

How To Store Pu-erh Tea

by Daniel Lui

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Pu-erh tea is one of the most famous in an entire class of Chinese teas known as the *post-fermented* teas. These teas are becoming popular in the West because of their fascinating history and the unique depth and complexity of their taste. Like vintage wine, the taste improves with age but many tea drinkers also like the taste of young Pu-erh tea which has many taste characteristics of green tea. Aged Pu-erh tea is a highly sought after commodity and is the subject of much historical research. It is traded and collected much like vintage wine, with some rare teas fetching hundreds of thousands of dollars.

The aged taste is the result of 3 factors working together over time. This article will explain how these factors affect the taste of your tea, how to store your Pu-erh tea to ensure the best quality and protect your investment, whether you are a casual tea drinker or serious collector.

For further information, visit www.realchinatea.com

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Aging turns Pu-erh tea from bitter to sweet, from rough to smooth and from lightly fragrant to a distinctive aged taste. Aging works best with the best quality leaves but contrary to belief, cannot improve the taste of low quality leaves. However, not all Pu-erh teas age well and some can turn bad with age. Knowing something about the factors that affect the aging process can help you to know which Pu-erh tea to buy and how to store it to improve the taste.

WHAT IS PU-ERH TEA

The border area of modern day China, Burma and India is where the very first tea plants are thought to have originated. Known as *Camellia sinensis*, this is the original plant species from which all varieties of tea producing plants originated. In China, teas are made from the *Camellia sinensis sinensis* variety and in India, the *Camellia sinensis assamica* variety is used.

About 1,400 years ago, locals in what is now Yunnan province in southwestern China began to export tea to Tibet in exchange for horses. Large bundles of loose tea were strapped to pack animals and led through the Himalayas on treks that lasted for more than a year. After a time, traders realized that if the tea was compressed, this would allow more tea to be transported more safely and more profitably. People started to notice that the new compressed tea tasted better than the earlier loose leaf variety.

As has been done for millennia, leaves for Pu-erh tea production are grown along the Lancang River on tea estates in Yunnan province. Some of these estates have long histories dating back to ancient dynasties, of being abandoned and subsequently brought back into production many times over the centuries. The industry is highly regulated by the government, similar to wine production in other countries and many regulations must be followed for a tea to be permitted to be called a Pu-erh tea.

Tea leaves come from trees and bushes that grow wild on mountainsides or from cultivated plants. One tree is thought to be over 2,700 years old. With each estate having its own unique plants, soil and climate conditions (or *terroire* as wine growers would say), tea leaves with unique taste characteristics are produced. The growers send their leaves down river to the city of Pu-erh as they have for centuries where the manufacturers blend the leaves following time honoured recipes.

As in ancient times, much of the annual production is sent to the port city of Hong Kong for further distribution. Pu-erh tea became popular there centuries ago and provided important nutrients that complimented the fish-based diet of the region. Restaurants then began to order tea in large quantities, preferring loose leaf varieties for convenience. Local distributors began to store large quantities of tea in dockside warehouses where the hot and humid rainy season alternating with the cooler dry season aged the tea quickly and enhanced the taste.

BUT FIRST, FIXING HISTORY

Like many things Chinese, English speakers have inherited terminologies that were developed in a different era, but history and tradition have compelled their on-going usage. Post-fermented teas are not “fermented after they are produced” as the term suggests since fermentation can only occur in the absence of oxygen. Rather, as the leaves age, it is exposure to oxygen (oxidization) that is the main factor contributing to the aging process.

The matter is further complicated when one takes into account that there are two types of Pu-erh tea, known as Green (Sheng, Raw) and Black (Shou, Cooked, Ripe, Fermented). For 1,500 years, all Pu-erh tea produced was the green type. Recognizing that aged green Pu-erh tea was so highly prized, the Menghai Tea Factory produced the first commercial “black” Pu-erh tea cake in 1975 by adding an additional step in the manufacturing process. This innovation was intended to simulate the aging process and give new tea an aged taste. In this step called *piling/heaping*, the leaves are heaped in a pile to facilitate fermentation. The heat generated by the natural chemical reaction “cooks” the leaves slightly. Experienced tea drinkers debate how effective this new innovation is at giving the tea an aged taste but almost all can agree that black Pu-erh tea has its own unique character and has taken its rightful place among the great teas.

In another historical quirk, in China, teas are categorized by the colour of the brewed tea and not the colour of the leaves. In China, the post-fermented teas are known as “black” teas, whereas Keemun, Lapsang Souchong, Yunnan Red, Gunpowder and others that are known in the West as black teas are called red teas in China because of the red colour of the brewed tea.

This is because Western merchants arriving in China in the 16th century first traded for green tea. When they were introduced later to the new red tea, they noticed the leaves looked black instead of green and the name stuck. When the British began tea production in India in the 19th century, plants smuggled from China were used in an attempt to duplicate their favourite Chinese red teas. When Indian tea production shifted to using the local *assamica* plant variety, the British continued to refer to their new tea as Black Tea, as they had done for the previous 200 years. Indian ‘broken black tea’ has dominated western tea markets ever since and with it, some confusion in the terminology for Chinese red and black teas.

MEET YOUR NEW BEST FRIENDS - THE MICRO-ORGANISMS

The famous aged taste of Pu-erh tea is the result of the activities of micro-organisms in the tea leaves. Micro-organisms play a key role in developing the taste of many food products such as beer, wine, cheese and baking to name a few. In tea, their activity changes the chemical structure of existing aromatic compounds and creates new ones that did not exist in the original leaves. The processing method for most teas including Pu-erh tea utilizes a step early in the process that dries the leaves in the

sun (“Kill-Green”), destroying many of the micro-organisms, but not all of them. Therefore, under the appropriate conditions, the process of micro-organic growth continues over time.

FACTORS THAT AFFECT TASTE

There are 3 main factors which affect the health of micro-organisms in tea leaves and thus the aging process and the taste of your tea:

1. Air Circulation
2. Stable Temperature
3. Appropriate Humidity

Air Circulation

Good air circulation ensures the proper health and reproduction of micro-organisms in the tea leaves which in turn, ensures the on-going processes that create the distinctive aromatic compounds one wants in an aged Pu-erh tea. If air circulation is reduced too severely, these processes are diminished and the tea’s taste will be flat and the aroma very mild.

If you wish to facilitate aging in your Pu-Erh tea, it is important that the tea be exposed to some fresh air, or the air be freshened periodically. So use caution with sealed containers or small, narrow spaces such as small or sealed cabinets or under a bed, where access to fresh air could be poor.

Stable Temperature

Micro-organisms prefer a stable temperature environment to encourage reproduction. According to past experience, a temperature range between 20° to 30° Celsius (68° – 86° Fahrenheit) is ideal to maintain long term transformation of the leaves. Of equal importance is that temperature fluctuations occur slowly if one lives in a climate where the temperature shifts dramatically or often.

It is important not to store Pu-erh tea near a heater, open window or in a refrigerator where the temperature may be too hot or too cold or may shift too rapidly.

Appropriate Humidity

Tea leaves are very good at absorbing moisture from the air. An appropriate level of humidity can assist the reproduction of micro-organisms and excessively low humidity hinders reproduction. Additionally, excessive high humidity and lack of air circulation can lead to the development of mould which can ruin a tea.

Tea leaves are also very good at absorbing odours so it is important not to store Pu-erh tea in kitchens, washrooms or anywhere near heavy water usage.

An additional factor is light. Bright light slows micro-organic growth, so low light conditions are the most suitable for storing Pu-erh tea.

THE SHAPES OF PU-ERH TEA

There are 2 basic ways that Pu-erh tea is packaged:

Loose Leaves

Loose leaf Pu-erh tea recipes are blended using leaves from various mountains and regions in Yunnan province. There are 2 types of recipes; those that use leaves from bushes and those from trees (called Arbor Tea). Because loose leaf Pu-erh teas have more surface area exposed to oxygen, they develop an aged taste more quickly than compressed Pu-erh tea. Loose leaves are popular with restaurants because of their convenience and much of loose leaf Pu-erh tea production is for the restaurant trade.

Beware of some blended loose leaf teas as unscrupulous dealers mix in low quality leaves and sell them as high quality tea. There are however many high quality loose leaf Pu-erh teas that have aged very well and are in high demand from serious tea drinkers and collectors.

For more information on how to buy Chinese tea, see our article: *How To Buy Chinese Tea* at www.realchinatea.com/library.

Compressed

Compressed Pu-erh tea is manufactured the same way as the loose leaf type with the additional step of forming the leaves into various shapes, with each having a fascinating history and tradition. Some shapes are loosely compressed and others are highly compressed using steam presses. Generally speaking, the higher the compression, the slower the aging process. Compression is not an indication of quality as there are exceptional teas of both types.

The following chart shows some of the more well known shapes:

Chart: Pu-erh Teas By Shape



Brick (Zuan Cha)



Cake/Disk (Cha Beeng)



Toa Cha



Mushroom (Mo Gu Tao)

Loose Leaf

MORE FACTORS THAT AFFECT TASTE

In addition to air, temperature and humidity, there are 3 more factors that affect taste:

- Surface area of leaves exposed to oxygen during storage
- Storage container
- History

Surface Area Of Leaves Exposed to Oxygen During Storage

The most dramatic technique for enhancing the taste of compressed Pu-erh tea is to break the tea into small pieces that can fit in a teapot. This increases the surface area that is exposed to oxygen, encouraging micro-organic growth and speeds up the aging process. However this comes at a cost as the tea's overall lifespan is reduced (see below - Charts: Effects Of Storage On Compressed Pu-erh Tea).

Like most Chinese teas, Pu-erh tea is made from hand-picked whole leaves as opposed to Indian teas which are made from leaves that are broken; the result of mechanized processing methods. It is important that the procedure of breaking up the tea leaves be done gently and patiently so the leaves are not damaged, which could expose the internal structure of the leaves and cause them to dissolve unevenly, creating bitterness in the tea when it is brewed.

For complete instructions on making Pu-Erh Tea, see our article: *Gong Fu Cha: The Complete Guide To Making Chinese Tea* at www.realchinatea.com/library

Storage Container

Whether you break up a compressed tea or leave it intact in its original shape, you should find a suitable container for storage. The more a container restricts airflow and humidity, the slower the aging process. Paper bags are inexpensive and effective options for storing broken-up tea. Broken-up tea can be put into cardboard boxes but the best option is thick, unglazed clay jars, preferably made from Yixing clay which is the same material Chinese teapots are made from. These jars breathe and allow air to pass through slowly and they regulate humidity and temperature fluctuations. Plastic containers may leach unwanted particles which could affect the taste long term. Make sure to check any container for unusual odours which could be absorbed by the tea.

For detailed information about Yixing clay, see our article: *How To Choose a Chinese Teapot* at www.realchinatea.com/library

History

Like any antique, when you buy a Pu-erh tea, one thing you can know for sure is that it has a history. What you want to know is the age and under what conditions it was stored. Unfortunately this information is rarely available but if you purchase from a quality tea shop, they tend to buy from quality suppliers with whom they have long term relationships, so this information is more likely to be available. What you want to know is if the tea spent any time in “wet storage”, such as in a Hong Kong warehouse and if any time in “dry storage”, such as Alberta, Canada. An expert can advise you properly by examining the tea leaves and tasting the tea.

BUYING & STORING

The method of storing you choose is dependant on your short and long term plans for that tea. As might be expected, aged Pu-erh tea is more expensive than young tea because there is less supply and greater demand. Conversely, younger teas are less expensive as there is a greater supply. Therefore it is much more economical to buy a young tea at today’s price than an aged tea at tomorrow’s price. If you drink Pu-erh tea regularly, you want the best teas you can find to drink now that are reaching their peak and those that you can purchase inexpensively that will age well in the future. Again, the advice of an expert is invaluable in helping you plan.

Here are the basic options;

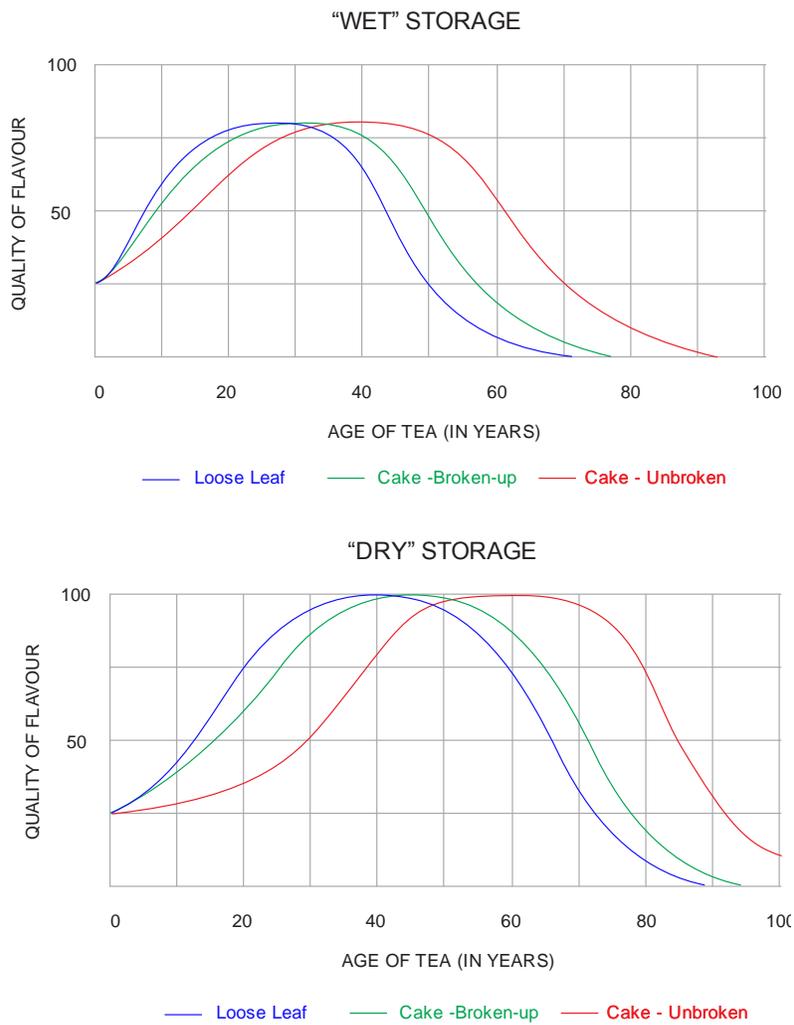
1. Drink the tea right away
 - Break the tea into small pieces, place in a paper bag in an open area with lots of air circulation
2. Let the tea age for a while and then drink
 - Break the tea into small pieces, place in a paper bag and store in a cardboard box or unglazed clay jar
3. Keep the tea for long term storage
 - Keep the tea in its original shape and store in plastic wrap poked with a few holes, a clay, glass or metal jar or in the original paper wrapping in a cardboard box. Each approach affects tea differently and if you remember to open your container at least once a year to allow some fresh air in, this will allow your micro-organisms to continue their work, albeit more slowly.

It is thought that, depending on storage conditions, a Pu-erh tea achieves its peak taste in about 60 years and then begins to degrade over the next 40 years, after which there is little taste remaining. There are exceptions, but this seems to be a good guideline for buying and storing purposes.

We do not recommend mixing green and black Pu-erh teas together during storage. If you get a collection of young and old teas, like types (green/green – black/black) will benefit from being stored together as this provides a richer living environment for micro-organisms and encourages their healthy growth.

The following graphs show the effects of wet and dry storage on loose leaf, broken-up compressed tea and non-broken compressed tea. Please use these as an approximate guideline only.

Chart: Effects of “Wet” and “Dry” Storage on Loose Leaf and Compressed Pu-erh Tea



These graphs show 3 key points which will help you in selecting and storing Pu-erh teas.

1. Being a faster process, tea in wet storage never achieves as high a quality of taste as the slower dry storage method
2. Wet storage and broken-up/loose leaves age faster, but the overall lifespan of the tea is diminished
3. Unbroken compressed tea slows the aging process and thus retains its peak taste the longest.

REPAIRING A TEA

Sometimes the elements are not kind to a tea or improper storage techniques were used. Teas are very effective at absorbing even subtle odours that we might not notice but can accumulate over a long period of time and ruin a good tea. Older Pu-erh teas may have changed hands many times before reaching you and each has a unique history. Early in a tea's life, it may have developed some mould, or was stored in a musty old basement or sat on a grocery store shelf next to the incense.

To repair a tea, simply place it outside in a shady place on a mild day for a few days or longer if necessary. If it is badly affected, break it up into small pieces. This technique does not always work but is often successful at removing unwanted odours.

SUMMARY

Two identical teas, exposed to all these factors in different ways will produce dramatically different taste characteristics, aroma and mouth feel. If a tea is stored in high heat, humidity and air circulation the aging process is accelerated. If it is stored in low heat, humidity and air circulation, the aging process is diminished.

If you live in a hot and humid climate, ensure there is adequate air circulation. If you live in an area with changing seasons, make sure the tea is stored where the temperature is most stable. It has even been suggested that the changing seasons, similar to those in Hong Kong, provide the optimum climate conditions, allowing the micro-organisms to rest during the dry season. In all cases, keep tea in low light conditions and avoid areas with strong odours like kitchens and bathrooms and high humidity areas next to water.

Articles by Daniel Lui about Chinese tea can be downloaded free at www.realchinatea.com/library