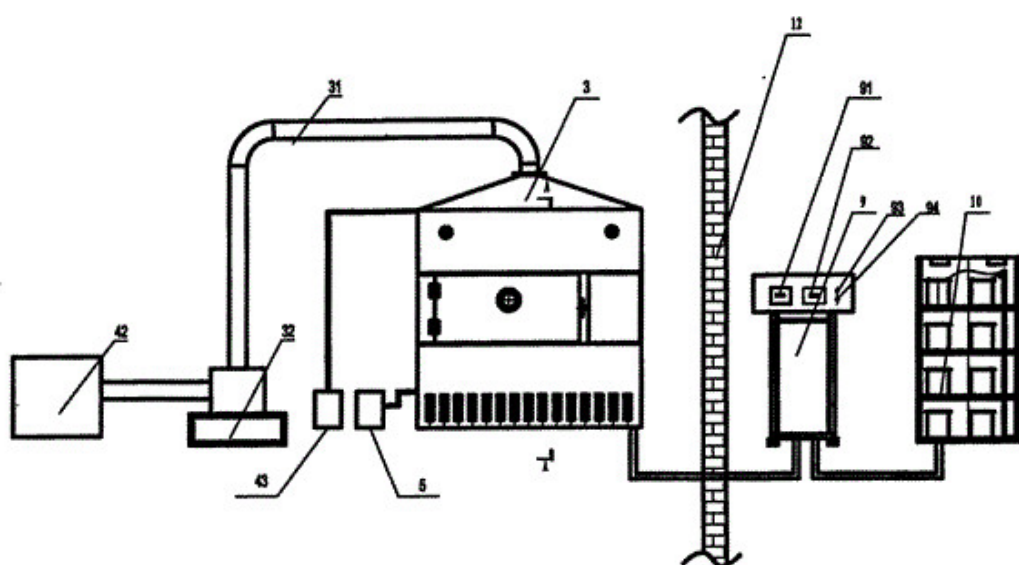


Effect of drying method on the retention of active ingredients in *Cistanche deserticola*

Abstract: The *Cistanche* leaves harvested in spring and autumn were dried by drying, [microwave drying equipment](#), drying and dry-drying methods. The content of alcohol-soluble extracts, echinacoside and verbascoside in *Cistanche deserticola* L. were determined.



The results showed that the content of alcohol-soluble extract, the content of echinacoside and verbascoside in *C. chinensis* was significantly higher than that of *C. sinensis*. The content of sucrose in *Cistanche tubulosa* was higher than that in *C. sinensis*. The content of echinacoside was lower than that in autumn. *Cistanche deserticola*; microwave dried *Cistanche deserticola* has the highest content of verbascoside and echinacoside. The research results show that the total active ingredient of *Cistanche tubulosa* is significantly higher than that of *C. sinensis*, and microwave drying is the best drying method.

Key words: drying method; active ingredient; echinacoside; verbascoside; alcohol-soluble extract; [Cistanche microwave drying](#)

Cistanche deserticola is a perennial parasitic herb of the genus *Cistanche*, and the dried fleshy stem of the *Cistanche deserticola* with the scales is used as the traditional Chinese medicine "Dayu", which was first recorded in the *Shennong Materia Medica*. It is sweet and salty, has a mild temperature, has various functions such as tonifying kidney and strengthening yang, anti-aging, protecting the liver, and enhancing immunity. It is the most frequently occurring traditional Chinese medicine in Chinese prescriptions and has the reputation of "desert ginseng". There are about 22 species of *Cistanche* in the world. Tu Pengfei has merged *Cistanche tubulosa* plants into four species and one variety, namely *Cistanche deserticola*, *Cistanche tubulosa*,

Cistanche deserticola, *Cistanche*, and *Cistanche*, which are mainly produced in Inner Mongolia and Ningxia. , Gansu, Xinjiang, and other places.

Fresh *Cistanche deserticola* is brittle and easy to break, and due to high moisture and sugar content, it is easy to be oxidized when exposed to air for a long time, and browning, softening and rot are problems. The traditional methods of drying *Cistanche*, such as drying method, salting method, and storage method, take a long time and are affected by the weather, resulting in the quality of *Cistanche*.

In this study, the HPLC method was used to determine the content of alcohol-soluble extract, the content of echinacoside and verbascoside in dried *Cistanche deserticola*, and the dryness of the *Cistanche deserticola* L. by different drying methods. The effect of the content of active constituents of *Cistanche deserticola* in spring and autumn is aimed at clarifying the differences in the quality of *Cistanche tubulosa* and the best drying methods in spring and autumn, in order to provide a theoretical basis for the standardized production of *Cistanche*.