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The Origin, Brewing and Development of Moutai Liquor

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Abstract The brewing history of Moutai is very long, and the ancient Pu people had a history of brewing. During the Qin and Han Dynasties, Maotai Town, which was still belong to Yelang Kingdom, had a variety of fruit-brewed wine, which was exported to various countries. Moutai, which is well known to us now, originated in the Tang and Song Dynasties with a history of more than 800 years. Moutai liquor belongs to Moutai-flavor liquor, which has long been the leader in Chinese liquor because of its clear and transparent liquor, soft and elegant aroma, mellow and long-lasting taste. Moutai's unique geographical environment, ancient and long brewing history and unique and scientific traditional brewing technology have created its unique microbial community, aroma and flavor components and product style, and its health care function of intervening and delaying liver fibrosis. The ancient and unique Moutai liquor not only inherits the essence of ancient brewing technology, but also shines with the brilliance of modern science and technology, which is a valuable national heritage of China. This review will deeply discuss the origin, brewing technology and historical development of Moutai, a famous liquor brand in China. By analyzing the historical origin, traditional brewing methods, quality assurance system and market performance of Moutai liquor, we try to reveal its unique position in China liquor market.
Keywords Moutai liquor; Origin; Brewing; Development

1 The Origin and Historical Origin of Moutai Liquor

According to legend, during the ancient era of Emperor Yu, the indigenous people of the Chishui River, the Pu people, were skilled in brewing alcohol. The earliest history of local Moutai liquor production can be traced back to the Han dynasty. A story was recorded in *Shǐ Jì* (*Records of the Historian*), written by Sima Qian, that "Táng Méng yǐ yǐn jǔ jiàng shǐ xī yù (it roughly means that Tang Meng using the drinking of jam wine to make contact with the Western Regions)", saying that at the time, Tang Meng was sent to visit the southern Yue region and brought the jam wine produced in the southern Yue region (now Renhuai County where Maotai town is located) to Emperor Wu of Han, who praised it as "gān měi (sweet and delicious)." This is the earliest Moutai liquor, and thanks to its unique flavor, it was called "fēng qǔ fǎ jiǔ (Fengqu wine)" during the Song dynasty and "máo tái shāo chūn (Maotai roast spring)" during the Ming dynasty. In the 43rd year of the Kangxi reign (1704), "jì shèng shāo fáng (Jisheng roasting house)" officially named its produced liquor "Moutai liquor." According *to the Jiù Zūnyì Fǔzhì (Old Zunyi Prefecture Annals*) of the Qing dynasty, during the Daoguang period, "máo tái shāo fáng bù xià èr shí jiā, suǒ fèi shān liáng bù xià èr wàn shí (it roughly means that there were no less than twenty Maotai roasting houses, and the amount of grain used was no less than $1.2x10^6$ kg)." During the Jiaqing period of the Qing dynasty, there were no less than 20 liquor distilleries in Maotai town. During the Xianfeng period, the Taiping Heavenly Kingdom attacked Maotai town, and all the houses and liquor distilleries were smashed to pieces, forcing the Moutai village's brewing industry to be suspended for nearly 20 years. It wasn't until the appearance of three important figures, one after another, that the brewing industry in Maotai town was able to continue its development.

1.1 The origin of Moutai liquor

The Pu people were an ancient ethnic group that inhabited the Bai Pu area from ancient times to the Qin and Han dynasties, in what is now Yunnan, Guizhou, Sichuan and the western reaches of the Yangtze River. Maotai town is located south of the Bai Pu area, at the junction of Sichuan, Guizhou, and Chongqing, along the Chishui River. According to legend, the Pu people were skilled in brewing alcohol during the era of Emperor Yu in ancient times. During the Han dynasty, the jam wine was produced in the Maotai town area. The *Zūnyì Fǔzhì (Zunyi Prefecture Annals)*records that jam wine was the beginning of liquor production. In Sima Qian's *Shǐ Jì* (*Records of the Historian*), it is recorded that in the sixth year of the Jianyuan period (135 BC), Emperor Wu of Han sent Tang Meng to visit the southern Yue region. After drinking the jam wine produced in the southern Yue region (now the Renhuai County area where Maotai town is located), Tang Meng brought the wine back to Chang'an and presented it to Emperor Wu, who drank it and praised it as "gān měi zhī (sweet and delicious)." This legend of "Táng Méng yǐ yǐn jǔ jiàng shǐ xī yù (Tang Meng's contact with Yelang through drinking jam wine)" became the beginning of Moutai liquor's emergence from the deep mountains. From then on, it was famous as an imperial tribute.

After the Tang and Song dynasties, Moutai liquor gradually became a tribute to the imperial court in successive dynasties and was spread overseas through the southern Silk Road. In the Qing dynasty, the liquor industry in Maotai town flourished, and famous liquors such as "máo tái chūn (Maotai spring)," "máo tái shāo chūn (Maotai roast spring)," and "tóng shā máo tái (Tongsha Maotai)" emerged. "Huamao" was the predecessor of Moutai liquor. In the 43rd year of the Kangxi reign (1704), "jì shèng shāo fáng" officially named its produced liquor "Moutai liquor."

Before 1949, Moutai liquor production was in decline, with only three distilleries remaining: "Chengyi Distillery", also known as "Huamao", which was founded by someone surnamed Hua; "Ronghe Distillery", also known as "Wangmao", which was established by someone surnamed Wang; and "Hengxing Distillery", also known as "Laimao", which was set up by someone surnamed Lai. In 1951, the government merged the three privately-owned distilleries, Chengyi (Huamao), Ronghe (Wangmao), and Hengxing (Laimao), through redemption, confiscation, and takeover, and implemented the "Three Moutai into One" policy, establishing the state-owned Moutai Winery.

In 1996, the Moutai liquor-making process was designated as a state secret and was protected accordingly.

In 2001, the traditional Moutai liquor-making process was included in the first batch of national-level intangible cultural heritage.

In 2006, the State Council approved the inclusion of the "Traditional Brewing Techniques of Moutai Liquor" in the first batch of national-level intangible cultural heritage lists and submitted an application to be included in the World Intangible Cultural Heritage list.

On February 14, 2003, the former General Administration of Quality Supervision, Inspection, and Quarantine approved the implementation of geographical indication protection for "Moutai liquor."

On March 28, 2013, the former General Administration of Quality Supervision, Inspection and Quarantine approved the adjustment of the name and scope of protection for the geographical indication of "Moutai liquor."

On June 12, 2019, the Moutai Group announced that it would stop using the "China Moutai" trademark before June 30.

On June 29, 2019, it was officially renamed "Kweichow Moutai."

1.2 Historical origin of Moutai liquor

Moutai is known as the "National Liquor" due to its long history of brewing, unique brewing process, superior

quality, deep cultural significance, and unparalleled role in Chinese politics, diplomacy, and economic life throughout history.

The historical origins of Moutai can be traced back to the Xia Dynasty. More than 2 000 years ago, the fourth king of the Xia Dynasty was killed, and the queen gave birth to a son named Dukang while in exile. Dukang fled to the ancient Yelang Xibu, which is now in the area around the Chishui River in Zunyi, Guizhou, where he prepared to make a comeback and discovered that the area was suitable for brewing liquor. Before returning to the Central Plains, Dukang passed on the brewing technique to the people of the Yelang Xibu. By around 1 000 BC, the Yelang Xibu became prosperous in brewing liquor, and its products were sold widely in surrounding regions, especially in the areas of Yibin and Luzhou in present-day Sichuan. In 135 BC, Emperor Wu of the Han Dynasty sent an envoy to the Yelang Kingdom, who brought back "jujiang wine." Emperor Wu tasted it and praised its sweetness, which was the earliest Moutai liquor. Later, it gradually became popular and was called "fēng qǔ fǎ jiǔ (Fengqu liquor)" during the Song Dynasty and "máo tái shāo chūn (Maotai roast spring)" during the Ming Dynasty.

1.3 The name source of Moutai

According to available information, in earlier times, the east bank of the Chishui River was covered with Măsāng (*Cercis chinensis* Bunge) and was called Masang Bay. The residents who had lived here for generations built a square well on the east bank of the river and renamed the area “Sifangjing”. During the Song Dynasty, under the setting sun and along the ancient road, the area above Sifangjing was covered with lush weeds. Later, it gradually became a holy place for locals to worship their ancestors. As a result, the area was called Maocaotai, or Moutai for short. The name Mouai originated from this and began to be clearly recorded in historical documents.

Due to the excellent water quality and favorable climate in the QianBei (northern part of Guizhou Province now) since ancient times, the liquor produced here is sweet and refreshing. In addition, the locals are skilled in brewing, so people are accustomed to calling this area the "liquor hometown." Among the liquor hometowns, the liquor produced in Maotai Village in Renhuai County is the most delicious, called "Maotaishao" or "Maotaichun." Due to its excellent quality and widespread reputation, everyone knows that Maotai Village produces fine liquor, and it is difficult to replicate elsewhere. Therefore, whenever people mention liquor, they must say that Maotai Village's liquor is the best. Over time, the liquor produced in Maotai Village came to be known as "Moutai liquor" or simply "Moutai" based on the name of its place of origin. Therefore, the Moutai liquor (Moutai)we drink today is named after its origin.

2 Brewing Technology of Moutai Liquor

The brewing technique of Moutai liquor is a unique traditional brewing process. The production process of Moutai liquor includes six stages: making the starter culture, brewing, storage, blending, inspection, and packaging. The entire production cycle takes one year, with the starter culture made during the Dragon Boat Festival, and the ingredients added during the Double Ninth Festival. During the brewing process, the liquor is steamed nine times, fermented eight times, and distilled seven times. After being aged and blended, it is stored for five years before being packaged for sale. The brewing of Moutai liquor involves two stages of ingredient addition, solid-state fermentation, high-temperature koji-making, high-temperature stacking, and high-temperature picking of the liquor, which results in a unique brewing style.

2.1 Material selection and raw materials

The main ingredients for Moutai are wheat, sorghum, and water. Moutai liquor is made from high-quality sorghum, and high-temperature koji is made from wheat, with the amount of koji used being more than that of the raw materials.

The sorghum (*Sorghum bicolor* (L.) Moench) used in the production of Moutai liquor is a glutinous sorghum locally known as red sorghum. This sorghum is different from sorghum in other regions, including the northeast of

China, in that its grains are solid, full, and uniform in size, with small grains and thick skin. Its branched starch content is over 88%, and its cross-section is glassy, which is very conducive to the multi-round roasting process of Moutai liquor. This allows for a reasonable range of nutrient consumption for each round of Moutai liquor production. The thick-skinned sorghum used for Moutai liquor is rich in tannins, which account for 2% to 2.5% of its composition. Through the Moutai brewing process, it is fermented to produce precursors of Moutai liquor's flavor compounds, such as gallic acid, vanillin, and ferulic acid, which finally form the unique aromatic compounds and polyphenols of Moutai liquor.

Moutai liquor uses high-quality wheat (*Triticum aestivum* L.) that is required to be golden yellow in color, with solid, full, and uniform grains and thin skin, and free of mold. The large koji produced by high temperature fermentation with wheat as raw material and according to the traditional Moutai brewing processhas a storage period of no less than six months (Figure 1).

The water used for Moutai liquor mainly comes from the Chishui River, which has excellent water quality. The liquor brewed with this slightly sweet and impurity-free water through distillation is especially delicious.

Figure 1 The main raw materials of Moutai liquor are sorghum and wheat

2.2 Brewing process

2.2.1 Koji making

The Moutai liquor koji is a traditional sauce flavored high-temperature koji. The Dragon Boat Festival season is the best time to make the koji, which is made from wheat. The process of making the koji mainly includes crushing the wheat, adding water, mixing the koji ingredients, shaping the koji (the koji is shaped like a turtle's back), stacking in the warehouse, fermenting for 40 days, breaking down the koji, storing for six months, and grinding the koji (Figure 2).

Rice straw is also an important material in the process of making the koji. When the koji is kneaded into a turtle-shaped block with a loose interior and a tight exterior (with a size of approximately 37×18×7 cm), it is sent to the fermentation room for stacking. The stacking process is also very particular. First, rice straw is used to separate the wall from the koji block. Then, a layer of rice straw about 20 cm thick is laid on the ground, and the whole koji block is wrapped with rice straw. Thick layers of rice straw are also used to cover between layers and blocks. Then, water is sprayed, and the koji is left to ferment. During the fermentation process, which lasts for more than 40 days, these thick layers of rice straw can effectively lock in the moisture and maintain a constant temperature for the starter culture block, while also providing important microorganisms for the starter culture.

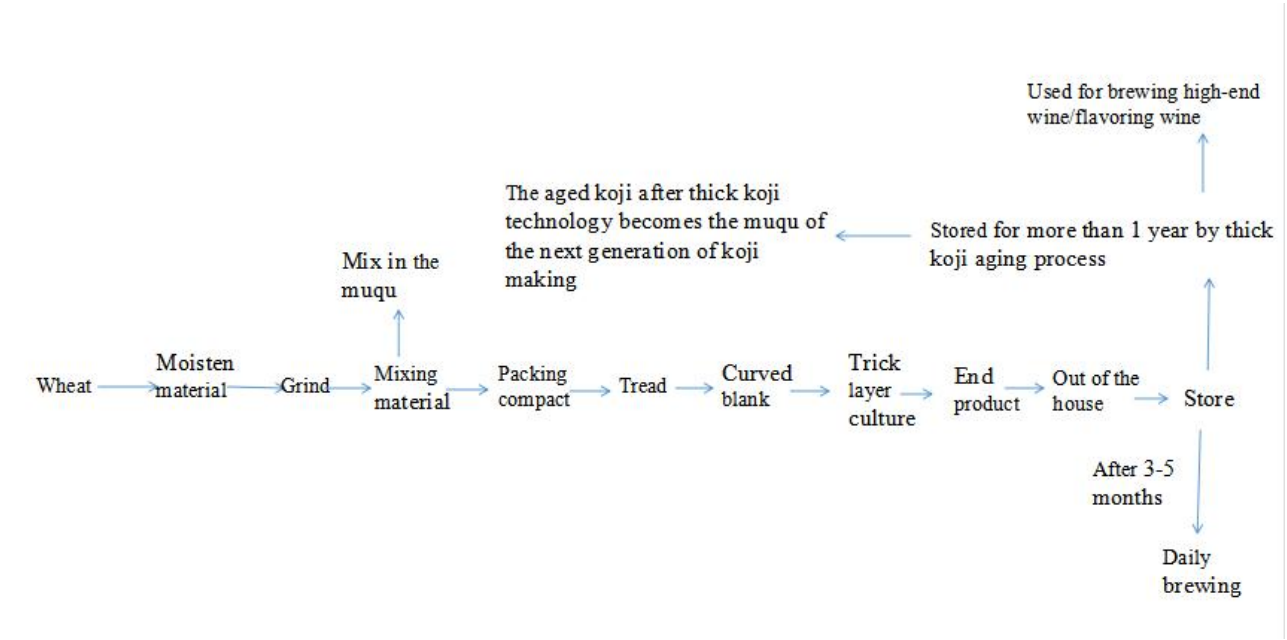

Figure 2 Process flow chart of traditional Moutai-flavor liquor Daqu making

When the koji block completes fermentation and is ready for storage, the rice straw used for wrapping the block must be carefully removed. Workers will also select usable rice straw from the removed straw for the next round of production. This is because the Moutai liquor production manual strictly stipulates that the rice straw used for stacking must be a mixture of new and old straw and does not allow the use of only new or old straw (Figure 3). The temperature during the koji-making process is above 60 °C, and the highest temperature can reach over 62 °C, with the process lasting for about 45 days. Rice straw plays an important role in the koji-making process.

Figure 3 Forming block diagram of straw wrapped and piled up

2.2.2 Fermentation

Research has shown that the high-temperature fermentation process of Moutai liquor can produce a large number of live yeast cell derivatives (LYCDs). During the high-temperature stacking and fermentation process of Moutai liquor, the temperature of the stacked grain mash can reach 46 °C ~50 °C. The stacked grain mash can fully collect and gather a large number of microorganisms in the production environment, which compensates for the influence of temperature on the types and quantities of microorganisms during the high-temperature koji-making process. This leads to a "secondary koji-making" stacking and fermentation process (Figure 4).

Moutai liquor uses an open stacking and re-entering cellar fermentation process, with a maximum fermentation temperature of over 40 °C. The high-temperature fermentation environment has a significant impact on the growth of microorganisms, providing conditions for the formation of unique aroma compounds, aroma precursors, and

functional components in Moutai liquor. At the same time, the high-temperature process has trained and domesticated a large number of heat-resistant yeasts, which not only endow the brewing yeast with heat-resistant characteristics but also stimulate yeast stress responses to high-temperature fermentation conditions.

Figure 4 Sorghum seeds in fermentation

2.2.3 Distillation

The distillation process of Moutai liquor is different from that of other liquors as it requires multiple distillations. During the entire production cycle, Moutai liquor undergoes nine distillations and seven fractions. Moutai liquor uses high-temperature distillation and selective fractionation to achieve an alcohol concentration of 53%~57% (V/V). Unlike other liquors that require a distillation temperature of 25 °C, Moutai liquor requires a distillation temperature of over 40 °C, which helps to remove low-boiling and irritant substances and retain high-boiling point substances, thereby improving the quality of the sauce aroma liquor.

2.2.4 Ageing

Aging is one of the crucial production processes that ensure the quality of Moutai liquor. After the sensory evaluation of the first to seventh rounds of liquor and classification according to the three typical body types of sauce aroma, cellar bottom, and mellow sweetness, as well as different grades and rounds, the liquor is stored in different types of containers. Aging of liquor is a process of maturation that can remove the sharpness of new liquor. During the storage and aging process, some aldehydes are volatilized, and the circulation of alcohol and acid substances generates aroma compounds. Aging measures also include warming up new liquor, promoting aging with media, mechanical stirring, and so on.

Liquors from cyclic fermentation must be stored for at least three years before they can be blended. Newly produced rounds of liquor are sharp and intense, but after long-term storage, their taste becomes mellow, smooth, and the sauce aroma becomes more prominent. The longer the storage time, the smoother and the more elegant Moutai liquor become.

2.2.5 Blending and packaging

Moutai liquor is blended from liquor of different rounds, typical types, and ages, and raw liquor. There are various types of raw liquor for Moutai liquor, including rounds of liquor from the first to the seventh round, with each round further divided into three typical types of sauce aroma, mellow sweetness, and cellar bottom, each of which is divided into three grades. In addition, unique flavoring liquor and old liquor from different years are also used in the blending process.

Among all types of liquors, Moutai liquor uses the most single liquor types in its blending process. In order to create a cup of Moutai liquor that meets the standards in terms of color, aroma, and taste, over one hundred single liquor types are used in the blending process. During blending, no other substances, including aroma compounds and water, are allowed to be added, and the product quality must remain stable over the long term. This requires a very high level of blending skills.

The alcohol content of original Moutai liquor is low, ranging from 51% to 57% (v/v). Unlike other distilled liquors, which may have an alcohol content of over 70 degrees and require dilution during blending, Moutai liquor is blended without dilution. After blending, the liquor is stored in ceramic jars for at least three years before undergoing inspection and packaging. White porcelain bottles are commonly used for packaging Moutai liquor, as they are fired at around 1 300 ℃ and have high stability, oxidation resistance, and corrosion resistance, making them suitable for long-term storage. Porcelain is slightly breathable but not leaky, and is also opaque, which has a good aging effect on the original liquor during the aging process. Sauce aroma Moutai liquor is packaged in white porcelain bottles, which can better preserve its aroma (Figure 5).

Figure 5 Finished Moutai liquor after packaging

2.3 The combination of traditional craftsmanship and modern technology

The production of Moutai liquor strictly follows the operating procedures of "eight unifications, eight controls, and eight guarantees," which can be regarded as a perfect combination of traditional craftsmanship and modern technology from any perspective. The unification of reasonable round-by-round liquor yield, control of liquor production for each round, and guarantee of the basic requirements for Moutai liquor blending; the unification of feedwater content, steaming time, and storage water content, control of hidden water addition and liquor discharge for each round, and assurance of Moutai liquor quality; the unification of refined process operations, control of mixing and piling temperatures, and assurance of the quality of heap fermentation; the unification of heap fermentation, control of heap temperature before storage, and assurance of the aging process requirements; the unification of the proportion of koji, control of the cellar bottom and surface, and assurance of the cellar bottom and surface quality; the unification of auxiliary material usage, control of the amount of grain husk, and assurance of reducing liquor impurities; the unification of the quality of the last batch of liquor added to the cellar, control of the concentration of the last batch of liquor added to the cellar, and assurance of the quality of the last batch of liquor added to the cellar; the unification of the pressure and hanging time of the steamer, control of the steaming and hanging time, and assurance of the reasonable rate of starch gelatinization and liquor yield. The perfect combination of traditional sauce aroma liquor brewing techniques and modern biotechnology has created the incomparable quality of Moutai liquor.

3 Quality Assurance System of Moutai Liquor

3.1 Strict raw material selection standards

An important and direct factor contributing to the high quality of Moutai liquor is that the brewing materials are all main grains and strictly meet the requirements of national green food standards, using high-quality glutinous sorghum and wheat produced locally. The glutinous sorghum cultivated in the Chishui River basin has small, thick, round, solid, and dry grains, with reasonable starch and tannin content. In particular, its branched starch content is about one-third higher than that of other sorghum varieties, making it suitable for the multi-round steaming and fermentation process requirements of Moutai liquor. The Dragon Boat Festival eve, when wheat in the Moutai

region is ripe, fresh and high-quality raw materials for making fermentation starter are readily available, making it a perfect match for Moutai liquor production.

At the same time, to ensure the supply of raw materials for Moutai liquor production, Moutai Group invests huge amounts of money every year to support the construction of raw material bases. Nearly 500 000 mu of glutinous sorghum and wheat raw material production bases have been established in Renhuai City and Xishui County. Within the industry, the input-output ratio for Moutai liquor production is 5:1, meaning that 5 kg of grain are needed to produce 1 kg of Moutai liquor, while other famous white liquors typically require about 3 kg of grain to produce 1 kg of liquor. In addition to using glutinous sorghum and wheat, other common liquors also use materials such as corn, rice, buckwheat, barley, potatoes, and other fermentable substances.

Moutai liquor uses glutinous sorghum and wheat as raw materials, with wheat accounting for 52%, which is unique in the production of liquor. In order to ensure the quality of raw materials, although the cost of raw materials is increasing year by year, Moutai Group adheres unwaveringly to the principle of "cost follows quality".

3.2 Comprehensive testing and evaluation system

In the 1990s, Moutai Group introduced internationally advanced mass spectrometry and chromatographic detection instruments from the United States, Japan and other countries, while also initiating ISO9000 series international standard certification work. In 1993, the product and quality assurance system certification was obtained, helping the key links of "long-term aging" and "meticulous blending" to enter the era of computer technology, which are critical to the quality of Moutai liquor. For many years, Moutai Group has been engaged in strategic cooperation with relevant universities and research institutions, with the goal of implementing the most rigorous and scientific quality management according to international standards.

3.3 Continuously optimized production process management

Moutai Group attaches great importance to the introduction of advanced management methods and means at home and abroad, and strives to provide better supporting services for Moutai by enhancing product quality through technological innovation. As early as the mid-1980s, Moutai took the lead in promoting comprehensive quality management methods and mass quality management activities in the national liquor industry, gradually forming a complete quality management system, and establishing a set of effective quality evaluation systems with enterprise characteristics.

The China Kweichow Moutai Winery is a distillery with a complete management system of its own. It attaches great importance to quality management and assurance, and adopts a strict production process and quality control standards. The quality of Moutai liquor is inspected by professional personnel. At the same time, the distillery managers also pay close attention to the sales of Moutai liquor in the market, and use various marketing methods to promote the brand value and cultural connotations of Moutai liquor.

4 Historical Development and Market Performance of Moutai Liquor

4.1 Modern and contemporary development

As mentioned earlier, liquor workshops had already appeared during the Ming Dynasty. The liquor produced using improved brewing techniques and the water from the Chishui River in the late Qing Dynasty was eventually named Moutai. The modern and contemporary history of Moutai liquor is also rich in development. In 1915, to celebrate the opening of the Panama Canal, the United States held the "Panama-Pacific International Exposition" in San Francisco. Hua Mao and Wang Mao exhibited their famous liquor products, which were all required to be sent out in the name of "Maotai Distillery Company" upon the request of the Ministry of Agriculture and Commerce, and were collectively called Moutai liquor. Hua Mao and Wang Mao were highly praised for their exhibits and were hailed as one of the world's three famous distilled liquors. However, Hua Mao and Wang Mao got into a lawsuit over the ownership of a medal. The dispute was eventually settled by the Guizhou Provincial

Government. Wang Mao, Hua Mao and Lai Mao were produced respectively by Ronghe Distillery, Chengyi Distillery and the later emerged Hengxing Distillery.

In the 1950s, the local government merged the three distilleries of Chengyi, Ronghe, and Hengxing through public-private partnerships, and established the state-owned Renhuai Moutai Winery, which began using the new Moutai liquor label of "Kweichow Moutai".

In 1951 and 1952, the Moutai Winery continued to develop and grow amid setbacks and difficulties.

In 1955, the Moutai Winery was upgraded and renamed as the Guizhou Province Moutai Winery.

In 1986, it was renamed again as the China Kweichow Moutai Winery.

By 1997, the company had undergone restructuring and was renamed as the China Kweichow Moutai Winery (Group) Co., Ltd.

The unique terrain, soil, water quality, and microorganisms in the air of Moutai create a unique style of sauce aroma, elegant and delicate fullness, long-lasting aftertaste, and lingering fragrance in the empty cup, which cannot be replicated anywhere else.

4.2 Market position and reputation of Moutai liquor

Undoubtedly, among the well-known national liquors, Moutai's No.1 position is far greater than other liquor brands in terms of revenue, profit, market value, and influence. It can be said that Moutai is the only one. Moutai liquor is not only a type of liquor, but also one of the representatives of Chinese culture and history. With the continuous development of Moutai liquor, its market value and brand status have been greatly enhanced. The annual sales of Moutai Group have exceeded hundreds of billions of yuan. Moutai liquor has also become one of the representatives in the luxury goods market, and many top billionaires and high-ranking officials would choose to drink Moutai liquor. In the domestic market, Moutai liquor has become one of the representatives of high-end banquets and major ceremonies. At the same time, it has also gained extensive popularity and market share in the international market.

4.3 International influence of Moutai

Moutai liquor is produced in Maotai Town, Renhuai City, Guizhou Province, Southwest China. It is known as one of the "world's three famous liquors" along with Scottish Whisky and French Cognac. The continuously increasing brand value highlights Moutai's strong development momentum and huge development potential, and also makes it the company with the largest number of foreign holdings, held by 101 foreign institutions. This also shows that the brand value of Moutai liquor has been increasing year by year, and its international influence is growing.

Wang Xing, President of Kantar Greater China and Global Chairman of Kantar BrandZTM, said: "Chinese brands have become an increasingly important force in the world. More and more Chinese companies realize that they need to change from China's speed to China's quality and from Chinese products to Chinese brands, and they have not stopped investing in brand building even in the most difficult times."

5 Conclusion

High-quality products are the core factor for a brand to maintain its vitality. Moutai has always adhered to and continuously updated its "hardcore" quality standards, which has created its continuously increasing brand value. Like many well-known spirits in the world, Moutai grew up on the banks of the Chishui River, with a complex, rigorous, and lengthy brewing process. From raw material preparation, brewing to product shipment, it needs to go through 30 processes, 165 technological steps, and at least 5 years. To ensure quality and taste, Moutai has not only cultivated an excellent team of craftsmen and outstanding brewing engineers, but also has globally advanced brewing analysis equipment and data monitoring systems. Moutai firmly believes that only by brewing the world's best liquor can it win an excellent reputation and achieve sustained growth in brand value.

With the continuous changes in the domestic and foreign markets, Moutai liquor also needs continuous development and innovation. It is emphasized again that quality is always the core of Moutai liquor, and although the environment and market are changing, the demand for Moutai liquor's quality always remains unchanged. The Moutai Winery has been promoting the quality level of its liquor through continuous innovation and improvement. In the future, the China Kweichow Moutai Winery also needs to continuously innovate and pursue excellence to improve the quality and influence of Moutai liquor, so that Moutai liquor can better serve the domestic market and carry forward China's traditional culture.

Authors' contributions

ZJY was the project leader and was responsible for literature collection, paper writing, and finalizing; YSY was responsible for paper translation; WZR was responsible for revision and proofreading. All authors read and approved the final manuscript.

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