Application of Microwave Drying Technology in Storage and Maintenance of Chinese Medicinal Materials

Abstract: During the growth, harvesting, processing and storage of Chinese medicinal materials, it is easily affected by its own factors and external environmental conditions, and it is prone to moldy toxins, which not only affect the quality of medicinal materials. , causing huge economic losses, and will affect the safety and effectiveness of the medicinal materials, posing a serious potential threat to human health.

With the enhancement of people's awareness of traditional Chinese medicine health care, how to prevent and control the mildew of Chinese herbal medicines to ensure the quality and safety of medicinal materials has become the focus of attention. This paper introduces the principle of microwave drying, introduces the research status of microwave drying equipment in traditional Chinese medicine, and prospects the application prospect of this technology in the storage and maintenance of Chinese herbal medicines and their preparations.

Key words: Chinese herbal medicine microwave drying; storage; conservation

The quality and safety of traditional Chinese medicine has been paid more and more attention. The traditional Chinese medicine, especially the traditional Chinese medicine, has been closely related to people's lives. Whether it is medical care or daily diet, it is impossible to leave Chinese medicine. “Purchasing, sales, transportation and storage” are the four links in the circulation of traditional Chinese medicine. Storage and conservation are important links to ensure the stability of traditional Chinese medicine.

In order to realize the whole process of quality and safety management and risk control of traditional Chinese medicine, the construction of traceability system of traditional Chinese medicine is progressing continuously. At home and abroad, the quality of medicines caused by improper storage and maintenance of traditional Chinese medicines has occurred repeatedly, which not only affects the safety of clinical medications. Effectiveness also causes a lot of waste of resources and huge economic losses.

According to incomplete statistics, among the more than 600 kinds of Chinese herbal medicines commonly used in clinical formulas of Chinese medicine, more than 40% of the varieties have undergone mildew and insect damage. However, the research on storage and maintenance of traditional Chinese medicine has long been a weak link in the production, circulation, application and research of traditional Chinese medicine, and there has been a lack of systematic basic research.

Although the country has clear relevant regulations, the use of mildewed herbs after treatment is still widespread under the influence of economic interests. Traditional Chinese medicines urgently need scientific, targeted and practical Chinese medicine storage and maintenance techniques and standards. Therefore, it is urgent to strengthen the quality control and related common technology research in the storage process of traditional Chinese medicine.

With the advancement of the times, it is urgent to find some modern methods for storage and maintenance of traditional Chinese medicine, and carry out comparative research on maintenance effects, maintenance costs, safety, etc., to clarify the advantages of modern storage and conservation methods, and promote them. Microwave drying technology has the advantages of fast drying speed, uniform heating and high efficiency. At present, most researches focus on the research of food technology and traditional Chinese medicine technology, and have little research on the storage and maintenance process of traditional Chinese medicine. During storage and storage. The impact of the study has not been studied.

The microwave drying technology has long application time in traditional Chinese medicine tablets, pills, powders and capsules. The existing literatures are mostly optimized for the previous drying process, which indicates that the microwave drying technology is applied well. Liu Shiqi et al. conducted an experiment on the microwave vacuum drying process of the preferred Jiangzhiling tablets. The results obtained a good process parameter worthy of popularization in the drying process of the Chinese medicine materials.

Liu Xiaotong and other preferred drying process of Zishen Capsules, through comprehensive analysis and screening of drying methods for multiple indicators, microwave drying dry extract yield and hygroscopicity are better than spray drying, the index component content is higher than vacuum drying and spray drying Determine microwave drying as the best drying method.

Zhou Wei et al. carried out experiments to optimize the microwave drying process parameters of apricot and cough extracts. The main chemical components were used as indicators to evaluate the process by orthogonal test and compared with the conventional drying process.