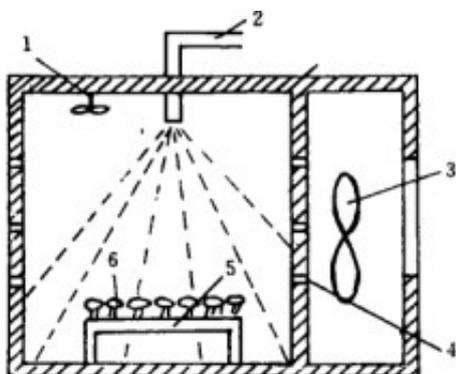


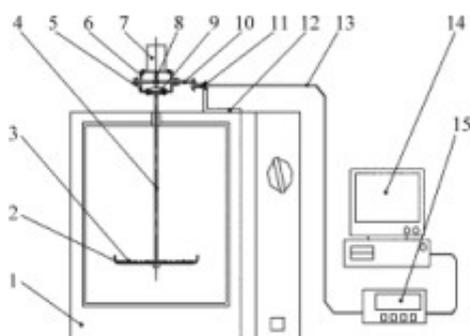
Study on Drying Process of Silkworm Cordyceps



Abstract Silkworm, *Cordyceps militaris* is one of the unique new resource foods in China. It has been proved to have good effects in anti-tumor and immunity enhancement. It has formed an industrialization trend, and its drying process has not been systematically reported. Based on the research of the silkworm and *Cordyceps militaris* cultivated in this unit, the study used different treatment temperatures and time to detect the change of water content of silkworm, *Cordyceps militaris*, the loss of the effective components of cordycepin and cordyceps polysaccharide, and the orthogonal method.

The results showed that the *Cordyceps militaris*, which was naturally dried after the cordyceps or 14% moisture content, was treated in a [microwave drying equipment](#). Under the premise that the water content of the silkworm *Cordyceps militaris* sample was up to standard, that is, the water content of the *Cordyceps sinensis* product was below 10%, 70 °C temperature treatment Under the condition of 2 h treatment, the loss of the active ingredient cordycepin was the least. Under the condition of treatment at 80 °C for 2 h, the content of the active ingredient Cordyceps polysaccharide was the least. This study provides a technical basis for the comprehensive development of silkworm, cordyceps and grass.

Key words: [silkworm *Cordyceps militaris* microwave drying](#); drying process; cordycepin; cordyceps polysaccharide



Cordyceps militaris is also known as *Cordyceps militaris* and *Cordyceps militaris*. It belongs to the fungi community of Ascomycetes, Pleurotus ostreatus, and ergotaceae. It is a worldwide species, distributed in all provinces and regions in China, and its sub-seats are in spring to autumn. It grows on lepidopteran insects that are half buried in the woodland or under the deciduous layer of decay. As one of the best substitutes for *Cordyceps sinensis*, its industrialization trend has been formed, and its basic research has also been deepened. Silkworm, *Cordyceps militaris* is a unique product in China. There are sporadic production in South Korea. Some countries such as Japan and Indonesia import Chinese silkworm *Cordyceps*, and research on silkworm and cordyceps processing technology has far-reaching significance for product development.

The drying process of silkworm, *Cordyceps militaris* is a process for saving, processing and selling fresh artificial cultured products. At present, the main methods of drying are edible mushrooms and some fresh agricultural products. The conventional methods are: dry method, sun drying Method, wind blow drying method, drying room drying method, freeze drying method, and the like. The dry-dry method is prone to mildew during the dry process, and the sun-dried method of *Cordyceps* is easy to whiten. These two methods have been eliminated.

The drying process of silkworm *Cordyceps* has not been studied for its active ingredients. It has no technical basis for the deep development of silkworm *Cordyceps*, and it is also a blind spot in the research of silkworm, *Cordyceps militaris*. The drying process is also part of the standard production process (SOP) of silkworm, *Cordyceps militaris*. Improve the technical specifications for the production of silkworm *Cordyceps*.

Cordycepin and *Cordyceps* polysaccharides are the main active ingredients of *Cordyceps* and *Cordyceps* products. The cordycepin is an adenosine analog, usually in the form of acicular or flaky crystals, basic, melting point 230 ° C to 231 ° C, soluble in water and methanol, insoluble in benzene, ether and chloroform, the maximum absorption wavelength is 259. 0 nm. *Cordyceps* polysaccharides usually have a white powder, no odor, and are easily soluble in water. Because of the sugar content, the melting point is generally high, insoluble in high concentrations of ethanol and organic solvents, and reacts with phenol-sulfuric reagent to give an orange color. According to the basic properties of cordycepin and cordyceps polysaccharides, the content can be detected by related methods.

The drying process of silkworm, *Cordyceps militaris* has not been systematically studied. The purpose of this study is to investigate the drying process of silkworm, *Cordyceps militaris* by the effective components of cordycepin, cordyceps polysaccharide and water content under different drying conditions at different temperatures and different time. The ultimate condition provides a technical basis for the drying process of silkworm *Cordyceps*. Materials and Method.