

Effects of Different Pretreatments on Drying Quality of Sweet Corn Kernel

Absract: The effects of [microwave drying equipment](#), high vacuum drying and vacuum microwave drying on maize drying quality were studied by blanching and 3% brine impregnation pretreatment.

The comprehensive analysis of hardness, brittleness, color and sensory score showed that both pretreatment methods could improve the drying quality of sweet corn kernels, and had the most significant effect on high vacuum drying. The quality of impregnated pretreatment products was better than that of blanching pretreatment, but the drying time was prolonged.

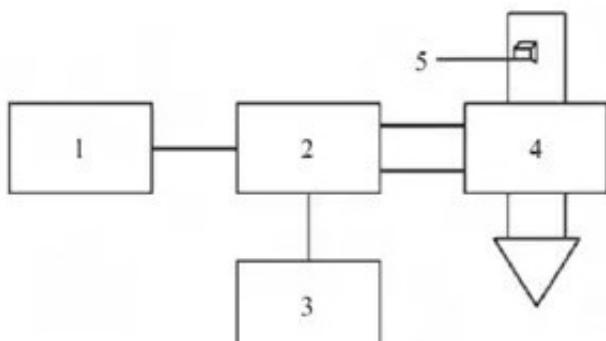
Key words: [microwave drying of sweet corn kernels](#); food pretreatment technology; drying quality



Sweet corn, also known as vegetable corn, belongs to Gramineae and Corn. It is a sweet subspecies of corn and one of the main vegetables in developed countries such as Europe, America, Korea and Japan. It contains a variety of essential proteins and sugars for the human body.

Categories, amino acids and vitamins, together with their sweet, tender and fragrant characteristics, are favored by consumers from all walks of life.

Sweet corn dry product is a new type of fruit and vegetable food, which has been developed rapidly all over the world. Pretreatment is an important process in food processing, and many processed products need this unit operation. Generally speaking, pretreatment plays an important role in maintaining the color, aroma, taste, shape and nutrition of the final product. Scholars at home and abroad have done a lot of research on the pretreatment of fruit and vegetable processing.



The effects of blanching and brine impregnation on the drying quality of sweet corn were studied in order to provide some theoretical guidance for practical application. Compared with untreated sweet corn kernels, blanching and brine impregnation pretreatment could improve the quality of sweet corn kernels under three drying conditions, and the most important effect was high vacuum drying. Compared with the two pretreatments, the quality of sweet corn kernels pretreated by brine impregnation was better than that pretreated by blanching, but the drying time was prolonged.

Among the three drying methods, salt water impregnation pretreatment of high vacuum drying sweet corn grains is yellowish, smooth skin, complete skeleton structure, uniform expansion, loose internal structure, crisp taste, moderate hardness, while vacuum freeze-drying, too low brittleness, taste slightly inferior to high vacuum drying, but the untreated vacuum freeze-drying products are similar to salt water impregnation pretreatment of high vacuum drying. Considering the quality and production cost, high vacuum drying is undoubtedly the best choice.