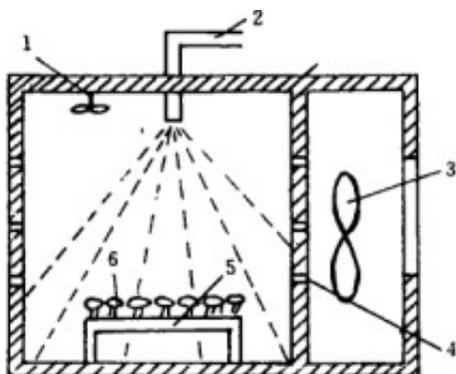


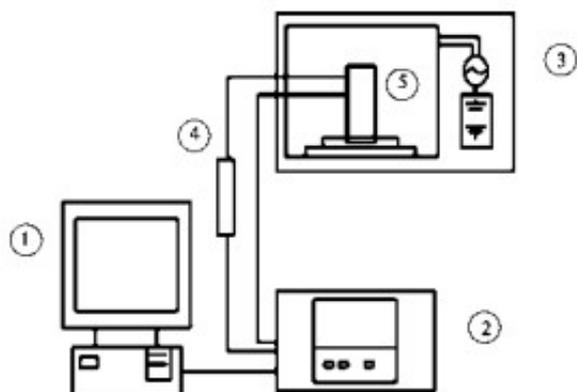
Effects of different drying methods on active components of wax gourd peel



In order to investigate the effects of atmospheric pressure [microwave drying equipment](#), vacuum microwave drying, blast drying and vacuum drying on the active ingredients of winter melon peel, the variation trend of water ratio curve of wet samples of winter melon peel was studied, and the dry samples of winter melon peel dried by these four drying methods and freeze drying method were compared. The contents of flavonoids, polyphenols and three terpenoids of active substances were different.

The results showed that with the increase of drying power or temperature, the drying rate of wet samples of wax gourd peel increased. Under the same power or temperature conditions, the drying rate of vacuum microwave was faster than that of atmospheric microwave, and the drying rate of vacuum microwave was slightly faster than that of blast drying. The order of the four drying methods is vacuum microwave drying > vacuum drying > atmospheric microwave drying > blast drying.

Key words: [white gourd microwave drying](#); flavonoids; polyphenols; three terpenoids



The skin of wax gourd is sweet and slightly cold, rich in sugar, protein, VC and other volatile components, triterpenoids, sterol derivatives. It also contains minerals and trace elements such as VB, nicotinic acid, carotene. It has the functions of diuresis, dehydration, detoxification and clearing away heat. Modern medicine shows that wax gourd has the functions of promoting water and dampness, removing edema, clearing away heat and detoxification. It also has the effects of lowering blood sugar, lowering blood pressure, protecting liver and kidney, and beauty

reducing weight and lowering blood fat. Liang Jijun suggested that wax gourd peel has medicinal value of anti-inflammatory and hemostasis. In the processing of winter melon, a large number of by-products, winter melon peel, are usually produced. If they are not utilized, they will cause waste of resources and environmental pollution.

In industrial production, the skin of wax gourd can be further processed, but it is very difficult to preserve because of the large moisture content and rich nutrition of fresh wax gourd skin. Drying the peel of winter melon can prevent the loss of nutrients and improve the storage performance of the peel.

At present, the effects of different drying methods on the quality of carrot, chestnut, lotus seed and other agricultural products have been reported, but the research on different drying methods of winter melon peel is very little.

The wet samples of wax gourd peel were dried by atmospheric pressure microwave drying, vacuum microwave drying, blast drying and vacuum drying. The contents of flavonoids, polyphenols and triterpenoids in the corresponding dry samples were determined and compared with those in the wax gourd peel treated by vacuum freeze drying. A drying method that could preserve the fresh wax gourd peel and keep its active ingredients better was obtained.