C.L.I.L.

A.S.2022/2023

CONTENT AND LANGUAGE INTEGRATED LEARNING

From waste to resource: environmentally friendly materials



The challenge that GREEN LAB has faced was producing new fabrics without using raw materials.

The goal achieved is to eliminate the environmental and economic costs of disposing of waste by using them as raw materials.

Next target will be to increase the type of waste to be reused in production processes

The creativity of designers and stylists around the world truly knows no bounds. And it is, fortunately, more and more often the environment that benefits from it.

Particularly sensitive to issues such as ecology, sustainability and the protection of the planet, some young artists open their minds to increasingly innovative techniques that push virtuous behaviors such as recycling beyond borders never even approached until recently.

VEGEA: the sustainable leatherette fabric

Very similar to leather, VEGEA is obtained from agri-food waste, specifically from the **pomace** deriving from the production of wine.

The wineries use the pomace left over from wine production, dry and mince them to obtain a pasty mixture. This compound is spread with special machinery and dried to obtain a fabric.

VEGEA has a low environmental impact, uses renewable raw materials, small amounts of water and does not use animal by-products.

Vegea textile production: 19 liters of wine produce a waste equal to 2.5 kg of pomace from which it is possible to obtain 1 square meter of vegea.

The word VEGEA is the combination of VEGAN (VEG) and GEA (Mother Earth).









https://www.youtube.com/watch?v=D-L4q4Ec2ZE

















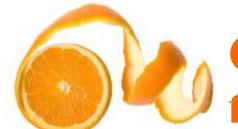












ORANGE FIBER: from oranges to the boutique



This innovative entrepreneurial reality, born from the idea of two Sicilian girls, uses the waste from the industrial processing of oranges to produce eco-sustainable and hyper-technological fabrics, from which "vitamin" clothes are realised that release their active ingredients onto the skin.

In this way we can recover the hundreds of thousands of tons of orange waste (all that remains after pressing) that the citrus fruit processing industry produces every year and which otherwise would have to be disposed of, with costs for the juice industry and the environment.

Orange Fiber is the new Green: The new sustainable fabric Made from fruit

https://www.youtube.com/watch?v=GXpPE6qPizI







The cellulose is extracted from the waste of the oranges and is then spun: the result is a light and soft, high quality fabric, similar to silk. Through an innovative production process, the essential oil obtained from the peels is encapsulated and fixed on the tissues.

When worn, the essential oil of oranges and the vitamins that contains are gradually released on the skin, leaving it soft and hydrated.

sustainable

The T-shirts from Sicily that smell like oranges











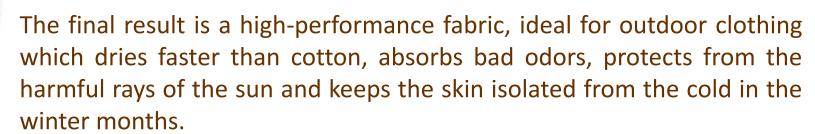


S.Cafè: when coffee is not drunk but worn High-performance ecological fabric from coffee grounds

Only a small part of all the coffee used in the preparation of the drink ends up inside the cup. The remaining OO S persont is permally thrown into the track

The remaining 99.8 percent is normally thrown into the trash.

Hence the idea of a Taiwanese couple who, together with a group of researchers, decided to recover these scraps and combine them with recycled polyester in order to transform all of this into a yarn ready for weaving.







Sportswear is generally produced with materials that have a high rate of perfluorinated substances (PFCs), pollutants used for their impermeability and elasticity. Since these are substances that once released into the environment risk damaging ecosystems, it is necessary to adopt less impactful solutions.

Just like S.café, which retaining the same technical characteristics of synthetic fabrics without any danger to the environmental balance.















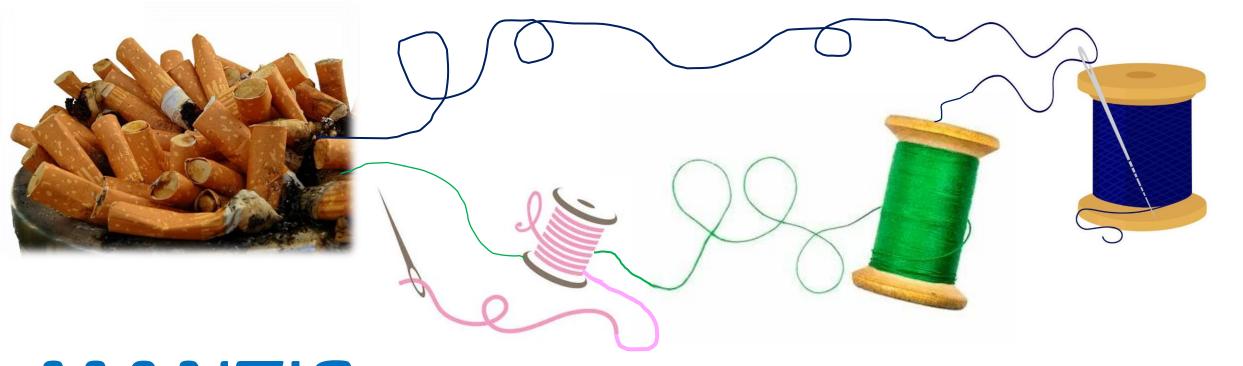












MANTIS: Abandoned cigarettes that become clothes

A Chilean designer has created a new fashion line with a yarn made from recycled cigarette butts.

Alexandra Guerrero, surprises with a truly original idea and manages to give new life to waste by transforming it into ecological and innovative yarns.

The object of the South American designer's creative recycling are, in fact, nothing more than cigarette butts.

Guerrero was able to conceive a very ambitious project (such as using this type of waste) and she also managed to make it happen.

It all started when the young designer drafted her degree thesis. Walking through the streets of her city, Santiago de Chile, the artist noticed the large amount of cigarette butts that littered the streets, polluting the environment and disfiguring the landscape.

She wondered if it was possible, somehow, to solve this problem by recycling abandoned butts in an ecological way, and this is how she thought of the opportunity to transform cigarette filters into a fabric to make original fashion garments.



Her idea has turned into a concrete project that today has given life to a real brand that produces vintage-style clothing that recalls the knitting of the past. Each garment is made entirely by hand with this innovative yarn and requires the use of around 1,000 butts.

To obtain this innovative fabric of recycled butts, the designer has developed a particular procedure during which the filters are first purified, then washed in a solvent, then sterilized again and left to dry.

After being sanitized in this way, the butts are ready for dyeing and spinning with sheep's wool.

But that's not all, because Mantis donates the liquids deriving from the sanitization process to a laboratory that conducts research on insecticides, with a view to combating waste and ecological waste disposal.





MANTIS by ALEXANDRA GUERRERO









Qmilk: the new fiber derived from milk

Qmilk and is a textile fiber obtained from industrial milk waste.

From casein, a milk protein, the German stylist and microbiologist Anke Domaske has obtained a fiber particularly suitable for contact with the skin: for clothing, underwear and bed furnishings.

This ecological protein fiber bans the use of polluting chemicals in the manufacturing process and seeks to partially solve the problem of milk waste. Just think that every year, only in Germany, almost 2 million tons of milk are thrown in the

garbage.

Furthermore, the Qmilk production process is really ecosustainable: making a kilogram of fabric only needs 2 liters of water, against the 10,000 needed to produce the same amount of cotton.

QMILK



The advantages of this brand new textile fiber are remarkable:

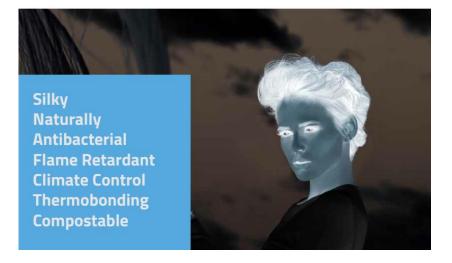
- stimulates blood circulation thanks to the excellent transpiration and moisture absorption capacity;
- is naturally antibacterial (therefore suitable as linen for operating rooms);
- is biodegradable because developed with natural fibre.

Furthermore, the fabric made from milk yarn is particularly pleasant and comfortable on the skin with characteristics of lightness, softness, smoothness, permeability, freshness and luminosity, exerting a natural bacteriostatic action.



MATERIAL OF THE FUTURE

Nature - Man Made Fibers For Textiles And Technology















BENU® Recycled: high fashion velvet from PET

The BENU velvet, designed by Christian Fischbacher, is produced with a yarn that comes from used PET bottles for 70%.

The remaining 30% is made up of wool and cotton, recycled yarns deriving from the fashion industry.



Through an ecological process, new yarns are produced starting from old fabrics or from excess production in the fashion sector.

The material is sorted by colors and shredded. Only the best fibers are carded and re-spun into a great value product.



This high quality recycled velvet is weather and light resistant, making it suitable for both indoor and outdoor use.

Being fireproof, it can also be used in public locations and hotels, as a decorative fabric or for furnishings.

Last but not least, it's extremely soft to the touch.

The producer explains: "We named the collection after the ancient Egyptian mythological bird BENU which burns to be reborn from its ashes, just like the Phoenix.

In English this name is pronounced as **be new** and fits perfectly with our concept."





















ISTITUTO COMPRENSIVO
BEATO CONTARDO FERRINI
SCUOLA SECONDARIA DI I GRADO
«DANTE ALIGHIERI»
OLGIATE OLONA (VA)
A.S. 2022-23

Small actions can make a big difference!

GREEN TEAM: Miriam Lupi, Roberto Morandi e Roberta Varisco Si ringrazia Giusy Milione