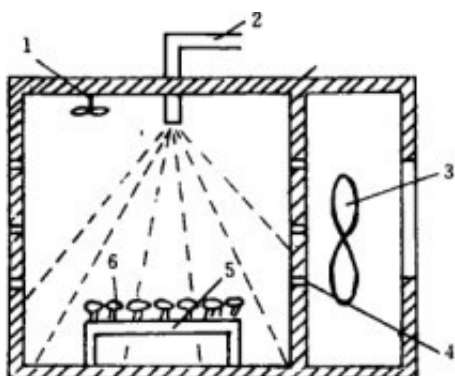


Current Situation and Problem Analysis of Drying Technology and Equipment of Chinese Medicinal Materials and Preparations

[abstract] [Microwave drying equipment](#) is the key link in the pharmaceutical process of traditional Chinese medicine, which directly affects the quality of drugs. The development of new drying technology is the key to the transformation and upgrading of the manufacturing industry of traditional Chinese medicine, and is related to the process of modernization of traditional Chinese medicine.



This paper summarizes the current research status of drying technology and equipment of traditional Chinese medicines and preparations through literature research and statistics, analyses the traditional drying technology and equipment of traditional Chinese medicines and preparations, probes into some problems existing in drying technology and equipment, and puts forward corresponding countermeasures, and expounds my opinions. The new development trend of drying technology and equipment of Chinese medicinal materials and preparations provides new ideas for the optimization and upgrading of drying technology and equipment of Chinese medicinal materials and preparations.

[Key words] Chinese medicinal materials and preparations; drying technology and equipment; research status; problem analysis; [microwave drying of Chinese medicinal materials](#)

The quality of traditional Chinese medicine is related to the origin and harvesting time, and drying is one of the important factors. The quality of drying will directly affect the curative effect, quality and appearance of the products. Different drying methods should be chosen for different kinds and properties of Chinese medicinal materials. At the same time, attention should also be paid to the drying process of preparations. The drying of drugs and packaging materials in the preparation process will also affect the quality of drugs. In addition, keeping pace with the times to provide appropriate pharmaceutical equipment is also an inevitable requirement to ensure the



quality of traditional Chinese medicine.

At present, most drying methods of traditional Chinese medicines are shade-dried or sun-dried, but shade-dried or sun-dried are natural drying methods, which have the characteristics of small output, low efficiency, easy pollution, high labor intensity, unable to precisely control, and even unable to achieve standardized production. The drying method consumes time and energy, is inefficient, lacks modern technical elements, and can not meet the requirements. The demand of modernization and internationalization of traditional Chinese medicine. Considering the particularity and complexity of the drying process of traditional Chinese medicines and the need of preparation process, some new drying technologies have emerged, such as vacuum freeze-drying and far-infrared drying. The application of various drying methods and equipment status and problems are analyzed and discussed.

China is a country with abundant resources of traditional Chinese medicines. The quality of traditional Chinese medicines is an important factor restricting the healthy and sustainable development of traditional Chinese medicines industry. Drying is one of the bottlenecks to ensure the quality of traditional Chinese medicines. Therefore, the research on drying of traditional Chinese medicines has far-reaching significance.

The modernization of traditional Chinese medicine (TCM) should first be the modernization of technology and equipment. The modernization of drying technology and equipment is an important link in the modernization of TCM.

On the premise that the effective ingredients of traditional Chinese medicines are not lost, drying technology and equipment should be efficient and energy-saving. Premier Li Keqiang of the State Council pointed out in the government work report of the Third Session of the Twelfth National People's Congress that the industrial structure should be promoted to the middle and high level. Manufacturing industry is a dominant industry in China. We should implement "Made in China 2025", adhere to innovation-driven, intelligent transformation, strengthen the foundation and green development, and accelerate the transition from a big manufacturing country to a strong manufacturing country.

Drying, as an important part of traditional Chinese medicine manufacturing process, should also adhere to the green development, and take the non-pollution and non-damage products in the drying process as the goal of drying technology development. With the development and application of new drying technology and equipment, people put forward higher requirements for the improvement of drying quality, reduction of energy consumption and reliability of operation of traditional Chinese medicines. Drying will be directed towards improving product quality, effectively utilizing energy, reducing environmental impact, using computers to improve the level

of automatic control, simple operation and so on.