

Textiles Research Paper:
The Importance of Eco-Friendly Fibers
Carlos Contreras
New York City College of Technology

Abstract

The paper discusses the importance of eco-friendly fibers and the people/companies that are using them. How the majority of fabrics/fibers will biodegrade even if they're synthetic or not, but what fabrics/fibers don't fall under the so-called "majority? A brief look at a sneaker that Adidas makes out of plastic that's scattered all over the ocean from a polymer that can be used to construct knitted footwear, what that polymer is like, and who makes it. The differences between organic and non-organic cotton and if there are any legitimate reason that should cause a change. How recycled polyester is being used to make clothes now by a lot of different companies, but its a bit hard to find so where can it be obtained? The last thing covered will be the usage of organic materials and how it's extremely beneficial, but if there are any hidden cons to all of it.

Professor Stephen Hawking thinks the human species will have to populate a new planet within the next 100 years if it is to survive, but why is that? Stephen Hawking was quoted saying “With climate change, overdue asteroid strikes, epidemics, and population growth, our own planet is increasingly precarious.” Merriam-Webster’s dictionary defines precarious as “depending on the will or pleasure of another.” The human species is lucky that it’s not defined as “certain” or “unquestionable” because it means that there’s still time for a change, but how can it start? Eco-friendly fibers/fabrics are the starts.

Eco-friendly fibers/fabrics are biodegradable which means they’re capable of being decomposed by bacteria or other living organisms. There are many fibers/fabrics that are biodegradable and some of the best ones to choose from, according to an article done by Sarah Lozanova, are:

Bamboo- because it’s a highly renewable resource that requires few chemical inputs.

Lyocell- because it comes from the bleached pulp of tree fibers, which is dissolved in a solvent and TENCEL Lyocell uses nontoxic solvents in a closed loop process that captures and recycles 99 percent of the solvent.

Hemp- because it’s a highly renewable fiber that has a smaller water footprint than cotton, doesn’t require chemical processing, and needs few if any pesticides to cultivate.

Organic Cotton- because the water consumption necessary to irrigate the cotton crops is reduced and it’s not treated with pesticides, insecticides, herbicides, and Genetically Modified Organisms.

Wool- because it’s a renewable resource that creates a biodegradable, fire-resistant product and a great alternative to chemically-treated fabrics with flame retardants.

Every fabric/fiber that was just named is good for the environment, but what about the other side of the coin? What are some of the fabrics/fibers that are making our time on earth limited? Nylon and Polyester are the biggest culprits when it comes to thinking about unsustainable fabrics/fibers. This is because they're both made from petrochemicals that pollute the environment and don't biodegrade or take an excessive amount of years to biodegrade.

Petroleum is the earth's biggest enemy and a lot of stuff that's needed in everyday life is made out of it. According to an article, by Laura Parker, there are an estimated 5.25 trillion pieces of plastic (and counting) in the ocean today. Getting rid of all that plastic is hard when it takes about 1,000 years for it to biodegrade so what is there to do? Adidas may have found a solution to the problem.



Adidas introduced a shoe that, according to Dennis Green, uses an average of 11 plastic bottles per pair and incorporates recycled plastic into the shoe's laces, heel webbing, heel lining, and sock liner covers. The shoes use a yarn developed by Parley that turns the ocean plastic into a polymer

The UltraBoost sneaker from Adidas' Parley ocean plastic collection. Adidas

that can be used to construct knitted footwear. Adidas revealed in March (2018) that it has made and sold more than one million pairs of its shoes made from ocean plastic. That's not a lot compared to how many they sell every year, but it shows that there's a genuine market for this.

As mentioned before the water consumption necessary to irrigate the cotton crops is reduced and it's not treated with pesticides, insecticides, herbicides, and Genetically Modified Organisms when it comes to Organic Cotton, but what's so bad about regular Cotton? Regular Cotton is considered the world's dirtiest crop because of very heavy pesticide use (it can cause rashes in some people) and, according to Emma Sarran Webster, Producing one T-shirt uses about 2,700 liters of water; the same amount that the average person drinks over the course of 900 days. Knowing all of this should wake some people because it's not something you usually think about.

Recycled polyester is made out of Polyethylene terephthalate (PET for short) and it's the same plastic that can be found in landfills that have heaps of bottles. The steps to make recycled polyester, according to Charlie Bradley Ross, are as follow:

- 1- The collected PET bottles are sterilized, dried and crushed into small chips.
- 2- The chips are heated and passed through a spinneret to form strings of yarn.
- 3- The yarns are wound up in spools.
- 4- The fiber is then passed through a crimping machine to create a fluffy wooly texture.
- 5- The yarn is the baled, dyed, and knitted into polyester fabric.

A lot of big companies have taken an initiative to use this type of material, but the big two that people recognize are H&M and Patagonia.

To wrap things up; is switching to more biodegradable fabrics/fibers worth it? Rosemary Feitelberg spoke with some green-minded designers and they all said a variation of the same thing, which was that you're doing the earth a favor, you're showing that you care to be here at a very minimal cost.

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