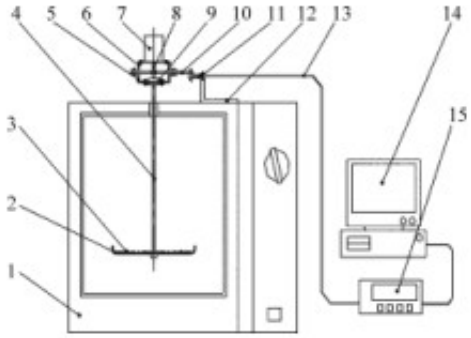
Microwave drying characteristics and better technology of potato chips

Absrtact: The orthogonal experiment of microwave drying potato chips was carried out, and the water loss and power consumption characteristics of microwave drying potato chips were obtained. Regression analysis was carried out and the equation of microwave drying potato chips was obtained, which was better fitted by equation. The quadratic orthogonal regression experiment of the factor index was carried out, and the significance of the factors of the regression equation of each index on the index was obtained. The comprehensive optimization of the parameters was carried out, and the better combination of the parameters was put forward.

Key words: microwave drying equipment; potato; characteristics; better technology

Preface

Microwave drying is mainly based on the penetration characteristics of microwave. Microwave is a kind of electromagnetic wave, which can produce high frequency electromagnetic field. Polar molecules in dielectric materials change their polar orientation with the frequency of electromagnetic field, which makes molecules vibrate back and forth and generates friction heat. At this time, the field energy of electromagnetic field is transformed into heat energy, which makes the medium temperature rise continuously and has better drying effect. Using microwave technology to dry agricultural products is one of the developing trends in the future.



In this paper, through the experiment of water loss characteristics of microwave drying potato equipment, the law of water loss and electricity consumption is obtained, and the mathematical model of microwave drying potato is established. Through quadratic orthogonal regression test, the regression equation of each index is obtained, the parameters are optimized synthetically, and the better combination of parameters is put forward for readers'reference.