茶樹及分佈

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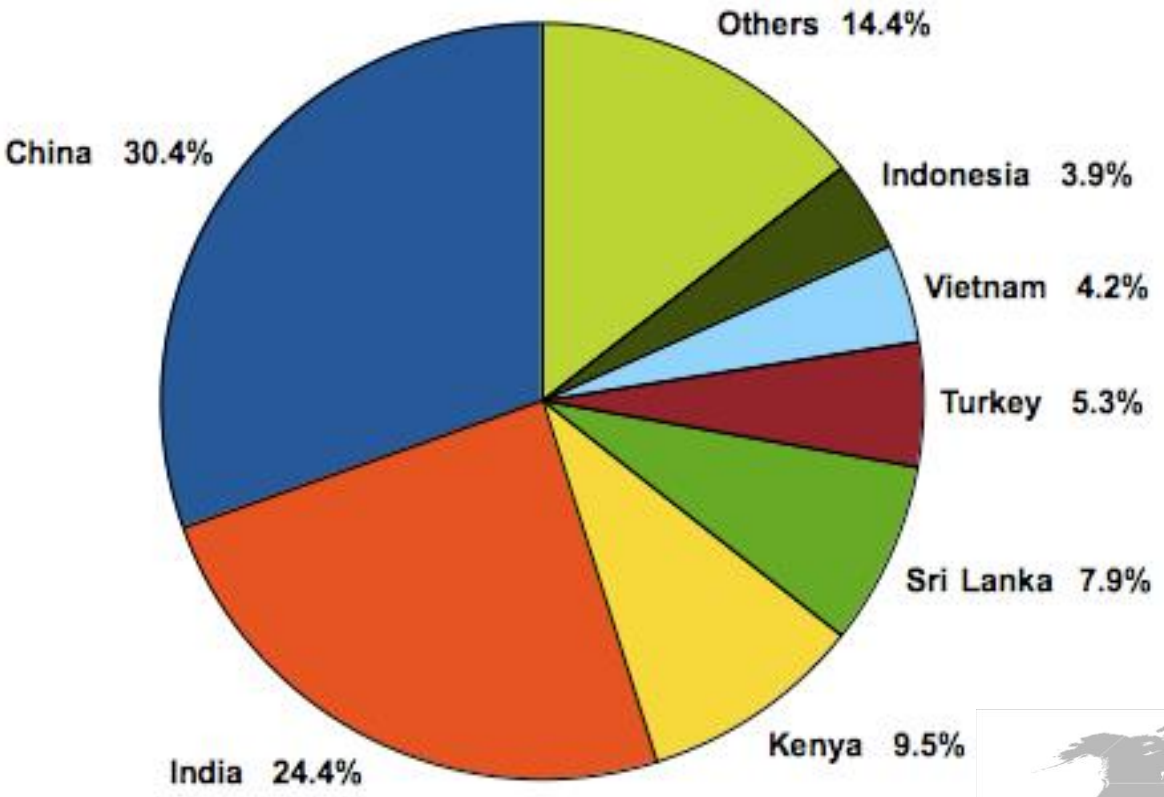
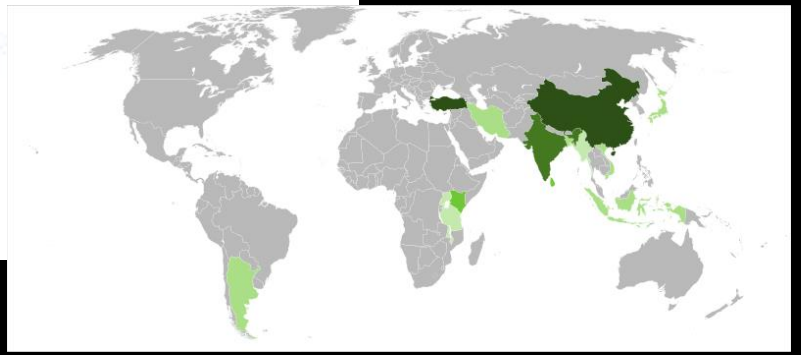
世界主要茶生產地區

China India Japan Sri Lanka (Ceylon) Taiwan Kenya

茶生産%





http://en.wikipedia.org/wiki/File:Tea_Production_2007.png

世界主要茶生產量 UN FAO 2012

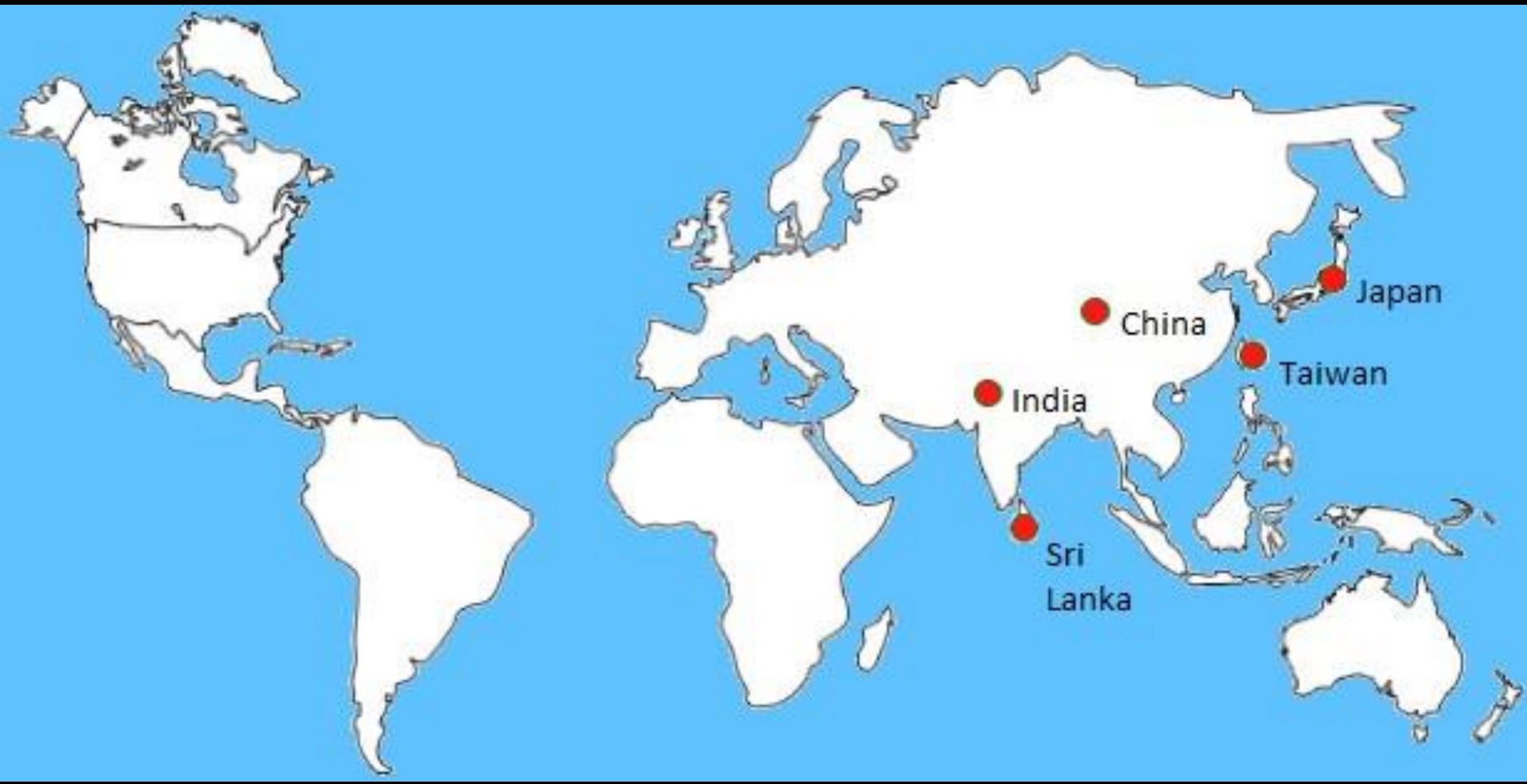
Country	2008	2009	2010
China	1,274,984	1,375,780	1,467,467
India	987,000	972,700	991,180
Kenya	345,800	314,100	399,000
Sri Lanka	318,700	290,000	282,300
Turkey	198,046	198,601	235,000
Vietnam	173,500	185,700	198,466
Iran	165,717	165,717	165,717
Indonesia	150,851	146,440	150,000
Argentina	80,142	71,715	88,574
Japan	96,500	86,000	85,000
Total	4,211,397	4,242,280	4,518,060

茶貿易

- Exporting countries:
  - Kenya
  - China
  - India
  - Sri Lanka
- Importing countries:
  - Russia
  - UK
  - Pakistan
  - USA

One bud, two leaves

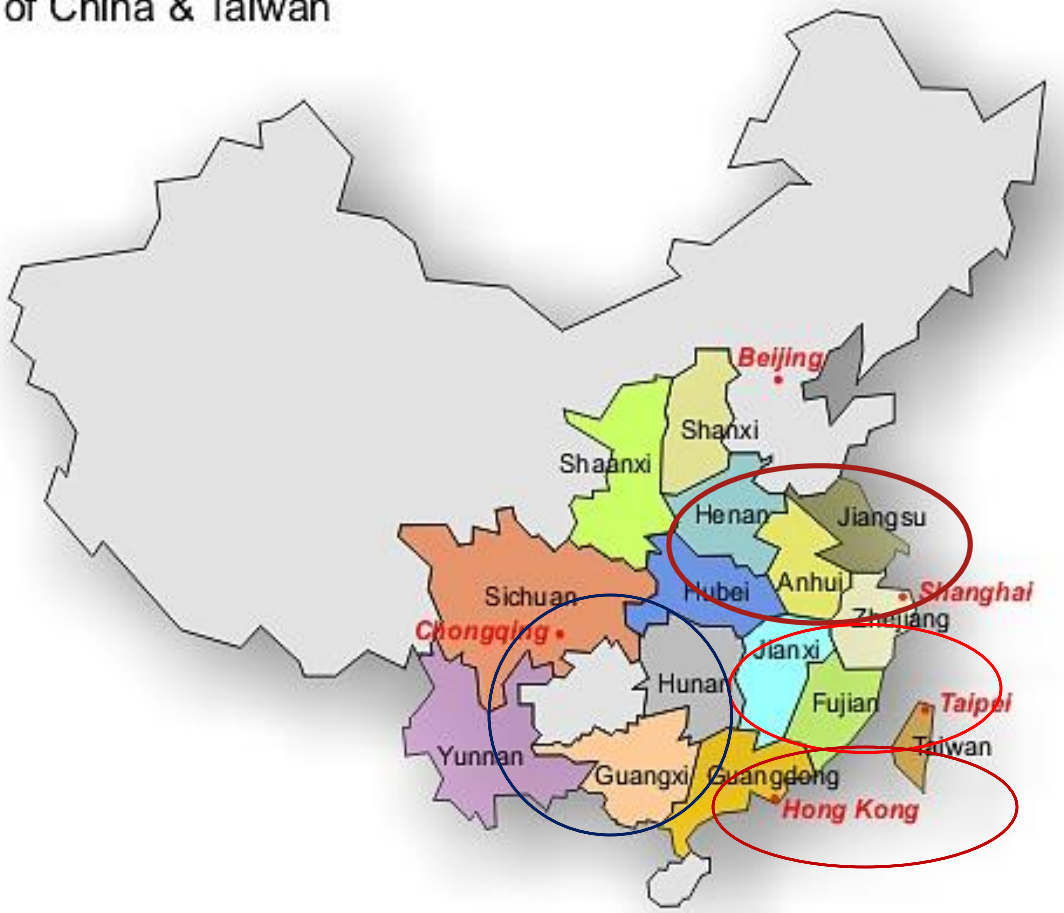
主要產茶區



http://www.teapeople.co.uk/tea-growing-regions

21 Provinces; 4 regions

Major Tea Producing Regions of China & Taiwan



Anhui: Huangshan Mao Feng, Lu'an Guapian, Hou Kui, Keemun

Fujian: Lapsang Souchong, Bai Mu Dan (White Peony), Silver Needle, Tie Guan Yin (Iron Buddha, Buddha of Mercy, Gun Yam, Chinese Oolong), Wuyi Cliff (Da Hong Pao, Big Red Robe), Dragon Pearl Jasmine

Guangdong: Dan Cong (Phoenix Oolong), Ying De Hong

Guangxi: Liu Bao

Henan: Xin Yang Mao Jian

Hubei: Yu Lu

Hunan: Yin Zhen (Silver Needle)

Jiangsu: Pi Lo Chun (Bi Lo Chung)

Jiangxi: Yun Wu

Shaanxi: Mao Jian

Shanxi: Mao Jian

Sichuan: Meng Ding

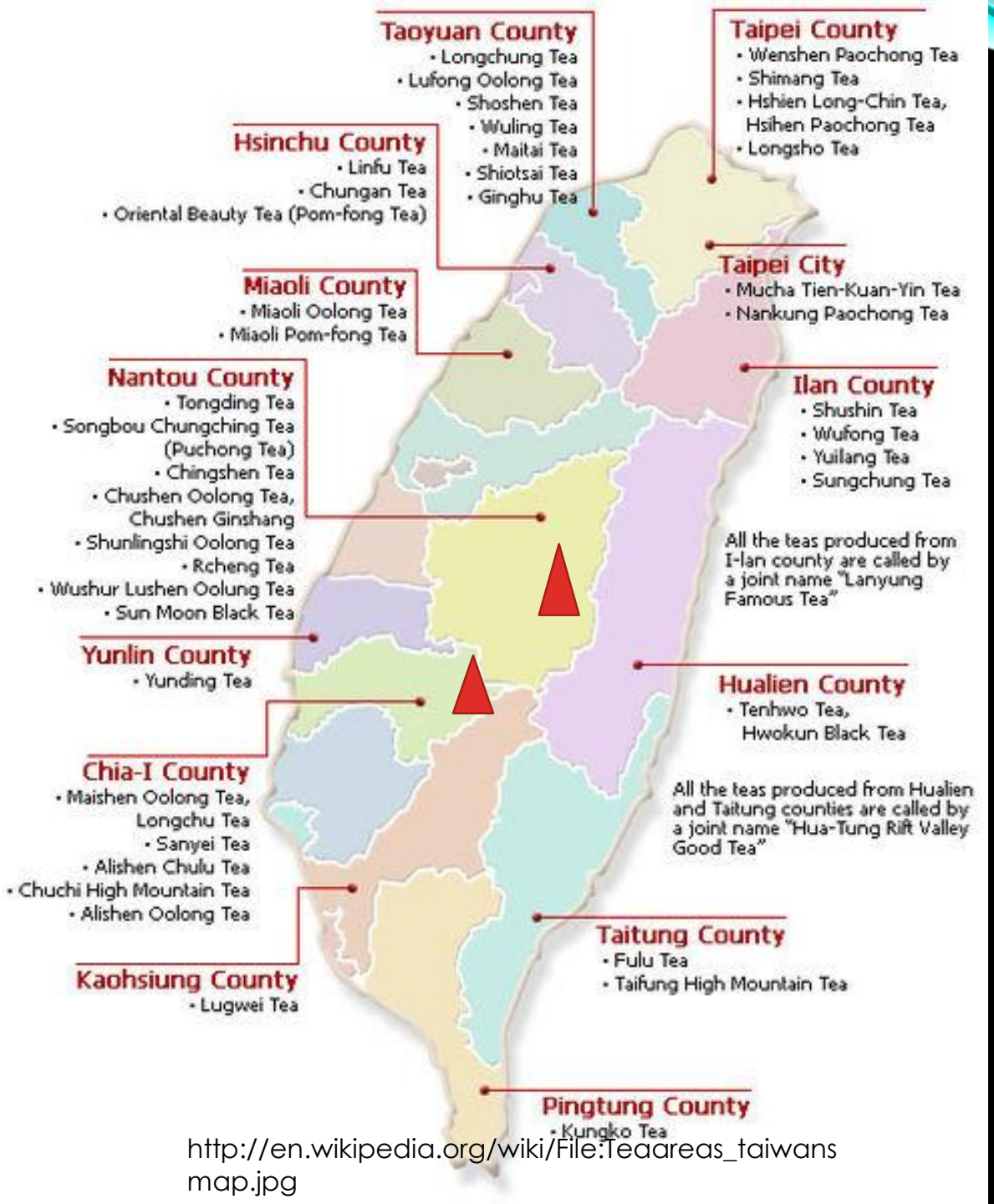
Taiwan: Taiwan Oolong (High Mountain, Dong Ding), Dong Fang Mei Ren, Oriental Beauty, Alishan, Lishan, Baozhong)

Yunnan: Pu-Erh, Dian Hong (Golden Tips Red)

Zhejiang: Long Jing (Loong Jen, Dragon Well), Dragon Pearl Jasmine, Gunpowder Green

Jiangbei, **Jiangnan**, **Linglan** and the **Southwest**

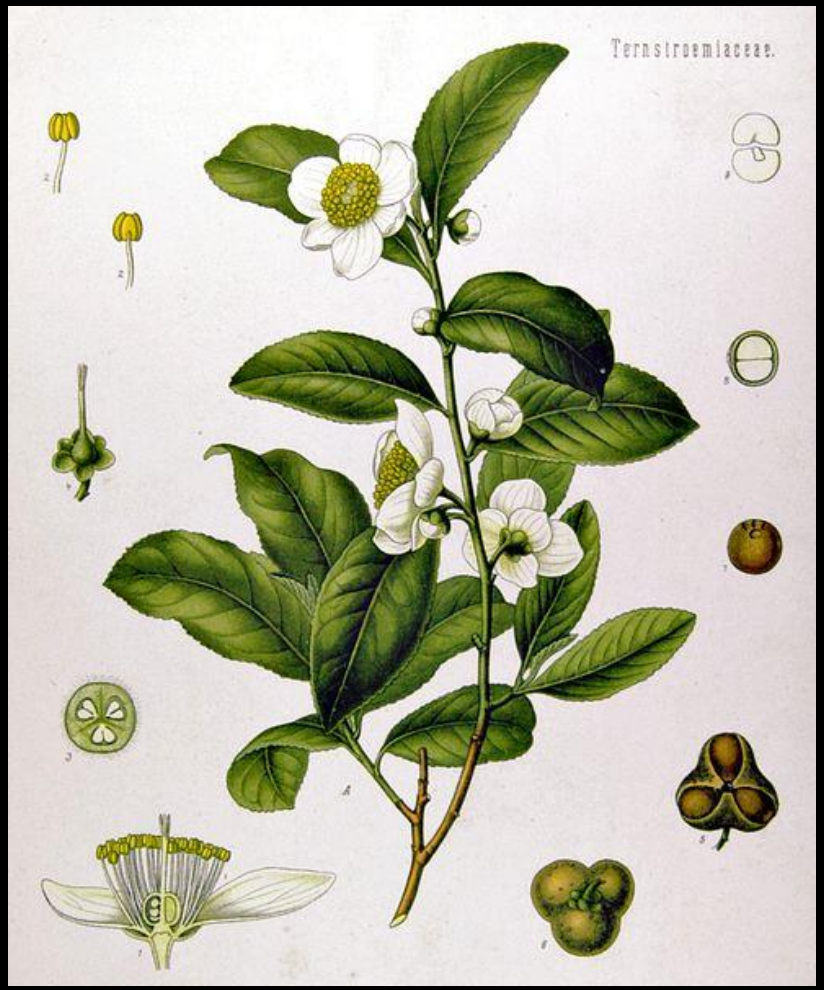
台湾烏龍茶



http://en.wikipedia.org/wiki/File:Teaareas_taiwansmap.jpg

茶樹 TEA (TE)

- Family - *Theaceae*
- Genus - *Camellia*
- Species - *sinensis*



Franz Eugen Köhler, *Köhler's Medizinal-Pflanzen*

C. sinensis var. assamica
(large leaves 15-20 cm; growth in lower places)

Camellia sinensis var. sinensis
*(*small leaves 9-12 cm; growth in high mountains)

茶樹的起源于三江地带

- 是被子植物形成早中期的三江，是第三紀古熱帶邊緣的三江，並非是今天現實的熱量分佈的三江地帶。
- 茶樹原始起源在三江流域，可以舉出下列三個方面的證據。
- 植物傳播以種子傳播最為便捷、最有效的方式則是順水漂流。

以三江地带为扇柄之扇骨的扇形分布

- 金沙江——長江——福建、台灣；
- 南盤江——紅水河——珠江——海南島；
- 禮社江——紅河——越南；
- 川河——把邊江——李仙江——越南；
- 瀾滄江——湄公河——老撾、緬甸；
- 怒江——薩爾溫江，獨龍江，大盈江，瑞麗江（龍川江）——伊洛瓦底江——緬甸。

Yellow

Tibetan Plateau

Sichuan

Chengdu

#

Mt. Kailash

Hengduan Mountains

Himalayas

Lhasa #

Namchibarwa

Yangtze

Mt. Everest

#

Lijiang

Tsangpo

India

Yunnan

Bay of Bengal

Salween

Mekong

雲南野生古樹茶

- Height: 32.12 m

古樹茶

- 通常是指採摘存活百年以上的雲南大葉種喬木科茶樹上的葉子製作成的茶葉。在茶葉流通領域，通常指上百年至千年的雲南普洱茶樹上採摘的鮮葉製作的茶葉為古樹茶。

- 古樹茶在雲南產量十分稀少，在普洱茶界佔整體產量的5%左右。古樹茶必須是純料茶，如若在壓製茶餅過程中在古樹茶葉內摻入台地茶或其它非古樹茶葉拼配的，就不再是古樹茶，此類茶葉統稱為拼配茶。

- 加工技藝精悍的純料古樹茶口感湯色和營養成分如紅酒一般，將隨著年份而與日俱增，因此，古樹茶具備很高的儲存升值價值，台地茶或拼配茶的儲存升值空間較小

台灣野生茶樹的發現

- 荷蘭據台時期（1624～1662年），《巴達維亞城日記》1645年3月11日之記事:

  「茶樹在台灣也有發現，似乎與土質有關，」
  雖未載明發現之地點，但其所指之茶樹無疑是指野生茶樹

- 裨海遊記坿册《番境補遺》(康熙36年,1697年):
  南投水沙連深山發現丈餘高的野生茶樹

- 《諸羅縣誌》(康熙56年)：水沙連(南投竹里魚池)山中有茶一種，味別，能消瘴暑瘴…
- 《赤坎筆談》(雍正6年,1723年)：通事每年入山…培製…(由原住民製茶)
- 日據時代：製成贡茶,台灣野生茶產茶量優於印度阿薩姆紅茶，並分出山茶與赤芽山茶两種:
  - 茶芽呈綠色或淡紫色（台灣山茶）
  - 茶芽呈紫紅色（赤芽山茶）
- 現今，用來製造包種與紅茶(高雄市那瑪夏與六龜區)

- 台灣野生茶樹多生長在海拔650～1500公尺之闊葉林內，其生長環境日照少，常有濃霧。

- 花朵均較栽培種小且兩種野生茶樹茶芽均無茸毛爲其特征,台灣野生茶樹樹齡大都不容易超過200年以上，易受茶天牛爲害爲主要原因。

- 由台灣野生茶樹與缅甸阿薩姆紅茶雜交育種,1999年6月通過茶樹新品種命名:台茶十八號（紅玉）

http://www.puer10000.com/a/p4/lishi/20160126/53640.html

茶山 TEA MOUNTAINS

茶樹 TEA PLANTATION

- 茶樹特殊只利用它的一心两葉
- Unlike other perennials, tea is unique because only its vegetative parts - *the two leaves and the bud* - are commercially exploited.

- 茶樹維持矮樹欉
- Tea is also maintained as a low bush in a continuous phase of vegetative growth.
- Both these aspects call for manipulation of plant parts for optimal productivity and growth.

http://www.teauction.com/home/techtrend.asp

茶樹種植 TEA PLANT PROPAGATION

- 茶樹種子 Seed
  - Short period of viability
  - Germinate in sun and plant into pots once begin to emerge
  - 2-3 years before field planting size
  - Traditional approach to propagation
  - Seedlings are not uniform
- 插枝 Clonally
  - Single node cuttings
  - Ready for field in 1 year
  - Rooted cuttings are uniform

茶樹種植 TEA PLANTING

- 種植密度 Density of planting
  - 10,000 to 15,000/ha

- 陰影 Use of shade
  - Initially all tea in Assam with shade
  - Now many areas without shade
    - Higher yields without shade
    - Greater response to fertilizer without shade

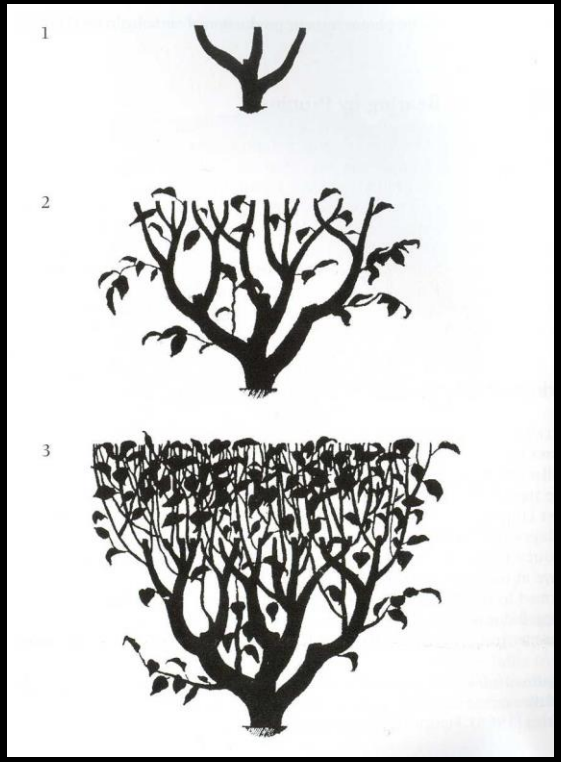
  - Some exceptions
    - High heat areas (lowlands of north India/Bangladesh)
    - Low input system, in highlands of Kenya, shaded system is equal or better than unshaded

茶樹高度

- A tea plant will grow into a tree of up to 16 meters (52 ft) if left undisturbed,
- Cultivated plants are pruned to waist height for ease of plucking.

修剪 TEA TRAINING AND PRUNING

- Training
  - Head back to 20 cm at planting
  - Next year to 40 cm
  - Final year at 60 cm to form a level “plucking table”
- Pruning
  - Need to cut back periodically
  - Plucking table will slowly rise
  - Periodically need to rejuvenate
    - Prune below branches
    - Bring to bear again



Tropical Horticulture - Texas A&M University

TEA PLANTING (1)

- 施肥 Fertilizer:
  - The nutrients that are removed from the plant as yield and from the soil by the plant for its growth, should be replenished.
  - Ideally, nutrient requirements should be related to local soil conditions in addition to yield and they must be monitored continuously to ensure an optimum balance of nutrients.

TEA PLANTING (2)

- 除草 Weed control:
  - Weeds affect tea by competing with it for moisture, nutrients and sunlight. The ultimate effect is a considerable reduction in yield.
  - The timing of weed emergence relative to the growth stages of tea is an important parameter in weed management.
  - Apart from directly causing crop losses, weeds in tea areas also acts as secondary hosts for some important pests of tea.

TEA PLANTING (3)

- 防蟲 Pest Management:
  - The simultaneous presence of different species of mites and insects, each with their characteristic mode of feeding, diverse habitat and seasonal cycles,
  - call for optimal management of the pests which should be both ecologically and economically sound.

採茶 TEA PLUCKING

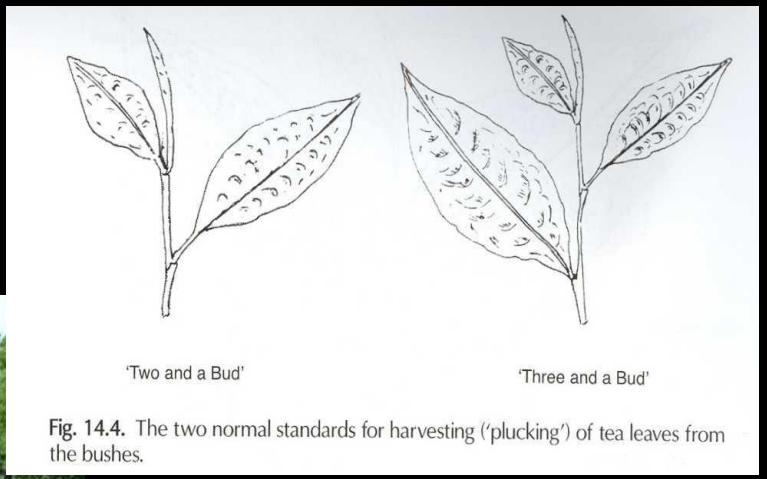


Fig. 14.4. The two normal standards for harvesting ('plucking') of tea leaves from the bushes.

採茶 TEA PLUCKING

- The plucking of the two leaves and a bud involves a number of systems:
  - Janam plucking, fish-leaf plucking , step-up plucking etc..
- Shear plucking is done when there is a scarcity of pluckers during July to September.
- Pluckers' productivity is found to be maximum in un-pruned teas.

採茶 TEA PLUCKING

- Plucking round

  Plucking round describes the time interval in days between consecutive pluckings. It varies from 4 to 14 days though 7-day round is the most common practice.

採茶 TEA PLUCKING

- Standard of plucking

- *Black plucking removes* all above tipping level, except unopened buds.
- *Standard plucking leaves* buds and small one and buds on the bush, remainder plucked to tipping level.

- *Coarse plucking leaves* buds, one and buds and small two and buds on the bush, remainder plucked to tipping level.