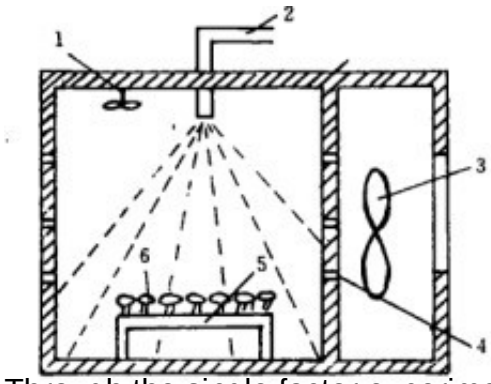
Effect of Different Microwave Conditions on Water Content of Quick-ripening Mung Bean

[Abstract] The microwave drying equipment of mung bean was studied with mung bean as raw material, and the optimum ripening parameters of mung bean were determined.



Through the single factor experiment of microwave time, microwave firepower and microwave material quantity of mungbean, the best microwave ripening drying conditions were determined. Finally, the best ripening effect of mungbean was obtained when 200 g mungbean was soaked at 45 C for 3.5 hours and microwave dried at 15 minutes under normal pressure. The color, nutrition and taste of the product were prominent, and the final quick-ripening mungbean was boiled. Ten minutes later, the aim of rapid ripening was achieved.

[keywords] quick ripening; moisture content; microwave drying of mung beans

Mung bean is a kind of legume, also known as green adzuki bean, named for its green color. The ancient name of mung bean and planting bean is cowpea of butterfly flower subfamily. It is native to India and Myanmar. China has a cultivation history of more than 2000 years, and now it is widely planted in East Asian countries. Africa, Europe and the United States also have a small amount of cultivation. China, Myanmar and other countries are major exporters of mung beans.

Seeds and stems are widely used for food, vegetable, green manure and medicine. They are the traditional legume food of our people. Mung bean is rich in nutrition and has many uses. It not only has good edible value, but also has very good medicinal value. It has the theory of "food Valley for the world". Mung bean has the functions of detoxification, hypolipidemic, antioxidant, anti-tumor, anti-bacterial and improving immunity. Mung bean soup is the most

popular summer drink in hot summer.

In the research process of quick-ripening mung bean, soaking technology, cooking technology and microwave drying technology are mainly used. Finally, 200 g mung beans were soaked at 45 C for 3.5 hours, cooked at normal pressure for 15 minutes and microwave for 40 minutes at medium and low temperature. The quick-ripening mung beans with moisture content of 8.5% were obtained.

After soaking, the volume of mungbean expands, the color becomes light and the texture becomes soft. After atmospheric cooking, the mungbean reaches 7 maturity and is dried by microwave immediately. The final product has low moisture content, short drying time, good rehydration and good sensory index. Mung bean porridge cooked in electric rice cooker for 10 minutes has bright color and attractive fragrance. It really achieves the goal of rapid ripening.