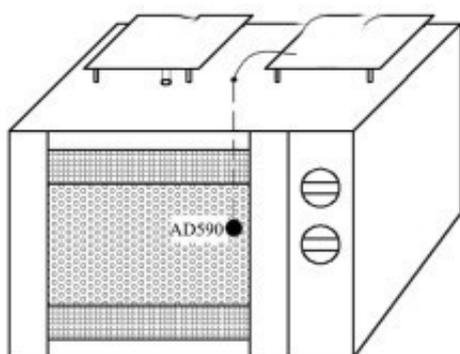


Effects of different drying methods on quality of Seedless white raisins

Abstract: [Objective] To study the effects of different drying methods on the quality of Seedless white raisins.

[Method] Fresh seedless white grapes were used as experimental materials. Six drying methods were adopted, including dry, air-drying, constant temperature air-drying, normal temperature air-drying, vacuum freeze-drying and [microwave drying equipment](#). The drying speed, sensory index and sugar content, acid content and VC content of grapes were used as evaluation indexes to compare the effects of different drying methods.



Schematic diagram of microwave drying temperature control system

[Result] The effects of different drying methods on the drying speed of Seedless white grapes were studied. The microwave drying time was the shortest, 3 days and the drying time was the longest, 13 days; the sugar content of vacuum freeze-dried raisins was the highest (78%) and that of sun-dried raisins was the lowest (72%); the total acid content of vacuum freeze-dried raisins was the lowest (1.62%) and that of sun-dried raisins was the highest (2.05%). The VC content of raisins was the highest (11.54 mg/100g) and that of raisins dried by sun was the lowest (7.9 mg/100g). The sensory indexes of vacuum freeze-drying and microwave drying were better.

[Conclusion] Microwave drying and vacuum freeze-drying have better effects on the quality of Seedless white raisins.

Key words: [microwave drying of white raisins](#); quality; influence



[Research Significance] Seedless white raisin is one of Xinjiang's important specialties, its fruit is full, unique flavor, has been loved by people, especially its attractive green is more favored by consumers [12]. In recent years, with the enlargement of Seedless white grape planting area in Xinjiang, the output of Seedless white grape raisins has increased year by year, which has played a great role in the development of Xinjiang's economy and the income of fruit farmers. Because traditional grape drying production and processing mainly adopts natural air-drying method, which takes a long time, and after drying, the browning is serious, with much sediment, high impurity content, can not be industrialized production, but also greatly affects the commodity value of the product, seriously affecting the development of Seedless white grape industry in Xinjiang, so it is very important to study the drying method of Seedless white raisins.

[Research progress of predecessors] Previous studies have shown that seedless white grapes are seriously browned and hygienic during drying by traditional drying methods. Wu Jihong et al. studied that microwave treatment played an important role in the production of Seedless white raisins. It not only shortened the processing time of Seedless white raisins, but also improved the quality of raisins.

At present, there are few literatures on the effects of microwave drying and vacuum freeze drying on the quality and quality of Seedless white raisins. Therefore, different drying methods were studied and compared with natural drying products. Sensory and physicochemical indexes of Seedless white raisins were measured and analyzed. 1. The better drying method 90 was determined.

[Key problems to be solved] Through experimental research and analysis, the better drying method is determined, which can further improve the quality of raisin products and make raisins by new drying method, which can make the special products of Xinjiang go abroad and create foreign exchange, and have higher social and economic benefits.