

GAIA Sourcing Newsletter
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Each and every day natural dyeing techniques are becoming more applicable in the textile industry so the interest and demand from the customers are growing for sustainable approaches. The biggest discussions are all around water usage and water treatment, soil depletion, climate change and carbon emissions.

As we all know in this industry, a large part of the water used during the fabric and garment dyeing is returned to nature as toxic waste containing dyes and hazardous chemicals, which endanger the quality of the environment and water bodies. At the same time, the fact that chemical dyes are a non-renewable sources, they create a global warming effect when burned by releasing carbon dioxide gas into the atmosphere and have negative effect on climate change.



Natural dyes; addition to being non-toxic and having easier degradability properties they have a positive effect on the environment as it could be sourced ethically and responsibly in a way to be consider as an example of upcycling .

Today, innovative people and companies are using their technology and energy to create significant solutions on natural dyeing in textiles to tackle these problems and limit the use of synthetic chemicals in the industry. We are lucky to have one of these companies in Turkey who are working on these projects for the last 10 years and launched their first products 3 years ago with great success and continue to improve current alternatives and create new techniques under their R&D facilities.

Ficus Innovations

Ficus Innovations, a brand initiated by Sadırlar Alliance, carries out many pioneering studies in the field of natural fabric and garment dyeing.

In natural dyeing production processes, all the dyestuff and binders are coming from natural sources, natural wastes and food wastes that are not eatable or consumable directly. This is a big significant detail as **metal mordants, aluminum salts, formaldehyde** and **azo dyes** are not used in the production processes and natural enzymes, plant-based oils, clay or bio-resins are used as an auxiliary product addition to natural dyes. Therefore, the discharge water can be cleared of their color without purification and can be directly injected into the soil and used in horticulture.

Thanks to innovative dyeing technologies, significant reductions are achieved in water and energy consumption on the process leading decrease in carbon dioxide emissions.

Ficus Innovations created a standardized production applicable as industrial scale in Textile Industry, licensed and patented subsidized by European Union Research Funds.



Based on the numbers in the last 3 years of production, compared to synthetic dyeing they accomplished;

- 56% Water saving
- 58% Energy saving
- 39% CO2 avoided

With Ficus Innovations, working on the jersey production mainly; it is possible to work with cellulosic fibers like organic cotton, eco-viscose etc. and these fibers' blends with recycled polyester is also applicable. Natural Dyestuff used in the process is extracted from natural plants such as olive leaves, walnut shells, and pomegranate peels and lavender leaves etc. and 95% sourced locally. There is no waste generation in any part of dyestuff production, and in this way we can mention it's a real sustainable approach.

Today Ficus innovations provide support in Natural Dyeing techniques for continuous dyeing, continuous printing and panel printing in high capacities, Since R&D teams are working in the technology continuously now they also offering natural dyeing in Garment Dyeing process.

Properties of Different Dyeing Techniques



Ficus Innovations Continuous Fabric Dyeing:

- 50 colors
- 400 tons / monthly
- In general high fastness results in all shades , lighter colors have better fastness results
- Due to natural content potential shade difference within the batches
- Heavy qualities might have edge to edge difference which can be provided with special cutting techniques.
- Randomly around %5 surface staining.



Ficus Innovations Continuous Fabric Printing:

- 60 colors
- 150 tons / monthly
- ½ point better results comparing to Continuous Dyeing
- Design to be maximum of %60 of surface.
- Darker colors to be printed on top of light Colors



Ficus Innovations Garment Dyeing:

- All the continuous dyeing shade applicable and even darker shades achievable
 - 20 tons / Monthly -Capacity Investment is in the process.
 - No stains & shading within the garment
 - Controlled shade difference within the batches
 - Perfect fastness results
- Light: Minimum 4 for all colours
 Dry Rubbing: Minimum 3/4 for all colours
 Wet Rubbing: Minimum 2/3 for all colours

In the garment dye process, even the capacity is limited today, it is possible to reach higher fastness values and it is also possible to obtain darker colors according to customer tolerance. There are no stains caused by dyeing and there are no tonal differences within the garment.

And this is not even the end as Ficus Innovations working on Tie Dyeing and Waterless Dyeing Techniques for future.

Reputable Global brands already have Natural Dye by Ficus Innovations in their ranges and promote within their sustainable collections and continue seasonally to invest.

Certification & Traceability

Ficus Innovations work with DATU Laboratories, an internationally accredited herbal and mineral testing laboratory who tests all the processes and ingredients are natural or synthetic, so confirmed fact by DATU, Ficus innovations is 100% natural.

All the Natural Dyestuff and the process has been audited by Control Union and obtained the GOTS certificate and they are in the process of working with Control Union for a new "Natural Dyeing" approval for the first time in the world.

There are also studies on traceability, another important topic of the day. Ficus Innovations provide a QR code for all the products dyed by their selves and this enables buyers and customers to track the product details. In this way, they can see which plants are used in their products and how they help the environment with these products, which are obtained by consuming less energy and water.

