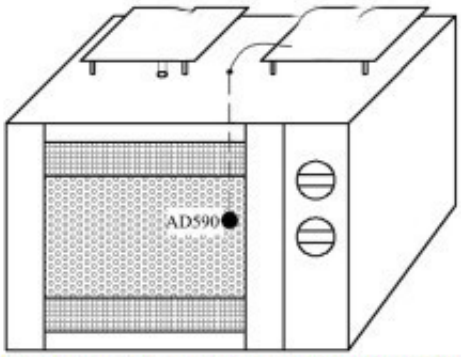
Study on Different Drying Techniques in Grape Drying

Absrtact: This paper summarizes several drying techniques commonly used in the process of grape production, emphatically expounds the basic principles and characteristics of microwave drying technology, summarizes the advantages of microwave drying equipment in raisin operation through previous research results, and puts forward the problems encountered in the process of grape drying and its application prospects. ?

Key words: microwave drying of grapes; drying



Schematic diagram of microwave drying temperature control system

Grape is a favorite fruit for all ages because of its juicy, sweet and sour entrance, good appetizer and help digestion. However, the grape preservation period after harvesting is very short, and it is easy to deteriorate and rot at room temperature. Even under freezing, the grape preservation period is only a few weeks. So researchers all over the world are looking for methods of grape processing and preservation.

Raisins are a very effective way to preserve grapes, and raisins have very good medicinal value. Professor Guo Yuying once published in the Northern Horticultural Journal that the content of sugar and iron in raisins increased relatively, which is a good tonic for children, women and people with weak anemia. Yao Yanhong's experimental study on the Bacteriostasis of raisins It has been found that raisins have obvious bacteriostasis in vitro.

Professor Chris Wu of the School of Dental Medicine at the University of Illinois, Chicago, proposed at the annual meeting of the American Society of Microbiology that raisins can

effectively inhibit the growth of certain bacteria in the mouth and protect teeth. In addition, raisins also have the function of protecting cardiovascular and anti-aging.

Therefore, grape drying has increasingly become the focus of research. At present, most of the grape drying technologies studied by people are hot air drying, vacuum drying, microwave drying and microwave-vacuum drying. Many scholars have done a lot of experimental research on these drying methods, compared with other drying technologies, microwave vacuum drying has high drying rate, improved drying quality, low cost, pollution-free. Its application prospect is very broad because of its advantages such as safety and so on.

But the research of microwave vacuum technology in grape drying is not very much. It may be that the investment of relevant equipment is high, or the problems such as the difficulty of dehumidification, uneven heating and the difficulty of judging the end point of drying need to be solved urgently, such as the perfection of mathematical model and the establishment of computer automatic control of drying process. It is believed that in the near future, the problems of microwave vacuum drying of grapes will be solved quickly.