Effect of Microwave Drying Technology on Thermosensitive Components of Radix Notopterygii

ABSTRACT: Objective: To investigate the effect of microwave drying equipment on the content of volatile oil in Radix Notopterygii after drying, and to compare the effects of different drying methods on the overall chemical composition of Radix Notopterygii.

METHODS: The determination methods under the item of Qianghuo in Chinese Pharmacopoeia 2015 were adopted. CONCLUSION: Microwave vacuum drying can not only ensure drying efficiency, but also fully retain the thermosensitive components, and has no effect on the whole components of Radix Notopterygii.

Key words: microwave drying Radix Notopterygii; volatile oil; characteristic Atlas

Notopterygi-um inchum Ting ex H.T.Chang, or Notopterygi um franchetii H.de Boiss, a perennial herb of Umbelliferae, has the functions of dispelling cold, dispelling wind, removing dampness and relieving pain. The main physiological active ingredients of Notopterygi um inchum Ting ex H.T.Chang or Notopterygi um franchetii H.de Boiss.

Ordinary drying methods, such as sun drying and atmospheric hot air drying, are used to dry

materials from outside to inside. The drying time is longer, which is easy to cause the loss of volatile oil components, and there is no relevant report on drying methods of Qiangwu.

Due to the shortage of common drying methods, the advantages of microwave drying technology are fully embodied. Microwave drying is to use the properties of microwave penetration, absorption and reflection to intensify molecular movement, heat generation by friction and evaporation of water from inside to outside, so as to achieve the drying effect. Therefore, microwave drying technology can reduce the loss of traditional Chinese medicines containing volatile oil, such as Qianghuo.

Combining with the characteristics of microwave drying, the effects of microwave drying technology on the components of Radix Notopterygii were studied.

Compared with the original medicinal materials, the color of samples dried by ordinary microwave is darker after drying, and the color of samples dried by ordinary microwave is close to carbon black at the time point of drying damage, indicating that the damage is more serious, which proves that the quality control of medicinal materials by ordinary microwave drying is poor; in view of drying time, microwave vacuum drying time is more reasonable. The appearance of the other methods has not changed much.