**“Pros and Cons” of sustainable fabrics - part 1**

For the assessment of the substances, the pros and cons are first mentioned and then a multi-criteria analysis is completed to make a top 3 for the best substances.

This analysis will discuss the following topics: Water consumption, land use, Chemical use, is it good and biodegradability / reuse.

Which are rated on a scale from 1 to 5 with 5 being the best and 1 the only.

|  |  |  |
| --- | --- | --- |
| **FABRICS** | **PROS** | **CONS** |
| **Lyocell** | * Biodegradable and made from renewable raw materials: eucalyptus cellulose
* Strong fabric, long lasting
* Circular production process: 99% of the water from the production process is reused
* Does not contribute to plastic soup
* Almost all of the water is recycled
 | * Processing the wood into usable material takes a lot of energy
* It needs a lot of chemicals.
 |
| **Bamboo** | * It grows fast
* You can grow a lot of them
* The fabric is very soft.
* The fabric is antibacterial that partially prevents sweat stains.
 | * Needs a lot of chemicals to produce the fabric
 |
| **Recycled Polyester** | * It is not made from a plant so it takes less water.
* Instead of using a climate-unfriendly substance, it ensures that it is precisely those substances that are removed by recycling it. So less plastic bottles, cups, etc.
* About 49% of all clothing that is made is partly made of Polyester, so if people switch to recycled polyester, that is a big change immediately.
* Firm
 | * When washing polyester in general, the garment loses millions of plastic fibers, which later enter the water through sewers.
 |
| **Hemp** | * Grows fast
* Does not need pesticides or insecticides
* Needs little water around 2100L per Kilo (Cotton needs 8000L for one kilo)
* Needs very little land area. Cotton needs three times as much land for the same amount of fabric.
* The fabric is antibacterial.
* 100% Biodegradable
 | * The fabric can sometimes be very stiff, especially if the garment is entirely made of Hemp.
 |
| **Seacell** | * Fully Biodegradable.
* Procedure is completely sustainable.
* It does not need fresh water
* Antibacterial
 | * Not very well-known yet
 |

**“Pros and Cons” of sustainable fabrics - part 2**

Water consumption, land use, Chemical use, Quality and biodegradability / reuse. Are being rated on a scale from 1 to 5, per fabric. The outcome of this rating can be read in the undermentioned assessment table.

**Review**

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| --- | --- | --- | --- | --- | --- | --- |
|  | **Water consum-ption** | **land use** | **Chemi-****cal** **use**  | **Quality** | **Biodegrad-****able / reuse.** | **cumulative** |
| **Seacell** | 5 | 5 | 4 | 4 | 5 | 23 |
| **Hemp** | 4 | 5 | 5 | 2 | 5 | 21 |
| **Recycled polyester** | 4 | 4 | 3 | 4 | 4 | 19 |
| **Lyocell** | 3,5 | 4 | 2 | 4 | 4 | 17,5 |
| **Bamboo** | 3,5 | 4 | 2 | 3 | 4 | 16,5 |