



## E-CONTENT

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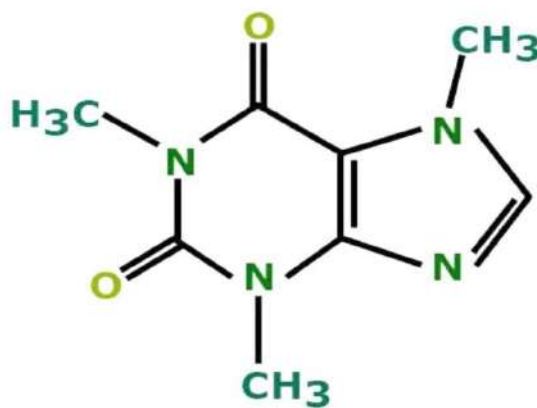
**Course Title:** Economic Botany, Ethnomedicine and Phytochemistry

**Topic: Processing, Cultivation & Uses of TEA**

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## TEA

Non alcoholic beverages chiefly Tea and Coffee show stimulating effect due to presence of *Caffeine* and other related alkaloids. Caffeine is a **Xanthine alkaloid** [1, 3, 7,- Trimethylxanthine].



Caffeine

**Botanical Name:** *Camellia sinensis* (Syn. *Thea sinensis*)

**Family:** *Theaceae* (Ternstroemiaceae)

**China is the largest producer of tea.**

Tea is one of the most widely consumed beverages in the world, and it is cultivated in various countries across different continents. Common tree growing countries are

China, India, Sr Lanka, Kenya, Japan, Taiwan, Turkey, Vietnam, Indonesia, East Africa, Brazil, Peru and Argentina.

### **Origin of Tea**

Tea, one of the most widely consumed beverages worldwide, has its origins in China. According to ancient Chinese legend, tea was discovered around 2737 BCE when Emperor **Shen Nung**, a renowned herbalist, noticed that leaves from a wild tree had fallen into his pot of boiling water, creating a delicious brew. This story may not be historically accurate, but highlights the deep cultural significance of tea in China.

The earliest written record of tea dates back to the **Han Dynasty** (206 BCE – 220 CE), where tea was mentioned as a medicinal herb. However, it wasn't until the **Tang Dynasty** (618-907 CE) that tea drinking became popular as a social activity. Tea houses began to emerge as social gathering places where people could enjoy tea, engage in intellectual discussions, and appreciate various forms of art. During this time, tea cultivation spread throughout China, and various methods of preparing tea emerged. Tea cultivation and consumption spread beyond China to neighbouring countries like Japan, Korea, and Vietnam during the Tang Dynasty. Buddhist monks played a significant role in introducing tea to these regions as they travelled between countries spreading their teachings.

From China, tea spread to other parts of the world. Each country developed its unique tea cultures and traditions. In Japan, tea became deeply intertwined with Zen Buddhism, leading to the development of the Japanese tea ceremony known as "chanoyu" or "sado." The ceremony emphasizes mindfulness, simplicity, and respect for the tea-making process.

Tea was introduced to Europe by Portuguese and Dutch traders in the 16<sup>th</sup> century. It quickly gained popularity among the European aristocracy due to its exotic nature and perceived health benefits. The British East India Company played a significant role in popularizing tea in Europe, and by the 18<sup>th</sup> century, tea had become an integral part of British culture. Today, tea is enjoyed worldwide, with various types and flavours catering to different tastes and preferences.

Green tea exported from China was first introduced in the coffee house of London shortly before the 1660 Stuart Restoration. Thomas Garway, a tobacconist and coffee house owner was the first person in England to sell tea as a leaf and beverage at his London coffee house in Exchange Alley in 1657.

### **The Role of the Dutch East India Company**

The Dutch were among the first Europeans to trade with China and bring tea back to Europe. The Dutch East India Company played a significant role in the early trade of tea, introducing it to countries like England and France.

### **Catherine of Braganza and the Introduction of Tea to England**

One key figure in the popularization of tea in England was Catherine of Braganza, the Portuguese wife of King Charles II. She was known for her love of tea and introduced the custom of drinking tea at court. This royal endorsement helped to elevate tea's status in English society.



*Catherine of Braganza*

She is credited with popularizing tea in England, although she did not actually introduce it to the country.

Tea was already known in England before Catherine's arrival, but it was primarily consumed by the wealthy elite as a luxury item. The drink gained popularity during Catherine's time as queen due to her love for tea and the influence of her Portuguese and Tangier connections.

**China** is the birthplace of tea and remains one of the largest producers of tea in the world. It has a long history of tea cultivation and is known for producing a wide variety of teas, including green tea, black tea, white tea, oolong tea, and pu-erh-tea. Chinese teas come from five provinces. One of them, Yunan, is located close to Himalaya. Picked at high altitudes, this black tea has a rich flavour and no astringency. It is considered by some to be one of the great teas of China, or even of the world. The other tea producing provinces are situated in eastern China. The low-lying Anhui region produces KEEMUN, a black tea that gives a slightly Chocolaty-flavoured drink. The region also produces CHUN MEE and SOWMEE, green teas. The Zhejiang region is reputed for its GUNPOWDER TEA.

**India** produces many varieties of because of variable climatic zones.

Tea from South India comes from Travancore and Nilgiri regions of plateaus similar to those in Sri Lanka. These teas give a pleasant, gentle beverage with a good colour but little character.

Northern India produces tea in Darjeeling, Assam, the Doars and Terai. The teas of Darjeeling (West Bengal) are considered by some to be the best in the entire world.

Assam is a forested low-lying region in India's northwest. Its teas are the highest quality.

Sri Lanka (Ceylon) produces mostly black teas. The major producing regions are Uva and Dimbula and these include large gardens.

Taiwan (Formosa) produces both green and black teas, it is the semifermented Oolongs that have made its reputation. Fine and delicate, with a unique, naturally fruity taste, these are appreciated mostly in the USA.

**Japan** is famous for its green teas, particularly MATCHA and SENCHA. For everyday use, there is OCHA, drunk as an infusion of leaves. Japanese teas are characterized by their vibrant green colour, umami profile, and meticulous production techniques. In decreasing order of quality, we find GYOKURO, SENCHA and BANCHA.

**Taiwan** is known for its high-quality Oolong teas, such as DONG DING, and ALISHAN OOLONGS. Taiwanese oolongs are prized for their floral aromas, complex flavours, and smooth textures.

**Vietnam** has emerged as a significant player in the global tea market, with a focus on producing green teas like JASMINE TEA, and LOTUS TEA. Vietnamese teas are valued for their unique flavours and aromas.

### **Modern Tea Culture**

Today, tea is enjoyed by people all over the world and comes in various forms such as black, green, white, oolong, and herbal teas. Different cultures have developed unique traditions around tea drinking, from elaborate ceremonies to casual afternoon tea gatherings.

### **The Most Expensive Tea in India**

The costliest tea of India is **Darjeeling White Tea**, which is also considered one of the most expensive teas in the world. The price of this exquisite tea can range from \$ 100 to \$ 1500/kg, depending on the quality and rarity.

### **What Makes Darjeeling White Tea So Special?**

Darjeeling White Tea is produced in the Darjeeling region, located in the northern part of West Bengal, India. The unique flavour and aroma of Darjeeling White Tea are attributed to the region's cool climate, high altitude, and rich soil. The tea leaves are

carefully hand-picked before they are fully open, which allows for the highest concentration of antioxidants and delicate flavour.

### Botany of Tea:

The tea plant typically grows as a bush or small tree, reaching heights of up to 3 meters in optimal conditions. It has a dense branching pattern with numerous lateral branches. Stem woody with smooth bark. The plant produce terminal buds that give rise to new shoots in growing season. These are harvested for producing different types of teas. The leaves are alternate, simple, and elliptical with serrated margins, dark green, and glossy, size variable. Flowers white, small, with yellow stamens, fragrant and bloom in clusters, axillary. Flowering mostly in the spring or early summer. Fruits capsule.

#### Varieties OF TEA

- i. Small leaved Chinese Shrub- *Camellia sinensis* var. *sinensis*
- ii. Large leaved tree like Assam tea plant- *C. sinensis* var. *assamica*
- iii. Combodial Type- *C. assamica* var. *lasiocalyx*
- iv. Wilson's Camella- *C. trawarddiensis*

### Harvesting and Processing of Tea:

Teas primarily cultivated in tropical and subtropical regions around the world. Plant is an evergreen tree or shrub growing upto 30-50 feet. Under cultivation it is not allowed to grow beyond 2-5 feet.

Maintenance of plant up to 40-50 cm is called “**Pruning.**” It is practical to encourage a spreading growth of leaf.

After pruning, certain height is maintained known as **Plucking level** or **Table**. Above this level new leaves are harvested.

One important aspect of a successful tea garden is the presence of shade trees. Some common shade trees that are used in tea gardens are: *Albizia julibrissi*, *Cassia fistula*, *Delonix regia*, *Ficus benjamina*, *Grevillea robusta*, *Melia azedarach*, and *Peltophorumpterocarpum*.

**A. Pruning of Tea Leaves:** Tea pruning is essential practice in the cultivation of tea plants, which involves the removal of old, spent growth to encourage new growth and maintain optimal plant health. This process plays a vital role in the growth, quality and quantity of tea produced, as well as the overall lifespan of the tea plant.

Proper pruning techniques are essential for maintaining healthy tea plants, maximizing yield, and producing high-quality tea leaves.

There are different types of tea pruning methods, including plucking, pinching, and cutting back, depending on the desired outcome and type of tea being grown.

Plucking, Pinching and Cutting back are fundamental pruning methods used in tea cultivation to shape plants, promote growth, and optimize leaf production.

### Types of Tea leaves Pruning Methods:

1. **Plucking:** This is a common and selective method of tea pruning, where the young shoots and leaves containing the highest concentration of valuable compounds such as caffeine, catechins, and amino acids are carefully removed by hand. This method involves handpicking the top two leaves and bud from each tea shoot. It is typically employed for high-quality teas like green, white, and oolong teas. The frequency of plucking can vary depending on the season and desired yield, ranging from once a day during peak growing seasons to once every few weeks during less productive periods. (Regular plucking helps maintain the plant's shape known as "Plucking level" or "Table", encourages new growth, and ensures that only high-quality leaves are harvested.)

The tea leaves show periodic appearance; alternate with dormancy. The periodic appearance of new leaves called "FLUSH." In South India bushes flush all the year round. In North India it is in month of April (The 1st Flush in March and April and 2nd in May, although plucking continue till November).

Each bush may be plucked as many as 25 to 35 times.

2. **Pinching:** Pinching is a pruning technique where the grower uses their fingers to pinch off the terminal bud of the tea shoot. This method is often used to encourage lateral growth and create a bushier plant. By removing the terminal bud, pinching redirects the plant's energy to the lower shoots, promoting more vigorous growth and increasing leaf production.
3. **Cutting Back:** Cutting back involves more drastic pruning compared to plucking and pinching. In this method, tea farmers trim back entire branches or shoots to control the plant's size, shape, and density. Cutting back is typically done during the dormant season or after harvesting to rejuvenate older plants or stimulate new growth in younger plants.

The journey to tea from leaf to cup involves several crucial steps in the processing of tea leaves. The first stage in the factory is the sorting process where all types of teas (black, green, white, and Oolong) are graded and sorted based on size and appearance. The leaves are then classified by size, type, and appearance according to different systems used in various countries. Once sorted, the teas are packed into foil-lined paper sacks or tea chests and transported.

## [The Tea Process

Tea production involves different methods for different types of teas. The most common method making black tea is the ORTHODOX METHOD, which includes four main stages: a. withering, b. rolling, c. fermentation/oxidation, and d. drying.]

### COMMERCIAL TYPES OF TEA

1. BLACK TEA / FERMENTED TEA / RED TEA
2. GREEN TEA
3. OOLONG TEA / SEMIFERMENTED TEA
4. BRICK TEA
5. WHITE TEA
6. PU-ERH TEA
7. KOMBUCHA TEA
8. YELLOW TEA

**Black Tea:** Black tea is made from fully oxidized leaves and has a robust flavour profile. Black tea is unique due to its extensive oxidation process, which sets it apart from other types of tea. During the oxidation process, the leaves are exposed to oxygen, leading to the development of **THEAFLAVINS**, a group of polyphenols that are exclusive to black tea. These theaflavins make up 3% to 6% of the polyphenols in black tea and contributes to its distinct benefits.

Unlike green tea, which does not undergo oxidation, black tea offers a range of advantages such as promoting heart health, reducing the risk of stroke, improving focus, lowering blood sugar levels, decreasing the risk of certain cancers, and lessening the risk of death from various causes.

Additionally, black tea contains caffeine and an amino acid called **L-THEANINE**, which work together to provide a stable and focused type of energy. The unique combination of compounds in black tea makes it a popular choice for those seeking both flavour and health benefits.

Black tea contains polyphenols including **CATECHINS**, **THEAFLAVINS** and **THEARUBIGINS**, which act as antioxidants. These antioxidants help remove free radicals, decrease cell damage, and reduce the risk of chronic diseases. Black tea has been found to help lower “bad” LDL cholesterol levels in the body.

The compounds in black tea may promote gut health by supporting beneficial gut bacteria and improving digestion.

Black tea contains caffeine which can enhance focus and alertness without causing the jittery effects associated with excessive coffee consumption.

Some well-known commercial varieties of black tea include Assam tea, Darjeeling tea, Earl Grey tea, and English Breakfast tea.

**Green Tea:** Green tea is made from unoxidized leaves and is known for its fresh flavour and high antioxidant content (Polyphenols and Catechins). One of the most abundant catechins in green tea is **EPIGALLOCATECHIN-3-GALLATE (EGCG)**, which is believed to contribute to many of its health benefits. Popular varieties of green tea include **Matcha, Sencha, Gunpowder Green tea, and Dragonwell (Longjing) green tea**. Green tea is known for its health benefits and lower caffeine content compared to black tea. **[Herbal teas are not made from the tea leaves, but rather from dried herbs, fruits, and flowers. They offer a wide range of delicate flavours and are caffeine-free, making them suitable for individuals with dietary restrictions. Common herbal teas include Hibiscus, Chamomile, Peppermint, and Yerba Mate.]**

**Oolong Tea:** Oolong tea is a traditional tea of China, made from partially oxidized tea leaves. It falls between green and black tea in terms of oxidation levels, offering a unique flavour profile and potential health benefits.

**Brick Tea:** It is a type of tea that is compressed into solid blocks or bricks made from whole or finely ground black tea, green tea or post-fermented tea leaves. These bricks were produced and used in ancient China before the Ming Dynasty. They can be consumed as beverages like tea or eaten as food. Brick tea was also historically used as a form of currency. Tea bricks are consumed after being broken into small pieces and boiled. The legacy of using powdered tea can be seen in modern Japanese tea powders and certain regional dishes like lei cha.

**White Tea:** White tea is minimally processed and made from youngest growth on the tea bush, harvested before the leaves fully open. These young buds and leaves are minimally processed, dried immediately to prevent oxidation, resulting in a delicate flavour profile. White tea undergoes minimal processing compared to other types like green or black tea. It is neither rolled nor fired, allowing for very low oxidation levels. The lack of oxidation contributes to its light and fresh taste.

Several varieties of white tea exist, including

**SILVER NEEDLE,**

**WHITE PEONY,**

**MONKEY PICKED WHITE TEA,** and

**DARJEELING WHITE TEA.**

Each type has unique characteristics based on the plant variety and processing method used.

White tea generally contains less caffeine than green or black tea.

**Pu-Erh Tea:** Also known as “black tea” in the Far East, originates from Yunnan, China. It is distinct from what is commonly known as black tea in the west. It is a type of fermented tea. Pu-erh tea is unique as it undergoes post-fermentation process, where microbial fermentation occurs after the tea leaves are dried and rolled. Also known as ‘**Wet piling**’. This fermentation process causes the leaves to darken and results in a change in flavour. The aging process enhances the flavour profile of the tea, making it



smoother and less astringent over time. Pu-erh teas can be found in compressed brick form or loose form and can be made from both green and black tea leaves.

**Kombucha Tea:** It is a fizzy sweet-and-sour drink made with tea. The basic ingredients of kombucha include yeast, sugar, and black tea. The mixture undergoes fermentation where bacteria and acids form, along with a small amount of alcohol. This process results in the creation of a film on top of the liquid called a **SCOBY** (symbiotic colony of bacteria and yeasts). Kombucha contains lactic acid bacteria that can act as probiotics and is rich in B vitamins.

**Yellow Tea:** Yellow tea holds significant importance in traditional Chinese tea making. Yellow tea is further categorized into three subcategories based on their picking styles:

**i. Huang Ya Cha (Yellow Bud Teas);**

**ii. Huang Xiao Cha (Yellow Small Teas);**

**iii. Huang Da Cha (Yellow Large Teas)**

**Table: THE QUALITY OF TEA DEPENDS ON THE LEAF AGE**

S. No.	Leaf Stage	Trade Name	Tannin content
1.	Youngest Bud	Golden tips	28%
2.	The smallest leaves	Orange Pekoe	23%
3.	The Second leaf	Pekoe	21%
4.	The Third leaf	Pekoe-souchang	18%
5.	The Fourth leaf	Souchang	14%
6.	The Fifth leaf	Congee	<14%

**THE MOST COMMON METHOD FOR MAKING BLACK TEA IS THE ORTHODOX METHOD WHICH INCLUDES FOUR MAIN STAGES: WITHERING, ROLLING, FERMENTATION / OXIDATION AND DRYING.**

**B. Withering of Tea Leaves:**

Withering refers to the controlled process where freshly plucked tea leaves are allowed to naturally wilt to reduce their moisture content. This controlled wither is essential for preparing the leaves for further processing by developing aroma and flavour compounds. The withering process involves closely monitoring humidity, temperature, and air-flow to achieve the desired level of water loss in the tea leaves. The harvested leaves are spread out to wither, reducing moisture content. After tea leaves are plucked,

over the course of withering they become more flaccid. This softening up of the leaves occurs because the leaf membranes make them more permeable, but also weaker the leaf structure making them go limp. The plucked leaves are spread over withering racks for 12 to 18 hours or spread out on wire mesh troughs where air is passed over them to gently dry them out. Sometimes heated air is used. The tea leaves slowly and evenly become soft and flaccid.

During withering, several chemical changes occur in the tea leaves. Chlorophyll begins to degrade, caffeine level increases gradually, volatile flavour and aroma compounds develop, and grassy aromas dissipate. As the leaves lose moisture, they break down stored carbohydrates for energy use, leading to the breakdown of cell walls and initiating oxidation processes such as polyphenol oxidase and peroxidase activity. Withering time beyond 20 hours leads to deterioration of tea quality. In this stage, the freshly plucked leaves undergo a reduction in water content by about 60% - 70%.

### C. Rolling of Tea Leaves:

Rolling imparts characteristic twist to the tea leaves and juice comes out for the fermentation. After withering, the leaves are rolled either by hand or using rolling machines that twist and turn the leaves until they become thin and wiry. This process also breaks up the leaves to initiate oxidation. As a result of rolling the juice in the tea can flow out and facilitate subsequent fermentation.

#### **CTC TEA**

**CTC tea** refers to a method of processing black tea known as "crush, tear, curl" (or sometimes "cut, tear, curl"). In this process black tea leaves are passed through cylindrical rollers with sharp teeth that crush, tear, and curl the leaves into small, hard pellets. This method is different from traditional orthodox tea production where leaves are rolled into strips.

Tea produced using the CTC method is often referred to as CTC tea or **MAMRI tea**.

The CTC tea is well-suited for **tea bags** due to its quick brewing and strong flavour profile. The CTC tea typically produce a rich-brown colour when brewed.

#### **TEA BREW**

Tea brewing refers to the process of preparing tea by steeping tea leaves, herbs, or tea bags in hot water to extract their flavours, aromas, and beneficial compounds. The brewing process can significantly affect the taste and quality of the tea.

### D. Oxidation / Fermentation of Tea Leaves:

Tea fermentation is a crucial process in the tea manufacturing industry that significantly impacts the flavour, aroma, and colour of the final product. The degree of fermentation determines the type of tea produced. *There are four main categories based on the degree of fermentation:*

**1. Non and Light Fermented Teas:** These teas such as white and some green teas, undergo minimal oxidation, up to 10%, they retain their natural colour and properties

due to limited fermentation. Examples include **Green Tea, Jasmine scented Green Tea, and Yellow Tea.**

**2. Semi-Fermented Teas:** Tea leaves allowed to ferment between 10% to 80%. This category includes light (10% to 20%), medium (20% to 50%), and heavy (50% to 80%) fermented teas like **Jasmine Tea, Oolong Teas, and Oriental Beauty Oolong Tea.**

**3. Fully-Fermented Teas:** Also known as dark tea or post-fermented tea, these teas undergo microbial fermentation for months to years after processing. **Pu-Erh Tea** is a well-known example with distinct aroma, colour, and taste profiles.

The fermentation process alters the chemistry of tea leaves, affecting their organoleptic qualities by mellowing taste, reducing bitterness, and enhancing mouthfeel and aftertaste. Microbes involved in fermentation may produce metabolites with potential health benefits.

Overall, tea fermentation plays a vital role in creating diverse tea varieties with unique flavours and characteristic based on the oxidation levels achieved during processing.

Fermentation is completed in a specially designed *Fermentation chamber* for 30 minutes to two hours. In this chamber temperature, humidity and air circulation can be regulated, and different enzymes react with the air to change the colour of the leaves from green to brown based on desired flavour and intensity.

In the presence of enzyme *Polyphenol oxidase*, Polyphenol produces *Orthoquinones*, which provides characteristic dark colour to the tea leaves.

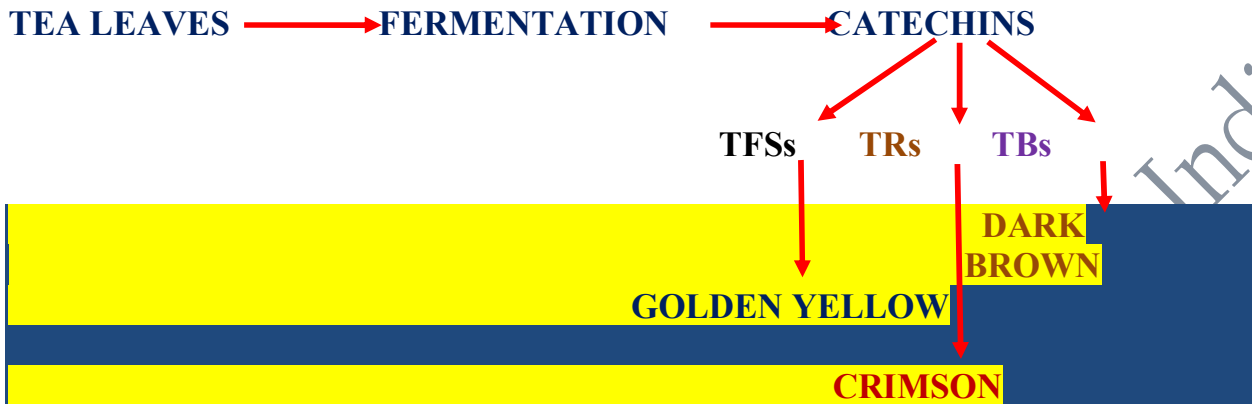


After fermentation, the fermented tea leaves are spread in thin layer on a glass or Aluminium surface.

**{Duration of Fermentation and Pungency:** The duration of fermentation plays a crucial role in determining the pungency of tea leaves. As the fermentation progresses, CATECHINS present in the tea leaves undergo oxidation process catalyzed by enzymes like polyphenol oxidase and peroxidase. This oxidation leads to the formation of Theaflavins (TFs), which are known for their pungent and astringent taste profile. Therefore, a longer duration of fermentation can result in high levels of TFs in the tea leaves, leading to increased pungency in the final brewed tea. The ester-type catechins are appropriately reduced, which can reduce the astringency of tea liquor.

**Duration of Fermentation and Colour Changes:** The duration of fermentation also impacts the colour changes observed in the tea leaves. The conversion of catechins to TFs, TRs, and TBs during fermentation results in distinct colour transformations in the leaves.

The transition from greenish hues to reddish-brown tones during fermentation is known as “RED STAIN” and reflects the dynamic evolution of pigments in tea leaves.}



*Due to fermentation Tannin in tea leaves is partially oxidized and the colour turns bright red-brown with characteristic aroma and flavour.*

During the fermentation process of tea leaves, especially in the context of black tea production, various chemical reactions take place that influence both the pungency and colour attributes of the final product.

The pungency of tea leaves is often associated with the presence of certain compounds, such as **THEAFLAVINS (TFs)**, which contribute to astringency and intensity in taste. On the other hand, the colour changes observed in tea leaves during fermentation are primarily due to the formation of different pigments like TFs, **THEARUBIGINS (TRs)**, and **THEABROWNIN (TBs)**.

### **E. Drying / Firing of Tea Leaves:**

This step is employed to reduce moisture about 3% and to stop the process of Fermentation of tea leaves. The Drying is done in a specially designed hot air dryers, in which leaves are exposed to 90<sup>0</sup> – 100<sup>0</sup> C temperature for 20-25 minutes.

Generally, the process of drying is completed in two steps:

1. **FIRST FIRING:** To remove about ¾ moisture of the product.
2. **SECOND FIRING:** After short duration of cooling Second firing is applied to remove remaining moisture.

Drying is primarily focused on reducing moisture levels for self-stability, while firing involves applying heat post-oxidation to enhance flavour profiles and complete the drying process. Tea can be dried using various methods such as commercial dryers, oven drying, sun drying, charcoal firing, and drying on a heated floor.

Finish-firing and roasting are two optional processing methods that fall under firing and are used to alter the taste through pyrolysis of amino acids and sugars in the tea leaves.

**Oolong is a partially fermented product, intermediate between Green and Black tea, having flavour of former and colour of latter.**

ANOTHER METHOD KNOWN AS THE CTC (CUT, TEAR AND CURL) METHOD INVOLVES WITHERING FOLLOWED BY CUTTING, TEARING, AND CURLING OF TEA LEAVES USING ROLLERS WITH SHARP TEETH BEFORE UNDERGOING OXIDATION AND DRYING SIMILAR TO ORTHODOX PROCESSING.

#### **F. Grading and Sorting of Tea Leaves:**

Tea obtained after drying contains intact leaves and their small and large pieces. Hence from commercial point of view grading and sorting of tea leaves is necessary. Tea leaves are graded on mechanically oscillated sieves, where leaves of different sizes are separated.

The major recognized grades of tea trade are as follows.

- i. Broken Orange Pekoe (BOP),
- ii. Flowery Broken Orange Pekoe (FBOP),
- iii. Orange Pekoe (OP),
- iv. Flowery Pekoe (FP),
- v. Broken Orange Pekoe Fanning (BOPF),
- vi. Fanning and Dust (FD).

#### **TEA CULTIVATION**

Process of growing tea plants to produce tea leaves for consumption.

It involves various stages such as planting, nurturing, harvesting, and processing the tea leaves. Tea cultivation is a meticulous process that requires specific environmental conditions and care to ensure the quality of the final product.

Tea plants, thrive in regions with a subtropical climate and well-drained soil. The cultivation of tea typically takes place in countries like China, India, Sri Lanka, Kenya, and Japan, among others.

#### ***Factors Affecting Tea Cultivation:***

**Climate:** Tea plants require a specific climate with adequate rainfall and temperatures to grow successfully. Extreme weather conditions can impact the growth and quality of tea leaves.

**Soil Quality:** Well-drained soil rich in nutrients is essential for healthy tea plant growth. The pH level of the soil also plays a crucial role in tea cultivation.

**Altitude:** The altitude at which tea is grown can influence its flavour profile. High-altitude teas are often considered superior in quality due to slower growth and cooler temperatures.

**Cultivation Techniques:** Farmers employ various cultivation techniques such as pruning, plucking, and pest management to ensure optimal growth and yield of tea plants.

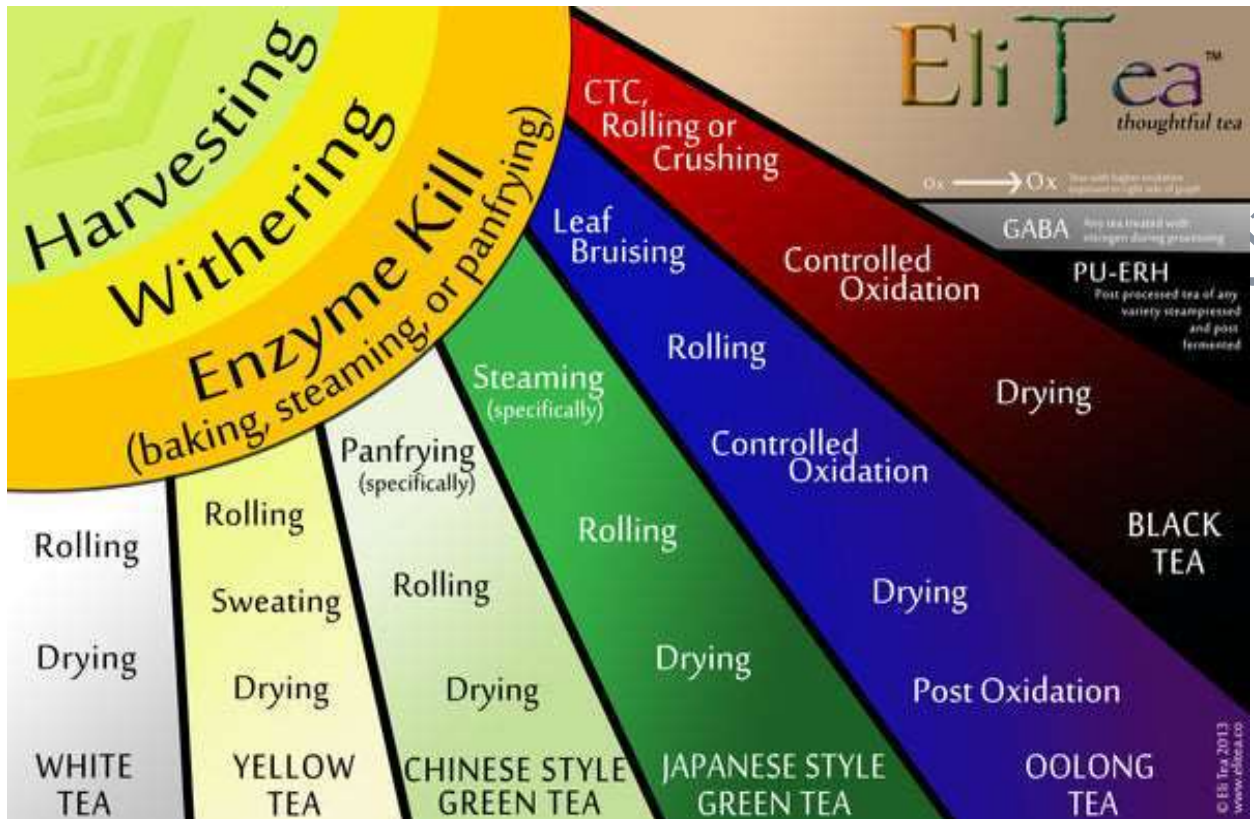
**Harvesting Methods:** The timing and method of harvesting tea leaves can impact the flavour and quality of the final product. Hand-plucking is a common practice for premium teas.

**Processing:** After harvesting, tea leaves undergo processing methods like withering, rolling, oxidation, and drying to develop distinct flavours characteristic of different types of tea.

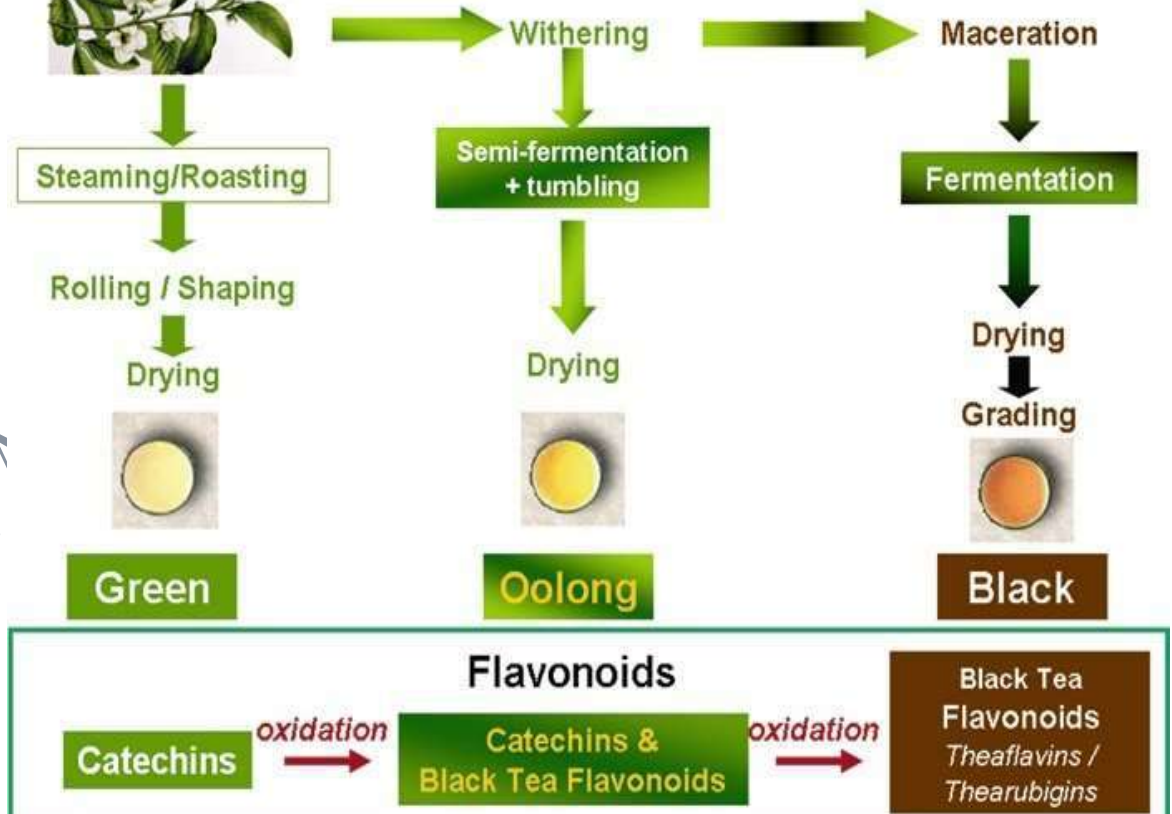
**Sustainability Practices:** Sustainable agriculture practices are increasingly being adopted in tea cultivation to minimize environmental impact and promote biodiversity. Tea cultivation plays a significant role in various cultures worldwide and contributes to the global economy through trade and consumption. The art of cultivating tea has been passed down through generations, with each region adding its unique touch to the process.



**A Tea Estate**



## The Tea Journey



Prof. ↗



### Occurrence of Tea



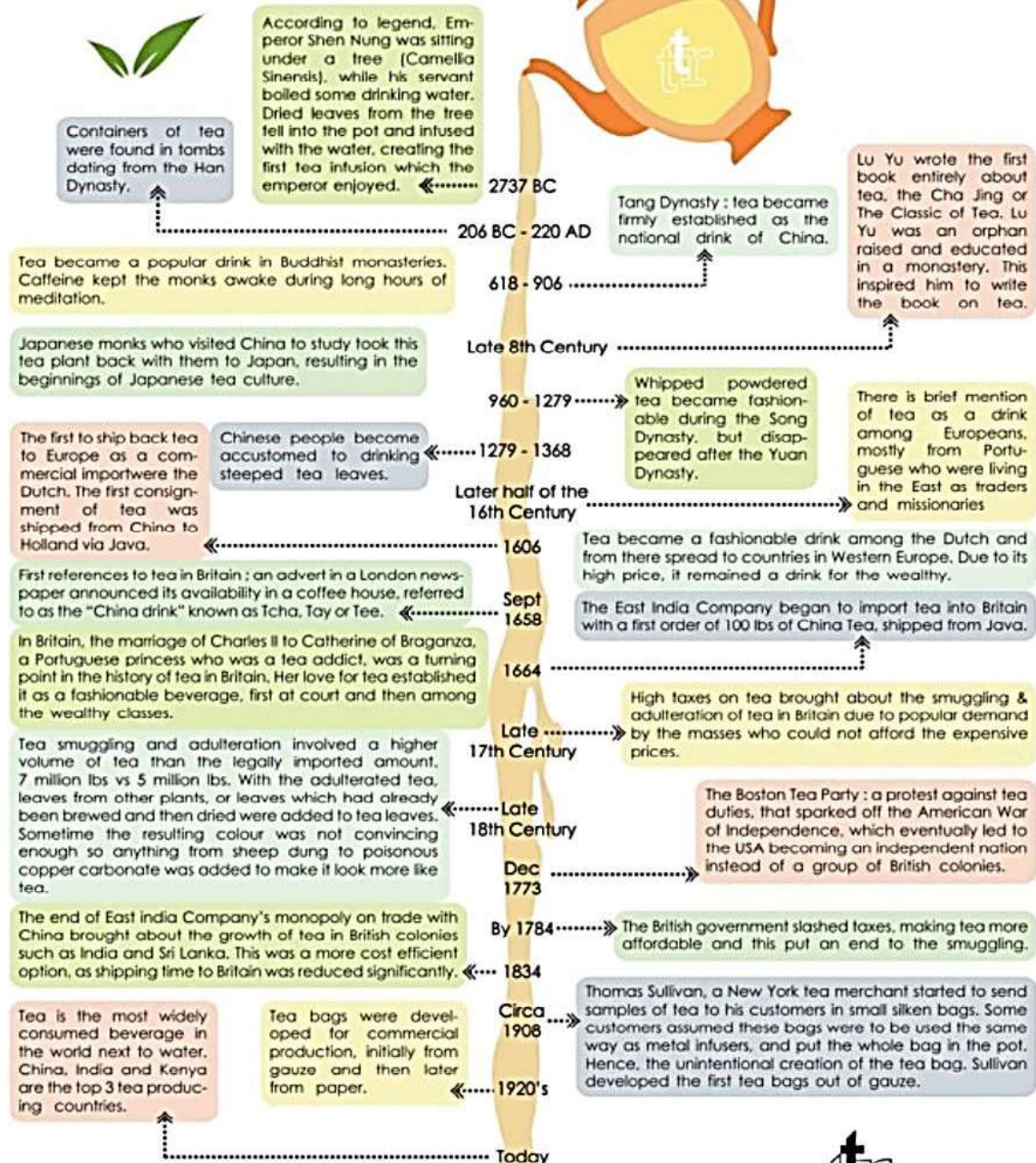
**Withering of Tea Leaves in the Factory**



# THE HISTORY OF TEA

a brief summary

by The Tea Republic  
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#teahistory



  
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CELEBRATE THE CITEAZEN WITHIN

*History of Tea in Brief*



**Tea Processing in the Factory**



**Brick Tea**



**Rolling of Tea Leaves-Manually and by Machine**



*CTC Tea*



**White Tea**



**Black Tea**



**Yellow Tea**



**Kombucha**



**Green Tea**



**Drying of Tea leaves**



**Plucking of Tea Leaves**

### ***Declaration***

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