed.



Generally all the silks, produced from cocoons, without killing the pupae are called peace silk or vegetarian silk. Animal rights organizations are concerned about the destruction of about 4000 domesticated silkworms to produce 1 kg of raw silk. However if we go in this direction should stop slaughtering of any domestic animals for food and the whole mankind to become vegetarian.



In our opinion even organic, in order to remain a viable industry the way of obtaining the raw silk, namely by killing the pupae and then reeling the cocoons should be like it is now. If the pupae will be left to transform into moths and then the moths to pierce the cocoons it will not be possible to produce any good quality filament silk. The properties of filament silk are different from those of spun silk, thus the spun silk can not substitute the filament silk.



■ Is silk organic, sustainable, ethical, healthy?

- Many silk fibers are probably already being produced in an organic environment, especially those produced in smaller villages and rural environments. For example in some European and Central Asian countries like Bulgaria, Georgia, Turkey etc. most of mulberry trees are located in the villages and are not treated at all by any fertilizers and pesticides.



The problem is that these so many trees scattered in many villages can not be controlled by any certifying agency in order to give an organic certificate. Silk fabric when produced by weavers on handlooms has a near zero energy footprint and satisfies most of the guidelines for sustainable fabric production.



Trade organizations are concerned about the exploitive low wages often paid to silk textile workers. However the low wages are paid not only to the silk textile workers, but also to the sericulture farmers. The sericulture in now a days in many countries has become a kind of “cheating the farmers” because their labor is paid at too low rates, even much lower than the minimal wages in the country respective.



- **In addition the whole risk of the production is taken by the farmers themselves because any failure in the cocoon crop leads to getting very low incomes, even to an extent that they can not cover their material costs.**



This is mainly because usually the people who produce the fresh cocoons are different from those who reel the cocoons and the reelers are different from silk twisters and weavers. By this way the fresh cocoons are usually paid at too low prices, irrespective of the fact that the end products are sold sometimes at incredibly high prices.



In this respect in our understanding an organic silk production could be organized on a cluster basis, where the payment of labor is sufficiently high due to a fair distribution of the profits throughout the whole production chain.

Domesticated silk fabrics are typically dyed with a mild acid dye or environmentally low impact fiber reactive dyes. Textile acid dye processes typically require high levels of chemicals, many of which have been classified by the Environmental Protection Agency as being of moderate to high concern as carcinogens.



Organic silk production

In order a silk to be organic no any cleaning or dyeing or finishing chemicals should be used in the silk processing. The main issue that causes concern in determining if silk is organic is the dyeing processes. Some producers use environmentally friendly non-natural dyes that are claimed to be “organic.”

- **Real organic silk is dyed by natural dyes. The use of 100% natural dyes made from tree bark, vegetables, grasses and flowers provide the best option for purely organic silk.**

- **Eco-fabrics like organic silk do not contain any added chemicals that kill bacteria, and fight odours. Pure-dyed silk is just colored with dye and not weighted. The metallic salts used to weight silk can cause health risks and problems for some people. Chemical treatments are also added to silk to improve anti-static, water and oil repellency, flame retardant, dimensional stability and other wash-and-wear properties that our easy-care culture seems to expect. Many of these chemicals are also toxic and suspected carcinogens.**

Recommendations about Organic Silk Production Development

- **The government should have a strong policy in organic agriculture, including sericulture.**
 - **Stable and permanent financial support by the government to organic agri/sericulture.**
 - **Providing higher subsidy per ha of mulberry under organic cultivation and subsidies per kg of fresh cocoons or per box of silkworm eggs reared if organically produced.**
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Recommendations about Organic Silk Production Development

- **State/EU financial support to organic cocoons and raw silk production investment projects.**
- **To develop national strategy for organic silk production.**
- **The state policy for organic agriculture, including sericulture support to consider also the specific local agro-ecological conditions as well as the ecological and social effects from bio agri/sericulture.**

Recommendations about Organic Silk Production Development

- **Developing of suitable technologies for organic mulberry leaves production, eco-methods for disinfecting the silkworm rearing houses, equipment and rearing bed disinfectants, natural silk dyes.**
 - **Economical analyses of organic mulberry leaves/cocoons/raw silk production costs in comparison with the conventional production costs.**
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Recommendations about Organic Silk Production Development

- **Dissemination and exchange of information and spreading knowledge in organic mulberry cultivation and cocoon/raw silk production.**
 - **Improving the coordination and collaboration between the government, NGOs, silk farmers, retailers and processors for organic silk problems solving.**
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Recommendations about Organic Silk Production Development

- **Establishment of organic silk clusters, providing sufficient purchasing prices for the bio cocoons and raw silk. Providing governmental/EU support to the organic silk clusters.**
 - **Creation of organic mulberry leaf, cocoon/raw silk production information data base, available on BACSA web site.**
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Recommendations about Organic Silk Production Development

- **Establishing clear rules for organic silk certification and labeling.**
 - **Involvement of the retail chains in the organic silk trade.**
 - **Attracting the public attention to the organic silk production and its promoting.**
 - **State support to the organic silk production and trade by lower VAT rate for the organic silk.**
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Europe

Mediterranean Sea

Egypt

Persia

Arabia

India

China

Somalia

Indian Ocean

Java

THANK YOU!