

#### **COST OF COLORS**

#### **Problems for the Environment**

Using unnatural synthetic dyes with fossil fuel origins has a high negative environmental impact.

Some synthetic dyes are made of toxic chemicals. The process of manufacturing some synthetic dyes releases carbon dioxide harmful to the environment and contributes to climate change.

The dying process discharges many harmful chemicals through the release of polluted water, which results in the death of aquatic life, the ruining of soils and the poisoning of drinking water

Synthetic dyes are NOT biodegradable.

Once in waterways, they accumulate to the point where light is prevented from penetrating the surface, reducing plansa' ability to photosynthesize. This lowers oxygen levels in the water, killing aquatic plants and animals.

#### **Problems for Humans**

Most dyes used today are synthetic dyes.
Studies have confirmed associations between exposure to synthetic dyes and a range of diseases.
Humans are exposed to the synthetic chemicals of unnatural dyes through the air, skin and water, and even through eating exposed fish and plants.
Children are at an increased risk from synthetic dyes.





At our Anatolian natural dye company, we are proud to be at the forefront of bringing science, technology, and innovation to the traditional art of natural dyeing. We believe that by combining traditional techniques with modern knowledge and innovation, we can create sustainable and eco-friendly products that are of the highest quality.

Through our cutting-edge research and development, we are able to create new color palettes and dyeing methods that were previously impossible.

By embracing innovation, we are able to preserve the traditional techniques of natural dyeing while also making them more efficient and sustainable.

Our commitment to scientific research and innovation sets us apart from other natural dye companies, and allows us to create products that are not only beautiful but also environmentally friendly.

# THE BIRTH OF OUR STORY

In the glorious embrace of Anatolia, where the ancient echoes of ancestors still resonate, lies the legacy of natural dyes that once flourished in the heart of our cherished homeland.

As the centuries passed and modernity beckoned, the once cherished tradition of natural dyeing slowly faded into the shadows, leaving behind only faint whispers of its former glory.

But the spirit of Anatolia refused to lie dormant. From the ashes of time, Anatolian Colors emerged—a tribute to our ancestors, a revival of our cultural heritage, and a fervent ode to the spirit of our land.

Anatolian Colors is not merely a company; it is a symbol of rebirth, a testament to the unstoppable power of our roots, and a declaration of love for our planet.

In a world facing unprecedented challenges of climate change and environmental crisis,, we believe in the power of colors to transform lives, to inspire, and to heal.

As we journey forward, hand in hand with our ancestors' wisdom and the resilience of Anatolia, we invite you to join us in the journey of passion, purpose, and preservation. Together, let us rise again.



# **AGRICULTRE**









The start of anything sets the tone for everything.

Uncontrolled collection from nature can lead to species decline, disrupt ecosystems.

We begin with the utmost respect for the Earth, fostering a production process that revitalizes the soil, enhances biodiversity, and positively impacts the climate. Our journey starts in the harmony of nature, setting the tone for the natural dyes we proudly produce by organic agricultre.

But, in 21th centuary organic is not enough.

**Holistic Agricultre** 

is key to sustainable and climate positive future.

Our agriculture methods seeks to mimic the natural ecosystem and work in harmony with it, rather than trying to dominate or control it

#### NATURAL DYE PLANTS WITH

# Regenerative Agricultre

Regenerative farming is a holistic approach to agriculture that prioritizes the restoration and enhancement of soil health, biodiversity, and ecosystem resilience.

Regenerative methods include minimizing the ploughing of land, This keeps CO2 in the soil, improves its water absorbency and leaves vital fungal communities in the earth undisturbed.

Regenerative farming places a strong emphasis on enhancing biodiversity and promoting ecological diversity on the farm.



# Biodynamic Agricultre

In biodynamic farming, crops are grown without synthetic pesticides or fertilizers, similar to organic farming. However, biodynamics takes it a step further with the incorporation of special plant, animal, and mineral preparations, the consideration of cosmic rhythms (like lunar cycles), and unique practices such as burying cow horns filled with manure to enrich the soil.

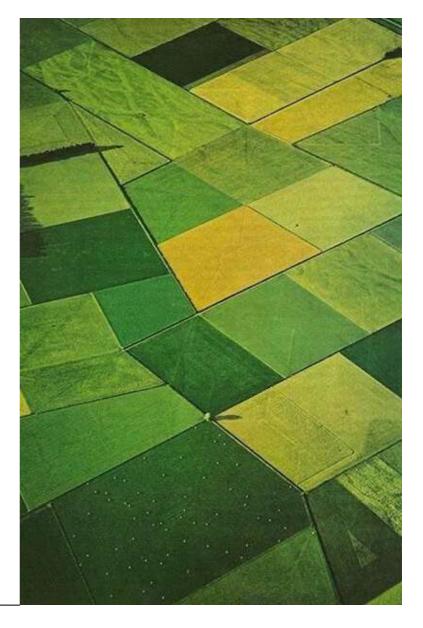
These techniques aim to enhance the life and vitality of the farm's soil, improving its structure and nutrient content, and, consequently, the health and vitality of the crops it produces.

Biodynamics is not just a method of farming, but a whole worldview that requires understanding the ecological, the energetic, and the spiritual in nature. It encourages a renewed consciousness about how plants are produced and a respect for the Earth that fosters sustainability.



# natural dye plants Through Agriculture

Since the basis of production is based on agriculture, we can achieve the color standard of the plant, unlike the natural collection method. We are able to maintain the standard in the color tones we aim for.







Mineral dyes can be natural but they contain harmful substances or heavy metals, posing potential health risks during production and use. Also mineral dyes often require extensive mining and chemical processing, which can contribute to pollution, habitat destruction, and other environmental harms. Our edible natural dyes are nontoxic and safe to use and they are renewable resources.



With our limitless color range, we offer an extensive palette that can accurately match any Pantone shade, opening up infinite possibilities for color expression and design.

# MULTI-POSITIVE



Our product harnesses the rich, vibrant hues derived from natural pigmentbased flavonoids, doubling up on providing both stunning color and inherent antioxidant and antibacterial properties.





Our production capabilities range from crafting particles as small as 5 microns to as large as 200 microns, providing a comprehensive and adaptable range to meet diverse application requirements.



Incredible heat-resistance is another hallmark of our pigment, capable of withstanding temperatures up to 285 degrees. This characteristic empowers its utilization in a wide assortment of high-temperature applications.





To guarantee optimal performance, maintain the pH level within the 6 to 8 range when using our product. This ensures its stability and maximizes effectiveness across various uses.



Our pigments offer the same enduring vibrancy and longevity as synthetic alternatives, maintaining consistent color over time. You get the same robust performance and durability, while benefiting from a more sustainable and eco-friendly choice.





With a color fastness and lightfastness rating of 4-5, our dyes guarantee vibrant and enduring colors resistant to both washing and prolonged light exposure.



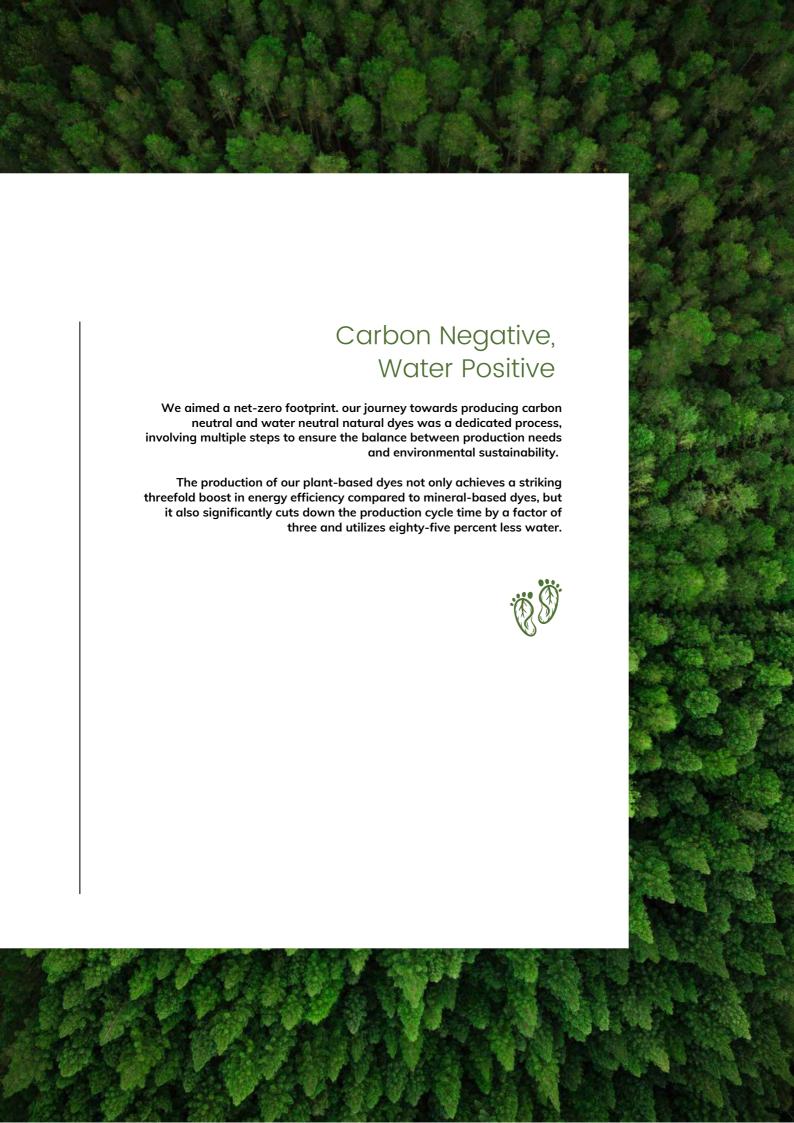
In the formulation of plant-based organic dyes, any plants commonly consumed as food are intentionally excluded because of sustainability concerns and ethical stance

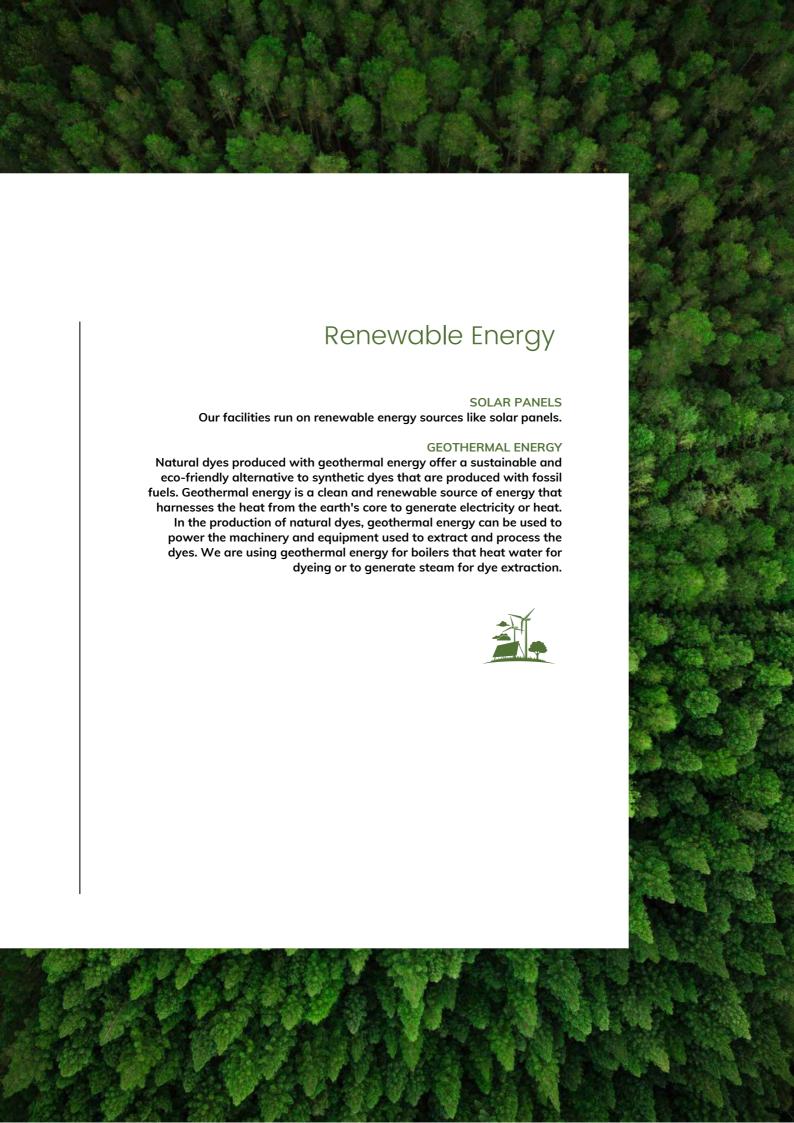
# SALT-FREE REVOLUTION

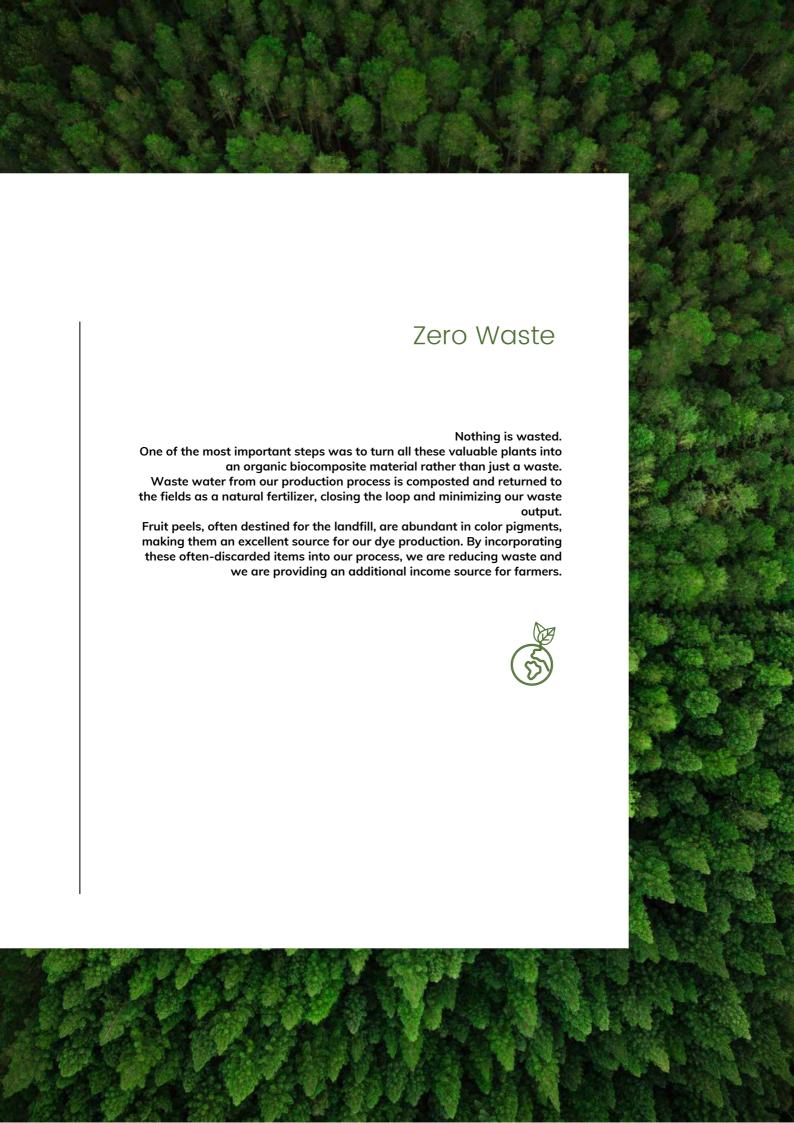


During each phase of the production processes, the use of salt is meticulously avoided to not only prevent any potential degradation to the soil but also to place a strong emphasis on adopting and championing environmentally friendly and sustainable practices.

# SUSTAINABILTY







# EARTH'S COLORFUL OFFERINGS









# Turkey Red-Rubia tinctorum

Isatis tinctoria, commonly known as woad, is a biennial flowering plant that has been used throughout history to produce a blue dye from its leaves.

The plant is believed to have originated in the Mediterranean region and was later spread to other parts of the world. Madder was primarily cultivated in Anatolia, the Caucasus, Iran, Central Asia, and the Himalayas. The plant was so important to the region that it became a significant part of the economy.

Madder's roots contain a compound called alizarin, which is responsible for its vibrant red color. The roots were harvested and processed into dye, which was used to dye textiles such as cotton, linen, and wool. The dye produced from Madder was valued for its colorfastness, durability, and natural beauty.

Madder was used by various civilizations throughout history. In ancient Egypt, Madder was used to dye the wrappings of mummies. In ancient Rome, the dye produced from Madder was used to color the red stripes on the togas of senators. In medieval Europe, Madder was used to dye the clothes of nobles and the sails of ships.

During the Ottoman Empire, Turkey became the world's leading producer of Madder. The dye produced from Madder became so famous that it was known as "Turkey Red." The production of Turkey Red became a significant industry in Anatolia, and it helped to boost the Turkish economy.

However, with the invention of synthetic dyes in the 19th century, the use of Madder as a dye plant declined. Synthetic dyes were cheaper, easier to produce, and could produce a wider range of colors. As a result, Madder production declined, and the plant was cultivated less.

Rubia tinctorum, or madder, is a natural dye plant that has been used for thousands of years to produce the famous Turkey Red dye. Its rich history and deep cultural significance have made it an important part of Turkey's heritage, and its continued use as a natural dye plant is a testament to its enduring beauty and sustainability.









### The Helichrysum italicum

The Helichrysum italicum, also known as the "immortelleflower", has been used for centuries in traditional medicine forits healing properties. However, its potential as a natural dyehadyet to be discovered until our team of

innovative engineers decided to experiment with the plant.

This discovery was groundbreaking as it was the first time in the world that a natural dye was produced from theHelichrysum italicum. The team was thrilled to have found a sustainable and organic alternative that offered numerousbenefits, including anti-inflammatory and antioxidantproperties that make it an ideal choice for those with sensitiveskin.

The team perfected the process of extracting the color from the Helichrysum italicum, and their sustainable organic naturaldye soon became a popular choice in the fashion and textileand dye industry.

Helichrysum italicum is a plant native to the Mediterraneanregion. Its use dates back to ancient times, where it was usedfor its medicinal properties, particularly for its antiinflammatory and wound healing effects. In traditional medicine, Helichrysum italicum was used totreat various ailments, including respiratory infections, digestive issues, and skin conditions. The plant was also usedtopically to soothe irritated skin and promote wound healing.

Today, Helichrysum italicum is still valued for its medicinalproperties and is often used in aromatherapy and skincareproducts. The essential oil derived from the plant is believed to have anti-inflammatory, antioxidant, and antimicrobialeffects.

In addition to its uses, Helichrysum italicum, has been foundto have properties that block UV rays. This is due to thepresence of flavonoids, which are natural compounds that areknown to have strong antioxidant and UV-absorbingproperties.

The discovery that Helichrysum italicum can block UV raysadds to its already impressive list of potential uses in cosmetics, textiles, and other industries

In conclusion, the invention of the natural dye from theHelichrysum italicum was a remarkable achievement thatdemonstrated the possibilities of sustainable and organicnatural dyeing. The immortelle flower's dye offers numerousbenefits, making it a popular choice in the textile and dyeindustry. The team's commitment to sustainability andinnovation paved the way for the discovery of other naturalmaterials for dyeing, which can have a positive impact on theenvironment and the fashion and dye industry as a whole.









## Indigo-Isatis tinctoria

Isatis tinctoria, commonly known as woad, is a biennial flowering plant that has been used throughout history to produce a blue dye from its leaves.

Indigo is derived from the leaves of the Isatis Tinctoria plant, which is a member of the brassica family. The plant grows in many parts of the world, but it is most commonly found in the Mediterranean region. It is a hardy plant that can grow in many different types of soil and climates, but it thrives in warm and dry conditions.

The use of indigo dye dates back thousands of years. In ancient times, indigo was prized for its deep blue color and was used to dye clothing and textiles. In many cultures, indigo dye was considered a luxury item, and only the wealthy could afford it.

Indigo was used in blue dyeings in Mesopotamia in BC. It was also known in Ancient Greece and the Roman Empire as the source of the indigo dye of indigo. The earliest known use of indigo dye can be traced back to the Mesopotamian civilization, where archaeological evidence suggests its application in textile dyeing as early as 2500 BC.

Mesopotamia, a region located in present-day Iraq, was renowned for its advanced knowledge in various fields, including agriculture, science, and arts. The use of indigo dye in Mesopotamia demonstrates the civilization's ability to extract and use natural resources for practical purposes.

The Amazons were reported to be fierce warriors residing in areas around the Black Sea, which would place them very close to woad cultivated fields. Because the blue dye from Isatis tinctoria was highly prized by various ancient cultures, Amazon women accessed and used woad during wartime as a form of body paint or decoration, similar to the Celts and Picts.

The use of indigo dye became more widespread during the Middle Ages. In Europe, the dye was used to color woolen cloth, and it became a significant industry in many parts of the continent. Indigo dye was also used in the Americas, where it was produced from the Indigofera plant. The production of indigo dye in the Americas helped to fuel the transatlantic slave trade, as enslaved Africans were forced to work on indigo plantations.

During the Ottoman Empire, the production of indigo dye became a significant industry in many parts of Turkey, including Anatolia. The dye was produced from the Isatis Tinctoria plant, which was grown in the region. The production of indigo dye helped to boost the Ottoman economy, and it became an essential part of the textile industry.

The production of indigo dye in the Ottoman Empire involved a laborintensive process. The leaves of the Isatis Tinctoria plant were harvested and then fermented to extract the indigo. The indigo was then processed into a dye solution that was used to color textiles such as cotton, linen, and silk.

Indigo dye has remained an important part of Turkey's cultural heritage, and it continues to be used by artisans and natural dye enthusiasts around the world. The rich history and cultural significance of indigo dye make it a valuable and enduring natural resource.









# Pomegranate-Punica granatum

Pomegranate, or Punica granatum, is a fruit-bearing plant that is native to the Mediterranean region. Pomegranate fruit is widely consumed for its nutritional benefits, and its rinds contain valuable compounds that can be extracted and used to produce a natural dye.

The history of Pomegranate peel as a waste product dates back to ancient times when it was first used in Persia to color textiles. The peel of the Pomegranate fruit was often discarded as waste, but it was discovered that it could be used to produce a natural dye. This discovery led to the development of the Pomegranate dye industry, which continues to this day.

Punica granatum produces a beautiful, vibrant yellow, grey and brown colors that is prized for its durability and resistance to fading

Pomegranate rinds have also been found to have antimicrobial properties. Studies have shown that extracts from Pomegranate rinds have activity against a range of bacteria, fungi, and viruses, making it a potentially valuable natural antimicrobial agent.

By utilizing a waste product to create a valuable natural dye, we are able to reduce waste, support local economies, and create sustainable products. The use of Pomegranate as a natural dye is a small but significant step towards a more sustainable and environmentally friendly future.









# Dyer's Weed-Reseda luteola

Dyer's-weed flower is a biennial herb that can grow up to 150 centimeters. In the first year of the plant, only leaves are formed, in the second year its development is completed. The budgerigar blooms in June with pointed flowers that follow the sun like sunflowers. At the end of June, flowering ends. The plant does not need fertile soil to grow. dyer's weed; It can grow in moist, sandy and gravelly soil. It can even be seen that this plant grows on its own after a year on newly built roadsides. This plant is a plant that is widely grown in Western Asia and Mediterranean countries, as well as cultivated.

The main dye in the structure of Dyer'sweed is luteolin. Many old textiles, which were determined to be dyed with luteolin dyes as a result of dyes analysis, have survived until today with little or no fading.

It is known that Dyer's-weed was used in textile dyeing and as a pigment in wall paintings, paintings and icons in prehistoric times.

The seeds of Dyer's-weedflower were found in the Neolithic lake excavation in Switzerland. It was widely cultivated and used in painting in Hellenistic and Roman periods.

In the dye and mordant analyzes of Nubian textiles in the 6th century BC, it was determined that budgerigar was used as dye and iron and aluminum were used as mordant.

In the Romans, dyer's weed was known as one of the best plants with light fastness. Priestess dresses of Dyer'sweed and virgin girls.

It is said to have been used to dye wedding dresses. He said that only women's clothes were dyed with pilini budgerigar.

When the dye analyzes of Coptic textiles of the 3rd and 10th centuries are made, it is seen that the budgerigar was widely used in Egypt. These textiles are yellow in color; budgerigar, orange in color; together with budgerigar in madder and green; dyer's weed and indigo were used.

It has been determined that the 16th century Uşak carpets, which are one of the brightest periods of Turkish carpet art, were dyed with dyer's weed in the yellow dye analysis of the carpet group known as Lotto carpets. The budgerigar, which was a very popular dye plant in the Ottoman Empire, was frequently used in both wool and silk dyeing.

It has been cultivated in Europe and America for centuries. The cultivation (culture) of the plant in Turkey and Europe continued until the end of the 19th century. However, since it could not compete with synthetic dyes, its agriculture was abandoned. Until the middle of the 20th century, it was used as the yellow color of Moroccan carpets and the yellow component of the green color. With the re-emergence of natural dyes after the 1980s, they started to be used again in Turkey, especially in Western Anatolia and Central Anatolia.

It can be made with the dred and ground stem, leaves and flowers of the plant by dyeing with mordant.



Datisca cannabina







### Datisca cannabina

Datisca cannabina is a plant species that has been used for centuries as a natural dye in many countries, particularly in Turkey, the Caucasus, and North India. This versatile plant is still used today as a natural dye by nomadic communities in the northwestern regions of Turkey for carpets and plain weavings. Additionally, in the Van region of Turkey, it is used to produce yellow-dyed yarns.

The above-ground parts of the plant are harvested, dried, and then ground into a fine powder. This powder is then used as a natural dye to color textiles. To enhance the colorfastness and durability of the dye, a mordant is typically used during the dyeing process.

Datisca cannabina is a renewable resource that can be easily cultivated and grown in a range of soil types and climatic conditions.

# CAPER SPURGE Euphorbia lathyris







Caper Spurge-Euphorbia lathyris

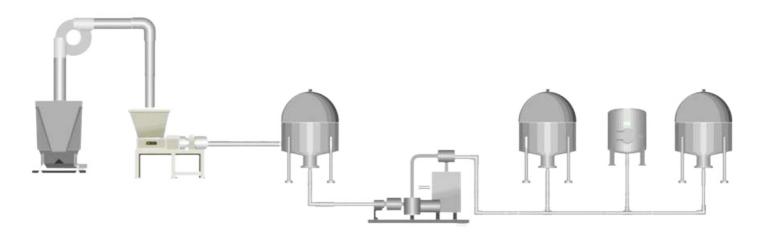
Caper Spurge (Euphorbia lathyris), also known as Gopher Spurge or Mole Plant, is a plant species native to southern Europe, North Africa, and parts of Asia

It is widely used in the treatment of skin wounds as it has disinfectant properties. It is also said to be effective for psoriasis. The use of euphorbia, a plant as old as human history, in traditional treatment dates back to ancient times.

Its has been used in traditional medicine and recent research has shown it to have potential antiviral, antibacterial, and anticancer properties.



## **TECHNOLOGY**





AC dyes are extracted entirely naturally, devoid of any utilization of heavy metals or synthetic chemicals.

Production functions at temperatures between 70-80 degrees, leveraging both thermal and solar energy.

This technique facilitates a remarkable eighty-five percent reduction in water usage throughout the manufacturing process. Despite this, the contained pigment manifests extraordinary heat resilience, tolerating temperatures ascending to 285 degrees. This characteristic makes it ideally suited for a multitude of applications involving high temperatures.

For optimal performance, the pH level should be maintained within the range of 4 to 8 when using our product, ensuring its stability and effectiveness in various applications.

Our production capabilities range from crafting particles as small as 5 microns to as large as 200 microns, providing a comprehensive and adaptable range to meet diverse application requirements.



# **TECHNOLOGY**

