

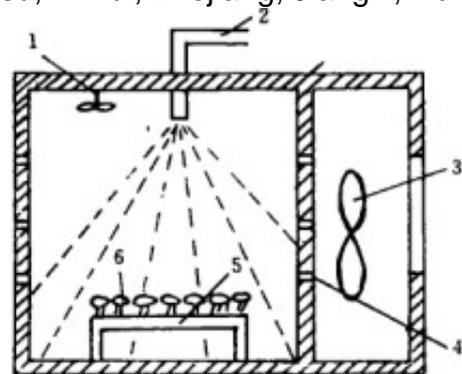
Effect of Different Drying Methods on the Quality of Papaya Powder

Abstract: In order to obtain better drying method of papaya papaya, this paper compares the content of flavonoids, total phenols, Vc, reducing sugars and ursolic acid in dried papaya powder, and compares the hot air drying and [microwave drying equipment](#). The effect of five drying methods of hot air and microwave combined drying, vacuum freeze drying and microwave vacuum drying on the quality of papaya powder.

The results show that: vacuum freeze drying and microwave vacuum drying can well preserve the nutritional quality of papaya powder, comprehensively consider the system energy consumption and drying efficiency factors, and determine microwave vacuum drying as the optimal drying method. This research can provide a certain technical reference for the industrial production of light papaya powder.

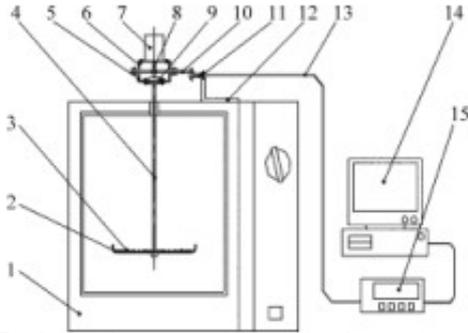
Key words: [papaya microwave drying](#); papaya powder; microwave vacuum drying

Papaya is the mature fruit of the genus *Chaenomeles*, also known as sea bream and papaya. It is one of the first food and food products announced by the Ministry of Health. Widely distributed in Shandong, Shaanxi, Gansu, Sichuan, Jiangsu, Anhui, Zhejiang, Jiangxi, Hunan,



Hubei, Guangdong, Guangxi, Yunnan and other places.

According to the "Materia Medica Collection", the light-skin papaya tastes sour, sputum, and flat, and has the effects of tonifying the stomach, relieving rheumatism, eliminating phlegm and stopping diarrhea. Modern research shows that light papaya is rich in nutrients and physiologically active functions, and is a rare natural raw material for food, medicine and health care products.



Fruit and vegetable powder refers to the processing of fresh fruits and vegetables into powdered products. It has become a hot research topic at home and abroad because of its advantages of rich nutrition, unique flavor, easy storage, convenient carrying and rapid brewing. With the rapid development of the modern food industry and the increasing demand for consumption of fruit and vegetable products, the development of high-quality fruit and vegetable powder will have enormous economic and social benefits.

The drying methods for processing fruit and vegetable powder mainly include natural drying, hot air drying, vacuum drying, microwave drying, vacuum freeze drying and various combination drying. The drying method has an important influence on the quality characteristics of the fruit and vegetable powder.

In this study, hot air drying, microwave drying, hot air and microwave combined drying, vacuum freeze drying and microwave vacuum drying were used to treat the light papaya, and the flavonoids, total phenols and reducing sugars in the papaya powder products were dried. The changes of Vc and ursolic acid content were used as evaluation indexes, and the effects of different drying methods on the quality of papaya powder were investigated. The conclusion of this study can provide a certain theoretical basis and technical reference for the industrial production of papaya powder.