

# INDIGO

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*A plant that changed history.*

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THIS IS TO CERTIFY THAT ADITYA SHARMA,  
ANSHUMAN KAR , PRANAV JAIN AND RITAM  
RAJ OF CLASS XII-C SUCCESSFULLY  
COMPLETED THE PROJECT WORK UNDER THE  
GUIDANCE OF  
MS.FAY BELLEW (SUBJECT TEACHER) DURING  
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MS. FAY BELLEW

ENGLISH TEACHER

## **ACKNOWLEDGEMENT**

I would like to express my special gratitude to my English teacher, Ms. Fay Bellew, who gave me an opportunity to research on this topic. I would like to thank her for providing the necessary guidance to complete the research. Her valuable guidance, support and supervision all through this project titled “Indigo” are responsible for attaining its present form.

## WHY CHOOSE THIS TOPIC

Indigo has been and is an important commodity for making everyday goods and has been a constituent in the Indian ayurvedic system for years. It is also been an intrinsic part of the history of many countries; united kingdom's economy flourished due to trading of indigo, India's farmers flourished due to indigo during the colonial times and The Greeks and The Romans valued it as a luxury product to the point that it became a currency in these countries.

In terms of religious beliefs indigo is also used to refer to an old soul in Christianity and also used in the context of a prodigy. It is also believed that indigo is a color that encourages your wisdom and makes you more aware of your surroundings.

Due to indigo having such a vibrant and rich history it becomes a very interesting and intriguing topic.

# ACTION PLAN

Indigo was a very important plant so we decided exactly how the plant actually affected both the common man and the importance of it in different events in history.

- Production
- History
- Importance and uses
- Social aspect
- Environmental aspect
- Economic aspect
- Role in independence of different countries
- Impact around the globe

## **Sharma Aditya**

Goals	To research the significance and impact of indigo plant.
Material	Wikipedia , Youtube , History book
Time period	13 hours
How you went about it	I researched on wikipedia, used my history books from class 10, took down notes and then compiled them. For further knowledge I watched Youtube videos to understand the process of production of indigo.

# INDIGO ESSAY

Indigo is a natural dye used for industrial and consumer purposes like dyeing denim jeans or civil and military uniforms. For thousands of years Indigo has been used as a medicine, a commodity, a luxury and various forms of art in different eras. It played a major role economically, socially, and culturally.

It was one of the symbols of resistance, unity among various parts of the country and also served as a reminder of the Colonial Era and the impact which continues till date. Indigo, oldest known fabric dyed indigo, dated to 6,000 years ago, was discovered in Huaca Prieta, Peru. Many asian countries, such as India, Japan, and Southeast Asian nations have used indigo as a dye (particularly silk dye) for centuries.

Indigo remained a rare commodity in Europe throughout the Middle Ages. In the late 15th century, the Portuguese explorer Vasco da Gama discovered a sea route to India. This led to the establishment of direct trade with India, the Spice Islands, China, and Japan. After capturing El Salvador the Spanish exploited the indigo production forcing its harvest. This production of indigo in El Salvador sustained the European textile industry for 300 years and even after El Salvador gained independence from the Spanish, the elites of that land continued to make money off indigo. In 1873, Levi Strauss patented his first pair of denim jeans in San Francisco, USA. They used natural indigo dye to create the iconic blue jeans that are popular to this day. Not long after, German scientists succeeded in determining the structure of indigo and finding a way to create it synthetically. Levi jeans later switched to synthetic indigo dye as it became cheaper and quicker to use than natural dye.

Historically Indigo was a natural dye extracted from the leaves of the *Indigofera* genus, which are native to the tropics notably the Indian Subcontinent. *Strobilanthes Cusia* in Taiwan and Japan were alternatives. The precursor to indigo is indican, a colorless, water-soluble derivative of the amino acid tryptophan. Indican readily hydrolysed to release B-D glucose and indoxyll. Oxidation by exposure to air converts indoxyll to indigotin, the insoluble blue chemical that is the endpoint of indigo dye. Indican was obtained from processing of the plant leaves, which contain as much as 0.2-0.8% of this compound. Natural sources of indigo include mollusks which produce indigo and

dibromoindigo which together produce a range of purple known as Tyrian Purple. Today the indigo used is produced synthetically. The Baeyer- Drewson indigo synthesis dates back to 1882. The method was proved impractical and expensive for industrial use. Johannes Pfleger and Karl Huemann eventually came up with industrial mass production synthesis. Variations of this method are still in use today. Another method was developed by Heumaan in 1897. This is much easier than the Pfleger method. The preparation of indigo dye is practiced in college laboratory classes according to the original Baeyer-Drewsen route.

The Romans used indigo as a pigment for painting and for medicinal and cosmetic purposes. In the 1800 it was used as currency. As stated by Catherine E. Mckiney "Indigo was more powerful than the gun. It was used literally as a currency. They were trading one length of cloth, in exchange for one human body". The Egyptians used indigo dyes for the clothes that were on mummies in the third millennium BC. Along with using the plant for dyeing clothes, indigo was used for its medicinal properties, and cosmetics. Indigo was also used to cure respiratory and gastrointestinal illnesses. The Industrial Revolution increased the demand for indigo dye because mechanized cloth production increased at a fast rate. Indigo dye was also used to dye wool for the blue coats of the Royal British Navy.

From 1735-1775, the agricultural monetary gains from indigo were so great that wealthy indigo planters in Georgetown had the resources to establish the Winyah Indigo Society in the 1740s, which started a public school for children and the indigo harvesters. The arduous work of harvesting indigo was partly responsible for the high levels of despair and death among slaves. Many believe that the way the indigo was cultivated was toxic to the workers. The large production of indigo in the United States came to an end after independence, when Britain, the primary purchaser of indigo dye, no longer bought the product as Britain's demand for indigo outweighed the supply from the US and the quality of dye was also lower. After the US became independent, the supply of Indigo was cut. Thus the British turned to India. From the last decades of the eighteenth century indigo cultivation in Bengal expanded rapidly and Bengal indigo came to dominate the world market. In 1788 only about 30 per cent of the indigo imported into Britain was from India. By 1810, the proportion had gone up to 95 per cent. The planters lured the peasants by offering them various incentives and made them sign a contract which kept them tied to the company. Peasants who were initially tempted by the loans soon realized how harsh the system was, the price they got

for the indigo they produced was very low and the cycle of loans never ended. In 1859, the village headmen with the support of the peasants and the local zamindars started to resist the planters. The zamindars were angry at being forced to give their land on lease for an extended period of time. When the news spread of a simmering revolt in the indigo districts, it caught the attention of many intellectuals from Calcutta and they wrote of the misery of the peasants. After the revolt, indigo production collapsed in Bengal, but the planters now shifted their operation to Bihar, and continued their oppression on indigo cultivators in the region. When Mahatma Gandhi returned from South Africa he came to Champaran in Bihar and saw the atrocious conditions of farmers in the region who were forced to cultivate indigo and this marked the beginning of the historic Champaran Movement against the indigo planters. The cultivators resisted Indigo as it affected the fertility of the land. The residue left over after utilization polluted rivers as well as harmed animals and other crops.

Indigo has shaped world history and has had a major impact, both positive and negative, on many societies and cultures around the globe. It caused and served as a catalyst for many revolutions and has made its mark in the history books while also being the cause for the suffering of countless workers that were involved in its making. Indigo has had a vital impact on the economy of the places it was grown and harvested in, it was a key player in the commerce of the places it was traded to and had great influence on the cultures and societies that were connected to it. To this day it is seen as a symbol of - wisdom, unity and resistance - and reminds us of the oppression faced by innumerable individuals.

# STUDENT REFLECTION

This project was done as a group with equal participation of each member. It helped me know something better. As a student of science I was keen to know the Chemistry and structure of the Indigo plant and how it was produced naturally as well as synthetically. Indigo whose production started centuries ago saw many revolutions from freedom struggle to independence. Gandhi ji turned Indigo into a symbol of British repression and how the British were thoughtless and selfish. It also taught me about the struggles of the peasants under Colonial and European rule in many parts of the world. I was fascinated by how Indigo created disparities among the rich and poor; the rich becoming richer and the poor becoming poorer. I got to know the reason behind the origin of the iconic blue color of LEVI's jeans. It taught me the ecology and how indigo impacted the environment in both positive as well as negative manner. I got to know about its astonishing medicinal properties and also the reason behind the classy British Royal coats. Before starting this project indigo seemed just an ordinary plant that had a distinct color , but I truly understood the significance of the Indigo plant. I had the chance to go through many articles related to indigo and therefore enhancing vocabulary and knowledge. To conclude, it was a fruitful and good learning experience for me.

## BIBLIOGRAPHY

- Environmental Impact of Indigo dye ( <https://tinyurl.com/2p8c7scy>)
  - Book references (<https://tinyurl.com/2p9hv97>)
  - Google Scholar (<https://tinyurl.com/4np5f6zy>)
  - Wikipedia (<https://tinyurl.com/2r54t3zd>)
  - Indigo's Political, Economic, Cultural History (<https://tinyurl.com/2rpk3zjb>)
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