



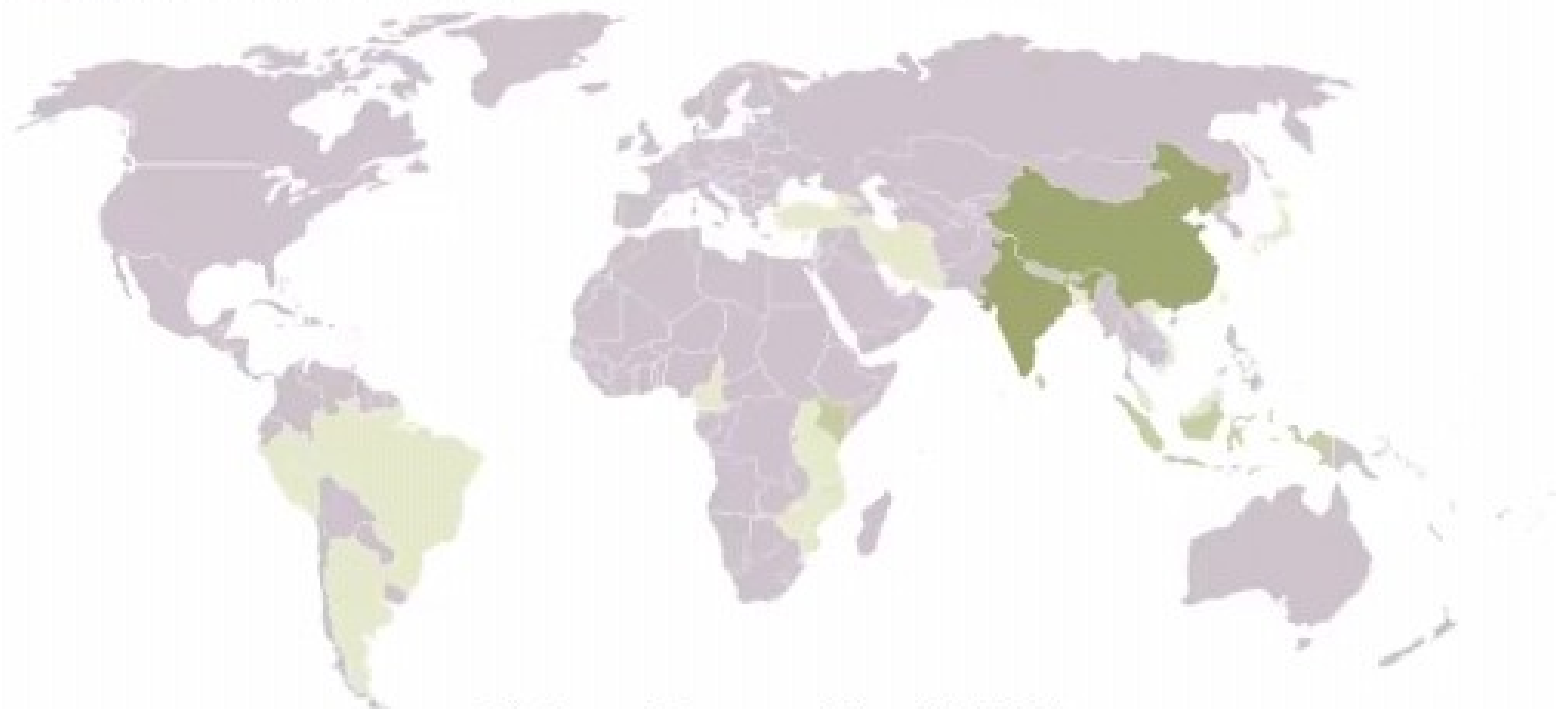


*Camellia sinensis*



<http://www.chinahighlights.com/travelguide/chinese-tea/chinese-tea-art.htm>

- *Camellia sinensis*
- Camelliaceae/ Ternstroemiaceae
- South East Asia



- China- Green Tea (27%)
- Japan- Green Tea (3%)
- Taiwan- Oolong Tea (0.7%)
- India- Black Tea (23%)
- Sri Lanka- Black Tea (19%)

# Tea and Human Health

- Studies on effects of tea consumption on:
  - Cancer incidence
  - Heart disease incidence
- Other health effects



- Tea differentiated on: Processing Leaf size
- Grade Classification: Black and Green tea
- Black tea further classified into CTC (cut, tear and curl) and Orthodox tea.
- India - largest tea producer and consumer in the world.
- It is the only country, which produces both CTC and orthodox teas in sizeable quantities.
- It has a share of 15% of the world's tea exports.
- The tea market has declined by 9% in 2002. Discounts and freebies push the volumes.
- Hindustan Lever Ltd with a market share of 45% is the leading player in the packet tea business.
- Regional players enjoy the advantage of price differences, because the procurement cost is low when tea prices are depressed.



- Darjeeling's exclusive taste and quality, as well as the fact that it cannot be replicated anywhere else in the world, makes it one of the most sought after teas in the world.
- The Assam region produces more tea than any other region in India.
- Assam teas are known for their strong, full, rich, full-bodied, pungent and sometimes malty bright liquor flavour.
- Branded packaged teas account for 33-35% by volume. Hindustan Lever (HLL) leads with around 43-45% market share of the packaged tea market, while Tata Tea is No. 2 with around 17-18% market share.
- Collapse of Soviet market reduced exports.



Northeast  
 Upper Assam –  
 largest  
 production  
 Northern West  
 Bengal  
 (Darjeeling)  
 South Nilgiri





- Tea pluckers, learn to recognise the exact moment at which the flush should be removed.
- This is important, to ensure the tenderest leaves are plucked to produce the finest teas.
- After plucking, leaves are transported to factories for processing. The fields are normally adjacent to the factory.
- Harvesting 3<sup>rd</sup> yrs onwards, throughout year
- **Yield : 200-300 kg tea/ha/yr**
- A tea bush may happily produce good tea for 50 – 70 years, but after 50 years the plants yield will reduce.
- At this time the older bushes will be replace by younger plants grown on the estates nursery.



## Black Tea manufacture

### Withering:

- To reduce the moisture in the tealeaf up to 70% (varies from region to region).
- Tea is laid out on a wire mesh in troughs.
- Air is then passed through the tea removing the moisture in a uniform way.
- Process take approx 12 to 17 hrs
- At the end of this time the leaf is limp and pliable and so will roll well.



- **Rolling:** Tea is placed into a rolling machine, which rotates horizontally on the rolling table. This action creates the twisted wiry looking tea leaves. During the rolling process the leaves are also broken open, which starts the third process - oxidation.
- **Oxidisation:** Once rolling is complete, the tea is either put into troughs or laid out on tables whereby the enzymes inside the tealeaf come in to contact with the air and start to oxidise. This creates the flavour, colour and strength of the tea.





- It is during this process that the tealeaf changes from green, through light brown, to a deep brown, and happens at about **26 °C**.
- This stage is critical to the final flavour of the tea, **if left too long the flavour will be spoilt**.
- Oxidisation takes from between **half an hour to 2 hours**.
- Process is monitored constantly with **thermometer**. then passes to drying.



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- **Drying:** To stop the oxidising process the tea is passed through hot air dryers. This reduces the total moisture content down to about 3%. The oxidation will be stopped by this process, and now the dried tea is ready to be sorted into grades before packing.





## Green Tea manufacture

- The main difference when making green tea is that the oxidation process is omitted, which allows the tea to remain green in colour, and very delicate in flavour.
- In order to ensure that the freshly picked leaf does not oxidise, before the tea is rolled, the leaf is either pan fried or steamed. This will prevent the interaction of the enzymes in the leaf, and so no oxidation can take place.
- In China some green teas are withered before being pan fried, but more usually in green tea manufacture, the withering process is omitted as well.
- Rolling, drying, and sorting follow

## Black Tea

Fresh leaves



Withering



Rolling by Tea roller,  
roller vane or CTC



Oxidation



Drying



## Green Tea

Fresh leaves



Steaming



Primary  
drying-rolling



Rolling

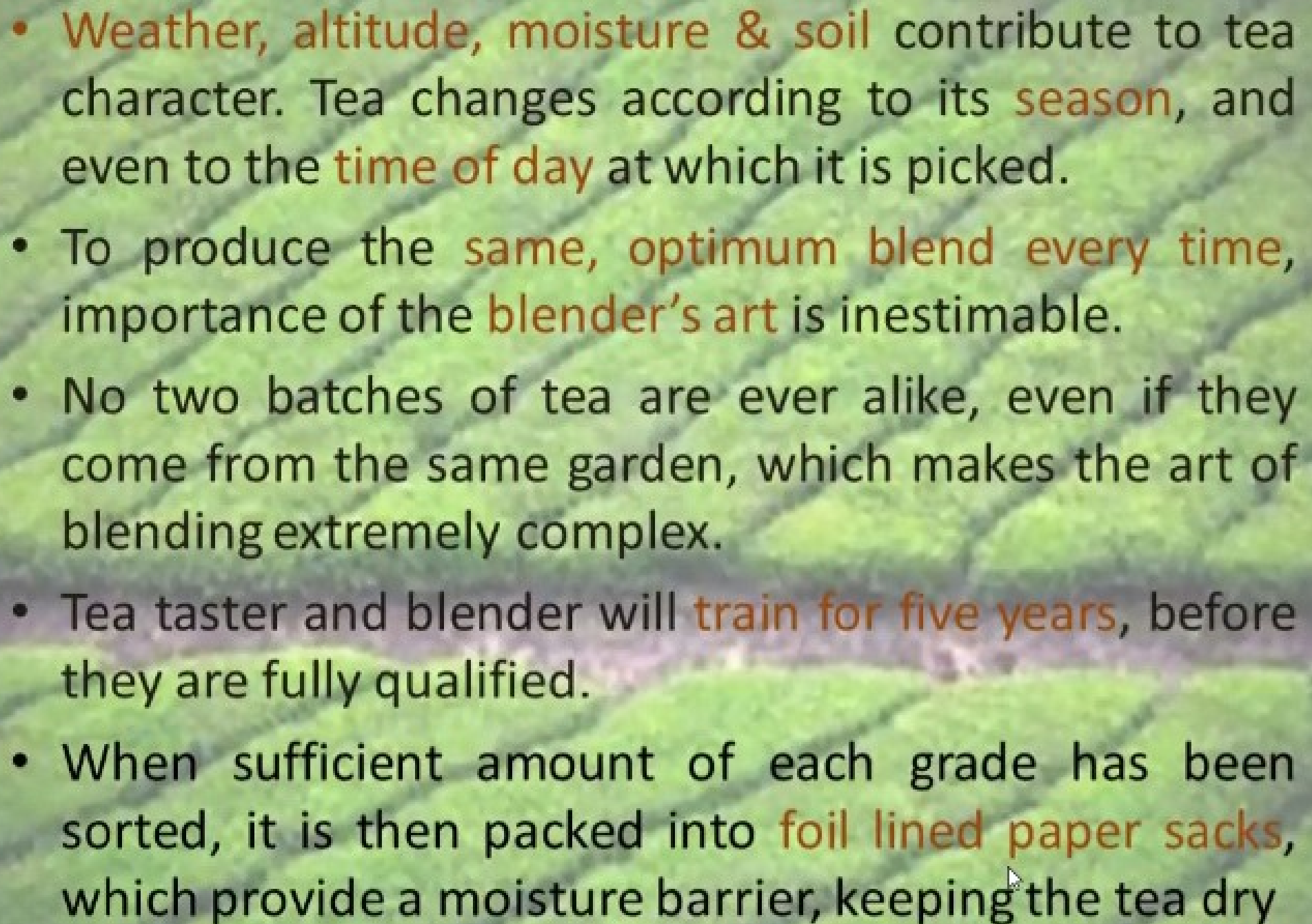


Final  
drying-rolling



Drying



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- Weather, altitude, moisture & soil contribute to tea character. Tea changes according to its season, and even to the time of day at which it is picked.
  - To produce the same, optimum blend every time, importance of the blender's art is inestimable.
  - No two batches of tea are ever alike, even if they come from the same garden, which makes the art of blending extremely complex.
  - Tea taster and blender will train for five years, before they are fully qualified.
  - When sufficient amount of each grade has been sorted, it is then packed into foil lined paper sacks, which provide a moisture barrier, keeping the tea dry



- Hot
- Cold Conservative
- Flavored Cup page
- Convenience Tea bags
- Instant tea
- Iced tea
- Gourmet tea



Brooke Bond Taj Mahal Tea, Red Label, 3 Roses, Taaza, Lipton Yellow Label, Tata, Tetley, Eveready Industries (Mcleod Russell), Harrisons, Malayalam, Assam Company (Assam Gold), Goodricke Group Limited